

Sample ID	WQ05B	WQ04D	WQ04B	WQ07	WQ06	WQ03	WQ04A
Date Sampled	2023-05-30		2023-05-30		2023-05-30		2023-05-30
Time Sampled	8:30	9:25	9:45	11:15	11:30	12:30	14:30
Maxxam Sample ID	BRU048	BRU049	BRU050	BRU051	BRU052	BRU053	BRU054
Nature	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Chain of Custody Number	695881-02 695881-02-01		695881-02-01		695881-02-01		695881-02-01
Alkalinity @25C (pp, total), CO3,HCO3,OH							
Alkalinity (total) as CaCO3	280	380	310	180	190	270	350
Phenolphthalein Alkalinity	12	21	6.9	55	72	<1.0	<1.0
Bicarbonate	320	410	370	80	54	330	430
Carbonate	15	25	8.3	66	86	<1.0	<1.0
Hydroxide (OH)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Biochemical Oxygen Demand							
biochemical oxygen demand	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	<2.0
Cadmium - low level CCME - Dissolved							
Cadmium (Cd)	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Chloride/Sulphate by Auto Colourimetry							
Chloride	20	6.8	53	19	21	26	7.3
Sulphate (SO4)	130	42	58	290	300	470	52
COD by Colorimeter							
Chemical Oxygen Demand	31	12	12	49	45	36	<10
Oxygen (Dissolved)							
Dissolved Oxygen	7.4	9.8	12	<0.10	13	11	5.8
Conductivity @25C							
Conductivity	820	780	850	900	850	1300	770
Hardness							
Hardness (CaCO3)	390	370	380	350	340	700	360
Elements by ICP - Dissolved							
Iron (Fe)	<0.060	<0.060	<0.060	<0.060	<0.060	0.065	<0.060
Lithium (Li)	0.022	0.021	0.020	0.027	0.029	0.026	<0.020
Magnesium (Mg)	77	47	47	69	66	89	42
Manganese (Mn)	0.0047	0.029	<0.0040	0.0076	<0.0040	0.038	<0.0040
Potassium (K)	1.2	2.6	4.3	0.57	0.56	11	3.8
Sodium (Na)	44	44	44	71	69	45	42
Strontium (Sr)	0.25	0.75	0.84	0.34	0.36	1.0	0.72
Sulphur as S	40	13	18	88	87	160	16
Phosphorus (P)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Barium (Ba)	0.061	0.080	0.074	0.041	0.043	0.11	0.069
Silicon (Si)	1.4	4.7	1.1	1.7	1.1	0.71	4.1
Boron (B)	0.036	0.048	0.049	0.068	0.074	0.070	0.043
Calcium (Ca)	29	70	74	28	27	140	73
Elements by ICPMS - Dissolved							
Aluminum (Al)	0.0049	0.0032	<0.0030	0.0050	0.0032	0.0048	<0.0030
Chromium (Cr)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)	<0.00030	<0.00030	<0.00030	0.00046	0.00042	<0.00030	<0.00030
Copper (Cu)	0.0013	<0.0010	0.0010	0.0014	0.0013	<0.0010	0.0017
Lead (Pb)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Antimony (Sb)	<0.00060	<0.00060	<0.00060	0.00076	<0.00060	<0.00060	<0.00060
Molybdenum (Mo)	0.0024	0.0013	0.0014	0.0065	0.0073	0.0094	0.0026
Nickel (Ni)	0.0012	<0.00050	<0.00050	0.0021	0.0024	0.0018	<0.00050
Selenium (Se)	0.0028	0.00090	0.0024	0.00984	0.0012	0.00094	0.0025
Silver (Ag)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic (As)	0.0015	0.00041	0.00022	0.0035	0.0030	0.0013	0.00029
Thallium (Tl)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Tin (Sn)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)	0.0070	0.0026	0.0038	0.0064	0.0074	0.018	0.0041
Vanadium (V)	0.0015	<0.0010	0.0010	0.0021	0.0032	0.0010	<0.0010
Zinc (Zn)	<0.0030	0.031	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Beryllium (Be)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ion Balance							
Ionic Balance	3.8	4.0	3.0	0.33	3.7	0.82	4.3
Sum of cations, anions							
Anion Sum	9.0	8.6	9.0	10	11	16	8.4
Cation Sum	9.8	9.3	9.6	10	9.8	16	9.0
Ammonia-N (Total)							
Ammonia as N	<0.015	<0.015	<0.015	0.029	0.022	<0.015	<0.015
Nitrate and Nitrite							
Nitrate (as NO3)	<0.044	0.17	3.1	<0.044	0.14	<0.22	3.2
Nitrite (NO2)	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033
NO2 (N); NO2 (N) + NO3 (N) in Water							
Nitrite (as N)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate plus Nitrite (N)	<0.010	0.038	0.69	<0.010	0.032	<0.050	0.73
Nitrate (as N)							
Nitrate (as N)	<0.010	0.038	0.69	<0.010	0.032	<0.050	0.73
pH @25°C							
pH	8.54	8.50	8.35	9.65	9.70	8.15	8.20
Orthophosphate by KoneLab							
Ortho Phosphate (P)	0.0048	0.0056	<0.0030	0.0040	0.0041	<0.0030	<0.0030
Total Dissolved Solids (Filt. Residue)							
TDS	460	460	480	620	580	950	460
Total Dissolved Solids (Calculated)							
TDS (calculated)	480	440	470	580	590	940	430
Total Kjeldahl Nitrogen (Total)							
Calc Total Kjeldahl Nitrogen	0.758	0.191	<0.020	1.44	1.19	0.831	<0.020
Nitrogen (Total)							
Nitrogen (N)	0.76	0.23	0.66	1.4	1.2	0.83	0.68
Phosphorus - P [Total, Dissolved]							
Phosphorus (P)	0.010	0.0076	<0.0030	0.023	0.020	0.013	<0.0030
Total Phosphorus							
Phosphorus (P)	0.034	0.0089	<0.0030	0.044	0.040	0.029	<0.0030
Total Suspended Solids (NFR)							
TSS	4.8	6.3	2.1	5.3	6.9	6.5	8.3
Turbidity							
Turbidity	4.0	0.47	0.40	4.8	6.7	6.9	0.64

AT1 METALS & SALINITY IN SOIL (SOIL)

Bureau Veritas ID	BRJ041		BRJ042		BRJ043		BRJ044		BRJ045		BRJ046		BRJ047			
Sampling Date	2023-05-30 09:25		2023-05-30 09:45		2023-05-30 11:30		2023-05-30 11:15		2023-05-30 12:30		2023-05-30 12:10		2023-05-30 14:30			
COC Number	695881-01-01		695881-01-01		695881-01-01		695881-01-01		695881-01-01		695881-01-01		695881-01-01			
	UNITS	WQ-04D	RDL	WQ-04B	RDL	WQ-06	RDL	WQ-07	RDL	WQ-03	RDL	WQ-04C	RDL	WQ-04A	RDL	QC Batch
Calculated Parameters																
Anion Sum	mg/L	8.4	N/A	7.8	N/A	27	N/A	24	N/A	18	N/A	2.5	N/A	13	N/A	A978030
Cation Sum	mg/L	21	N/A	17	N/A	31	N/A	29	N/A	22	N/A	12	N/A	19	N/A	A978030
Cation/EC Ra	N/A	12	0.10	12	0.10	13	0.10	12	0.10	12	0.10	12	0.10	12	0.10	A978028
Calculated Ca	mg/kg	200	1.6	83	0.81	220	1.2	190	1.3	190	1.5	58	1.0	150	1.2	A978034
Calculated Mg	mg/kg	110	1.1	36	0.54	130	0.81	120	0.84	98	0.98	36	0.69	63	0.83	A978034
Calculated Sr	mg/kg	85	2.7	48	1.4	79	2.0	97	2.1	64	2.4	48	1.7	62	2.1	A978034
Calculated Pb	mg/kg	16	1.4	9.4	0.71	17	1.1	17	1.1	21	1.3	5.5	0.90	15	1.1	A978034
Calculated Ba	mg/kg	0.20	0.11	0.061	0.054	0.16	0.081	0.092	0.084	0.12	0.098	0.11	0.069	0.13	0.083	A978488
Calculated Cr	mg/kg	96	11	64	5.4	53	8.1	91	8.4	88	9.8	9.8	6.9	87	8.3	A978034
Calculated Se	mg/kg	310	5.5	120	2.7	960	4.0	860	4.2	730	4.9	69	3.4	380	4.2	A978034
Elements																
Hex. Chromium	mg/kg	<0.42 (1)	0.42	<0.080	0.080	<0.17 (2)	0.17	<0.38 (3)	0.38	<0.40 (3)	0.40	<0.080	0.080	<0.17 (2)	0.17	A980758
Soluble Parameters																
Soluble Boron	mg/L	0.19	0.10	0.11	0.10	0.20	0.10	0.11	0.10	0.13	0.10	0.16	0.10	0.16	0.10	A985835
Soluble Chlor	mg/L	88	10	120	10	65	10	110	10	90	10	14	10	100	10	A985845
Soluble Cond	ds/m	1.7	0.020	1.4	0.020	2.5	0.020	2.4	0.020	1.8	0.020	0.95	0.020	1.6	0.020	A985893
Soluble CaCl	pH	7.62	N/A	7.73	N/A	7.75	N/A	7.75	N/A	7.73	N/A	7.91	N/A	7.59	N/A	A982291
Sodium Adros	N/A	1.2	0.10	1.5	0.10	1.2	0.10	1.5	0.10	0.94	0.10	1.5	0.10	1.2	0.10	A978033
Soluble CaCl	mg/L	180	1.5	150	1.5	270	1.5	230	1.5	200	1.5	84	1.5	180	1.5	A985835
Soluble Magn	mg/L	99	1.0	67	1.0	160	1.0	140	1.0	100	1.0	52	1.0	76	1.0	A985835
Soluble Sodu	mg/L	78	2.5	88	2.5	98	2.5	110	2.5	65	2.5	69	2.5	75	2.5	A985835
Soluble Potat	mg/L	15	1.3	17	1.3	21	1.3	20	1.3	22	1.3	7.9	1.3	18	1.3	A985835
Saturation %	%	110	N/A	54	N/A	81	N/A	84	N/A	98	N/A	69	N/A	83	N/A	A982286
Soluble Sulph	mg/L	290	5.0	210	5.0	1200	5.0	1000	5.0	740	5.0	100	5.0	460	5.0	A985835
Theoretical G	tonnes/ha	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	A978040
Elements																
Total Antim	mg/kg	<0.50	0.50	<0.50	0.50	0.50	0.50	0.51	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	A982848
Total Arsenic	mg/kg	4.2	1.0	4.9	1.0	5.4	1.0	5.4	1.0	3.1	1.0	4.0	1.0	1.7	1.0	A982848
Total Barium	mg/kg	210	1.0	170	1.0	220	1.0	240	1.0	230	1.0	220	1.0	87	1.0	A982848
Total Beryll	mg/kg	0.45	0.40	0.55	0.40	0.53	0.40	0.62	0.40	0.53	0.40	0.45	0.40	<0.40	0.40	A982848
Total Cadmiu	mg/kg	0.36	0.050	0.30	0.050	0.42	0.050	0.44	0.050	0.49	0.050	0.37	0.050	0.46	0.050	A982848
Total Chromi	mg/kg	13	1.0	22	1.0	14	1.0	16	1.0	14	1.0	13	1.0	10	1.0	A982848
Total Cobalt	mg/kg	5.6	0.50	7.3	0.50	6.0	0.50	6.5	0.50	5.7	0.50	5.3	0.50	2.9	0.50	A982848
Total Copper	mg/kg	13	1.0	14	1.0	16	1.0	18	1.0	17	1.0	13	1.0	11	1.0	A982848
Total Lead (P)	mg/kg	7.7	0.50	8.9	0.50	10	0.50	10	0.50	10	0.50	8.2	0.50	7.1	0.50	A982848
Total Mercu	mg/kg	0.053	0.050	0.057	0.050	<0.050	0.050	<0.050	0.050	0.051	0.050	<0.050	0.050	<0.050	0.050	A982848
Total Molybd	mg/kg	0.56	0.40	0.74	0.40	0.91	0.40	1.1	0.40	0.75	0.40	0.62	0.40	1.1	0.40	A982848
Total Nickel	mg/kg	15	1.0	21	1.0	19	1.0	21	1.0	19	1.0	15	1.0	9.9	1.0	A982848
Total Seleni	mg/kg	2.7	0.50	<0.50	0.50	1.0	0.50	1.1	0.50	1.6	0.50	2.8	0.50	4.0	0.50	A982848
Total Silver	mg/kg	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	A982848
Total Thalli	mg/kg	0.15	0.10	0.14	0.10	0.17	0.10	0.21	0.10	0.17	0.10	0.15	0.10	0.16	0.10	A982848
Total Tin (Sn)	mg/kg	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	A982848
Total Uraniu	mg/kg	0.76	0.20	0.62	0.20	1.5	0.20	2.1	0.20	2.3	0.20	0.95	0.20	1.2	0.20	A982848
Total Vanadi	mg/kg	18	1.0	24	1.0	24	1.0	27	1.0	24	1.0	19	1.0	14	1.0	A982848
Total Zinc (Zn)	mg/kg	990	10	63	10	68	10	75	10	73	10	81	10	36	10	A982848

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Detection limits raised due to matrix interference. Detection limits raised due to high moisture content, samples contain >= 50% moisture.

(2) Detection limits raised due to high moisture content, samples contain >= 50% moisture.

(3) Detection limits raised due to high moisture content, samples contain >= 50% moisture. Detection limits raised due to matrix interference.

Results relate only to the items tested.

Flow Data For May 30, 2023

Site	Channel Width (m)	Depth*(m)			Velocity* (m/sec)			Discharge (m ³ /sec)	Comments
		RMID	MID	LMID	RMID	MID	LMID		
FL1	0.75	-	-	-	-	-	-	-	Channel was dry at the time of the survey
FL2	2.00	0.10	0.75	0.10	0.00	0.00	0.00	-	Channel was wetted at the time of the survey
FL3	36.00	0.10	0.25	0.10	0.00	0.00	0.00	-	Channel was wetted at the time of the survey
FL4	0.00	-	-	-	-	-	-	-	Channel was dry at the time of the survey

* RMID= right mid channel, MID= mid channel, LMID= left mid channel
 (-)= null result

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In-Situ Water Quality Parameters - May 30, 2023

Site	Temp	Turbidity	Dissolved Oxygen (mg/l)	pH	Conductivity (µS/cm)	Depth (m)	Date Sampled
WQ1	-	-	-	-	-	-	2023-05-30
WQ2	-	-	-	-	-	-	2023-05-30
WQ3	22.57	18.69	9.96	8.70	1355.00	0.40	2023-05-30
WQ4a	14.43	146.32	4.05	8.25	768.55	0.05	2023-05-30
WQ4b	14.38	8.15	11.91	8.86	861.80	0.10	2023-05-30
WQ4c	-	-	-	-	-	-	2023-05-30
WQ4d	9.91	8.04	9.55	9.12	799.99	0.1	2023-05-30
WQ5a	-	-	-	-	-	-	2023-05-30
WQ5b	15.17	14.41	6.34	9.05	843.71	0.20	2023-05-30
WQ5c	-	-	-	-	-	-	2023-05-30
WQ6	26.05	37.52	17.59	10.58	934.55	0.35	2023-05-30
WQ07	26.09	30.50	18.27	10.57	934.01	0.30	2023-05-30

(-)= null result due to site being dry
 (*) = site has been encompassed by the construction area and is permanently dry

Status
 Dry

Dry

Water to low to collect data

Dry