Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW1 5/28/2008	MNSW1 6/17/2008	MNSW1 7/14/2008	MNSW1 7/14/2008	MNSW1 8/19/2008	MNSW1 9/9/2008	MNSW1 10/6/2008	MNSW1 11/10/2008	MNSW1 2/19/2009	MNSW1 2/19/2009 DUP	MNSW1 5/26/2009	MNSW1 6/4/2009
General Parameters, mg/L												
Alkalinity, bicarbonate as CaCO3	**234**	**231**	--	**326**	**436**	**384**	**341**	**233**	**501 h**	**473**	**259**	--
Alkalinity, total	**234**	**231**	--	**326**	**436**	**384**	**341**	**233**	**501 h**	**500**	--	--
Bromide	<0.5	**0.0327**	--	**0.0553**	**0.0818**	--	--	--	--	--	--	--
Bromide (MDH data)	**0.0432**	--	--	--	--	<0.00500	**0.0397**	**0.0373**	**0.0169**	--	**0.0116**	--
Chemical Oxygen Demand	**30.3**	**48.0**	--	**47.6 ***	**56.6 b**	**46.1**	**41.9**	**32.2**	**17.5**	**23.0**	**19**	--
Chloride	**15**	**13.5**	--	**13.2**	**15**	**15.4**	**16.8**	**18.1**	**17.5**	**16.9**	**12.6**	--
Chloride (MDH data)	**15.4**	**12.2**	--	**12.8**	**16.0**	**15.1**	**16.9**	**17.3**	**7.52**	--	**12.8**	--
Fluoride	**1.03**	**1.5**	--	**1.36**	**1.53**	<0.1	**1.33**	**0.85**	**1.94**	**1.95**	**1.03**	--
Hardness, total	**418**	**367**	--	**494**	**599**	**546**	**524**	**464**	**695**	**712**	**426**	--
Nitrate + Nitrite as N	<0.1	<0.1	--	<0.1	<0.1	**0.16**	<0.1	<0.1	**0.16**	**0.16**	<0.1	--
Nitrogen, ammonia as N	<0.1	<0.1	--	<0.1	**0.23**	<0.1	<0.1	<0.1	<0.1	**0.4**	<0.1	--
Phosphorus total	**0.014**	**0.021**	--	**0.036**	**0.048**	**0.011 b**	**0.022 b**	**0.012**	**0.016**	**0.015**	**0.02 b**	--
Solids, total dissolved	**489**	**427**	--	**556**	**679**	**652**	**608**	**557**	**856**	**793**	**475**	--
Solids, total suspended	<1	<1	--	**2.8**	**9.6**	**2.4**	**1.6**	<1	**2.8**	**1.6**	--	--
Sulfate	**166**	**124**	--	**153**	**173**	**197 e**	**197**	**204**	**210**	**214**	**141**	--
Carbon, total organic	**9.0**	**14.9**	--	**14.5**	**13.7**	**11.7**	**11.2**	**9.7**	**6.1**	**6.1**	**10.6**	--
Carbon, dissolved organic	--	--	--	--	--	--	--	--	--	--	--	**10.2**
Field Parameters												
pH, standard units	7.55	7.58	7.50	7.35	7.80	7.93	--	7.60	7.65	--	7.63	7.54
Specific Conductance umhos@ 25oC	800	740	946	998	1151	1092	--	858.2	1184	--	779.9	811.6
Dissolved oxygen, mg/L	10.65	5.97	--	3.16	1.90	5.04	--	8.64	4.07	--	5.69	4.54
Turbidity, NTU (field)	3.0	2.1	--	1.6	3.6	2.3	--	2.4	2.8	--	0.5	0
Turbidity, NTU (lab)	--	--	--	--	--	--	--	--	--	--	--	--
Temperature, degrees C	10.12	12.29	17.0	17.65	18.75	11.59	--	2.46	0.00	--	12.36	12.70
Metals												
Aluminum	<25	**25.3**	--	<25	**78**	**35.1**	<25	**33.6**	**33.8**	**34.1**	<25	--
Antimony	**0.075 j**	**0.077 j**	--	**0.088 j**	**0.081 j**	**0.068 j**	**0.050 j**	**0.079 j**	<0.5	<0.5	--	--
Arsenic	**1.2 j**	**1.9 j**	--	**2.6 b**	**5.5**	**3.4**	**1.6 j**	**1.7 jb**	<2	<2	<2	--
Barium	**16**	**16**	--	**22**	**32**	**23**	**18**	**16**	**27.7**	**27.0**	**16.1**	--
Beryllium	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	--	--
Boron	**127**	**103**	--	**125**	**173**	**131**	**120**	**121**	**204**	**202**	--	--
Cadmium	**0.032 j**	<0.20	--	**0.12 j**	**0.061 j**	<0.20	<0.20	**0.043 jb**	<0.2	<0.2	--	--
Calcium, mg/L	**58.9**	**52.8**	--	**63.5**	**77.9**	**69.1**	**66.8**	**62.4**	**87.1**	**88.9**	**58**	--
Chromium	**0.46 jb**	<1.0	--	**0.28 jb**	<1.0	**0.17 jb**	**0.43 jb**	**0.53 j**	<1	<1	--	--
Cobalt	**0.35**	**0.44**	--	**0.42**	**0.59**	**0.41**	**0.37**	**0.36**	**0.24**	**0.24**	--	--
Copper	**0.72**	**0.74 b**	--	**0.55 j**	**0.88**	**0.84**	**0.87 b**	<0.70	**0.97**	**1.1**	--	--
Iron	**536**	**1490**	--	**564**	**984**	**845**	**248**	**310**	**417**	**426**	**306**	--
Lead	**0.12 jb**	**0.26 jb**	--	**0.21 jb**	<0.60	**0.048 jb**	<0.60	<0.60	<0.5	<0.5	--	--
Magnesium, mg/L	**65.9**	**57.2**	--	**81.6**	**98.2**	**90.6**	**86.7**	**74.8**	**116**	**119**	**68.3**	--
Manganese	**220**	**150**	--	**160**	**690**	**200**	**29**	**67**	**315**	**322**	**115**	--
Mercury, ng/L	**1.2**	**1.8**	--	**1.8**	**1.8**	**0.6 b**	**1**	**1.3**	**1.2**	**1**	**1.8**	--
Mercury methyl, ng/L	**0.11**	**0.3**	--	**0.73**	**0.61**	**0.2**	**0.18**	**0.26**	**0.25**	**0.21**	--	**0.32**
Molybdenum	**15**	**14**	--	**18**	**15**	**6.9**	**14**	**19**	**12.6**	**12.1**	**14.9**	--
Nickel	**3.9**	**4.0**	--	**5.4 b**	**1.9**	**2.7**	**2.8**	**3.0**	**0.69**	**0.99**	--	--
Potassium, mg/L	**6.48**	**5.47**	--	**6.3**	**8.41**	**7.22**	**6.47**	**6.84**	**8.82**	**8.96**	**5.75**	--
Selenium	**0.30 j**	**0.49 j**	--	**0.60 j**	**0.69 jb**	**0.63 j**	**0.60 j**	**0.43 j**	<1	<1	--	--
Silver	<0.20	**0.0093 j**	--	**0.011 j**	**0.0070 jb**	**0.016 jb**	**0.0071 j**	**0.0086 jb**	<0.2	<0.2	--	--
Sodium, mg/L	**22.9**	**21.8**	--	**26.6**	**40**	**33.6**	**29.7**	**22.6**	**44.7**	**45.6**	**21.3**	--
Strontium	**217**	**191**	--	**250**	**332**	**277**	**253**	**206**	**371**	**381**	**225**	--
Thallium	<0.40	**0.21 jb**	--	**0.23 j**	**0.064 jb**	**0.22 j**	<0.40	<0.40	<0.4	<0.4	--	--
Titanium	<10	<10	--	<10	<10	<10	<10	<10	<10	<10	--	--
Zinc	**1.9 j**	**2.1 jb**	--	**5.4 jb**	**6.0 b**	**2.9 jb**	**9.5**	**11**	**7.7**	**8.8**	--	--
Metals, dissolved												
Cobalt, dissolved	**0.35**	**0.43**	--	**0.40**	**0.48**	**0.41**	**0.39**	**0.35**	**0.23**	--	--	--
Copper, dissolved	**0.79 b**	**0.81 b**	--	**1.5 b**	**0.90**	**0.73**	**1.0**	<0.70	**1.0**	--	--	--
Mercury, methyl dissolved, ng/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, dissolved	**4.0**	**4.1**	--	**5.5**	**2.4**	**2.3**	**3.0**	**3.1**	**2.1**	--	--	--
Zinc, dissolved	**3.0 j**	**2.3 jb**	--	**4.4 jb**	**3.8 jb**	**5.9 jb**	**8.5**	**19**	<6	--	--	--

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW1 5/28/2008	MNSW1 6/17/2008	MNSW1 7/14/2008	MNSW1 7/14/2008	MNSW1 8/19/2008	MNSW1 9/9/2008	MNSW1 10/6/2008	MNSW1 11/10/2008	MNSW1 2/19/2009	MNSW1 2/19/2009 DUP	MNSW1 5/26/2009	MNSW1 6/4/2009

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW1 6/16/2009	MNSW1 7/22/2009	MNSW1 8/19/2009	MNSW2 5/28/2008	MNSW2 5/28/2008 DUP	MNSW2 6/17/2008	MNSW2 6/17/2008 DUP	MNSW2 7/14/2008	MNSW2 7/14/2008 DUP	MNSW2 8/19/2008	MNSW2 9/9/2008	MNSW2 10/6/2008
General Parameters, mg/L												
Alkalinity, bicarbonate as CaCO3	**295**	**402**	**425**	**258**	**251**	**259**	**258**	**320**	**320**	**327**	**269**	**187**
Alkalinity, total	--	--	--	**258**	**251**	**259**	**258**	**320**	**320**	**327**	**269**	**187**
Bromide	--	--	--	**0.77**	**0.66**	**0.0140**	**0.0138**	**0.0166**	**0.0174**	**0.0194**	--	--
Bromide (MDH data)	**0.0318**	**0.0443**	--	**0.0132**	**0.0138**	--	--	--	--	--	**0.0123**	**0.0154**
Chemical Oxygen Demand	**39.2**	**32.5**	**50.6**	**25**	**23**	**38.0**	**52.4**	**37.1**	**37.1**	**25.3 b**	**37.7**	**41.9**
Chloride	**13.3**	**11**	**12.4**	**9.58**	**9.65**	**10.1**	**9.96**	**8.84**	**8.77**	**9.85**	**9.73**	**7.2**
Chloride (MDH data)	**13.3**	**10.9**	--	**9.95**	**9.97**	**9.12**	**9.08**	**8.63**	**8.61**	**10.5**	**9.54**	**7.35**
Fluoride	**1.09**	**1.38**	**1.31**	**0.24**	**0.24**	**0.75**	**0.74**	**0.14**	**0.14**	<0.1	<0.1	**0.21**
Hardness, total	**465**	**483**	**544**	**588**	**569**	**578**	**588**	**704**	**710**	**706**	**668**	**565**
Nitrate + Nitrite as N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.14**	**0.14**
Nitrogen, ammonia as N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	**0.11**
Phosphorus total	**0.019**	**0.024**	**0.038**	**0.028**	**0.023**	**0.028**	**0.026**	**0.047**	**0.042**	**0.014**	**0.007 b**	**0.032**
Solids, total dissolved	**533**	**541**	**700**	**629**	**643**	**632**	**623**	**722**	**707**	**10**	**785**	**621**
Solids, total suspended	--	--	--	**4 b**	**2.8 b**	**4.0**	**3.2**	**2**	**2.4**	<1	**1.6**	**2**
Sulfate	**148**	**105**	**130**	**290**	**293**	**294**	**305**	**306**	**306**	**348**	**397**	**338**
Carbon, total organic	**13.8**	**13.9**	**17.8**	**8.6**	**8.3**	**10.5**	**11.1**	**11.8**	**12.0**	**5.1**	**8.4**	**12.2**
Carbon, dissolved organic	**13.4**	**13.8**	**17.7**	--	--	--	--	--	--	--	--	--
Field Parameters												
pH, standard units	7.74	7.72	7.79	7.93	--	7.53	--	7.60	--	8.15	7.51	--
Specific Conductance umhos@ 25oC	862	943.8	969.7	1009	--	949	--	1150	--	1223	1219	--
Dissolved oxygen, mg/L	5.40	3.84	0.25	13.06	--	6.04	--	6.27	--	0.23	7.59	--
Turbidity, NTU (field)	0.3	0	11.2	2.4	--	3.2	--	3.1	--	1.2	2.8	--
Turbidity, NTU (lab)	--	--	--	5.3	4.6	--	--	--	--	--	--	--
Temperature, degrees C	19.85	18.18	17.30	12.89	--	16.79	--	18.59	--	19.07	12.26	--
Metals												
Aluminum	<25	<25	<25	**37.8**	**37.8**	**28.2**	**30.7**	<25	**25.2**	**26**	<25	<25
Antimony	--	--	--	**0.081 j**	**0.069 j**	**0.065 j**	**0.057 j**	**0.058 j**	**0.056 j**	**0.018 j**	**0.061 j**	**0.017 j**
Arsenic	<2	**3.17**	**8.25**	**1.2 j**	**0.69 j**	**1.4 j**	**1.3 j**	**2.8 b**	**2.7 b**	**2.7**	**1.7 jb**	**1.6 j**
Barium	**20.7**	**21.1**	**29.2**	**14**	**16**	**15**	**14**	**18**	**18**	**14**	**21**	**18**
Beryllium	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	--	--	--	**112**	**105**	**85.8**	**102**	**109**	**120**	**118**	**113**	**109**
Cadmium	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Calcium, mg/L	**61.6**	**60.3**	**60.2**	**37.6**	**36.5**	**36.9**	**37.5**	**39.4**	**40.5**	**35.5**	**41.7**	**43.1**
Chromium	--	--	--	**0.59 b**	**0.47 jb**	**0.61 jb**	**0.57 jb**	**0.94 jb**	**0.87 jb**	**0.59 jb**	<1.0	**0.75 jb**
Cobalt	--	--	--	**0.35**	**0.26**	**0.43**	**0.42**	**0.31**	**0.34**	**0.32**	**0.37**	**0.38**
Copper	--	--	--	**0.35 j**	**0.38 j**	**0.46 jb**	**0.41 jb**	**0.39 j**	**0.42 j**	**0.34 j**	**0.49 j**	**0.41 jb**
Iron	**324**	**226**	**467**	**1090**	**999**	**716**	**737**	**881**	**909**	**427**	**882**	**1090**
Lead	--	--	--	**0.13 jb**	<0.60	**0.12 jb**	**0.14 jb**	**0.16 jb**	<0.60	<0.60	<0.60	<0.60
Magnesium, mg/L	**75.5**	**80.7**	**95.7**	**120**	**116**	**118**	**120**	**147**	**148**	**150**	**137**	**111**
Manganese	**150**	**230**	**563**	**160**	**160**	**140**	**140**	**140**	**140**	**140**	**200**	**220**
Mercury, ng/L	**2.0**	**2.9**	**3.4**	**2.6**	**1.8**	**2.4**	**2.4**	**3.8**	**3.4**	**1.1**	**0.7 b**	**1.8**
Mercury methyl, ng/L	**0.40**	**1.11**	--	**0.39**	**0.4**	**0.6**	**0.2**	**1.76**	**1.49**	**0.23**	**0.24**	**0.41**
Molybdenum	**16.2**	**4.6**	**7.9**	**5.0**	**5.1**	**3.6**	**3.6**	**1.8**	**1.9**	**3.1**	**2.8**	**3.3**
Nickel	--	--	--	**2.4**	**2.2**	**2.8**	**2.7**	**2.2 b**	**2.0 b**	**2.1**	**2.5**	**2.2**
Potassium, mg/L	**6.61**	**7.44**	**7.13**	**11.0**	**10.6**	**10**	**10.3**	**11.2**	**11.2**	**12.7**	**11.7**	**8.54**
Selenium	--	--	--	**0.50 j**	**0.44 j**	**0.48 j**	**0.49 j**	**0.46 j**	**0.52 j**	**0.70 jb**	**0.65 j**	**0.61 j**
Silver	--	--	--	**0.0054 j**	<0.20	**0.0074 j**	**0.0084 j**	**0.0085 j**	**0.0046 j**	<0.20	**0.0079 jb**	**0.0070 j**
Sodium, mg/L	**24.9**	**31.4**	**30.6**	**13**	**12.8**	**13**	**13.2**	**13.4**	**13.6**	**14.7**	**13.5**	**10.5**
Strontium	**235**	**262**	**244**	**117**	**113**	**109**	**111**	**120**	**122**	**106**	**133**	**142**
Thallium	--	--	--	<0.40	<0.40	<0.40	<0.40	**0.095 j**	<0.40	<0.40	<0.40	<0.40
Titanium	--	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10
Zinc	--	--	--	**2.0 j**	**1.6 j**	**1.7 jb**	**1.7 jb**	**7.0 b**	**3.8 jb**	**2.2 jb**	**3.3 jb**	**5.5 jb**
Metals, dissolved												
Cobalt, dissolved	--	--	--	**0.33**	**0.24**	**0.42**	**0.40**	**0.30**	**0.35**	**0.34**	**0.42**	**0.39**
Copper, dissolved	--	--	--	**0.34 jb**	**0.45 jb**	**0.49 jb**	**0.43 jb**	**0.57 jb**	**0.40 jb**	**0.54 j**	**0.51 j**	**0.56 jb**
Mercury, methyl dissolved, ng/L	**0.24**	**0.70**	--	--	--	--	--	--	--	--	--	--
Nickel, dissolved	--	--	--	**2.3**	**2.2**	**2.9**	**2.9**	**1.9**	**1.8**	**2.5**	**2.5**	**2.6**
Zinc, dissolved	--	--	--	**1.9 j**	**1.8 j**	**2.3 jb**	**1.9 jb**	**3.5 jb**	**4.1 jb**	**4.6 jb**	**2.7 jb**	**7.2**

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW1 6/16/2009	MNSW1 7/22/2009	MNSW1 8/19/2009	MNSW2 5/28/2008	MNSW2 5/28/2008 DUP	MNSW2 6/17/2008	MNSW2 6/17/2008 DUP	MNSW2 7/14/2008	MNSW2 7/14/2008 DUP	MNSW2 8/19/2008	MNSW2 9/9/2008	MNSW2 10/6/2008

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW2 11/10/2008	MNSW2 11/10/2008 DUP	MNSW2 2/19/2009	MNSW2 5/26/2009	MNSW2 6/4/2009	MNSW2 6/16/2009	MNSW2 6/16/2009 DUP	MNSW2 7/22/2009	MNSW2 7/22/2009 DUP	MNSW2 8/19/2009	MNSW2 8/19/2009 DUP	MNSW7 5/28/2008
General Parameters, mg/L												
Alkalinity, bicarbonate as CaCO3	**276**	**235**	**359**	**324**	--	**330**	**327**	**295**	**290**	**324**	**323**	**50.6**
Alkalinity, total	**288**	**235**	**379**	--	--	--	--	--	--	--	--	**50.6**
Bromide	--	--	--	--	--	--	--	--	--	--	--	<0.5
Bromide (MDH data)	**0.0156**	<0.00500	--	<0.0050	--	**0.0180**	**0.0180**	<0.0050	**0.0181**	--	--	**0.0104**
Chemical Oxygen Demand	**25.5**	**30.9**	**16.0**	**20.6**	--	**22.3**	**19.5**	**18.2**	**16**	**17.5**	**15.5**	**23**
Chloride	**10.6**	**18**	**11.8**	**9.95**	--	**10**	**10**	**8.64**	**8.72**	**9.65**	**9.7**	**2.09**
Chloride (MDH data)	**9.96**	**19.8**	--	**10.2**	--	**9.82**	**9.61**	**8.54**	**8.52**	--	--	**2.26**
Fluoride	**0.18**	**0.89**	**0.22**	**0.23**	--	**0.12**	**0.12**	**0.11**	**0.11**	<0.1	<0.1	<0.1
Hardness, total	**624**	**466**	**751**	**621**	--	**724**	**728**	**663**	**648**	**717**	**699**	**397**
Nitrate + Nitrite as N	<0.1	<0.1	<0.1	<0.1	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrogen, ammonia as N	<0.1	**0.2**	<0.1	<0.1	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phosphorus total	**0.016**	**0.012**	**0.011**	**0.029**	--	**0.015**	**0.014**	**0.016**	**0.016**	**0.017**	**0.016**	**0.01**
Solids, total dissolved	**667**	**555**	**886**	**667**	--	**784**	**775**	**714**	**759**	**707**	**734**	**508**
Solids, total suspended	**1.2**	<1	**1.6**	--	--	--	--	--	--	--	--	**1.6 b**
Sulfate	**312 e**	**206**	**353**	**280**	--	**329**	**339**	**334**	**331**	**331**	**319**	**317**
Carbon, total organic	**7.9**	**9.9**	**5.0**	**10.4**	--	**6.9**	**6.6**	**7.5**	**7.4**	**7.7**	**6.6**	**11.9**
Carbon, dissolved organic	--	--	--	--	**6.5**	**6.3**	**6.3**	**7.7**	**7.5**	**6.1**	**6.3**	--
Field Parameters												
pH, standard units	7.66	--	7.56	7.80	8.13	8.09	--	8.35	--	8.27	--	6.74
Specific Conductance umhos@ 25oC	1038	--	1201	1052	1142	1183	--	1071	--	1135	--	722
Dissolved oxygen, mg/L	10.98	--	9.43	7.17	8.22	8.26	--	7.61	--	6.49	--	8.83
Turbidity, NTU (field)	2.9	--	1.5	3.5	1.3	1.3	--	0.9	--	5.6	--	--
Turbidity, NTU (lab)	--	--	--	--	--	--	--	--	--	--	--	2.0 b
Temperature, degrees C	2.12	--	0.01	12.58	14.10	20.98	--	18.83	--	16.72	--	12.29
Metals												
Aluminum	<25	**29.9**	<25	**25.1**	--	**25.9**	**28.3**	**36.7**	**36.1**	**38.1**	**37.6**	**52.8**
Antimony	**0.035 jb**	**0.079 j**	<0.5	--	--	--	--	--	--	--	--	**0.039 j**
Arsenic	**1.3 jb**	**1.5 jb**	<2	**3.2**	--	<2	<2	<2	<2	<2	<2	<2.0
Barium	**12**	**16**	**12.4**	**14.2**	--	**11.8**	**11.8**	**10.8**	**10.4**	**10.2**	**10.2**	**15**
Beryllium	<0.20	<0.20	<0.2	--	--	--	--	--	--	--	--	<0.20
Boron	**98.9**	**115**	**128**	--	--	--	--	--	--	--	--	<50
Cadmium	**0.025 jb**	<0.20	<0.2	--	--	--	--	--	--	--	--	<0.20
Calcium, mg/L	**35.6**	**62.5**	**43.6**	**39.2**	--	**40.8**	**40.9**	**34.6**	**33.8**	**30.3**	**29.6**	**58.4**
Chromium	**0.99 j**	<1.0	<1	--	--	--	--	--	--	--	--	**0.59 b**
Cobalt	**0.36**	**0.33**	<0.2	--	--	--	--	--	**0.25**	--	--	**0.32**
Copper	<0.70	<0.70	<0.7	--	--	--	--	--	--	--	--	**1.1**
Iron	**699**	**326**	**588**	**1080**	--	**389**	**407**	**467**	**461**	**313**	**313**	**301**
Lead	<0.60	<0.60	<0.5	--	--	--	--	--	--	--	--	**0.12 jb**
Magnesium, mg/L	**130**	**75.3**	**156**	**127**	--	**151**	**152**	**140**	**137**	**156**	**152**	**61.1**
Manganese	**130**	**65**	**357**	**374**	--	**152**	**158**	**111**	**109**	**90**	**88.3**	**380**
Mercury, ng/L	**2.4**	**1.8**	**2**	**1.8**	--	**1.2**	**1.5**	**1.7**	**1.7**	**1.4**	**1.5**	**2**
Mercury methyl, ng/L	**0.4**	**0.18**	**0.27**	--	**0.12**	**0.14**	**0.14**	**0.15**	**0.21**	--	--	**0.17**
Molybdenum	**2.3**	**18**	**1.7**	**9.0**	--	**3.06**	**2.9**	**2.86**	**2.44**	**1.92**	**1.89**	**0.10 j**
Nickel	**1.9**	**2.9**	<0.6	--	--	--	--	--	--	--	--	**4.9**
Potassium, mg/L	**10**	**6.96**	**12.6**	**9.18**	--	**12.4**	**11.6**	**10.4**	**10**	**13.1**	**12.9**	**3.27**
Selenium	**0.52 j**	**0.37 j**	<1	--	--	--	--	--	<0.1	--	--	**0.18 j**
Silver	**0.0046 jb**	**0.0090 j**	<0.2	--	--	--	--	--	--	--	--	<0.20
Sodium, mg/L	**13**	**22.9**	**16.4**	**12.2**	--	**13.9**	**14**	**12.5**	**12.1**	**14.4**	**13.9**	**5.1**
Strontium	**106**	**208**	**146**	**127**	--	**125**	**125**	**101**	**98.1**	**76.9**	**74.4**	**168**
Thallium	<0.40	**0.064 j**	<0.4	--	--	--	--	--	--	--	--	<0.40
Titanium	<10	<10	<10	--	--	--	--	--	--	--	--	<10
Zinc	**1.7 jb**	**14**	<6	--	--	--	--	--	--	--	--	**4.2 j**
Metals, dissolved												
Cobalt, dissolved	**0.36**	**0.36**	<0.2	--	--	--	--	--	--	--	--	**0.29**
Copper, dissolved	<0.70	<0.70	<0.7	--	--	--	--	--	--	--	--	**0.56 jb**
Mercury, methyl dissolved, ng/L	--	--	--	--	--	<0.1	**0.18**	**0.16**	**0.16**	--	--	--
Nickel, dissolved	**2.0**	**2.8**	**1.1**	--	--	--	--	--	--	--	--	**4.9**
Zinc, dissolved	**2.0 jb**	**20**	<6	--	--	--	--	--	--	--	--	**5.5 j**

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW2 11/10/2008	MNSW2 11/10/2008 DUP	MNSW2 2/19/2009	MNSW2 5/26/2009	MNSW2 6/4/2009	MNSW2 6/16/2009	MNSW2 6/16/2009 DUP	MNSW2 7/22/2009	MNSW2 7/22/2009 DUP	MNSW2 8/19/2009	MNSW2 8/19/2009 DUP	MNSW7 5/28/2008

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW7 6/17/2008	MNSW7 7/14/2008	MNSW7 7/15/2008	MNSW7 8/19/2008	MNSW7 9/9/2008	MNSW7 10/8/2008	MNSW7 11/10/2008	MNSW7 5/27/2009	MNSW7 6/17/2009	MNSW7 8/19/2009	MNSW8 5/28/2008	MNSW8 6/17/2008
General Parameters, mg/L												
Alkalinity, bicarbonate as CaCO3	**46.6**	--	**186**	**319**	**201**	**110**	**35.3**	**64.3**	--	**253**	**180**	**207**
Alkalinity, total	**46.6**	--	**186**	**319**	**201**	**110**	**35.3**	--	--	--	**180**	**207**
Bromide	--	--	**0.00830**	<0.00500	--	--	--	--	--	--	<0.5	**0.0161**
Bromide (MDH data)	**0.00550**	--	--	--	**0.0110**	<0.0100	**0.00590**	**0.0081**	--	--	**0.0327**	--
Chemical Oxygen Demand	**61.2**	--	**39.2**	**58.7 b**	**39.8**	**50.3**	**57.8**	**29.4**	--	**40.8**	**29.2**	**59.0**
Chloride	**0.8**	--	**0.57**	<0.5	**1.3**	**3.06**	**3.8**	**3.91**	--	**1.17**	**7.29**	**8.18**
Chloride (MDH data)	**0.884**		**0.655**	<0.500	**1.31**	<1.00	**3.73**	**4.09**	--	--	**7.61**	**7.50**
Fluoride	**0.6**	--	**0.14**	<0.1	<0.1	**0.14**	<0.1	**0.14**	--	**0.15**	**0.25**	**0.77**
Hardness, total	**327**	--	**540**	**806**	**733**	**634**	**320**	**337**	--	**662**	**491**	**528**
Nitrate + Nitrite as N	<0.1	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	--	<0.1	**0.14**	**0.11**
Nitrogen, ammonia as N	<0.1	--	<0.1	**0.26**	<0.1	<0.1	<0.1	<0.1	--	<0.1	<0.1	<0.1
Phosphorus total	**0.022**	--	**0.02**	**0.011**	**0.012 b**	**0.022**	**0.018**	**0.02**	--	**0.038**	**0.018**	**0.023**
Solids, total dissolved	**418**	--	**651**	**988**	**911**	**811**	**438**	**448**	--	**773**	**549**	**588**
Solids, total suspended	<1	--	<1	**2.4**	**3.2**	<1	<1	--	--	--	**19.2**	**2.4**
Sulfate	**252**	--	**278**	**471**	**490**	**496**	**248**	**261**	--	**354**	**269**	**291**
Carbon, total organic	**22.0**	--	**15.4**	**15.5**	**12.2**	**16.4**	**21.6**	**14.2**	--	**14.1**	**11.3**	**16.2**
Carbon, dissolved organic	--	--	--	--	--	--	--	--	--	--	--	--
Field Parameters												
pH, standard units	6.65	7.30	7.07	7.28	7.20	--	6.48	6.78	6.99	7.28	7.62	7.63
Specific Conductance umhos@ 25oC	554.6	909	879	1352	1420	--	588.2	292.5	987	1074	863	856.3
Dissolved oxygen, mg/L	5.08	--	4.92	4.05	4.40	--	9.04	5.23	6.55	4.95	9.83	7.50
Turbidity, NTU (field)	2.4	--	1.4	0.3	0.7	--	0.5	0.1	2.3	4.2	--	3.5
Turbidity, NTU (lab)	--	--	--	--	--	--	--	--	--	--	15.9	--
Temperature, degrees C	12.18	17.7	19.35	17.26	11.35	--	1.20	11.51	20.69	14.70	15.12	14.14
Metals												
Aluminum	**132**	--	**33.3**	**67.1**	**118**	**52.4**	**166**	**76.7**	--	**39.9**	**187**	**80.6**
Antimony	**0.049 j**	--	**0.048 j**	**0.021 j**	**0.052 j**	**0.037 j**	**0.054 jb**	--	--	--	**0.079 j**	**0.10 j**
Arsenic	<2.0	--	**0.45 j**	<2.0	<2.0	<2.0	**0.63 jb**	<2	--	<2	**2.0**	**1.1 j**
Barium	**13**	--	**11**	**11**	**17**	**16**	**17**	**12.5**	--	**18.6**	**19**	**15**
Beryllium	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	--	<0.20	<0.20
Boron	<50	--	<50	<50	<50	<50	<50	--	--	--	**106**	**68.9**
Cadmium	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	--	**0.044 j**	<0.20
Calcium, mg/L	**48.7**	--	**77.8**	**115**	**104**	**89.8**	**46.6**	**51.8**	--	**95.6**	**42.3**	**41.8**
Chromium	**0.48 jb**	--	<1.0	<1.0	<1.0	<1.0	**0.88 j**	--	--	--	**1.2 b**	**0.48 jb**
Cobalt	**0.32**	--	**0.48**	**0.78**	**0.61**	**0.51 b**	**0.30**	--	--	--	**0.91**	**0.63**
Copper	**0.77**	--	**0.34 jb**	**0.42 j**	**0.68 j**	**0.49 jb**	<0.70	--	--	--	**1.4**	**0.68 jb**
Iron	**542**	--	**590**	**265**	**461**	**454**	**506**	**456**	--	**1500**	**1660**	**1080**
Lead	**0.16 jb**	--	**0.056 j**	<0.60	**0.16 jb**	**0.086 jb**	<0.60	--	--	--	**0.94**	**0.19 jb**
Magnesium, mg/L	**49.8**	--	**84.1**	**126**	**115**	**99.6**	**49.5**	**50.4**	--	**103**	**93.7**	**103**
Manganese	**140**	--	**830**	**7900**	**5800**	**860**	**130**	**436**	--	**4220**	**400**	**200**
Mercury, ng/L	**3.6**	--	**1.5**	**1.3**	**0.6 b**	**1.5**	**3.7**	**1.9**	--	**1.2**	**2.7**	**3.9**
Mercury methyl, ng/L	**0.7**	--	**0.48**	**0.16**	<0.1	**0.12**	**0.26**	--	**0.14 b**	--	**0.28**	**0.2**
Molybdenum	**0.088 j**	--	**0.19 j**	**0.32**	**0.33**	**0.17 j**	**0.095 j**	<0.2	--	**0.33**	**4.4**	**4.0**
Nickel	**5.9**	--	**3.8**	**4.5**	**4.1**	**4.6**	**2.7**	--	--	--	**5.9**	**5.3**
Potassium, mg/L	**1.5**	--	**1.6**	**1.25**	**2.47**	**3.2**	**2.86**	**3.28**	--	**3.02**	**7.98**	**8.1**
Selenium	**0.42 j**	--	**0.33 j**	**0.56 jb**	**0.73 j**	**0.64 j**	**0.18 j**	--	--	--	**0.43 j**	**0.50 j**
Silver	**0.0069 j**	--	**0.013 jb**	<0.20	**0.0082 jb**	**0.013 jb**	<0.20	--	--	--	**0.012 j**	**0.0069 j**
Sodium, mg/L	**4.33**	--	**7.15**	**9.35**	**8.99**	**7.12**	**5.07**	**6.82**	--	**9.43**	**10.8**	**11.6**
Strontium	**128**	--	**193**	**294**	**274**	**235**	**124**	**162**	--	**244**	**138**	**130**
Thallium	<0.40	--	**0.35 j**	<0.40	<0.40	**0.28 j**	<0.40	--	--	--	<0.40	<0.40
Titanium	<10	--	<10	<10	<10	<10	<10	--	--	--	<10	<10
Zinc	**5.0 jb**	--	**2.4 jb**	**12 b**	**16**	**4.7 jb**	**5.8 j**	--	--	--	**7.8**	**2.8 jb**
Metals, dissolved												
Cobalt, dissolved	**0.32**	--	**0.44**	**0.73**	**0.63**	**0.49**	**0.33**	--	--	--	**0.39**	**0.57**
Copper, dissolved	**0.65 jb**	--	**0.49 j**	**0.48 j**	**0.50 jb**	**0.50 j**	**0.093 j**	--	--	--	**1.2 b**	**0.76 b**
Mercury, methyl dissolved, ng/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, dissolved	**5.2**	--	**3.8**	**4.2**	**3.7**	**3.9**	**2.7**	--	--	--	**4.8**	**5.4**
Zinc, dissolved	**5.6 j**	--	**3.9 jb**	**18 b**	**12**	**4.5 jb**	**6.4**	--	--	--	**2.4 j**	**3.5 jb**

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW7 6/17/2008	MNSW7 7/14/2008	MNSW7 7/15/2008	MNSW7 8/19/2008	MNSW7 9/9/2008	MNSW7 10/8/2008	MNSW7 11/10/2008	MNSW7 5/27/2009	MNSW7 6/17/2009	MNSW7 8/19/2009	MNSW8 5/28/2008	MNSW8 6/17/2008

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW8 7/14/2008	MNSW8 7/15/2008	MNSW8 8/19/2008	MNSW8 9/9/2008	MNSW8 10/8/2008	MNSW8 10/8/2008 DUP	MNSW8 11/10/2008	MNSW8 2/23/2009	MNSW8 5/27/2009	MNSW8 6/4/2009	MNSW8 6/16/2009	MNSW8 7/22/2009
General Parameters, mg/L												
Alkalinity, bicarbonate as CaCO3	--	**288**	**347**	**336**	**276**	**280**	**261**	**344**	**301**	--	**330**	**335**
Alkalinity, total	--	**288**	**347**	**336**	**276**	**280**	**261**	**358**	--	--	--	--
Bromide	--	**0.0204**	**0.219**	--	--	--	--	--	--	--	--	--
Bromide (MDH data)	--	--	--	**0.0246**	**0.0180**	**0.0188**	**0.0154**	--	<0.0050	--	**0.0190**	<0.0050
Chemical Oxygen Demand	--	**64.4**	**75.9 b**	**75.9**	**69.4**	**69.4**	**34.1**	**18.0**	**25**	--	**29.5**	**20.8**
Chloride	--	**7.34**	**9.26**	**9.05**	**7.78**	**7.7**	**8.99**	**10.6**	**8.45**	--	**8.4**	**8.19**
Chloride (MDH data)	--	**7.27**	**9.88**	**9.09**	**7.49**	**7.54**	**8.65**	--	**8.66**	--	**8.23**	**8.13**
Fluoride	--	**0.25**	**0.16**	<0.1	**0.24**	**0.25**	**0.16**	**0.21**	**0.25**	--	**0.16**	**0.17**
Hardness, total	--	**913**	**874**	**949**	**902**	**915**	**697**	**880**	**742**	--	**887**	**895**
Nitrate + Nitrite as N	--	<0.1	<0.1	<0.1	<0.1	<0.1	**0.11**	**0.13**	**0.1**	--	<0.1	<0.1
Nitrogen, ammonia as N	--	<0.1	<0.1	<0.1	<0.1	**0.24**	<0.1	**0.16**	<0.1	--	<0.1	<0.1
Phosphorus total	--	**0.023**	**0.023**	**0.022 b**	**0.07**	**0.042**	**0.017**	**0.013**	**0.023**	--	**0.018**	**0.019**
Solids, total dissolved	--	**1020**	**1000**	**1200**	**1260**	**1110**	**852**	**976**	**858**	--	**999**	**1040**
Solids, total suspended	--	**2.4**	<1	<1	**2**	**1.6**	<1	**3.6**	--	--	--	--
Sulfate	--	**527**	**489**	**624**	**596**	**614**	**390**	**514**	**433**	--	**508**	**523**
Carbon, total organic	--	**21.8**	**21.2**	**24.6**	**22.3**	**22.6**	**11.7**	**5.3**	**12.3**	--	**10.3**	**10.5**
Carbon, dissolved organic	--	--	--	--	--	--	--	--	--	**10.0**	**10.3**	--
Field Parameters												
pH, standard units	7.69	7.69	7.88	7.57	--	--	7.80	7.37	7.85	8.03	7.82	7.94
Specific Conductance umhos@ 25oC	1465	1460	1474	1665	--	--	1127	1394	1259	1345	1429	1409
Dissolved oxygen, mg/L	--	7.69	7.31	7.00	--	--	11.79	11.42	8.98	9.40	6.95	9.62
Turbidity, NTU (field)	--	6.1	2.3	0.1	--	--	5.5	7.2	8.5	8.1	8.1	5.9
Turbidity, NTU (lab)	--	--	--	--	--	--	--	--	--	--	--	--
Temperature, degrees C	18.3	20.03	19.64	13.04	--	--	1.60	0.05	11.80	14.62	18.11	19.17
Metals												
Aluminum	--	**52.4**	**53.3**	**40.5**	**49.6**	**51.2**	**49.5**	**61.9**	**33.3**	--	**49.7**	**26.4**
Antimony	--	**0.078 j**	**0.040 j**	**0.065 j**	**0.040 j**	**0.048 j**	**0.043 jb**	<0.5	--	--	--	--
Arsenic	--	**1.8 j**	**2.4**	**2.9**	**1.3 j**	**1.3 j**	**1.3 jb**	<2	<2	--	<2	<2
Barium	--	**24**	**27**	**71**	**60**	**64**	**13**	**15.1**	**14.4**	--	**15.5**	**16.1**
Beryllium	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	--	--	--	--
Boron	--	**88.5**	**98.4**	**53.6**	**60.7**	**57.8**	**90.7**	**113**	--	--	--	--
Cadmium	--	<0.20	<0.20	<0.20	<0.20	<0.20	**0.042 jb**	<0.2	--	--	--	--
Calcium, mg/L	--	**57.4**	**51.4**	**57**	**54.3**	**54.9**	**41.5**	**50.5**	**44.7**	--	**50**	**46.6**
Chromium	--	**0.37 jb**	**0.44 jb**	<1.0	**0.33 jb**	**0.33 jb**	**0.79 j**	<1	--	--	--	--
Cobalt	--	**0.69**	**0.65**	**0.81**	**0.64 b**	**0.62 b**	**0.74**	**1.1**	--	--	--	--
Copper	--	**0.68 j**	**0.69 j**	**0.72**	**0.67 j**	**0.58 jb**	<0.70	<0.7	--	--	--	--
Iron	--	**2720**	**1050**	**1160**	**986**	**1000**	**1890**	**2190**	**1480**	--	**1050**	**833**
Lead	--	**0.16 j**	<0.60	**0.079 jb**	**0.085 jb**	**0.093 jb**	<0.60	<0.5	--	--	--	--
Magnesium, mg/L	--	**187**	**181**	**196**	**186**	**189**	**144**	**183**	**153**	--	**185**	**189**
Manganese	--	**510**	**560**	**1500**	**900**	**900**	**480**	**1030**	**648**	--	**419**	**280**
Mercury, ng/L	--	**6.2**	**7.5**	**1.2 b**	**4.3**	**6.1**	**2.2**	**1.4**	**2.5**	--	**2.7**	**2.2**
Mercury methyl, ng/L	--	**0.92**	**4.1**	**3.57**	**0.78**	**0.73**	**0.13**	**0.23**	--	**0.32**	**0.50**	**0.53**
Molybdenum	--	**6.4**	**5.3**	**2.2**	**0.89**	**0.93**	**3.7**	**3.5**	**5.1**	--	**5.74**	**4.78**
Nickel	--	**5.1**	**6.0**	**7.8**	**7.8**	**8.6**	**4.2**	**3.7**	--	--	--	--
Potassium, mg/L	--	**13.6**	**14.6**	**15.7**	**13.8**	**13.8**	--	**13.5**	**11.7**	--	**12.8**	**12.3**
Selenium	--	**0.76 j**	**0.84 jb**	**1.1**	**1.2**	**1.4**	**0.71 j**	<1	--	--	--	--
Silver	--	**0.010 jb**	<0.20	**0.0058 jb**	<0.20	**0.0044 jb**	**0.0069 jb**	<0.2	--	--	--	--
Sodium, mg/L	--	**18.8**	**26.6**	**35**	**30.5**	**31.3**	--	**24.2**	**21.8**	--	**25.2**	**24.9**
Strontium	--	**204**	**193**	**228**	**199**	**201**	--	**181**	**172**	--	**179**	**165**
Thallium	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.4	--	--	--	--
Titanium	--	<10	<10	<10	<10	<10	--	<10	--	--	--	--
Zinc	--	**4.3 jb**	**2.9 jb**	**6.0 b**	**6.4 b**	**5.5 jb**	**0.82 jb**	**6.8**	--	--	--	--
Metals, dissolved												
Cobalt, dissolved	--	**0.69**	**0.65**	**0.83**	**0.63**	**0.65**	**0.74**	**1.0**	--	--	--	--
Copper, dissolved	--	**0.71**	**0.68 j**	**1.0**	**0.62 j**	**0.59 j**	<0.70	**1.2**	--	--	--	--
Mercury, methyl dissolved, ng/L	--	--	--	--	--	--	--	--	--	--	**0.28**	**0.45**
Nickel, dissolved	--	**5.3**	**5.8**	**7.6**	**7.8**	**7.9**	**4.1**	**2.4**	--	--	--	--
Zinc, dissolved	--	**3.3 jb**	**4.5 jb**	**5.1 jb**	**5.4 jb**	**5.9 jb**	**1.8 jb**	<6	--	--	--	--

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW8 7/14/2008	MNSW8 7/15/2008	MNSW8 8/19/2008	MNSW8 9/9/2008	MNSW8 10/8/2008	MNSW8 10/8/2008 DUP	MNSW8 11/10/2008	MNSW8 2/23/2009	MNSW8 5/27/2009	MNSW8 6/4/2009	MNSW8 6/16/2009	MNSW8 7/22/2009

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW8 8/19/2009	MNSW9 6/17/2008	MNSW9 7/14/2008	MNSW9 8/19/2008	MNSW9 9/9/2008	MNSW9 10/6/2008	MNSW9 10/6/2008 DUP	MNSW9 11/10/2008	MNSW9 2/20/2009	MNSW9 2/20/2009 DUP	MNSW9 5/26/2009	MNSW9 6/17/2009
General Parameters, mg/L												
Alkalinity, bicarbonate as CaCO3	**359**	**189**	**285**	**376**	**339**	**339**	**334**	**307**	**357**	**376**	**214**	--
Alkalinity, total	--	**189**	**285**	**376**	**339**	**339**	**334**	**319**	**374**	**376**	--	--
Bromide	--	**0.0369**	**0.0635**	**0.0951**	--	--	--	--	--	--	--	--
Bromide (MDH data)	--	--	--	--	**0.0570**	**0.0636**	**0.0621**	**0.0510**	--	--	**0.0372**	--
Chemical Oxygen Demand	**27.4**	**39.0**	**45.6**	**41.9 b**	**37.7**	**41.9**	**35.6**	**29.5**	**20.8**	**21.3**	**17.6**	--
Chloride	**8.94**	**4.86**	**6.18**	**7.71**	**9.39**	**10.4**	**10.4**	**11.2**	**10.8**	**11**	**5.2**	--
Chloride (MDH data)	--	**4.52**	**6.17**	**8.21**	**9.25**	**10.4**	**10.5**	**12.1**	--	--	**5.38**	--
Fluoride	**0.16**	**0.56**	<0.1	<0.1	<0.1	**0.13**	**0.15**	<0.1	**0.1**	**0.1**	**0.14**	--
Hardness, total	**909**	**262**	**394**	**449**	**408**	**441**	**447**	**441**	**526**	**508**	**293**	--
Nitrate + Nitrite as N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.37**	**0.34**	<0.1	--
Nitrogen, ammonia as N	<0.1	<0.1	<0.1	<0.1	<0.1	**0.29**	<0.1	<0.1	**0.27 b**	**0.37 b**	<0.1	--
Phosphorus total	**0.024**	**0.019**	**0.014**	**0.013**	**0.012 b**	**0.03**	**0.013 b**	**0.009**	**0.017**	**0.016**	**0.016 b**	--
Solids, total dissolved	**1040**	**299**	**400**	**461**	**461**	**463**	**459**	**490**	**581**	**579**	**307**	--
Solids, total suspended	--	<1	<1	**2**	<1	<1	<1	**5.6**	**3.2**	**3.2**	--	--
Sulfate	**506**	**61.9**	**66.5**	**63.9**	**86**	**100**	**97.1**	**99.5**	**131**	**131**	**61.9**	--
Carbon, total organic	**10.2**	**13.3**	**12.7**	**11.6**	**10.6**	**11.2**	**11.0**	**9.8**	**6.3**	**6.1**	**11.2**	--
Carbon, dissolved organic	--	--	--	--	--	--	--	--	--	--	--	--
Field Parameters												
pH, standard units	7.92	6.95 (3)	7.38	7.39	7.38	--	--	7.58	7.16	--	7.30	7.48
Specific Conductance umhos@ 25oC	1459	139	694	820.7	811.8	--	--	764.1	888.7	--	562.5	613
Dissolved oxygen, mg/L	6.81	2.90	3.66	3.33	5.98	--	--	7.75	3.25	--	3.13	5.42
Turbidity, NTU (field)	8.0	2.3	0.4	0.7	0.8	--	--	0.7	2.3	--	0	0
Turbidity, NTU (lab)	--	--	--	--	--	--	--	--	--	--	--	--
Temperature, degrees C	16.29	14.6	12.65	14.22	11.51	--	--	1.60	0.15	--	11.43	18.50
Metals											--	
Aluminum	**32.9**	<25	<25	**26.3**	<25	**26.5**	<25	<25	<25	<25	<25	--
Antimony	--	**0.073 j**	**0.038 j**	<0.50	**0.035 j**	**0.022 j**	**0.020 j**	**0.038 jb**	<0.5	<0.5	--	--
Arsenic	<2	**1.3 j**	**1.8 jb**	**2.2**	**1.8 jb**	**1.7 j**	**1.6 j**	**1.7 jb**	**2.1**	**2.0**	**2.6**	--
Barium	**17.6**	**16**	**24**	**26**	**25**	**21**	**20**	**15**	**42.7**	**41.3**	**18.5**	--
Beryllium	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	--	--
Boron	--	<50	<50	<50	<50	<50	<50	<50	<50	<50	--	--
Cadmium	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**0.020 jb**	<0.2	<0.2	--	--
Calcium, mg/L	**42.9**	**52.8**	**81**	**95.6**	**81.4**	**77.4**	**77.5**	**67**	**103**	**98.9**	**58.8**	--
Chromium	--	**0.40 jb**	**0.57 jb**	<1.0	<1.0	**0.60 jb**	**0.66 jb**	**0.70 j**	<1	<1	--	--
Cobalt	--	**0.29**	**0.35**	**0.43**	**0.33**	**0.43**	**0.41**	**0.35**	**0.47**	**0.48**	--	--
Copper	--	**0.45 jb**	**0.36 j**	**0.19 j**	**0.57 j**	**0.44 jb**	**0.41 jb**	<0.70	<0.7	<0.7	--	--
Iron	**1120**	**242**	**235**	**254**	**161**	**330 ***	**233 ***	**125**	**1170**	**1150**	**490**	--
Lead	--	**0.087 jb**	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.5	<0.5	--	--
Magnesium, mg/L	**195**	**31.6**	**46.7**	**51**	**49.6**	**60.2**	**61.6**	**66.4**	**65.2**	**63.5**	**35.6**	--
Manganese	**374**	**220**	**710**	**1400**	**320**	**170**	**160**	**66**	**2480**	**2470**	**355**	--
Mercury, ng/L	**2.0**	**1.5**	**1.4**	**1.6**	<0.5	**1**	**1.3**	**0.9**	**1.6**	**1.5**	**1.9**	--
Mercury methyl, ng/L	--	**0.3**	**0.51**	**0.55**	**0.18**	**0.15**	**0.15**	**0.15**	**0.6**	**0.5**	--	**0.75**
Molybdenum	**5.76**	**0.55**	**0.38**	**0.30**	**0.60**	**0.77**	**0.72**	**0.62**	<0.2	<0.2	**0.41**	--
Nickel	--	**3.2**	**0.52 jb**	**0.30 j**	**0.38 j**	**0.60**	**0.61**	**0.57 j**	**3.4**	**3.8**	--	--
Potassium, mg/L	**15.4**	**1.65**	**1.56**	**2.01**	**2.74**	**3.55**	**3.69**	**4.17**	**3.6**	**3.48**	**2.39**	--
Selenium	--	**0.38 j**	**0.37 j**	**0.40 jb**	**0.34 j**	**0.42 j**	**0.47 j**	**0.29 j**	<1	<1	--	--
Silver	--	**0.0043 j**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	--	--
Sodium, mg/L	**26.2**	**6.89**	**10.1**	**10.5**	**12**	**15**	**15.2**	**14.6**	**13.4**	**12.8**	**7.12**	--
Strontium	**143**	**121**	**191**	**239**	**204**	**196**	**197**	**158**	**254**	**246**	**148**	--
Thallium	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.4	<0.4	--	--
Titanium	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	--	--
Zinc	--	**1.7 jb**	**3.4 jb**	**2.0 jb**	**2.6 jb**	**2.8 jb**	**3.7 jb**	**2.1 jb**	<6	<6	--	--
Metals, dissolved												
Cobalt, dissolved	--	**0.30**	**0.32**	**0.47**	**0.36**	**0.37**	**0.38**	**0.36**	**0.43**	**0.40**	--	--
Copper, dissolved	--	**0.31 jb**	**1.3 b**	**0.47 j**	**0.38 jb**	**0.54 jb**	**0.57 jb**	<0.70	<0.7	<0.7	--	--
Mercury, methyl dissolved, ng/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, dissolved	--	**3.4**	**0.62**	<0.60	<0.60	**0.70**	**0.66**	**0.63**	**1.2**	**1.0**	--	--
Zinc, dissolved	--	**2.1 jb**	**4.3 jb**	**19 b**	**2.6 jb**	**3.1 jb**	**3.7 jb**	<6.0	<6	<6	--	--

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW8 8/19/2009	MNSW9 6/17/2008	MNSW9 7/14/2008	MNSW9 8/19/2008	MNSW9 9/9/2008	MNSW9 10/6/2008	MNSW9 10/6/2008 DUP	MNSW9 11/10/2008	MNSW9 2/20/2009	MNSW9 2/20/2009 DUP	MNSW9 5/26/2009	MNSW9 6/17/2009

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW9 8/19/2009	MNSW12 5/28/2008	MNSW12 6/17/2008	MNSW12 7/15/2008	MNSW12 7/15/2008 DUP	MNSW12 8/19/2008	MNSW12 9/9/2008	MNSW12 10/8/2008	MNSW12 11/10/2008	MNSW12 2/23/2009	MNSW12 5/27/2009	MNSW12 6/4/2009
General Parameters, mg/L												
Alkalinity, bicarbonate as CaCO3	**346**	**36.7**	**50.2**	**90.3**	**88.7**	**225**	**159**	**78.9**	**79.5**	**185**	**66.1**	--
Alkalinity, total	--	**36.7**	**50.2**	**90.3**	**88.7**	**225**	**159**	**78.9**	**79.5**	**185**	--	--
Bromide	--	<0.5	**0.00920**	**0.152**	**0.0147**	**0.0187**	--	--	--	--	--	--
Bromide (MDH data)	--	**0.00890**	--	--	--	--	<0.00500	**0.0156**	**0.0101**	--	**0.0083**	--
Chemical Oxygen Demand	**120**	**40**	**72.0**	**70.4**	**68.4**	**67.3 b**	**54.5**	**60.9**	**63.5**	**37.1**	**47.3**	--
Chloride	**6.8**	**2.66**	**2.77**	**4.13**	**4.06**	**7.68**	**6.76**	**4.48**	**3.84**	**7.32**	**2.99**	--
Chloride (MDH data)	--	**2.86**	**2.70**	**4.21**	**4.14**	**8.24**	**6.72**	**4.52**	**4.30**	--	**3.19**	--
Fluoride	<0.1	**0.11**	**0.59**	**0.15**	**0.16**	**0.14**	**0.12**	**0.2**	**0.13**	**0.22**	**0.15**	--
Hardness, total	**415**	**82.5**	**120**	**267**	**267**	**546**	**418**	**205**	**203**	**437**	**146**	--
Nitrate + Nitrite as N	<0.1	**0.12**	<0.1	**0.11**	**0.1**	<0.1	<0.1	<0.1	**0.1**	**0.4**	<0.1	--
Nitrogen, ammonia as N	<0.1	**0.24**	<0.1	<0.1	**0.27**	**0.34**	<0.1	<0.1	<0.1	**0.41**	<0.1	--
Phosphorus total	**0.114**	**0.012**	**0.016**	**0.016**	**0.017**	**0.011**	**0.012 b**	**0.015**	**0.018**	**0.013**	**0.017**	--
Solids, total dissolved	**477**	**137**	**172**	**321**	**323**	**650**	**565**	**268**	**279**	**513**	**199**	--
Solids, total suspended	--	<1	**2.4**	**1.6**	<1	<1	<1	<1	**1.6**	**2.8**	--	--
Sulfate	**47.8**	**43**	**58.3**	**143**	**140**	**302**	**274**	**112**	**102**	**248**	**71.1**	--
Carbon, total organic	**42.0**	**18.9**	**25.0**	**24.4**	**24.2**	**20.7**	**18.3**	**18.9**	**22.1**	**13.2**	**21.4**	--
Carbon, dissolved organic	**39.3**	--	--	--	--	--	--	--	--	--	--	**19.6**
Field Parameters												
pH, standard units	7.43	7.61	7.32	7.54	--	7.80	7.69	--	7.62	7.29	7.51	7.67
Specific Conductance umhos@ 25oC	784.3	189	223.3	496	--	1173	871.4	--	379.4	769.2	298.2	381.8
Dissolved oxygen, mg/L	1.74	12.96	7.88	7.57	--	7.23	8.40	--	10.54	12.15	8.64	8.50
Turbidity, NTU (field)	15.8	--	2.7	2.2	--	1.6	0.0	--	3.0	5.9	1.7	2.9
Turbidity, NTU (lab)	--	3.4	--	--	--	--	--	--	--	--	--	--
Temperature, degrees C	16.20	18.67	18.10	22.81	--	19.21	14.85	--	6.89	0.02	16.17	17.85
Metals												
Aluminum	<25	**147**	**171**	**113**	**194**	**37.4**	**29.3**	**85.4**	**159**	**141**	**127**	--
Antimony	--	**0.081 j**	**0.11 j**	**0.099 j**	**0.098 j**	**0.050 j**	**0.080 j**	**0.11 j**	**0.095 j**	<0.5	--	--
Arsenic	**8.95**	**0.76 j**	**0.70 j**	**1.1 j**	**0.96 j**	**1.1 jb**	**1.7 jb**	**0.66 j**	**0.92 jb**	<2	<2	--
Barium	**87.2**	**8.1**	**8.9**	**14**	**14**	**29**	**33**	**17**	**10**	**13.4**	**9.38**	--
Beryllium	--	<0.20	**0.048 j**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	--	--
Boron	--	**68.6**	**59.4**	**85.5**	**84.8**	**105**	**99.6**	**139**	**101**	**150**	--	--
Cadmium	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**0.032 jb**	<0.2	--	--
Calcium, mg/L	**82.3**	**13.6**	**15.3**	**28**	**28**	**43.7**	**38.6**	**30.4**	**23.1**	**42**	**16.9**	--
Chromium	--	**0.44 jb**	**0.95 jb**	**0.55 jb**	**0.53 jb**	**0.60 jb**	<1.0	**0.38 jb**	<1.0	<1	--	--
Cobalt	--	**0.28**	**0.47**	**0.42**	**0.42**	**0.52**	**0.42**	**0.34 b**	**0.49**	**0.73**	--	--
Copper	--	**3.7**	**3.1**	**3.7**	**3.8**	**1.9**	**2.5**	**4.8**	**2.7**	**4.4**	--	--
Iron	**2100**	**617**	**936**	**1640**	**1940**	**694**	**529**	**671**	**1280**	**1480**	**824**	--
Lead	--	**0.19 j**	**0.43 jb**	**0.46 j**	**0.51 j**	<0.60	**0.11 jb**	**0.39 jb**	**0.054 j**	<0.5	--	--
Magnesium, mg/L	**50.9**	**11.8**	**20**	**47.9**	**47.8**	**106**	**78**	**31.3**	**35.3**	**80.7**	**25.2**	--
Manganese	**4160**	**85**	**120**	**180**	**180**	**430**	**580**	**150**	**160**	**547**	**169**	--
Mercury, ng/L	**11**	**6**	**7.6**	**6.2**	**6.1**	**4.7**	**0.5 b**	**2.3**	**4.9**	**3.3**	**6.2**	--
Mercury methyl, ng/L	--	**0.3**	**0.4**	**0.95**	**1.15**	**2.85**	**1.04**	**0.19**	**0.24**	**0.2**	--	**0.31**
Molybdenum	**0.38**	**0.73**	**0.99**	**2.0**	**2.0**	**2.6**	**1.4**	**1.6**	**1.3**	**1.9**	**1.07**	--
Nickel	--	**2.7**	**3.3**	**3.6**	**3.7**	**4.6**	**3.8**	**3.5**	**3.4**	**4.1**	--	--
Potassium, mg/L	**5.33**	**1.53**	**1.83**	**3.92**	**3.89**	**9.84**	**7.16**	**2.67**	**3.06**	**6.54**	**2.41**	--
Selenium	--	**0.33 j**	**0.46 j**	**0.45 j**	**0.43 j**	**0.53 jb**	**0.61 j**	**0.99 j**	**0.65 j**	<1	--	--
Silver	--	<0.20	**0.0060 j**	**0.0074 jb**	**0.0077 jb**	<0.20	**0.0058 jb**	<0.20	**0.0063 jb**	<0.2	--	--
Sodium, mg/L	**12.6**	**3.64**	**4.29**	**7.59**	**7.62**	**18**	**16.2**	**8.38**	**6.75**	**13.7**	**5.38**	--
Strontium	**214**	**104**	**80**	**157**	**157**	**214**	**219**	**255**	**152**	**274**	**119**	--
Thallium	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.4	--	--
Titanium	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	--	--
Zinc	--	**2.3 j**	**3.6 jb**	**3.4 jb**	**3.7 jb**	**3.1 jb**	**4.0 jb**	**3.8 jb**	**1.0 jb**	**6.5**	--	--
Metals, dissolved												
Cobalt, dissolved	--	**0.29**	**0.31**	**0.36**	**0.36**	**0.49**	**0.47**	**0.27**	**0.39**	**0.66**	--	--
Copper, dissolved	--	**3.5**	**3.0**	**3.7**	**3.6**	**1.9**	**2.5**	**4.6**	**2.7**	**5.5**	--	--
Mercury, methyl dissolved, ng/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, dissolved	--	**3.1**	**3.3**	**3.6**	**3.4**	**3.7**	**4.0**	**3.3**	**3.5**	**3.3**	--	--
Zinc, dissolved	--	**6.2**	**4.2 jb**	**4.4 jb**	**4.3 jb**	**5.8 jb**	**3.1 jb**	**4.4 jb**	**2.2 jb**	**8.5**	--	--

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW9 8/19/2009	MNSW12 5/28/2008	MNSW12 6/17/2008	MNSW12 7/15/2008	MNSW12 7/15/2008 DUP	MNSW12 8/19/2008	MNSW12 9/9/2008	MNSW12 10/8/2008	MNSW12 11/10/2008	MNSW12 2/23/2009	MNSW12 5/27/2009	MNSW12 6/4/2009

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW12 7/22/2009	MNSW12 8/19/2009	MNSW14 6/4/2009	MNSW14 6/4/2009 DUP	MNSW14 6/16/2009	MNSW14** 7/22/2009	MNSW14 8/19/2009
General Parameters, mg/L							
Alkalinity, bicarbonate as CaCO3	--	226	28.5	--	32.2	43.9	55.3
Alkalinity, total	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--
Bromide (MDH data)	--	--	0.0079	--	0.0102	0.0132	--
Chemical Oxygen Demand	--	32.5	59.5	--	59.5	46.8	51.5
Chloride	--	6.93	2.43	--	2.58	2.95	3.64
Chloride (MDH data)	--	--	2.53	--	2.73	3.20	--
Fluoride	--	0.16	0.16	--	0.12	0.15	0.19
Hardness, total	--	488	63.3	--	71.6	87.9	111
Nitrate + Nitrite as N	--	<0.1	0.11	--	<0.1	<0.1	<0.1
Nitrogen, ammonia as N	--	<0.1	<0.1	--	<0.1	<0.1	<0.1
Phosphorus total	--	0.017	0.013	--	0.01	0.014	0.014
Solids, total dissolved	--	644	114	--	134	146	119
Solids, total suspended	--	--	--	--	--	--	--
Sulfate	--	289	28.7	--	32	37.9	46.8
Carbon, total organic	15.5	13.2	22.5	--	22.4	20.3	19.5
Carbon, dissolved organic	--	13.0	22.5	22.8	21.7	20.8	19.1
Field Parameters							
pH, standard units	7.75	7.88	6.99	--	6.85	7.42	7.65
Specific Conductance umhos@ 25oC	647.8	1155	136.4	--	151	182.5	228.3
Dissolved oxygen, mg/L	8.63	7.53	7.57	--	8.08	8.10	7.63
Turbidity, NTU (field)	0.1	4.8	2.4	--	0.4	0	0.4
Turbidity, NTU (lab)	--	--	--	--	--	--	--
Temperature, degrees C	20.46	16.80	19.8	--	23.08	23.52	20.28
Metals							
Aluminum	--	37.5	182	--	148	122	106
Antimony	--	--	--	--	--	--	--
Arsenic	--	<2	<2	--	<2	<2	<2
Barium	--	14.6	8.88	--	9.16	10.5	12.9
Beryllium	--	--	--	--	--	--	--
Boron	--	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--	--
Calcium, mg/L	--	34.1	14.6	--	16.4	20.3	26.2
Chromium	--	--	--	--	--	--	--
Cobalt	--	--	--	--	--	--	--
Copper	--	--	--	--	--	--	--
Iron	--	744	884	--	870	982	890
Lead	--	--	--	--	--	--	--
Magnesium, mg/L	--	98	6.51	--	7.44	9.03	11
Manganese	--	208	78.9	--	84.5	86.7	77.7
Mercury, ng/L	--	2.0	7.2	--	7.9	4.1	2.7
Mercury methyl, ng/L	0.26	--	0.42	0.39	0.34	0.22	--
Molybdenum	--	2.83	0.42	--	0.47	0.81	1.06
Nickel	--	--	--	--	--	--	--
Potassium, mg/L	--	7.64	1.01	--	1.02	1.12	1.29
Selenium	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--
Sodium, mg/L	--	14.8	3.44	--	3.75	4.23	5.71
Strontium	--	167	141	--	160	185	229
Thallium	--	--	--	--	--	--	--
Titanium	--	--	--	--	--	--	--
Zinc	--	--	--	--	--	--	--
Metals, dissolved							
Cobalt, dissolved	--	--	--	--	--	--	--
Copper, dissolved	--	--	--	--	--	--	--
Mercury, methyl dissolved, ng/L	0.28	--	--	--	0.25	0.26	--
Nickel, dissolved	--	--	--	--	--	--	--
Zinc, dissolved	--	--	--	--	--	--	--

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
(concentrations in ug/L, unless noted otherwise)

Location Date Dup	MNSW12 7/22/2009	MNSW12 8/19/2009	MNSW14 6/4/2009	MNSW14 6/4/2009 DUP	MNSW14 6/16/2009	MNSW14** 7/22/2009	MNSW14 8/19/2009

** This sample was collected at Colby Lake outlet Downstream of Unnamed Creek, whereas all other MNSW14 samples were collcted at Colby Lake outlet Upstream of Unnamed Creek.

Table 1
Water Analytical Data Summary
Stream
Mesabi Nugget
Footnotes

Detections are presented in **bold**.

DUP	Duplicate sample.
--	Not analyzed/not measured.
*	Estimated value, QA/QC criteria not met.
b	Potential false positive based on blank data validation procedure.
e	Estimated value, exceeded the instrument calibration range.
h	EPA recommended sample preservation, extraction or analysis holding time was exceeded.
j	Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.

Table 1

(concentrations in ug/L)

Location	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1
Date	5/28/2008	5/28/2008	6/17/2008	6/17/2008	6/18/2008	7/14/2008	7/14/2008	7/14/2008	7/14/2008
Lab	NTS	NTS	NTS	NTS	Field	Field	Field	NTS	NTS
Dup									
Alkalinity, bicarbonate as CaCO3	234		231					326	
Alkalinity, total	234		231					326	
Bromide	0.25	0.0432	0.0327					0.0553	
Chemical Oxygen Demand	30.3		48					47.6	
Chloride	15	15.4	13.5	12.2				13.2	12.8
Fluoride	1.03		1.5					1.36	
Hardness, total	418		367					494	
Nitrate + Nitrite as N	0.05		0.05					0.05	
Nitrogen, ammonia as N	0.05		0.05					0.05	
Phosphorus total	0.014		0.021					0.036	
Solids, total dissolved	489		427					556	
Solids, total suspended	0.5		0.5					2.8	
Sulfate	166		124					153	
Carbon, total organic	9		14.9					14.5	
Carbon, dissolved organic									
pH, standard units	7.55				7.58	7.35	7.5		
Specific Conductance umhos@ 25oC	800		740			998	946		
Dissolved oxygen	10.65		5.97			3.16			
Turbidity, NTU	3		2.1			1.6			
Temperature, degrees C	10.12		12.29			17.65	17		
Aluminum	12.5		25.3					12.5	
Antimony	0.075		0.077					0.088	
Arsenic	1.2		1.9					2.6	
Barium	16		16					22	
Beryllium	0.1		0.1					0.1	
Boron	127		103					125	
Cadmium	0.032		0.1					0.12	
Calcium	58.9		52.8					63.5	
Chromium	0.46		0.5					0.28	
Cobalt	0.35		0.44					0.42	
Copper	0.72		0.74					0.55	
Iron	536		1490					564	
Lead	0.12		0.26					0.21	
Magnesium	65.9		57.2					81.6	
Manganese	220		150					160	
Mercury	1.2		1.8					1.8	
Mercury methyl	0.11		0.3					0.73	
Mercury, methyl dissolved									
Molybdenum	15		14					18	
Nickel	3.9		4					5.4	
Potassium	6.48		5.47					6.3	
Selenium	0.3		0.49					0.6	
Silver	0.1		0.0093					0.011	
Sodium	22.9		21.8					26.6	
Strontium	217		191					250	
Thallium	0.2		0.21					0.23	

Table 1

(concentrations in ug/L)

Location	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1
Date	5/28/2008	5/28/2008	6/17/2008	6/17/2008	6/18/2008	7/14/2008	7/14/2008	7/14/2008	7/14/2008
Lab	NTS	NTS	NTS	NTS	Field	Field	Field	NTS	NTS
Dup									
Titanium	5		5					5	
Zinc	1.9		2.1					5.4	
Cobalt, dissolved	0.35		0.43					0.4	
Copper, dissolved	0.79		0.81					1.5	
Nickel, dissolved	4		4.1					5.5	
Zinc, dissolved	3		2.3					4.4	

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW1 8/19/2008 NTS	MNSW1 8/19/2008 NTS	MNSW1 9/9/2008 NTS	MNSW1 9/9/2008 NTS	MNSW1 10/6/2008 NTS	MNSW1 10/6/2008 NTS	MNSW1 11/10/2008 NTS	MNSW1 11/10/2008 NTS	MNSW1 2/19/2009 Field
Alkalinity, bicarbonate as CaCO3	436		384		341		233		
Alkalinity, total	436		384		341		233		
Bromide	0.0818			0.0025		0.0397		0.0373	
Chemical Oxygen Demand	56.6		46.1		41.9		32.2		
Chloride	15	16	15.4	15.1	16.8	16.9	18.1	17.3	
Fluoride	1.53		0.05		1.33		0.85		
Hardness, total	599		546		524		464		
Nitrate + Nitrite as N	0.05		0.16		0.05		0.05		
Nitrogen, ammonia as N	0.23		0.05		0.05		0.05		
Phosphorus total	0.048		0.011		0.022		0.012		
Solids, total dissolved	679		652		608		557		
Solids, total suspended	9.6		2.4		1.6		0.5		
Sulfate	173		197		197		204		
Carbon, total organic	13.7		11.7		11.2		9.7		
Carbon, dissolved organic									
pH, standard units	7.8		7.93				7.6		7.65
Specific Conductance umhos@ 25oC	1151		1092				858.2		1184
Dissolved oxygen	1.9		5.04				8.64		4.07
Turbidity, NTU	3.6		2.3				2.4		2.8
Temperature, degrees C	18.75		11.59				2.46		0
Aluminum	78		35.1		12.5		33.6		
Antimony	0.081		0.068		0.05		0.079		
Arsenic	5.5		3.4		1.6		1.7		
Barium	32		23		18		16		
Beryllium	0.1		0.1		0.1		0.1		
Boron	173		131		120		121		
Cadmium	0.061		0.1		0.1		0.043		
Calcium	77.9		69.1		66.8		62.4		
Chromium	0.5		0.17		0.43		0.53		
Cobalt	0.59		0.41		0.37		0.36		
Copper	0.88		0.84		0.87		0.35		
Iron	984		845		248		310		
Lead	0.3		0.048		0.3		0.3		
Magnesium	98.2		90.6		86.7		74.8		
Manganese	690		200		29		67		
Mercury	1.8		0.6		1		1.3		
Mercury methyl	0.61		0.2		0.18		0.26		
Mercury, methyl dissolved									
Molybdenum	15		6.9		14		19		
Nickel	1.9		2.7		2.8		3		
Potassium	8.41		7.22		6.47		6.84		
Selenium	0.69		0.63		0.6		0.43		
Silver	0.007		0.016		0.0071		0.0086		
Sodium	40		33.6		29.7		22.6		
Strontium	332		277		253		206		
Thallium	0.064		0.22		0.2		0.2		

Table 1

(concentrations in ug/L)

Location	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1
Date	8/19/2008	8/19/2008	9/9/2008	9/9/2008	10/6/2008	10/6/2008	11/10/2008	11/10/2008	2/19/2009
Lab	NTS	NTS	NTS	NTS	NTS	NTS	NTS	NTS	Field
Dup									
Titanium	5		5		5		5		
Zinc	6		2.9		9.5		11		
Cobalt, dissolved	0.48		0.41		0.39		0.35		
Copper, dissolved	0.9		0.73		1		0.35		
Nickel, dissolved	2.4		2.3		3		3.1		
Zinc, dissolved	3.8		5.9		8.5		19		

Table 1

(concentrations in ug/L)

Location	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1	MNSW1
Date	2/19/2009	2/19/2009	2/19/2009	5/26/2009	5/26/2009	5/26/2009	6/4/2009	6/4/2009	6/16/2009
Lab	NTS	NTS	NTS	Field	NTS	NTS	Field	NTS	Field
Dup		DUP							
Alkalinity, bicarbonate as CaCO3	501	473			259				
Alkalinity, total	501	500							
Bromide			0.0169			0.0116			
Chemical Oxygen Demand	17.5	23			19				
Chloride	17.5	16.9	7.52		12.6	12.8			
Fluoride	1.94	1.95			1.03				
Hardness, total	695	712			426				
Nitrate + Nitrite as N	0.16	0.16			0.05				
Nitrogen, ammonia as N	0.05	0.4			0.05				
Phosphorus total	0.016	0.015			0.02				
Solids, total dissolved	856	793			475				
Solids, total suspended	2.8	1.6							
Sulfate	210	214			141				
Carbon, total organic	6.1	6.1			10.6				
Carbon, dissolved organic								10.2	
pH, standard units				7.63			7.54		7.74
Specific Conductance umhos@ 25oC				779.9			811.6		862
Dissolved oxygen				5.69			4.54		5.4
Turbidity, NTU				0.5			0		0.3
Temperature, degrees C				12.36			12.7		19.85
Aluminum	33.8	34.1			12.5				
Antimony	0.25	0.25							
Arsenic	1	1			1				
Barium	27.7	27			16.1				
Beryllium	0.1	0.1							
Boron	204	202							
Cadmium	0.1	0.1							
Calcium	87.1	88.9			58				
Chromium	0.5	0.5							
Cobalt	0.24	0.24							
Copper	0.97	1.1							
Iron	417	426			306				
Lead	0.25	0.25							
Magnesium	116	119			68.3				
Manganese	315	322			115				
Mercury	1.2	1			1.8				
Mercury methyl	0.25	0.21						0.32	
Mercury, methyl dissolved									
Molybdenum	12.6	12.1			14.9				
Nickel	0.69	0.99							
Potassium	8.82	8.96			5.75				
Selenium	0.5	0.5							
Silver	0.1	0.1							
Sodium	44.7	45.6			21.3				
Strontium	371	381			225				
Thallium	0.2	0.2							

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW1 2/19/2009 NTS	MNSW1 2/19/2009 NTS DUP	MNSW1 2/19/2009 NTS	MNSW1 5/26/2009 Field	MNSW1 5/26/2009 NTS	MNSW1 5/26/2009 NTS	MNSW1 6/4/2009 Field	MNSW1 6/4/2009 NTS	MNSW1 6/16/2009 Field
Titanium	5	5							
Zinc	7.7	8.8							
Cobalt, dissolved	0.23								
Copper, dissolved	1								
Nickel, dissolved	2.1								
Zinc, dissolved	3								

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW1 6/16/2009 NTS	MNSW1 6/16/2009 NTS	MNSW1 7/22/2009 Field	MNSW1 7/22/2009 NTS	MNSW1 7/22/2009 NTS	MNSW1 8/19/2009 Field	MNSW1 8/19/2009 NTS	MIN	MAX
Alkalinity, bicarbonate as CaCO3	295			402			425	231	501
Alkalinity, total								231	501
Bromide		0.0318			0.0443			0.0025	0.25
Chemical Oxygen Demand	39.2			32.5			50.6	17.5	56.6
Chloride	13.3	13.3		11	10.9		12.4	7.52	18.1
Fluoride	1.09			1.38			1.31	0.05	1.95
Hardness, total	465			483			544	367	712
Nitrate + Nitrite as N	0.05			0.05			0.05	0.05	0.16
Nitrogen, ammonia as N	0.05			0.05			0.05	0.05	0.4
Phosphorus total	0.019			0.024			0.038	0.011	0.048
Solids, total dissolved	533			541			700	427	856
Solids, total suspended								0.5	9.6
Sulfate	148			105			130	105	214
Carbon, total organic	13.8			13.9			17.8	6.1	17.8
Carbon, dissolved organic	13.4			13.8			17.7	10.2	17.7
pH, standard units			7.72			7.79		7.35	7.93
Specific Conductance umhos@ 25oC			943.8			969.7		740	1184
Dissolved oxygen			3.84			0.25		0.25	10.65
Turbidity, NTU			0			11.2		0	11.2
Temperature, degrees C			18.18			17.3		0	19.85
Aluminum	12.5			12.5			12.5	12.5	78
Antimony								0.05	0.25
Arsenic	1			3.17			8.25	1	8.25
Barium	20.7			21.1			29.2	16	32
Beryllium								0.1	0.1
Boron								103	204
Cadmium								0.032	0.12
Calcium	61.6			60.3			60.2	52.8	88.9
Chromium								0.17	0.53
Cobalt								0.24	0.59
Copper								0.35	1.1
Iron	324			226			467	226	1490
Lead								0.048	0.3
Magnesium	75.5			80.7			95.7	57.2	119
Manganese	150			230			563	29	690
Mercury	2			2.9			3.4	0.6	3.4
Mercury methyl	0.4			1.11				0.11	1.11
Mercury, methyl dissolved	0.24			0.7				0.24	0.7
Molybdenum	16.2			4.6			7.9	4.6	19
Nickel								0.69	5.4
Potassium	6.61			7.44			7.13	5.47	8.96
Selenium								0.3	0.69
Silver								0.007	0.1
Sodium	24.9			31.4			30.6	21.3	45.6
Strontium	235			262			244	191	381
Thallium								0.064	0.23

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW1 6/16/2009 NTS	MNSW1 6/16/2009 NTS	MNSW1 7/22/2009 Field	MNSW1 7/22/2009 NTS	MNSW1 7/22/2009 NTS	MNSW1 8/19/2009 Field	MNSW1 8/19/2009 NTS	MIN	MAX
Titanium								5	5
Zinc								1.9	11
Cobalt, dissolved								0.23	0.48
Copper, dissolved								0.35	1.5
Nickel, dissolved								2.1	5.5
Zinc, dissolved								2.3	19

Table 1

(concentrations in ug/L)

Location Date Lab Dup	STD DEV	AVERAGE	MNSW2 5/28/2008 Field	MNSW2 5/28/2008 NTS	MNSW2 5/28/2008 NTS DUP	MNSW2 5/28/2008 NTS	MNSW2 5/28/2008 NTS DUP	MNSW2 6/17/2008 Field	MNSW2 6/17/2008 NTS
Alkalinity, bicarbonate as CaCO3	94.90008	349.23077		258	251				259
Alkalinity, total	109.3572	354		258	251				259
Bromide	0.065128	0.053925		0.77	0.66	0.0132	0.0138		0.014
Chemical Oxygen Demand	12.58845	37.269231		25	23				38
Chloride	2.535331	14.205		9.58	9.65	9.95	9.97		10.1
Fluoride	0.488845	1.2576923		0.24	0.24				0.75
Hardness, total	102.3932	518.23077		588	569				578
Nitrate + Nitrite as N	0.048238	0.0753846		0.05	0.05				0.05
Nitrogen, ammonia as N	0.105393	0.0907692		0.05	0.05				0.05
Phosphorus total	0.011211	0.0227692		0.028	0.023				0.028
Solids, total dissolved	126.1906	605.07692		629	643				632
Solids, total suspended	2.833186	2.4777778		4	2.8				4
Sulfate	36.00089	166.30769		290	293				294
Carbon, total organic	3.463472	11.769231		8.6	8.3				10.5
Carbon, dissolved organic	3.072865	13.775							
pH, standard units	0.151526	7.6446154	7.93						
Specific Conductance umhos@ 25oC	143.0067	933.55385	1009					949	
Dissolved oxygen	2.774407	4.9291667	13.06					6.04	
Turbidity, NTU	3.009027	2.4833333	2.4	5.3	4.6			3.2	
Temperature, degrees C	6.152151	13.096154	12.89					16.79	
Aluminum	18.7941	25.184615		37.8	37.8				28.2
Antimony	0.078324	0.1131111		0.081	0.069				0.065
Arsenic	2.155993	2.5630769		1.2	0.69				1.4
Barium	5.56424	21.907692		14	16				15
Beryllium	1.47E-17	0.1		0.1	0.1				0.1
Boron	37.74733	145.11111		112	105				85.8
Cadmium	0.030598	0.084		0.1	0.1				0.1
Calcium	11.2097	66.730769		37.6	36.5				36.9
Chromium	0.12278	0.43		0.59	0.47				0.61
Cobalt	0.106536	0.38		0.35	0.26				0.43
Copper	0.224499	0.78		0.35	0.38				0.46
Iron	360.9842	549.46154		1090	999				716
Lead	0.08797	0.2264444		0.13	0.3				0.12
Magnesium	18.43633	85.4		120	116				118
Manganese	190.0254	247		160	160				140
Mercury	0.780122	1.6769231		2.6	1.8				2.4
Mercury methyl	0.289671	0.39		0.39	0.4				0.6
Mercury, methyl dissolved	0.325269	0.47							
Molybdenum	4.276771	13.092308		5	5.1				3.6
Nickel	1.499775	2.82		2.4	2.2				2.8
Potassium	1.097766	7.0692308		11	10.6				10
Selenium	0.11811	0.5266667		0.5	0.44				0.48
Silver	0.045162	0.0398889		0.0054	0.1				0.0074
Sodium	8.455722	30.438462		13	12.8				13
Strontium	60.48755	264.92308		117	113				109
Thallium	0.049059	0.1915556		0.2	0.2				0.2

Table 1

(concentrations in ug/L)

Location Date Lab Dup	STD DEV	AVERAGE	MNSW2 5/28/2008 Field	MNSW2 5/28/2008 NTS	MNSW2 5/28/2008 NTS DUP	MNSW2 5/28/2008 NTS	MNSW2 5/28/2008 NTS DUP	MNSW2 6/17/2008 Field	MNSW2 6/17/2008 NTS
Titanium	0	5		5	5				5
Zinc	3.350041	6.1444444		2	1.6				1.7
Cobalt, dissolved	0.073872	0.38		0.33	0.24				0.42
Copper, dissolved	0.322889	0.885		0.34	0.45				0.49
Nickel, dissolved	1.155654	3.3125		2.3	2.2				2.9
Zinc, dissolved	5.527835	6.2375		1.9	1.8				2.3

Table 1

(concentrations in ug/L)

Location	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2
Date	6/17/2008	6/17/2008	6/17/2008	6/18/2008	7/14/2008	7/14/2008	7/14/2008	7/14/2008	7/14/2008
Lab	NTS	NTS	NTS	Field	Field	NTS	NTS	NTS	NTS
Dup	DUP		DUP				DUP		DUP
Alkalinity, bicarbonate as CaCO3	258					320	320		
Alkalinity, total	258					320	320		
Bromide	0.0138					0.0166	0.0174		
Chemical Oxygen Demand	52.4					37.1	37.1		
Chloride	9.96	9.12	9.08			8.84	8.77	8.63	8.61
Fluoride	0.74					0.14	0.14		
Hardness, total	588					704	710		
Nitrate + Nitrite as N	0.05					0.05	0.05		
Nitrogen, ammonia as N	0.05					0.05	0.05		
Phosphorus total	0.026					0.047	0.042		
Solids, total dissolved	623					722	707		
Solids, total suspended	3.2					2	2.4		
Sulfate	305					306	306		
Carbon, total organic	11.1					11.8	12		
Carbon, dissolved organic									
pH, standard units				7.53	7.6				
Specific Conductance umhos@ 25oC					1150				
Dissolved oxygen					6.27				
Turbidity, NTU					3.1				
Temperature, degrees C					18.59				
Aluminum	30.7					12.5	25.2		
Antimony	0.057					0.058	0.056		
Arsenic	1.3					2.8	2.7		
Barium	14					18	18		
Beryllium	0.1					0.1	0.1		
Boron	102					109	120		
Cadmium	0.1					0.1	0.1		
Calcium	37.5					39.4	40.5		
Chromium	0.57					0.94	0.87		
Cobalt	0.42					0.31	0.34		
Copper	0.41					0.39	0.42		
Iron	737					881	909		
Lead	0.14					0.16	0.3		
Magnesium	120					147	148		
Manganese	140					140	140		
Mercury	2.4					3.8	3.4		
Mercury methyl	0.2					1.76	1.49		
Mercury, methyl dissolved									
Molybdenum	3.6					1.8	1.9		
Nickel	2.7					2.2	2		
Potassium	10.3					11.2	11.2		
Selenium	0.49					0.46	0.52		
Silver	0.0084					0.0085	0.0046		
Sodium	13.2					13.4	13.6		
Strontium	111					120	122		
Thallium	0.2					0.095	0.2		

Table 1

(concentrations in ug/L)

Location	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2
Date	6/17/2008	6/17/2008	6/17/2008	6/18/2008	7/14/2008	7/14/2008	7/14/2008	7/14/2008	7/14/2008
Lab	NTS	NTS	NTS	Field	Field	NTS	NTS	NTS	NTS
Dup	DUP		DUP				DUP		DUP
Titanium	5					5	5		
Zinc	1.7					7	3.8		
Cobalt, dissolved	0.4					0.3	0.35		
Copper, dissolved	0.43					0.57	0.4		
Nickel, dissolved	2.9					1.9	1.8		
Zinc, dissolved	1.9					3.5	4.1		

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW2 8/19/2008 Field	MNSW2 8/19/2008 NTS	MNSW2 8/19/2008 NTS	MNSW2 9/9/2008 Field	MNSW2 9/9/2008 NTS	MNSW2 9/9/2008 NTS	MNSW2 10/6/2008 NTS	MNSW2 10/7/2008 NTS	MNSW2 11/10/2008 Field
Alkalinity, bicarbonate as CaCO3		327			269		187		
Alkalinity, total		327			269		187		
Bromide		0.0194				0.0123		0.0154	
Chemical Oxygen Demand		25.3			37.7		41.9		
Chloride		9.85	10.5		9.73	9.54	7.2	7.35	
Fluoride		0.05			0.05		0.21		
Hardness, total		706			668		565		
Nitrate + Nitrite as N		0.05			0.14		0.14		
Nitrogen, ammonia as N		0.05			0.2		0.11		
Phosphorus total		0.014			0.007		0.032		
Solids, total dissolved		10			785		621		
Solids, total suspended		0.5			1.6		2		
Sulfate		348			397		338		
Carbon, total organic		5.1			8.4		12.2		
Carbon, dissolved organic									
pH, standard units	8.15			7.51					7.66
Specific Conductance umhos@ 25oC	1223			1219					1038
Dissolved oxygen	0.23			7.59					10.98
Turbidity, NTU	1.2			2.8					2.9
Temperature, degrees C	19.07			12.26					2.12
Aluminum		26			12.5		12.5		
Antimony		0.018			0.061		0.017		
Arsenic		2.7			1.7		1.6		
Barium		14			21		18		
Beryllium		0.1			0.1		0.1		
Boron		118			113		109		
Cadmium		0.1			0.1		0.1		
Calcium		35.5			41.7		43.1		
Chromium		0.59			0.5		0.75		
Cobalt		0.32			0.37		0.38		
Copper		0.34			0.49		0.41		
Iron		427			882		1090		
Lead		0.3			0.3		0.3		
Magnesium		150			137		111		
Manganese		140			200		220		
Mercury		1.1			0.7		1.8		
Mercury methyl		0.23			0.24		0.41		
Mercury, methyl dissolved									
Molybdenum		3.1			2.8		3.3		
Nickel		2.1			2.5		2.2		
Potassium		12.7			11.7		8.54		
Selenium		0.7			0.65		0.61		
Silver		0.1			0.0079		0.007		
Sodium		14.7			13.5		10.5		
Strontium		106			133		142		
Thallium		0.2			0.2		0.2		

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW2 8/19/2008 Field	MNSW2 8/19/2008 NTS	MNSW2 8/19/2008 NTS	MNSW2 9/9/2008 Field	MNSW2 9/9/2008 NTS	MNSW2 9/9/2008 NTS	MNSW2 10/6/2008 NTS	MNSW2 10/7/2008 NTS	MNSW2 11/10/2008 Field
Titanium		5			5		5		
Zinc		**2.2**			**3.3**		**5.5**		
Cobalt, dissolved		**0.34**			**0.42**		**0.39**		
Copper, dissolved		**0.54**			**0.51**		**0.56**		
Nickel, dissolved		**2.5**			**2.5**		**2.6**		
Zinc, dissolved		**4.6**			**2.7**		**7.2**		

Table 1

(concentrations in ug/L)

Location	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2
Date	11/10/2008	11/10/2008	11/10/2008	11/10/2008	2/19/2009	2/19/2009	5/26/2009	5/26/2009
Lab	NTS	NTS	NTS	NTS	Field	NTS	Field	NTS
Dup			DUP	DUP				
Alkalinity, bicarbonate as CaCO3	276		235			359		324
Alkalinity, total	288		235			379		
Bromide		0.0156		0.0025				
Chemical Oxygen Demand	25.5		30.9			16		20.6
Chloride	10.6	9.96	18	19.8		11.8		9.95
Fluoride	0.18		0.89			0.22		0.23
Hardness, total	624		466			751		621
Nitrate + Nitrite as N	0.05		0.05			0.05		0.05
Nitrogen, ammonia as N	0.05		0.2			0.05		0.05
Phosphorus total	0.016		0.012			0.011		0.029
Solids, total dissolved	667		555			886		667
Solids, total suspended	1.2		0.5			1.6		
Sulfate	312		206			353		280
Carbon, total organic	7.9		9.9			5		10.4
Carbon, dissolved organic								
pH, standard units					7.56		7.8	
Specific Conductance umhos@ 25oC					1201		1052	
Dissolved oxygen					9.43		7.17	
Turbidity, NTU					1.5		3.5	
Temperature, degrees C					0.01		12.58	
Aluminum	12.5		29.9			12.5		25.1
Antimony	0.035		0.079			0.25		
Arsenic	1.3		1.5			1		3.2
Barium	12		16			12.4		14.2
Beryllium	0.1		0.1			0.1		
Boron	98.9		115			128		
Cadmium	0.025		0.1			0.1		
Calcium	35.6		62.5			43.6		39.2
Chromium	0.99		0.5			0.5		
Cobalt	0.36		0.33			0.1		
Copper	0.35		0.35			0.35		
Iron	699		326			588		1080
Lead	0.3		0.3			0.25		
Magnesium	130		75.3			156		127
Manganese	130		65			357		374
Mercury	2.4		1.8			2		1.8
Mercury methyl	0.4		0.18			0.27		
Mercury, methyl dissolved								
Molybdenum	2.3		18			1.7		9
Nickel	1.9		2.9			0.3		
Potassium	10		6.96			12.6		9.18
Selenium	0.52		0.37			0.5		
Silver	0.0046		0.009			0.1		
Sodium	13		22.9			16.4		12.2
Strontium	106		208			146		127
Thallium	0.2		0.064			0.2		

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW2 11/10/2008 NTS	MNSW2 11/10/2008 NTS	MNSW2 11/10/2008 NTS DUP	MNSW2 11/10/2008 NTS DUP	MNSW2 2/19/2009 Field	MNSW2 2/19/2009 NTS	MNSW2 5/26/2009 Field	MNSW2 5/26/2009 NTS
Titanium	5		5			5		
Zinc	1.7		14			3		
Cobalt, dissolved	0.36		0.36			0.1		
Copper, dissolved	0.35		0.35			0.35		
Nickel, dissolved	2		2.8			1.1		
Zinc, dissolved	2		20			3		

Table 1

(concentrations in ug/L)

Location	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2
Date	5/26/2009	6/4/2009	6/4/2009	6/16/2009	6/16/2009	6/16/2009	6/16/2009	6/16/2009	7/22/2009
Lab	NTS	Field	NTS	Field	NTS	NTS	NTS	NTS	Field
Dup						DUP		DUP	
Alkalinity, bicarbonate as CaCO3					330	327			
Alkalinity, total									
Bromide	0.0025						0.018	0.018	
Chemical Oxygen Demand					22.3	19.5			
Chloride	10.2				10	10	9.82	9.61	
Fluoride					0.12	0.12			
Hardness, total					724	728			
Nitrate + Nitrite as N					0.05	0.05			
Nitrogen, ammonia as N					0.05	0.05			
Phosphorus total					0.015	0.014			
Solids, total dissolved					784	775			
Solids, total suspended									
Sulfate					329	339			
Carbon, total organic					6.9	6.6			
Carbon, dissolved organic			6.5		6.3	6.3			
pH, standard units		8.13		8.09					8.35
Specific Conductance umhos@ 25oC		1142		1183					1071
Dissolved oxygen		8.22		8.26					7.61
Turbidity, NTU		1.3		1.3					0.9
Temperature, degrees C		14.1		20.98					18.83
Aluminum					25.9	28.3			
Antimony									
Arsenic					1	1			
Barium					11.8	11.8			
Beryllium									
Boron									
Cadmium									
Calcium					40.8	40.9			
Chromium									
Cobalt									
Copper									
Iron					389	407			
Lead									
Magnesium					151	152			
Manganese					152	158			
Mercury					1.2	1.5			
Mercury methyl			0.12		0.14	0.14			
Mercury, methyl dissolved					0.05	0.18			
Molybdenum					3.06	2.9			
Nickel									
Potassium					12.4	11.6			
Selenium									
Silver									
Sodium					13.9	14			
Strontium					125	125			
Thallium									

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW2 5/26/2009 NTS	MNSW2 6/4/2009 Field	MNSW2 6/4/2009 NTS	MNSW2 6/16/2009 Field	MNSW2 6/16/2009 NTS	MNSW2 6/16/2009 NTS DUP	MNSW2 6/16/2009 NTS	MNSW2 6/16/2009 NTS DUP	MNSW2 7/22/2009 Field
Titanium									
Zinc									
Cobalt, dissolved									
Copper, dissolved									
Nickel, dissolved									
Zinc, dissolved									

Table 1

(concentrations in ug/L)

Location	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MNSW2	MIN	MAX
Date	7/22/2009	7/22/2009	7/22/2009	7/22/2009	8/19/2009	8/19/2009	8/19/2009		
Lab	NTS	NTS	NTS	NTS	Field	NTS	NTS		
Dup			DUP	DUP			DUP		
Alkalinity, bicarbonate as CaCO3	295		290			324	323	187	359
Alkalinity, total								187	379
Bromide		0.0025		0.0181				0.0025	0.77
Chemical Oxygen Demand	18.2		16			17.5	15.5	15.5	52.4
Chloride	8.64	8.54	8.72	8.52		9.65	9.7	7.2	19.8
Fluoride	0.11		0.11			0.05	0.05	0.05	0.89
Hardness, total	663		648			717	699	466	751
Nitrate + Nitrite as N	0.05		0.05			0.05	0.05	0.05	0.14
Nitrogen, ammonia as N	0.05		0.05			0.05	0.05	0.05	0.2
Phosphorus total	0.016		0.016			0.017	0.016	0.007	0.047
Solids, total dissolved	714		759			707	734	10	886
Solids, total suspended								0.5	4
Sulfate	334		331			331	319	206	397
Carbon, total organic	7.5		7.4			7.7	6.6	5	12.2
Carbon, dissolved organic	7.7		7.5			6.1	6.3	6.1	7.7
pH, standard units					8.27			7.51	8.35
Specific Conductance umhos@ 25oC					1135			949	1223
Dissolved oxygen					6.49			0.23	13.06
Turbidity, NTU					5.6			0.9	5.6
Temperature, degrees C					16.72			0.01	20.98
Aluminum	36.7		36.1			38.1	37.6	12.5	38.1
Antimony								0.017	0.25
Arsenic	1		1			1	1	0.69	3.2
Barium	10.8		10.4			10.2	10.2	10.2	21
Beryllium								0.1	0.1
Boron								85.8	128
Cadmium								0.025	0.1
Calcium	34.6		33.8			30.3	29.6	29.6	62.5
Chromium								0.47	0.99
Cobalt			0.25					0.1	0.43
Copper								0.34	0.49
Iron	467		461			313	313	313	1090
Lead								0.12	0.3
Magnesium	140		137			156	152	75.3	156
Manganese	111		109			90	88.3	65	374
Mercury	1.7		1.7			1.4	1.5	0.7	3.8
Mercury methyl	0.15		0.21					0.12	1.76
Mercury, methyl dissolved	0.16		0.16					0.05	0.18
Molybdenum	2.86		2.44			1.92	1.89	1.7	18
Nickel								0.3	2.9
Potassium	10.4		10			13.1	12.9	6.96	13.1
Selenium			0.05					0.05	0.7
Silver								0.0046	0.1
Sodium	12.5		12.1			14.4	13.9	10.5	22.9
Strontium	101		98.1			76.9	74.4	74.4	208
Thallium								0.064	0.2

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW2 7/22/2009 NTS	MNSW2 7/22/2009 NTS	MNSW2 7/22/2009 NTS DUP	MNSW2 7/22/2009 NTS DUP	MNSW2 8/19/2009 Field	MNSW2 8/19/2009 NTS	MNSW2 8/19/2009 NTS DUP	MIN	MAX
Titanium								5	5
Zinc								1.6	14
Cobalt, dissolved								0.1	0.42
Copper, dissolved								0.34	0.57
Nickel, dissolved								1.1	2.9
Zinc, dissolved								1.8	20

Table 1

(concentrations in ug/L)

Location Date Lab Dup	STD DEV	AVERAGE	MNSW7 5/28/2008 Field	MNSW7 5/28/2008 NTS	MNSW7 5/28/2008 NTS	MNSW7 6/17/2008 Field	MNSW7 6/17/2008 NTS	MNSW7 6/17/2008 NTS	MNSW7 6/18/2008 Field
Alkalinity, bicarbonate as CaCO3	42.88261	291.15789		50.6			46.6		
Alkalinity, total	50.73304	279.25		50.6			46.6		
Bromide	0.227757	0.0912833		0.25	0.0104		0.0055		
Chemical Oxygen Demand	10.55685	27.342105		23			61.2		
Chloride	2.400445	9.9982857		2.09	2.26		0.8	0.884	
Fluoride	0.254325	0.2442105		0.05			0.6		
Hardness, total	74.82338	648.26316		397			327		
Nitrate + Nitrite as N	0.028377	0.0594737		0.05			0.05		
Nitrogen, ammonia as N	0.048177	0.0689474		0.05			0.05		
Phosphorus total	0.010674	0.0215263		0.01			0.022		
Solids, total dissolved	176.3782	664.21053		508			418		
Solids, total suspended	1.184368	2.15		1.6			0.5		
Sulfate	38.25239	316.36842		317			252		
Carbon, total organic	2.232548	8.6263158		11.9			22		
Carbon, dissolved organic	0.647339	6.6714286							
pH, standard units	0.308952	7.8816667	6.74						6.65
Specific Conductance umhos@ 25oC	89.17535	1114.3333	722			554.6			
Dissolved oxygen	3.094565	7.6125	8.83			5.08			
Turbidity, NTU	1.533938	2.8285714		2		2.4			
Temperature, degrees C	6.580723	13.745	12.29			12.18			
Aluminum	9.799764	26.626316		52.8			132		
Antimony	0.060267	0.0705		0.039			0.049		
Arsenic	0.748249	1.5310526		1			1		
Barium	3.110819	14.094737		15			13		
Beryllium	1.45E-17	0.1		0.1			0.1		
Boron	10.97232	109.64167		25			25		
Cadmium	0.021651	0.09375		0.1			0.1		
Calcium	6.895396	38.926316		58.4			48.7		
Chromium	0.184062	0.6566667		0.59			0.48		
Cobalt	0.085597	0.3246154		0.32			0.32		
Copper	0.04821	0.3916667		1.1			0.77		
Iron	284.3216	672.31579		301			542		
Lead	0.078721	0.2416667		0.12			0.16		
Magnesium	20.53629	133.85789		61.1			49.8		
Manganese	80.54639	161.80526		380			140		
Mercury	0.757458	1.9473684		2			3.6		
Mercury methyl	0.469932	0.4311765		0.17			0.7		
Mercury, methyl dissolved	0.05909	0.1375							
Molybdenum	3.78815	4.0142105		0.1			0.088		
Nickel	0.672625	2.1833333		4.9			5.9		
Potassium	1.59329	10.862105		3.27			1.5		
Selenium	0.15735	0.4838462		0.18			0.42		
Silver	0.042096	0.0302333		0.1			0.0069		
Sodium	2.498514	13.842105		5.1			4.33		
Strontium	28.46573	118.96842		168			128		
Thallium	0.047368	0.1799167		0.2			0.2		

Table 1

(concentrations in ug/L)

Location Date Lab Dup	STD DEV	AVERAGE	MNSW7 5/28/2008 Field	MNSW7 5/28/2008 NTS	MNSW7 5/28/2008 NTS	MNSW7 6/17/2008 Field	MNSW7 6/17/2008 NTS	MNSW7 6/17/2008 NTS	MNSW7 6/18/2008 Field
Titanium	0	5		5			5		
Zinc	3.588228	3.9583333		4.2			5		
Cobalt, dissolved	0.089794	0.3341667		0.29			0.32		
Copper, dissolved	0.087646	0.445		0.56			0.65		
Nickel, dissolved	0.529937	2.2916667		4.9			5.2		
Zinc, dissolved	5.099168	4.5833333		5.5			5.6		

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW7 7/14/2008 Field	MNSW7 7/15/2008 Field	MNSW7 7/15/2008 NTS	MNSW7 7/15/2008 NTS	MNSW7 8/19/2008 Field	MNSW7 8/19/2008 NTS	MNSW7 8/19/2008 NTS	MNSW7 9/9/2008 Field	MNSW7 9/9/2008 NTS
Alkalinity, bicarbonate as CaCO3			186			319			201
Alkalinity, total			186			319			201
Bromide			0.0083			0.0025			
Chemical Oxygen Demand			39.2			58.7			39.8
Chloride			0.57	0.655		0.25	0.25		1.3
Fluoride			0.14			0.05			0.05
Hardness, total			540			806			733
Nitrate + Nitrite as N			0.05			0.05			0.05
Nitrogen, ammonia as N			0.05			0.26			0.05
Phosphorus total			0.02			0.011			0.012
Solids, total dissolved			651			988			911
Solids, total suspended			0.5			2.4			3.2
Sulfate			278			471			490
Carbon, total organic			15.4			15.5			12.2
Carbon, dissolved organic									
pH, standard units	7.3	7.07			7.28			7.2	
Specific Conductance umhos@ 25oC	909	879			1352			1420	
Dissolved oxygen		4.92			4.05			4.4	
Turbidity, NTU		1.4			0.3			0.7	
Temperature, degrees C	17.7	19.35			17.26			11.35	
Aluminum			33.3			67.1			118
Antimony			0.048			0.021			0.052
Arsenic			0.45			1			1
Barium			11			11			17
Beryllium			0.1			0.1			0.1
Boron			25			25			25
Cadmium			0.1			0.1			0.1
Calcium			77.8			115			104
Chromium			0.5			0.5			0.5
Cobalt			0.48			0.78			0.61
Copper			0.34			0.42			0.68
Iron			590			265			461
Lead			0.056			0.3			0.16
Magnesium			84.1			126			115
Manganese			830			7900			5800
Mercury			1.5			1.3			0.6
Mercury methyl			0.48			0.16			0.05
Mercury, methyl dissolved									
Molybdenum			0.19			0.32			0.33
Nickel			3.8			4.5			4.1
Potassium			1.6			1.25			2.47
Selenium			0.33			0.56			0.73
Silver			0.013			0.1			0.0082
Sodium			7.15			9.35			8.99
Strontium			193			294			274
Thallium			0.35			0.2			0.2

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW7 7/14/2008 Field	MNSW7 7/15/2008 Field	MNSW7 7/15/2008 NTS	MNSW7 7/15/2008 NTS	MNSW7 8/19/2008 Field	MNSW7 8/19/2008 NTS	MNSW7 8/19/2008 NTS	MNSW7 9/9/2008 Field	MNSW7 9/9/2008 NTS
Titanium			5			5			5
Zinc			2.4			12			16
Cobalt, dissolved			0.44			0.73			0.63
Copper, dissolved			0.49			0.48			0.5
Nickel, dissolved			3.8			4.2			3.7
Zinc, dissolved			3.9			18			12

Table 1

(concentrations in ug/L)

Location	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7
Date	9/9/2008	10/8/2008	10/8/2008	11/10/2008	11/10/2008	11/10/2008	5/27/2009	5/27/2009	5/27/2009
Lab	NTS	NTS	NTS	Field	NTS	NTS	Field	NTS	NTS
Dup									
Alkalinity, bicarbonate as CaCO3		110			35.3			64.3	
Alkalinity, total		110			35.3				
Bromide	0.011		0.005			0.0059			0.0081
Chemical Oxygen Demand		50.3			57.8			29.4	
Chloride	1.31	3.06	0.5		3.8	3.73		3.91	4.09
Fluoride		0.14			0.05			0.14	
Hardness, total		634			320			337	
Nitrate + Nitrite as N		0.05			0.05			0.05	
Nitrogen, ammonia as N		0.05			0.05			0.05	
Phosphorus total		0.022			0.018			0.02	
Solids, total dissolved		811			438			448	
Solids, total suspended		0.5			0.5				
Sulfate		496			248			261	
Carbon, total organic		16.4			21.6			14.2	
Carbon, dissolved organic									
pH, standard units				6.48			6.78		
Specific Conductance umhos@ 25oC				588.2			292.5		
Dissolved oxygen				9.04			5.23		
Turbidity, NTU				0.5			0.1		
Temperature, degrees C				1.2			11.51		
Aluminum		52.4			166			76.7	
Antimony		0.037			0.054				
Arsenic		1			0.63			1	
Barium		16			17			12.5	
Beryllium		0.1			0.1				
Boron		25			25				
Cadmium		0.1			0.1				
Calcium		89.8			46.6			51.8	
Chromium		0.5			0.88				
Cobalt		0.51			0.3				
Copper		0.49			0.35				
Iron		454			506			456	
Lead		0.086			0.3				
Magnesium		99.6			49.5			50.4	
Manganese		860			130			436	
Mercury		1.5			3.7			1.9	
Mercury methyl		0.12			0.26				
Mercury, methyl dissolved									
Molybdenum		0.17			0.095			0.1	
Nickel		4.6			2.7				
Potassium		3.2			2.86			3.28	
Selenium		0.64			0.18				
Silver		0.013			0.1				
Sodium		7.12			5.07			6.82	
Strontium		235			124			162	
Thallium		0.28			0.2				

Table 1

(concentrations in ug/L)

Location	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7	MNSW7
Date	9/9/2008	10/8/2008	10/8/2008	11/10/2008	11/10/2008	11/10/2008	5/27/2009	5/27/2009	5/27/2009
Lab	NTS	NTS	NTS	Field	NTS	NTS	Field	NTS	NTS
Dup									
Titanium		5			5				
Zinc		4.7			5.8				
Cobalt, dissolved		0.49			0.33				
Copper, dissolved		0.5			0.093				
Nickel, dissolved		3.9			2.7				
Zinc, dissolved		4.5			6.4				

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW7 6/17/2009 Field	MNSW7 8/19/2009 Field	MNSW7 8/19/2009 NTS	MIN	MAX	STD DEV	AVERAGE	MNSW8 5/28/2008 Field	MNSW8 5/28/2008 NTS
Alkalinity, bicarbonate as CaCO3			253	35.3	319	103.0484	140.64444		180
Alkalinity, total				35.3	319	105.1303	135.5		180
Bromide				0.0025	0.25	0.081016	0.0340778		0.25
Chemical Oxygen Demand			40.8	23	61.2	13.44052	44.466667		29.2
Chloride			1.17	0.25	4.09	1.399762	1.8017059		7.29
Fluoride			0.15	0.05	0.6	0.174197	0.1522222		0.25
Hardness, total			662	320	806	189.0602	528.44444		491
Nitrate + Nitrite as N			0.05	0.05	0.05	7.36E-18	0.05		0.14
Nitrogen, ammonia as N			0.05	0.05	0.26	0.07	0.0733333		0.05
Phosphorus total			0.038	0.01	0.038	0.008482	0.0192222		0.018
Solids, total dissolved			773	418	988	218.5543	660.66667		549
Solids, total suspended				0.5	3.2	1.115689	1.3142857		19.2
Sulfate			354	248	496	105.9144	351.88889		269
Carbon, total organic			14.1	11.9	22	3.643068	15.922222		11.3
Carbon, dissolved organic			13.7	13.7	13.7		13.7		
pH, standard units	6.99	7.28		6.48	7.3	0.297286	6.977	7.62	
Specific Conductance umhos@ 25oC	987	1074		292.5	1420	353.6188	877.83	863	
Dissolved oxygen	6.55	4.95		4.05	9.04	1.854839	5.8944444	9.83	
Turbidity, NTU	2.3	4.2		0.1	4.2	1.323925	1.5444444		15.9
Temperature, degrees C	20.69	14.7		1.2	20.69	5.589395	13.823	15.12	
Aluminum			39.9	33.3	166	46.06381	82.022222		187
Antimony				0.021	0.054	0.011539	0.0428571		0.079
Arsenic			1	0.45	1	0.207773	0.8977778		2
Barium			18.6	11	18.6	2.795532	14.566667		19
Beryllium				0.1	0.1	1.5E-17	0.1		0.1
Boron				25	25	0	25		106
Cadmium				0.1	0.1	1.5E-17	0.1		0.044
Calcium			95.6	46.6	115	25.94795	76.411111		42.3
Chromium				0.48	0.88	0.143742	0.5642857		1.2
Cobalt				0.3	0.78	0.178499	0.4742857		0.91
Copper				0.34	1.1	0.27675	0.5928571		1.4
Iron			1500	265	1500	366.3269	563.88889		1660
Lead				0.056	0.3	0.097076	0.1688571		0.94
Magnesium			103	49.5	126	30.22541	82.055556		93.7
Manganese			4220	130	7900	2916.897	2299.5556		400
Mercury			1.2	0.6	3.7	1.060398	1.9222222		2.7
Mercury methyl	0.14			0.05	0.7	0.219805	0.26		0.28
Mercury, methyl dissolved				0	0				
Molybdenum			0.33	0.088	0.33	0.107302	0.1914444		4.4
Nickel				2.7	5.9	0.989709	4.3571429		5.9
Potassium			3.02	1.25	3.28	0.82647	2.4944444		7.98
Selenium				0.18	0.73	0.218316	0.4342857		0.43
Silver				0.0069	0.1	0.048013	0.0487286		0.012
Sodium			9.43	4.33	9.43	1.933462	7.04		10.8
Strontium			244	124	294	62.14522	202.44444		138
Thallium				0.2	0.35	0.059642	0.2328571		0.2

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW7 6/17/2009 Field	MNSW7 8/19/2009 Field	MNSW7 8/19/2009 NTS	MIN	MAX	STD DEV	AVERAGE	MNSW8 5/28/2008 Field	MNSW8 5/28/2008 NTS
Titanium				5	5	0	5		5
Zinc				2.4	16	4.925396	7.1571429		7.8
Cobalt, dissolved				0.29	0.73	0.167574	0.4614286		0.39
Copper, dissolved				0.093	0.65	0.175541	0.4675714		1.2
Nickel, dissolved				2.7	5.2	0.826352	4.0571429		4.8
Zinc, dissolved				3.9	18	5.15798	7.9857143		2.4

Table 1

(concentrations in ug/L)

Location	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8
Date	5/28/2008	6/17/2008	6/17/2008	6/17/2008	6/18/2008	7/14/2008	7/15/2008	7/15/2008	7/15/2008
Lab	NTS	Field	NTS	NTS	Field	Field	Field	NTS	NTS
Dup									
Alkalinity, bicarbonate as CaCO3			207					288	
Alkalinity, total			207					288	
Bromide	0.0327		0.0161					0.0204	
Chemical Oxygen Demand			59					64.4	
Chloride	7.61		8.18	7.5				7.34	7.27
Fluoride			0.77					0.25	
Hardness, total			528					913	
Nitrate + Nitrite as N			0.11					0.05	
Nitrogen, ammonia as N			0.05					0.05	
Phosphorus total			0.023					0.023	
Solids, total dissolved			588					1020	
Solids, total suspended			2.4					2.4	
Sulfate			291					527	
Carbon, total organic			16.2					21.8	
Carbon, dissolved organic									
pH, standard units					7.63	7.69	7.69		
Specific Conductance umhos@ 25oC		856.3				1465	1460		
Dissolved oxygen		7.5					7.69		
Turbidity, NTU		3.5					6.1		
Temperature, degrees C		14.14				18.3	20.03		
Aluminum			80.6					52.4	
Antimony			0.1					0.078	
Arsenic			1.1					1.8	
Barium			15					24	
Beryllium			0.1					0.1	
Boron			68.9					88.5	
Cadmium			0.1					0.1	
Calcium			41.8					57.4	
Chromium			0.48					0.37	
Cobalt			0.63					0.69	
Copper			0.68					0.68	
Iron			1080					2720	
Lead			0.19					0.16	
Magnesium			103					187	
Manganese			200					510	
Mercury			3.9					6.2	
Mercury methyl			0.2					0.92	
Mercury, methyl dissolved									
Molybdenum			4					6.4	
Nickel			5.3					5.1	
Potassium			8.1					13.6	
Selenium			0.5					0.76	
Silver			0.0069					0.01	
Sodium			11.6					18.8	
Strontium			130					204	
Thallium			0.2					0.2	

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW8 5/28/2008 NTS	MNSW8 6/17/2008 Field	MNSW8 6/17/2008 NTS	MNSW8 6/17/2008 NTS	MNSW8 6/18/2008 Field	MNSW8 7/14/2008 Field	MNSW8 7/15/2008 Field	MNSW8 7/15/2008 NTS	MNSW8 7/15/2008 NTS
Titanium			5					5	
Zinc			2.8					4.3	
Cobalt, dissolved			0.57					0.69	
Copper, dissolved			0.76					0.71	
Nickel, dissolved			5.4					5.3	
Zinc, dissolved			3.5					3.3	

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW8 8/19/2008 Field	MNSW8 8/19/2008 NTS	MNSW8 8/19/2008 NTS	MNSW8 9/9/2008 Field	MNSW8 9/9/2008 NTS	MNSW8 9/9/2008 NTS	MNSW8 10/8/2008 NTS	MNSW8 10/8/2008 NTS	MNSW8 10/8/2008 NTS DUP
Alkalinity, bicarbonate as CaCO3		347			336		276		280
Alkalinity, total		347			336		276		280
Bromide		0.219				0.0246		0.018	
Chemical Oxygen Demand		75.9			75.9		69.4		69.4
Chloride		9.26	9.88		9.05	9.09	7.78	7.49	7.7
Fluoride		0.16			0.05		0.24		0.25
Hardness, total		874			949		902		915
Nitrate + Nitrite as N		0.05			0.05		0.05		0.05
Nitrogen, ammonia as N		0.05			0.05		0.05		0.24
Phosphorus total		0.023			0.022		0.07		0.042
Solids, total dissolved		1000			1200		1260		1110
Solids, total suspended		0.5			0.5		2		1.6
Sulfate		489			624		596		614
Carbon, total organic		21.2			24.6		22.3		22.6
Carbon, dissolved organic									
pH, standard units	7.88			7.57					
Specific Conductance umhos@ 25oC	1474			1665					
Dissolved oxygen	7.31			7					
Turbidity, NTU	2.3			0.1					
Temperature, degrees C	19.64			13.04					
Aluminum		53.3			40.5		49.6		51.2
Antimony		0.04			0.065		0.04		0.048
Arsenic		2.4			2.9		1.3		1.3
Barium		27			71		60		64
Beryllium		0.1			0.1		0.1		0.1
Boron		98.4			53.6		60.7		57.8
Cadmium		0.1			0.1		0.1		0.1
Calcium		51.4			57		54.3		54.9
Chromium		0.44			0.5		0.33		0.33
Cobalt		0.65			0.81		0.64		0.62
Copper		0.69			0.72		0.67		0.58
Iron		1050			1160		986		1000
Lead		0.3			0.079		0.085		0.093
Magnesium		181			196		186		189
Manganese		560			1500		900		900
Mercury		7.5			1.2		4.3		6.1
Mercury methyl		4.1			3.57		0.78		0.73
Mercury, methyl dissolved									
Molybdenum		5.3			2.2		0.89		0.93
Nickel		6			7.8		7.8		8.6
Potassium		14.6			15.7		13.8		13.8
Selenium		0.84			1.1		1.2		1.4
Silver		0.1			0.0058		0.1		0.0044
Sodium		26.6			35		30.5		31.3
Strontium		193			228		199		201
Thallium		0.2			0.2		0.2		0.2

Table 1

(concentrations in ug/L)

Location	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8
Date	8/19/2008	8/19/2008	8/19/2008	9/9/2008	9/9/2008	9/9/2008	10/8/2008	10/8/2008	10/8/2008
Lab	Field	NTS	NTS	Field	NTS	NTS	NTS	NTS	NTS
Dup									DUP
Titanium		5			5		5		5
Zinc		2.9			6		6.4		5.5
Cobalt, dissolved		0.65			0.83		0.63		0.65
Copper, dissolved		0.68			1		0.62		0.59
Nickel, dissolved		5.8			7.6		7.8		7.9
Zinc, dissolved		4.5			5.1		5.4		5.9

Table 1

(concentrations in ug/L)

Location	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8
Date	10/8/2008	11/10/2008	11/10/2008	11/11/2008	2/23/2009	5/27/2009	5/27/2009	6/4/2009	6/4/2009
Lab	NTS	NTS	NTS	NTS	NTS	NTS	NTS	Field	NTS
Dup	DUP								
Alkalinity, bicarbonate as CaCO3		261			344	301			
Alkalinity, total		261			358				
Bromide	0.0188		0.0154				0.0025		
Chemical Oxygen Demand		34.1			18	25			
Chloride	7.54	8.99	8.65		10.6	8.45	8.66		
Fluoride		0.16			0.21	0.25			
Hardness, total				697	880	742			
Nitrate + Nitrite as N		0.11			0.13	0.1			
Nitrogen, ammonia as N		0.05			0.16	0.05			
Phosphorus total		0.017			0.013	0.023			
Solids, total dissolved		852			976	858			
Solids, total suspended		0.5			3.6				
Sulfate		390			514	433			
Carbon, total organic		11.7			5.3	12.3			
Carbon, dissolved organic									10
pH, standard units		7.8			7.37	7.85		8.03	
Specific Conductance umhos@ 25oC		1127			1394	1259		1345	
Dissolved oxygen		11.79			11.42	8.98		9.4	
Turbidity, NTU		5.5			7.2	8.5		8.1	
Temperature, degrees C		1.6			0.05	11.8		14.62	
Aluminum				49.5	61.9	33.3			
Antimony		0.043			0.25				
Arsenic		1.3			1	1			
Barium		13			15.1	14.4			
Beryllium		0.1			0.1				
Boron				90.7	113				
Cadmium		0.042			0.1				
Calcium				41.5	50.5	44.7			
Chromium		0.79			0.5				
Cobalt		0.74			1.1				
Copper		0.35			0.35				
Iron				1890	2190	1480			
Lead		0.3			0.25				
Magnesium				144	183	153			
Manganese		480			1030	648			
Mercury		2.2			1.4	2.5			
Mercury methyl		0.13			0.23				0.32
Mercury, methyl dissolved									
Molybdenum		3.7			3.5	5.1			
Nickel		4.2			3.7				
Potassium				10.4	13.5	11.7			
Selenium		0.71			0.5				
Silver		0.0069			0.1				
Sodium				18.2	24.2	21.8			
Strontium				128	181	172			
Thallium		0.2			0.2				

Table 1

(concentrations in ug/L)

Location	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8	MNSW8
Date	10/8/2008	11/10/2008	11/10/2008	11/11/2008	2/23/2009	5/27/2009	5/27/2009	6/4/2009	6/4/2009
Lab	NTS	NTS	NTS	NTS	NTS	NTS	NTS	Field	NTS
Dup	DUP								
Titanium				5	5				
Zinc		0.82			6.8				
Cobalt, dissolved		0.74			1				
Copper, dissolved		0.35			1.2				
Nickel, dissolved		4.1			2.4				
Zinc, dissolved		1.8			3				

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW8 6/16/2009 Field	MNSW8 6/16/2009 NTS	MNSW8 6/16/2009 NTS	MNSW8 7/22/2009 Field	MNSW8 7/22/2009 NTS	MNSW8 7/22/2009 NTS	MNSW8 8/19/2009 Field	MNSW8 8/19/2009 NTS	MIN
Alkalinity, bicarbonate as CaCO3		330			335			359	180
Alkalinity, total									180
Bromide			0.019			0.0025			0.0025
Chemical Oxygen Demand		29.5			20.8			27.4	18
Chloride		8.4	8.23		8.19	8.13		8.94	7.27
Fluoride		0.16			0.17			0.16	0.05
Hardness, total		887			895			909	491
Nitrate + Nitrite as N		0.05			0.05			0.05	0.05
Nitrogen, ammonia as N		0.05			0.05			0.05	0.05
Phosphorus total		0.018			0.019			0.024	0.013
Solids, total dissolved		999			1040			1040	549
Solids, total suspended									0.5
Sulfate		508			523			506	269
Carbon, total organic		10.3			10.5			10.2	5.3
Carbon, dissolved organic		10.3						9.9	9.9
pH, standard units	7.82			7.94			7.92		7.37
Specific Conductance umhos@ 25oC	1429			1409			1459		856.3
Dissolved oxygen	6.95			9.62			6.81		6.81
Turbidity, NTU	8.1			5.9			8		0.1
Temperature, degrees C	18.11			19.17			16.29		0.05
Aluminum		49.7			26.4			32.9	26.4
Antimony									0.04
Arsenic		1			1			1	1
Barium		15.5			16.1			17.6	13
Beryllium									0.1
Boron									53.6
Cadmium									0.042
Calcium		50			46.6			42.9	41.5
Chromium									0.33
Cobalt									0.62
Copper									0.35
Iron		1050			833			1120	833
Lead									0.079
Magnesium		185			189			195	93.7
Manganese		419			280			374	200
Mercury		2.7			2.2			2	1.2
Mercury methyl		0.5			0.53				0.13
Mercury, methyl dissolved		0.28			0.45				0.28
Molybdenum		5.74			4.78			5.76	0.89
Nickel									3.7
Potassium		12.8			12.3			15.4	7.98
Selenium									0.43
Silver									0.0044
Sodium		25.2			24.9			26.2	10.8
Strontium		179			165			143	128
Thallium									0.2

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW8 6/16/2009 Field	MNSW8 6/16/2009 NTS	MNSW8 6/16/2009 NTS	MNSW8 7/22/2009 Field	MNSW8 7/22/2009 NTS	MNSW8 7/22/2009 NTS	MNSW8 8/19/2009 Field	MNSW8 8/19/2009 NTS	MIN
Titanium									5
Zinc									**0.82**
Cobalt, dissolved									**0.39**
Copper, dissolved									**0.35**
Nickel, dissolved									**2.4**
Zinc, dissolved									**1.8**

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MAX	STD DEV	AVERAGE	MNSW9 6/17/2008 Field	MNSW9 6/17/2008 NTS	MNSW9 6/17/2008 NTS	MNSW9 7/14/2008 Field	MNSW9 7/14/2008 NTS	MNSW9 7/14/2008 NTS
Alkalinity, bicarbonate as CaCO3	359	55.14887	295.69231		189			285	
Alkalinity, total	358	60.68383	281.44444		189			285	
Bromide	0.25	0.085319	0.05325		0.0369			0.0635	
Chemical Oxygen Demand	75.9	22.89978	46		39			45.6	
Chloride	10.6	0.86136	8.3425		4.86	4.52		6.18	6.17
Fluoride	0.77	0.170459	0.2369231		0.56			0.05	
Hardness, total	949	152.7089	814		262			394	
Nitrate + Nitrite as N	0.14	0.035716	0.0761538		0.05			0.05	
Nitrogen, ammonia as N	0.24	0.058649	0.0730769		0.05			0.05	
Phosphorus total	0.07	0.014928	0.0257692		0.019			0.014	
Solids, total dissolved	1260	208.0142	960.92308		299			400	
Solids, total suspended	19.2	5.933169	3.6333333		0.5			0.5	
Sulfate	624	111.5441	483.38462		61.9			66.5	
Carbon, total organic	24.6	6.314726	15.407692		13.3			12.7	
Carbon, dissolved organic	10.3	0.208167	10.066667						
pH, standard units	8.03	0.180906	7.7546154	6.95			7.38		
Specific Conductance umhos@ 25oC	1665	240.3589	1323.4846	139			694		
Dissolved oxygen	11.79	1.746533	8.6916667	2.9			3.66		
Turbidity, NTU	15.9	3.922198	6.6	2.3			0.4		
Temperature, degrees C	20.03	6.398616	13.993077	14.6			12.65		
Aluminum	187	40.83252	59.1		12.5			12.5	
Antimony	0.25	0.066204	0.0825556		0.073			0.038	
Arsenic	2.9	0.621	1.4692308		1.3			1.8	
Barium	71	21.24035	28.592308		16			24	
Beryllium	0.1	1.47E-17	0.1		0.1			0.1	
Boron	113	22.19623	81.955556		25			25	
Cadmium	0.1	0.02514	0.0873333		0.1			0.1	
Calcium	57.4	5.920921	48.869231		52.8			81	
Chromium	1.2	0.280911	0.5488889		0.4			0.57	
Cobalt	1.1	0.161486	0.7544444		0.29			0.35	
Copper	1.4	0.305778	0.68		0.45			0.36	
Iron	2720	563.9782	1401.4615		242			235	
Lead	0.94	0.267281	0.2663333		0.087			0.3	
Magnesium	196	34.53193	168.05385		31.6			46.7	
Manganese	1500	362.3042	630.84615		220			710	
Mercury	7.5	2.008986	3.4538462		1.5			1.4	
Mercury methyl	4.1	1.340864	1.0241667		0.3			0.51	
Mercury, methyl dissolved	0.45	0.120208	0.365						
Molybdenum	6.4	1.784024	4.0538462		0.55			0.38	
Nickel	8.6	1.697874	6.0444444		3.2			0.52	
Potassium	15.7	2.475098	12.590769		1.65			1.56	
Selenium	1.4	0.341284	0.8266667		0.38			0.37	
Silver	0.1	0.04622	0.0384444		0.0043			0.1	
Sodium	35	7.18962	23.469231		6.89			10.1	
Strontium	228	31.62136	173.92308		121			191	
Thallium	0.2	2.94E-17	0.2		0.2			0.2	

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MAX	STD DEV	AVERAGE	MNSW9 6/17/2008 Field	MNSW9 6/17/2008 NTS	MNSW9 6/17/2008 NTS	MNSW9 7/14/2008 Field	MNSW9 7/14/2008 NTS	MNSW9 7/14/2008 NTS
Titanium	5	0	5		5			5	
Zinc	7.8	2.269053	4.8133333		1.7			3.4	
Cobalt, dissolved	1	0.169189	0.6833333		0.3			0.32	
Copper, dissolved	1.2	0.287706	0.79		0.31			1.3	
Nickel, dissolved	7.9	1.84985	5.6777778		3.4			0.62	
Zinc, dissolved	5.9	1.415784	3.8777778		2.1			4.3	

Table 1

(concentrations in ug/L)

Location	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9
Date	8/19/2008	8/19/2008	9/9/2008	9/9/2008	10/6/2008	10/6/2008	10/6/2008	10/6/2008	11/10/2008
Lab	NTS	NTS	NTS	NTS	NTS	NTS	NTS	NTS	NTS
Dup						DUP		DUP	
Alkalinity, bicarbonate as CaCO3	376		339		339	334			307
Alkalinity, total	376		339		339	334			319
Bromide	0.0951			0.057			0.0636	0.0621	
Chemical Oxygen Demand	41.9		37.7		41.9	35.6			29.5
Chloride	7.71	8.21	9.39	9.25	10.4	10.4	10.4	10.5	11.2
Fluoride	0.05		0.05		0.13	0.15			0.05
Hardness, total	449		408		441	447			441
Nitrate + Nitrite as N	0.05		0.05		0.05	0.05			0.05
Nitrogen, ammonia as N	0.05		0.05		0.29	0.05			0.05
Phosphorus total	0.013		0.012		0.03	0.013			0.009
Solids, total dissolved	461		461		463	459			490
Solids, total suspended	2		0.5		0.5	0.5			5.6
Sulfate	63.9		86		100	97.1			99.5
Carbon, total organic	11.6		10.6		11.2	11			9.8
Carbon, dissolved organic									
pH, standard units	7.39		7.38						7.58
Specific Conductance umhos@ 25oC	820.7		811.8						764.1
Dissolved oxygen	3.33		5.98						7.75
Turbidity, NTU	0.7		0.8						0.7
Temperature, degrees C	14.22		11.51						1.6
Aluminum	26.3		12.5		26.5	12.5			12.5
Antimony	0.25		0.035		0.022	0.02			0.038
Arsenic	2.2		1.8		1.7	1.6			1.7
Barium	26		25		21	20			15
Beryllium	0.1		0.1		0.1	0.1			0.1
Boron	25		25		25	25			25
Cadmium	0.1		0.1		0.1	0.1			0.02
Calcium	95.6		81.4		77.4	77.5			67
Chromium	0.5		0.5		0.6	0.66			0.7
Cobalt	0.43		0.33		0.43	0.41			0.35
Copper	0.19		0.57		0.44	0.41			0.35
Iron	254		161		330	233			125
Lead	0.3		0.3		0.3	0.3			0.3
Magnesium	51		49.6		60.2	61.6			66.4
Manganese	1400		320		170	160			66
Mercury	1.6		0.25		1	1.3			0.9
Mercury methyl	0.55		0.18		0.15	0.15			0.15
Mercury, methyl dissolved									
Molybdenum	0.3		0.6		0.77	0.72			0.62
Nickel	0.3		0.38		0.6	0.61			0.57
Potassium	2.01		2.74		3.55	3.69			4.17
Selenium	0.4		0.34		0.42	0.47			0.29
Silver	0.1		0.1		0.1	0.1			0.1
Sodium	10.5		12		15	15.2			14.6
Strontium	239		204		196	197			158
Thallium	0.2		0.2		0.2	0.2			0.2

Table 1

(concentrations in ug/L)

Location	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9
Date	8/19/2008	8/19/2008	9/9/2008	9/9/2008	10/6/2008	10/6/2008	10/6/2008	10/6/2008	11/10/2008
Lab	NTS	NTS	NTS	NTS	NTS	NTS	NTS	NTS	NTS
Dup						DUP		DUP	
Titanium	5		5		5	5			5
Zinc	2		2.6		2.8	3.7			2.1
Cobalt, dissolved	0.47		0.36		0.37	0.38			0.36
Copper, dissolved	0.47		0.38		0.54	0.57			0.35
Nickel, dissolved	0.3		0.3		0.7	0.66			0.63
Zinc, dissolved	19		2.6		3.1	3.7			3

Table 1

(concentrations in ug/L)

Location	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9	MNSW9
Date	11/10/2008	2/20/2009	2/20/2009	2/20/2009	5/26/2009	5/26/2009	5/26/2009	6/17/2009	8/19/2009
Lab	NTS	Field	NTS	NTS	Field	NTS	NTS	Field	Field
Dup				DUP					
Alkalinity, bicarbonate as CaCO3			357	376			214		
Alkalinity, total			374	376					
Bromide	0.051					0.0372			
Chemical Oxygen Demand			20.8	21.3			17.6		
Chloride	12.1		10.8	11		5.38	5.2		
Fluoride			0.1	0.1			0.14		
Hardness, total			526	508			293		
Nitrate + Nitrite as N			0.37	0.34			0.05		
Nitrogen, ammonia as N			0.27	0.37			0.05		
Phosphorus total			0.017	0.016			0.016		
Solids, total dissolved			581	579			307		
Solids, total suspended			3.2	3.2					
Sulfate			131	131			61.9		
Carbon, total organic			6.3	6.1			11.2		
Carbon, dissolved organic									
pH, standard units		7.16			7.3			7.48	7.43
Specific Conductance umhos@ 25oC		888.7			562.5			613	784.3
Dissolved oxygen		3.25			3.13			5.42	1.74
Turbidity, NTU		2.3			0			0	15.8
Temperature, degrees C		0.15			11.43			18.5	16.2
Aluminum			12.5	12.5			12.5		
Antimony			0.25	0.25					
Arsenic			2.1	2			2.6		
Barium			42.7	41.3			18.5		
Beryllium			0.1	0.1					
Boron			25	25					
Cadmium			0.1	0.1					
Calcium			103	98.9			58.8		
Chromium			0.5	0.5					
Cobalt			0.47	0.48					
Copper			0.35	0.35					
Iron			1170	1150			490		
Lead			0.25	0.25					
Magnesium			65.2	63.5			35.6		
Manganese			2480	2470			355		
Mercury			1.6	1.5			1.9		
Mercury methyl			0.6	0.5				0.5	
Mercury, methyl dissolved									
Molybdenum			0.1	0.1			0.41		
Nickel			3.4	3.8					
Potassium			3.6	3.48			2.39		
Selenium			0.5	0.5					
Silver			0.1	0.1					
Sodium			13.4	12.8			7.12		
Strontium			254	246			148		
Thallium			0.2	0.2					

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW9 11/10/2008 NTS	MNSW9 2/20/2009 Field	MNSW9 2/20/2009 NTS	MNSW9 2/20/2009 NTS DUP	MNSW9 5/26/2009 Field	MNSW9 5/26/2009 NTS	MNSW9 5/26/2009 NTS	MNSW9 6/17/2009 Field	MNSW9 8/19/2009 Field
Titanium			5	5					
Zinc			3	3					
Cobalt, dissolved			0.43	0.4					
Copper, dissolved			0.35	0.35					
Nickel, dissolved			1.2	1					
Zinc, dissolved			3	3					

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW9 8/19/2009 NTS	MIN	MAX	STD DEV	AVERAGE	MNSW12 5/28/2008 Field	MNSW12 5/28/2008 NTS	MNSW12 5/28/2008 NTS	MNSW12 5/30/2008 NTS
Alkalinity, bicarbonate as CaCO3	346	189	376	62.22554	314.72727		36.7		
Alkalinity, total		189	376	59.37592	325.66667		36.7		
Bromide		0.0369	0.0951	0.018447	0.0583		0.25	0.0089	
Chemical Oxygen Demand	120	17.6	120	27.89941	40.990909		40		
Chloride	6.8	4.52	12.1	2.494913	8.4457895		2.66	2.86	
Fluoride	0.05	0.05	0.56	0.148054	0.13		0.11		
Hardness, total	415	262	526	79.53124	416.72727		82.5		
Nitrate + Nitrite as N	0.05	0.05	0.37	0.123561	0.1054545		0.12		
Nitrogen, ammonia as N	0.05	0.05	0.37	0.12373	0.1209091		0.24		
Phosphorus total	0.114	0.009	0.114	0.030069	0.0248182		0.012		
Solids, total dissolved	477	299	581	90.72306	452.45455		137		
Solids, total suspended		0.5	5.6	1.831666	1.8333333		0.5		
Sulfate	47.8	47.8	131	28.35656	86.054545		43		
Carbon, total organic	42	6.1	42	9.805138	13.254545		18.9		
Carbon, dissolved organic	39.3	39.3	39.3		39.3				
pH, standard units		6.95	7.58	0.186108	7.3388889	7.61			
Specific Conductance umhos@ 25oC		139	888.7	226.2885	675.34444	189			
Dissolved oxygen		1.74	7.75	1.872541	4.1288889	12.96			
Turbidity, NTU		0	15.8	5.040117	2.5555556		3.4		
Temperature, degrees C		0.15	18.5	6.279769	11.206667	18.67			
Aluminum	12.5	12.5	26.5	5.623005	15.027273		147		
Antimony		0.02	0.25	0.107229	0.1084444		0.081		
Arsenic	8.95	1.3	8.95	2.159093	2.5227273		0.76		
Barium	87.2	15	87.2	20.89973	30.609091		8.1		
Beryllium		0.1	0.1	1.47E-17	0.1		0.1		
Boron		25	25	0	25		68.6		
Cadmium		0.02	0.1	0.026667	0.0911111		0.1		
Calcium	82.3	52.8	103	15.83486	79.609091		13.6		
Chromium		0.4	0.7	0.093512	0.5477778		0.44		
Cobalt		0.29	0.48	0.065955	0.3933333		0.28		
Copper		0.19	0.57	0.102727	0.3855556		3.7		
Iron	2100	125	2100	624.1346	590		617		
Lead		0.087	0.3	0.070253	0.2652222		0.19		
Magnesium	50.9	31.6	66.4	11.76769	52.936364		11.8		
Manganese	4160	66	4160	1346.37	1137.3636		85		
Mercury	11	0.25	11	2.959845	2.1772727		6		
Mercury methyl		0.15	0.6	0.189646	0.359		0.3		
Mercury, methyl dissolved									
Molybdenum	0.38	0.1	0.77	0.22706	0.4481818		0.73		
Nickel		0.3	3.8	1.496254	1.4866667		2.7		
Potassium	5.33	1.56	5.33	1.155779	3.1063636		1.53		
Selenium		0.29	0.5	0.072246	0.4077778		0.33		
Silver		0.0043	0.1	0.0319	0.0893667		0.1		
Sodium	12.6	6.89	15.2	2.906118	11.837273		3.64		
Strontium	214	121	254	41.81735	197.09091		104		
Thallium		0.2	0.2	2.94E-17	0.2		0.2		

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW9 8/19/2009 NTS	MIN	MAX	STD DEV	AVERAGE	MNSW12 5/28/2008 Field	MNSW12 5/28/2008 NTS	MNSW12 5/28/2008 NTS	MNSW12 5/30/2008 NTS
Titanium		5	5	0	5		5		
Zinc		1.7	3.7	0.665207	2.7		2.3		
Cobalt, dissolved		0.3	0.47	0.052202	0.3766667				0.29
Copper, dissolved		0.31	1.3	0.30899	0.5133333				3.5
Nickel, dissolved		0.3	3.4	0.952817	0.9788889				3.1
Zinc, dissolved		2.1	19	5.336197	4.8666667				6.2

Table 1

(concentrations in ug/L)

Location	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12
Date	6/17/2008	6/17/2008	6/17/2008	6/18/2008	7/15/2008	7/15/2008	7/15/2008	7/15/2008	7/15/2008
Lab	Field	NTS	NTS	Field	Field	NTS	NTS	NTS	NTS
Dup								DUP	DUP
Alkalinity, bicarbonate as CaCO3		50.2				90.3		88.7	
Alkalinity, total		50.2				90.3		88.7	
Bromide		0.0092				0.152		0.0147	
Chemical Oxygen Demand		72				70.4		68.4	
Chloride		2.77	2.7			4.13	4.21	4.06	4.14
Fluoride		0.59				0.15		0.16	
Hardness, total		120				267		267	
Nitrate + Nitrite as N		0.05				0.11		0.1	
Nitrogen, ammonia as N		0.05				0.05		0.27	
Phosphorus total		0.016				0.016		0.017	
Solids, total dissolved		172				321		323	
Solids, total suspended		2.4				1.6		0.5	
Sulfate		58.3				143		140	
Carbon, total organic		25				24.4		24.2	
Carbon, dissolved organic									
pH, standard units				7.32	7.54				
Specific Conductance umhos@ 25oC	223.3				496				
Dissolved oxygen	7.88				7.57				
Turbidity, NTU	2.7				2.2				
Temperature, degrees C	18.1				22.81				
Aluminum		171				113		194	
Antimony		0.11				0.099		0.098	
Arsenic		0.7				1.1		0.96	
Barium		8.9				14		14	
Beryllium		0.048				0.1		0.1	
Boron		59.4				85.5		84.8	
Cadmium		0.1				0.1		0.1	
Calcium		15.3				28		28	
Chromium		0.95				0.55		0.53	
Cobalt		0.47				0.42		0.42	
Copper		3.1				3.7		3.8	
Iron		936				1640		1940	
Lead		0.43				0.46		0.51	
Magnesium		20				47.9		47.8	
Manganese		120				180		180	
Mercury		7.6				6.2		6.1	
Mercury methyl		0.4				0.95		1.15	
Mercury, methyl dissolved									
Molybdenum		0.99				2		2	
Nickel		3.3				3.6		3.7	
Potassium		1.83				3.92		3.89	
Selenium		0.46				0.45		0.43	
Silver		0.006				0.0074		0.0077	
Sodium		4.29				7.59		7.62	
Strontium		80				157		157	
Thallium		0.2				0.2		0.2	

Table 1

(concentrations in ug/L)

Location	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12	MNSW12
Date	6/17/2008	6/17/2008	6/17/2008	6/18/2008	7/15/2008	7/15/2008	7/15/2008	7/15/2008	7/15/2008
Lab	Field	NTS	NTS	Field	Field	NTS	NTS	NTS	NTS
Dup								DUP	DUP
Titanium		5				5		5	
Zinc		3.6				3.4		3.7	
Cobalt, dissolved		0.31				0.36		0.36	
Copper, dissolved		3				3.7		3.6	
Nickel, dissolved		3.3				3.6		3.4	
Zinc, dissolved		4.2				4.4		4.3	

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW12 8/19/2008 Field	MNSW12 8/19/2008 NTS	MNSW12 8/19/2008 NTS	MNSW12 9/9/2008 Field	MNSW12 9/9/2008 NTS	MNSW12 9/9/2008 NTS	MNSW12 10/8/2008 NTS	MNSW12 10/8/2008 NTS	MNSW12 11/10/2008 Field
Alkalinity, bicarbonate as CaCO3		225			159		78.9		
Alkalinity, total		225			159		78.9		
Bromide		0.0187				0.0025		0.0156	
Chemical Oxygen Demand		67.3			54.5		60.9		
Chloride		7.68	8.24		6.76	6.72	4.48	4.52	
Fluoride		0.14			0.12		0.2		
Hardness, total		546			418		205		
Nitrate + Nitrite as N		0.05			0.05		0.05		
Nitrogen, ammonia as N		0.34			0.05		0.05		
Phosphorus total		0.011			0.012		0.015		
Solids, total dissolved		650			565		268		
Solids, total suspended		0.5			0.5		0.5		
Sulfate		302			274		112		
Carbon, total organic		20.7			18.3		18.9		
Carbon, dissolved organic									
pH, standard units	7.8			7.69					7.62
Specific Conductance umhos@ 25oC	1173			871.4					379.4
Dissolved oxygen	7.23			8.4					10.54
Turbidity, NTU	1.6			0					3
Temperature, degrees C	19.21			14.85					6.89
Aluminum		37.4			29.3		85.4		
Antimony		0.05			0.08		0.11		
Arsenic		1.1			1.7		0.66		
Barium		29			33		17		
Beryllium		0.1			0.1		0.1		
Boron		105			99.6		139		
Cadmium		0.1			0.1		0.1		
Calcium		43.7			38.6		30.4		
Chromium		0.6			0.5		0.38		
Cobalt		0.52			0.42		0.34		
Copper		1.9			2.5		4.8		
Iron		694			529		671		
Lead		0.3			0.11		0.39		
Magnesium		106			78		31.3		
Manganese		430			580		150		
Mercury		4.7			0.5		2.3		
Mercury methyl		2.85			1.04		0.19		
Mercury, methyl dissolved									
Molybdenum		2.6			1.4		1.6		
Nickel		4.6			3.8		3.5		
Potassium		9.84			7.16		2.67		
Selenium		0.53			0.61		0.99		
Silver		0.1			0.0058		0.1		
Sodium		18			16.2		8.38		
Strontium		214			219		255		
Thallium		0.2			0.2		0.2		

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW12 8/19/2008 Field	MNSW12 8/19/2008 NTS	MNSW12 8/19/2008 NTS	MNSW12 9/9/2008 Field	MNSW12 9/9/2008 NTS	MNSW12 9/9/2008 NTS	MNSW12 10/8/2008 NTS	MNSW12 10/8/2008 NTS	MNSW12 11/10/2008 Field
Titanium		5			5		5		
Zinc		3.1			4		3.8		
Cobalt, dissolved		0.49			0.47		0.27		
Copper, dissolved		1.9			2.5		4.6		
Nickel, dissolved		3.7			4		3.3		
Zinc, dissolved		5.8			3.1		4.4		

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW12 11/10/2008 NTS	MNSW12 11/10/2008 NTS	MNSW12 2/23/2009 Field	MNSW12 2/23/2009 NTS	MNSW12 5/27/2009 Field	MNSW12 5/27/2009 NTS	MNSW12 5/27/2009 NTS	MNSW12 6/4/2009 Field	MNSW12 6/4/2009 NTS
Alkalinity, bicarbonate as CaCO3	79.5			185		66.1			
Alkalinity, total	79.5			185					
Bromide		0.0101					0.0083		
Chemical Oxygen Demand	63.5			37.1		47.3			
Chloride	3.84	4.3		7.32		2.99	3.19		
Fluoride	0.13			0.22		0.15			
Hardness, total	203			437		146			
Nitrate + Nitrite as N	0.1			0.4		0.05			
Nitrogen, ammonia as N	0.05			0.41		0.05			
Phosphorus total	0.018			0.013		0.017			
Solids, total dissolved	279			513		199			
Solids, total suspended	1.6			2.8					
Sulfate	102			248		71.1			
Carbon, total organic	22.1			13.2		21.4			
Carbon, dissolved organic									19.6
pH, standard units			7.29		7.51			7.67	
Specific Conductance umhos@ 25oC			769.2		298.2			381.8	
Dissolved oxygen			12.15		8.64			8.5	
Turbidity, NTU			5.9		1.7			2.9	
Temperature, degrees C			0.02		16.17			17.85	
Aluminum	159			141		127			
Antimony	0.095			0.25					
Arsenic	0.92			1		1			
Barium	10			13.4		9.38			
Beryllium	0.1			0.1					
Boron	101			150					
Cadmium	0.032			0.1					
Calcium	23.1			42		16.9			
Chromium	0.5			0.5					
Cobalt	0.49			0.73					
Copper	2.7			4.4					
Iron	1280			1480		824			
Lead	0.054			0.25					
Magnesium	35.3			80.7		25.2			
Manganese	160			547		169			
Mercury	4.9			3.3		6.2			
Mercury methyl	0.24			0.2					0.31
Mercury, methyl dissolved									
Molybdenum	1.3			1.9		1.07			
Nickel	3.4			4.1					
Potassium	3.06			6.54		2.41			
Selenium	0.65			0.5					
Silver	0.0063			0.1					
Sodium	6.75			13.7		5.38			
Strontium	152			274		119			
Thallium	0.2			0.2					

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW12 11/10/2008 NTS	MNSW12 11/10/2008 NTS	MNSW12 2/23/2009 Field	MNSW12 2/23/2009 NTS	MNSW12 5/27/2009 Field	MNSW12 5/27/2009 NTS	MNSW12 5/27/2009 NTS	MNSW12 6/4/2009 Field	MNSW12 6/4/2009 NTS
Titanium	5			5					
Zinc	**1**			**6.5**					
Cobalt, dissolved	**0.39**			**0.66**					
Copper, dissolved	**2.7**			**5.5**					
Nickel, dissolved	**3.5**			**3.3**					
Zinc, dissolved	**2.2**			**8.5**					

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW12 7/22/2009 Field	MNSW12 7/22/2009 NTS	MNSW12 8/19/2009 Field	MNSW12 8/19/2009 NTS	MIN	MAX	STD DEV	AVERAGE	MNSW14 5/27/2008 NTS
Alkalinity, bicarbonate as CaCO3				226	36.7	226	69.14156	116.85455	297
Alkalinity, total					36.7	225	64.16576	110.36667	297
Bromide					0.0025	0.25	0.083496	0.049	0.25
Chemical Oxygen Demand				32.5	32.5	72	14.38078	55.809091	11
Chloride				6.93	2.66	8.24	1.839704	4.725	14.1
Fluoride				0.16	0.11	0.59	0.135372	0.1936364	0.1
Hardness, total				488	82.5	546	158.5141	289.04545	390
Nitrate + Nitrite as N				0.05	0.05	0.4	0.102673	0.1027273	0.16
Nitrogen, ammonia as N				0.05	0.05	0.41	0.140019	0.1463636	0.05
Phosphorus total				0.017	0.011	0.018	0.002468	0.0149091	0.002
Solids, total dissolved				644	137	650	189.2033	370.09091	414
Solids, total suspended					0.5	2.8	0.919843	1.2111111	1.2
Sulfate				289	43	302	97.87312	162.03636	112
Carbon, total organic		15.5		13.2	13.2	25	4.105761	19.65	1.7
Carbon, dissolved organic				13	13	19.6	4.666905	16.3	
pH, standard units	7.75		7.88		7.29	7.88	0.184396	7.6072727	
Specific Conductance umhos@ 25oC	647.8		1155		189	1173	353.5394	598.55455	
Dissolved oxygen	8.63		7.53		7.23	12.96	1.932585	9.0936364	
Turbidity, NTU	0.1		4.8		0	5.9	1.77769	2.5727273	
Temperature, degrees C	20.46		16.8		0.02	22.81	6.559697	15.620909	
Aluminum				37.5	29.3	194	57.75801	112.87273	12.5
Antimony					0.05	0.25	0.056346	0.1081111	0.044
Arsenic				1	0.66	1.7	0.279337	0.9909091	3.7
Barium				14.6	8.1	33	8.16348	15.58	3
Beryllium					0.048	0.1	0.017333	0.0942222	0.1
Boron					59.4	150	29.82694	99.211111	112
Cadmium					0.032	0.1	0.022667	0.0924444	0.1
Calcium				34.1	13.6	43.7	10.53915	28.518182	27.2
Chromium					0.38	0.95	0.162558	0.55	0.48
Cobalt					0.28	0.73	0.126897	0.4544444	0.21
Copper					1.9	4.8	0.931397	3.4	0.56
Iron				744	529	1940	475.5584	1032.2727	25
Lead					0.054	0.51	0.160434	0.2993333	0.11
Magnesium				98	11.8	106	32.5925	52.909091	78.2
Manganese				208	85	580	175.9382	255.36364	6.3
Mercury				2	0.5	7.6	2.211828	4.5272727	0.8
Mercury methyl		0.26			0.19	2.85	0.794809	0.7172727	0.05
Mercury, methyl dissolved		0.28			0.28	0.28		0.28	
Molybdenum				2.83	0.73	2.83	0.663451	1.6745455	2.1
Nickel					2.7	4.6	0.52915	3.6333333	1.6
Potassium				7.64	1.53	9.84	2.756305	4.59	9.89
Selenium					0.33	0.99	0.190722	0.55	0.38
Silver					0.0058	0.1	0.049209	0.0481333	0.1
Sodium				14.8	3.64	18	5.069678	9.6681818	29.8
Strontium				167	80	274	61.6723	172.54545	68.1
Thallium					0.2	0.2	2.94E-17	0.2	0.2

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW12 7/22/2009 Field	MNSW12 7/22/2009 NTS	MNSW12 8/19/2009 Field	MNSW12 8/19/2009 NTS	MIN	MAX	STD DEV	AVERAGE	MNSW14 5/27/2008 NTS
Titanium					5	5	0	5	5
Zinc					1	6.5	1.46837	3.4888889	1.3
Cobalt, dissolved					0.27	0.66	0.122984	0.4	0.2
Copper, dissolved					1.9	5.5	1.100126	3.4444444	0.56
Nickel, dissolved					3.1	4	0.269258	3.4666667	1.6
Zinc, dissolved					2.2	8.5	1.844888	4.7888889	64

Table 1

(concentrations in ug/L)

Location	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14
Date	5/27/2008	5/26/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/16/2009	6/16/2009	6/16/2009
Lab	NTS	Field	Field	NTS	NTS	NTS	Field	NTS	NTS
Dup						DUP			
Alkalinity, bicarbonate as CaCO3				28.5				32.2	
Alkalinity, total									
Bromide	0.0409				0.0079				0.0102
Chemical Oxygen Demand				59.5				59.5	
Chloride	14.4			2.43	2.53			2.58	2.73
Fluoride				0.16				0.12	
Hardness, total				63.3				71.6	
Nitrate + Nitrite as N				0.11				0.05	
Nitrogen, ammonia as N				0.05				0.05	
Phosphorus total				0.013				0.01	
Solids, total dissolved				114				134	
Solids, total suspended									
Sulfate				28.7				32	
Carbon, total organic				22.5				22.4	
Carbon, dissolved organic				22.5		22.8		21.7	
pH, standard units		7.07	6.99				6.85		
Specific Conductance umhos@ 25oC		121.2	136.4				151		
Dissolved oxygen		8.02	7.57				8.08		
Turbidity, NTU		0.8	2.4				0.4		
Temperature, degrees C		17.43	19.8				23.08		
Aluminum				182				148	
Antimony									
Arsenic				1				1	
Barium				8.88				9.16	
Beryllium									
Boron									
Cadmium									
Calcium				14.6				16.4	
Chromium									
Cobalt									
Copper									
Iron				884				870	
Lead									
Magnesium				6.51				7.44	
Manganese				78.9				84.5	
Mercury				7.2				7.9	
Mercury methyl				0.42		0.39		0.34	
Mercury, methyl dissolved								0.25	
Molybdenum				0.42				0.47	
Nickel									
Potassium				1.01				1.02	
Selenium									
Silver									
Sodium				3.44				3.75	
Strontium				141				160	
Thallium									

Table 1

(concentrations in ug/L)

Location	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14	MNSW14
Date	5/27/2008	5/26/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/16/2009	6/16/2009	6/16/2009
Lab	NTS	Field	Field	NTS	NTS	NTS	Field	NTS	NTS
Dup						DUP			
Titanium									
Zinc									
Cobalt, dissolved									
Copper, dissolved									
Nickel, dissolved									
Zinc, dissolved									

Table 1

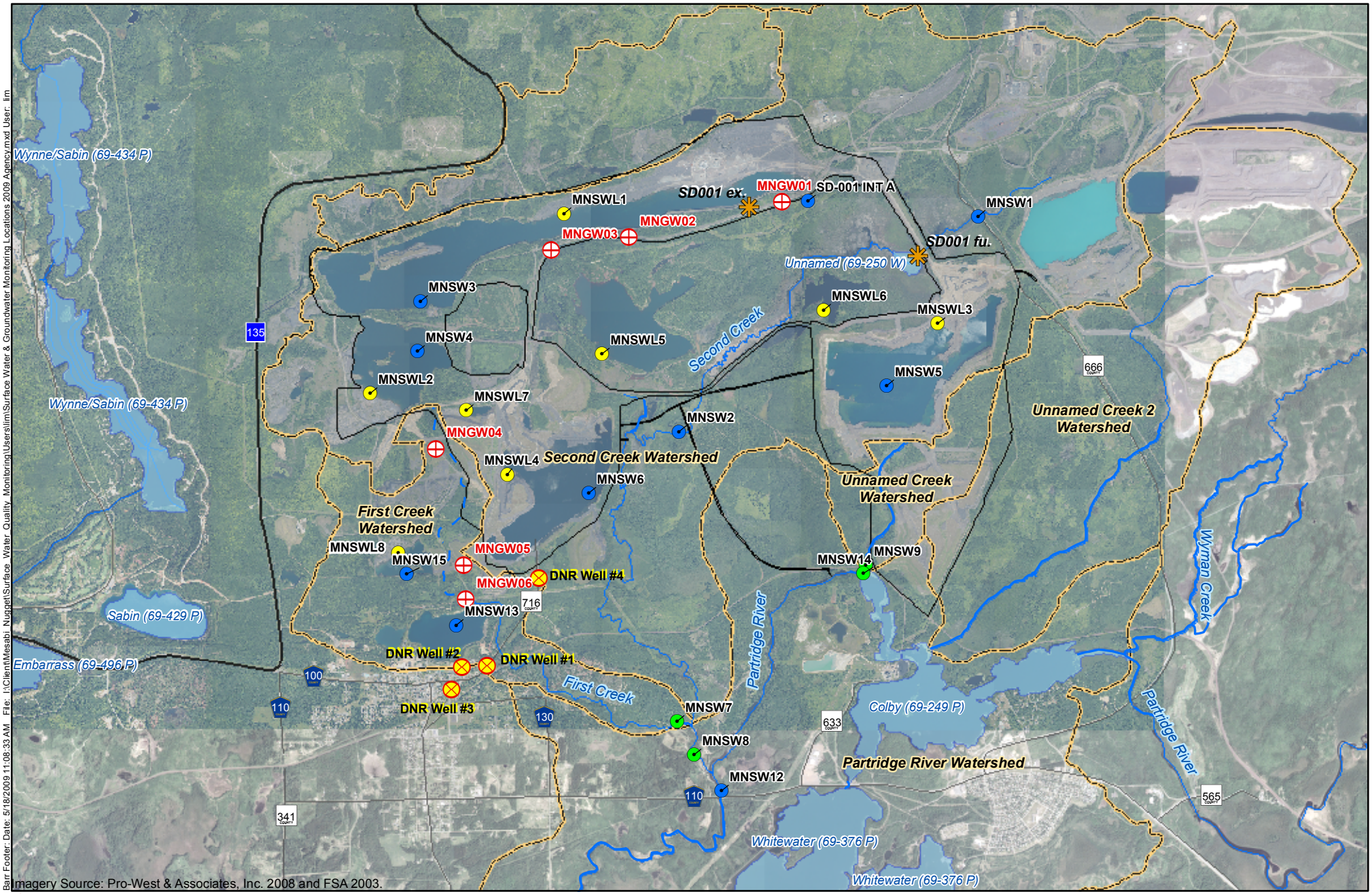
(concentrations in ug/L)

Location Date Lab Dup	MNSW14 7/22/2009 Field	MNSW14 7/22/2009 NTS	MNSW14 7/22/2009 NTS	MNSW14 8/19/2009 Field	MNSW14 8/19/2009 NTS	MIN	MAX	STD DEV	AVERAGE
Alkalinity, bicarbonate as CaCO3		43.9			55.3	28.5	297	115.4252	91.38
Alkalinity, total						297	297		297
Bromide			0.0132			0.0079	0.25	0.104584	0.06444
Chemical Oxygen Demand		46.8			51.5	11	59.5	20.12344	45.66
Chloride		2.95	3.2		3.64	2.43	14.4	5.034494	5.3955556
Fluoride		0.15			0.19	0.1	0.19	0.035071	0.144
Hardness, total		87.9			111	63.3	390	138.2964	144.76
Nitrate + Nitrite as N		0.05			0.05	0.05	0.16	0.0498	0.084
Nitrogen, ammonia as N		0.05			0.05	0.05	0.05	0	0.05
Phosphorus total		0.014			0.014	0.002	0.014	0.005079	0.0106
Solids, total dissolved		146			119	114	414	128.4126	185.4
Solids, total suspended						1.2	1.2		1.2
Sulfate		37.9			46.8	28.7	112	34.52314	51.48
Carbon, total organic		20.3			19.5	1.7	22.5	8.806929	17.28
Carbon, dissolved organic		20.8			19.1	19.1	22.8	1.492314	21.38
pH, standard units	7.42			7.65		6.85	7.65	0.329515	7.196
Specific Conductance umhos@ 25oC	182.5			228.3		121.2	228.3	42.54194	163.88
Dissolved oxygen	8.1			7.63		7.57	8.1	0.258167	7.88
Turbidity, NTU	0			0.4		0	2.4	0.938083	0.8
Temperature, degrees C	23.52			20.28		17.43	23.52	2.51106	20.822
Aluminum		122			106	12.5	182	63.65964	114.1
Antimony						0.044	0.044		0.044
Arsenic		1			1	1	3.7	1.207477	1.54
Barium		10.5			12.9	3	12.9	3.65504	8.888
Beryllium						0.1	0.1		0.1
Boron						112	112		112
Cadmium						0.1	0.1		0.1
Calcium		20.3			26.2	14.6	27.2	5.658445	20.94
Chromium						0.48	0.48		0.48
Cobalt						0.21	0.21		0.21
Copper						0.56	0.56		0.56
Iron		982			890	25	982	396.6878	730.2
Lead						0.11	0.11		0.11
Magnesium		9.03			11	6.51	78.2	31.21956	22.436
Manganese		86.7			77.7	6.3	86.7	34.03957	66.82
Mercury		4.1			2.7	0.8	7.9	2.997165	4.54
Mercury methyl		0.22				0.05	0.42	0.151427	0.284
Mercury, methyl dissolved		0.26				0.25	0.26	0.007071	0.255
Molybdenum		0.81			1.06	0.42	2.1	0.682473	0.972
Nickel						1.6	1.6		1.6
Potassium		1.12			1.29	1.01	9.89	3.928146	2.866
Selenium						0.38	0.38		0.38
Silver						0.1	0.1		0.1
Sodium		4.23			5.71	3.44	29.8	11.44496	9.386
Strontium		185			229	68.1	229	59.44638	156.62
Thallium						0.2	0.2		0.2

Table 1

(concentrations in ug/L)

Location Date Lab Dup	MNSW14 7/22/2009 Field	MNSW14 7/22/2009 NTS	MNSW14 7/22/2009 NTS	MNSW14 8/19/2009 Field	MNSW14 8/19/2009 NTS	MIN	MAX	STD DEV	AVERAGE
Titanium						5	5		5
Zinc						1.3	1.3		1.3
Cobalt, dissolved						0.2	0.2		0.2
Copper, dissolved						0.56	0.56		0.56
Nickel, dissolved						1.6	1.6		1.6
Zinc, dissolved						64	64		64



Imagery Source: Pro-West & Associates, Inc. 2008 and FSA 2003.

DNR Wells
Mesabi Nugget Groundwater Monitoring Wells
Surface Water
Stream Flow-Water Quality
Surface Water Level

NPDES Outfall SD001 (existing and future)
Public Waters Inventory Streams
Listed in PWI but impacted by Previous Mining
Project_Boundary
Public Waters Inventory Lakes
Minor Watersheds
Planned Stockpile Footprint
Mine Pit Ultimate Outlines

5,250 2,625 0 5,250
Feet

CONFIDENTIAL

2009 WATER QUALITY MONITORING LOCATIONS
Mesabi Nugget Delaware LLC
Hoyt Lakes, Minnesota