Appendix B

Baseline Water Quality Monitoring Quarter of Record Data Tables and Historical Data Tables

Analyte	Units	MC1		MC1	
		29/06/2007		15/10/2007	
		Downstream		Downstream	
		Total	Dissolved	Total	Dissolved
Major Ion Chemistry					
pH (lab)	pH units	7.28	N/A	7.56	N/A
pH (field)	pH units	N/A	N/A	N/A	N/A
Temperature (field)	Degrees C	N/A	N/A	N/A	N/A
Conductivity (lab)	umhos/cm	100	N/A	70	N/A
Conductivity (field)	umhos/cm	N/A	N/A	N/A	N/A
Total Suspended Solids	mg/L	15.6	N/A	1.3	N/A
Total Dissolved Solids	mg/L	18.8	N/A	47.5	N/A
Turbidity	NTU	<0.1	N/A	1.57	N/A
Total Settleable Solids (field)	mg/L		-	-	-
Settleable Matter (lab)	mg/L		-	-	-
Calculated Hardness	mg/L	N/A	39	32	32
Alkalinity	mg/L	37.1	N/A	30.8	N/A
HCO3 Alkalinity	mg/L	37.1	N/A	N/A	N/A
CO3 Alkalinity	mg/L	<10	N/A	N/A	N/A
OH Alkalinity	mg/L	<10	N/A	N/A	N/A
Calcium	mg/L	N/A	11.1	9.29	9.26
Iron	mg/L	N/A	0.0896	0.238	0.154
Magnesium	mg/L	N/A	2.76	2.04	2.03
Potassium	ug/L	N/A	640	662	664
Minor Ion Chemistry					
Chloride	mg/L	N/A	0.161	0.265	N/A
Fluoride	mg/L	N/A	<0.1	<0.1	N/A
Sulfate	mg/L	N/A	3.54	2.9	N/A
Nitrate-N	mg/L	N/A	0.19	0.394	N/A
Nitrite-N	mg/L	N/A	<0.4	<0.4	N/A
Total Nitrate/Nitrite N	mg/L	N/A	N/A	0.512	N/A
Ammonia-N	mg/L	<0.1	N/A	<0.1	N/A
Cyanide	mg/L	<0.005	N/A	<0.005	N/A
Weak Acid Dissociable CN	mg/L	<0.005	N/A	<0.005	N/A
Trace Ion Chemistry					
Aluminum	ug/L	N/A	<20	44.6	24.9
Antimony	ug/L	N/A	<1	<1	<1
Arsenic	ug/L	N/A	45.8	45.2	37.1
Barium	ug/L	N/A	5.58	6.44	6.39
Bismuth	ug/L	N/A	<1	<1	<1
Cadmium	ug/L	N/A	<0.5	<0.5	<0.5
Chromium	ug/L	<2	N/A	<2	N/A
Copper	ug/L	N/A	<1	1.12	<1
Lead	ug/L	N/A	<0.2	<0.2	<0.2
Manganese	ug/L	N/A	17.9	17.6	15.8
Nickel	ug/L	N/A	<2	<2	<2
Phosphorous	ug/L	<200	N/A	<200	N/A
Selenium	ug/L	N/A	<5	<5	<5
Silicon	ug/L	N/A	4740	5230	5140
Silver	ug/L	N/A	<1	<1	<1
Sodium	ug/L	N/A	1990	2010	2030
Zinc	ug/L	N/A	<5	<5	<5
Mercury	ng/L	<1	N/A	1.12	N/A

Analyte	Units	MC1		MC1		MC1		MC1		MC1		MC1	
		29/06/2007		15/10/2007		11/03/2008		02/06/2008		07/08/2008		26/09/2008	
		Downstream		Downstream		Downstream		Downstream		Downstream		Downstream	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Major Ion Chemistry													
pH (lab)	pH units	7.28	N/A	7.56	N/A	7.13	N/A	7.01	N/A	6.78	N/A	6.73	N/A
pH (field)	pH units	N/A	N/A	N/A	N/A	-	N/A	-	-	7.05	N/A	-	N/A
Temperature (field)	Degrees C	N/A	N/A	N/A	N/A	-	N/A	5.2	N/A	4.6	N/A	-	N/A
Conductivity (lab)	umhos/cm	100	N/A	70	N/A	57.5	N/A	48.8	N/A	46.3	N/A	63.8	N/A
Conductivity (field)	umhos/cm	N/A	N/A	N/A	N/A	-	N/A	-	-	38.5	N/A	-	N/A
Total Suspended Solids	mg/L	15.6	N/A	1.3	N/A	1.8	N/A	1.4	N/A	1.4	N/A	1.2	N/A
Total Dissolved Solids	mg/L	18.8	N/A	47.5	N/A	57.5	N/A	48.8	N/A	46.3	N/A	63.8	N/A
Turbidity	NTU	<0.1	N/A	1.57	N/A	0.15	N/A	0.65	N/A	2.63	N/A	1.24	N/A
Total Settleable Solids (field)	mg/L		-	-	-	-	-	-	-	-	-	-	-
Settleable Matter (lab)	mg/L		-	-	-	-	-	-	-	-	-	-	-
Calculated Hardness	mg/L	N/A	39	32	32	40	N/A	32	32	30	29	32	N/A
Alkalinity	mg/L	37.1	N/A	30.8	N/A	37.9	N/A	29.7	N/A	33.4	N/A	34.6	N/A
HCO3 Alkalinity	mg/L	37.1	N/A	N/A	N/A	NR	N/A	29.7	N/A	33.4	N/A	34.6	N/A
CO3 Alkalinity	mg/L	<10	N/A	N/A	N/A	NR	N/A	<10	N/A	<10	N/A	<10	N/A
OH Alkalinity	mg/L	<10	N/A	N/A	N/A	NR	N/A	<10	N/A	<10	N/A	<10	N/A
Calcium	mg/L	N/A	11.1	9.29	9.26	11.5	11	9.5	9.56	8.66	8.2	8.95	9.79
Iron	mg/L	N/A	0.0896	0.238	0.154	0.114	<0.02	0.278	0.132	0.225	0.101	0.238	84.1
Magnesium	mg/L	N/A	2.76	2.04	2.03	2.58	2.53	1.96	2.02	2	1.93	2.17	2
Potassium	ug/L	N/A	640	662	664	739	725	676	753	600	577	664	0.556
Minor Ion Chemistry													
Chloride	mg/L	N/A	0.161	0.265	N/A	0.223	N/A	0.222	N/A	0.168	N/A	0.274	N/A
Fluoride	mg/L	N/A	<0.1	<0.1	N/A	<0.1	N/A	<0.1	N/A	<0.1	N/A	<0.1	N/A
Sulfate	mg/L	N/A	3.54	2.9	N/A	3.78	N/A	3.01	N/A	3.06	N/A	3.18	N/A
Nitrate-N	mg/L	N/A	0.19	0.394	N/A	NR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrite-N	mg/L	N/A	<0.4	<0.4	N/A	NR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nitrate/Nitrite N	mg/L	N/A	N/A	0.512	N/A		N/A	0.477	N/A	0.348	N/A	0.435	N/A
Ammonia-N	mg/L	<0.1	N/A	<0.1	N/A	<0.1	N/A	0.347	N/A	<0.1	N/A	<0.1	N/A
Cyanide	mg/L	<0.005	N/A	<0.005	N/A	<0.005	N/A	<0.005	N/A	<0.005	N/A	N/A	<0.005
Weak Acid Dissociable CN	mg/L	<0.005	N/A	<0.005	N/A	<0.005	N/A	<0.005	N/A	<0.005	N/A	N/A	<0.005
Trace Ion Chemistry													
Aluminum	ug/L	N/A	<20	44.6	24.9	44.8	<20	53.1	21.7	38.3	<20	27.9	<20
Antimony	ug/L	N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Arsenic	ug/L	N/A	45.8	45.2	37.1	63.4	55.2	50.8	45.8	49.2	39.2	45.9	40.7
Barium	ug/L	N/A	5.58	6.44	6.39	6.82	6.91	6.42	6.31	6.61	6.29	6.7	6.23
Bismuth	ug/L	N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	N/A	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	ug/L	<2	N/A	<2	N/A	<2	NA	<2	NA	<2	N/A	<2	<2
Copper	ug/L	N/A	<1	1.12	<1	<1	<1	1.28	1.06	<1	<1	<1	<1
Lead	ug/L	N/A	<0.2	<0.2	<0.2	<0.2	<0.2	0.241	<0.2	0.272	<0.2	<0.2	<0.2
Manganese	ug/L	N/A	17.9	17.6	15.8	6.74	2.79	15.4	11.9	15.3	13.7	18.7	11.9
Nickel	ug/L	N/A	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phosphorous	ug/L	<200	N/A	<200	N/A	<200	N/A	<200	N/A	<200	N/A	<200	N/A
Selenium	ug/L	N/A	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silicon	ug/L	N/A	4740	5230	5140	5580	5280	4740	5270	5510	5440	5760	5100
Silver	ug/L	N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sodium	ug/L	N/A	1990	2010	2030	1980	2010	1810	1940	1960	1970	2070	1.99
Zinc	ug/L	N/A	<5	<5	<5	9.8	<5	<5	<5	<5	<5	<5	<5
Mercury	ng/L	<1	N/A	1.12	N/A	1.42	N/A	N/A	1.64	N/A	12.1	2.01	N/A

Analyte	Units	MC-1		MC-1	
		26/08/2009		05/08/2010	
		Downstream		Downstream	
		Total	Dissolved	Dissolved	Total
Major Ion Chemistry					
pH (lab)	pH units	7.2	N/A	-	7.3
pH (field)	pH units	7.4	N/A	-	6.12
Temperature (field)	Degrees C	4.2	N/A	-	10.3
Conductivity (lab)	umhos/cm	82.6	N/A	-	77.9
Conductivity (field)	umhos/cm	86.5	N/A	-	65.2
Total Suspended Solids	mg/L	1	N/A	-	1.55
Total Dissolved Solids	mg/L	46.3	N/A	?	?
Turbidity	NTU	2.05	N/A	-	1
Total Settleable Solids (field)	mg/L	-	-	-	-
Settleable Matter (lab)	mg/L	-	-	-	-
Calculated Hardness	mg/L	36	N/A	33.234	-
Alkalinity	mg/L	35	N/A	-	33.6
HCO3 Alkalinity	mg/L	35	N/A	-	33.6
CO3 Alkalinity	mg/L	<10	N/A	-	10.0 U
OH Alkalinity	mg/L	<10	N/A	-	10.0 U
Calcium	mg/L	10.8	10.6	9.62	10.3
Iron	mg/L	315	97.7	0.250 U	0.319
Magnesium	mg/L	2.16	2.02	2.24	2.39
Potassium	ug/L	0.695	0.668	695	696
Minor Ion Chemistry					
Chloride	mg/L	-	N/A	-	0.252
Fluoride	mg/L	-	N/A	-	0.100 U
Sulfate	mg/L	-	N/A	-	3.28
Nitrate-N	mg/L	0.272	N/A	-	0.194
Nitrite-N	mg/L	<0.1	N/A	-	0.100 U
Total Nitrate/Nitrite N	mg/L	N/A	N/A	?	0.194
Ammonia-N	mg/L	<0.1	N/A	-	0.100 U
Cyanide	mg/L	N/A	<0.005	-	0.0050 U
Weak Acid Dissociable CN	mg/L	N/A	<0.005	-	0.0050 U
Trace Ion Chemistry					
Aluminum	ug/L	28.9	<20	20.0 U	37.5
Antimony	ug/L	<1	<1	1.00 U	1.00 U
Arsenic	ug/L	48.8	32.5	64.9	47.6
Barium	ug/L	6.94	6.36	6.6	7.72
Bismuth	ug/L	<1	<1	1.00 U	1.00 U
Cadmium	ug/L	<0.5	<0.5	0.500 U	0.500 U
Chromium	ug/L	<2	<2	2.00 U	2.00 U
Copper	ug/L	1.21	<1	1.00 U	1.00 U
Lead	ug/L	0.2	<0.2	0.200 U	0.200 U
Manganese	ug/L	23.7	18	3.18	25.3
Nickel	ug/L	<2	<2	2.00 U	2.00 U
Phosphorous	ug/L	<200	N/A	200 U	200 U
Selenium	ug/L	<5	<5	5.00 U	5.00 U
Silicon	ug/L	5530	5400	5520	5340
Silver	ug/L	<1	<1	1.00 U	1.00 U
Sodium	ug/L	2.12	2.06	2090	2120
Zinc	ug/L	<5	<5	5.00 U	5.00 U
Mercury	ng/L	1.21	N/A	-	3.05

Analyte	Units	MC-1		MC-X (dup)		MC-1		MC-A (dup)	
		18/05/2011		18/05/2011		18/07/2011		18/07/2011	
		Downstream		Downstream		Downstream		Downstream	
		Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Major Ion Chemistry									
pH (lab)	pH units	-	7.2	-	7.2	-	7.4	-	7.4
pH (field)	pH units	-	7	-	7	-	6.98	-	6.98
Temperature (field)	Degrees C	-	0.4	-	0.4	-	2.8	-	2.8
Conductivity (lab)	umhos/cm	-	48.1	-	48.2	-	71.4	-	71.9
Conductivity (field)	umhos/cm	-	18.4	-	18.4	-	40.8	-	40.8
Total Suspended Solids	mg/L	-	41.8	-	61.3	-	19.6	-	17.6
Total Dissolved Solids	mg/L	-	51	-	55	-	72	-	62
Turbidity	NTU	-	3.16	-	3.06	-	2.45	-	2.09
Total Settleable Solids (field)	mg/L	-	-	-	-	-	No Sample	-	No Sample
Settleable Matter (lab)	mg/L	-	0.500 U	-	0.500 U	-	0.100 U	-	0.100 U
Calculated Hardness	mg/L	20.319	-	20.717	-	31.884	-	30.601	-
Alkalinity	mg/L	-	19.8	-	19.7	-	30.1	-	30
HCO3 Alkalinity	mg/L	-	6.20U	-	6.20 U	-	30.1	-	30
CO3 Alkalinity	mg/L	-	6.20 U	-	6.20 U	-	6.20 U	-	6.20 U
OH Alkalinity	mg/L	-	6.20 U	-	6.20 U	-	6.20 U	-	6.20 U
Calcium	mg/L	5.93	6.05	6.04	5.97	9.08	9.09	8.78	8.76
Iron	mg/L	0.132 J	1.05	0.139 J	1.33	0.156 U	0.383	0.156 U	0.248 J
Magnesium	mg/L	1.34	1.52	1.37	1.57	2.24	2.2	2.11	2.18
Potassium	ug/L	1100	1120	1110	1130	588	613	567	588
Minor Ion Chemistry									
Chloride	mg/L	-	0.297	-	0.338	-	0.263	-	0.224
Fluoride	mg/L	-	0.0640 J	-	0.0710 J	-	0.0810 J	-	0.0800 J
Sulfate	mg/L	-	2.06	-	2.07	-	3.54	-	3.49
Nitrate-N	mg/L	-	0.0620 U	-	0.0620 U	-	0.297	-	0.311
Nitrite-N	mg/L	-	0.226	-	0.231	-	0.0620 U	-	0.0620 U
Total Nitrate/Nitrite N	mg/L	-	0.226	-	0.231	-	0.297	-	0.311
Ammonia-N	mg/L	-	0.0358 J	-	0.0537 J	-	0.0620 U	-	0.0620 U
Cyanide	mg/L	-	0.00300 U	-	0.00300 U	-	0.00300 U	-	0.00300 U
Weak Acid Dissociable CN	mg/L	-	0.00300U	-	0.00300 U	-	0.00300 U	-	0.00300 U
Trace Ion Chemistry									
Aluminum	ug/L	31.2	816	31	1020	24.7	238	21.5	126
Antimony	ug/L	0.642 J	0.328 J	0.462 J	0.620 U	0.475 J	0.604J	0.534 J	0.530 J
Arsenic	ug/L	38.3	63.3	39.2	68.8	49.2	53.7	48	53.1
Barium	ug/L	5.81	11.4	5.78	13.4	5.99	8.03	6.06	6.89
Bismuth	ug/L	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U
Cadmium	ug/L	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U
Chromium	ug/L	1.24 U	1.04 J	1.24 U	1.22 J	1.24 U	1.24 U	1.24 U	1.24 U
Copper	ug/L	0.873 J	2.89	0.514 J	2.35	0.648 J	1.19	0.771 J	0.961 J
Lead	ug/L	0.286	1.04	0.124 U	1.41	0.153 J	0.826	0.137 J	0.23
Manganese	ug/L	0.724 J	29.9	0.578 J	36.7	2.05	9.69	2.18	8.33
Nickel	ug/L	1.24 U	1.11 J	1.24 U	1.27 J	1.24 U	0.805 J	0.687 J	1.24 U
Phosphorous	ug/L	124 U	124 U	124 U	66.7 J	124 U	124 U	124 U	124 U
Selenium	ug/L	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U
Silicon	ug/L	3920	4580	3910	4790	5070	5340	4790	5220
Silver	ug/L	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U
Sodium	ug/L	1440	1460	1460	1470	2150	2030	1950	2050
Zinc	ug/L	2.97 J	4.26 J	5.00 U	4.20 J	2.79 J	4.38 J	4.70 J	5.00 U
Mercury	ng/L	-	4.81	-	4.06	-	2.58	-	2.78

Analyte	Units	MC-1		MC-1		MC-1	
		05/09/2012		08/12/2012		01/14/2013	
		Downstream		Downstream		Downstream	
		Dissolved	Total	Dissolved	Total	Dissolved	Total
Major Ion Chemistry		**Major Ion Chemistry**					
pH (lab)	pH units		7		6.5		6.9
pH (field)	pH units		7.5		7.89		N/A
Temperature (field)	Degrees C		1.3		3.45		N/A
Conductivity (lab)	umhos/cm		54.5		64.6		62.1
Conductivity (field)	umhos/cm				30		N/A
Total Suspended Solids	mg/L		12.80		2.18		16.20
Total Dissolved Solids	mg/L		40		39		44
Turbidity	NTU		4.26		0.8		5.2
Total Settleable Solids (field)	mg/L						N/A
Settleable Matter (lab)	mg/L		0.100 U		0.100 U		0.100 U
Calculated Hardness	mg/L						
Alkalinity	mg/L		21.6		25.2		25.2
HCO3 Alkalinity	mg/L		21.6		25.2		25.2
CO3 Alkalinity	mg/L		6.20 U		10.0 U		10.0 U
OH Alkalinity	mg/L		6.20 U		10.0 U		10.0 U
Calcium	mg/L	6.23	6.25	7.92	8.03	7.12	7.83
Iron	mg/L	.138 J	0.616	0.250 U	0.250 U	.250 U	0.913
Magnesium	mg/L	2.18	2.12	1810	1.76	1.82	1.97
Potassium	ug/L	927	930	614	614	679	747
Minor Ion Chemistry		**Minor Ion Chemistry**					
Chloride	mg/L		0.289		0.226		0.32
Fluoride	mg/L		0.0690 J		0.100 U		0.100 U
Sulfate	mg/L		1.85		2.58		2.92
Nitrate-N	mg/L		0.196				0.399
Nitrite-N	mg/L		0.0620 U				0.100 U
Total Nitrate/Nitrite N	mg/L				0.246		
Ammonia-N	mg/L		0.0620 U		0.100 U		0.100 U
Cyanide	mg/L		0.00300 U		0.0050 U		0.0050 U
Weak Acid Dissociable CN	mg/L		0.00300 U		0.0050 U		0.0050 U
Trace Ion Chemistry		**Trace Ion Chemistry**					
Aluminum	ug/L	36.5	117	34	50.6	20.0 U	184
Antimony	ug/L	0.433 J	0.322 J	1.00 U	1.00 U	1.00 U	1.00 U
Arsenic	ug/L	35.1	**73.7**	52.5	**55**	40.8	**104**
Barium	ug/L	5.32	7.04	6.08	6.48	5.64	8.53
Bismuth	ug/L	0.620 U	0.620 U	1.00 U	1.00 U	1.00 U	1.00 U
Cadmium	ug/L			0.500 U	0.500 U	0.500 U	0.500 U
Chromium	ug/L	1.24 U	1.24 U	2.00 U	2.00 U	2.00 U	2.00 U
Copper	ug/L	1.62	2.28	1.11	1.46	1.00 U	2.73
Lead	ug/L	0.0690 J	0.336	250 U	0.200 U	0.200 U	0.373
Manganese	ug/L	1.21	44.2	8.01	9.29	10.2	33.8
Nickel	ug/L	1.24 U	0.720 J	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorous	ug/L	124 U	124 U	200 U	200 U	200 U	200 U
Selenium	ug/L	3.00 U	3.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Silicon	ug/L	3600	3640	5210	5300	4720	5150
Silver	ug/L	0.620 U	0.620 U	1.00 U	1.00 U	1.00 U	1.00 U
Sodium	ug/L	1410	1360	1900	1830	1670	1790
Zinc	ug/L	4.87 J	32.5	5.00 U	15	5.00 U	6.83
Mercury	ng/L		16.7		2.49		4.98

Analyte	Units	Potential Regulatory Criteria	MC2		MC2	
			29/06/2007		15/10/2007	
			Upstream		Upstream	
			Total	Dissolved	Total	Dissolved
Major Ion Chemistry						
pH (lab)	pH units	6.5-8.5	7.31	N/A	7.42	N/A
pH (field)	pH units	6.5-8.5	N/A	N/A	N/A	N/A
Temperature (field)	Degrees C		N/A	N/A	N/A	N/A
Conductivity (lab)	umhos/cm		80	N/A	60	N/A
Conductivity (field)	umhos/cm		N/A	N/A	N/A	N/A
Total Suspended Solids	mg/L		4.6	N/A	2.2	N/A
Total Dissolved Solids	mg/L	500	60	N/A	43.8	N/A
Turbidity	NTU		0.17	N/A	2.02	N/A
Total Settleable Solids (field)	mg/L		N/A	N/A	N/A	N/A
Total Settleable Solids (lab)	mg/L		N/A	N/A	N/A	N/A
Calculated Hardness	mg/L		N/A	N/A	31	31
Alkalinity	mg/L	min. of 20	34.4	N/A	29.7	N/A
HCO3 Alkalinity	mg/L		34.4	N/A	N/A	N/A
CO3 Alkalinity	mg/L		<10	N/A	N/A	N/A
OH Alkalinity	mg/L		<10	N/A	N/A	N/A
Calcium	mg/L		N/A	9.94	9.13	8.99
Iron	mg/L	1000	N/A	<0.02	0.117	0.0374
Magnesium	mg/L		N/A	2.42	1.99	1.97
Potassium	ug/L		N/A	591	660	649
Minor Ion Chemistry						
Chloride	mg/L	with sulfate cannot exceed 250	N/A	0.166	0.247	N/A
Fluoride	mg/L		N/A	<0.1	<0.1	N/A
Sulfate	mg/L	with sulfate cannot exceed 250	N/A	3.53	2.91	N/A
Nitrate-N	mg/L	10	N/A	0.221	0.36	N/A
Nitrite-N	mg/L	1	N/A	<0.4	<0.4	N/A
Total Nitrate/Nitrite N	mg/L		N/A	N/A	0.578	N/A
Ammonia-N	mg/L		<0.1	N/A	<0.1	N/A
Cyanide	mg/L	0.0052	<0.005	N/A	<0.005	N/A
Weak Acid Dissociable CN	mg/L		<0.005	N/A	<0.005	N/A
Trace Ion Chemistry						
Aluminum	ug/L	87	N/A	<20	55.8	21.1
Antimony	ug/L	6	N/A	<1	<1	<1
Arsenic	ug/L	10	N/A	**52.3**	**57.4**	**54**
Barium	ug/L	2000	N/A	4.97	6.04	5.89
Bismuth	ug/L		N/A	<1	<1	<1
Cadmium	ug/L	0.10*	N/A	<0.5	<0.5	<0.5
Chromium	ug/L	100	<2	N/A	<2	N/A
Copper	ug/L	3.05*	N/A	<1	<1	<1
Lead	ug/L	0.62*	N/A	<0.2	<0.2	<0.2
Manganese	ug/L	50	N/A	1.35	8.5	3.08
Nickel	ug/L	17.91*	N/A	<2	<2	<2
Phosphorous	ug/L		<200	N/A	<200	N/A
Selenium	ug/L	4.60*	N/A	<5	<5	<5
Silicon	ug/L		N/A	4550	5210	5200
Silver	ug/L	0.39*	N/A	<1	<1	<1
Sodium	ug/L		N/A	1830	1970	1910
Zinc	ug/L	40.28*	N/A	<5	5.66	5.79
Mercury	ng/L	50	1.46	N/A	1.57	N/A

Analyte	Units	Potential Regulatory Criteria	MC2		MC2		MC2		MC2	
			11/03/2008		02/06/2008		07/08/2008		26/09/2008	
			Upstream		Upstream		Upstream		Upstream	
			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Major Ion Chemistry										
pH (lab)	pH units	6.5-8.5	6.95	N/A	6.97	N/A	6.8	N/A	6.73	N/A
pH (field)	pH units	6.5-8.5		N/A			6.98	N/A	m	N/A
Temperature (field)	Degrees C			N/A	4.1	N/A	3.9	N/A	m	N/A
Conductivity (lab)	umhos/cm		91.8	N/A	46.3	N/A	51.3	N/A	56.3	N/A
Conductivity (field)	umhos/cm			N/A			37.3	N/A	m	N/A
Total Suspended Solids	mg/L		2.4	N/A	3.7	N/A	3.54	N/A	1.2	N/A
Total Dissolved Solids	mg/L	500	61.3	N/A	46.3	N/A	51.3	N/A	56.3	N/A
Turbidity	NTU		1.21	N/A	0.35	N/A	0.95	N/A	0.94	N/A
Total Settleable Solids (field)	mg/L		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Settleable Solids (lab)	mg/L		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Hardness	mg/L		42	41	33	31	29	28	31	N/A
Alkalinity	mg/L	min. of 20	38.5	N/A	28.7	N/A	31.8	N/A	33.3	N/A
HCO3 Alkalinity	mg/L		NR	N/A	28.7	N/A	31.8	N/A	33.3	N/A
CO3 Alkalinity	mg/L		NR	N/A	<10	N/A	<10	N/A	<10	N/A
OH Alkalinity	mg/L		NR	N/A	<10	N/A	<10	N/A	<10	N/A
Calcium	mg/L		12.3	12	9.85	9.17	8.35	8.04	8.86	10.1
Iron	mg/L	1000	0.304	0.073	0.244	0.033	0.14	0.0257	0.0993	50.9
Magnesium	mg/L		2.65	2.62	2.04	1.95	1.95	1.9	2.14	1.96
Potassium	ug/L		749	718	740	749	598	609	716	0.694
Minor Ion Chemistry										
Chloride	mg/L	with sulfate cannot exceed 250	0.225	N/A	0.219	N/A	0.181	N/A	0.264	N/A
Fluoride	mg/L		<0.1	N/A	<0.1	N/A	<0.1	N/A	<0.1	N/A
Sulfate	mg/L	with sulfate cannot exceed 250	3.82	N/A	3.2	N/A	3.15	N/A	3.25	N/A
Nitrate-N	mg/L	10	NR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrite-N	mg/L	1	NR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nitrate/Nitrite N	mg/L			N/A	0.517	N/A	0.414	N/A	0.472	N/A
Ammonia-N	mg/L		<0.1	N/A	0.237	N/A	0.1 U	N/A	0.1 U	N/A
Cyanide	mg/L	0.0052	<0.005	N/A	<0.005	N/A	<0.005	N/A	N/A	<0.005
Weak Acid Dissociable CN	mg/L		<0.005	N/A	<0.005	N/A	<0.005	N/A	N/A	<0.005
Trace Ion Chemistry										
Aluminum	ug/L	87	43.6	<20	110	<20	79.8	<20	48.5	67.2
Antimony	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1
Arsenic	ug/L	10	**55**	**34.7**	**64.9**	**55.7**	**65.7**	**60.3**	**62.3**	**59.1**
Barium	ug/L	2000	7.47	6.89	7.11	5.78	6.53	5.89	6.87	9.49
Bismuth	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	0.10*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	ug/L	100	<2	N/A	<2	NA	<2	N/A	<2	<2
Copper	ug/L	3.05*	<1	<1	1.03	<1	<1	<1	<1	<1
Lead	ug/L	0.62*	<0.2	<0.2	0.224	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	ug/L	50	21.7	15.3	25.3	2.2	8	2.91	6.56	5.74
Nickel	ug/L	17.91*	<2	<2	<2	<2	<2	<2	<2	<2
Phosphorous	ug/L		<200	N/A	<200	N/A	<200	N/A	<200	N/A
Selenium	ug/L	4.60*	<5	<5	<5	<5	<5	<5	<5	<5
Silicon	ug/L		5720	5360	5330	5340	5610	5660	6000	5500
Silver	ug/L	0.39*	<1	<1	<1	<1	<1	<1	<1	<1
Sodium	ug/L		2050	1980	1800	1920	1930	1990	2270	2.07
Zinc	ug/L	40.28*	9.8	<5	<5	<5	<5	<5	<5	13.6
Mercury	ng/L	50	1.1	<1	N/A	1.46	N/A	1.44	1.21	N/A

Analyte	Units	Potential Regulatory Criteria	MC2		MC-2		MC-2		MC-2	
			14/10/2009		06/04/2010		05/08/2010		28/12/2010	
			Upstream		Upstream		Upstream		Upstream	
			Total	Dissolved	Total	Dissolved	Dissolved	Total	Dissolved	Total
Major Ion Chemistry										
pH (lab)	pH units	6.5-8.5	7.1	N/A	7.8	N/A	-	7.3	-	7.25
pH (field)	pH units	6.5-8.5	N/A	N/A	6.86	N/A	-	5.84	-	7.21
Temperature (field)	Degrees C		N/A	N/A	32.76	N/A	-	9.3	-	0
Conductivity (lab)	umhos/cm		77	N/A	121	N/A	-	75.3	-	80.6
Conductivity (field)	umhos/cm		N/A	N/A	164.2	N/A	-	65.5	-	41.9
Total Suspended Solids	mg/L		1.73	N/A	1.92	N/A	-	2.4	-	39.5
Total Dissolved Solids	mg/L	500	53.8	N/A	87.5	N/A	-	-	-	-
Turbidity	NTU		0.5	N/A			-	0.13	-	3.24
Total Settleable Solids (field)	mg/L		N/A	N/A	N/A	N/A	-	U	-	NS
Total Settleable Solids (lab)	mg/L		N/A	N/A	N/A	N/A	-	0.500 U	-	0.500U
Calculated Hardness	mg/L		30	31	-	51.191	32.506	-	28.664	-
Alkalinity	mg/L	min. of 20	33	N/A	48.5	N/A	-	31.9	-	32.5
HCO3 Alkalinity	mg/L		33	N/A	48.5	N/A	-	31.9	-	32.5
CO3 Alkalinity	mg/L		<10	N/A	10	N/A	-	10.0 U	-	6.20 U
OH Alkalinity	mg/L		<10	N/A	10	N/A	-	10.0 U	-	6.20 U
Calcium	mg/L		8.74	8.92	14.5	13.9	9.46	9.95	8.12	10.3
Iron	mg/L	1000	0.0868	0.0334	0.25	0.25	0.250 U	0.250 U	0.156U	0.356
Magnesium	mg/L		2.01	2.06	4.25	4.01	2.16	2.29	2.04	2.54
Potassium	ug/L		674	698	1740	N/A	664	680	552	703
Minor Ion Chemistry										
Chloride	mg/L	with sulfate cannot exceed 250	N/A	N/A	0.522	N/A	-	0.243	-	0.307
Fluoride	mg/L		N/A	N/A	0.1	N/A	-	0.100 U	-	0.0710J
Sulfate	mg/L	with sulfate cannot exceed 250	N/A	N/A	6.32	N/A	-	3.3	-	3.98
Nitrate-N	mg/L	10	0.349	N/A	1.95	N/A	-	0.267	-	0.612
Nitrite-N	mg/L	1	<0.1	N/A	0.1	N/A	-	0.100 U	-	0.0620 U
Total Nitrate/Nitrite N	mg/L		N/A	N/A						
Ammonia-N	mg/L		0.102	N/A	0.1	N/A	-	0.100 U	-	0.0620 U
Cyanide	mg/L	0.0052	<0.005	N/A	0.005	N/A	-	0.0050 U	-	0.00300 U
Weak Acid Dissociable CN	mg/L		<0.005	N/A	0.005	N/A	-	0.0050 U	-	0.00300 U
Trace Ion Chemistry										
Aluminum	ug/L	87	30.3	<20	20	20	20.0 U	66.7	8.43J	176
Antimony	ug/L	6	<1	<1	1	1	1.00 U	1.00 U	0.620U	0.336J
Arsenic	ug/L	10	**60.6**	**56.2**	**79.1**	**71**	**61.4**	**66.6**	**48.3**	**78.9**
Barium	ug/L	2000	6.14	6.09	9.04	9.08	6.97	7.24	4.99	8
Bismuth	ug/L		<1	<1	1	1	1.00 U	1.00 U	0.620U	0.620U
Cadmium	ug/L	0.10*	<0.5	<0.5	0.5	0.5	0.500 U	0.500 U	0.300U	0.300U
Chromium	ug/L	100	<2	<2	2	2	2.00 U	2.00 U	1.24U	1.24U
Copper	ug/L	3.05*	<1	<1	1.16	1.93	1.00 U	1.00 U	0.372J	0.865J
Lead	ug/L	0.62*	<0.2	<0.2	0.2	0.222	0.200 U	0.200 U	0.124U	0.254
Manganese	ug/L	50	6.1	3.88	30.9	29	2.93	8.62	2.48	18.5
Nickel	ug/L	17.91*	<2	<2	2	2	2.00 U	2.00 U	1.24U	1.24U
Phosphorous	ug/L		<200	N/A	200	200	200 U	200 U	124 U	124 U
Selenium	ug/L	4.60*	<5	<5	5	5	5.00 U	5.00 U	3.00 U	3.00 U
Silicon	ug/L		5670	5820	7260	6850	5490	5520	4560	5840
Silver	ug/L	0.39*	<1	<1	1	1	1.00 U	1.00 U	1.00 U	0.620U
Sodium	ug/L		2080	2270	3080	3400	2050	2150	1710	2160
Zinc	ug/L	40.28*	<5	<5	5	5.85	5.00 U	5.00 U	5.00 U	5.00 U
Mercury	ng/L	50	2.05	N/A	3.05	N/A	-	3.8	-	3.65

Analyte	Units	MC-2		MC-2A (dup)		MC-2		MC-2		MC-2		MC-A	
		20/03/2011		20/03/2011		18/05/2011		18/07/2011		31/12/2011		31/12/2011	
		Upstream		Upstream		Upstream		Upstream		Upstream		Upstream	
		Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Major Ion Chemistry													
pH (lab)	pH units	-	7.1	-	7.1	-	7.2	-	7.4	-	7.4	-	7.3
pH (field)	pH units	-	7.4	-	7.4	-	7.08	-	7.07	-	7.2	-	7.2
Temperature (field)	Degrees C	-	0	-	0	-	0.4	-	2.2	-	0	-	0
Conductivity (lab)	umhos/cm	-	82.2	-	81.6	-	52.1	-	72.8	-	81.7	-	80.9
Conductivity (field)	umhos/cm	-	59.2	-	59.2	-	26.9	-	37.5	-	39.5	-	39.5
Total Suspended Solids	mg/L	-	29.1	-	22	-	8.9	-	5.22	-	3.9	-	4.9
Total Dissolved Solids	mg/L	-	-	-	-	-	45	-	71	-	48	-	56
Turbidity	NTU	-	2.04	-	1.48	-	1.89	-	1.7	-	1.1	-	0.6
Total Settleable Solids (field)	mg/L	-	NS	-	NS	-	No Sample	-	No Sample	-	No Sample	-	No Sample
Total Settleable Solids (lab)	mg/L	-	0.500U	-	0.500U	-	0.500 U	-	0.100 U	-	0.100 U	-	0.100 U
Calculated Hardness	mg/L	32.118	-	31.495	-	22.443	-	31.097	-	34.119	-	34.412	-
Alkalinity	mg/L	-	34	-	33.9	-	21.7	-	30.8	-	32.8	-	32.1
HCO3 Alkalinity	mg/L	-	34	-	33.9	-	21.7	-	30.8	-	32.8	-	32.1
CO3 Alkalinity	mg/L	-	6.20U	-	6.20 U	-	6.20 U	-	6.20 U	-	6.20 U	-	6.20 U
OH Alkalinity	mg/L	-	6.20U	-	6.20 U	-	6.20 U	-	6.20 U	-	6.20 U	-	6.20 U
Calcium	mg/L	9.19	9.03	8.99	9.08	6.14	6.33	8.88	9.21	9.81	9.94	9.96	9.52
Iron	mg/L	0.784	0.418	0.964	0.473	0.164 J	0.547	0.132 J	0.451	0.156 U	0.0964 J	0.156 U	0.135 J
Magnesium	mg/L	2.23	2.14	2.2	2.23	1.73	1.88	2.17	2.21	2.34	2.36	2.32	2.26
Potassium	ug/L	686	664	689	671	1150	1190	532	559	680	709	705	693
Minor Ion Chemistry													
Chloride	mg/L	-	0.324	-	0.339	-	0.331	-	0.208	-	0.322	-	0.324
Fluoride	mg/L	-	0.0860J	-	0.0860J	-	0.0720 J	-	0.0800 J	-	0.0840 J	-	0.0870 J
Sulfate	mg/L	-	4.37	-	4.47	-	2.09	-	3.27	-	4.01	-	4.06
Nitrate-N	mg/L	-	0.575	-	0.561			-	0.198	-	-	-	-
Nitrite-N	mg/L	-	0.502	-	0.494	-	0.208	-	0.0620 U	-	-	-	-
Total Nitrate/Nitrite N	mg/L							-	0.198	-	0.624	-	1.58
Ammonia-N	mg/L	-	0.0620U	-	0.0620 U	-	0.0625 J	-	0.0620 U	-	0.0620 U	-	0.0620 U
Cyanide	mg/L	-	0.00300U	-	0.00300 U	-	0.00300 U	-	0.00300 U	-	0.00300 U	-	0.00300 U
Weak Acid Dissociable CN	mg/L	-	0.00300U	-	0.00300 U	-	0.00300 U	-	0.00300 U	-	0.00300 U	-	0.00300 U
Trace Ion Chemistry													
Aluminum	ug/L	514	294	629	330	34.2	306	25.6	120	9.28J	40.6	9.40J	58.4
Antimony	ug/L	0.852J	0.832J	0.562J	1.26	0.411 J	0.620 U	0.396 J	0.512 J	0.597J	0.487J	0.522J	0.447 J
Arsenic	ug/L	**76.8**	**63.6**	**79.2**	**65.3**	**35.5**	**52**	**30.8**	**44.1**	**57.3**	**62.3**	**56.7**	**62**
Barium	ug/L	11.7	9.56	12.8	9.68	5.53	7.64	6.67	7.56	6.31	7.29	6.84	7.01
Bismuth	ug/L	0.620U	0.620U	0.620U	0.620U	0.620 U	0.620 U	0.620 U	0.620 U	0.620U	-	0.620U	-
Cadmium	ug/L	0.300U	0.300U	0.300U	0.300U	0.300 U	0.300 U	0.300 U	0.300 U	0.300U	0.300U	0.300U	0.300 U
Chromium	ug/L	1.24U	1.24U	1.24U	1.24U	1.24 U	1.24 U	1.24 U	1.24 U	1.24U	1.24U	1.24U	1.24 U
Copper	ug/L	1.56	1.33	1.64	1.69	0.991 J	1.83	0.790 J	1.06	1.08	1.88	1.18	1.92
Lead	ug/L	1.13	0.787	1.05	1.22	0.0980 J	1.4	0.124 U	0.274	0.311	0.176J	0.0997J	0.248
Manganese	ug/L	22.9	11.1	25.6	12.4	2.6	29.2	15.8	26.3	2.84	7.19	3.17	9.89
Nickel	ug/L	1.23J	1.14J	1.41J	1.48J	1.24 U	0.662 J	1.24 U	0.737 J	1.06J	0.983J	1.40J	0.991 J
Phosphorous	ug/L	124U	124U	74.0J	124U	124 U	124 U	124 U	124 U	124U	124U	124U	124 U
Selenium	ug/L	3.00U	3.00U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00U	3.00U	3.00U	3.00 U
Silicon	ug/L	5290	4990	5340	5140	3650	4070	4840	5110	5660	5770	5770	5520
Silver	ug/L	0.620U	0.620U	0.620U	0.620U	0.620 U	0.620 U	0.620 U	0.620 U	0.620U	0.620U	0.620 U	0.620 U
Sodium	ug/L	1830	1750	1750	1810	0.620 U	1480	2010	2050	2000	1970	2450	1920
Zinc	ug/L	5.00U	5.00U	2.54J	5.00 U	5.00 U	5.00 U	5.00 U	4.81 J	8.91	12	14.5	11.1
Mercury	ng/L	-	4.8	-	5.3	-	5.97	-	1.75	-	1.79	-	2.04

Analyte	Units	MC-2		MC-A		MC-2		MC-A		MC-2		MC-A		MC-2		MC-A	
		07/03/2012		07/03/2012		05/09/2012		05/09/2012		08/12/2012		08/12/2012		01/14/2013		01/14/2013	
		Upstream		Upstream		Upstream		Upstream		Upstream		Upstream		Upstream		Upstream	
		Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Major Ion Chemistry																	
pH (lab)	pH units	-	7.2	-	7.2		6.8		6.9		6.5		6.6		6.8		6.8
pH (field)	pH units	-	7.11	-	7.11		7.38		7.38		7.93		7.93		N/A		N/A
Temperature (field)	Degrees C	-	0	-	0		0.7		0.7		3.57		3.57		N/A		N/A
Conductivity (lab)	umhos/cm	-	86.3	-	86.2		47.7		47.6		64.6		64.2		62.3		62.8
Conductivity (field)	umhos/cm	-	LERR	-	LERR		25.8		25.8		33		33		N/A		N/A
Total Suspended Solids	mg/L	-	2.06	-	2.14		22.2		18.3		17.4		25.4		14.5		14.1
Total Dissolved Solids	mg/L	-	46	-	52		40		34		38		35		47		45
Turbidity	NTU	-	0.4	-	0.56		4.03		2.95		2.44		2.76		2.1		1.7
Total Settleable Solids (field)	mg/L	-	0	-	0										N/A		N/A
Total Settleable Solids (lab)	mg/L	-	0.100 U	-	0.100 U		0.1		0.1		0.100 U		0.100 U		0.1		0.100 U
Calculated Hardness	mg/L	35.918	-	38.304	-												
Alkalinity	mg/L	-	34.2	-	34.2		16.9		17		24.9		25		26.2		26.8
HCO3 Alkalinity	mg/L	-	34.2	-	34.2		6.20 U		6.20 U		24.9		25		26.2		26.8
CO3 Alkalinity	mg/L	-	6.20 U	-	6.20 U		6.20 U		6.20 U		10.0 U		10.0 U		10.0 U		10.0 U
OH Alkalinity	mg/L	-	6.20 U	-	6.20 U		6.20 U		6.20 U		10.0 U		10.0 U		10.0 U		10.0 U
Calcium	mg/L	10.3	10.5	10.5	11.2	5.94	5.66	5.88	5.8	8.08	8.02	8.02	7.96	6.88	7.43	7.13	7.47
Iron	mg/L	0.156 U	0.0995 J	0.156 U	0.105 J	.156 U	0.4	.156 U	0.479	.250 U	.250 U	.250 U	0.283	.250 U	0.327	.250 U	0.373
Magnesium	mg/L	2.48	2.77	2.94	2.8	1.31	1.3	1.35	1.38	1.86	1.81	1.85	1.78	1.76	1.87	1.83	1.88
Potassium	ug/L	730	718	743	722	878	828	864	882	639	620	624	618	646	684	665	708
Minor Ion Chemistry																	
Chloride	mg/L	-	0.255	-	0.254		0.266		0.266		0.226		0.23		0.31		0.322
Fluoride	mg/L	-	0.0480 J	-	0.0530 J		0.0670		0.0650 J		0.100 U		0.100 U		0.100 U		0.100 U
Sulfate	mg/L	-	3.93	-	3.95		1.89		1.89		2.67		2.86		3.05		3
Nitrate-N	mg/L	-	0.383	-	0.379		0.25		0.247						0.378		0.388
Nitrite-N	mg/L	-	0.0620 U	-	0.0620		0.0620		0.0620						0.100		0.100
Total Nitrate/Nitrite N	mg/L	-	0.460	-	0.532						0.339		0.249				
Ammonia-N	mg/L	-	0.0620 U	-	0.0620 U		0.0620 U		0.0620 U		0.100 U		0.100 U		0.100 U		0.100 U
Cyanide	mg/L	-	0.00300 U	-	0.00300 U		0.0030 0 U		0.00300 U		.0050 U		0.0050 U		0.0050 U		0.0050 U
Weak Acid Dissociable CN	mg/L	-	0.00300 U	-	0.00300 U		0.0030 0 U		0.00300 U		.0050 U		0.0050 U		0.0059		0.0050 U
Trace Ion Chemistry																	
Aluminum	ug/L	12.4 U	49.3	12.4 U	53.5	24.8	247	26.6	336	34.3	95.7	29	150	20.0 U	144	20.0 U	158
Antimony	ug/L	0.376J	0.419J	0.317J	0.360J	0.620 U	0.620 U	0.319 J	0.509 J	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Arsenic	ug/L	**52.7**	**58.7**	**55.2**	**58.6**	**40.4**	**56.2**	**39.4**	**58**	**55.3**	**58.6**	**53.3**	**62**	**48**	**62.7**	**49.4**	**65.7**
Barium	ug/L	6.93	7.6	6.86	7.47	4.62	7.21	4.71	7.35	5.88	6.85	5.93	7.52	5.49	7.46	5.53	7.48
Bismuth	ug/L	0.620U	-	0.620U	-	0.620 U	0.620	0.620 U	0.620	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00	1.00
Cadmium	ug/L	0.300U	0.300U	0.300U	0.300 U					0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chromium	ug/L	1.24U	1.24U	1.24U	1.24 U	1.24 U	1.24	1.24 U	1.24 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Copper	ug/L	.827J	3.25	.766J	2.75	0.675 J	1.91	0.792.J	1.69	1.31	1.84	1.55	2.02	1.00 U	1.27	1.02	3.86
Lead	ug/L	0.124U	0.613	0.124U	0.397	0.124 U	0.448	0.124 U	0.402	0.200 U	0.211	0.200 U	0.236	0.200 U	0.248	0.200 U	0.338
Manganese	ug/L	2.90	6.21	2.94	9.89	0.620 U	19.2	0.379 J	21	4.44	9.45	4.01	14.2	2.7	17	2.68	17
Nickel	ug/L	1.24U	0.636J	1.24U	1.24U	1.24 U	0.683 J	1.24 U	0.632 J	2.00 U	3.23	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorous	ug/L	124U	124U	-	124 U	124 U	124 U	124 U	124 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Selenium	ug/L	3.00U	3.00U	3.00U	3.00 U	3.00 U	3	3.00 U	3.99 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Silicon	ug/L	5520	5800	5610	5800	4080	4040	4100	4210	5370	5510	5310	5480	4590	4860	4780	4900
Silver	ug/L	0.620U	0.620U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Sodium	ug/L	1970	2320	2010	2160	1540	1420	1770	1480	5120	1880	1960	1900	1620	1680	1690	1710
Zinc	ug/L	4.42J	9.39	2.95J	5.36	5.00 U	4.69 J	3.05 J	5.04	5.00 U	7.36	7.71	5.67	5.00 U	5.00 U	5.00 U	5.00 U
Mercury	ng/L	-	1.45	-	1.70		13		4.92		3.31		3.56		3.44		3.92

Analyte	Units	RC1		RC 1		RC1		RC1	
		29/06/2007		02/06/2008		08/08/2008		27/09/2008	
		Downstream		Downstream		Downstream		Downstream	
		Total	Dissolved	Total	Dissovled	Total	Dissolved	Total	Dissolved
Major Ion Chemistry									
pH (lab)	pH units	6.98	N/A	6.76	N/A	6.73	N/A	6.65	N/A
pH (field)	pH units	N/A	N/A			7.11	N/A	7.13	N/A
Temperature (field)	Degrees C	N/A	N/A	11.4	N/A	12.1	N/A	2.3	N/A
Conductivity (lab)	umhos/cm	100	N/A	85.2	N/A	103	N/A	106	N/A
Conductivity (field)	umhos/cm	N/A	N/A			98.8	N/A	43.1	N/A
Total Suspended Solids	mg/L	3.2	N/A	1.14	N/A	1.1	N/A	0.693	N/A
Total Dissolved Solids	mg/L	83.8	N/A	82.5	N/A	70	N/A	96.3	N/A
Turbidity	NTU	1.82	N/A	19.7	N/A	8.18	N/A	5.71	N/A
Calculated Hardness	mg/L	N/A	59	58	47	51	51	54	52
Total Settleable Solids (field)	mg/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Settleable Solids (lab)	mg/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alkalinity	mg/L	49	N/A	42.4	N/A	51.8	N/A	51.9	N/A
HCO3 Alkalinity	mg/L	49	N/A	42.4	N/A	51.8	N/A	51.9	N/A
CO3 Alkalinity	mg/L	<10	N/A	<10	N/A	<10	N/A	<10	N/A
OH Alkalinity	mg/L	<10	N/A	<10	N/A	<10	N/A	<10	N/A
Calcium	mg/L	N/A	15.1	15.2	12.8	13	13.1	13.5	13.2
Iron	mg/L	N/A	3.76	3.96	2.15	3.35	2.93	3.3	2.84
Magnesium	mg/L	N/A	3.65	3.25	2.83	3.16	3.21	3.5	3.42
Potassium	ug/L	<500	<500	595	539	500 U	500 U	500 U	500 U
Minor Ion Chemistry									
Chloride	mg/L	N/A	0.104	0.259	N/A	0.107	N/A	0.503	N/A
Fluoride	mg/L	N/A	<0.1	<0.1	N/A	<0.1	N/A	<0.1	N/A
Sulfate	mg/L	N/A	0.157	0.895	N/A	0.155	N/A	0.261	N/A
Nitrate-N	mg/L	N/A	0.223	N/A	N/A	N/A	N/A	N/A	N/A
Nitrite-N	mg/L	N/A	<0.4	N/A	N/A	N/A	N/A	N/A	N/A
Total Nitrate/Nitrite N	mg/L	N/A	N/A	0.503	N/A	0.3	N/A	0.319	N/A
Ammonia-N	mg/L	0.299	N/A	0.53	N/A	0.4	N/A	0.33	N/A
Cyanide	mg/L	<0.005	N/A	<0.005	N/A	<0.005	N/A	N/A	<0.005
Weak Acid Dissociable CN	mg/L	<0.005	N/A	<0.005	N/A	<0.005	N/A	N/A	<0.005
Trace Ion Chemistry									
Aluminum	ug/L	N/A	110	59.5	43	52.8	41.3	47.9	39.2
Antimony	ug/L	N/A	1.53	1.29	1.01	1.16	1.14	1.02	<1
Arsenic	ug/L	N/A	25	28.6	18.5	30.3	27.8	25.3	23.1
Barium	ug/L	N/A	24.1	27.7	24.2	23.8	23.9	18.8	18.4
Bismuth	ug/L	N/A	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	N/A	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	ug/L	<2	N/A	<2	<2	<2	N/A	<2	N/A
Copper	ug/L	N/A	189	254	191	138	132	113	107
Lead	ug/L	N/A	20.3	0.482	0.257	<0.2	<0.2	0.251	<0.2
Manganese	ug/L	N/A	225	409	369	226	230	196	196
Nickel	ug/L	N/A	3.15	<2	<2	<2	<2	<2	<2
Phosphorous	ug/L	<200	N/A	<200	N/A	<200	N/A	<200	N/A
Selenium	ug/L	N/A	<5	<5	<5	<5	<5	<5	<5
Silicon	ug/L	N/A	4030	3960	3540	4260	4360	4000	3950
Silver	ug/L	N/A	<1	<1	<1	<1	<1	<1	<1
Sodium	ug/L	N/A	1610	1340	1220	1480	1580	1360	1320
Zinc	ug/L	N/A	9.62	7.65	6.69	<5	<5	5.11	<5
Mercury	ng/L	78.9	N/A	N/A	118	N/A	61.4	45.1	N/A

Analyte	Units	RC-1		RC-1	RC-1		RC-1		RC-X (dup)	
		01/07/2009		26/08/2009	05/04/2010		05/08/2010		05/08/2010	
		Downstream		Downstream	Downstream		Downstream		Downstream	
		Total	Dissolved	Total	Total	Dissolved	Dissolved	Total	Dissolved	Total
Major Ion Chemistry										
pH (lab)	pH units	6.6	N/A	6.8	7.9	N/A	-	7.3	-	7.3
pH (field)	pH units	6.8	N/A	7.2	6.53	N/A	-	6.32	-	6.32
Temperature (field)	Degrees C	14.3	N/A	8.1	32.3	N/A	-	15.1	-	15.1
Conductivity (lab)	umhos/cm	95.2	N/A	127	125	N/A	-	94.7	-	94.9
Conductivity (field)	umhos/cm	95.5	N/A	128.2	133.9	N/A	-	84	-	84
Total Suspended Solids	mg/L	2.27	N/A	1	4.44	N/A	-	3	-	5.13
Total Dissolved Solids	mg/L	78.8	N/A	91.3	80	N/A				
Turbidity	NTU	11.8	N/A	4.16	-	-	-	7.21	-	7.35
Calculated Hardness	mg/L	44	N/A	55	-	54.731	49.022	-	48.399	-
Total Settleable Solids (field)	mg/L	N/A	N/A	N/A	N/A	N/A	-	NS	-	NS
Total Settleable Solids (lab)	mg/L	N/A	N/A	N/A	N/A	N/A	-	0.500 U	-	0.500 U
Alkalinity	mg/L	44	N/A	28	50.9	N/A	-	45.7	-	45.2
HCO3 Alkalinity	mg/L	44	N/A	28	50.9	N/A	-	45.7	-	45.2
CO3 Alkalinity	mg/L	<10	N/A	<10	10	N/A	-	10.0 U	-	0.155
OH Alkalinity	mg/L	<10	N/A	<10	10	N/A	-	10.0 U	-	10.0 U
Calcium	mg/L	13	13.5	17.2	15.9	16.3	14	14.1	13.8	14.5
Iron	mg/L	3.06	2.71	1.75	0.572	0.636	2.39	2.68	2.41	2.87
Magnesium	mg/L	2.8	2.86	3.02	3.51	3.41	3.42	3.54	3.39	3.55
Potassium	ug/L	<0.5	<0.5	<0.5	1920	N/A	500 U	500 U	500 U	500 U
Minor Ion Chemistry										
Chloride	mg/L		N/A		0.526	N/A	-	0.16	-	0.155
Fluoride	mg/L		N/A		0.1	N/A	-	0.100 U	-	0.100 U
Sulfate	mg/L		N/A		2.62	N/A	-	0.412	-	0.393
Nitrate-N	mg/L		N/A	<0.1	0.954	N/A	-	0.169	-	0.154
Nitrite-N	mg/L		N/A	<0.1	0.1	N/A	-	0.100 U	-	0.100 U
Total Nitrate/Nitrite N	mg/L		N/A	N/A			-	0.169	-	0.154
Ammonia-N	mg/L		N/A	0.162	0.1	N/A	-	0.134	-	0.133
Cyanide	mg/L	N/A	<0.005	N/A	0.005	N/A	-	0.0050 U	-	0.0050 U
Weak Acid Dissociable CN	mg/L	N/A	<0.005	N/A	0.005	N/A	-	0.0050 U	-	0.0050 U
Trace Ion Chemistry										
Aluminum	ug/L	108	71.8	65.5	182	165	38.3	47.4	40.5	54.2
Antimony	ug/L	1.45	1.53	<1	1.26	1.09	1.81	1.00 U	1.5	1.18
Arsenic	ug/L	26	24.8	15.3	5	10.1	22.3	23.9	20.4	26.2
Barium	ug/L	24.4	25.4	15.9	19.6	19.5	20.6	20	19.8	21.5
Bismuth	ug/L	<1	<1	<1	10.3	1	1.00 U	1.00 U	1.00 U	1.00 U
Cadmium	ug/L	<0.5	<0.5	<0.5	0.5	0.5	0.500 U	0.500 U	0.500 U	0.500 U
Chromium	ug/L	<2	<2	<2	2	2	2.00 U	2.00 U	2.00 U	2.00 U
Copper	ug/L	190	193	83.2	98.4	70.4	157	170	153	178
Lead	ug/L	0.412	0.32	<0.2	0.893	0.858	0.458	0.303	0.200 U	0.329
Manganese	ug/L	221	241	114	18.2	20.6	153	144	151	152
Nickel	ug/L	<2	<2	<2	2	2	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorous	ug/L	<200	N/A	<200	200	200	200 U	200 U	200 U	200 U
Selenium	ug/L	<5	<5	<5	5	5	5.00 U	5.00 U	5.00 U	5.00 U
Silicon	ug/L	4110	4260	3090	8740	8800	4280	4180	4230	4190
Silver	ug/L	<1	<1	<1	1	1	1.00 U	1.00 U	1.00 U	1.00 U
Sodium	ug/L	1.43	1.5	1.62	6410	4750	1320	1300	1290	1300
Zinc	ug/L	<5	<5	<5	10.8	9.23	5.00 U	5.00 U	5.00 U	7.85
Mercury	ng/L	8.59	N/A	36.6	51.8	N/A	-	89.9	-	106

Analyte	Units	RC-1		RC-1		RC-1		RC-1		RC-1	
		18/05/2011		18/07/2011		05/09/2012		08/12/2012		01/14/2013	
		Downstream		Downstream		Downstream		Downstream		Downstream	
		Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Major Ion Chemistry						Major Ion Chemistry					
pH (lab)	pH units	-	6.9	-	7.6		6.3		6.6		6.1
pH (field)	pH units	-	6.93	-	7.07		7.51		8.25		N/A
Temperature (field)	Degrees C	-	2.5	-	9		0.3		3.21		N/A
Conductivity (lab)	umhos/cm	-	38.1	-	116		30.3		66.9		11.5
Conductivity (field)	umhos/cm	-	21.2	-	54.8		15.4		73		N/A
Total Suspended Solids	mg/L	-	0.400 J	-	33.5		31		1.1		0.971 U
Total Dissolved Solids	mg/L	-	74	-	88		51		52		20
Turbidity	NTU	-	2.89	-	2.59		37.1		4.62		
Calculated Hardness	mg/L	21.46	-	49.46	-						N/A
Total Settleable Solids (field)	mg/L	-	0	-	No Sample				0.100 U		N/A
Total Settleable Solids (lab)	mg/L	-	0.500 U	-	0.100 U		0.1				0.100 U
Alkalinity	mg/L	-	16.1	-	51.3		9.87 J		28.5		10.0 U
HCO3 Alkalinity	mg/L	-	6.20 U	-	51.3		6.20 U		28.5		10.0 U
CO3 Alkalinity	mg/L	-	6.20 U	-	6.20 U		6.20 U		10		10.0 U
OH Alkalinity	mg/L	-	6.20 U	-	6.20 U		6.20 U		10.0 U		10.0 U
Calcium	mg/L	5.96	6.05	14.7	14.4	4.36	4.44	9.71	9.09	0.994	1.0
Iron	mg/L	0.554	0.721	0.156 U	0.719	0.708	4.21	1.3	1.48	.250 U	.250 U
Magnesium	mg/L	1.6	1.6	3.1	3.11	1.01	1.129	2.25	1.99	0.338	0.341
Potassium	ug/L	792	792	1060	1140	574	597	500 U	500 U	526	544
Minor Ion Chemistry						Minor Ion Chemistry					
Chloride	mg/L	-	0.186	-	0.366		0.248		0.138		0.292
Fluoride	mg/L	-	0.0520 J	-	0.0830 J		0.0590 J		0.100 U		0.100 U
Sulfate	mg/L	-	0.235	-	2.05		0.132		0.426		0.331
Nitrate-N	mg/L	-	0.0855 J	-	0.954		0.0660 J				0.100 U
Nitrite-N	mg/L		0.0620 U	-	0.0620 U		0.0620 U				0.100 U
Total Nitrate/Nitrite N	mg/L		0.0855 J	-	0.954				0.100 U		N/A
Ammonia-N	mg/L	-	0.0734 J	-	0.0620 U		0.217		0.100 U		0.100 U
Cyanide	mg/L	-	0.00300 U	-	0.00300 U		0.00300 U		0.0050 U		0.0050 U
Weak Acid Dissociable CN	mg/L	-	0.00300 U	-	0.00300 U		0.00300 U		0.0050 U		0.0050 U
Trace Ion Chemistry						Trace Ion Chemistry					
Aluminum	ug/L	111	129	12.4 U	278	60.5	568	48.9	51.9	20.0 U	20.0 U
Antimony	ug/L	0.903 J	1.02	0.620 U	2.29	0.626 J	3.03	1.24	1.08	1.00 U	1.00 U
Arsenic	ug/L	6.03	7.44	5.00 U	5.11	11.5	49.4	15.2	16.7	5.00 U	5.00 U
Barium	ug/L	11.7	11.9	21.5	24.3	10.6	15.7	14.8	14.9	3.00 U	3.00 U
Bismuth	ug/L	0.438 J	0.839 J	0.620 U	6.27	0.345 J	9.13	1.00 U	1.00 U	1.00 U	1.00 U
Cadmium	ug/L	0.300 U	0.300 U	0.300 U	0.300 U			0.500 U	0.500 U	0.500 U	0.500 U
Chromium	ug/L	0.658 J	1.24 U	1.24 U	1.24 U	1.24	1.24 U	2.00 U	2.00 U	2.00 U	2.00 U
Copper	ug/L	376	392	29.5	359	287	558	140	139	18.8	22.4
Lead	ug/L	0.101 J	0.59	0.124 U	0.898	0.345	3.04	0.200 U	0.200 U	0.200 U	0.200 U
Manganese	ug/L	255	257	0.338 J	13	294	318	86.8	91.5	24.1	26.2
Nickel	ug/L	1.31 J	1.65 J	1.24 U	0.867 J	1.09 J	1.82 J	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorous	ug/L	124 U	124 U	124 U	124 U	124 U	124 U	200 U	200 U	200 U	200 U
Selenium	ug/L	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Silicon	ug/L	1710	1740	6940	7540	933		3780	3640	272	277
Silver	ug/L	0.620 U	0.384 J	0.620 U	0.600 J	0.620 U	0.714 J	1.00 U	1.00 U	1.00 U	1.00 U
Sodium	ug/L	546	545	3490	3380	360	428 J	1510	1300	500 U	500 U
Zinc	ug/L	5.44	5.8	3.01 J	5.43	10.2	21.9	6.19	5.33	5.00 U	6.27
Mercury	ng/L	-	256	-	36.6		361		49.6		17.0

Analyte	Units	RC2		RC2		RC2		RC2		RC2	
		03/06/2008		08/08/2008		08/08/2008		27/09/2009		14/10/2009	
		Upstream		Upstream		Upstream		Upstream		Upstream	
		Total	Dissolved	Total	Dissolved	Total	Dissovled	Total	Dissolved	Total	Dissolved
Major Ion Chemistry											
pH (lab)	pH units	6.92	N/A	6.72	N/A	6.89	N/A	6.63	N/A	7	N/A
pH (field)	pH units			7.13	N/A	N/A	N/A	m	N/A	N/A	N/A
Temperature (field)	Degrees C	1.5	N/A	1.61	N/A	N/A	N/A	M	N/A	N/A	N/A
Conductivity (lab)	umhos/cm	111	N/A	112	N/A	113	N/A	122	N/A	94.6	N/A
Conductivity (field)	umhos/cm			120.1	N/A	N/A	N/A	m	N/A	N/A	N/A
Total Suspended Solids	mg/L	<1.14	N/A	<1.14	N/A	<1.14	N/A	<1.14	N/A	<0.508	N/A
Total Dissolved Solids	mg/L	73.8	N/A	80	N/A	72.5	N/A	83.8	N/A	77.5	N/A
Turbidity	NTU	1.27	N/A	0.16	N/A	0.12	N/A	0.2	N/A	6.03	N/A
Hardness	mg/L	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	58	44
Total Settleable Solids (field)	mg/L										
Total Settleable Solids (lab)	mg/L										
Alkalinity	mg/L	<10	N/A	54.2	N/A	54.2	N/A	55.7	N/A	40	N/A
HCO3 Alkalinity	mg/L	<10	N/A	54.2	N/A	54.2	N/A	55.7	N/A	40	N/A
CO3 Alkalinity	mg/L	<10	N/A	<10	N/A	<10	N/A	<10	N/A	<10	N/A
OH Alkalinity	mg/L	<10	N/A	<10	N/A	<10	N/A	<10	N/A	<10	N/A
Calcium	mg/L	18.1	16.3	13.6	13.7	13.7	13.3	14	14.1	14.7	11.5
Iron	mg/L	0.0982	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	3.55	2.44
Magnesium	mg/L	3.24	3.01	2.7	2.75	2.71	2.67	2.8	2.83	3.54	2.77
Potassium	ug/L	1140	1140	1030	1050	1050	1030	1070	1010	<500	<500
Minor Ion Chemistry											
Chloride	mg/L	0.294	N/A	0.289	N/A	0.301	N/A	0.302	N/A	N/A	N/A
Fluoride	mg/L	<0.1	N/A	0.1 U	N/A	0.1 U	N/A	0.1 U	N/A	N/A	N/A
Sulfate	mg/L	2.07	N/A	1.98	N/A	2	N/A	1.79	N/A	N/A	N/A
Nitrate-N	mg/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.127	N/A
Nitrite-N	mg/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.1	N/A
Total Nitrate/Nitrite N	mg/L	1.05	N/A	1.15	N/A	1.09	N/A	1.3	N/A	N/A	N/A
Ammonia-N	mg/L	0.336	N/A	<0.1	N/A	<0.1	N/A	0.1 U	N/A	0.286	N/A
Cyanide	mg/L	<0.005	N/A	<0.005	N/A	<0.005	N/A	N/A	<0.005	<0.005	N/A
Weak Acid Dissociable CN	mg/L	<0.005	N/A	<0.005	N/A	<0.005	N/A	N/A	<0.005	<0.005	N/A
Trace Ion Chemistry											
Aluminum	ug/L	29.4	<20	<20	<20	<20	<20	<20	<20	76	53.3
Antimony	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1.12	<1
Arsenic	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	27.4	19.5
Barium	ug/L	20.7	20.8	20.6	21.1	20.3	20.2	21.9	20.7	19.4	15.1
Bismuth	ug/L	1.46	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	ug/L	<2	N/A	<2	N/A	<2	N/A	<2	N/A	<2	<2
Copper	ug/L	110	37.2	44.9	33.3	50.4	32.7	38.7	31.4	147	107
Lead	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	ug/L	4.22	2.04	<1	<1	<1	<1	<1	<1	213	167
Nickel	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phosphorous	ug/L	<200	N/A	200 U	N/A	200 U	N/A	200 U	N/A	<200	N/A
Selenium	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silicon	ug/L	7310	7210	7200	7470	7300	7290	7220	6740	4860	3780
Silver	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sodium	ug/L	3290	3290	3410	3590	3450	3430	3370	3390	1620	1250
Zinc	ug/L	<5	<5	<5	17	<5	<5	<5	<5	9.29	<5
Mercury	ng/L	N/A	17.7	N/A	12.4	N/A	12.5	9.18	N/A	74.7	N/A

Analyte	Units	RC2		RC2		RC 2		RC 2	
		18/05/2011		18/07/2011		05/09/2012		08/12/2012	
		Upstream		Upstream		UPSTREAM		UPSTREAM	
		Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Major Ion Chemistry						**Major Ion Chemistry**			
pH (lab)	pH units	-	7.3	-	7.4		7		7.4
pH (field)	pH units	-	7.2	-	6.81		7.69		7.6
Temperature (field)	Degrees C	-	5.1	-	1.2		0.2		11.71
Conductivity (lab)	umhos/cm	-	64.5	-	819		107		144
Conductivity (field)	umhos/cm	-	28.6	-	73.4		54.7		43
Total Suspended Solids	mg/L	-	11.7	-	13.2		149		10.2
Total Dissolved Solids	mg/L	-	82	-	89		68		80
Turbidity	NTU	-	37.4	-	8.78		10.5		2.42
Hardness	mg/L	31.875	-	43	-				
Total Settleable Solids (field)	mg/L	-	0.2	-	No Sample				
Total Settleable Solids (lab)	mg/L	-	0.500 U	-	0.100 U		0		0.100 U
Alkalinity	mg/L	-	28.5	-	38.7		45.1		64.3
HCO3 Alkalinity	mg/L	-	28.5	-	38.7		45.1		64.3
CO3 Alkalinity	mg/L	-	6.20 U	-	6.20 U		6.20 U		10.0 U
OH Alkalinity	mg/L	-	6.20 U	-	6.20 U		6.20 U		10.0 U
Calcium	mg/L	10.7	10.9	12.1	11.6	14.1	14.3	20.9	19.7
Iron	mg/L	0.365	2.69	3.07	3.46	0.156	1.83	.250 U	.250 U
Magnesium	mg/L	1.25	1.64	3.12	2.88	2.75	3.15	3.46	3.21
Potassium	ug/L	1430	1640	0.248 J	242 J	1430	1730	1170	1100
Minor Ion Chemistry						**Minor Ion Chemistry**			
Chloride	mg/L	-	0.224	-	0.108		0.325		0.25
Fluoride	mg/L	-	0.0590 J	-	0.0680 J		0.0690 J		0.100 U
Sulfate	mg/L	-	0.751	-	0.206		1.91		1.89
Nitrate-N	mg/L	-	0.297	-	0.107		0.642		
Nitrite-N	mg/L	-	0.0620 U	-	0.0620 U		0.0620 U		
Total Nitrate/Nitrite N	mg/L	-	0.297	-	0.107				0.609
Ammonia-N	mg/L	-	0.0620 U	-	0.168		0.0620 U		0.100 U
Cyanide	mg/L	-	0.00300 U	-	0.00300 U		0.00300 U		0.0050 U
Weak Acid Dissociable CN	mg/L	-	0.0028 J	-	0.00300 U		.00300 U		0.0050 U
Trace Ion Chemistry						**Trace Ion Chemistry**			
Aluminum	ug/L	295	1580	55.9	67.7	21.5	1200	20.1	44.9
Antimony	ug/L	1.29	4.96	1.22	1.2	0.763 J	2.46	1.00 U	1.00 U
Arsenic	ug/L	4.91 J	15.2	26.4	27.7	2.82 J	7.08	5.00 U	5.00 U
Barium	ug/L	24.4	36.6	18.3	17.4	23	45.1	28	27.9
Bismuth	ug/L	0.957 J	14.7	0.444 J	0.681 J	0.620 U	4.95	1.00 U	1.00 U
Cadmium	ug/L	0.300 U	0.300 U	0.300 U	0.300 U			0.500 U	0.500 U
Chromium	ug/L	0.820 J	2.54	1.24 U	1.24 U	1.24 U	1.24 U	2.00 U	2.00 U
Copper	ug/L	237	805	173	183	47.9	652	23.8	53.9
Lead	ug/L	0.247	2.88	0.384	0.37	0.178 J	3.13	0.200 U	0.200 U
Manganese	ug/L	99.7	158	159	159	11.9	93.9	1.00 U	2.61
Nickel	ug/L	1.47 J	3.72	1.54 J	1.55 J	1.24 U	2.83	2.00 U	2.00 U
Phosphorous	ug/L	124 U	94.0 J	124 U	124 U	124 U	178 J	200 U	200 U
Selenium	ug/L	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	5.00 U	5.00 U
Silicon	ug/L	3050	4840	3480	3430	6430	7519	6120	5860
Silver	ug/L	0.620 U	1.42	0.620 U	0.620 U	0.620 U	0.381 J	1.00 U	1.00 U
Sodium	ug/L	1080	1160	1170	1100	2860	2750	3250	2940
Zinc	ug/L	6.94	20.2	6.06	5.25	7.84	18.5	5.05	7.27
Mercury	ng/L	-	1.00 U	-	86.1		262		54.8

Analyte	Units	FTDS 1		FTDS 2		FTDS 3		FTDS4	
		4/23/12		4/23/12		4/23/12		4/23/12	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Major Ion Chemistry									
pH (lab)	pH units								
pH (field)	pH units								
Temperature (field)	Degrees C								
Conductivity (lab)	umhos/cm								
Conductivity (field)	umhos/cm								
Total Suspended Solids	mg/L								
Total Dissolved Solids	mg/L								
Setteable Matter	ml/L/hr								
Turbidity	NTU								
Hardness	mg/L								
Alkalinity	mg/L								
HCO3 Alkalinity	mg/L								
CO3 Alkalinity	mg/L								
OH Alkalinity	mg/L								
Calcium	mg/L								
Iron	mg/L	0.374		0.359		0.347		0.389	
Magnesium	mg/L								
Potassium	ug/L								
Minor Ion Chemistry									
Chloride	mg/L								
Fluoride	mg/L								
Sulfate	mg/L								
Nitrate-N	mg/L	33.9		31.3		30.5		33.9	
Nitrite-N	mg/L								
Total Nitrate/Nitrite N	mg/L								
Ammonia-N	mg/L								
Cyanide	mg/L								
Weak Acid Dissociable CN	mg/L	0.00300 U		0.00300 U		0.00300 U		0.00300 U	
Trace Ion Chemistry									
Aluminum	ug/L	157		155		143		165	
Antimony	ug/L	3.81		3.63		3.68		3.68	
Arsenic	ug/L	8.33		7.78		8.19		7.96	
Barium	ug/L								
Bismuth	ug/L								
Cadmium	ug/L	0.300 U		0,300 U		0.300 U		0.300 U	
Chromium	ug/L	1.24 U		1.24 U		1.24		1.24 U	
Copper	ug/L	64.5		62		66.5		63.1	
Lead	ug/L	2.41		1.95		2.76		1.57	
Manganese	ug/L	122		118		125		122	
Nickel	ug/L	2.8		2.83		2.8		2.82	
Selenium	ug/L	1.87 J		3.00 U		1.58 J		3.00 U	
Silicon	ug/L								
Silver	ug/L	0.620 U		0.620 U		0.620 U		0.620 U	
Sodium	ug/L								
Zinc	ug/L	17.5		15		19.8		15.3	
Mercury	ng/L	436		453		463		466	
Phosphorous									

Analyte	Units	FTDS1		FTDS2		FTDS1		FTDS2	
		05/09/2012		05/09/2012		08/12/2012		08/12/2012	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Major Ion Chemistry									
pH (lab)	pH units	7.6		7.7		8.3		8.3	
pH (field)	pH units	7.81		7.1		8.87		8.87	
Temperature (field)	Degrees C	5.7		5.8		18.02		18.02	
Conductivity (lab)	umhos/cm	635		633		1430		1430	
Conductivity (field)	umhos/cm	405.2		405.2		1091		1091	
Total Suspended Solids	mg/L	5.2		6.97		19.2		18.5	
Total Dissolved Solids	mg/L	323		327		981		983	
Setteable Matter	ml/L/hr	0.100 U		0.100 U		0.100 U		0.100 U	
Turbidity	NTU	4.61		5.72		34.8		32.9	
Hardness	mg/L								
Alkalinity	mg/L	75.4		74.5		51.2		50.5	
HCO3 Alkalinity	mg/L	75.4		74.5		51.2		50.5	
CO3 Alkalinity	mg/L	6.20 U		6.20 U		10.0 U		10.0 U	
OH Alkalinity	mg/L	6.20 U		6.20 U		10.0 U		10.0 U	
Calcium	mg/L					44.7	45.9	43.8	42.9
Iron	mg/L	.198 J	.156 U	0.251	.156 U	1.01	.250 U	1.1	.250 U
Magnesium	mg/L					14.5	14.3	14.3	13.6
Potassium	ug/L					4640	4730	4620	4490
Minor Ion Chemistry									
Chloride	mg/L	7.11		7.06		2.41		2.42	
Fluoride	mg/L	0.117		0.116		0.200 U		0.200 U	
Sulfate	mg/L	73.7		73.6		556		565	
Nitrate-N	mg/L	28.2		31.6					
Nitrite-N	mg/L	6.51		6.55					
Total Nitrate/Nitrite N	mg/L					9.29		9.14	
Ammonia-N	mg/L	11.9		12		6.83		6.99	
Cyanide	mg/L	0.0041 J		0.0034 J		0.094		0.14	
Weak Acid Dissociable CN	mg/L	0.00300 U		0.00300 U		0.038		0.036	
Trace Ion Chemistry									
Aluminum	ug/L	86.2	9.67 J	136	9.15 J	859	173	880	154
Antimony	ug/L	3.72	3.29	3.75	3.21	1.77	1.00 U	1.86	1.00 U
Arsenic	ug/L	6.59	4.69 J	6.29	4.62 J	12.6	5.00 U	12.7	5.00 U
Barium	ug/L					47	42.3	44.7	41.2
Bismuth	ug/L					1.00 U	1.00 U	1.00 U	1.00 U
Cadmium	ug/L	0.300 U	0.300 U	0.300 U	0.300 U	0.500 U	0.500 U	0.500 U	0.500 U
Chromium	ug/L	1.24 U	1.24 U	1.24 U	1.24 U	2.00 U	2.00 U	2.00 U	2.00 U
Copper	ug/L	41.3	19.1	41.6	18.4	152	63.8	144	65
Lead	ug/L	1.08	0.124 U	1.02	0.124 U	3.18	0.200 U	3.21	0.200 U
Manganese	ug/L	131	111	129	110	60.4	4.09	58.5	4.11
Nickel	ug/L	2.64	2.18	2.61	2.15	2.25	2.00 U	2.28	2.00 U
Selenium	ug/L	2.05 J	1.96 J	1.81 J	1.68 J	5.00 U	5.00 U	5.00 U	5.00 U
Silicon	ug/L					1620	594	1870	570
Silver	ug/L	0.620 U	0.620 U	0.620 U	0.620 U	1.76	1.23	1.91	1.31
Sodium	ug/L					240000	248000	226000	240000
Zinc	ug/L	15.4	13.9	14.9	10.7	23.7	5.00 U	21.7	5.00 U
Mercury	ng/L	347		366		411		439	
Phosphorous						200 U	200 U	200 U	200 U

Analyte	Units	FTDS 09/20/2012		FTDS 11/11/2012		FTDS 01/16/2013	
		Total	Dissolved	Total	Dissolved	Total	Dissolved
Major Ion Chemistry							
pH (lab)	pH units	8.2		8.2		8.5	
pH (field)	pH units			N/A		N/A	
Temperature (field)	Degrees C					N/A	
Conductivity (lab)	umhos/cm	2260		2230		2540	
Conductivity (field)	umhos/cm			N/A		N/A	
Total Suspended Solids	mg/L	63				17	
Total Dissolved Solids	mg/L	1590		1560		1840	
Setteable Matter	ml/L/hr	0.100 U				0.100 U	
Turbidity	NTU	140				50	
Hardness	mg/L						
Alkalinity	mg/L	71.8		91.3		137	
HCO3 Alkalinity	mg/L	71.8		91.3		122	
CO3 Alkalinity	mg/L	10.0 U		10.0 U		14.6	
OH Alkalinity	mg/L	10.0 U		10.0 U		10.0 U	
Calcium	mg/L	58.2	54.4	52.2		68.3	58.1
Iron	mg/L	3.58	.250 U	2.55		2.05	0.276
Magnesium	mg/L	15.8	14.2	14.9		17.3	15.4
Potassium	ug/L	5800	5750	5720		7640	6730
Minor Ion Chemistry							
Chloride	mg/L	4.32				5.54	
Fluoride	mg/L	0.200 U				0.500 U	
Sulfate	mg/L	980				1060	
Nitrate-N	mg/L	15.7				18.9	
Nitrite-N	mg/L	0.651				0.655	
Total Nitrate/Nitrite N	mg/L			15.9			
Ammonia-N	mg/L	24.2				42.5	
Cyanide	mg/L	2.8		1.9		2.2	
Weak Acid Dissociable CN	mg/L	2.3		1.6		1.6	
Trace Ion Chemistry							
Aluminum	ug/L	1580	137	1700		1210	150
Antimony	ug/L	4.3	1.57	3.27		3.82	2.05
Arsenic	ug/L	48.1	11.8	33.1		33.9	14.4
Barium	ug/L	59.5	49	58.9		71.3	54.3
Bismuth	ug/L	5.01	1.00 U	2.61		2.12	1.00 U
Cadmium	ug/L	0.500 U	0.500 U	0.500 U		0.500 U	0.500 U
Chromium	ug/L	2.00 U	2.00 U	2.53		2.00 U	2.00 U
Copper	ug/L	3520	2670	3030		4220	3030
Lead	ug/L	12.7	0.801	8.57		7.2	0.983
Manganese	ug/L	184	26.1	134		113	16.1
Nickel	ug/L	17.2	15.3	18		23.2	19.5
Selenium	ug/L	5.00 U	200 U	5		5.00 U	5.00 U
Silicon	ug/L	3510	946	3990		3220	1050
Silver	ug/L	23.6	24.1	19.7		31.5	27.8
Sodium	ug/L	413000	386000	386000		514000	490000
Zinc	ug/L	34	10.6	34.2		34	13.1
Mercury	ng/L	7950				1390	
Phosphorous		200 U	200 U			200 U	200 U

Analyte	Units	Encino		Encino Spring		Encino Spring		Encino Spring		Encino Spring	
		05/08/2010		18/05/2011		18/07/2011		05/09/2012		08/12/2012	
		Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Major Ion Chemistry											
pH (lab)	pH units	-	7.4	-	7.6	-	7.5		7.1		6.8
pH (field)	pH units	-	6.16	-	7.51	-	7.44		7.49		8.6
Temperature (field)	Degrees C	-	8.8	-	1.4	-	4.1		1.8		2.6
Conductivity (lab)	umhos/cm	-	72.2	-	70.7	-	74		144		87.1
Conductivity (field)	µS/cm	-	58.7	-	25.9	-	41.9		52.9		44
Total Suspended Solids	mg/L	-	4.3	-	12.5	-	33.1		47.8		37.8
Total Dissolved Solids	mg/L			-	60	-	66		47.8		39
Turbidity	NTU	-	0.24	-	0.44	-	28.4		5.1		6.69
Total Settleable Solids (field)	mg/L	-	U	-	No Sample	-	No Sample		No Sample		No Sample
Settleable Matter (lab)	mg/L	-	0.500 U	-	0.500 U	-	0.100 U		0.3		1
Calculated Hardne	mg/L	32.4	-	30.579	-	31.978	-				
Alkalinity	mg/L	-	32.4	-	31.5	-	33.4		21.2		30.9
HCO3 Alkalinity	mg/L	-	32.4	-	31.5	-	33.4		21.2		30.9
CO3 Alkalinity	mg/L	-	10.0 U	-	6.20 U	-	6.20 U		6.20 U		10.0 U
OH Alkalinity	mg/L	-	10.0 U	-	6.20 U	-	6.20 U		6.20 U		10.0 U
Calcium	mg/L	9.68	9.88	9.05	9.45	9.38	9.61	16.6	17	11.1	11.6
Iron	mg/L	0.250 U	0.250 U	0.156 U	0.0794 J	0.156 U	0.256	.156 U	.225 J	.250 U	.250 U
Magnesium	mg/L	2	2.14	1.94	2.01	2.08	2.05	3.69	3.73	2.32	2.4
Potassium	ug/L	841	821	833	864	0.745	761	1150	1170	790	836
Minor Ion Chemistry											
Chloride	mg/L	-	0.298	-	0.309	-	0.309		1.96		0.485
Fluoride	mg/L	-	0.100 U	-	0.0680 J	-	0.0820 J		0.0640 J		0.100 U
Sulfate	mg/L	-	1.88	-	1.8	-	1.77		4		2.39
Total Nitrate/Nitrite- N	mg/L		1.88		1.8	-	0.188				1.31
Nitrite-N	mg/L		0.0620 U		0.0620 U	-	0.0620 U		0.662		
Nitrate-N	mg/L	-	0.198	-	0.285	-	0.188		8.52		
Ammonia-N	mg/L	-	0.100 U	-	0.0620 U	-	0.0620 U		0.0583 J		0.100 U
Cyanide	mg/L	-	0.0050 U	-	0.00300 U	-	0.00300 U		0.00300 U		0.0050 U
Weak Acid Dissociable CN	mg/L	-	0.0050 U	-	0.00300U	-	0.00300 U		0.00300 U		0.0050 U
Trace Ion Chemistry											
Aluminum	ug/L	20.0 U	37.1	6.28 J	43.7	12.4 U	167	12.4 U	320	20.0 U	49.8
Antimony	ug/L	1.00 U	1.00 U	0.499 J	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	1.00 U	1.00 U
Arsenic	ug/L	96.2	91.2	85.1	89.5	87.7	93.5	56.3	78.5	100	107
Barium	ug/L	3.00 U	3.00 U	1.78 J	1.97 J	1.58 J	2.83 J	3.25	5.34	3.00 U	3.00 U
Bismuth	ug/L	1.00 U	1.00 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	1.00 U	1.00 U
Cadmium	ug/L	0.500 U	0.500 U	0.300 U	0.300 U	0.300 U	0.300 U			0.500 U	0.500 U
Chromium	ug/L	2.00 U	2.00 U	1.24 U	1.24 U	1.24 U	1.24 U	1.24 U	1.24 U	2.00 U	2.00 U
Copper	ug/L	1.00 U	1.00 U	0.429 J	1.03	0.620 U	0.465 J	0.421 U	1.66	1.00 U	1.00 U
Lead	ug/L	0.200 U	0.200 U	0.37	0.346	0.124 U	0.264	0.124 U	0.516	0.200 U	0.200 U
Manganese	ug/L	1.00 U	3.74	0.620 U	3.1	0.620 U	8.32	0.620 U	22.4	1.00 U	5.8
Nickel	ug/L	2.00 U	2.00 U	1.24 U	0.635 J	1.24 U	1.24 U	1.24 U	0.625J	2.00 U	2.00 U
Phosphorous	ug/L	200 U	200 U	124 U	124 U	124 U	124 U	124 U	124.U	200 U	200 U
Selenium	ug/L	5.00 U	5.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3	3.00 U	5.00 U	5.00 U
Silicon	ug/L	5850	5820	5390	5510	5270	5350	5560	5520	5070	5630
Silver	ug/L	1.00 U	1.00 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	0.620 U	1	1.00 U
Sodium	ug/L	1890	1950	1690	1740	1830	1800	2900	2780	1910	1940
Zinc	ug/L	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.21	5.00 U	5.31
Mercury	ng/L	-	2.88	-	1.26	-	2.39		40.3		8.84

Analyte	Units	NF1		NF2		MC-UG01		ES-1	
		08/03/2008		08/03/2008		13/06/2009		26/08/2009	
		Downstream		Upstream		Underground		Upstream	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Major Ion Chemistry									
pH (lab)	pH units	7.38	N/A	7.32	N/A	7.4	N/A	7.4	N/A
pH (field)	pH units	N/A	N/A	N/A	N/A			7.4	N/A
Temperature (field)	Degrees C	N/A	N/A	N/A	N/A	N/A	N/A	3.6	N/A
Conductivity (lab)	umhos/cm	320	N/A	306	N/A	1040	N/A	74.3	N/A
Conductivity (field)	umhos/cm	N/A	N/A	N/A	N/A	N/A	N/A	80.4	N/A
Total Suspended Solids	mg/L	<1.14	N/A	<1.14	N/A	2.1	N/A	1.11	N/A
Total Dissolved Solids	mg/L	155	N/A	155	N/A	776	N/A	46.3	N/A
Turbidity	NTU	0.25	N/A	0.25	N/A	3.21	N/A	0.37	N/A
Hardness	mg/L	154	157	153	155	520	N/A	34	N/A
Alkalinity	mg/L	134	N/A	134	N/A	103	N/A	34	N/A
HCO3 Alkalinity	mg/L	NR	N/A	NR	N/A	103	N/A	34	N/A
CO3 Alkalinity	mg/L	NR	N/A	NR	N/A	<10	N/A	<10	N/A
OH Alkalinity	mg/L	NR	N/A	NR	N/A	<10	N/A	<10	N/A
Calcium	mg/L	38.6	39.6	38.2	38.7	159	168	10.3	10.2
Iron	mg/L	0.0806	0.0328	0.0795	0.0247	0.039	<0.02	<0.02	<0.02
Magnesium	mg/L	13.9	14.1	13.9	14.1	30.9	33.2	1.93	1.82
Potassium	ug/L	<500	<500	<500	<500	3040	3220	0.829	0.824
Minor Ion Chemistry									
Phosphorous	ug/L	<200	N/A	<200	N/A	<200	N/A	<200	N/A
Chloride	mg/L	0.269	N/A	0.283	N/A	3.26	N/A		N/A
Fluoride	mg/L	<0.1	N/A	<0.1	N/A	0.141	N/A		N/A
Sulfate	mg/L	22	N/A	21.9	N/A	221	N/A		N/A
Nitrate-N	mg/L	NR	N/A	NR	N/A	52.2	N/A		N/A
Nitrite-N	mg/L	NR	N/A	NR	N/A	<0.4	N/A		N/A
Total Nitrate/Nitrite N	mg/L		N/A		N/A	N/A	N/A	0.279	N/A
Ammonia-N	mg/L	<0.1	N/A	<0.1	N/A	0.535	N/A	<0.1	N/A
Cyanide	mg/L	<0.005	N/A	<0.005	N/A	N/A	<0.005	N/A	<0.005
Weak Acid Dissociable CN	mg/L	<0.005	N/A	<0.005	N/A	N/A	<0.005	N/A	<0.005
Trace Ion Chemistry									
Aluminum	ug/L	<20	<20	<20	<20	<20	<20	<20	<20
Antimony	ug/L	<1	<1	<1	<1	12.5	14.1	<1	<1
Arsenic	ug/L	<5	<5	<5	<5	18.4	17.9	92.4	90.8
Barium	ug/L	58.9	60.1	58.8	61.1	27.7	26.3	<3	<3
Bismuth	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	ug/L	<2	N/A	<2	N/A	<2	<2	<2	<2
Copper	ug/L	<1	<1	<1	<1	10.5	7.18	<1	<1
Lead	ug/L	<0.2	<0.2	<0.2	<0.2	0.79	<0.2	<0.2	<0.2
Manganese	ug/L	15	15.1	16.9	17.3	10.8	8.51	<1	<1
Nickel	ug/L	<2	<2	<2	<2	4.28	3.79	<2	<2
Selenium	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Silicon	ug/L	3020	2970	3070	3080	5340	5460	5610	5580
Silver	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Sodium	ug/L	2810	2830	2770	2690	5160	5440	1.84	1.83
Zinc	ug/L	<5	<5	5.79	<5	24.2	23.3	<5	<5
Mercury	ng/L	1.11	N/A	<1	N/A	7.83	N/A	<1	N/A

Analyte	Units	TSF070628		TSF070832		TSF070921		TSP070628		TP070601		TP070816	
		28/06/2007		31/08/2007		21/09/2007		28/06/2007		01/06/2007		16/08/2007	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Major Ion Chemistry													
pH (lab)	pH units	7.62	N/A	8.41	N/A	8.14	N/A	N/A	N/A	7.68	N/A	N/A	N/A
pH (field)	pH units	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Temperature (field)	Degrees C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Conductivity (lab)	umhos/cm	700	N/A	550	N/A	460	N/A	N/A	N/A	700	N/A	N/A	N/A
Conductivity (field)	umhos/cm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Suspended Solids	mg/L	<1.14	N/A	2.8	N/A	2.3	N/A	N/A	N/A	30.3	N/A	N/A	N/A
Total Dissolved Solids	mg/L	401	N/A	311	N/A	275	N/A	N/A	N/A	380	N/A	N/A	N/A
Turbidity	NTU	0.18	N/A	3.53	N/A	9.81	N/A	N/A	N/A	12.6	N/A	N/A	N/A
Hardness	mg/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Settleable Solids (field)	mg/L												
Total Settleable Solids (lab)	mg/L												
Alkalinity	mg/L	111	N/A	62.4	N/A	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HCO3 Alkalinity	mg/L	111	N/A	56.8	N/A	61	N/A	N/A	N/A	112	N/A	N/A	N/A
CO3 Alkalinity	mg/L	<10	N/A	<10	N/A	<10	N/A	N/A	N/A	<10	N/A	N/A	N/A
OH Alkalinity	mg/L	<10	N/A	<10	N/A	<10	N/A	N/A	N/A	<10	N/A	N/A	N/A
Calcium	mg/L	N/A	N/A	N/A	33.2	N/A	N/A	N/A	46.1	N/A	50.1	N/A	N/A
Iron	mg/L	N/A	N/A	N/A	<0.02	N/A	N/A	N/A	<0.02	N/A	<0.02	N/A	0.494
Magnesium	mg/L	N/A	N/A	N/A	21.9	N/A	N/A	N/A	29.6	N/A	25.9	N/A	N/A
Potassium	ug/L	N/A	N/A	N/A	18100	N/A	N/A	N/A	23900	N/A	22000	N/A	N/A
Minor Ion Chemistry													
Chloride	mg/L	N/A	16.9	N/A	17.3	14.3	N/A	N/A	N/A	15.2	N/A	N/A	N/A
Fluoride	mg/L	N/A	0.272	N/A	0.287	0.271	N/A	N/A	N/A	0.147	N/A	N/A	N/A
Sulfate	mg/L	N/A	113	N/A	99.1	88.6	N/A	N/A	N/A	114	N/A	N/A	N/A
Nitrate-N	mg/L	N/A	18.4	N/A	16.2	13	N/A	N/A	N/A	16.8	N/A	N/A	24.1
Nitrite-N	mg/L	N/A	5.74	N/A	1.45	0.665	N/A	N/A	N/A	5.66	N/A	N/A	N/A
Total Nitrate/Nitrite N	mg/L	N/A	N/A	N/A	N/A	N/A	15.3	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia-N	mg/L	11	N/A	N/A	N/A	4.16	N/A	N/A	N/A	10.9	N/A	N/A	N/A
Cyanide	mg/L	0.017	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	0.0089	N/A	N/A	N/A
Weak Acid Dissociable CN	mg/L	<0.005	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	<0.005	N/A	N/A	<0.005
Trace Ion Chemistry													
Aluminum	ug/L	N/A	N/A	N/A	<20	N/A	<20	N/A	<20	N/A	<20	N/A	55.9
Antimony	ug/L	N/A	N/A	N/A	6.01	N/A	5.91	N/A	6.94	6.49	N/A	N/A	9.21
Arsenic	ug/L	N/A	N/A	N/A	9.52	N/A	9.27	N/A	5.78	N/A	7.28	N/A	12.1
Barium	ug/L	N/A	N/A	N/A	47.3	N/A	46.6	N/A	39.6	N/A	37.2	N/A	N/A
Bismuth	ug/L	N/A	N/A	N/A	<1	N/A	<1	N/A	<1	N/A	<1	N/A	N/A
Cadmium	ug/L	N/A	N/A	N/A	<0.5	N/A	<0.5	N/A	<0.5	N/A	<0.5	N/A	<0.5
Chromium	ug/L	<2	N/A	<2	N/A	<2	N/A	N/A	N/A	<2	1.01	N/A	<2
Copper	ug/L	N/A	N/A	N/A	15.3	N/A	19.4	N/A	16.5	N/A	15.8	N/A	96
Lead	ug/L	N/A	N/A	N/A	<0.2	N/A	<0.2	N/A	<0.2	N/A	<0.2	N/A	2
Manganese	ug/L	N/A	N/A	N/A	11	N/A	27.2	N/A	27.7	N/A	92.6	N/A	155
Nickel	ug/L	N/A	N/A	N/A	<2	N/A	<2	N/A	2.46	N/A	2.77	N/A	3.37
Phosphorous	ug/L	<200	N/A	<200	N/A	<200	N/A	N/A	N/A	<200	<200	N/A	N/A
Selenium	ug/L	N/A	N/A	N/A	<5	N/A	<5	N/A	<5	N/A	<5	N/A	<5
Silicon	ug/L	N/A	N/A	N/A	2360	N/A	2000	N/A	3590	N/A	3290	N/A	N/A
Silver	ug/L	N/A	N/A	N/A	<1	N/A	<1	N/A	<1	N/A	<1	N/A	<1
Sodium	ug/L	N/A	N/A	N/A	14000	N/A	12800	N/A	15200	N/A	13400	N/A	N/A
Zinc	ug/L	N/A	N/A	N/A	<5	N/A	<5	N/A	<5	N/A	<5	N/A	<5
Mercury	ng/L	N/A	N/A	1.62	N/A	1.81	N/A	26.3	N/A	N/A	7.87	N/A	13.1

Analyte	Units	Tailings Pond		TSF-1		TSF-2		TSF-1		TSF-2	
		14/10/2009		25/05/2011		25/05/2011		31/10/2011		31/10/2011	
		Total	Dissolved	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Major Ion Chemistry											
pH (lab)	pH units	7.8	N/A	-	8	-	8	-	7.9	-	8
pH (field)	pH units	N/A	N/A	-	8.07	-	8.11	-	8.35	-	8.33
Temperature (field)	Degrees C	N/A	N/A	-	15.8	-	17.1	-	1.4	-	1.6
Conductivity (lab)	umhos/cm	382	N/A	-	299	-	297	-	713	-	687
Conductivity (field)	umhos/cm	N/A	N/A	-	240.2	-	243	-	375.6	-	308
Total Suspended Solids	mg/L	5.74	N/A	-	5.05	-	5.2	-	396	-	3.56
Total Dissolved Solids	mg/L	219	N/A	-	194	-	190	-	400	-	379
Turbidity	NTU	12.5	N/A	-	9.11	-	8.85	-	733	-	6.4
Hardness	mg/L	147	N/A	129.92	-	148.28	-	154.28	-	235.62	-
Total Settleable Solids (field)	mg/L			-	0	-	0	-	6.5	-	0
Total Settleable Solids (lab)	mg/L			-	0.500 U	-	0.500 U	-	1.1	-	0.100 U
Alkalinity	mg/L	70.8	N/A	-	53.5	-	53.4	-	95.1	-	79.7
HCO3 Alkalinity	mg/L	70.8	N/A	-	53.5	-	53.4	-	95.1	-	79.7
CO3 Alkalinity	mg/L	<10	N/A	-	6.20 U	-	6.20 U	-	6.20 U	-	6.20 U
OH Alkalinity	mg/L	<10	N/A	-	6.20 U	-	6.20 U	-	6.20 U	-	6.20 U
Calcium	mg/L	30.9	29.9	25.4	26.66	29.3	25.6	31.7	61.2	64.4	62.2
Iron	mg/L	0.201	<0.02	92.0 J	259	156 U	228 J	156 U	278	156 U	120 J
Magnesium	mg/L	17	16.7	16.2	16.8	18.3	15.6	18.3	18.3	18.2	17.5
Potassium	ug/L	7780	7900	4720	4900	5240	4600	15000	14700	14200	13700
Minor Ion Chemistry											
Chloride	mg/L	N/A	N/A	-	3.22	-	3.19	-	12	-	11.4
Fluoride	mg/L	N/A	N/A	-	0.185	-	0.176	-	0.154	-	0.156
Sulfate	mg/L	N/A	N/A	-	83.8	-	83.8	-	92	-	98.5
Nitrate-N	mg/L	1.28	N/A	-	0.596	-	0.49	-	**34.9**	-	**31.5**
Nitrite-N	mg/L	<0.1	N/A						**2.75**		**2.7**
Total Nitrate/Nitrite N	mg/L	N/A	N/A					-	-	-	-
Ammonia-N	mg/L	<0.1	N/A	-	0.0393 J	-	0.0427 J	-	11.5	-	8.9
Cyanide	mg/L	<0.005	N/A	-	0.00300 U	-	0.00300 U	-	**0.0061**	-	**0.0075**
Weak Acid Dissociable CN	mg/L	<0.005	N/A	-	0.0016 J	-	0.0018 J	-	0.0031 J	-	0.0038 J
Trace Ion Chemistry											
Aluminum	ug/L	51.5	<20	6.94 J	42.1	12.4 U	39.2	8.97 J	50.8	7.06 J	20
Antimony	ug/L	2.61	2.48	1.62	1.24	1.18	1.21	6.84	**6.67**	7.33	**6.85**
Arsenic	ug/L	8.42	5.6	4.85 j	5.41	3.33 J	5.58	6.68	9.35	6.48	8.4
Barium	ug/L	28.4	28.6	21.7	23	22.1	22.4	33.2	33.6	30.4	30.2
Bismuth	ug/L	<1	<1	0.620 U	0.985 J	0.620 U	0.891 J	-	-	-	-
Cadmium	ug/L	<0.5	<0.5	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U
Chromium	ug/L	<2	<2	1.24 U	1.11 J	1.24 U	1.00 J	1.24 U	1.24 U	1.24 U	1.24 U
Copper	ug/L	81.5	32.6	25	70.9	21.7	65.4	1.99	**40.2**	1.4	**24.3**
Lead	ug/L	1.06	<0.2	0.633	1.44	0.0710 J	1.28	0.171 J	**1.46**	0.264	0.699
Manganese	ug/L	35.1	29.6	72.6	82.2	43.6	79.6	59.9	**70**	47.2	**52.2**
Nickel	ug/L	<2	<2	1.41 J	1.24 J	0.945 J	1.15 J	1.74 J	1.69 J	1.83 J	1.75 J
Phosphorous	ug/L	<200	N/A	124 U	124 U	124 U	124 U	340	319	260	247
Selenium	ug/L	<5	<5	3.00 U	3.00 U	3.00 U	3.00 U	2.11 J	2.88 J	2.85 J	2.78 J
Silicon	ug/L	2700	2620	1660	1800	1960	1680	3900	3740	4000	3620
Silver	ug/L	<1	<1	0.620 U	0.620 U	0.620 U	0.620U	0.620 U	0.620 U	0.620 U	0.620 U
Sodium	ug/L	5920	5990	4190	4290	4960	4070	17500	17100	17600	16500
Zinc	ug/L	<5	<5	5.00 U	3.88 J	5.00 U	3.87 J	5.13	8.59	5.00 U	3.73 J
Mercury	ng/L	17.5	N/A	-	14.9	-	15.9	-	**432**	-	**105**

Analyte	Units	TSF-1		TSF-2	
		07/12/2011		07/12/2011	
		Dissolved	Total	Dissolved	Total
Major Ion Chemistry					
pH (lab)	pH units	-	7.8	-	7.8
pH (field)	pH units	-	8.07	-	8.08
Temperature (field)	Degrees C	-	0.2	-	0.3
Conductivity (lab)	umhos/cm	-	752	-	730
Conductivity (field)	umhos/cm	-	409.6	-	405.4
Total Suspended Solids	mg/L	-	5.81	-	0.693
Total Dissolved Solids	mg/L	-	407	-	384
Turbidity	NTU	-	3.57	-	2.2
Hardness	mg/L	244.76	-	230.87	-
Total Settleable Solids (field)	mg/L	-	no sample	-	no sample
Total Settleable Solids (lab)	mg/L	-	0.100 U	-	0.100 U
Alkalinity	mg/L	-	89.3	-	86.6
HCO3 Alkalinity	mg/L	-	89.3	-	86.6
CO3 Alkalinity	mg/L	-	6.20 U	-	6.20 U
OH Alkalinity	mg/L	-	6.20 U	-	6.20 U
Calcium	mg/L	67.4	67.3	62.5	60.1
Iron	mg/L	156 U	261	156 U	80.5 J
Magnesium	mg/L	18.6	15.5	18.2	15
Potassium	ug/L	13200	13100	12600	12200
Minor Ion Chemistry					
Chloride	mg/L	-	11.8	-	11.3
Fluoride	mg/L	-	0.145	-	0.143
Sulfate	mg/L	-	69.3	-	69.3
Nitrate-N	mg/L	-	**50**	-	**40.9**
Nitrite-N	mg/L	-	**3.54**	-	**3.11**
Total Nitrate/Nitrite N	mg/L	-	47	-	47.2
Ammonia-N	mg/L	-	15.6	-	14.6
Cyanide	mg/L	-	**0.011**	-	**0.0099**
Weak Acid Dissociable CN	mg/L	-	0.0024 J	-	0.0031 J
Trace Ion Chemistry					
Aluminum	ug/L	14.5 J	32	12.4 U	6.45 J
Antimony	ug/L	5.28	5.21	5.01	4.76
Arsenic	ug/L	5.86	7.26	5.48	5.39
Barium	ug/L	37.1	40.2	37.1	38.3
Bismuth	ug/L	0.620 U	-	0.620 U	-
Cadmium	ug/L	0.300 U	0.300 U	0.300 U	0.300 U
Chromium	ug/L	1.24 U	0.876 J	1.24 U	0.641 J
Copper	ug/L	5.31	**31.6**	6.7	**19.7**
Lead	ug/L	0.136 J	1.02	0.0916 J	0.404
Manganese	ug/L	47.2	**57.5**	52.6	**52.1**
Nickel	ug/L	2.31	2.66	2.18	2.34
Phosphorous	ug/L	397	387	364	347
Selenium	ug/L	1.95 J	2.02 J	1.52 J	2.01 J
Silicon	ug/L	4380	4320	4110	3780
Silver	ug/L	0.620 U	0.620 U	0.620 U	0.620 U
Sodium	ug/L	16800	13800	16800	12900
Zinc	ug/L	6.3	11.5	3.91 J	3.30 J
Mercury	ng/L	-	**518**	-	**459**

Analyte	Units	TSF-1 07/03/2012		TSF-1 05/09/2012		TSF-2 05/09/2012		TSF-1 08/12/2012		TSF-2 08/12/2012	
		Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Major Ion Chemistry											
pH (lab)	pH units	-	7.8		7.8		7.8		8.1		8.2
pH (field)	pH units	-	8.13		8.2		8.19		8.61		8.61
Temperature (field)	Degrees C	-	0.5		3		2.3		17.12		17.12
Conductivity (lab)	umhos/cm	-	723		478		297		357		358
Conductivity (field)	umhos/cm	-	409		281.5		289.2		3		3
Total Suspended Solids	mg/L	-	3.00 U		4.95		16.2		3.96		3.71
Total Dissolved Solids	mg/L	-	359		237		142		203		193
Turbidity	NTU	-	9.87		6.01		8.8		6.79		6.77
Hardness	mg/L	216.74	-								
Total Settleable Solids (field)	mg/L	-	no sample								
Total Settleable Solids (lab)	mg/L	-	0.100 U		0.100 U		0.100 U		0.100 U		0.100 U
Alkalinity	mg/L	-	88.0		66.7		47.5		65.0		65.4
HCO3 Alkalinity	mg/L	-	88.0		66.7		47.5		65.0		65.4
CO3 Alkalinity	mg/L	-	6.20 U		6.20 U		6.20 U		10.0 U		10.0 U
OH Alkalinity	mg/L	-	6.20 U		6.20 U		6.20 U		10.0 U		10.0 U
Calcium	mg/L	47.5	46.1					26.4	27	26.4	26.3
Iron	mg/L	193 J	184 J	.156 U	.132 J	.156 U	0.392	.250 U	.250 U	.250 U	.250 U
Magnesium	mg/L	23.9	26.2					18.8	18.8	18.8	18
Potassium	ug/L	9030	9190					6820	7010	6880	6810
Minor Ion Chemistry											
Chloride	mg/L	-	6.5		5.59		3.57		4.04		4.03
Fluoride	mg/L	-	0.111		0.162		0.132		0.244		0.241
Sulfate	mg/L	-	45.5		37.3		24.4		73.2		73.1
Nitrate-N	mg/L	-	**43.8**		**25.6**		**13.1**				
Nitrite-N	mg/L	-	**5.02**		**3.08**		**1.24**				
Total Nitrate/Nitrite N	mg/L	-	59.1						6.12		6.08
Ammonia-N	mg/L	-	21.1		10.9		6.4		1.05		1.08
Cyanide	mg/L	-	**0.021**		0.00300 U		0.00300 U		0.0050 U		0.0050 U
Weak Acid Dissociable CN	mg/L	-	0.0032J		0.00300 U		0.00300 U		0.0050 U		0.0050 U
Trace Ion Chemistry											
Aluminum	ug/L	9.12J	13.2J	12.4 U	25.5	12.4 U	117	20.0 U	54.2	20	46.3
Antimony	ug/L	4.52	4.67	2.73	2.99	1.81	3.49	2.58	2.55	2.53	2.65
Arsenic	ug/L	16.1	17.2	5.41	6.88	3.92 J	8.6	10.8	13.7	11.3	13.6
Barium	ug/L	28.8	30.0					43.4	44.5	43	43.9
Bismuth	ug/L	-	0.802 J					1.00 U	1.00 U	1.00 U	1.00 U
Cadmium	ug/L	-	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.500 U	0.500 U	0.500 U	0.500 U
Chromium	ug/L	-	1.24 U	1.24 U	1.24 U	1.24 U	1.24 U	2.00 U	2.00 U	2.00 U	2.00 U
Copper	ug/L	29.3	**41.9**	9.85	**32.2**	5.96	**30.9**	13.4	**50.7**	13.4	**51.1**
Lead	ug/L	1.63	**2.64**	0.124 U	**0.955**	0.124 U	**6.19**	0.200 U	**0.863**	0.200 U	**0.900 U**
Manganese	ug/L	77.6	**83.9**	54	**62.5**	34.6	**48.4**	19.7	**42.6**	19.3	**41.2**
Nickel	ug/L	2.29	2.32	1.34 J	1.54 J	0.811 J	1.33 J	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorous	ug/L	-	281					200 U	200 U	200 U	200 U
Selenium	ug/L	1.74 J	1.66 J	3.00 U	3.00 U	3.00 U	3.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Silicon	ug/L	4890	4990					1150	1530	1170	1470
Silver	ug/L	0.431U	0.460 J	0.620 U	0.620 U	0.620 U	0.620 U	1.00 U	1.00 U	1.00 U	1.00 U
Sodium	ug/L	13000	14200					8130	8050	8230	7720
Zinc	ug/L	4.48 J	5.31	4.70 J	6	9.15	27.4	5.05	10.6	5.08	11.5
Mercury	ng/L	-	**996**		**490**		**339**		**38.6**		**37.6**