

Appendix C

Groundwater Quality



TABLE C1**Groundwater Quality Results - Field Parameters**

City of Guelph

Clair - Maltby Master Environmental Servicing Plan (MESP) and Secondary Plan (SP)

Monitoring Well	Sample Date	MSI Sample Number	Field Temp °C	Field pH	Field EC ²⁵ µS/cm	Field DO% % Saturation	Field Turbidity NTU
MW01-D	20-Oct-16	23089161020003	10.4	7.20	439	71.3	269.2
MW01-D	19-Apr-17	23089170419003	9.6	8.6	590	3	280.8
MW01-D	04-Oct-17	23089171004003	13.8	7.07	602	3.81	---
MW01-S	20-Oct-16	23089161020004	11.4	7.5	975	70.1	224.1
MW01-S	19-Apr-17	23089170419004	8.9	8	938	6.45	23.25
MW01-S	04-Oct-17	23089171004004	12.5	6.83	932	6.6	---
MW02-D	20-Oct-16	23089161020002	10.5	7.3	753	15.4	136.7
MW02-D	19-Apr-17	23089170419002	9	7.8	742	1.57	11.33
MW02-D	04-Oct-17	23089171004001	10.8	3.71	724	2.84	4.59
MW02-S	20-Oct-16	23089161020001	12.4	7	880	19.1	122.6
MW02-S	19-Apr-17	23089170419001	8.8	7.4	804	2.64	28.9
MW02-S	04-Oct-17	23089171004002	13	6.07	740	2.99	133.2
MW03-D	20-Oct-16	23089161020005	8.4	8.1	547	22	449.7
MW03-D	19-Apr-17	23089170419006	8.9	8.1	558	1.88	160.3
MW03-D	10-Oct-17	23089171010003	8.82	6.95	534	6.09	23.92
MW03-S	20-Oct-16	23089161020006	8.8	7.7	676	54.2	---
MW03-S	19-Apr-17	23089170419005	9	7.9	666	6.13	962.3
MW03-S	10-Oct-17	23089171010002	11.17	6.67	712	7.62	>1100
MW04-D	20-Oct-16	23089161020008	8.7	8.2	504	23.1	---
MW04-D	19-Apr-17	23089170419008	8.7	8.6	540	3.53	85.33
MW04-D	04-Oct-17	23089171004006	11.2	6.71	489	2.41	395.1
MW04-S	20-Oct-16	23089161020007	9.3	8.3	598	45.6	---
MW04-S	19-Apr-17	23089170419007	10.7	8.4	567	4.72	>1100
MW04-S	04-Oct-17	23089171004005	11.9	6.6	570	8.94	>1000
MW05-D	19-Oct-16	23089161019007	9.9	7.4	683	15.1	856.7
MW05-D	19-Apr-17	23089170419010	9.8	8.3	690	1.54	>1100
MW05-D	05-Oct-17	23089171005001	12.3	6.18	678	1.95	>1100
MW05-S	19-Oct-16	23089161019006	9.8	7.3	790	22.2	478
MW05-S	19-Apr-17	23089170419009	9.8	7.6	673	1.5	30.02
MW05-S	05-Oct-17	23089171005002	12.3	6.47	646	2.2	32.43

TABLE C1**Groundwater Quality Results - Field Parameters**

City of Guelph

Clair - Maltby Master Environmental Servicing Plan (MESP) and Secondary Plan (SP)

Monitoring Well	Sample Date	MSI Sample Number	Field Temp °C	Field pH	Field EC ²⁵ µS/cm	Field DO% % Saturation	Field Turbidity NTU
MW06-D	19-Oct-16	23089161019004	10.4	8.1	474	25.3	185.8
MW06-D	19-Apr-17	23089170419012	9.4	8.3	444	2.78	66.92
MW06-D	05-Oct-17	23089171005003	11.22	7.11	431	3.64	37.91
MW06-S	19-Oct-16	23089161019005	10.8	8.2	616	33.3	973.5
MW06-S	19-Apr-17	23089170419011	10.5	8.1	616	2.07	>1100
MW06-S	04-Oct-17	23089171004009	12.1	6.56	628	4.63	1097
MW07-D	19-Oct-16	23089161019001	10.1	7.4	709	42.7	428
MW07-D	19-Apr-17	23089170419015	9.5	7.9	686	3.96	86.81
MW07-D	10-Oct-17	23089171010001	10.01	6.45	683	3.4	200
MW08-D	19-Oct-16	23089161019002	10.3	7	1188	35	>1100
MW08-D	19-Apr-17	23089170419014	9.8	7.8	1119	2.63	811.9
MW08-D	05-Oct-17	23089171005004	9.89	7.1	1179	5.48	262.6
MW08-S	19-Oct-16	23089161019003	11.9	7.3	597	22.6	727.8
MW08-S	19-Apr-17	23089170419013	9.8	7.7	669	1.09	>1100
MW08-S	05-Oct-17	23089171005005	10.78	7	653	3.23	903.7
MW09-D	21-Oct-16	23089161021001	8.5	8.4	486	30	---
MW09-D	19-Apr-17	23089170419017	8.6	8.3	485	4.65	686.9
MW09-D	04-Oct-17	23089171004008	11.7	6.27	467	4.36	139.7
MW09-S	21-Oct-16	23089161021002	8.4	7.8	635	69.1	---
MW09-S	19-Apr-17	23089170419016	9.5	8.1	680	5.37	>1100
MW09-S	04-Oct-17	23089171004007	11.37	6.51	626	8.8	>1100

Notes:

--- - not analyzed

²⁵ - field EC corrected to 25°C

NTU - nephelometric turbidity units

TABLE C2

Groundwater Quality Results - Routine Parameters

City of Guelph

Clair - Maltby Master Environmental Servicing Plan (MESP) and Secondary Plan (SP)

Monitoring Well	Sample Date	MSI Sample Number	Lab pH	Lab EC μ S/cm	Temp at lab $^{\circ}$ C	Ca mg/L	Mg mg/L	Na mg/L	K mg/L	Fe mg/L	Mn mg/L	Cl mg/L	SO ₄ mg/L	NO ₂ -N mg/L	NO ₃ -N mg/L	TKN mg/L	Alkalinity-T mg/L	HCO ₃ mg/L	Hardness-T mg/L	TDS mg/L
MW01-D	20-Oct-16	23089161020003	7.96	411	5.3	20.7	19.3	33.7	0.798	<0.010	0.0157	13.2	23.4	<0.050	<0.10	0.67	188	188	131	246
MW01-D	19-Apr-17	23089170419003	8.17	586	2.4	34.2	29.2	34.4	0.849	0.018	0.0133	40.8	37.5	<0.010	<0.020	1.9	246	246	206	304
MW01-D	04-Oct-17	23089171004003	8.21	590	3.3	38.6	32.4	35.6	0.888	0.031	0.0314	42.2	38.8	<0.010	<0.020	<0.15	236	236	230	348
MW01-S	20-Oct-16	23089161020004	7.2	947	5.3	87.8	29	49	1.65	<0.010	0.00157	106	49.3	<0.010	2.12	0.43	291	291	339	550
MW01-S	19-Apr-17	23089170419004	7.89	938	2.4	96	28.5	48.2	1.57	<0.010	<0.00050	98.5	50.4	<0.010	2.2	0.38	285	285	357	497
MW01-S	04-Oct-17	23089171004004	8.04	935	3.3	95.2	29.9	50	1.85	<0.010	0.0006	101	52.2	<0.010	1.73	<0.15	299	299	361	542
MW02-D	20-Oct-16	23089161020002	7.15	723	5.3	97	26.7	8.9	1.01	0.452	0.157	18.4	34.9	<0.010	<0.020	0.44	354	354	352	416
MW02-D	19-Apr-17	23089170419002	7.8	741	2.4	100	28.1	6.04	0.855	1.04	0.109	16.2	31.9	<0.010	<0.020	0.4	364	364	366	397
MW02-D	04-Oct-17	23089171004001	8	720	3.3	103	30.2	6.55	0.871	1.82	0.092	16.3	35	<0.010	<0.020	0.26	378	378	382	440
MW02-S	20-Oct-16	23089161020001	6.85	862	5.3	98.3	25.1	32.8	0.868	1.27	0.459	61.3	20.2	<0.010	<0.020	0.48	375	375	349	495
MW02-S	19-Apr-17	23089170419001	7.64	803	2.4	113	28.3	12.2	0.539	1.66	0.482	21	21.9	<0.010	<0.020	0.42	397	397	399	421
MW02-S	04-Oct-17	23089171004002	7.81	737	3.3	98.8	24.4	21.4	0.633	1.39	0.465	29.4	7.54	<0.010	<0.020	0.35	377	377	347	396
MW03-D	20-Oct-16	23089161020005	7.54	517	5.3	57.9	25.4	4.38	0.986	0.222	0.0174	12.6	27.7	<0.010	<0.020	0.23	248	248	249	293
MW03-D	19-Apr-17	23089170419006	8.03	547	2.4	64	25.9	4.22	1.01	0.209	0.014	13.4	28.6	<0.010	<0.020	0.25	258	258	267	301
MW03-D	10-Oct-17	23089171010003	8.09	536	4.7	65.7	27.2	4.48	1.03	0.227	0.0134	12.9	27.2	<0.010	<0.020	<0.15	250	250	276	287
MW03-S	20-Oct-16	23089161020006	7.38	680	5.3	80.5	28	13.7	1.62	<0.010	0.013	28.6	20.4	<0.010	1.65	<1.5	317	317	316	385
MW03-S	19-Apr-17	23089170419005	7.94	697	2.4	87.2	28.3	12.1	1.57	<0.010	0.00384	24.2	19.8	<0.010	1.6	<1.5	321	321	334	377
MW03-S	10-Oct-17	23089171010002	8.1	711	4.7	88.9	29.6	15.2	1.55	<0.010	0.00663	31.6	20.6	<0.010	1.83	0.21	308	308	344	406
MW04-D	20-Oct-16	23089161020008	7.76	484	5.3	41.9	26.6	13.5	1.48	0.288	0.0135	9.95	25.7	<0.010	<0.020	0.18	239	239	214	278
MW04-D	19-Apr-17	23089170419008	8.13	518	2.4	50.4	23.3	16.4	1.28	0.056	0.0156	7.3	20.9	<0.010	<0.020	<0.15	264	264	222	269
MW04-D	04-Oct-17	23089171004006	8.08	490	3.3	50.7	26.5	13.9	1.24	0.249	0.0135	7.39	20.8	<0.010	<0.020	<1.5	261	261	236	244
MW04-S	20-Oct-16	23089161020007	7.66	568	5.3	53.2	25.4	18.5	2.8	<0.010	0.0575	26.8	48.8	0.028	<0.020	5	227	227	237	323
MW04-S	19-Apr-17	23089170419007	8.07	560	2.4	63.1	24.8	11	1.51	<0.010	0.0181	23.4	45.6	<0.010	0.149	<1.5	233	233	260	336
MW04-S	04-Oct-17	23089171004005	8.11	557	3.3	64.5	27.2	8.63	1.34	<0.010	0.0257	23.3	45.2	<0.010	0.039	1.7	249	249	273	352
MW05-D	19-Oct-16	23089161019007	7.17	663	8.7	94.3	27	4.71	0.837	2.25	0.0829	11.9	36	<0.010	<0.020	4.1	366	366	347	396
MW05-D	19-Apr-17	23089170419010	7.87	689	2.4	89	25.8	3.98	0.745	2.91	0.08	11.6	34.3	<0.010	<0.020	<1.5	354	354	328	448
MW05-D	05-Oct-17	23089171005001	8	674	3.3	96.3	26.7	4.04	0.776	2.76	0.0828	11.7	36.9	<0.010	<0.020	1.39	336	336	350	402
MW05-S	19-Oct-16	23089161019006	7.17	750	8.7	105	35.8	5.53	1.63	0.346	0.159	10	89.4	0.056	0.429	0.62	327	327	410	430
MW05-S	19-Apr-17	23089170419009	7.85	674	2.4	89.7	29.1	3.66	1.28	0.733	0.0976	10.8	39.4	<0.010	<0.020	0.25	307	307	344	422
MW05-S	05-Oct-17	23089171005002	8.08	644	3.3	85.7	29.8	5.27	1.4	0.288	0.0972	10.2	48	0.012	0.384	0.22	309	309	337	364
MW06-D	19-Oct-16	23089161019004	7.64	460	8.7	50.9	20.8	15.1	1.28	0.067	0.0154	4.32	24.7	<0.010	<0.020	0.19	229	229	213	259
MW06-D	19-Apr-17	23089170419012	8.12	436	2.4	51.8	20.2	6.2	1.05	0.089	0.0137	3.55	15.3	<0.010	<0.020	<0.15	224	224	213	260
MW06-D	05-Oct-17	23089171005003	8.17	431	3.3	54	20.2	5.81	1.14	0.07	0.0163	3.34	16.6	<0.010	0.046	<0.15	221	221	218	235
Ontario Drinking Water Quality Standards ⁺			6.5 - 8.5 ^{OG}	NS	NS	NS	NS	200 ^{AO,Na}	NS	0.3 ^{AO}	0.05 ^{AO}	250 ^{AO}	500 ^{AO}	1 ^{MAC}	10 ^{MAC}	NS	30 - 500 ^{OG}	NS	80 - 100 ^{OG}	500 ^{AO}

TABLE C2

Groundwater Quality Results - Routine Parameters

City of Guelph

Clair - Maltby Master Environmental Servicing Plan (MESP) and Secondary Plan (SP)

Monitoring Well	Sample Date	MSI Sample Number	Lab pH	Lab EC μ S/cm	Temp at lab $^{\circ}$ C	Ca mg/L	Mg mg/L	Na mg/L	K mg/L	Fe mg/L	Mn mg/L	Cl mg/L	SO ₄ mg/L	NO ₂ -N mg/L	NO ₃ -N mg/L	TKN mg/L	Alkalinity-T mg/L	HCO ₃ mg/L	Hardness-T mg/L	TDS mg/L
MW06-S	19-Oct-16	23089161019005	7.53	602	8.7	69.2	29.7	13	2.2	0.012	0.0453	9.21	55.6	<0.010	<0.020	0.28	282	282	295	351
MW06-S	19-Apr-17	23089170419011	8.08	616	2.4	99.5	39.5	5.2	1.78	0.79	0.121	8.23	70.5	<0.010	<0.020	<1.5	316	316	411	404
MW06-S	04-Oct-17	23089171004009	8.01	625	3.3	73.3	31	10.6	1.45	0.589	0.0452	11.4	76.4	<0.010	<0.020	<0.15	271	271	311	400
MW07-D	19-Oct-16	23089161019001	7.44	696	8.7	79.3	30.7	17.1	1.55	0.024	0.0787	39.6	47.4	0.028	0.318	<0.15	276	276	325	386
MW07-D	19-Apr-17	23089170419015	7.99	682	2.4	77.7	27.9	13.2	1.4	0.021	0.0654	32.4	42.1	0.012	0.125	<0.15	281	281	309	413
MW07-D	10-Oct-17	23089171010001	8.12	701	4.7	76.4	29	18	1.65	0.028	0.0696	40.4	41.2	<0.010	0.578	0.19	285	285	310	416
MW08-D	19-Oct-16	23089161019002	7.23	1180	8.7	105	30.5	88.3	3.18	<0.010	0.0434	189	32	<0.050	1.49	0.51	336	336	388	639
MW08-D	19-Apr-17	23089170419014	7.88	1180	2.4	100	28.8	85.2	3.37	<0.010	0.0191	167	29.5	0.015	1.51	<1.5	354	354	369	718
MW08-D	05-Oct-17	23089171005004	8.09	1180	3.3	101	29.3	88.6	3.42	<0.010	0.021	170	29.9	0.014	1.31	<0.15	321	321	374	663
MW08-S	19-Oct-16	23089161019003	7.25	569	8.7	77.7	22.8	4.17	1.29	<0.010	0.00707	14.4	4.79	<0.010	1.04	0.76	288	288	288	295
MW08-S	19-Apr-17	23089170419013	7.78	664	2.4	92	24.2	3.74	0.87	<0.010	0.0013	13.5	5.89	<0.010	1.81	<1.5	354	354	329	385
MW08-S	05-Oct-17	23089171005005	7.93	656	3.3	95.1	24.6	3.25	0.744	<0.010	0.00133	15.9	4.95	<0.010	4.19	0.15	321	321	339	352
MW09-D	21-Oct-16	23089161021001	7.56	445	12	54.4	22.3	12.1	1.08	0.024	0.0367	2.79	7.88	<0.010	<0.020	0.48	237	237	228	272
MW09-D	19-Apr-17	23089170419017	8.12	469	2.4	53.9	20.8	10.1	0.997	0.06	0.0551	3.06	4.98	<0.010	<0.020	0.84	294	294	220	312
MW09-D	04-Oct-17	23089171004008	7.98	466	3.3	59.8	21.8	7.31	0.99	0.084	0.0581	2.56	4.55	<0.010	<0.020	0.29	264	264	239	278
MW09-S	21-Oct-16	23089161021002	7.28	583	12	89.3	23.4	4.69	3.34	<0.010	0.00469	14.1	16.9	<0.010	7	1.91	260	260	319	346
MW09-S	19-Apr-17	23089170419016	7.96	659	2.4	89.1	23.5	5.71	3.63	<0.010	0.00068	19.9	15	<0.010	7.17	1.6	338	338	319	430
MW09-S	04-Oct-17	23089171004007	7.88	620	3.3	87.2	23.9	5.41	4.35	0.109	0.00058	14.7	17	<0.010	7.09	<1.5	283	283	316	376
Ontario Drinking Water Quality Standards*			6.5 - 8.5^{OG}	NS	NS	NS	NS	200^{AO,Na}	NS	0.3^{AO}	0.05^{AO}	250^{AO}	500^{AO}	1^{MAC}	10^{MAC}	NS	30 - 500^{OG}	NS	80 - 100^{OG}	500^{AO}

Notes:

- - not analyzed
- NS - not specified
- ²⁵ - field EC corrected to 25°C
- AO - aesthetic objective
- OG - operational guidelines
- ^{MAC} - maximum acceptable concentration
- ^{Na} - the local Medical Officer or Health should be notified when sodium concentrations exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium rest
- * - *Technical Support Document for Ontario Drinking Water Quality Standards, Objectives and Guidelines* (MOE 2006)
- Italics** - values do not meet applicable guidelines

TABLE C3
Groundwater Quality Results - Dissolved Metals
City of Guelph
Clair - Maltby Master Environmental Servicing Plan (MESP) and Secondary Plan (SP)

Monitoring Well	Sample Date	MSI Sample Number	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Cs mg/L	Cr mg/L	Co mg/L	Cu mg/L	Pb mg/L	Li mg/L	Mo mg/L	Ni mg/L	P mg/L
MW01-D	20-Oct-16	23089161020003	0.007	0.00024	0.00763	0.0345	<0.00010	<0.000050	0.078	<0.000010	<0.000010	<0.00050	0.00022	0.00059	<0.000050	0.002	0.00453	0.00152	<0.050
MW01-D	19-Apr-17	23089170419003	<0.0050	0.00015	0.0127	0.049	<0.00010	<0.000050	0.072	<0.000010	<0.000010	<0.00050	0.00042	0.00069	<0.000050	0.002	0.00312	0.00245	<0.050
MW01-D	04-Oct-17	23089171004003	<0.0050	0.00017	0.00876	0.044	<0.00010	<0.000050	0.065	0.000011	<0.000010	<0.00050	0.00072	0.00104	<0.000050	0.005	0.00293	0.00291	<0.050
MW01-S	20-Oct-16	23089161020004	<0.0050	<0.00010	0.00012	0.0573	<0.00010	<0.000050	0.021	0.000195	<0.000010	<0.00050	<0.00010	0.00129	0.00018	0.002	0.000284	0.00082	<0.050
MW01-S	19-Apr-17	23089170419004	<0.0050	<0.00010	0.00011	0.056	<0.00010	<0.000050	0.019	0.000183	<0.000010	<0.00050	<0.00010	0.00143	0.00026	0.002	0.000425	0.00069	<0.050
MW01-S	04-Oct-17	23089171004004	<0.0050	<0.00010	0.00014	0.0609	<0.00010	<0.000050	0.021	0.000192	<0.000010	<0.00050	<0.00010	0.00191	0.000214	0.003	0.000578	0.00157	<0.050
MW02-D	20-Oct-16	23089161020002	<0.0050	0.00046	0.0104	0.0901	<0.00010	<0.000050	0.015	<0.000010	<0.000010	<0.00050	0.00137	0.00056	0.000163	0.002	0.00136	0.00619	<0.050
MW02-D	19-Apr-17	23089170419002	<0.0050	<0.00010	0.0049	0.0885	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	0.00059	<0.00020	0.000281	0.002	0.000484	0.003	<0.050
MW02-D	04-Oct-17	23089171004001	<0.0050	<0.00010	0.00358	0.0906	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	0.00028	0.0004	0.000126	0.003	0.000396	0.00154	<0.050
MW02-S	20-Oct-16	23089161020001	0.0064	0.00049	0.023	0.0647	<0.00010	<0.000050	0.028	<0.000010	<0.000010	<0.00050	0.003	0.00056	0.000266	0.001	0.00192	0.0126	<0.050
MW02-S	19-Apr-17	23089170419001	0.0052	0.00013	0.0315	0.0482	<0.00010	<0.000050	0.019	<0.000010	<0.000010	<0.00050	0.00182	0.00023	0.000066	0.002	0.000828	0.00841	<0.050
MW02-S	04-Oct-17	23089171004002	0.0093	0.00011	0.0197	0.0471	<0.00010	<0.000050	0.02	<0.000010	<0.000010	<0.00050	0.00101	0.00063	0.000066	0.002	0.000821	0.00491	<0.050
MW03-D	20-Oct-16	23089161020005	<0.0050	<0.00010	0.00238	0.0806	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	0.00013	0.00032	<0.000050	0.002	0.000905	<0.00050	<0.050
MW03-D	19-Apr-17	23089170419006	<0.0050	<0.00010	0.00244	0.0778	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	<0.00010	0.00082	<0.000050	0.003	0.000864	<0.00050	<0.050
MW03-D	10-Oct-17	23089171010003	<0.0050	<0.00010	0.00233	0.0787	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	<0.00010	0.00042	<0.000050	0.003	0.000809	<0.00050	<0.050
MW03-S	20-Oct-16	23089161020006	<0.0050	<0.00010	0.00019	0.0832	<0.00010	<0.000050	0.011	0.000064	<0.000010	<0.00050	<0.00010	0.00081	0.000158	<0.0010	0.000447	0.00083	<0.050
MW03-S	19-Apr-17	23089170419005	<0.0050	<0.00010	0.00024	0.087	<0.00010	<0.000050	0.011	0.000051	<0.000010	<0.00050	<0.00010	0.00052	0.000086	<0.0010	0.000289	0.0005	<0.050
MW03-S	10-Oct-17	23089171010002	<0.0050	<0.00010	0.0003	0.094	<0.00010	<0.000050	0.01	0.00006	0.00001	<0.00050	<0.00010	0.00126	0.00009	<0.0010	0.000247	0.00077	<0.050
Ontario Drinking Water Quality Standards ⁺			0.1 ^{OG}	0.006 ^{IMAC}	0.025 ^{IMAC}	1 ^{MAC}	NS	NS	5 ^{IMAC}	0.005 ^{MAC}	NS	0.05 ^{MAC}	NS	1 ^{AO}	0.01 ^{MAC,Pb}	NS	NS	NS	NS

Monitoring Well	Sample Date	MSI Sample Number	Rb mg/L	Se mg/L	Si mg/L	Ag mg/L	S mg/L	Sr mg/L	Te mg/L	Tl mg/L	Th mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	W mg/L	Zn mg/L	Zr mg/L
MW01-D	20-Oct-16	23089161020003	0.00082	<0.000050	4.6	<0.000050	7.99	0.314	<0.00020	<0.000010	<0.00010	0.00014	<0.00030	0.00232	0.001	<0.00010	0.0042	<0.00030
MW01-D	19-Apr-17	23089170419003	0.00073	<0.000050	5.63	<0.000050	12.1	0.483	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.00123	0.00086	<0.00010	0.0032	<0.00030
MW01-D	04-Oct-17	23089171004003	0.00045	<0.000050	6.23	<0.000050	14.2	0.461	<0.00020	<0.000010	<0.00010	0.00013	<0.00030	0.000498	<0.00050	<0.00010	0.0074	<0.00030
MW01-S	20-Oct-16	23089161020004	0.0026	0.000229	4	<0.000050	16.5	0.326	<0.00020	0.000021	<0.00010	<0.00010	<0.00030	0.000809	<0.00050	<0.00010	0.111	<0.00030
MW01-S	19-Apr-17	23089170419004	0.00221	0.000324	3.79	<0.000050	18.3	0.385	<0.00020	0.00002	<0.00010	<0.00010	<0.00030	0.000961	<0.00050	<0.00010	0.097	<0.00030
MW01-S	04-Oct-17	23089171004004	0.00275	0.000192	4.45	<0.000050	19.8	0.411	<0.00020	0.000023	<0.00010	<0.00010	<0.00030	0.000941	<0.00050	<0.00010	0.103	<0.00030
MW02-D	20-Oct-16	23089161020002	0.00129	<0.000050	5.6	<0.000050	11.2	0.142	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.00489	<0.00050	<0.00010	0.0404	<0.00030
MW02-D	19-Apr-17	23089170419002	0.0011	<0.000050	7.59	<0.000050	11.3	0.133	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.000766	<0.00050	<0.00010	0.0354	<0.00030
MW02-D	04-Oct-17	23089171004001	0.0011	<0.000050	8.38	<0.000050	12.7	0.122	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.000309	<0.00050	<0.00010	0.0183	<0.00030
MW02-S	20-Oct-16	23089161020001	0.00182	0.000151	3.84	<0.000050	6.4	0.144	<0.00020	<0.000010	<0.00010	<0.00010	<0.00040	0.00961	0.00128	<0.00010	0.183	0.00053
MW02-S	19-Apr-17	23089170419001	0.00084	0.000112	3.75	<0.000050	8.23	0.148	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.00506	0.00085	<0.00010	0.0772	0.00054
MW02-S	04-Oct-17	23089171004002	0.00126	0.000096	4.18	<0.000050	4.24	0.117	<0.00020	<0.000010	<0.00010	<0.00010	0.00042	0.00242	0.00141	<0.00010	0.0574	0.00052
MW03-D	20-Oct-16	23089161020005	0.00056	<0.000050	6.41	<0.000050	8.95	0.109	<0.00020	<0.000010	<0.00010	0.00012	<0.00030	0.00149	<0.00050	<0.00010	0.0053	<0.00030
MW03-D	19-Apr-17	23089170419006	0.00054	0.00009	7.24	<0.000050	9.98	0.115	<0.00020	<0.000010	<0.00010	0.00017	<0.00030	0.000915	<0.00050	<0.00010	0.0087	<0.00030
MW03-D	10-Oct-17	23089171010003	0.0005	<0.000050	6.78	<0.000050	9.11	0.111	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.000646	<0.00050	<0.00010	0.0072	<0.00030
MW03-S	20-Oct-16	23089161020006	0.00205	0.000258	5.02	<0.000050	6.67	0.11	<0.00020	0.000024	<0.00010	<0.00010	<0.00030	0.00102	<0.00050	<0.00010	0.0648	<0.00030
MW03-S	19-Apr-17	23089170419005	0.00327	0.000309	5.44	<0.000050	7.06	0.099	<0.00020	0.000021	<0.00010	<0.00010	<0.00030	0.000608	<0.00050	<0.00010	0.0239	<0.00030
MW03-S	10-Oct-17	23089171010002	0.00416	0.000261	5.34	<0.000050	6.96	0.102	<0.00020	0.000035	<0.00010	<0.00010	<0.00030	0.000484	<0.00050	<0.00010	0.0485	<0.00030
Ontario Drinking Water Quality Standards ⁺			NS	0.01 ^{MAC}	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.02 ^{MAC}	NS	NS	5 ^{AO}	NS

Notes:
--- - not analyzed
NS - not specified
AO - aesthetic objective from Guidelines for Canadian Drinking Water Quality-Summary Table (Health Canada 2017)
OG - operational guidelines
MAC - maximum acceptable concentration from Guidelines for Canadian Drinking Water Quality-Summary Table (Health Canada 2017)
IMAC - interim maximum acceptable concentration
Pb - standard applies to water at the point of consumption. Since lead is a component in some plumbing systems, first flush water may contain higher concentrations of lead than water that has been flushed for five minutes.
+ - Technical Support Document for Ontario Drinking Water Quality Standards, Objectives and Guidelines (MOE 2006)
Italics - values do not meet applicable guidelines

TABLE C3

Groundwater Quality Results - Dissolved Metals

City of Guelph
Clair - Maltby Master Environmental Servicing Plan (MESP) and Secondary Plan (SP)

Monitoring Well	Sample Date	MSI Sample Number	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Cs mg/L	Cr mg/L	Co mg/L	Cu mg/L	Pb mg/L	Li mg/L	Mo mg/L	Ni mg/L	P mg/L
MW04-D	20-Oct-16	23089161020008	<0.0050	<0.00010	0.00812	0.0637	<0.00010	<0.000050	0.015	<0.000010	<0.000010	<0.00050	<0.00010	0.00033	<0.000050	0.003	0.00315	<0.00050	<0.050
MW04-D	19-Apr-17	23089170419008	<0.0050	<0.00010	0.00758	0.0538	<0.00010	<0.000050	0.016	<0.000010	<0.000010	<0.00050	0.00013	0.00023	<0.000050	0.003	0.00213	0.00052	<0.050
MW04-D	04-Oct-17	23089171004006	<0.0050	<0.00010	0.01	0.0575	<0.00010	<0.000050	0.016	<0.000010	<0.000010	<0.00050	<0.00010	<0.00020	<0.000050	0.006	0.00142	<0.00050	<0.050
MW04-S	20-Oct-16	23089161020007	<0.0050	0.0004	0.0003	0.0793	<0.00010	<0.000050	0.018	<0.000010	<0.000010	<0.00050	0.00023	0.00037	<0.000050	<0.0010	0.0066	0.00647	<0.050
MW04-S	19-Apr-17	23089170419007	<0.0050	0.00027	0.00227	0.0615	<0.00010	<0.000050	0.013	<0.000010	<0.000010	<0.00050	<0.00010	0.00038	<0.000050	0.002	0.00418	0.00091	<0.050
MW04-S	04-Oct-17	23089171004005	<0.0050	<0.00010	0.00272	0.0612	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	0.00014	0.00057	<0.000050	0.004	0.00182	0.0006	<0.050
MW05-D	19-Oct-16	23089161019007	<0.0050	<0.00010	0.0008	0.145	<0.00010	<0.000050	<0.010	<0.000010	0.000011	<0.00050	0.00011	<0.00020	<0.000050	0.002	0.000176	0.0009	<0.050
MW05-D	19-Apr-17	23089170419010	<0.0050	<0.00010	0.00029	0.118	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	<0.00010	0.00025	<0.000050	0.002	0.000089	<0.00050	<0.050
MW05-D	05-Oct-17	23089171005001	<0.0050	<0.00010	0.00025	0.124	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	<0.00010	<0.00020	<0.000050	0.003	0.000177	<0.00050	<0.050
MW05-S	19-Oct-16	23089161019006	<0.0050	0.00041	0.00333	0.126	<0.00010	<0.000050	<0.010	0.000019	<0.000010	<0.00050	0.00092	0.00046	0.000154	0.004	0.0235	0.00372	<0.050
MW05-S	19-Apr-17	23089170419009	<0.0050	<0.00010	0.00553	0.127	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	0.00018	0.00025	0.000141	0.003	0.0044	0.00109	<0.050
MW05-S	05-Oct-17	23089171005002	<0.0050	<0.00010	0.00304	0.122	<0.00010	<0.000050	<0.010	0.00001	<0.000010	0.00274	0.00028	<0.00020	0.000071	0.005	0.00492	0.00131	<0.050
MW06-D	19-Oct-16	23089161019004	<0.0050	<0.00010	0.00166	0.121	<0.00010	<0.000050	0.012	<0.000010	<0.000010	<0.00050	0.00013	0.00037	<0.000050	0.003	0.0023	<0.00050	<0.050
MW06-D	19-Apr-17	23089170419012	<0.0050	<0.00010	0.0015	0.112	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	<0.00010	<0.00020	<0.000050	0.002	0.000896	<0.00050	<0.050
MW06-D	05-Oct-17	23089171005003	<0.0050	<0.00010	0.00129	0.111	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.00050	<0.00010	0.00041	<0.000050	0.003	0.000828	<0.00050	<0.050
MW06-S	19-Oct-16	23089161019005	<0.0050	0.0003	0.00104	0.124	<0.00010	<0.000050	0.014	<0.000010	<0.000010	<0.00050	0.0002	0.00046	<0.000050	0.002	0.00323	<0.00050	<0.050
MW06-S	19-Apr-17	23089170419011	0.627	<0.0010	0.0015	0.129	<0.00010	<0.000050	<0.10	<0.000010	0.00011	<0.00050	<0.00010	<0.00020	0.00511	<0.0010	0.00181	<0.00050	<0.50
MW06-S	04-Oct-17	23089171004009	<0.0050	<0.00010	0.00165	0.121	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	0.00131	0.00011	0.00029	<0.000050	0.003	0.00251	0.00067	<0.050
Ontario Drinking Water Quality Standards ⁺			0.1 ^{OG}	0.006 ^{IMAC}	0.025 ^{IMAC}	1 ^{MAC}	NS	NS	5 ^{IMAC}	0.005 ^{MAC}	NS	0.05 ^{MAC}	NS	1 ^{AO}	0.01 ^{MAC,Pb}	NS	NS	NS	NS

Monitoring Well	Sample Date	MSI Sample Number	Rb mg/L	Se mg/L	Si mg/L	Ag mg/L	S mg/L	Sr mg/L	Te mg/L	Tl mg/L	Th mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	W mg/L	Zn mg/L	Zr mg/L
MW04-D	20-Oct-16	23089161020008	0.00062	<0.000050	8.69	<0.000050	8.32	0.158	<0.00020	<0.000010	<0.00010	0.00013	<0.00030	0.00112	<0.00050	<0.00010	0.0272	<0.00030
MW04-D	19-Apr-17	23089170419008	0.00089	0.000252	9.28	<0.000050	7.48	0.145	<0.00020	<0.000010	<0.00010	0.00029	<0.00030	0.00109	0.00071	<0.00010	0.0038	<0.00030
MW04-D	04-Oct-17	23089171004006	0.00052	0.000073	10.9	<0.000050	7.58	0.149	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.000633	<0.00050	<0.00010	<0.0010	<0.00030
MW04-S	20-Oct-16	23089161020007	0.00208	0.000206	5.85	<0.000050	15.5	0.256	<0.00020	0.000014	<0.00010	0.0007	<0.00030	0.00248	<0.00050	<0.00010	0.0039	<0.00030
MW04-S	19-Apr-17	23089170419007	0.00089	0.000063	8.05	<0.000050	15.1	0.145	<0.00020	<0.000010	<0.00010	0.00036	<0.00030	0.00241	0.0006	<0.00010	0.0017	<0.00030
MW04-S	04-Oct-17	23089171004005	0.00079	<0.000050	9.81	<0.000050	15.9	0.135	<0.00020	0.000013	<0.00010	<0.00010	<0.00030	0.00165	0.00067	<0.00010	0.0025	<0.00030
MW05-D	19-Oct-16	23089161019007	0.00075	<0.000050	9.08	<0.000050	11.6	0.135	<0.00020	<0.000010	<0.00010	<0.00010	0.00038	0.000113	0.00062	<0.00010	0.0019	0.00051
MW05-D	19-Apr-17	23089170419010	0.00046	0.000168	9.2	<0.000050	12.1	0.138	<0.00020	<0.000010	<0.00010	<0.00010	0.00032	0.000034	0.00054	<0.00010	0.0049	0.00067
MW05-D	05-Oct-17	23089171005001	0.00054	0.000064	10.2	<0.000050	13.5	0.127	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.000042	0.00062	<0.00010	<0.0010	0.00059
MW05-S	19-Oct-16	23089161019006	0.0024	0.000167	4.01	<0.000050	31	0.143	<0.00020	0.00002	<0.00010	<0.00010	<0.00030	0.024	<0.00050	<0.00010	0.0276	<0.00030
MW05-S	19-Apr-17	23089170419009	0.00065	<0.000050	5.06	<0.000050	17.2	0.126	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.00825	<0.00050	<0.00010	0.0099	<0.00030
MW05-S	05-Oct-17	23089171005002	0.00081	<0.000050	5.02	<0.000050	18.1	0.107	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.00511	<0.00050	<0.00010	0.0106	<0.00030
MW06-D	19-Oct-16	23089161019004	0.00075	<0.000050	6.43	<0.000050	8.63	0.123	<0.00020	<0.000010	<0.00010	0.00016	<0.00030	0.00202	<0.00050	<0.00010	0.0038	<0.00030
MW06-D	19-Apr-17	23089170419012	0.0005	0.000272	7.31	<0.000050	5.5	0.126	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.000905	<0.00050	<0.00010	0.002	<0.00030
MW06-D	05-Oct-17	23089171005003	0.00075	<0.000050	7.72	<0.000050	6.15	0.112	<0.00020	<0.000010	<0.00010	0.00011	<0.00030	0.000595	<0.00050	<0.00010	0.0317	<0.00030
MW06-S	19-Oct-16	23089161019005	0.00159	0.000053	4.2	<0.000050	18.1	0.256	<0.00020	<0.000010	<0.00010	0.00061	<0.00030	0.00545	<0.00050	<0.00010	0.0509	<0.00030
MW06-S	19-Apr-17	23089170419011	0.0027	<0.000050	7.54	<0.000050	24.4	0.177	<0.00020	<0.000010	<0.0010	<0.0010	<0.030	0.00376	<0.00050	<0.0010	0.013	<0.00030
MW06-S	04-Oct-17	23089171004009	0.00095	<0.000050	6.39	<0.000050	28.7	0.137	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.00241	<0.00050	<0.00010	0.0028	<0.00030
Ontario Drinking Water Quality Standards ⁺			NS	0.01 ^{MAC}	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.02 ^{MAC}	NS	NS	5 ^{AO}	NS

Notes:

- - not analyzed
- NS - not specified
- AO - aesthetic objective from Guidelines for Canadian Drinking Water Quality-Summary Table (Health Canada 2017)
- OG - operational guidelines
- MAC - maximum acceptable concentration from Guidelines for Canadian Drinking Water Quality-Summary Table (Health Canada 2017)
- IMAC - interim maximum acceptable concentration
- Pb - standard applies to water at the point of consumption. Since lead is a component in some plumbing systems, first flush water may contain higher concentrations of lead than water that has been flushed for five minutes.
- + - Technical Support Document for Ontario Drinking Water Quality Standards, Objectives and Guidelines (MOE 2006)
- Italics** - values do not meet applicable guidelines

TABLE C3

Groundwater Quality Results - Dissolved Metals

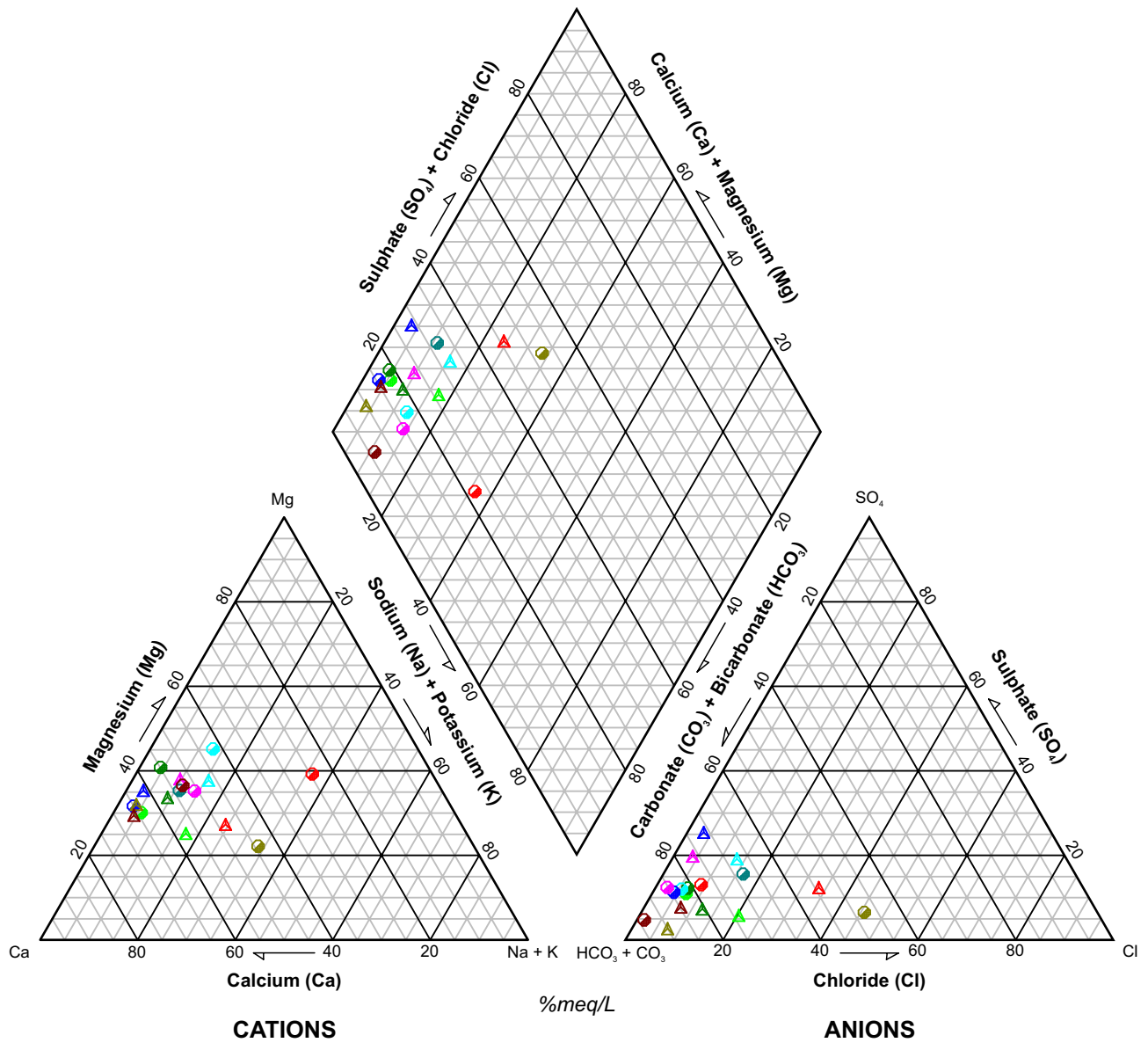
City of Guelph
Clair - Maltby Master Environmental Servicing Plan (MESP) and Secondary Plan (SP)

Monitoring Well	Sample Date	MSI Sample Number	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Cs mg/L	Cr mg/L	Co mg/L	Cu mg/L	Pb mg/L	Li mg/L	Mo mg/L	Ni mg/L	P mg/L
MW07-D	19-Oct-16	23089161019001	<0.0050	0.00017	0.00037	0.127	<0.00010	<0.000050	<0.010	0.000015	<0.000010	<0.000050	0.00062	0.00103	0.000155	0.003	0.00118	0.00174	<0.050
MW07-D	19-Apr-17	23089170419015	<0.0050	<0.00010	0.00036	0.115	<0.00010	<0.000050	<0.010	<0.000010	<0.000010	<0.000050	0.00028	0.00024	0.000098	0.003	0.000928	0.00127	<0.050
MW07-D	10-Oct-17	23089171010001	<0.0050	0.00018	0.00045	0.122	<0.00010	<0.000050	<0.010	0.000039	<0.000010	<0.000050	0.00037	0.0184	0.000758	0.003	0.000794	0.00211	<0.050
MW08-D	19-Oct-16	23089161019002	<0.0050	0.00012	<0.00010	0.144	<0.00010	<0.000050	0.013	0.000067	<0.000010	<0.000050	0.00085	0.00201	0.000614	0.003	0.000662	0.0031	<0.050
MW08-D	19-Apr-17	23089170419014	<0.0050	<0.00010	0.0001	0.121	<0.00010	<0.000050	0.014	0.000073	<0.000010	<0.000050	0.00044	0.0014	0.000425	0.003	0.000684	0.00224	<0.050
MW08-D	05-Oct-17	23089171005004	<0.0050	<0.00010	<0.00010	0.144	<0.00010	<0.000050	0.013	0.000084	<0.000010	<0.000050	0.00047	0.00111	0.000347	0.004	0.000605	0.00236	<0.050
MW08-S	19-Oct-16	23089161019003	<0.0050	0.00036	0.00028	0.0167	<0.00010	<0.000050	0.011	0.000043	<0.000010	<0.000050	0.00018	0.00158	0.000051	<0.0010	0.000655	0.00945	<0.050
MW08-S	19-Apr-17	23089170419013	<0.0050	<0.00010	0.00019	0.0136	<0.00010	<0.000050	0.01	0.000056	<0.000010	<0.000050	<0.00010	0.00061	0.000051	<0.0010	<0.000050	<0.00050	<0.050
MW08-S	05-Oct-17	23089171005005	<0.0050	<0.00010	0.00019	0.013	<0.00010	<0.000050	<0.010	0.000046	<0.000010	<0.000050	<0.00010	0.00074	<0.000050	0.001	<0.000050	<0.00050	<0.050
MW09-D	21-Oct-16	23089161021001	<0.0050	0.00013	0.0039	0.0908	<0.00010	<0.000050	0.017	0.000019	<0.000010	<0.000050	0.00023	0.00054	0.000113	0.003	0.00634	0.00068	<0.050
MW09-D	19-Apr-17	23089170419017	<0.0050	<0.00010	0.00448	0.0898	<0.00010	<0.000050	0.014	<0.000010	<0.000010	<0.000050	0.00023	0.00026	<0.000050	0.002	0.00269	0.00068	<0.050
MW09-D	04-Oct-17	23089171004008	<0.0050	<0.00010	0.00443	0.0954	<0.00010	<0.000050	0.013	0.000016	<0.000010	<0.000050	0.00037	0.00096	<0.000050	0.004	0.00153	0.00067	<0.050
MW09-S	21-Oct-16	23089161021002	<0.0050	<0.00010	0.00012	0.0869	<0.00010	<0.000050	0.012	0.000036	<0.000010	<0.000050	<0.00010	0.00112	0.00006	<0.0010	0.000203	<0.00050	<0.050
MW09-S	19-Apr-17	23089170419016	<0.0050	<0.00010	<0.00010	0.0876	<0.00010	<0.000050	0.013	0.000049	<0.000010	<0.000050	<0.00010	0.00103	0.000082	0.001	0.000194	<0.00050	<0.050
MW09-S	04-Oct-17	23089171004007	<0.0050	<0.00010	0.00011	0.0944	<0.00010	<0.000050	0.013	0.000043	<0.000010	<0.000050	<0.00010	0.00136	0.000069	0.002	0.000192	<0.00050	<0.050
Ontario Drinking Water Quality Standards*			0.1 ^{OG}	0.006 ^{IMAC}	0.025 ^{IMAC}	1 ^{MAC}	NS	NS	5 ^{IMAC}	0.005 ^{MAC}	NS	0.05 ^{MAC}	NS	1 ^{AO}	0.01 ^{MAC,Pb}	NS	NS	NS	NS

Monitoring Well	Sample Date	MSI Sample Number	Rb mg/L	Se mg/L	Si mg/L	Ag mg/L	S mg/L	Sr mg/L	Te mg/L	Tl mg/L	Th mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	W mg/L	Zn mg/L	Zr mg/L
MW07-D	19-Oct-16	23089161019001	0.00127	0.000098	6.12	<0.000050	15.5	0.114	<0.00020	0.000018	<0.00010	0.00055	<0.00030	0.00148	<0.00050	<0.00010	0.0149	<0.00030
MW07-D	19-Apr-17	23089170419015	0.00109	0.000058	6.96	<0.000050	14.7	0.115	<0.00020	0.000019	<0.00010	<0.00010	<0.00030	0.00095	<0.00050	<0.00010	0.0107	<0.00030
MW07-D	10-Oct-17	23089171010001	0.00122	0.000055	6.21	<0.000050	13.6	0.112	<0.00020	0.000016	<0.00010	0.00054	<0.00030	0.000807	<0.00050	<0.00010	0.0543	<0.00030
MW08-D	19-Oct-16	23089161019002	0.00225	0.000251	5.51	<0.000050	10.9	0.18	<0.00020	0.000048	<0.00010	<0.00010	<0.00030	0.000649	<0.00050	<0.00010	0.192	<0.00030
MW08-D	19-Apr-17	23089170419014	0.00149	0.000276	5.43	<0.000050	10.9	0.164	<0.00020	0.000032	<0.00010	<0.00010	<0.00030	0.000549	<0.00050	<0.00010	0.151	<0.00030
MW08-D	05-Oct-17	23089171005004	0.00233	0.000249	5.69	<0.000050	11.5	0.152	<0.00020	0.000051	<0.00010	<0.00010	<0.00030	0.000491	<0.00050	<0.00010	0.198	<0.00030
MW08-S	19-Oct-16	23089161019003	0.00069	0.000132	3.66	<0.000050	1.48	0.115	<0.00020	<0.000010	<0.00010	0.00123	<0.00030	0.000231	<0.00050	<0.00010	0.0101	<0.00030
MW08-S	19-Apr-17	23089170419013	0.00032	0.000105	4.18	<0.000050	2.17	0.11	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.000181	<0.00050	<0.00010	0.0075	<0.00030
MW08-S	05-Oct-17	23089171005005	0.00031	0.000059	4.33	<0.000050	1.96	0.0997	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.000143	<0.00050	<0.00010	0.0082	<0.00030
MW09-D	21-Oct-16	23089161021001	0.00167	<0.000050	7.26	<0.000050	2.24	0.166	<0.00020	0.00002	<0.00010	0.00027	<0.00030	0.00104	<0.00050	<0.00010	0.0146	<0.00030
MW09-D	19-Apr-17	23089170419017	0.00123	<0.000050	7.31	<0.000050	1.85	0.148	<0.00020	0.000019	<0.00010	<0.00010	<0.00030	0.000792	<0.00050	<0.00010	0.0087	<0.00030
MW09-D	04-Oct-17	23089171004008	0.00078	<0.000050	8.2	<0.000050	1.96	0.137	<0.00020	0.000017	<0.00010	<0.00010	<0.00030	0.000429	<0.00050	<0.00010	0.0167	<0.00030
MW09-S	21-Oct-16	23089161021002	0.00047	0.000314	4.43	<0.000050	5.6	0.0948	<0.00020	<0.000010	<0.00010	0.00027	<0.00030	0.000262	<0.00050	<0.00010	0.0604	<0.00030
MW09-S	19-Apr-17	23089170419016	0.0006	0.000325	4.36	<0.000050	5.32	0.105	<0.00020	<0.000010	<0.00010	0.00013	<0.00030	0.000294	<0.00050	<0.00010	0.0214	<0.00030
MW09-S	04-Oct-17	23089171004007	0.00057	0.000366	4.45	<0.000050	5.92	0.0906	<0.00020	<0.000010	<0.00010	<0.00010	<0.00030	0.000268	<0.00050	<0.00010	0.0249	<0.00030
Ontario Drinking Water Quality Standards*			NS	0.01 ^{MAC}	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.02 ^{MAC}	NS	NS	5 ^{AO}	NS

Notes:

- - not analyzed
- NS - not specified
- ^{AO} - aesthetic objective from Guidelines for Canadian Drinking Water Quality-Summary Table (Health Canada 2017)
- ^{OG} - operational guidelines
- ^{MAC} - maximum acceptable concentration from Guidelines for Canadian Drinking Water Quality-Summary Table (Health Canada 2017)
- ^{IMAC} - interim maximum acceptable concentration
- ^{Pb} - standard applies to water at the point of consumption. Since lead is a component in some plumbing systems, first flush water may contain higher concentrations of lead than water that has been flushed for five minutes.
- + - *Technical Support Document for Ontario Drinking Water Quality Standards, Objectives and Guidelines* (MOE 2006)
- Italics** - values do not meet applicable guidelines



- MW01-D
- ▲ MW01-S
- MW02-D
- ▲ MW02-S
- MW03-D
- ▲ MW03-S
- MW04-D
- ▲ MW04-S
- MW05-D
- ▲ MW05-S
- MW06-D
- ▲ MW06-S
- MW07-D
- ▲ MW07-S
- MW08-D
- ▲ MW08-S
- MW09-D
- ▲ MW09-S



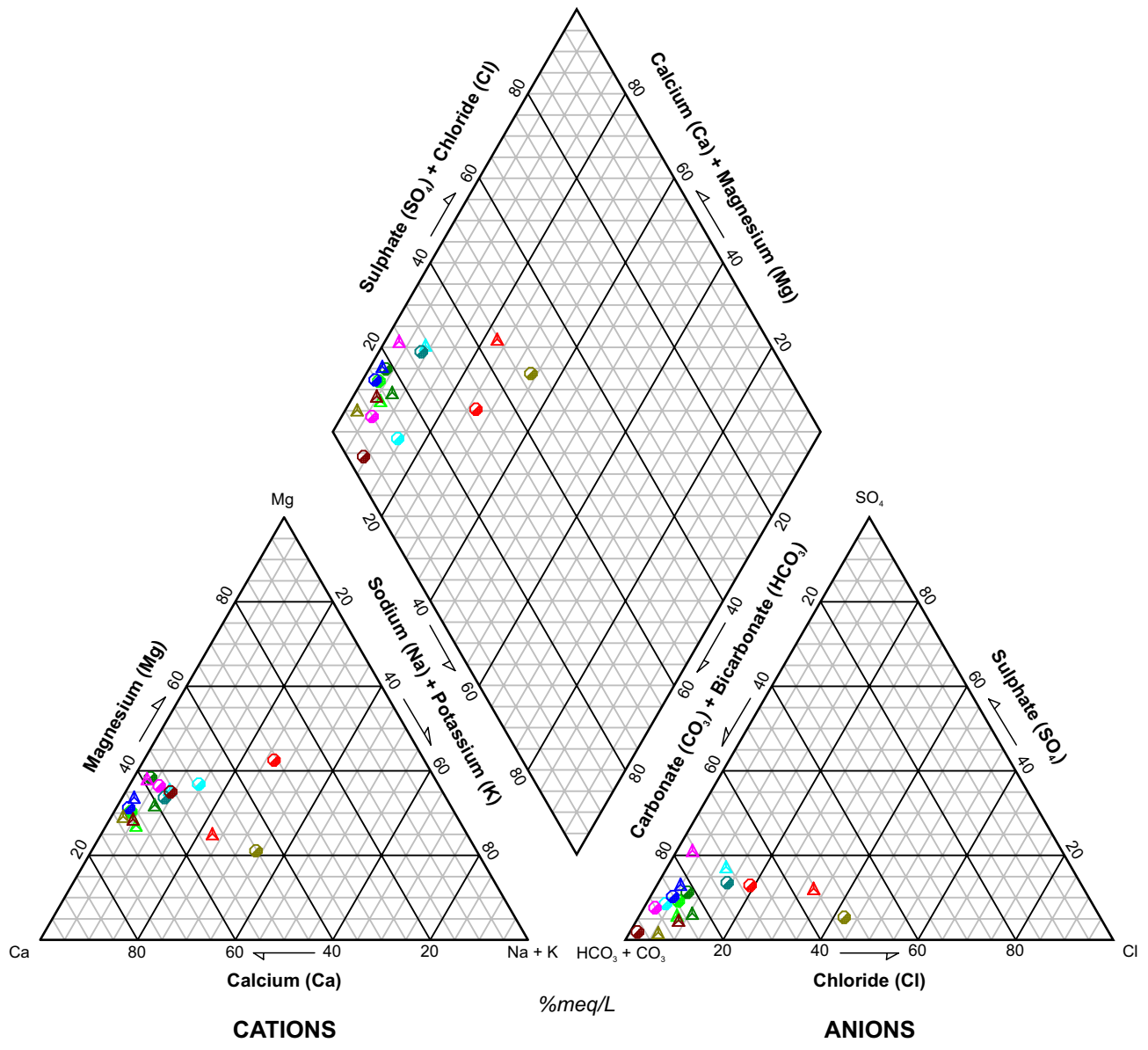
City of Guelph
Clair - Maltby (MESP) and (SP)

Piper Diagram - October 2016

Date:	Jan 2018	Project:	23089-PD-18	Technical:	S. Miller	Reviewer:	D. Abbey
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- MW01-D ● MW05-D
- ▲ MW01-S ▲ MW05-S
- MW02-D ● MW06-D
- ▲ MW02-S ▲ MW06-S
- MW03-D ● MW07-D
- ▲ MW03-S ● MW08-D
- MW04-D ▲ MW08-S
- ▲ MW04-S ● MW09-D
- ▲ MW09-S



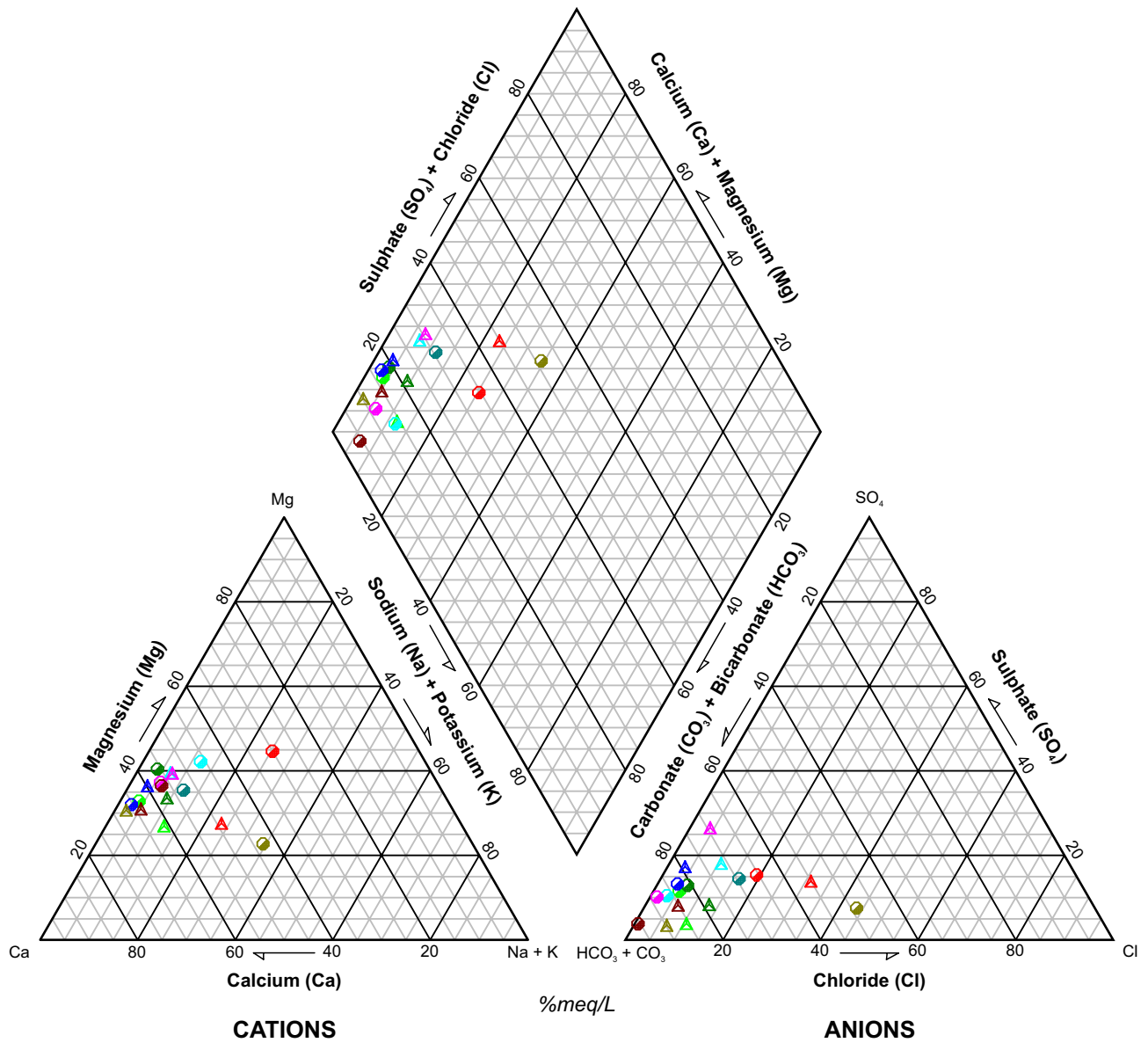
City of Guelph
Clair - Maltby (MESP) and (SP)

Piper Diagram - April 2017

Date:	Jan 2018	Project:	23089-PD-18	Technical:	S. Miller	Reviewer:	D. Abbey
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- MW01-D ● MW05-D
- ▲ MW01-S ▲ MW05-S
- MW02-D ● MW06-D
- ▲ MW02-S ▲ MW06-S
- MW03-D ● MW07-D
- ▲ MW03-S ▲ MW07-S
- MW04-D ● MW08-D
- ▲ MW04-S ▲ MW08-S
- MW09-D ● MW09-S
- ▲ MW09-S



City of Guelph
Clair - Maltby (MESP) and (SP)

Piper Diagram - October 2017

Date:	Jan 2018	Project:	23089-PD-18	Technical:	S. Miller	Reviewer:	D. Abbey
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TABLE C4**Groundwater Quality Results - Enriched Tritium**

City of Guelph

Clair - Maltby Master Environmental Servicing Plan (MESF) and Secondary Plan (SP)

Sample Point	Sample Date	MSI Sample Number	³ H Tritium TU
MW03-S	28-Oct-16	23089161028003	13.10
MW05-S	28-Oct-16	23089161028001	10.90
MW05-D	28-Oct-16	23089161028002	10.10
MW07-D	28-Oct-16	23089161028004	6.40
Minimal Detection Limit**			0.80

Notes:

1TU = 0.11919 Becquerels/L per IAEA, 2000 Report.