

SWCRR Wetland 06 - Spring 2025 Monitoring Data Results

Project 102604-01

Report To Ausenco Sustainability Inc.

Bureau Veritas Job No. C548508

ROUTINE WATER & DISS. REGULATED METALS (WATER)

Bureau Veritas ID		DLW489			DLW490			DLW491			DLW492			DLW493		
Sampling Date		2025/05/28 12:15			2025/05/28 10:15			2025/05/28 10:45			2025/05/28 13:00			2025/05/28 13:30		
COC Number		1/1			1/1			1/1			1/1			1/1		
	UNITS	WQ-3	RDL	QC Batch	WQ-5B	RDL	QC Batch	WQ-4B	RDL	QC Batch	WQ-6	RDL	QC Batch	WQ-7	RDL	QC Batch
Calculated Parameters																
Anion Sum	meq/L	18	N/A	B964476	13	N/A	B964476	8.8	N/A	B964476	11	N/A	B964476	11	N/A	B964476
Cation Sum	meq/L	17	N/A	B964476	13	N/A	B964476	9.0	N/A	B964476	12	N/A	B964476	11	N/A	B964476
Hardness (CaCO3)	mg/L	760	0.50	B964791	550	0.50	B964791	350	0.50	B964791	440	0.50	B964791	420	0.50	B964791
Ion Balance (% Difference)	%	1.5	N/A	B964473	0.43	N/A	B964473	0.98	N/A	B964473	0.78	N/A	B965049	0.55	N/A	B965049
Nitrate (N)	mg/L	<0.10	0.10	B964371	<0.050	0.050	B965050	0.011	0.010	B965050	<0.010	0.010	B965050	<0.050	0.050	B965050
Nitrate (NO3)	mg/L	<0.44	0.44	B964792	<0.22	0.22	B964792	0.050	0.044	B964792	<0.044	0.044	B964792	<0.22	0.22	B964792
Nitrite (NO2)	mg/L	<0.033	0.033	B964792	<0.033	0.033	B964792	<0.033	0.033	B964792	<0.033	0.033	B964792	<0.033	0.033	B964792
Calculated Total Dissolved Solid	mg/L	980	10	B964502	650	10	B964502	440	10	B964502	600	10	B964502	570	10	B965051
Elements																
Dissolved Cadmium (Cd)	mg/L	<0.000020	0.000020	B964661	<0.000020	0.000020	B964661	<0.000020	0.000020	B964661	<0.000020	0.000020	B964661	<0.000020	0.000020	B964661
Misc. Inorganics																
Conductivity	uS/cm	1500	2.0	B969533	1100	2.0	B969533	740	2.0	B969533	970	2.0	B969533	980	2.0	B969533
pH	pH	8.17	N/A	B969532	8.13	N/A	B969532	8.59	N/A	B969532	8.62	N/A	B969532	8.53	N/A	B969532
Anions																
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	B969531	<1.0	1.0	B969531	13	1.0	B969531	14	1.0	B969531	9.7	1.0	B969531
Alkalinity (Total as CaCO3)	mg/L	420	1.0	B969531	490	1.0	B969531	400	1.0	B969531	350	1.0	B969531	350	1.0	B969531
Bicarbonate (HCO3)	mg/L	510	1.0	B969531	600	1.0	B969531	450	1.0	B969531	390	1.0	B969531	400	1.0	B969531
Carbonate (CO3)	mg/L	<1.0	1.0	B969531	<1.0	1.0	B969531	16	1.0	B969531	16	1.0	B969531	12	1.0	B969531
Hydroxide (OH)	mg/L	<1.0	1.0	B969531	<1.0	1.0	B969531	<1.0	1.0	B969531	<1.0	1.0	B969531	<1.0	1.0	B969531
Chloride (Cl)	mg/L	25	1.0	B966226	30	1.0	B966226	6.5	1.0	B966219	33	1.0	B966226	33	1.0	B966226
Sulphate (SO4)	mg/L	410	5.0	B966226	110	1.0	B966226	31	1.0	B966219	160	5.0	B966226	150	5.0	B966226
Nutrients																
Nitrite (N)	mg/L	<0.010	0.010	B966229	<0.010	0.010	B966271	<0.010	0.010	B966271	<0.010	0.010	B966271	<0.010	0.010	B966229
Nitrate plus Nitrite (N)	mg/L	<0.10 (1)	0.10	B966229	<0.050 (1)	0.050	B966271	0.011	0.010	B966271	<0.010	0.010	B966271	<0.050 (1)	0.050	B966229
Elements																
Dissolved Aluminum (Al)	mg/L	<0.0030	0.0030	B966576	<0.0030	0.0030	B966576	<0.0030	0.0030	B965686	<0.0030	0.0030	B965686	<0.0030	0.0030	B966576
Dissolved Antimony (Sb)	mg/L	<0.00060	0.00060	B966576	<0.00060	0.00060	B966576	<0.00060	0.00060	B965686	<0.00060	0.00060	B965686	<0.00060	0.00060	B966576
Dissolved Arsenic (As)	mg/L	0.0013	0.00020	B966576	0.0025	0.00020	B966576	0.00055	0.00020	B965686	0.0013	0.00020	B965686	0.0012	0.00020	B966576
Dissolved Barium (Ba)	mg/L	0.087	0.010	B966353	0.30	0.010	B966225	0.083	0.010	B966225	0.10	0.010	B966225	0.10	0.010	B966353
Dissolved Beryllium (Be)	mg/L	<0.0010	0.0010	B966576	<0.0010	0.0010	B966576	<0.0010	0.0010	B965686	<0.0010	0.0010	B965686	<0.0010	0.0010	B966576
Dissolved Boron (B)	mg/L	0.087	0.020	B966353	0.056	0.020	B966225	0.071	0.020	B966225	0.070	0.020	B966225	0.063	0.020	B966353
Dissolved Calcium (Ca)	mg/L	170	0.30	B966353	91	0.30	B966225	68	0.30	B966225	61	0.30	B966225	55	0.30	B966353
Dissolved Chromium (Cr)	mg/L	<0.0010	0.0010	B966576	<0.0010	0.0010	B966576	<0.0010	0.0010	B965686	<0.0010	0.0010	B965686	<0.0010	0.0010	B966576
Dissolved Cobalt (Co)	mg/L	<0.00030	0.00030	B966576	0.00064	0.00030	B966576	<0.00030	0.00030	B965686	<0.00030	0.00030	B965686	<0.00030	0.00030	B966576
Dissolved Copper (Cu)	mg/L	<0.0010	0.0010	B966576	<0.0010	0.0010	B966576	<0.0010	0.0010	B965686	0.0010	0.0010	B965686	0.0016	0.0010	B966576
Dissolved Iron (Fe)	mg/L	<0.060	0.060	B966353	<0.060	0.060	B966225	<0.060	0.060	B966225	<0.060	0.060	B966225	<0.060	0.060	B966353
Dissolved Lead (Pb)	mg/L	<0.00020	0.00020	B966576	<0.00020	0.00020	B966576	<0.00020	0.00020	B965686	<0.00020	0.00020	B965686	<0.00020	0.00020	B966576
Dissolved Lithium (Li)	mg/L	0.038	0.020	B966353	<0.020	0.020	B966225	<0.020	0.020	B966225	0.028	0.020	B966225	0.029	0.020	B966353
Dissolved Magnesium (Mg)	mg/L	84	0.20	B966353	79	0.20	B966225	43	0.20	B966225	70	0.20	B966225	68	0.20	B966353

Dissolved Manganese (Mn)	mg/L	0.092	0.0040	B966353	0.32	0.0040	B966225	0.011	0.0040	B966225	0.0051	0.0040	B966225	0.0044	0.0040	B966353
Dissolved Molybdenum (Mo)	mg/L	0.0066	0.00020	B966576	0.0023	0.00020	B966576	0.00087	0.00020	B965686	0.0031	0.00020	B965686	0.0033	0.00020	B966576
Dissolved Nickel (Ni)	mg/L	0.0017	0.00050	B966576	0.0024	0.00050	B966576	<0.00050	0.00050	B965686	0.0015	0.00050	B965686	0.0024	0.00050	B966576
Dissolved Phosphorus (P)	mg/L	<0.10	0.10	B966353	<0.10	0.10	B966225	<0.10	0.10	B966225	<0.10	0.10	B966225	<0.10	0.10	B966353
Dissolved Potassium (K)	mg/L	10	0.30	B966353	5.2	0.30	B966225	3.3	0.30	B966225	3.7	0.30	B966225	3.4	0.30	B966353
Dissolved Selenium (Se)	mg/L	0.0038	0.00020	B966576	0.0015	0.00020	B966576	0.00063	0.00020	B965686	0.0012	0.00020	B965686	0.0010	0.00020	B966576
Dissolved Silicon (Si)	mg/L	4.5	0.50	B966353	2.3	0.50	B966225	6.0	0.50	B966225	0.55	0.50	B966225	0.53	0.50	B966353
Dissolved Silver (Ag)	mg/L	<0.00010	0.00010	B966576	<0.00010	0.00010	B966576	<0.00010	0.00010	B965686	<0.00010	0.00010	B965686	<0.00010	0.00010	B966576
Dissolved Sodium (Na)	mg/L	36	0.50	B966353	40	0.50	B966225	45	0.50	B966225	61	0.50	B966225	54	0.50	B966353
Dissolved Strontium (Sr)	mg/L	1.1	0.020	B966353	0.73	0.020	B966225	0.71	0.020	B966225	0.81	0.020	B966225	0.82	0.020	B966353
Dissolved Sulphur (S)	mg/L	150	0.20	B966353	35	0.20	B966225	9.9	0.20	B966225	55	0.20	B966225	57	0.20	B966353
Dissolved Thallium (Tl)	mg/L	<0.00020	0.00020	B966576	<0.00020	0.00020	B966576	<0.00020	0.00020	B965686	<0.00020	0.00020	B965686	<0.00020	0.00020	B966576
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	B966576	<0.0010	0.0010	B966576	<0.0010	0.0010	B965686	<0.0010	0.0010	B965686	<0.0010	0.0010	B966576
Dissolved Titanium (Ti)	mg/L	<0.0010	0.0010	B966576	<0.0010	0.0010	B966576	<0.0010	0.0010	B965686	<0.0010	0.0010	B965686	<0.0010	0.0010	B966576
Dissolved Uranium (U)	mg/L	0.017	0.00010	B966576	0.0070	0.00010	B966576	0.0019	0.00010	B965686	0.0087	0.00010	B965686	0.0075	0.00010	B966576
Dissolved Vanadium (V)	mg/L	<0.0010	0.0010	B966576	<0.0010	0.0010	B966576	<0.0010	0.0010	B965686	<0.0010	0.0010	B965686	<0.0010	0.0010	B966576
Dissolved Zinc (Zn)	mg/L	<0.0030	0.0030	B966576	<0.0030	0.0030	B966576	0.045	0.0030	B965686	<0.0030	0.0030	B965686	<0.0030	0.0030	B966576

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Detection limits raised due to matrix interference.

Results relate only to the items tested.

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		DLW489		DLW490		DLW491		DLW492		DLW493		
Sampling Date		2025/05/28 12:15		2025/05/28 10:15		2025/05/28 10:45		2025/05/28 13:00		2025/05/28 13:30		
COC Number		1/1		1/1		1/1		1/1		1/1		
	UNITS	WQ-3	RDL	WQ-5B	RDL	WQ-4B	QC Batch	WQ-6	QC Batch	WQ-7	RDL	QC Batch
Demand Parameters												
Biochemical Oxygen Demand	mg/L	<2.0	2.0	<2.0	2.0	<2.0	B965456	<2.0	B965456	<2.0	2.0	B965456
Chemical Oxygen Demand	mg/L	43	10	49	10	25	B971612	37	B971612	36	10	B971612
Misc. Inorganics												
Dissolved Oxygen (O2)	mg/L	6.5	0.10	5.0	0.10	8.8	B965363	8.6	B965363	10	0.10	B965363
Total Dissolved Solids	mg/L	1000	10	600	10	420	B968834	560	B968834	550	10	B968834
Total Suspended Solids	mg/L	1.4	1.0	840 (1)	3.0	220	B969637	1.5	B969637	10	1.0	B969637
Nutrients												
Total Ammonia (N)	mg/L	0.17	0.015	0.036	0.015	<0.015	B970182	<0.015	B970182	<0.015	0.015	B970182
Orthophosphate (P)	mg/L	0.013	0.0030	<0.0030	0.0030	0.0037	B966186	<0.0030	B966186	<0.0030	0.0030	B966186
Dissolved Phosphorus (P)	mg/L	0.025	0.0030	0.0048	0.0030	0.0042	B966410	0.0067	B966362	0.0065	0.0030	B966410
Total Phosphorus (P)	mg/L	0.043	0.0030	0.087	0.0030	0.030	B967850	0.015	B967850	0.016	0.0030	B970505
Physical Properties												
Turbidity	NTU	0.16	0.10	430	0.10	67	B965556	0.16	B965556	3.6	0.10	B965556

RDL = Reportable Detection Limit

(1) Detection limit raised based on sample volume used for analysis.

Results relate only to the items tested.

TOTAL KJELDAHL NITROGEN (TOTAL)

Bureau Veritas ID		DLW489		DLW490		DLW491	DLW492			DLW493		
Sampling Date		2025/05/28 12:15		2025/05/28 10:15		2025/05/28 10:45	2025/05/28 13:00			2025/05/28 13:30		
COC Number		1/1		1/1		1/1	1/1			1/1		
	UNITS	WQ-3	RDL	WQ-5B	RDL	WQ-4B	WQ-6	RDL	QC Batch	WQ-7	RDL	QC Batch
Calculated Parameters												
Total Total Kjeldahl Nitrogen (Ca	mg/L	1.1	0.10	1.0	0.050	0.48	0.82	0.020	B964879	0.90	0.050	B964879
Nutrients												
Total Nitrogen (N)	mg/L	1.1	0.020	1.0	0.020	0.49	0.82	0.020	B967652	0.90	0.020	B970178

RDL = Reportable Detection Limit

Results relate only to the items tested.

In-Situ Water Quality Parameters

Site	Date Sampled	Time Sampled	Depth (m)	Temp (C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (%)	Specific Conductivity (µS/cm)	pH	ORP	Turbidity	Status
WQ-01	28/05/2025	-	-	-	-	-	-	-	not recorded	-	Dry
WQ-02	28/05/2025	-	-	-	-	-	-	-	not recorded	-	Dry
WQ-03	28/05/2025	12:15	0.25	14.6	8.20	81.03	1422.00	8.07	not recorded	2.91	Wet
WQ-04A	28/05/2025	-	-	-	-	-	-	-	not recorded	-	Dry
WQ-04B	28/05/2025	10:45	0.15	11.1	9.98	90.98	864.00	9.14	not recorded	9.85	Wet
WQ-04C*	28/05/2025	n/a	n/a	n/a	n/a	n/a	n/a	n/a	not recorded	n/a	Not sampled in 2025
WQ-04D*	28/05/2025	n/a	n/a	n/a	n/a	n/a	n/a	n/a	not recorded	n/a	Not sampled in 2025
WQ-05A	28/05/2025	-	-	-	-	-	-	-	not recorded	-	Dry
WQ-05B	28/05/2025	10:15	0.10	17.2	2.36	24.61	1188.00	7.96	not recorded	79.70	Dam present with fresh beaver activity
WQ-05C**	28/05/2025	n/a	n/a	n/a	n/a	n/a	n/a	n/a	not recorded	n/a	Permanently dry
WQ-06	28/05/2025	13:00	0.25	21.7	10.90	124.43	1036.00	9.29	not recorded	4.80	Wet
WQ-07	28/05/2025	13:30	0.20	22.0	10.1	115.96	1021.00	9.14	not recorded	6.00	Wet

(-)= null result due to site being dry

(*) = site was removed from 2025 sampling program per recommendation in 2024 Annual Report

(**) = site has been encompassed by the construction area and is permanently dry

Flow Data

Site	Date Sampled	Time Sampled	Channel Width (m)	Depth*(m)			Velocity* (m/sec)			Discharge (m3/sec)	Comments
				LMID	MID	RMID	LMID	MID	RMID		
FL-01	27/06/2025	11:15	0	-	0.051	-	-	0.05	-	-	low flow present
FL-02	27/06/2025	12:00	13	0.50	1.50	0.50	0.01	0.01	0.01	-	Water is ponded at bridge; no flow travelling downstream
FL-03	27/06/2025	11:00	-	-	-	-	-	-	-	-	Wetted ground, no flow
FL-04	27/06/2025	10:15	-	-	-	-	-	-	-	-	Dry

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

(-)= null result

Transect Data

Site	Date Sampled	Time Sampled	Wetted Width (m)	Comments
T1-1	27/06/2025	11:40	0	Small pockets of standing water
T1-2	27/06/2025	11:42	0	Dry
T1-3	27/06/2025	11:50	2.5	Multiple wetted channels with widths ranging from 1-2.5 m
T1-4	27/06/2025	11:55	2.0	Multiple wetted channels with widths ranging from 1-2.5 m
T2-1	27/06/2025	-	0	Dry
T2-2	27/06/2025	-	0	Dry
T2-3	27/06/2025	-	0	Dry
T3-4	27/06/2025	-	0	Dry