



AGNICO EAGLE

MELIADINE GOLD PROJECT

ANNUAL REPORT: LICENCE 2BW-MEL1215

PRESENTED TO THE NUNAVUT WATER BOARD

MARCH 2015

Contact:

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B 2. The Licensee shall file an Annual Report on the appurtenant undertaking with the Board no later than March 31st of the year following the calendar year being reported which shall contain the following information:

a) A summary report of water use and waste disposal activities:

- *No water was used in 2014 and no waste was generated under this licence.*

b) A summary report of construction activities including photographic records before, during and after construction.

- *No construction was done on the road in 2014, only maintenance.*

c) A list of unauthorized discharges and a summary of follow-up actions taken:

- *There were no unauthorized discharges.*

d) A summary of all information requested and results of the Monitoring program

Part I

1. The Licensee shall implement the Plan entitled “Monitoring Plan for the phase 1 All-Weather Access Road between Rankin Inlet and the Meliadine site” dated January 2012, and submitted as additional information on January 19, 2011 approved by the Board with the issuance of this Licence.

- *Results available in Appendix A*

2. The Licensee shall measure and record, in cubic metres, the daily volume of water utilized for road watering.

- *No water was used in 2014 under this licence.*

3. The Licensee shall monitor all activities for signs of erosion.

- *The road was inspected regularly to monitor signs of erosion and reports have been filed. No major problems noted.*

4. **The Licensee shall obtain a digital photographic record of the water crossings before, during and after construction has been completed.**

➤ *No new constructions were made in 2014.*

5. **The Licensee shall, during periods of flow, conduct water quality testing immediately upstream and downstream of the water crossings, any significant seeps originating from borrow pits or rock quarries prior to construction, weekly during the construction and upon the construction.**

➤ *Results available in Appendix A.*

6. **The Licensee shall implement water crossings visual inspection and maintenance program prior to and during spring freshet and after heavy rainfall events to identify issues relating to watercourse crossings structural integrity and hydraulic function.**

➤ *Regular inspections were conducted during the freshet and no issues were identified in relation to watercourse crossings structural integrity and hydraulic function.*

7. **All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.**

➤ *The water analysis was performed by the laboratory ALS Winnipeg (Manitoba), see Appendix B for details.*

8. **All analyses shall be performed in a laboratory accredited according to the ISO/IEC Standard 17025. The accreditation shall be current and in good standing.**

➤ *See Appendix B for details about the laboratory.*

9. **Additional monitoring requirements may be requested by the Inspector.**

➤ *No additional monitoring was requested.*

e) A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations

➤ *No new reclamations were conducted in 2014.*

f) Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

➤ *No requests were presented by the Board.*

Appendix A

Environmental Monitoring Results

Water Sampling

Waterbody	Units	Char River			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		543636-6970154	543636-6970154	543636-6970154	543636-6970155
LAB		ALS LAB- WINNIPEG	ALS LAB- WINNIPEG	ALS LAB- WINNIPEG	ALS LAB- WINNIPEG
Field Measurments		Field Measurments			
Water Temperature	oC	3.2	13.1	15.3	8.8
pH	pH units	8.5	8	8.5	8.4
Conductivity	(mS/cm)	40	0.09	0.17	0.15
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	<0.010	<0.010	<0.010	<0.010
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.0119	0.006	0.0017	0.0041
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	<0.0010	0.0019
Sodium Adsorption Ratio		0.55	0.81	0.7	0.72
Total Kjeldahl Nitrogen	%	0.22	<0.20	<0.20	<0.20
Phosphorus (P)-Total	mg/L	0.0119	-	0.0017	0.0041
Total Suspended Solids	mg/L	<5.0	<5.0	<5.0	<5.0
Aluminum (Al)-Total	mg/L	0.0196	0.0072	0.0084	0.0049
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	0.00026	0.00029	0.00048	0.00038
Barium (Ba)-Total	mg/L	0.011	0.0135	0.0334	0.026
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	0.018	0.026	0.024
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	6.17	7.65	21	19.5
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.00105	0.00102	0.00219	0.00187
Iron (Fe)-Total	mg/L	<0.10	<0.10	<0.010	<0.010
Lead (Pb)-Total	mg/L	<0.000090	<0.000090	<0.000090	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	<0.0020	0.0029	0.0026
Magnesium (Mg)-Total	mg/L	1.37	1.79	3.41	3.13
Manganese (Mn)-Total	mg/L	0.00787	0.00147	0.00338	0.00114
Molybdenum (Mo)-Total	mg/L	<0.00020	0.00032	0.00164	0.00129
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00087	0.0007
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.13	1.38	3.41	2.41
Rubidium (Rb)-Total	mg/L	0.00144	0.00226	0.00507	0.00373
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Silicon (Si)-Total	mg/L	0.28	0.18	0.65	0.29
Silver (Ag)-Total	mg/L	<0.00010	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	6.05	9.53	13.2	13
Strontium (Sr)-Total	mg/L	0.0363	0.0465	0.117	0.107
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.0009	<0.00050	<0.00050	<0.00050
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	0.00068	0.00045
Vanadium (V)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)-Total	mg/L	<0.0020	<0.0020	0.0011	<0.0010
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	15.6	25	55	45
Bicarbonate (HCO3)	mg/L	19.1	30	67	55
Carbonate (CO3)	mg/L	<0.60	<12	<12	<12
Hydroxide (OH)	mg/L	<0.34	<6.8	<6.8	<6.8
Chloride	mg/L	10.7	17.1	19.6	20.3
Conductivity	umhos/cm	76	119	203	185
Calcium (Ca)-Dissolved	mg/L	6.03	8.81	20.1	18.5
Magnesium (Mg)-Dissolved	mg/L	1.34	1.7	3.5	3.05
Potassium (K)-Dissolved	mg/L	1.17	1.45	3.26	2.43
Sodium (Na)-Dissolved	mg/L	5.71	9.09	12.9	13
Fluoride	mg/L	<0.10	<0.10	0.12	<0.10
Hardness (as CaCO3)	mg/L	21.1	26.5	66.6	61.7
Ion Balance	%	Low EC	92.7	98.1	98.5
Nitrate-N	mg/L	<0.050	<0.050	0.265	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	0.265	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	4.19	5.63	14.3	17.1
TDS (Calculated)	mg/L	50	77	132	120
Turbidity	NTU	0.57	0.22	0.15	0.34
pH	pH units	7.08	7.59	8.13	7.95

Waterbody	Units	Meliadine River			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		544778.3-6971712	544778.3-6971712	544778.3-6971712	544778.3-6971712
LAB		ALS LAB	ALS LAB	ALS LAB	ALS LAB
Field Measurments		Field Measurments			
Water Temperature	oC	2.9	14.5	14.4	8.5
pH	pH units	8.6	7.9	8.4	7.9
Conductivity	(mS/cm)	40	0.08	0.08	0.1
Laboratory-Measured					
Ion balance	%	Low EC	Low EC	94.5	97.9
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Ammonia as N	mg/L	0.044	<0.010	<0.010	<0.010
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.0111	0.005	0.0045	0.0046
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	<0.0010	0.0014
Total Kjeldahl Nitrogen	mg/L	<0.20	<0.20	<0.20	<0.20
Total Suspended Solids	mg/L	7	<5.0	<5.0	<5.0
Alkalinity, Total (as CaCO3)	mg/L	26	23	23	25
Bicarbonate (HCO3)	mg/L	32	28	28	30
Carbonate (CO3)	mg/L	<12	<12	<12	<12
Hydroxide (OH)	mg/L	<6.8	<6.8	<6.8	<6.8
Calcium (Ca)-Dissolved	mg/L	8.79	9.25	8.23	10.2
Magnesium (Mg)-Dissolved	mg/L	1.49	1.39	1.49	2.11
Potassium (K)-Dissolved	mg/L	1.13	1.1	1.13	1.31
Sodium (Na)-Dissolved	mg/L	5.94	6.01	6.95	10.6
Chloride	mg/L	11.8	12.2	13.3	20.8
Conductivity	umhos/cm	94	95	100	123
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	30.1	26.8	26.4	34.4
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	4.25	3.84	3.87	5.94
TDS (Calculated)	mg/L	61	62	65	80
Aluminum (Al)-Total	mg/L	0.149	0.0091	0.0105	0.0074
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	0.00031	0.00023	0.00023	0.00026
Barium (Ba)-Total	mg/L	0.0127	0.00966	0.0087	0.0123
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	9.37	8.45	8.2	10.3
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.00124	0.00084	0.00085	0.00096
Iron (Fe)-Total	mg/L	0.18	<0.10	0.023	0.03
Lead (Pb)-Total	mg/L	0.000123	<0.000090	<0.000090	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Magnesium (Mg)-Total	mg/L	1.62	1.38	1.44	2.11
Manganese (Mn)-Total	mg/L	0.0103	0.00243	0.00301	0.00242
Molybdenum (Mo)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.00040	0.00045
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.25	1.03	1.09	1.34
Rubidium (Rb)-Total	mg/L	0.00209	0.00162	0.00161	0.00201
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Silicon (Si)-Total	mg/L	0.59	0.16	0.22	0.2
Silver (Ag)-Total	mg/L	<0.00010	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	6.36	5.9	6.94	10.2
Strontium (Sr)-Total	mg/L	0.0464	0.045	0.0386	0.0569
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.00903	<0.00050	<0.00050	<0.00050
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	0.00045	<0.00020	<0.00020	<0.00020
Zinc (Zn)-Total	mg/L	<0.0020	<0.0020	<0.0010	<0.0010
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Sodium Adsorption Ratio	%	0.49	0.5	0.59	0.76
Turbidity	NTU	3.4	0.35	0.63	0.7
pH	pH units	7.27	7.61	7.54	7.61

Waterbody	Units	Km 3.0			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		545548-6971874	545548-6971874	545548-6971874	545548-6971874
LAB		ALS	ALS	ALS	ALS
Field Measurments		Field Measurments			
Water Temperature	oC	3.1	16.8	14.6	8.5
pH	pH units	8.5	8.7	8.4	8.2
Conductivity	(µS/cm)	70	0.25	0.31	0.35
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	<0.010	0.02	0.015	<0.010
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.0111	0.012	0.0162	0.0151
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	<0.0010	0.0014
Sodium Adsorption Ratio	%	1.05	1.43	1.54	1.51
Total Kjeldahl Nitrogen	mg/L	0.27	0.83	1.12	0.94
Phosphorus (P)-Total	mg/L	0.0111	-	0.0162	0.0151
Total Suspended Solids	mg/L	<5.0	<5.0	8	9
Aluminum (Al)-Total	mg/L	0.0104	0.0297	0.0338	0.0174
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	0.00038	0.00103	0.00155	0.0013
Barium (Ba)-Total	mg/L	0.0146	0.0237	0.0294	0.0315
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	0.013	0.02	0.02	0.02
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	11.6	20.6	28	30.5
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	0.00025	0.00015
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.0007	0.00206	0.00213	0.00152
Iron (Fe)-Total	mg/L	0.15	0.16	0.191	0.158
Lead (Pb)-Total	mg/L	<0.000090	<0.000090	<0.000090	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	0.0027	0.0027	0.0038
Magnesium (Mg)-Total	mg/L	2.02	3.85	5.15	5.65
Manganese (Mn)-Total	mg/L	0.0128	0.00623	0.00685	0.00447
Molybdenum (Mo)-Total	mg/L	0.00033	0.00073	0.00112	0.00119
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00155	0.00145
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.37	2.69	3.37	3.4
Rubidium (Rb)-Total	mg/L	0.00151	0.0038	0.00492	0.00482
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Silicon (Si)-Total	mg/L	0.27	0.95	1.94	0.94
Silver (Ag)-Total	mg/L	<0.00010	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	13.4	27	33.9	34.6
Strontium (Sr)-Total	mg/L	0.065	0.121	0.168	0.209
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	<0.00050	0.00114	0.0016	0.00102
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	0.00015	0.00017
Vanadium (V)-Total	mg/L	<0.00020	0.0005	0.00053	0.00034
Zinc (Zn)-Total	mg/L	<0.0020	<0.0020	0.0012	0.0031
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	23	51	66	66
Bicarbonate (HCO3)	mg/L	28	62	81	80
Carbonate (CO3)	mg/L	<12	<12	<12	<12
Hydroxide (OH)	mg/L	<6.8	<6.8	<6.8	<6.8
Chloride	mg/L	26.7	53.6	70.3	71.7
Conductivity	umhos/cm	144	292	381	370
Calcium (Ca)-Dissolved	mg/L	9.86	23.5	28	29.3
Magnesium (Mg)-Dissolved	mg/L	2.31	3.86	4.83	5.47
Potassium (K)-Dissolved	mg/L	1.48	2.89	3.5	3.36
Sodium (Na)-Dissolved	mg/L	14	25.7	33.6	35.8
Fluoride	mg/L	<0.10	<0.10	0.12	0.1
Hardness (as CaCO3)	mg/L	37.3	67.2	91.2	99.3
Ion Balance	%	102	100	95.6	99.2
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	4.13	7.11	8.82	11.8
TDS (Calculated)	mg/L	93	190	248	240
Turbidity	NTU	1.2	1.63	2.2	1.39
pH	pH units	7.49	8.28	8.06	8

Waterbody	Units	Km 3.9			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		546167-6972178	546167-6972178	546167-6972178	546167-6972178
LAB		ALS	ALS	ALS	ALS
Field Measurments		Field Measurments			
Water Temperature	oC	6.6	16.8	16	9.1
pH	pH units	8.3	8.3	8.4	7.9
Conductivity	(µS/cm)	70	0.36	0.46	0.5
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	<0.010	<0.010	<0.010	<0.010
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.0137	0.0124	0.0123	0.0118
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	<0.001	0.0024
Sodium Adsorption Ratio	%	0.53	2.39	2.89	2.73
Total Kjeldahl Nitrogen	mg/L	0.27	0.31	0.53	0.43
Phosphorus (P)-Total	mg/L	0.0137	-	0.0123	0.0118
Total Suspended Solids	mg/L	<5.0	7	8	<5.0
Aluminum (Al)-Total	mg/L	0.0238	0.0515	0.0368	0.0468
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	0.00027	0.00062	0.00066	0.00068
Barium (Ba)-Total	mg/L	0.018	0.0256	0.0239	0.0296
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	0.041	0.048	0.045
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	13.1	19.9	24.3	26.3
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	0.00023	0.0002
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.00119	0.00151	0.00184	0.00172
Iron (Fe)-Total	mg/L	0.24	0.22	0.176	0.197
Lead (Pb)-Total	mg/L	<0.000090	<0.000090	<0.000090	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	0.0031	0.0034	0.0042
Magnesium (Mg)-Total	mg/L	1.79	6.95	8.68	9.6
Manganese (Mn)-Total	mg/L	0.0219	0.00554	0.00421	0.00298
Molybdenum (Mo)-Total	mg/L	<0.00020	0.00132	0.0018	0.00183
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00103	0.0012
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.47	3.75	4.51	4.34
Rubidium (Rb)-Total	mg/L	0.00151	0.00382	0.00452	0.00465
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	0.00013	0.0001
Silicon (Si)-Total	mg/L	0.5	0.26	0.34	0.31
Silver (Ag)-Total	mg/L	<0.00010	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	7.47	48.6	65.2	64.4
Strontium (Sr)-Total	mg/L	0.0746	0.129	0.149	0.174
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.00111	0.0017	0.00169	0.00161
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	0.00022	0.00036	0.00038
Vanadium (V)-Total	mg/L	<0.00020	0.00049	0.00042	0.00046
Zinc (Zn)-Total	mg/L	0.0067	<0.0020	0.0015	0.0017
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	21	42	53	55
Bicarbonate (HCO3)	mg/L	26	51	65	67
Carbonate (CO3)	mg/L	<12	<12	<12	<12
Hydroxide (OH)	mg/L	<6.8	<6.8	<6.8	<6.8
Chloride	mg/L	15.6	89.8	116	126
Conductivity	umhos/cm	126	397	527	535
Calcium (Ca)-Dissolved	mg/L	12.5	19.3	24.5	25.5
Magnesium (Mg)-Dissolved	mg/L	2.01	6.7	8.54	9.75
Potassium (K)-Dissolved	mg/L	1.58	3.61	4.33	4.38
Sodium (Na)-Dissolved	mg/L	7.67	45.9	58.9	67.2
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	40.1	78.3	96.3	105
Ion Balance	%	101	101	101	103
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	13.7	9.56	10.5	15.8
TDS (Calculated)	mg/L	82	258	342	348
Turbidity	NTU	0.64	1.73	1.57	1.7
pH	pH units	7.44	7.87	8	7.94

Waterbody	Units	km 5.0			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		546634-6973123	546634-6973123	546634-6973123	546634-6973123
LAB		ALS	ALS	ALS	ALS
Field Measurments		Field Measurments			
Water Temperature	oC	2.4	17.8	15.8	9.1
pH	pH units	8.8	8.4	8.5	8
Conductivity	(µS/cm)	40	0.25	0.32	0.35
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	<0.010	0.023	0.017	<0.010
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.0137	0.015	0.0102	0.0263
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	0.0012	0.0028
Sodium Adsorption Ratio	%	0.66	1.42	1.52	1.45
Total Kjeldahl Nitrogen	mg/L	0.23	0.51	1.12	0.54
Phosphorus (P)-Total	mg/L	0.0137	-	0.0102	0.0263
Total Suspended Solids	mg/L	<5.0	<5.0	11	<5.0
Aluminum (Al)-Total	mg/L	0.0173	0.0186	0.0304	0.0235
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	<0.00020	0.0004	0.00045	0.00046
Barium (Ba)-Total	mg/L	0.0123	0.0275	0.0327	0.035
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	0.022	0.026	0.026
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	8.15	19.9	28.6	29.5
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	0.00021	0.00013
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.00091	0.00173	0.00188	0.00163
Iron (Fe)-Total	mg/L	0.12	0.17	0.155	0.149
Lead (Pb)-Total	mg/L	<0.000090	<0.000090	<0.000090	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	0.0021	0.0025	0.0032
Magnesium (Mg)-Total	mg/L	1.68	5.07	6.65	6.85
Manganese (Mn)-Total	mg/L	0.018	0.00736	0.00706	0.00458
Molybdenum (Mo)-Total	mg/L	<0.00020	0.0006	0.00081	0.00079
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00109	0.00118
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.56	2.93	3.67	3.34
Rubidium (Rb)-Total	mg/L	0.00147	0.00355	0.00397	0.00401
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	0.00011	<0.00010
Silicon (Si)-Total	mg/L	0.37	0.12	0.33	0.23
Silver (Ag)-Total	mg/L	0.00011	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	7.73	27.5	34.8	33.7
Strontium (Sr)-Total	mg/L	0.0387	0.115	0.147	0.17
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.00116	0.0008	0.0022	0.00098
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	0.00015	0.00023	0.00021
Vanadium (V)-Total	mg/L	<0.00020	0.00027	0.00026	0.00024
Zinc (Zn)-Total	mg/L	<0.0020	<0.0020	0.0012	0.0011
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	16.8	40	51	49
Bicarbonate (HCO3)	mg/L	20.6	48	62	60
Carbonate (CO3)	mg/L	<0.60	<12	<12	<12
Hydroxide (OH)	mg/L	<0.34	<6.8	<6.8	<6.8
Chloride	mg/L	14	52.5	69.9	70.4
Conductivity	umhos/cm	95	292	379	371
Calcium (Ca)-Dissolved	mg/L	7.76	21.5	27.1	28.7
Magnesium (Mg)-Dissolved	mg/L	1.65	4.63	6.96	6.83
Potassium (K)-Dissolved	mg/L	1.51	2.94	3.41	3.16
Sodium (Na)-Dissolved	mg/L	7.75	24.5	33.4	33.9
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	27.3	70.6	98.8	102
Ion Balance	%	Low EC	98.5	100	101
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	5.71	17.7	22.3	26.9
TDS (Calculated)	mg/L	61	190	246	241
Turbidity	NTU	0.71	1.27	0.83	1.8
pH	pH units	7.29	7.88	8.01	7.87

Waterbody	Units	Km 6.7			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		547380-6974493	547380-6974493	547380-6974493	547380-6974493
LAB		ALS	ALS	ALS	ALS
Field Measurments		Field Measurments			
Water Temperature	oC	7.1	15.8	15.3	8
pH	pH units	8.6	8.2	8.1	8
Conductivity	(µS/cm)	30	0.08	0.11	0.12
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	<0.010	0.032	<0.010	0.012
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.0201	-	0.026	0.0088
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	0.0015	<0.0010
Sodium Adsorption Ratio	%	0.31	0.42	0.5	0.5
Total Kjeldahl Nitrogen	mg/L	0.36	1.09	1.53	0.37
Phosphorus (P)-Total	mg/L	0.0201	0.053	0.026	0.0088
Total Suspended Solids	mg/L	<5.0	5	11	7
Aluminum (Al)-Total	mg/L	0.0708	0.1	0.0979	0.0303
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	<0.00020	0.00055	0.00071	0.00029
Barium (Ba)-Total	mg/L	0.014	0.0244	0.0322	0.0307
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	0.000016	0.000019	0.000021	0.000015
Calcium (Ca)-Total	mg/L	5.3	10.9	15.7	14.1
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	0.00047	0.00026
Cobalt (Co)-Total	mg/L	0.00029	<0.00020	0.00021	<0.00020
Copper (Cu)-Total	mg/L	0.00409	0.00461	0.00449	0.00271
Iron (Fe)-Total	mg/L	0.34	0.71	0.661	0.194
Lead (Pb)-Total	mg/L	0.000103	0.000134	0.000123	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Magnesium (Mg)-Total	mg/L	1.01	1.79	2.55	2.47
Manganese (Mn)-Total	mg/L	0.0283	0.00786	0.0093	0.00554
Molybdenum (Mo)-Total	mg/L	<0.00020	0.00024	0.0004	<0.00020
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00194	0.00161
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.45	2.26	3.23	1.98
Rubidium (Rb)-Total	mg/L	0.00235	0.0045	0.00556	0.00393
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	0.00013	<0.00010
Silicon (Si)-Total	mg/L	0.59	0.16	0.3	1.16
Silver (Ag)-Total	mg/L	0.00013	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	2.85	5.65	8.13	7.8
Strontium (Sr)-Total	mg/L	0.0201	0.0563	0.0798	0.0593
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	0.0001	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.00314	0.00249	0.00343	0.00108
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	0.00017	0.0002	<0.00010
Vanadium (V)-Total	mg/L	0.00034	0.0005	0.00058	0.00026
Zinc (Zn)-Total	mg/L	0.0033	0.0021	0.0019	0.002
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	13.4	30	39	19.4
Bicarbonate (HCO3)	mg/L	16.3	36	48	23.7
Carbonate (CO3)	mg/L	<0.60	<12	<12	<0.60
Hydroxide (OH)	mg/L	<0.34	<6.8	<6.8	<0.34
Chloride	mg/L	3.69	8.49	12.3	14.3
Conductivity	umhos/cm	48	104	141	139
Calcium (Ca)-Dissolved	mg/L	4.54	12.3	14.6	13.7
Magnesium (Mg)-Dissolved	mg/L	0.881	1.77	2.58	2.44
Potassium (K)-Dissolved	mg/L	1.3	2.39	3.13	1.94
Sodium (Na)-Dissolved	mg/L	2.78	5.63	8.32	7.73
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	17.4	34.7	49.8	45.3
Ion Balance	%	Low EC	111	107	98.9
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	3.5	6.31	7.69	23.7
TDS (Calculated)	mg/L	31	68	92	90
Turbidity	NTU	0.94	1.58	4.9	1.48
pH	pH units	7.09	7.65	7.6	7.42

Waterbody	Units	Km 8.6			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		547909-6975915	547909-6975915	547909-6975915	547909-6975915
LAB		ALS	ALS	ALS	ALS
Field Measurments		Field Measurments			
Water Temperature	oC	5.7	16.5	15.7	8.9
pH	pH units	9	8.3	8.1	7.8
Conductivity	(µS/cm)	30	0.12	0.15	0.19
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	<0.010	0.013	<0.010	<0.010
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.0097	0.0072	0.0082	0.008
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Sodium Adsorption Ratio	%	0.26	0.38	0.47	0.49
Total Kjeldahl Nitrogen	mg/L	0.21	0.55	0.85	0.39
Phosphorus (P)-Total	mg/L	0.0097	-	0.0082	<0.0010
Total Suspended Solids	mg/L	<5.0	<5.0	<5.0	5
Aluminum (Al)-Total	mg/L	0.017	0.0106	0.0125	0.0081
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	<0.00020	0.00027	0.00032	0.00025
Barium (Ba)-Total	mg/L	0.0204	0.0213	0.0275	0.0336
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	0.000012	<0.000010	0.00001	<0.000010
Calcium (Ca)-Total	mg/L	8.38	16.5	21.6	22.8
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	0.00013	<0.00010
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.00121	0.00219	0.00225	0.00207
Iron (Fe)-Total	mg/L	0.11	0.12	0.21	0.113
Lead (Pb)-Total	mg/L	<0.000090	<0.000090	<0.000090	0.000099
Lithium (Li)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Magnesium (Mg)-Total	mg/L	1.46	2.46	3.36	4.16
Manganese (Mn)-Total	mg/L	0.0718	0.0137	0.033	0.0153
Molybdenum (Mo)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00159	0.00155
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.12	2.24	3.25	2.75
Rubidium (Rb)-Total	mg/L	0.00188	0.00434	0.00579	0.00548
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Silicon (Si)-Total	mg/L	0.5	0.57	1.3	1.31
Silver (Ag)-Total	mg/L	<0.00010	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	3.1	6.29	8.93	9.64
Strontium (Sr)-Total	mg/L	0.0274	0.0594	0.0735	0.087
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.00088	<0.00050	0.00055	<0.00050
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	0.00011	<0.00010
Vanadium (V)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)-Total	mg/L	0.0029	<0.0020	0.0015	0.0014
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	11.2	28	42	33
Bicarbonate (HCO3)	mg/L	13.6	34	51	40
Carbonate (CO3)	mg/L	<0.60	<12	<12	<12
Hydroxide (OH)	mg/L	<0.34	<6.8	<6.8	<6.8
Chloride	mg/L	4.4	10.9	14.6	15.4
Conductivity	umhos/cm	75	154	195	211
Calcium (Ca)-Dissolved	mg/L	7.67	18.2	23.1	23.8
Magnesium (Mg)-Dissolved	mg/L	1.44	2.42	3.29	3.92
Potassium (K)-Dissolved	mg/L	1.06	2.32	3.04	2.52
Sodium (Na)-Dissolved	mg/L	3.04	6.1	8.39	9.62
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	26.9	51.4	67.7	74.2
Ion Balance	%	Low EC	102	103	97.3
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	15.1	26.2	27.1	46
TDS (Calculated)	mg/L	49	100	127	137
Turbidity	NTU	0.59	0.64	0.99	0.73
pH	pH units	7.15	7.84	7.87	7.68

Waterbody	Units	Km 11.5			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		547445-6978314	547445-6978314	547445-6978314	547445-6978314
LAB		ALS	ALS	ALS	ALS
Field Measurments		Field Measurments			
Water Temperature	oC	6.9	17.5	15.8	8.3
pH	pH units	8.7	8.3	8.2	7.8
Conductivity	(µS/cm)	40	0.02	0.03	0.04
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	<0.010	<0.010	<0.010	<0.010
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	0.000024	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.009	0.0066	0.0086	0.0073
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Sodium Adsorption Ratio	%	0.33	0.21	0.23	0.27
Total Kjeldahl Nitrogen	mg/L	0.36	0.26	0.56	0.22
Phosphorus (P)-Total	mg/L	0.009	-	0.0086	0.0073
Total Suspended Solids	mg/L	<5.0	<5.0	<5.0	<5.0
Aluminum (Al)-Total	mg/L	0.0148	0.0128	0.0189	0.0086
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	0.00024	0.00024	0.00034	0.00041
Barium (Ba)-Total	mg/L	0.0204	0.00894	0.012	0.0158
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	11.2	5.51	7.7	9.33
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.00195	0.00165	0.00186	0.00166
Iron (Fe)-Total	mg/L	<0.10	<0.10	0.304	0.166
Lead (Pb)-Total	mg/L	<0.000090	<0.000090	<0.000090	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Magnesium (Mg)-Total	mg/L	1.65	0.723	0.956	1.21
Manganese (Mn)-Total	mg/L	0.0175	0.00885	0.0157	0.0333
Molybdenum (Mo)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00091	0.00105
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.63	0.78	1.04	1.17
Rubidium (Rb)-Total	mg/L	0.00266	0.00164	0.00212	0.00245
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Silicon (Si)-Total	mg/L	0.39	0.21	0.37	0.31
Silver (Ag)-Total	mg/L	<0.00010	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	4.42	1.99	2.5	3.24
Strontium (Sr)-Total	mg/L	0.0374	0.0213	0.028	0.0358
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.00056	<0.00050	0.00051	<0.00050
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)-Total	mg/L	<0.0020	<0.0020	0.0013	0.0012
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	26	18.3	23.8	22
Bicarbonate (HCO3)	mg/L	31	22.3	29	26
Carbonate (CO3)	mg/L	<12	<0.60	<0.60	<12
Hydroxide (OH)	mg/L	<6.8	<0.34	<0.34	<6.8
Chloride	mg/L	6.66	3.06	3.51	4.87
Conductivity	umhos/cm	93	51	61	75
Calcium (Ca)-Dissolved	mg/L	10.6	5.99	7.21	9.24
Magnesium (Mg)-Dissolved	mg/L	1.68	0.757	0.917	1.23
Potassium (K)-Dissolved	mg/L	1.58	0.862	0.996	1.14
Sodium (Na)-Dissolved	mg/L	4.38	2.03	2.43	3.37
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	34.6	16.7	23.2	28.3
Ion Balance	%	Low EC	Low EC	Low EC	Low EC
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	8.99	3.57	3.51	8.07
TDS (Calculated)	mg/L	60	33	40	49
Turbidity	NTU	0.52	0.0066	0.96	0.94
pH	pH units	7.41	<0.0010	7.5	7.47

Waterbody	Units	Km 13.3			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		547445-6978314	547445-6978314	547445-6978314	547445-6978314
LAB		ALS	ALS	ALS	ALS
Field Measurments		Field Measurments			
Water Temperature	oC	6.6	17.5	15.1	9.1
pH	pH units	9.4	8.6	8.3	7.8
Conductivity	(µS/cm)	10	0.06	0.09	0.12
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	0.086	<0.010	<0.010	<0.010
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.012	0.014	0.0074	0.012
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	<0.001	0.0021
Sodium Adsorption Ratio	%	0.2	0.28	0.33	0.35
Total Kjeldahl Nitrogen	mg/L	0.4	0.59	0.76	0.54
Phosphorus (P)-Total	mg/L	0.012	-	0.0074	0.012
Total Suspended Solids	mg/L	<5.0	<5.0	7	<5.0
Aluminum (Al)-Total	mg/L	0.0883	0.0399	0.03	0.016
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	0.00022	0.00051	0.00059	0.00054
Barium (Ba)-Total	mg/L	0.00843	0.0182	0.0248	0.0289
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	0.000023	0.00001	0.000011	<0.000010
Calcium (Ca)-Total	mg/L	2.56	9.69	14.7	18.2
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	0.00015	0.00012
Cobalt (Co)-Total	mg/L	0.00039	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.00317	0.00187	0.00193	0.00169
Iron (Fe)-Total	mg/L	0.2	0.23	0.198	0.244
Lead (Pb)-Total	mg/L	<0.000090	<0.000090	<0.000090	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020
Magnesium (Mg)-Total	mg/L	0.51	1.34	2.02	2.45
Manganese (Mn)-Total	mg/L	0.0343	0.00605	0.00569	0.00782
Molybdenum (Mo)-Total	mg/L	<0.00020	<0.00020	<0.00020	0.00021
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00091	0.00095
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	0.661	1.22	1.81	1.9
Rubidium (Rb)-Total	mg/L	0.00159	0.00223	0.00311	0.00341
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Silicon (Si)-Total	mg/L	0.7	0.29	0.74	0.65
Silver (Ag)-Total	mg/L	0.00011	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	1.43	3.45	5.15	6.03
Strontium (Sr)-Total	mg/L	0.0107	0.0446	0.0614	0.0765
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	0.00012	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.00141	0.00167	0.00141	0.00058
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.00020	0.00026	0.00021	0.0002
Zinc (Zn)-Total	mg/L	0.0025	<0.0020	0.0011	0.0013
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	7	26	37	38
Bicarbonate (HCO3)	mg/L	8.5	32	45	46
Carbonate (CO3)	mg/L	<0.60	<12	<12	<12
Hydroxide (OH)	mg/L	<0.34	<6.8	<6.8	<6.8
Chloride	mg/L	1.92	5.84	8.34	9.39
Conductivity	umhos/cm	28	85	122	139
Calcium (Ca)-Dissolved	mg/L	2.5	10.7	14.3	17.4
Magnesium (Mg)-Dissolved	mg/L	0.476	1.35	1.92	2.46
Potassium (K)-Dissolved	mg/L	0.579	1.27	1.8	1.85
Sodium (Na)-Dissolved	mg/L	1.32	3.31	4.82	5.94
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	8.49	29.7	45.1	55.5
Ion Balance	%	Low EC	Low EC	99.8	100
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	2.38	6.05	7.52	16.9
TDS (Calculated)	mg/L	<20	55	79	91
Turbidity	NTU	0.62	0.81	1.06	1.04
pH	pH units	6.77	7.83	7.85	7.77

Waterbody	Units	Km 22.6			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		541245-6985577	541245-6985577	541245-6985577	541245-6985577
LAB		ALS	ALS	ALS	ALS
Field Measurments		Field Measurments			
Water Temperature	oC	8.7	18.5	16.1	9.9
pH	pH units	8.5	8.9	8.4	8.2
Conductivity	(µS/cm)	60	0.15	1.8	0.19
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	0.015	0.01	0.016	<0.010
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	<0.000020	0.000027	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.0114	0.0105	0.0089	0.0111
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Sodium Adsorption Ratio	%	0.23	0.28	0.37	0.29
Total Kjeldahl Nitrogen	mg/L	0.3	0.65	0.97	0.52
Phosphorus (P)-Total	mg/L	0.0114	-	0.0089	0.0111
Total Suspended Solids	mg/L	<5.0	<5.0	8	<5.0
Aluminum (Al)-Total	mg/L	0.0075	<0.0050	0.0112	0.0127
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	0.00161	0.00253	0.00401	0.00332
Barium (Ba)-Total	mg/L	0.0261	0.0307	0.0393	0.0439
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	15.9	24	28.4	33.7
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.00010	0.00035
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.00097	0.00157	0.00151	0.00136
Iron (Fe)-Total	mg/L	0.12	0.16	0.343	0.353
Lead (Pb)-Total	mg/L	<0.000090	<0.000090	<0.000090	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	<0.0020	<0.0020	0.0021
Magnesium (Mg)-Total	mg/L	1.74	2.78	3.94	3.9
Manganese (Mn)-Total	mg/L	0.0517	0.0253	0.0497	0.0479
Molybdenum (Mo)-Total	mg/L	<0.00020	0.00021	0.0002	0.0002
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00148	0.00147
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.27	1.79	2.79	2.19
Rubidium (Rb)-Total	mg/L	0.00175	0.00235	0.00304	0.00266
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Silicon (Si)-Total	mg/L	0.58	0.6	1.66	1.05
Silver (Ag)-Total	mg/L	<0.00010	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	3.59	5.35	7.96	6.59
Strontium (Sr)-Total	mg/L	0.0645	0.0966	0.116	0.132
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	<0.00050	<0.00050	<0.00050	0.00075
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	0.00012
Vanadium (V)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)-Total	mg/L	0.0067	<0.0020	0.0015	0.0026
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	42	66	74	86
Bicarbonate (HCO3)	mg/L	52	77	90	105
Carbonate (CO3)	mg/L	<12	<12	<12	<12
Hydroxide (OH)	mg/L	<6.8	<6.8	<6.8	<6.8
Chloride	mg/L	6.87	12.6	18	15.3
Conductivity	umhos/cm	109	183	211	220
Calcium (Ca)-Dissolved	mg/L	15.6	28.4	29.3	33.5
Magnesium (Mg)-Dissolved	mg/L	1.69	2.85	3.96	4.04
Potassium (K)-Dissolved	mg/L	1.28	1.94	2.67	2.23
Sodium (Na)-Dissolved	mg/L	3.54	5.17	7.61	6.94
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	46.9	71.3	87.2	100
Ion Balance	%	98.2	110	104	102
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	3.84	6.25	5.71	8.27
TDS (Calculated)	mg/L	71	119	137	143
Turbidity	NTU	0.61	1	1.12	1.5
pH	pH units	7.22	8.4	8.1	8.06

Waterbody	Units	Km 23.6			
Year		2014			
Date Sampled		01/06/2014	06/07/2014	03/08/2014	01/09/2014
GPS Coordinates		541188-6986363	541188-6986363	541188-6986363	541188-6986363
LAB		ALS	ALS	ALS	ALS
Field Measurments		Field Measurments			
Water Temperature	oC	4.5	8	16.3	9.5
pH	pH units	8.5	17.3	8.1	8
Conductivity	(µS/cm)	230	0.21	0.12	0.13
Laboratory-Measured					
Ammonia, Total (as N)	mg/L	<0.010	<0.010	<0.010	<0.010
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.0084	0.0043	0.0076	0.008
Phosphorus (P)-Total Reactive	mg/L	<0.0010	<0.0010	<0.0010	0.002
Sodium Adsorption Ratio	%	0.25	0.24	0.27	0.28
Total Kjeldahl Nitrogen	mg/L	0.22	0.2	0.29	0.23
Phosphorus (P)-Total	mg/L	0.0084	-	0.0076	0.008
Total Suspended Solids	mg/L	<5.0	<5.0	<5.0	<5.0
Aluminum (Al)-Total	mg/L	0.0148	<0.0050	0.0046	0.0068
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	0.0012	0.00259	0.00257	0.00209
Barium (Ba)-Total	mg/L	0.0247	0.0302	0.0161	0.0172
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	27.4	30.2	19.8	19.7
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Copper (Cu)-Total	mg/L	0.00082	0.00095	0.00081	0.00082
Iron (Fe)-Total	mg/L	<0.10	0.33	0.1	0.134
Lead (Pb)-Total	mg/L	<0.000090	<0.000090	<0.000090	<0.000090
Lithium (Li)-Total	mg/L	0.0092	0.0059	0.0037	0.004
Magnesium (Mg)-Total	mg/L	3.54	3.57	2.44	2.51
Manganese (Mn)-Total	mg/L	0.0381	0.0554	0.0365	0.0257
Molybdenum (Mo)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	0.00062	0.00071
Phosphorus (P)-Total	mg/L	<0.10	<0.10	<0.050	<0.050
Potassium (K)-Total	mg/L	1.53	1.44	1.13	1.11
Rubidium (Rb)-Total	mg/L	0.00167	0.00199	0.00138	0.00148
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	<0.00010	<0.00010
Silicon (Si)-Total	mg/L	0.56	0.53	0.47	0.45
Silver (Ag)-Total	mg/L	<0.00010	<0.00010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	5.27	5.3	4.78	4.92
Strontium (Sr)-Total	mg/L	0.19	0.18	0.0934	0.103
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.00064	<0.00050	<0.00050	<0.00050
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)-Total	mg/L	<0.0020	0.0029	0.0012	0.0013
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040
Alkalinity, Total (as CaCO3)	mg/L	38	51	35	38
Bicarbonate (HCO3)	mg/L	47	63	43	46
Carbonate (CO3)	mg/L	<12	<12	<12	<12
Hydroxide (OH)	mg/L	<6.8	<6.8	<6.8	<6.8
Chloride	mg/L	36.9	36.6	20.6	21.8
Conductivity	umhos/cm	193	232	147	151
Calcium (Ca)-Dissolved	mg/L	26	34.9	19.1	20
Magnesium (Mg)-Dissolved	mg/L	3.42	3.85	2.29	2.45
Potassium (K)-Dissolved	mg/L	1.48	1.59	1.12	1.09
Sodium (Na)-Dissolved	mg/L	5.03	5.57	4.48	5.25
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	82.9	90	59.5	59.5
Ion Balance	%	95.3	108	100	99.7
Nitrate-N	mg/L	<0.050	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	5.53	4.5	3.55	4.37
TDS (Calculated)	mg/L	126	151	96	98
Turbidity	NTU	0.6	0.78	0.86	1.2
pH	pH units	7.42	7.57	7.76	7.8

Noise Monitoring

Date	Road (R) or Camp (C)	Stations	Average Laeq
30/07/2014	R	Dustfall 1	33.4
	R	Dustfall 2	35.6
	R	Dustfall 3	31.4
19/08/2014	R	Dustfall 1	43.5
	R	Dustfall 2	33.6
	R	Dustfall 3	48.0
2014 Average	-	-	38.3

Locations of dustfall

ID	X_coord	Y_coord
1	546624.2	6973293.5
2	544039.1	6970711.9
3	544854.7	6981376.6

Dust Monitoring

		1st Sampling			2nd Sampling			3rd Sampling		
		DATE			From 2014/06/01 to 2014/07/06			From 2014/07/06 to 2014/08/05		
		STATION			1	2	3	1	2	3
PARAMETERS	UNITS									
Total Dustfall	mg	21	19	17	19	14	13	13	11	13
Total Dustfall (30 day)	mg/cm2/30day	0.22	0.202	0.183	0.228	0.169	0.162	0.171	0.15	0.171
Total Fixed Dustfall	mg	13	10	10	13	8	8	6	5	5
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.132	0.101	0.107	0.154	0.103	0.103	0.086	0.068	0.073

Appendix B

Lab Certifications



CALA

Canadian Association for
Laboratory Accreditation Inc.

CALA Directory of Laboratories

Membership Number: 1442
Laboratory Name: ALS Environmental (Winnipeg)
Parent Institution: ALS Canada Ltd.
Address: 1329 Niakwa Road East Unit 12 Winnipeg MB R2J 3T4
Contact: Ms. Kayla Harold
Phone: (204) 255-9726
Fax: (204) 255-9721
Email: kayla.harold@alsglobal.com; linda.neimor@ALSGlobal.com

Standard: Conforms with requirements of ISO/IEC 17025
Clients Served: All Interested Parties
Revised On: January 7, 2013
Valid To: June 5, 2015

Scope of Accreditation

Air (Inorganic)

Radon - Air (142)
WP-TM-1801; modified from EPA 402-F-93-003
ELECTRET RADON MONITOR
Radon

Air (Mycology)

Mold - Air (163)
WP-TM-1704; modified from ASTM D7391
DIRECT MICROSCOPIC EXAMINATION
Biocontaminant Identification
Biocontaminant Quantification

Air (Mycology)

Mould - Air (AGAR Strips) (055)
WP-TM-1703; modified from INTRO. TO FOOD-BOURNE FUNGI
MICROSCOPE
Biocontaminant Identification
Biocontaminant Quantitation

Food (Microbiology)

Coliforms - Dairy Products (Except Unpasteurized Milk for Payment Purposes) & Meat and Edible Meat Offal (Milk Powder, Egg, Cheese, Butter, Evaporated Milk, Meat) (153)
A152; MFHPB-19
MOST PROBABLE NUMBER
Esherichia coli (E.coli)
Fecal Coliforms
Total Coliforms

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Food (Microbiology)

Coliforms - Dairy Products (Except Unpasteurized Milk for Payment Purposes) & Meat and Edible Meat Offal (Milk Powder, Egg, Cheese, Butter, Evaporated Milk, Meat) (157)

A173; MFHPB-31

POUR PLATE

Total Coliforms

Food (Microbiology)

Heterotrophic Plate Count - Dairy Products (Except Unpasteurized Milk for Payment Purposes) & Meat and Edible Meat Offal (Milk Powder, Egg, Cheese, Butter, Evaporated Milk, Meat) (152)

A166; MFHPB-18

POUR PLATE

Heterotrophic Plate Count

Food (Microbiology)

Listeria - Dairy Products (Except Unpasteurized Milk for Payment Purposes) & Meat and Edible Meat Offal (Milk Powder, Egg, Cheese, Butter, Evaporated Milk, Meat) (151)

WP-TM-1202; AOAC 997.03

VISUAL IMMUNOPRECIPITATE ASSAY

Listeria monocytogenes

Food (Microbiology)

Listeria - Dairy Products (Except Unpasteurized Milk for Payment Purposes) & Meat and Edible Meat Offal (Milk Powder, Egg, Cheese, Butter, Evaporated Milk, Meat) (156)

WP-TM-1201; MFHPB-30

SPREAD PLATE

Listeria monocytogenes

Food (Microbiology)

Listeria - Dairy Products (Except Unpasteurized Milk for Payment Purposes) & Meat and Edible Meat Offal (Milk Powder, Egg, Cheese, Butter, Evaporated Milk, Meat) (158)

WP-TM-1203; MFLP-34

VISUAL IMMUNOPRECIPITATE ASSAY

Listeria monocytogenes

Food (Microbiology)

Salmonella - Dairy Products (Except Unpasteurized Milk for Payment Purposes) & Meat and Edible Meat Offal (Milk Powder, Egg, Cheese, Butter, Evaporated Milk, Meat) (154)

WP-TM-1204; MFHPB-20

SPREAD PLATE

Salmonella

Food (Microbiology)

Salmonella - Dairy Products (Except Unpasteurized Milk for Payment Purposes) & Meat and Edible Meat Offal (Milk Powder, Egg, Cheese, Butter, Evaporated Milk, Meat) (159)

WP-TM-1205; MFLP-70

IMMUNODIFFUSION ASSAY

Salmonella

Food (Microbiology)

Salmonella - Meat, Poultry and Egg Products (160)

WP-TM-1206; USDA MLG 4

SPREAD PLATE

Salmonella

Food (Microbiology)

Staphylococcus - Dairy Products (Except Unpasteurized Milk for Payment Purposes) & Meat and Edible Meat Offal (Milk Powder, Egg, Cheese, Butter, Evaporated Milk, Meat) (155)

A159; MFHPB-21

SPREAD PLATE

Staphylococcus aureus

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Oil (Organic)

Polychlorinated Biphenyls (PCB) - Oil (020)
WP-TM-0799; modified from EPA SW846 8082
GC/ECD - EXTRACTION
Aroclor 1242
Aroclor 1254
Aroclor 1260
Total PCB

Solids (Biology)

Benthic Organisms - Sediment (075)
WP-TM-1301; modified from SM 10500
MICROSCOPE EXAMINATION
Benthos Enumeration
Benthos Identification

Solids (Inorganic)

Heavy Hydrocarbons and Oil and Grease - Soil (108)
WP-TM-0722; modified from CCME TIER 1
GRAVIMETRIC
F4: Gravimetric
F4G-sq: Gravimetric Heavy Hydrocarbon - Silica Gel
Mineral Oil and Grease
Oil and Grease

Solids (Inorganic)

Metals - TCLP Leachate - Waste (149)
WP-TP-2006/NA-TM-1002; modified from EPA 1311/200.2
ICP/MS - TCLP
Antimony
Arsenic
Barium
Beryllium
Boron
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Molybdenum
Nickel
Potassium
Selenium
Silver
Strontium
Thallium
Tin
Uranium
Vanadium
Zinc
Zirconium

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Solids (Inorganic)

Total Mercury (TCLP Leachate) - Waste (162)

WP-TP-2006/WP-TM-10071/WP-WI-2001; modified from EPA 1311/245.7
COLD VAPOUR ATOMIC FLUORESCENCE - TCLP

Mercury

Solids (Inorganic)

Total Mercury - Soil (128)

WP-TM-10071/NA-TP-2004/WP-WI-2001; modified from EPA 245.7
COLD VAPOUR ATOMIC FLUORESCENCE - DIGESTION

Mercury

Solids (Inorganic)

Total Metals - Solids (131)

NA-TM-1002/NA-TP-2004; modified from EPA 200.2
ICP/MS - DIGESTION

Aluminum

Antimony

Arsenic

Barium

Beryllium

Bismuth

Boron

Cadmium

Calcium

Chromium

Cobalt

Copper

Iron

Lead

Magnesium

Manganese

Nickel

Phosphorus

Potassium

Selenium

Silver

Sodium

Strontium

Thallium

Thorium

Tin

Titanium

Uranium

Vanadium

Zinc

Solids (Organic)

Glycols - Soil (145)

WP-TM-1102; modified from ASTM D3695-82

GC/FID

Diethylene Glycol

Ethylene Glycol

Propylene Glycol

Tetraethylene Glycol

Triethylene Glycol

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Solids (Organic)

Petroleum Hydrocarbons (PHC) - Soil (064)
WP-TM-0722; modified from CCME TIER 1
GC/FID - EXTRACTION
F2: C10-C16
F3: C16-C34
F4: C34-C50

Solids (Organic)

Petroleum Hydrocarbons (PHC) - Soil (148)
NA-TP-2100/NA-TM-1100; modified from CCME TIER 1
GC/FID
F2: C10-C16
F3: C16-C34
F4: C34-C50

Solids (Organic)

Petroleum Hydrocarbons (PHC) - Soil (150)
NA-TP-2100/NA-TM-1100; modified from CCME - TIER 1
GRAVIMETRIC - TUMBLER
F4: Gravimetric

Solids (Organic)

Polychlorinated Biphenyls (PCB) - Soil (045)
WP-TM-0801; modified from EPA SW 846 3550A
GC/ECD - EXTRACTION
Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1248
Aroclor 1262
Aroclor 1268
Aroclor 1242
Aroclor 1254
Aroclor 1260
Total PCB

Solids (Organic)

Polycyclic Aromatic Hydrocarbons (PAH) - Soil (051)
WP-TM-1101/WP-TP-2102; modified from EPA SW 846 3550C, 8270D
GC/MS - SHAKE
Acenaphthene
Acenaphthylene
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) fluoranthene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
Chrysene
Dibenzo (a,h) anthracene
Fluoranthene
Fluorene
Indeno (1,2,3 - cd) pyrene
Methyl Anthracene
Naphthalene
Naphthalene - Dimethyl

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Napthalene - Methyl
Pentachlorophenol
Phenanthrene
Pyrene
Quinoline

Solids (Organic)

Volatile Fatty Acids - Soil (129)

WP-TM-0752; modified from ASTM D3695-
GC/MS - WATER EXTRACTION

Acetic Acid
Butyric Acid
Caproic Acid
Formic Acid
Isobutyric Acid
Isovaleric Acid
Propionic Acid
Valeric Acid

Solids (Organic)

Volatile Organic Compounds (VOC) - Soil (141)

WP-TM-0808/NA-WI-3006/NA-TM-1102; modified from EPA 5021A/8260C
GC/MS - METHANOL EXTRACTION/HEADSPACE

1,1-Dichloroethane
1,1-Dichloroethylene
1,1-Dichloropropene
1,1,1-Trichloroethane
1,1,1,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
1,2-Dibromo-3-chloropropane
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,2,3-Trichlorobenzene
1,2,3-Trichloropropane
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,3-Dichloropropane
1,3,5-Trimethylbenzene
1,4-Dichlorobenzene
2-Chlorotoluene
2,2-Dichloro-propane
4-Chlorotoluene
4-Isopropyltoluene
Acetone (2-Propanone)
Benzene
Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon Tetrachloride

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Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethylene
cis-1,3-Dichloropropene
Dibromomethane
Dichlorodifluoromethane
Dichloromethane
Ethylbenzene
Ethylene Dibromide
Hexachlorobutadiene
Hexane
Isopropylbenzene
m/p-xylene
Methyl ethyl ketone
Methyl isobutyl ketone
Methyl n-butyl ketone
Methyl t-butyl ether
n-Butylbenzene
Naphthalene
o-xylene
sec-Butylbenzene
Styrene
tert-Butylbenzene
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropene
Trichloroethylene
Trichlorofluoromethane
Vinyl chloride

Solids (Organic)

/olatile Petroleum Hydrocarbons (PHC) - Soil (140)
NP-TM-0808/NA-WI-3006; CCME PHC - PERFORMANCE BASED MODIFICATION
GC/FID - METHANOL EXTRACTION/HEADSPACE
F1: C6-C10

Tissue (Inorganic)

Total Mercury - Animal Tissue (082)
VA-TP-2003/WP-TM-1008; modified from EPA 1631, 245.7
COLD VAPOUR ATOMIC FLUORESCENCE - DIGESTION
Mercury

Tissue (Inorganic)

Total Metals - Animal Tissue (070)
VA-TP-2003/NA-TM-1002; modified from EPA 200.3 AND 200.8
ICP/MS - DIGESTION
Aluminum
Antimony
Arsenic
Barium
Beryllium
Bismuth

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Boron
Cadmium
Calcium
Cesium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Molybdenum
Nickel
Phosphorus
Potassium
Rubidium
Selenium
Silver
Sodium
Strontium
Tellurium
Thallium
Tin
Titanium
Uranium
Vanadium
Zinc

Tissue (Inorganic)

Total Metals - Vegetation (071)

NA-TP-2003/NA-TM-1002; modified from EPA 200.3 AND 200.8

ICP/MS - DIGESTION

Aluminum
Antimony
Arsenic
Barium
Beryllium
Bismuth
Boron
Cadmium
Calcium
Cesium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Molybdenum
Nickel
Phosphorus
Potassium
Rubidium

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Selenium
Silver
Sodium
Strontium
Tellurium
Thallium
Tin
Titanium
Uranium
Vanadium
Zinc

Water (Inorganic)

Acidity - Water (111)
WP-TM-1003; modified from SM 2310 B
TITRIMETRIC
Acidity as CaCO₃ - LR

Water (Inorganic)

Alkalinity - Water (001)
WP-TM-1001; modified from SM 2320 B
TITRIMETRIC
Alkalinity (pH 4.5)

Water (Inorganic)

Ammonia - Water (135)
WP-TM-1011/WP-WI-3005; modified from SM 4500-NH₃ F
COLORIMETRIC - DISCRETE ANALYZER
Ammonia

Water (Inorganic)

Anions - Water (134)
NA-TM-1001; modified from EPA 300.1
ION CHROMATOGRAPHY
Bromide
Chloride
Fluoride
Nitrate
Nitrite
Sulfate

Water (Inorganic)

Biochemical Oxygen Demand (BOD) - Water (015)
WP-TM-1015; modified from SM 5210 B
D.O. METER
BOD (5 day)
CBOD (5 day)

Water (Inorganic)

Carbon - Water (038)
A609; modified from SM 5310 B
AUTO IR ANALYZER
Inorganic Carbon
Total Carbon

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Water (Inorganic)

Chemical Oxygen Demand (COD) - Water (060)
A010; modified from SM 5220D/HACH
COLOR - DIGESTION
COD

Water (Inorganic)

Chlorine - Water (147)
WP-TM-1013; modified from sm 4500-Cl G
COLORIMETRIC
Free Chlorine
Total Chlorine

Water (Inorganic)

Color - Water (136)
WP-TM-1010/WP-WI-3005; modified from SM 2120-COLOR
COLORIMETRIC - DISCRETE ANALYZER
True Colour

Water (Inorganic)

Conductivity - Water (003)
WP-TM-1001; modified from SM 2510 B
CONDUCTIVITY METER
Conductivity (25°C)

Water (Inorganic)

Cyanide - Water (018)
WP-TM-1006; modified from SM 4500-CN- O/EPA 1311
COLOR - DISTILLATION
Cyanide (SAD)
Cyanide (WAD)

Water (Inorganic)

Dissolved and Extractable Metals - Water (056)
NA-TP-2002/NA-TM-1002; modified from EPA 200.8
ICP/MS
Aluminum
Antimony
Arsenic
Barium
Beryllium
Bismuth
Boron
Cadmium
Calcium
Cesium
Chromium
Cobalt
Copper
Iron
Lead
Lithium
Magnesium
Manganese
Molybdenum
Nickel
Phosphorus
Potassium

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Rubidium
Selenium
Silicon
Silver
Sodium
Strontium
Tellurium
Thallium
Tin
Titanium
Tungsten
Uranium
Vanadium
Zinc
Zirconium

Water (Inorganic)

Dissolved Oxygen - Water (088)
A005; modified from SM 4500-O- C
IODOMETRIC - AZIDE MODIFICATION
Dissolved Oxygen

Water (Inorganic)

Mercury (Total and Dissolved) - Water (081)
WP-TM-1007/WP-TM-1008/WP-WI-2001/NA-TP-2002; modified from EPA 1631 E
CVAFS - BrCl DIGESTION
Mercury

Water (Inorganic)

Nitrate plus Nitrite - Water (007)
WP-TM-0270; modified from SM 4500-NO3- I
FIA COLORIMETRIC
Nitrate plus Nitrite

Water (Inorganic)

pH - Water (019)
WP-TM-1001; modified from SM 4500-H+ B
pH METER
pH

Water (Inorganic)

Phosphorus - Water (024)
WP-TM-1004; modified from SM 4500-P H
FIA COLORIMETRIC - DIGESTION
Dissolved Phosphate
Phosphate
Total Dissolved Phosphorus
Total Inorganic Phosphorus
Total Phosphorus

Water (Inorganic)

Phosphorus - Water (164)
WP-TM-1016; modified from APHA 4500-P B&E
COLORIMETRIC - DISCRETE ANALYZER
Dissolved Phosphate
Phosphate

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Water (Inorganic)

Phosphorus - Water (165)
WP-TM-1016; modified from APHA 4500-P B&E
COLORIMETRIC - DISCRETE ANALYZER - DIGESTION
Total Dissolved Phosphorus
Total Inorganic Phosphorus
Total Phosphorus

Water (Inorganic)

Silica - Water (137)
WP-TM-1012/WP-WI-3005; modified from SM 4500-SiO₂
COLORIMETRIC - DISCRETE ANALYZER
Reactive Silica

Water (Inorganic)

Solids - Water (014)
WP-TM-1014; modified from SM 2540 B, C, D
GRAVIMETRIC
Total Dissolved Solids
Total Solids
Total Suspended Solids

Water (Inorganic)

Total Kjeldahl Nitrogen (TKN) - Water (012)
WP-TM-0217; modified from LACHAT 10-107-06-2-E
AUTO COLOR - DIGESTION
Total Kjeldahl Nitrogen

Water (Inorganic)

Total Metals - Water (057)
NA-TP-2001/NA-TM-1002; modified from EPA SW846 3015/SM 3030 E
ICP/MS - DIGESTION
Aluminum
Antimony
Arsenic
Barium
Beryllium
Bismuth
Boron
Cadmium
Calcium
Cesium
Chromium
Cobalt
Copper
Iron
Lead
Lithium
Magnesium
Manganese
Molybdenum
Nickel
Phosphorus
Potassium
Rubidium
Selenium
Silicon

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Silver
Sodium
Strontium
Tellurium
Thallium
Tin
Titanium
Tungsten
Uranium
Vanadium
Zinc
Zirconium

Water (Inorganic)

Turbidity - Water (068)
WP-TM-1009; modified from SM 2130 B
TURBIDIMETRIC
Turbidity

Water (Microbiology)

Coliforms - Water (026)
A152; modified from SM 9221 A, B, C
MOST PROBABLE NUMBER
Escherichia coli (E.Coli)
Fecal Coliforms
Total Coliforms

Water (Microbiology)

Coliforms - Water (039)
A172; modified from SM 9223 B/IDEXX
MOST PROBABLE NUMBER (QUANTI-TRAY)
Escherichia coli (E. coli)
Total Coliforms

Water (Microbiology)

Coliforms - Water (079)
A178; modified from HACH 10029/APHA 9222 B
MEMBRANE FILTRATION (mCOLIBLUE)
Escherichia coli (E. coli)
Total Coliforms

Water (Microbiology)

Coliforms - Water (143)
WP-TM-0153; modified from SM 9222
MEMBRANE FILTRATION (DC-AGAR)
Escherichia coli (E. coli)
Total Coliforms

Water (Microbiology)

Cryptosporidium and Giardia - Water (053)
A174; modified from EPA 1623
IMS/FA - FILTRATION
Cryptosporidium Enumeration
Giardia Enumeration

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Water (Microbiology)

Fecal (Thermotolerant) Coliforms - Water (025)
A151; modified from SM 9222 D
MEMBRANE FILTRATION (mFC)
Fecal (Thermotolerant) Coliforms

Water (Microbiology)

Heterotrophic Plate Count (HPC) - Water (041)
A165; modified from SM 9215 B
POUR PLATE
Heterotrophic Plate Count (HPC)

Water (Microbiology)

Legionella - Water (118)
A182; modified from ISO 11731/SM 9260 J
MEMBRANE FILTRATION
Legionella-enumeration

Water (Microbiology)

Microcystins - Water (090)
WP-TM-1104; modified from TOXICON/ENVIROLOGIX
ELISA
Microcystins

Water (Microbiology)

Phytoplankton and Zooplankton - Water (076)
WP-TM-0102; modified from SM 10200
MICROSCOPE EXAMINATION
Phytoplankton Enumeration
Phytoplankton Identification
Zooplankton Enumeration
Zooplankton Identification

Water (Microbiology)

Pseudomonas aeruginosa - Water (093)
A156; modified from SM 9213 E
MEMBRANE FILTRATION (mPAC)
Pseudomonas aeruginosa

Water (Microbiology)

Total Coliforms - Water (078)
A151; modified from SM 9222 B
MEMBRANE FILTRATION (mENDO)
Total Coliforms

Water (Organic)

Alcohols and Glycols - Water (146)
WP-TM-1102; modified from ASTM D3695-82
GC/FID
Acetone
Diethylene Glycol
Ethanol
Ethylene Glycol
Isobutanol
Isopropanol
Methanol
n-Butanol
n-Pentanol
Propylene Glycol

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Sec-Butanol
Tetraethylene Glycol
Triethylene Glycol

Water (Organic)

Chlorophyll - Water (085)
A212; modified from SM 10200 H
ACETONE EXTRACTION - SPEC
Chlorophyll-a
Pheophytin

Water (Organic)

Chlorophyll A - Water (144)
WP-TM-117; SM 10200H
FLUORESCENCE
Chlorophyll

Water (Organic)

Haloacetic Acids (HAA) - Water (124)
WP-TM-0805; modified from EPA 552.2
GC/ECD - LIQUID/LIQUID PARTITION
Bromochloroacetic Acid
Dibromoacetic Acid
Dichloroacetic Acid
Monobromoacetic Acid
Monochloroacetic Acid
Trichloroacetic Acid

Water (Organic)

Petroleum Hydrocarbons (PHC) - Water (132)
NA-TM-1104/NA-TP-2100; modified from EPA 3511/8015D
GC/FID - EXTRACTION
F2 (C10-C16)
F3 (C16-C34)
F4 (C34-C50)

Water (Organic)

Polycyclic Aromatic Hydrocarbons (PAH) - Water (066)
WP-TM-1101/WP-TP-2101; modified from EPA SW846 3510B, 8270D
GC/MS
1-Methylnaphthalene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) fluoranthene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
Chrysene
Dibenzo (a,h) anthracene
Fluoranthene
Fluorene
Indeno (1,2,3 - cd) pyrene
Naphthalene
Phenanthrene
Pyrene

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Water (Organic)

Total PCBs - Water (074)
WP-TM-0706; modified from EPA 8082 A
GC/ECD - EXTRACTION
Arochlor 1016
Arochlor 1221
Arochlor 1232
Arochlor 1248
Arochlor 1262
Arochlor 1268
Aroclor 1242
Aroclor 1254
Aroclor 1260
Total PCB

Water (Organic)

Volatile Fatty Acids - Water (130)
WP-TM-0752; modified from ASTM D3695
GC/MS
Acetic Acid
Butyric Acid
Caproic Acid
Formic Acid
Isobutyric Acid
Isovaleric Acid
Propionic Acid
Valeric Acid

Water (Organic)

Volatile Organic Compounds (VOC) - Water (063)
WP-TP-2105, WP-TM-0718; modified from EPA SW846 8260B, 5030B, 5710 D
GC/MS - PURGE & TRAP
1,1-Dichloroethane
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Benzene
Bromodichloromethane
Bromodichloromethane - Formation Potential
Bromodichloromethane - Preserved
Bromoform
Bromoform - Formation Potential
Bromoform - Preserved
Carbon Tetrachloride
Carbon Tetrachloride - Formation Potential
Carbon Tetrachloride - Preserved
Chlorodibromomethane
Chlorodibromomethane - Formation Potential
Chlorodibromomethane - Preserved
Chloroform
Chloroform - Formation Potential
Chloroform - Preserved
Dichloromethane
Ethylbenzene
m/p-xylene
o-xylene

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Tetrachloroethylene
Tetrachloroethylene - Formation Potential
Tetrachloroethylene - Preserved
Toluene
Trichloroethylene
Vinyl Chloride

Water (Organic)

Volatile Organic Compounds (VOC) - Water (139)

WP-TM-0808/NA-WI-3006/NA-TM-1102/TP-2105; modified from EPA 5021A/8260C

GC/MS - HEADSPACE

1,1-Dichloroethane
1,1-Dichloroethylene
1,1-Dichloropropene
1,1,1-Trichloroethane
1,1,1,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
1,2-Dibromo-3-chloropropane
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,2,3-Trichlorobenzene
1,2,3-Trichloropropane
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,3-Dichloropropane
1,3,5-Trimethylbenzene
1,4-Dichlorobenzene
2-Chlorotoluene
2,2-Dichloro-propane
4-Chlorotoluene
4-Isopropyltoluene
Acetone (2-Propanone)
Benzene
Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromodichloromethane - Formation Potential
Bromoform
Bromoform - Formation Potential
Bromomethane
Carbon disulfide
Carbon Tetrachloride
Carbon Tetrachloride - Formation Potential
Chlorobenzene
Chlorodibromomethane
Chlorodibromomethane - Formation Potential
Chloroethane
Chloroform
Chloroform - Formation Potential
Chloromethane
cis-1,2-Dichloroethylene

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cis-1,3-Dichloropropene
Dibromomethane
Dichlorodifluoromethane
Dichloromethane
Ethylbenzene
Ethylene Dibromide
Hexachlorobutadiene
Hexane
Isopropylbenzene
m/p-xylene
Methyl ethyl ketone
Methyl isobutyl ketone
Methyl n-butyl ketone
Methyl t-butyl ether
n-Butylbenzene
Naphthalene
o-xylene
sec-Butylbenzene
Styrene
tert-Butylbenzene
Tetrachloroethylene
Tetrachloroethylene - Formation Potential
Toluene
trans-1,2-Dichloroethylene
trans-1,3-Dichloropropene
Trichloroethylene
Trichlorofluoromethane
Vinyl Chloride

Water (Organic)

Volatile Petroleum Hydrocarbons (VPH) - Water (138)
WP-TM-0808/NA-WI-3006; modified from EPA 5021A/8015D
GC/FID - HEADSPACE
F1 (C6-C10)
TVH (C5-C10)

Water (Toxicology)

Daphnia magna - Wastewater (017)
WP-TM-0112; modified from EPS 1/RM/11, EPS 1/RM/14
ACUTE LETHALITY (SURVIVAL)
Daphnia LC50 (48 h)
Single Concentration (48h)

Water (Toxicology)

Microtox - Liquid Phase - Wastewater (050)
WP-TM-1403; modified from EPS 1/RM/24
BIOLUMINESCENCE
Microtox (30min.)
Microtox (5min.)
Microtox IC50 (15 min)

Water (Toxicology)

Rainbow Trout - Wastewater (049)
WP-TM-1402; modified from EPS 1/RM/9, EPS 1/RM/13
ACUTE LETHALITY (SURVIVAL)
Single Concentration (96h)
Trout LC50 (96 h)

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Water (Toxicology)

Rainbow Trout - Wastewater (161)

WP-TM-1402; modified from EPS 1/RM/50, EPS 1/RM/13

ACUTE LETHALITY (SURVIVAL)

Single Concentration (96h) - pH Stabilized

Trout LC50 (96 h) - pH Stabilized

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Lot Lot				Date Analysé			
Num. Init.	Type C.Q.	Groupe		aaaa/mm/jj	Valeur	Réc	Unités de
1004955 DKH	ÉTALON CQ	Soufre (S)		2012/05/16		87	%
	Blanc de méthode	Soufre (S)		2012/05/16	ND, LDR=0.01		%
Matériau de référence certifié: Matériau dont une ou plusieurs valeurs des propriétés sont certifiées par une procédure techniquement valide, délivré par un organisme de certification et accompagné d'un certificat. Sert à évaluer l'exactitude d'une méthode analytique. Blanc de méthode: Une partie aliquote de matrice pure soumise au même processus analytique que les échantillons, du prétraitement au dosage. Sert à évaluer toutes contaminations du laboratoire. LDR = Limite de détection rapportée							