



Summary Report

To : Nick Colucci, Director	Date : October 5, 2020
Town of Erin, Infrastructure Services	Re. : Monthly Monitoring Report
From : Andrew Pentney	Groundwater Monitoring Program
CC : Triton Engineering	Project : Station Street Dam Reconstruction

The following is a summary report regarding the monitoring completed to date as part of the *Groundwater Monitoring and Mitigation Plan, Reconstruction of Station Street and Replacement of Station Street Bridge (Structure 2064) and Dam Control Structure, Hillsburgh* (May 23, 2019).

Monitoring Locations

As per the monitoring plan the following monitors were installed on April 20, 2020:

- Hillsburgh Pond (stilling well)
- 3 drive-point piezometers at locations around the perimeter of the Pond

The monitoring locations are shown on the attached **Figure 1**, as surveyed by Triton Engineering.

The drive-point piezometers were installed by hand into the shallow sediments along the perimeter of the pond, and allow a comparison of the pond levels to the water table elevations immediately adjacent to the pond at those locations. Monitor DP1 was deepened on April 30, 2020 in order to intercept the water table.

According to data collected as part of this program, the commencement of construction related pond lowering began on May 12, 2020.

Monitoring Completed

Water level monitoring is completed through occasional manual measurements and on an hourly basis by transducer/dataloggers installed at each location. At most locations water level monitoring began on April 20, 2010. At DP1 water level monitoring began on April 30, 2020. The monitor installation details are provided on the attached **Table 1**. Dataloggers are downloaded every 2nd week, and manual pond level measurements are also obtained weekly.

A hydrograph showing measured water level elevations to date is attached as **Figure 2**. Reported precipitation (rainfall) at the Environment Canada Fergus Shand Dam weather station (closest monitoring station) is additionally plotted on **Figure 2** for comparison purposes.

Water quality samples can be obtained from the Pond, DP1 and DP3. Monitor DP2 is installed in fine grain sediments that do not “produce” sufficient water to obtain representative samples.

Water quality sampling occurred on April 24th and May 4th, prior to construction activities in order to provide baseline data. Samples were also obtained on May 27th, June 9th, June 26th, July 10th, July 22nd, August 7th, August 25th, September 4th, September 18th and October 2nd (generally every 2nd week) after construction began.

Water quality sampling results to date are summarized on the attached **Table 2**. We note that the October 2nd samples analysis results are not yet available, those results will be provided in the next monthly report.

Observations

Groundwater-surface water interaction is summarized as follows:

- Water levels collected to date at DP1 show that the water table along the southeast (downgradient) edge of the pond is significantly lower than the pond (approx. 1.5 m difference), indicating recharge conditions and groundwater flow away from the pond in this location.
- Water levels at DP2 are observed to be higher than the pond level under spring conditions. This indicates groundwater flow toward and into the pond in this area (likely extending along the northwest edge) at that time. Recent water levels indicate that summer evapotranspiration in this area may naturally lower the groundwater table to (or slightly below) the pond level.
- Water levels collected at DP3 indicate that the water table is naturally below the pond level, indicating recharge conditions and groundwater flow away from the pond in this area (likely extending from the creek inflow location to the dam).
- The pond was lowered from mid-May to early June to allow initial construction. A coffer dam was installed in early June, which allowed pond levels to be reestablished and maintained slightly below spring levels over the construction period. In water works are reported to be substantially complete, and on September 18th the pond level was allowed to rise to a more “typical” seasonal level.
- Groundwater levels surrounding the pond responded to the pond level increase through mid to late September. Current groundwater levels appear to correspond to “typical” conditions in the area of the pond.
- To date water table changes associated with construction are relatively minor. No significant changes in water quality are noted.

Summary

Construction activities have not resulted in any significant changes to groundwater conditions to date. We note that construction works are nearing completion, and the pond levels have returned to more “typical” seasonal levels. The program schedule also includes approximately 1 month of post-construction water level and quality monitoring to continue to track potential changes.

Sincerely,



Andrew Pentney, P.Geo.
Senior Hydrogeologist
Groundwater Science Corp.

Attached: Figure 1, Figure 2
 Table 1, Table 2

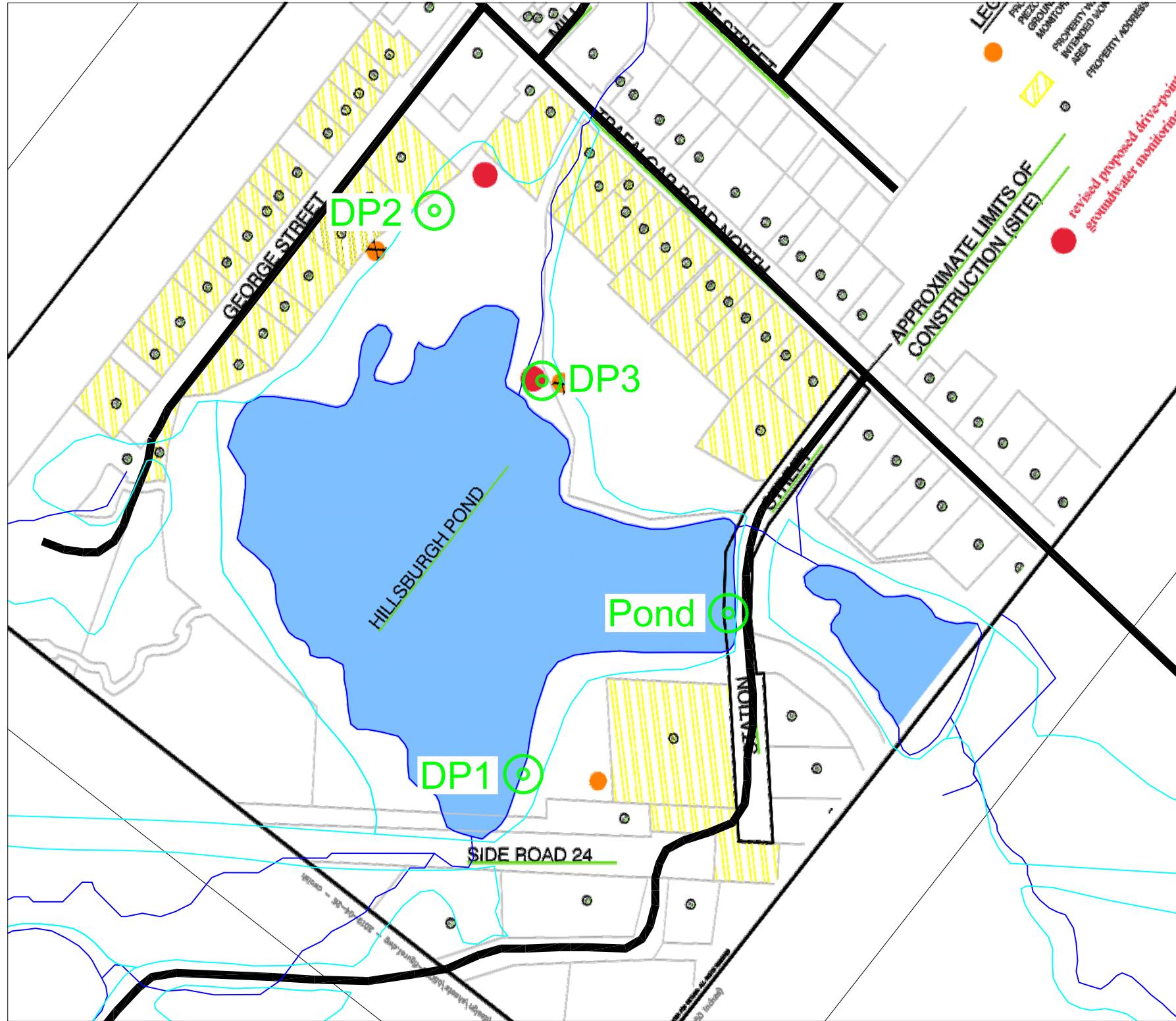
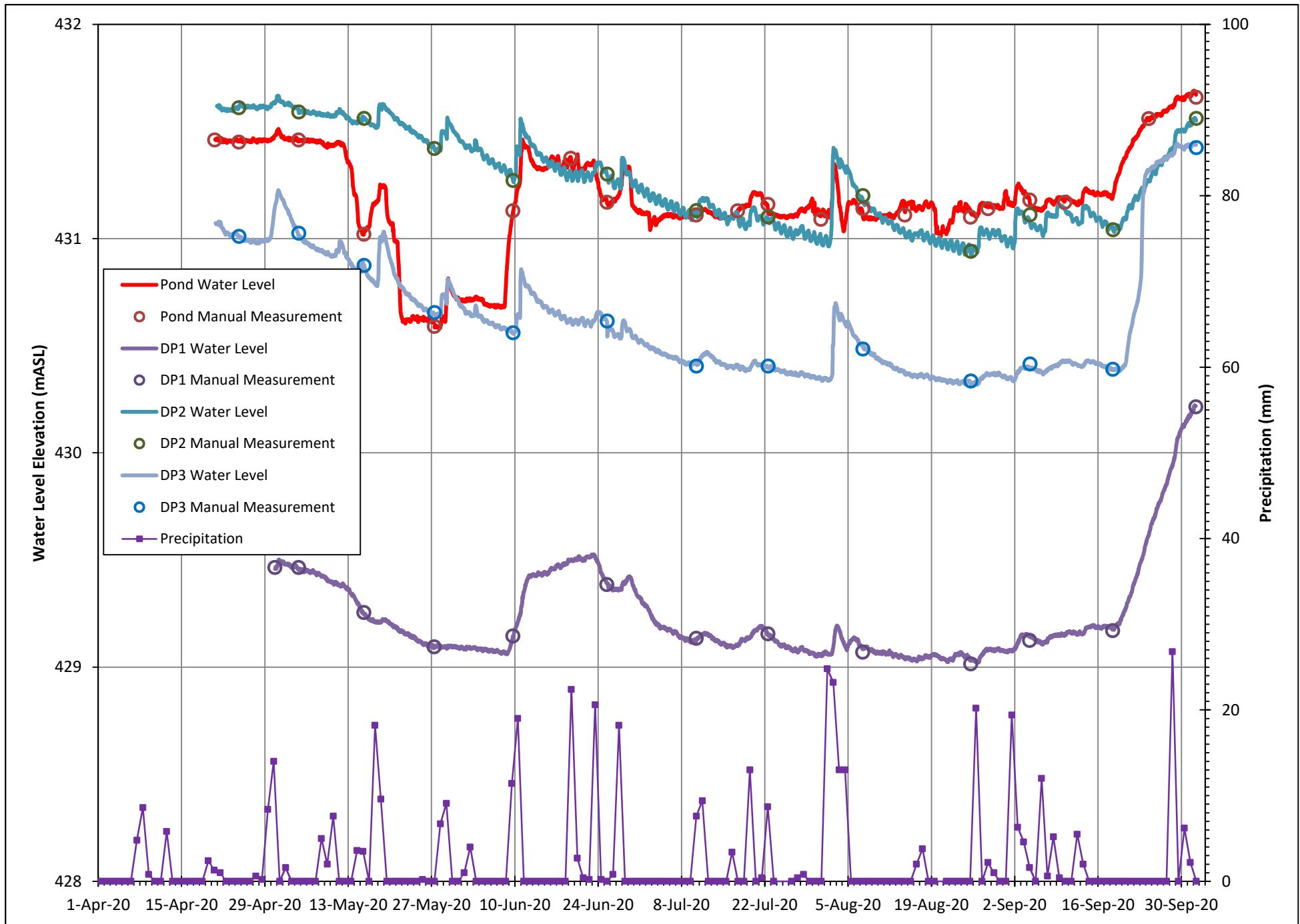


Figure 1

Station Street Dam Monitoring Network



Location	Type	As Installed			Elevations	
		Total Depth (mBTOP)	Stick-Up (mAGS)	Screen Length (m)	Ground Surface (mASL)	Top of Pipe (mASL)
Pond	stilling well	1.90	1.90	1.00	430.46	432.36
DP1	piezometer	4.09	1.22	0.30	431.57	432.79
DP2	piezometer	2.21	0.42	0.30	431.62	432.13
DP3	piezometer	2.84	1.26	0.30	431.36	432.70

Notes: mBTOP = metres below top of pipe
 mAGS = metres above ground surface
 mASL = metres above sea level

Sample Location:		POND										
Date:		24-Apr-2020	4-May-2020	27-May-2020	9-Jun-2020	25-Jun-2020	10-Jul-2020	22-Jul-2020	7-Aug-2020	25-Aug-2020	4-Sep-2020	18-Sep-2020
Parameter	Units	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Anions and Nutrients												
Bromide (Br)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chloride (Cl)	mg/L	24.7	25.9	24.4	22.3	23.9	21.8	21.4	22.9	23.1	23.1	23.9
Fluoride (F)	mg/L	0.045	0.047	0.050	0.046	0.048	0.052	0.051	0.054	0.051	0.053	0.053
Nitrate (as N)	mg/L	3.20	3.03	3.22	3.09	2.76	2.14	1.93	2.22	2.62	2.38	3.33
Nitrite (as N)	mg/L	0.014	0.020	0.024	0.026	0.042	0.038	0.029	0.023	0.035	0.019	0.019
Sulfate (SO4)	mg/L	18.1	18.7	18.7	20.5	18.3	17.8	17.0	18.7	18.1	17.8	19.4
Total Metals												
Aluminum (Al)-Total	mg/L	0.0680	0.2350	0.1120	0.0317	0.0447	0.0233	0.0307	0.0483	0.0688	0.0551	0.0513
Antimony (Sb)-Total	mg/L	<0.00010	0.00021	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	0.00025	0.00039	0.00038	0.00028	0.00036	0.00043	0.00043	0.00042	0.00037	0.00038	0.00028
Barium (Ba)-Total	mg/L	0.0342	0.0416	0.0319	0.0404	0.0643	0.0634	0.0507	0.0508	0.0514	0.0456	0.0446
Beryllium (Be)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000054
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	0.0000076	0.0000275	0.0000090	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium (Ca)-Total	mg/L	69.2	73.5	60.1	62.0	65.4	61.4	63.1	65.9	67.2	67.1	70.0
Cesium (Cs)-Total	mg/L	<0.000010	0.000022	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	mg/L	<0.00050	0.0008	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Total	mg/L	<0.00010	0.00013	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	0.00060	0.00110	0.00066	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00089	0.00157
Iron (Fe)-Total	mg/L	0.108	0.377	0.179	0.083	0.145	0.119	0.083	0.109	0.100	0.093	0.083
Lead (Pb)-Total	mg/L	0.000297	0.001100	0.000572	0.000131	0.000200	0.000139	0.000100	0.000164	0.000208	0.000189	0.000175
Lithium (Li)-Total	mg/L	0.0021	0.0015	0.0018	0.0015	0.0018	0.0014	0.0015	0.0017	0.0018	0.0015	0.0019
Magnesium (Mg)-Total	mg/L	21.2	20.3	21.0	21.9	21.4	20.6	22.0	19.9	21.1	19.9	21.1
Manganese (Mn)-Total	mg/L	0.0122	0.0394	0.0211	0.0157	0.0288	0.0301	0.0230	0.0256	0.0175	0.0160	0.0154
Molybdenum (Mo)-Total	mg/L	0.000263	0.000294	0.000271	0.000270	0.000324	0.000369	0.000363	0.000273	0.000289	0.000261	0.000250
Nickel (Ni)-Total	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus (P)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total	mg/L	1.09	1.04	1.05	1.00	1.05	0.85	0.97	1.03	0.96	1.07	1.00
Rubidium (Rb)-Total	mg/L	0.00071	0.00099	0.00083	0.00077	0.00084	0.00073	0.00087	0.00093	0.00092	0.00097	0.00079
Selenium (Se)-Total	mg/L	0.000141	0.000149	0.000166	0.000113	0.000133	0.000114	0.000132	0.000128	0.000152	0.000119	0.000117
Silicon (Si)-Total	mg/L	3.82	3.65	4.32	4.34	4.13	4.36	4.51	4.95	4.63	4.41	4.50
Silver (Ag)-Total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	mg/L	11.7	11.3	11.0	10.5	10.9	9.1	9.8	10.0	10.0	9.5	10.0
Strontium (Sr)-Total	mg/L	0.117	0.124	0.111	0.109	0.118	0.110	0.111	0.112	0.117	0.110	0.113
Sulfur (S)-Total	mg/L	7.01	6.42	6.63	7.43	6.53	6.05	6.15	6.69	6.72	6.17	6.92
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	0.00028	0.00025	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	mg/L	0.00318	0.00842	0.00419	0.00112	0.00171	0.00087	<0.00080	0.00146	0.00232	0.00165	0.00163
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	0.000524	0.000488	0.000517	0.000494	0.000501	0.000540	0.000557	0.000532	0.000558	0.000499	0.000481
Vanadium (V)-Total	mg/L	<0.00050	0.00086	0.00078	<0.00050	0.00053	0.00064	0.00058	0.00051	0.00063	0.00054	<0.00050
Zinc (Zn)-Total	mg/L	0.0139	0.0865	0.0031	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0237	<0.0030
Zirconium (Zr)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

Table 2: Water Quality Results Summary

Sample Location:		DP1									
Parameter	Units	4-May-2020	27-May-2020	9-Jun-2020	25-Jun-2020	10-Jul-2020	22-Jul-2020	7-Aug-2020	25-Aug-2020	4-Sep-2020	18-Sep-2020
Anions and Nutrients											
Bromide (Br)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chloride (Cl)	mg/L	26.6	30.1	36	26.9	27.2	28.4	28.1	28.6	28.9	28.6
Fluoride (F)	mg/L	0.050	0.041	0.037	0.048	0.058	0.052	0.054	0.05	0.048	0.045
Nitrate (as N)	mg/L	3.070	2.72	1.17	2.5	1.29	1.58	3.29	0.41	2.48	2.69
Nitrite (as N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate (SO4)	mg/L	18.4	16.8	11.3	22.3	20.4	19.3	19.7	16.1	25	21.5
Dissolved Metals											
Aluminum (Al)-Dissolved	mg/L	<0.0050	<0.0050	0.0068	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic (As)-Dissolved	mg/L	0.00018	0.00017	0.00018	0.00013	0.00019	0.00017	0.00025	0.0002	0.00022	0.0002
Barium (Ba)-Dissolved	mg/L	0.0352	0.0375	0.0475	0.0513	0.0396	0.0428	0.0427	0.04	0.0431	0.0414
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Dissolved	mg/L	<0.010	<0.010	<0.010	0.012	0.014	0.014	0.015	0.013	0.014	0.011
Cadmium (Cd)-Dissolved	mg/L	0.0000255	0.0000412	0.0000253	0.0000807	0.0000318	0.0000325	0.0000182	0.0000176	0.0000206	0.0000121
Calcium (Ca)-Dissolved	mg/L	68.5	73.2	97.7	70.6	72.1	72.8	71.2	67.4	76.2	69.8
Cesium (Cs)-Dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Dissolved	mg/L	<0.00010	0.00011	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper (Cu)-Dissolved	mg/L	0.00053	0.0004	0.00048	0.00076	0.00053	0.00063	0.00063	0.00088	0.00078	0.00055
Iron (Fe)-Dissolved	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Lithium (Li)-Dissolved	mg/L	<0.0010	<0.0010	0.0011	<0.0010	0.0015	0.0018	0.0012	0.0018	0.002	0.0018
Magnesium (Mg)-Dissolved	mg/L	19.1	22.4	28.1	19.8	18.9	19.7	19.7	19.4	19.7	21.2
Manganese (Mn)-Dissolved	mg/L	0.009	0.0096	0.0205	0.00094	0.00603	0.0119	0.00589	0.00824	0.00986	0.00736
Molybdenum (Mo)-Dissolved	mg/L	0.00029	0.000224	0.000144	0.000907	0.000213	0.000223	0.000225	0.000218	0.000249	0.000195
Nickel (Ni)-Dissolved	mg/L	0.00099	0.00534	0.0006	0.00075	0.00228	0.00146	0.00051	<0.00050	<0.00050	0.00055
Phosphorus (P)-Dissolved	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved	mg/L	1.090	1.04	1.18	1.34	1.21	1.38	1.54	1.46	1.59	1.5
Rubidium (Rb)-Dissolved	mg/L	0.00053	0.00051	0.00087	0.00092	0.00073	0.00097	0.00097	0.00097	0.00105	0.00095
Selenium (Se)-Dissolved	mg/L	0.00018	0.000242	0.000151	0.000171	0.000093	0.000183	0.000364	0.00009	0.000335	0.000376
Silicon (Si)-Dissolved	mg/L	3.74	3.9	4.88	5.11	5.11	5.32	5.36	5.19	5.58	5.26
Silver (Ag)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium (Na)-Dissolved	mg/L	13.7	14.4	18.4	13.9	12.7	13.6	14.3	13.4	13.8	13.2
Strontium (Sr)-Dissolved	mg/L	0.122	0.13	0.157	0.129	0.124	0.13	0.128	0.119	0.141	0.129
Sulfur (S)-Dissolved	mg/L	6.7	6.1	4.18	7.81	7.01	7.31	7.34	5.65	8.39	7.56
Tellurium (Te)-Dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Dissolved	mg/L	<0.000010	<0.000010	<0.000010	0.000015	<0.000010	<0.000010	<0.000010	<0.000010	0.000011	<0.000010
Thorium (Th)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Tungsten (W)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Dissolved	mg/L	0.000588	0.000622	0.000596	0.000424	0.000355	0.000301	0.000401	0.000395	0.000324	0.000371
Vanadium (V)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.43	0.669	0.166	1.93	0.95	1.53	0.0445	0.0363	1.08	0.103
Zirconium (Zr)-Dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

Table 2: Water Quality Results Summary

Sample Location:		DP3											
	Date:	24-Apr-2020	4-May-2020	27-May-2020	9-Jun-2020	25-Jun-2020	10-Jul-2020	22-Jul-2020	7-Aug-2020	25-Aug-2020	4-Sep-2020	18-Sep-2020	
Parameter	Units	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Anions and Nutrients													
Bromide (Br)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chloride (Cl)	mg/L	20.9	21.4	21.7	21.1	22.6	22.8	21.1	22.1	22.0	21.2	23.8	
Fluoride (F)	mg/L	0.055	0.055	0.055	0.057	0.053	0.062	0.057	0.033	0.050	0.056	0.035	
Nitrate (as N)	mg/L	0.060	<0.020	<0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Nitrite (as N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Sulfate (SO4)	mg/L	32.7	32.7	28.3	20.1	16.8	11.9	8.3	159	98.1	94.5	71.7	
Dissolved Metals													
Aluminum (Al)-Dissolved	mg/L	0.0058	<0.0050	<0.0050	0.2920	0.0056	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Antimony (Sb)-Dissolved	mg/L	<0.00010	0.00011	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Arsenic (As)-Dissolved	mg/L	0.00088	0.00507	0.00522	0.00564	0.00460	0.00489	0.00425	0.00683	0.00733	0.00501	0.00563	
Barium (Ba)-Dissolved	mg/L	0.0750	0.0664	0.0801	0.1030	0.0696	0.0752	0.0714	0.1110	0.0927	0.0812	0.0904	
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Boron (B)-Dissolved	mg/L	<0.010	<0.010	<0.010	<0.010	0.011	0.011	0.01	0.013	0.012	0.011	0.012	
Cadmium (Cd)-Dissolved	mg/L	<0.0000050	<0.0000050	0.0000129	0.0000467	<0.0000050	<0.0000050	<0.0000050	0.0000098	<0.0000050	<0.0000050	<0.0000050	
Calcium (Ca)-Dissolved	mg/L	85.5	88.3	96.7	109.0	113.0	109.0	105.0	139.0	120.0	121.0	123.0	
Cesium (Cs)-Dissolved	mg/L	<0.000010	<0.000010	<0.000010	0.000014	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	0.00056	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Cobalt (Co)-Dissolved	mg/L	0.00150	0.00043	0.00046	0.00097	0.00035	0.00015	0.00014	0.00079	0.00088	0.00032	0.00052	
Copper (Cu)-Dissolved	mg/L	<0.00020	<0.00020	<0.00020	0.00152	0.00039	<0.00020	<0.00020	<0.00020	0.00021	<0.00020	<0.00020	
Iron (Fe)-Dissolved	mg/L	<0.010	7.94	8.51	6.8	9.52	8.19	6.89	11.3	9.11	7.57	7.05	
Lead (Pb)-Dissolved	mg/L	0.000135	<0.000050	<0.000050	0.004380	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Lithium (Li)-Dissolved	mg/L	<0.0010	<0.0010	0.0011	<0.0010	<0.0010	0.0011	0.0012	<0.0010	0.001	<0.0010	<0.0010	
Magnesium (Mg)-Dissolved	mg/L	19.0	18.0	21.1	23.4	22.6	21.9	22.5	28.5	25.1	23.1	24.9	
Manganese (Mn)-Dissolved	mg/L	0.849	0.878	1.170	1.280	1.160	1.030	0.977	1.410	1.190	1.050	1.150	
Molybdenum (Mo)-Dissolved	mg/L	0.00106	0.00075	0.00080	0.00076	0.00111	0.00079	0.00089	0.00061	0.00095	0.00082	0.00070	
Nickel (Ni)-Dissolved	mg/L	0.00450	0.01330	0.00908	0.00318	0.01190	0.00109	0.00058	0.00842	0.01920	0.00879	0.01140	
Phosphorus (P)-Dissolved	mg/L	<0.050	0.057	0.056	0.073	0.052	<0.050	<0.050	0.09	<0.050	<0.050	<0.050	
Potassium (K)-Dissolved	mg/L	0.768	0.441	0.537	0.703	0.529	0.566	0.576	0.711	0.679	0.565	0.607	
Rubidium (Rb)-Dissolved	mg/L	0.00097	0.00051	0.00063	0.00104	0.00063	0.00066	0.00065	0.00085	0.00087	0.00069	0.00075	
Selenium (Se)-Dissolved	mg/L	<0.000050	0.000056	0.000065	0.000511	<0.000050	0.000066	0.000066	0.00008	<0.000050	0.000051	0.000072	
Silicon (Si)-Dissolved	mg/L	5.51	6.43	7.14	8.50	8.42	8.16	8.13	8.89	8.22	8.03	8.32	
Silver (Ag)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Sodium (Na)-Dissolved	mg/L	11.6	10.0	10.5	11.5	10.4	10.7	11.1	12.2	11.5	11.3	11.4	
Strontium (Sr)-Dissolved	mg/L	0.124	0.129	0.149	0.159	0.155	0.153	0.159	0.205	0.187	0.185	0.189	
Sulfur (S)-Dissolved	mg/L	12.2	11.0	8.9	7.6	5.4	4.3	3.6	56.7	34.9	31.2	23.7	
Tellurium (Te)-Dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Thallium (Tl)-Dissolved	mg/L	<0.000010	<0.000010	<0.000010	0.000012	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Thorium (Th)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Tin (Sn)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Titanium (Ti)-Dissolved	mg/L	0.00030	0.00034	0.00032	0.00814	0.00035	<0.00030	<0.00030	0.00030	0.00033	<0.00030	<0.00030	
Tungsten (W)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Uranium (U)-Dissolved	mg/L	0.000185	0.000081	0.000156	0.000198	0.000115	0.000091	0.000104	0.000283	0.000413	0.000210	0.000219	
Vanadium (V)-Dissolved	mg/L	<0.00050	0.0016	0.00163	0.00257	0.00146	0.00119	0.00113	0.00119	0.00109	0.00113	0.00108	
Zinc (Zn)-Dissolved	mg/L	3.43	0.59	1.88	2.35	1.82	1.43	1.51	0.72	1.41	0.31	0.41	
Zirconium (Zr)-Dissolved	mg/L	<0.00020	0.00032	0.00035	0.00055	0.00045	0.00043	0.00042	0.00049	0.00045	0.0005	0.0004	

Table 2: Water Quality Results Summary