



Wetland 06- Fall 2020 Monitoring Data Results

Project 102604-01
ReportTo HEMMERA ENVIROCHEM INC.
Maxxam Job No. C075863
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RESULTS OF ANALYSIS

Table with 7 columns: Sample ID, Date Sampled, Time Sampled, Maxxam Sample ID, Nature, Chain Of Custody Nun. Rows include WQ-02, WQ-03, WQ-04A, WQ-04B, WQ-05B, WQ-06.

Table with 7 columns: CAS#, Alkalinity @25C (pp, total), CO3, HCO3, OH. Rows include Alkalinity (total) as Ca, Phenolphthalein Alkali, Bicarbonate, Carbonate, Hydroxide (OH).

Table with 7 columns: CAS#, Biochemical Oxygen Demand. Row includes biochemical oxygen demand.

Table with 7 columns: CAS#, Cadmium - low level CCME - Dissolved. Row includes Cadmium (Cd).

Table with 7 columns: CAS#, Chloride/Sulphate by Auto Colourimetry. Rows include Dissolved Chloride, Sulphate (SO4).

Table with 7 columns: CAS#, COD by Colorimeter. Row includes Chemical Oxygen Demand.

Table with 7 columns: CAS#, Oxygen (Dissolved). Row includes Dissolved Oxygen.

Table with 7 columns: CAS#, Conductivity @25C. Row includes Conductivity.

Table with 7 columns: CAS#, Hardness. Row includes Hardness (CaCO3).

Table with 7 columns: CAS#, Elements by ICP - Dissolved. Rows include Iron (Fe), Lithium (Li), Magnesium (Mg), Manganese (Mn), Potassium (K), Sodium (Na), Strontium (Sr), Sulphur as S, Phosphorus (P), Barium (Ba), Silicon (Si), Boron (B), Calcium (Ca).

Elements by ICPMS - Dissolved							
7429-90-5	Aluminum (Al)	<0.0030	0.0043	<0.0030	<0.0030	<0.0030	0.0033
7440-47-3	Chromium (Cr)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
7440-48-4	Cobalt (Co)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
7440-50-8	Copper (Cu)	0.00054	<0.00020	0.00048	<0.00020	0.0012	0.0040
7439-92-1	Lead (Pb)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
7440-36-0	Antimony (Sb)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
7439-98-7	Molybdenum (Mo)	0.0016	0.0064	0.0021	0.0021	0.0028	0.0020
7440-02-0	Nickel (Ni)	<0.00050	0.0010	<0.00050	<0.00050	0.00066	<0.00050
7782-49-2	Selenium (Se)	0.0013	0.00049	0.0017	0.0014	0.0025	0.00032
7440-22-4	Silver (Ag)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
7440-38-2	Arsenic (As)	0.00040	0.0023	<0.00020	0.00030	0.00078	0.0012
7440-28-0	Thallium (Tl)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
7440-31-5	Tin (Sn)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
7440-32-6	Titanium (Ti)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
7440-61-1	Uranium (U)	0.0032	0.0071	0.0033	0.0032	0.012	0.0032
7440-62-2	Vanadium (V)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
7440-66-6	Zinc (Zn)	0.0071	<0.0030	<0.0030	0.054	<0.0030	0.0044
7440-41-7	Beryllium (Be)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ion Balance							
0	Ionic Balance	6.6	7.1	8.0	7.4	1.6	6.5
Sum of cations, anions							
0	Anion Sum	10	9.7	9.9	9.9	13	9.8
0	Cation Sum	9.0	8.4	8.4	8.5	12	8.6
Ammonia-N (Total)							
0	Ammonia as N	0.063	0.48	<0.015	<0.015	<0.015	<0.015
Nitrate and Nitrite							
0	Nitrate (as NO3)	0.71	<0.22	1.2	1.0	0.60	<0.22
0	Nitrite (NO2)	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033
NO2 - NO2 + NO3 (N) in Water							
0	Nitrite (as N)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
0	Nitrate plus Nitrite (N) 0.16		<0.050	0.26	0.23	0.14	<0.050
Nitrate (as N)							
0	Nitrate (as N)	0.16	<0.050	0.26	0.23	0.14	<0.050
pH @25°C							
0	pH	8.30	7.96	8.30	8.39	8.14	8.26
Orthophosphate by Konelab							
0	Ortho Phosphate (P)	0.0053	0.0053	0.0036	0.0039	0.0033	<0.0030
Total Dissolved Solids (Filt. Residue)							
0	TDS	460	380	470	460	570	380
Total Dissolved Solids (Calculated)							
0	TDS (calculated)	490	460	470	470	640	470
Total Kjeldahl Nitrogen							
0	Total Kjeldahl Nitrogen 0.31		1.9	0.22	0.25	1.2	0.50
Phosphorus -P (Total, Dissolved)							
0	Phosphours (P)	0.0042	0.025	<0.0030	<0.0030	<0.0030	<0.0030

	Total Phosphorus						
0	Phosphorus (P)	0.014	0.10	<0.0030	0.0043	0.053	0.023
	Total Suspended Solids (NFR)						
0	TSS	23	26	7.7	2.3	13	28
	Turbidity						
0	Turbidity	7.7	11	0.59	0.90	2.3	4.5



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Flow Data For Oct 15, 2020

Site	Channel Width (m)	Depth*(m)			Velocity* (m/sec)			Discharge (m ³ /sec)	Comments
		RMID	MID	LMID	RMID	MID	LMID		
FL 1	0.82	0.01	0.08	0.02	0.00	0.11	0.00	0.002	
FL 2	1.32	0.22	0.32	0.44	0.00	0.00	0.00	-	Channel blocked at downstream extent by a beaver dam; no surface water connection to Wetland 06. The beaver dam was not present during the spring 2020 sampling visit.
FL 3	-	-	-	-	-	-	-	-	Channel was dry at the time of the survey.
FL 4	-	-	-	-	-	-	-	-	Channel was dry at the time of the survey.

* RMID= right mid channel, MID= mid channel, LMID= left mid channel

(-)= null result

In-situ Water Quality Parameters - October 15, 2020

Site	Temperature	Dissolved Oxygen (mg/l)	pH	Conductivity (µS/cm)	Depth (m)
WQ1	-	-	-	-	Dry
WQ2	3.12	11.01	8.53	759.50	0.32
WQ3	5.34	4.86	7.96	737.36	
WQ4a	5.68	11.32	8.47	493.96	0.05
WQ4b	4.45	11.40	8.68	711.42	0.10
WQ5a	-	-	-	-	Dry
WQ5b	6.26	16.12	8.64	1003.20	0.21
WQ5c	-	-	-	-	Dry
WQ06	5.66	9.35	8.42	480.06	0.11
WQ07	-	-	-	-	Dry

(-)= null result