Table 3B.2-1: Field Profiles at Meliadine Mid-Field, January 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
MEL-02-01							
MEL-02-01	20-Jan-17	0.1	0.0	113	-(a)	42	7.3
MEL-02-01	20-Jan-17	0.5	0.0	112	-(a)	42	7.4
MEL-02-01	20-Jan-17	1.0	0.0	113	-(a)	43	7.4
MEL-02-01	20-Jan-17	2.0	0.0	114	-(a)	42	7.4
MEL-02-01	20-Jan-17	3.0	0.0	115	-(a)	43	7.4
MEL-02-01	20-Jan-17	4.0	0.0	116	-(a)	42	7.4
MEL-02-01	20-Jan-17	5.0	0.0	117	-(a)	43	7.4
MEL-02-01	20-Jan-17	6.0	0.0	116	-(a)	41	7.4
MEL-02-01	20-Jan-17	7.0	1.0	110	-(a)	41	7.3
MEL-02-02							
MEL-02-02	20-Jan-17	0.1	0.0	120	-(a)	36	7.4
MEL-02-02	20-Jan-17	0.5	0.0	114	-(a)	32	7.4
MEL-02-02	20-Jan-17	1.0	0.0	114	-(a)	31	7.4
MEL-02-02	20-Jan-17	2.0	0.1	114	-(a)	31	7.4
MEL-02-02	20-Jan-17	3.0	0.7	115	-(a)	30	7.4
MEL-02-02	20-Jan-17	4.0	0.9	114	-(a)	30	7.4
MEL-02-02	20-Jan-17	5.0	1.1	112	-(a)	30	7.4
MEL-02-02	20-Jan-17	6.0	1.3	108	-(a)	32	7.3
MEL-02-02	20-Jan-17	7.0	1.5	104	-(a)	34	7.2
MEL-02-02	20-Jan-17	8.0	1.7	96	13.1	41	7.0
MEL-02-03							
MEL-02-03	20-Jan-17	0.1	0.0	105	-(a)	104	7.3
MEL-02-03	20-Jan-17	0.5	0.0	109	-(a)	102	7.3
MEL-02-03	20-Jan-17	1.0	0.1	111	-(a)	101	7.2
MEL-02-03	20-Jan-17	2.0	0.5	114	-(a)	95	7.2
MEL-02-03	20-Jan-17	3.0	0.7	115	-(a)	91	7.2
MEL-02-03	20-Jan-17	4.0	0.9	114	-(a)	87	7.2
MEL-02-03	20-Jan-17	5.0	1.1	112	-(a)	84	7.2
MEL-02-03	20-Jan-17	6.0	1.3	109	-(a)	84	7.1
MEL-02-03	20-Jan-17	7.0	1.4	103	-(a)	83	7.1
MEL-02-03	20-Jan-17	8.0	1.7	97	-(a)	84	7.0
MEL-02-04							
MEL-02-04	20-Jan-17	0.1	0.1	110	-(a)	73	7.3
MEL-02-04	20-Jan-17	0.5	0.1	111	-(a)	78	7.2
MEL-02-04	20-Jan-17	1.0	0.2	112	-(a)	79	7.2
MEL-02-04	20-Jan-17	2.0	0.5	113	-(a)	83	7.2
MEL-02-04	20-Jan-17	3.0	0.7	114	-(a)	90	7.2
MEL-02-04	20-Jan-17	4.0	1.0	112	-(a)	87	7.2
MEL-02-04	20-Jan-17	5.0	1.2	111	-(a)	85	7.2
MEL-02-04	20-Jan-17	6.0	1.3	105	-(a)	84	7.1
MEL-02-04	20-Jan-17	7.0	1.5	102	14.0	86	7.1
MEL-02-05							
MEL-02-05	20-Jan-17	0.1	0.1	111	-(a)	99	7.6
MEL-02-05	20-Jan-17	0.5	0.1	113	-(a)	99	7.4
MEL-02-05	20-Jan-17	1.0	0.2	115	-(a)	98	7.4
MEL-02-05	20-Jan-17	2.0	0.5	117	-(a)	93	7.3
MEL-02-05	20-Jan-17	3.0	0.7	116	-(a)	90	7.3
MEL-02-05	20-Jan-17	4.0	0.9	113	-(a)	91	7.2
MEL-02-05	20-Jan-17	5.0	1.2	109	-(a)	87	7.1
MEL-02-05	20-Jan-17	6.0	1.3	104	-(a)	86	7.1
MEL-02-05	20-Jan-17	7.0	1.5	102	14.0	84	7.0
MEL-02-05	20-Jan-17	8.0	1.6	96	13.3	85	7.0

Table 3B.2-2: Field Profiles at Meliadine Mid-Field, February 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
MEL-02-01							
MEL-02-01	19-Feb-17	0.1	0.0	-(a)	-(a)	89	7.6
MEL-02-01	19-Feb-17	0.5	0.0	-(a)	-(a)	79	7.6
MEL-02-01	19-Feb-17	1.0	0.1	-(a)	-(a)	79	7.6
MEL-02-01	19-Feb-17	2.0	0.5	-(a)	-(a)	80	7.6
MEL-02-01	19-Feb-17	3.0	0.7	-(a)	-(a)	89	7.5
MEL-02-01	19-Feb-17	4.0	1.1	-(a)	-(a)	87	7.4
MEL-02-01	19-Feb-17	5.0	1.1	103	-(a)	86	7.4
MEL-02-01	19-Feb-17	6.0	1.4	95	-(a)	87	7.2
MEL-02-01	19-Feb-17	7.0	1.5	95	-(a)	90	7.1
MEL-02-02							
MEL-02-02	19-Feb-17	0.1	0.0	113	-(a)	77	7.9
MEL-02-02	19-Feb-17	0.5	0.0	109	-(a)	70	7.8
MEL-02-02	19-Feb-17	1.0	0.0	109	-(a)	65	7.8
MEL-02-02	19-Feb-17	2.0	0.1	109	-(a)	101	7.8
MEL-02-02	19-Feb-17	3.0	0.7	109	-(a)	94	7.7
MEL-02-02	19-Feb-17	4.0	1.0	109	-(a)	91	7.6
MEL-02-02	19-Feb-17	5.0	1.2	109	-(a)	88	7.5
MEL-02-02	19-Feb-17	6.0	1.4	106	-(a)	87	7.4
MEL-02-02	19-Feb-17	7.0	1.6	106	-(a)	86	7.3
MEL-02-02	19-Feb-17	8.0	1.8	106	-(a)	85	7.2
MEL-02-03							
MEL-02-03	19-Feb-17	0.1	0.0	107	-(a)	69	7.5
MEL-02-03	19-Feb-17	0.5	0.1	107	-(a)	81	7.4
MEL-02-03	19-Feb-17	1.0	0.1	107	-(a)	80	7.4
MEL-02-03	19-Feb-17	2.0	0.4	107	-(a)	79	7.4
MEL-02-03	19-Feb-17	3.0	0.7	111	-(a)	98	7.4
MEL-02-03	19-Feb-17	4.0	0.7	111	-(a)	94	7.4
MEL-02-03	19-Feb-17	5.0	1.1	110	-(a)	91	7.3
MEL-02-03	19-Feb-17	6.0	1.4	110	-(a)	89	7.3
MEL-02-03	19-Feb-17	7.0	1.6	110	-(a)	86	7.3
MEL-02-03	19-Feb-17	8.0	1.7	110	-(a)	86	7.2
MEL-02-03	19-Feb-17	9.0	1.9	110	-(a)	85	7.0
MEL-02-04							
MEL-02-04	19-Feb-17	0.1	0.0	106	-(a)	99	7.1
MEL-02-04	19-Feb-17	0.5	0.0	107	-(a)	104	7.0
MEL-02-04	19-Feb-17	1.0	0.1	109	-(a)	103	6.9
MEL-02-04	19-Feb-17	2.0	0.4	109	-(a)	98	6.9
MEL-02-04	19-Feb-17	3.0	0.8	109	-(a)	93	7.0
MEL-02-04	19-Feb-17	4.0	1.0	110	-(a)	91	7.0
MEL-02-04	19-Feb-17	5.0	1.2	106	-(a)	90	7.0
MEL-02-04	19-Feb-17	6.0	1.4	103	-(a)	89	7.0
MEL-02-04	19-Feb-17	7.0	1.6	103	-(a)	89	7.0
MEL-02-04	19-Feb-17	8.0	1.7	90	12.6	92	6.9
MEL-02-05							
MEL-02-05	19-Feb-17	0.1	0.0	115	-(a)	94	7.6
MEL-02-05	19-Feb-17	0.5	0.2	111	-(a)	72	7.6
MEL-02-05	19-Feb-17	1.0	0.1	111	-(a)	75	7.3
MEL-02-05	19-Feb-17	2.0	0.4	111	-(a)	68	8.1
MEL-02-05	19-Feb-17	3.0	0.7	112	-(a)	94	7.7
MEL-02-05	19-Feb-17	4.0	1.0	112	-(a)	91	7.6
MEL-02-05	19-Feb-17	5.0	1.2	112	-(a)	90	7.6
MEL-02-05	19-Feb-17	6.0	1.4	112	-(a)	89	7.4
MEL-02-05	19-Feb-17	7.0	1.5	96	13.5	89	7.2
MEL-02-05	19-Feb-17	8.0	1.7	96	13.4	88	7.2

-(a) = values were not included as they did not pass the QC criteria (i.e., were outside the acceptable range)

Table 3B.2-3: Field Profiles at Meliadine Mid-Field, July 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
MEL-02-01							
MEL-02-01	23-Jul-17	0.0	12.7	105	10.8	76	7.6
MEL-02-01	23-Jul-17	0.1	12.7	105	10.8	76	7.6
MEL-02-01	23-Jul-17	0.5	12.7	105	10.8	76	7.6
MEL-02-01	23-Jul-17	1.0	12.7	105	10.8	76	7.6
MEL-02-01	23-Jul-17	2.0	12.7	105	10.8	76	7.5
MEL-02-01	23-Jul-17	3.0	12.7	105	10.8	76	7.5
MEL-02-01	23-Jul-17	4.0	12.7	105	10.8	76	7.5
MEL-02-01	23-Jul-17	5.0	12.7	105	10.8	76	7.5
MEL-02-01	23-Jul-17	6.0	12.6	105	10.8	76	7.5
MEL-02-01	23-Jul-17	7.0	12.6	105	10.8	76	7.5
MEL-02-02							
MEL-02-02	23-Jul-17	0.0	12.6	104	10.7	76	7.5
MEL-02-02	23-Jul-17	0.1	12.6	104	10.7	76	7.5
MEL-02-02	23-Jul-17	0.5	12.6	105	10.8	76	7.5
MEL-02-02	23-Jul-17	1.0	12.6	105	10.8	76	7.5
MEL-02-02	23-Jul-17	2.0	12.6	105	10.8	76	7.5
MEL-02-02	23-Jul-17	3.0	12.6	105	10.8	76	7.5
MEL-02-02	23-Jul-17	4.0	12.6	105	10.8	76	7.5
MEL-02-02	23-Jul-17	5.0	12.6	105	10.8	76	7.5
MEL-02-02	23-Jul-17	6.0	12.5	105	10.8	76	7.5
MEL-02-02	23-Jul-17	7.0	12.5	105	10.8	76	7.4
MEL-02-02	23-Jul-17	8.0	12.5	104	10.8	76	7.5
MEL-02-02	23-Jul-17	9.0	12.5	104	10.8	76	7.5
MEL-02-03							
MEL-02-03	23-Jul-17	0.0	12.5	104	10.7	76	7.5
MEL-02-03	23-Jul-17	0.1	12.5	104	10.8	76	7.5
MEL-02-03	23-Jul-17	0.5	12.5	104	10.8	76	7.5
MEL-02-03	23-Jul-17	1.0	12.5	104	10.8	76	7.5
MEL-02-03	23-Jul-17	2.0	12.5	104	10.8	76	7.5
MEL-02-03	23-Jul-17	3.0	12.5	105	10.8	76	7.4
MEL-02-03	23-Jul-17	4.0	12.5	105	10.8	76	7.4
MEL-02-03	23-Jul-17	5.0	12.5	105	10.8	76	7.4
MEL-02-03	23-Jul-17	6.0	12.5	105	10.8	76	7.4
MEL-02-03	23-Jul-17	7.0	12.4	105	10.8	76	7.4
MEL-02-03	23-Jul-17	8.0	12.4	105	10.8	76	7.5
MEL-02-03	23-Jul-17	9.0	12.3	105	10.9	76	7.5
MEL-02-04							
MEL-02-04	23-Jul-17	0.0	12.5	104	10.7	76	7.5
MEL-02-04	23-Jul-17	0.1	12.5	104	10.7	76	7.5
MEL-02-04	23-Jul-17	0.5	12.5	104	10.8	76	7.5
MEL-02-04	23-Jul-17	1.0	12.5	104	10.8	76	7.5
MEL-02-04	23-Jul-17	2.0	12.5	105	10.8	76	7.5
MEL-02-04	23-Jul-17	3.0	12.5	105	10.8	76	7.5
MEL-02-04	23-Jul-17	4.0	12.5	105	10.8	76	7.5
MEL-02-04	23-Jul-17	5.0	12.5	105	10.9	76	7.5
MEL-02-04	23-Jul-17	6.0	12.5	105	10.9	76	7.5
MEL-02-04	23-Jul-17	7.0	12.5	105	10.9	76	7.5
MEL-02-05							
MEL-02-05	23-Jul-17	0.0	12.5	104	10.7	76	7.5
MEL-02-05	23-Jul-17	0.1	12.5	104	10.8	76	7.5
MEL-02-05	23-Jul-17	0.5	12.5	105	10.8	76	7.5
MEL-02-05	23-Jul-17	1.0	12.5	105	10.8	76	7.5
MEL-02-05	23-Jul-17	2.0	12.5	105	10.8	76	7.4
MEL-02-05	23-Jul-17	3.0	12.5	105	10.8	76	7.4
MEL-02-05	23-Jul-17	4.0	12.5	105	10.8	77	7.4
MEL-02-05	23-Jul-17	5.0	12.5	105	10.9	76	7.4
MEL-02-05	23-Jul-17	6.0	12.5	105	10.8	76	7.4
MEL-02-05	23-Jul-17	7.0	12.5	105	10.8	76	7.5
MEL-02-05	23-Jul-17	8.0	12.5	105	10.8	76	7.5
MEL-02-05	23-Jul-17	9.0	12.5	105	10.8	76	7.4

Table 3B.2-4: Field Profiles at Meliadine Mid-Field, August 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
MEL-02-01							
MEL-02-01	11-Aug-17	0.1	13.0	102	10.7	75	7.5
MEL-02-01	11-Aug-17	0.5	13.0	102	10.7	75	7.5
MEL-02-01	11-Aug-17	1.0	13.0	102	10.7	75	7.5
MEL-02-01	11-Aug-17	2.0	13.0	102	10.7	75	7.5
MEL-02-01	11-Aug-17	3.0	13.0	102	10.7	75	7.5
MEL-02-01	11-Aug-17	4.0	13.0	102	10.7	75	7.6
MEL-02-01	11-Aug-17	5.0	13.0	102	10.7	75	7.6
MEL-02-01	11-Aug-17	6.0	13.0	102	10.7	75	7.6
MEL-02-01	11-Aug-17	7.0	12.9	102	10.7	76	7.6
MEL-02-02							
MEL-02-02	11-Aug-17	0.1	13.3	102	10.6	75	7.5
MEL-02-02	11-Aug-17	0.5	13.3	102	10.6	76	7.6
MEL-02-02	11-Aug-17	1.0	13.3	102	10.6	76	7.6
MEL-02-02	11-Aug-17	2.0	13.1	102	10.7	76	7.6
MEL-02-02	11-Aug-17	3.0	13.1	102	10.7	76	7.6
MEL-02-02	11-Aug-17	4.0	13.0	102	10.7	75	7.6
MEL-02-02	11-Aug-17	5.0	13.0	102	10.7	76	7.6
MEL-02-02	11-Aug-17	6.0	13.0	102	10.7	76	7.6
MEL-02-02	11-Aug-17	7.0	13.0	101	10.7	76	7.6
MEL-02-02	11-Aug-17	8.0	13.0	101	10.7	76	7.6
MEL-02-02	11-Aug-17	9.0	13.0	101	10.7	76	7.6
MEL-02-03							
MEL-02-03	11-Aug-17	0.1	13.5	102	10.6	76	7.6
MEL-02-03	11-Aug-17	0.5	13.4	102	10.6	76	7.6
MEL-02-03	11-Aug-17	1.0	13.4	102	10.7	76	7.6
MEL-02-03	11-Aug-17	2.0	13.1	102	10.7	76	7.6
MEL-02-03	11-Aug-17	3.0	13.1	102	10.7	76	7.6
MEL-02-03	11-Aug-17	4.0	13.0	102	10.7	76	7.6
MEL-02-03	11-Aug-17	5.0	13.0	102	10.7	76	7.6
MEL-02-03	11-Aug-17	6.0	13.0	102	10.7	76	7.6
MEL-02-03	11-Aug-17	7.0	13.0	102	10.7	76	7.6
MEL-02-03	11-Aug-17	8.0	13.0	102	10.7	76	7.6
MEL-02-04							
MEL-02-04	11-Aug-17	0.1	13.6	103	10.6	76	7.7
MEL-02-04	11-Aug-17	0.5	13.6	103	10.6	76	7.7
MEL-02-04	11-Aug-17	1.0	13.5	103	10.6	76	7.6
MEL-02-04	11-Aug-17	2.0	13.3	102	10.7	75	7.6
MEL-02-04	11-Aug-17	3.0	13.1	102	10.7	75	7.6
MEL-02-04	11-Aug-17	4.0	13.0	102	10.7	75	7.6
MEL-02-04	11-Aug-17	5.0	13.0	102	10.7	75	7.7
MEL-02-04	11-Aug-17	6.0	13.0	102	10.7	75	7.7
MEL-02-04	11-Aug-17	7.0	13.0	102	10.7	75	7.7
MEL-02-04	11-Aug-17	8.0	13.0	102	10.7	75	7.7
MEL-02-05							
MEL-02-05	11-Aug-17	0.1	13.6	103	10.6	76	7.7
MEL-02-05	11-Aug-17	0.5	13.6	103	10.6	76	7.7
MEL-02-05	11-Aug-17	1.0	13.5	103	10.6	76	7.6
MEL-02-05	11-Aug-17	2.0	13.3	102	10.7	75	7.6
MEL-02-05	11-Aug-17	3.0	13.1	102	10.7	75	7.6
MEL-02-05	11-Aug-17	4.0	13.0	102	10.7	75	7.6
MEL-02-05	11-Aug-17	5.0	13.0	102	10.7	75	7.7
MEL-02-05	11-Aug-17	6.0	13.0	102	10.7	75	7.7
MEL-02-05	11-Aug-17	7.0	13.0	102	10.7	75	7.7
MEL-02-05	11-Aug-17	8.0	13.0	102	10.7	75	7.7

Table 3B.2-5: Field Profiles at Meliadine Mid-Field, September 2017

Station	Date	Depth	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
MEL-02-01							
MEL-02-01	05-Sep-17	0.1	9.6	102	11.5	73	7.6
MEL-02-01	05-Sep-17	0.5	9.6	102	11.5	73	7.6
MEL-02-01	05-Sep-17	1.0	9.6	102	11.5	73	7.6
MEL-02-01	05-Sep-17	2.0	9.6	102	11.5	73	7.6
MEL-02-01	05-Sep-17	3.0	9.6	102	11.5	73	7.6
MEL-02-01	05-Sep-17	4.0	9.6	102	11.5	73	7.6
MEL-02-01	05-Sep-17	5.0	9.6	102	11.5	73	7.6
MEL-02-01	05-Sep-17	6.0	9.6	102	11.5	73	7.6
MEL-02-01	05-Sep-17	7.0	9.6	102	11.5	73	7.5
MEL-02-01	05-Sep-17	8.0	9.6	102	11.5	73	7.6
MEL-02-02							
MEL-02-02	05-Sep-17	0.1	9.6	103	11.5	73	7.6
MEL-02-02	05-Sep-17	0.5	9.6	103	11.5	73	7.6
MEL-02-02	05-Sep-17	1.0	9.6	103	11.5	73	7.6
MEL-02-02	05-Sep-17	2.0	9.6	103	11.5	73	7.6
MEL-02-02	05-Sep-17	3.0	9.6	103	11.5	73	7.6
MEL-02-02	05-Sep-17	4.0	9.6	103	11.5	73	7.6
MEL-02-02	05-Sep-17	5.0	9.6	103	11.5	73	7.6
MEL-02-02	05-Sep-17	6.0	9.6	103	11.5	73	7.6
MEL-02-02	05-Sep-17	7.0	9.6	103	11.5	73	7.5
MEL-02-02	05-Sep-17	8.0	9.6	103	11.5	73	7.6
MEL-02-03							
MEL-02-03	05-Sep-17	0.1	9.5	103	11.6	75	7.6
MEL-02-03	05-Sep-17	0.5	9.5	103	11.6	75	7.6
MEL-02-03	05-Sep-17	1.0	9.5	103	11.6	75	7.6
MEL-02-03	05-Sep-17	2.0	9.5	103	11.6	75	7.6
MEL-02-03	05-Sep-17	3.0	9.5	103	11.6	75	7.6
MEL-02-03	05-Sep-17	4.0	9.5	103	11.6	75	7.6
MEL-02-03	05-Sep-17	5.0	9.5	103	11.6	75	7.6
MEL-02-04							
MEL-02-04	05-Sep-17	0.1	9.6	103	11.5	74	7.6
MEL-02-04	05-Sep-17	0.5	9.6	103	11.5	74	7.6
MEL-02-04	05-Sep-17	1.0	9.6	103	11.5	74	7.6
MEL-02-04	05-Sep-17	2.0	9.6	103	11.5	74	7.6
MEL-02-04	05-Sep-17	3.0	9.6	103	11.5	74	7.6
MEL-02-04	05-Sep-17	4.0	9.6	103	11.5	74	7.6
MEL-02-04	05-Sep-17	5.0	9.6	103	11.5	74	7.6
MEL-02-04	05-Sep-17	6.0	9.6	103	11.5	74	7.6
MEL-02-04	05-Sep-17	7.0	9.6	103	11.5	74	7.6
MEL-02-04	05-Sep-17	8.0	9.6	103	11.5	74	7.6
MEL-02-05							
MEL-02-05	05-Sep-17	0.1	9.5	103	11.6	75	7.6
MEL-02-05	05-Sep-17	0.5	9.5	103	11.6	75	7.6
MEL-02-05	05-Sep-17	1.0	9.5	103	11.6	75	7.6
MEL-02-05	05-Sep-17	2.0	9.5	103	11.6	75	7.6
MEL-02-05	05-Sep-17	3.0	9.5	103	11.6	75	7.6
MEL-02-05	05-Sep-17	4.0	9.5	103	11.6	75	7.6
MEL-02-05	05-Sep-17	5.0	9.5	103	11.6	75	7.6
MEL-02-05	05-Sep-17	5.5	9.5	103	11.6	75	7.6

Table 3B.3-1: Field Profiles at Meliadine Mid-Field Reference Area 1, July 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (uS/cm)	pH
MEL-03-01							
MEL-03-01	21-Jul-17	0.0	11.3	102	10.8	68	7.7
MEL-03-01	21-Jul-17	0.5	11.3	102	10.9	68	7.7
MEL-03-01	21-Jul-17	0.1	11.3	103	10.9	68	7.6
MEL-03-01	21-Jul-17	1.0	11.3	103	10.9	68	7.6
MEL-03-01	21-Jul-17	2.0	11.3	103	11.0	68	7.6
MEL-03-01	21-Jul-17	3.0	11.3	104	11.0	68	7.6
MEL-03-01	21-Jul-17	4.0	11.3	104	11.0	68	7.6
MEL-03-01	21-Jul-17	5.0	11.3	104	11.0	68	7.6
MEL-03-01	21-Jul-17	6.0	11.3	104	11.0	68	7.6
MEL-03-02							
MEL-03-02	21-Jul-17	0.0	11.3	103	10.9	68	7.6
MEL-03-02	21-Jul-17	0.1	11.3	103	10.9	68	7.6
MEL-03-02	21-Jul-17	0.5	11.3	103	10.9	68	7.6
MEL-03-02	21-Jul-17	1.0	11.3	103	11.0	68	7.5
MEL-03-02	21-Jul-17	2.0	11.3	103	11.0	68	7.5
MEL-03-02	21-Jul-17	3.0	11.3	104	11.0	68	7.5
MEL-03-02	21-Jul-17	4.0	11.3	104	11.0	68	7.5
MEL-03-02	21-Jul-17	5.0	11.3	104	11.0	68	7.5
MEL-03-02	21-Jul-17	6.0	11.3	104	11.0	68	7.5
MEL-03-02	21-Jul-17	7.0	11.3	104	11.0	68	7.5
MEL-03-03							
MEL-03-03	21-Jul-17	0.0	11.3	103	11.0	68	7.6
MEL-03-03	21-Jul-17	0.1	11.3	103	10.9	68	7.6
MEL-03-03	21-Jul-17	0.5	11.3	103	10.9	68	7.5
MEL-03-03	21-Jul-17	1.0	11.3	103	10.9	68	7.5
MEL-03-03	21-Jul-17	2.0	11.3	103	11.0	68	7.5
MEL-03-03	21-Jul-17	3.0	11.3	103	11.0	68	7.5
MEL-03-03	21-Jul-17	4.0	11.3	104	11.0	68	7.5
MEL-03-03	21-Jul-17	5.0	11.3	104	11.0	68	7.5
MEL-03-03	21-Jul-17	6.0	11.3	104	11.0	68	7.5
MEL-03-03	21-Jul-17	7.0	11.3	104	11.0	68	7.5
MEL-03-03	21-Jul-17	8.0	11.3	104	11.0	68	7.5
MEL-03-03	21-Jul-17	9.0	11.3	103	11.0	68	7.5
MEL-03-04							
MEL-03-04	21-Jul-17	0.0	11.3	104	11.0	68	7.6
MEL-03-04	21-Jul-17	0.1	11.3	104	11.0	68	7.5
MEL-03-04	21-Jul-17	0.5	11.3	104	11.0	68	7.5
MEL-03-04	21-Jul-17	1.0	11.3	104	11.0	68	7.5
MEL-03-04	21-Jul-17	2.0	11.3	104	11.0	68	7.5
MEL-03-04	21-Jul-17	3.0	11.3	104	11.0	68	7.5
MEL-03-04	21-Jul-17	4.0	11.3	104	11.1	68	7.5
MEL-03-04	21-Jul-17	5.0	11.3	104	11.1	68	7.5
MEL-03-04	21-Jul-17	6.0	11.3	104	11.1	68	7.5
MEL-03-04	21-Jul-17	7.0	11.3	104	11.1	68	7.5
MEL-03-05							
MEL-03-05	21-Jul-17	0.0	11.4	104	11.0	68	7.6
MEL-03-05	21-Jul-17	0.1	11.4	104	11.0	68	7.6
MEL-03-05	21-Jul-17	0.5	11.3	104	11.0	68	7.6
MEL-03-05	21-Jul-17	1.0	11.3	104	11.0	68	7.6
MEL-03-05	21-Jul-17	2.0	11.3	104	11.1	68	7.5
MEL-03-05	21-Jul-17	3.0	11.3	105	11.1	68	7.5
MEL-03-05	21-Jul-17	4.0	11.3	105	11.1	68	7.5
MEL-03-05	21-Jul-17	5.0	11.3	105	11.1	68	7.5
MEL-03-05	21-Jul-17	6.0	11.3	105	11.1	68	7.5
MEL-03-05	21-Jul-17	7.0	11.3	105	11.1	68	7.5

Table 3B.3-2: Field Profiles at Meliadine Reference Area 1, August 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
MEL-03-01							
MEL-03-01	13-Aug-17	0.1	13.2	104	10.8	69	7.5
MEL-03-01	13-Aug-17	0.5	13.2	104	10.8	69	7.5
MEL-03-01	13-Aug-17	1.0	13.2	104	10.8	69	7.5
MEL-03-01	13-Aug-17	2.0	13.2	104	10.8	69	7.6
MEL-03-01	13-Aug-17	3.0	13.2	104	10.8	69	7.6
MEL-03-01	13-Aug-17	4.0	13.2	104	10.8	69	7.6
MEL-03-01	13-Aug-17	5.0	13.2	104	10.8	69	7.3
MEL-03-01	13-Aug-17	6.0	13.2	104	10.8	69	7.6
MEL-03-02							
MEL-03-02	13-Aug-17	0.1	13.3	104	10.8	69	7.7
MEL-03-02	13-Aug-17	0.5	13.3	104	10.8	69	7.7
MEL-03-02	13-Aug-17	1.0	13.3	104	10.8	69	7.7
MEL-03-02	13-Aug-17	2.0	13.3	104	-	69	7.7
MEL-03-02	13-Aug-17	3.0	13.3	104	10.8	69	7.7
MEL-03-02	13-Aug-17	4.0	13.3	104	10.8	69	7.6
MEL-03-02	13-Aug-17	5.0	13.3	104	10.8	69	7.7
MEL-03-02	13-Aug-17	6.0	13.2	104	10.8	69	7.7
MEL-03-02	13-Aug-17	7.0	13.2	104	10.8	69	7.6
MEL-03-02	13-Aug-17	8.0	13.2	104	10.8	69	7.7
MEL-03-03							
MEL-03-03	13-Aug-17	0.1	13.3	104	10.8	69	7.7
MEL-03-03	13-Aug-17	0.5	13.3	104	10.8	69	7.7
MEL-03-03	13-Aug-17	1.0	13.3	104	10.8	69	7.7
MEL-03-03	13-Aug-17	2.0	13.3	104	10.8	69	7.6
MEL-03-03	13-Aug-17	3.0	13.3	104	10.8	69	7.6
MEL-03-03	13-Aug-17	4.0	13.3	104	10.8	69	7.6
MEL-03-03	13-Aug-17	5.0	13.3	104	10.8	69	7.6
MEL-03-03	13-Aug-17	6.0	13.3	104	10.8	68	7.6
MEL-03-03	13-Aug-17	7.0	13.3	104	10.8	69	7.7
MEL-03-03	13-Aug-17	8.0	13.3	104	10.8	69	7.7
MEL-03-04							
MEL-03-04	13-Aug-17	0.1	13.5	104	10.8	69	7.7
MEL-03-04	13-Aug-17	0.5	13.4	104	10.8	69	7.7
MEL-03-04	13-Aug-17	1.0	13.4	104	10.8	69	7.7
MEL-03-04	13-Aug-17	2.0	13.4	104	10.8	69	7.7
MEL-03-04	13-Aug-17	3.0	13.4	104	10.8	69	7.7
MEL-03-04	13-Aug-17	4.0	13.4	104	10.8	69	7.7
MEL-03-04	13-Aug-17	5.0	13.4	104	10.8	69	7.7
MEL-03-04	13-Aug-17	6.0	13.4	104	10.8	69	7.7
MEL-03-04	13-Aug-17	7.0	13.4	104	10.8	69	7.7
MEL-03-05							
MEL-03-05	13-Aug-17	0.1	13.5	105	10.8	69	7.7
MEL-03-05	13-Aug-17	0.5	13.5	105	10.8	69	7.7
MEL-03-05	13-Aug-17	1.0	13.5	105	10.9	69	7.7
MEL-03-05	13-Aug-17	2.0	13.5	105	10.9	69	7.7
MEL-03-05	13-Aug-17	3.0	13.5	105	10.9	68	7.7
MEL-03-05	13-Aug-17	4.0	13.5	105	10.9	69	7.7
MEL-03-05	13-Aug-17	5.0	13.5	105	10.9	69	7.7
MEL-03-05	13-Aug-17	6.0	13.5	105	10.9	69	7.7
MEL-03-05	13-Aug-17	7.0	13.5	105	10.9	69	7.7

Table 3B.3-3: Field Profiles at Meliadine Reference Area 1, September 2017

Station	Date	Depth	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
MEL-03-01							
MEL-03-01	01-Sep-17	0.1	13.2	104	10.8	69	7.5
MEL-03-01	01-Sep-17	0.5	13.2	104	10.8	69	7.5
MEL-03-01	01-Sep-17	1.0	13.2	104	10.8	69	7.5
MEL-03-01	01-Sep-17	2.0	13.2	104	10.8	69	7.6
MEL-03-01	01-Sep-17	3.0	13.2	104	10.8	69	7.6
MEL-03-01	01-Sep-17	4.0	13.2	104	10.8	69	7.6
MEL-03-01	01-Sep-17	5.0	13.2	104	10.8	69	7.5
MEL-03-01	01-Sep-17	6.0	13.2	104	10.8	69	7.6
MEL-03-02	01-Sep-17	6.5	13.2	104	10.8	69	7.6
MEL-03-02							
MEL-03-02	01-Sep-17	0.1	13.2	104	10.8	69	7.5
MEL-03-02	01-Sep-17	0.5	13.2	104	10.8	69	7.6
MEL-03-02	01-Sep-17	1.0	13.2	104	10.8	69	7.6
MEL-03-02	01-Sep-17	2.0	13.2	104	10.8	69	7.6
MEL-03-02	01-Sep-17	3.0	13.2	104	10.8	69	7.7
MEL-03-02	01-Sep-17	4.0	13.2	104	10.8	69	7.7
MEL-03-02	01-Sep-17	5.0	13.2	104	10.8	69	7.6
MEL-03-02	01-Sep-17	6.0	13.2	104	10.8	69	7.7
MEL-03-02	01-Sep-17	7.0	13.2	104	10.8	69	7.6
MEL-03-03							
MEL-03-03	01-Sep-17	0.1	13.2	104	10.8	69	7.0
MEL-03-03	01-Sep-17	0.5	13.3	104	10.8	69	7.0
MEL-03-03	01-Sep-17	1.0	13.3	104	10.8	69	7.0
MEL-03-03	01-Sep-17	2.0	13.3	104	10.8	69	7.0
MEL-03-03	01-Sep-17	3.0	13.3	104	10.8	69	7.0
MEL-03-03	01-Sep-17	4.0	13.3	104	10.8	69	7.0
MEL-03-03	01-Sep-17	5.0	13.3	104	10.8	69	7.0
MEL-03-03	01-Sep-17	6.0	13.3	104	10.8	69	7.0
MEL-03-03	01-Sep-17	7.0	13.3	104	10.8	69	7.0
MEL-03-03	01-Sep-17	8.0	13.3	104	10.8	69	7.0
MEL-03-03	01-Sep-17	9.0	13.3	104	10.8	69	7.0
MEL-03-04							
MEL-03-04	01-Sep-17	0.1	13.4	109	10.8	69	7.7
MEL-03-04	01-Sep-17	0.5	13.4	109	10.8	69	7.7
MEL-03-04	01-Sep-17	1.0	13.4	109	10.8	69	7.7
MEL-03-04	01-Sep-17	2.0	13.4	109	10.8	69	7.7
MEL-03-04	01-Sep-17	3.0	13.4	109	10.8	69	7.7
MEL-03-04	01-Sep-17	4.0	13.4	109	10.8	69	7.7
MEL-03-04	01-Sep-17	5.0	13.4	109	10.8	69	7.7
MEL-03-04	01-Sep-17	6.0	13.4	109	10.9	69	7.7
MEL-03-04	01-Sep-17	6.5	13.4	110	10.9	69	7.7
MEL-03-05							
MEL-03-05	01-Sep-17	0.1	13.5	110	10.9	69	7.7
MEL-03-05	01-Sep-17	0.5	13.5	110	10.9	69	7.7
MEL-03-05	01-Sep-17	1.0	13.5	110	10.9	69	7.7
MEL-03-05	01-Sep-17	2.0	13.5	110	10.9	69	7.8
MEL-03-05	01-Sep-17	3.0	13.5	110	10.9	69	7.7
MEL-03-05	01-Sep-17	4.0	13.5	110	10.9	69	7.7
MEL-03-05	01-Sep-17	5.0	13.5	110	10.9	69	7.7
MEL-03-05	01-Sep-17	6.0	13.5	110	10.9	69	7.7
MEL-03-05	01-Sep-17	7.0	13.5	110	10.9	69	7.7
MEL-03-05	01-Sep-17	7.5	13.5	110	10.9	69	7.7

Table 3B.4-1: Field Profiles at Meliadine Reference Area 2, August 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
MEL-04-01							
MEL-04-01	15-Aug-17	0.1	13.6	104	10.7	68	7.8
MEL-04-01	15-Aug-17	0.5	13.6	104	10.7	68	7.7
MEL-04-01	15-Aug-17	1.0	13.6	104	10.7	68	7.7
MEL-04-01	15-Aug-17	2.0	13.6	104	10.7	68	7.7
MEL-04-01	15-Aug-17	3.0	13.6	104	10.7	68	7.7
MEL-04-01	15-Aug-17	4.0	13.6	104	10.7	68	7.7
MEL-04-01	15-Aug-17	5.0	13.6	104	10.7	69	7.7
MEL-04-01	15-Aug-17	6.0	13.6	104	10.7	68	7.7
MEL-04-01	15-Aug-17	7.0	13.6	104	10.7	69	7.7
MEL-04-02							
MEL-04-02	15-Aug-17	0.1	13.7	104	10.7	68	7.7
MEL-04-02	15-Aug-17	0.5	13.7	104	10.7	68	7.7
MEL-04-02	15-Aug-17	1.0	13.6	104	10.7	68	7.7
MEL-04-02	15-Aug-17	2.0	13.6	104	10.7	68	7.7
MEL-04-02	15-Aug-17	3.0	13.6	104	10.7	68	7.7
MEL-04-02	15-Aug-17	4.0	13.6	104	10.7	68	7.7
MEL-04-02	15-Aug-17	5.0	13.6	104	10.7	68	7.7
MEL-04-02	15-Aug-17	6.0	13.5	104	10.7	68	7.7
MEL-04-02	15-Aug-17	7.0	13.5	104	10.7	68	7.7
MEL-04-02	15-Aug-17	8.0	13.5	104	10.7	68	-
MEL-04-02	15-Aug-17	9.0	13.5	104	10.6	68	7.6
MEL-04-03							
MEL-04-03	15-Aug-17	0.1	13.7	104	10.7	68	7.8
MEL-04-03	15-Aug-17	0.5	13.7	104	10.7	68	7.7
MEL-04-03	15-Aug-17	1.0	13.7	104	10.7	68	7.7
MEL-04-03	15-Aug-17	2.0	13.6	104	10.7	68	7.7
MEL-04-03	15-Aug-17	3.0	13.6	104	10.7	68	7.7
MEL-04-03	15-Aug-17	4.0	13.6	104	10.7	68	7.7
MEL-04-03	15-Aug-17	5.0	13.6	104	10.7	68	7.7
MEL-04-03	15-Aug-17	6.0	13.6	104	10.7	68	7.7
MEL-04-03	15-Aug-17	7.0	13.5	104	10.7	68	7.7
MEL-04-03	15-Aug-17	8.0	13.5	104	10.7	68	7.7
MEL-04-03	15-Aug-17	9.0	13.5	104	10.7	68	7.7
MEL-04-04							
MEL-04-04	15-Aug-17	0.1	13.6	104	10.7	68	7.7
MEL-04-04	15-Aug-17	0.5	13.6	104	10.7	68	7.7
MEL-04-04	15-Aug-17	1.0	13.6	104	10.7	68	7.7
MEL-04-04	15-Aug-17	2.0	13.6	104	10.7	68	7.7
MEL-04-04	15-Aug-17	3.0	13.6	104	10.7	68	7.6
MEL-04-04	15-Aug-17	4.0	13.6	105	10.7	68	7.6
MEL-04-04	15-Aug-17	5.0	13.6	105	10.7	68	7.6
MEL-04-04	15-Aug-17	6.0	13.6	105	10.7	68	7.6
MEL-04-04	15-Aug-17	7.0	13.6	105	10.7	68	7.7
MEL-04-04	15-Aug-17	8.0	13.6	106	10.7	68	7.7
MEL-04-05							
MEL-04-05	15-Aug-17	0.1	13.7	104	10.7	68	7.7
MEL-04-05	15-Aug-17	0.5	13.6	104	10.7	68	7.7
MEL-04-05	15-Aug-17	1.0	13.6	104	10.7	68	7.7
MEL-04-05	15-Aug-17	2.0	13.6	104	10.7	68	7.7
MEL-04-05	15-Aug-17	3.0	13.6	104	10.7	68	7.7
MEL-04-05	15-Aug-17	4.0	13.5	104	10.7	68	7.6
MEL-04-05	15-Aug-17	5.0	13.5	104	10.7	68	7.6
MEL-04-05	15-Aug-17	6.0	13.5	104	10.7	68	7.6
MEL-04-05	15-Aug-17	7.0	13.5	104	10.7	68	7.6
MEL-04-05	15-Aug-17	8.0	13.5	104	10.7	68	7.7

Table 3B.5-1: Field Profiles at Meliadine Reference Area 3, August 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
MEL-05-01							
MEL-05-01	12-Aug-17	0.1	13.1	103	10.8	73	7.6
MEL-05-01	12-Aug-17	0.5	13.1	103	10.8	73	7.6
MEL-05-01	12-Aug-17	1.0	13.1	103	10.8	73	7.6
MEL-05-01	12-Aug-17	2.0	13.1	103	10.8	73	7.6
MEL-05-01	12-Aug-17	3.0	13.1	103	10.8	73	7.6
MEL-05-01	12-Aug-17	4.0	13.1	103	10.8	73	7.6
MEL-05-01	12-Aug-17	5.0	13.1	103	10.8	73	7.6
MEL-05-01	12-Aug-17	6.0	13.0	103	10.8	73	7.7
MEL-05-01	12-Aug-17	7.0	13.0	103	10.8	73	7.7
MEL-05-01	12-Aug-17	8.0	13.0	103	10.8	73	7.7
MEL-05-01	12-Aug-17	9.0	12.9	103	10.8	73	7.7
MEL-05-02							
MEL-05-02	12-Aug-17	0.1	13.1	103	10.8	73	7.7
MEL-05-02	12-Aug-17	0.5	13.1	103	10.8	73	7.7
MEL-05-02	12-Aug-17	1.0	13.1	103	10.8	73	7.7
MEL-05-02	12-Aug-17	2.0	13.1	103	10.8	73	7.7
MEL-05-02	12-Aug-17	3.0	13.1	103	10.8	73	7.7
MEL-05-02	12-Aug-17	4.0	13.1	103	10.8	73	7.7
MEL-05-02	12-Aug-17	5.0	13.1	103	10.8	73	7.7
MEL-05-02	12-Aug-17	6.0	13.1	103	10.8	73	7.7
MEL-05-02	12-Aug-17	7.0	13.1	103	10.8	72	7.7
MEL-05-02	12-Aug-17	8.0	13.0	103	10.8	72	7.7
MEL-05-03							
MEL-05-03	12-Aug-17	0.1	13.2	103	10.8	73	7.7
MEL-05-03	12-Aug-17	0.5	13.2	103	10.8	72	7.7
MEL-05-03	12-Aug-17	1.0	13.2	103	10.8	72	7.7
MEL-05-03	12-Aug-17	2.0	13.2	103	10.8	72	7.7
MEL-05-03	12-Aug-17	3.0	13.2	103	10.8	72	7.7
MEL-05-03	12-Aug-17	4.0	13.2	103	10.8	73	7.7
MEL-05-03	12-Aug-17	5.0	13.2	103	10.8	73	7.7
MEL-05-03	12-Aug-17	6.0	13.1	103	10.8	73	7.7
MEL-05-03	12-Aug-17	7.0	13.1	103	10.8	72	7.7
MEL-05-04							
MEL-05-04	12-Aug-17	0.1	13.2	103	10.8	72	7.7
MEL-05-04	12-Aug-17	0.5	13.2	103	10.8	72	7.7
MEL-05-04	12-Aug-17	1.0	13.2	104	10.8	72	7.7
MEL-05-04	12-Aug-17	2.0	13.2	103	10.8	72	7.7
MEL-05-04	12-Aug-17	3.0	13.2	103	10.8	72	7.7
MEL-05-04	12-Aug-17	4.0	13.1	103	10.8	72	7.7
MEL-05-04	12-Aug-17	5.0	13.1	103	10.8	72	7.7
MEL-05-04	12-Aug-17	6.0	13.1	103	10.8	72	7.7
MEL-05-04	12-Aug-17	7.0	13.1	103	10.8	72	7.7
MEL-05-04	12-Aug-17	8.0	13.0	103	10.8	72	7.7
MEL-05-04	12-Aug-17	9.0	13.0	103	10.8	72	7.7
MEL-05-05							
MEL-05-05	12-Aug-17	0.1	13.2	103	10.8	74	7.7
MEL-05-05	12-Aug-17	0.5	13.2	103	10.8	73	7.7
MEL-05-05	12-Aug-17	1.0	13.2	103	10.8	72	7.7
MEL-05-05	12-Aug-17	2.0	13.2	103	10.8	73	7.7
MEL-05-05	12-Aug-17	3.0	13.2	103	10.8	72	7.7
MEL-05-05	12-Aug-17	4.0	13.2	103	10.8	73	7.7
MEL-05-05	12-Aug-17	5.0	13.2	103	10.8	73	7.7
MEL-05-05	12-Aug-17	6.0	13.2	103	10.8	73	7.7
MEL-05-05	12-Aug-17	7.0	13.2	103	10.8	72	7.7

Table 3B.6-1: Field Profiles at Meliadine Lake A8, July 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
A8-01							
A8-01	17-Jul-17	0.0	14.3	100	9.9	306	7.9
A8-01	17-Jul-17	0.1	14.3	101	9.9	306	7.9
A8-01	17-Jul-17	0.5	14.3	101	10.0	306	7.9
A8-01	17-Jul-17	1.0	14.3	101	10.0	306	7.9
A8-01	17-Jul-17	1.5	14.3	101	10.0	306	7.9
A8-01	17-Jul-17	2.0	14.3	101	10.0	306	7.9
A8-02							
A8-02	17-Jul-17	0.0	14.3	102	10.1	306	7.9
A8-02	17-Jul-17	0.1	14.3	101	10.0	306	7.9
A8-02	17-Jul-17	0.5	14.3	101	10.0	306	7.9
A8-02	17-Jul-17	1.0	14.3	101	10.0	306	7.9
A8-03							
A8-03	17-Jul-17	0.0	14.3	102	10.1	255	7.9
A8-03	17-Jul-17	0.1	14.3	102	10.1	255	7.9
A8-03	17-Jul-17	0.5	14.3	102	10.1	255	7.9
A8-03	17-Jul-17	1.0	14.3	102	10.1	255	7.9
A8-03	17-Jul-17	1.5	14.3	102	10.1	255	7.9
A8-03	17-Jul-17	2.0	14.3	102	10.1	255	7.9

Table 3B.6-2: Field Profiles at Meliadine Lake A8, August 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
A8-01							
A8-01	14-Aug-17	0.1	14.1	105	10.7	301	8.3
A8-01	14-Aug-17	0.5	14.1	105	10.7	306	8.3
A8-01	14-Aug-17	1.0	14.1	105	10.7	306	8.3
A8-01	14-Aug-17	1.5	14.1	105	10.7	306	8.3
A8-01	14-Aug-17	2.0	14.1	105	10.7	306	8.3
A8-02							
A8-02	14-Aug-17	0.1	14.1	109	10.6	306	8.3
A8-02	14-Aug-17	0.5	14.1	105	10.6	306	8.3
A8-02	14-Aug-17	1.0	14.1	105	10.6	306	8.3
A8-02	14-Aug-17	1.5	14.1	105	10.7	306	8.3
A8-02	14-Aug-17	2.0	14.1	105	10.7	306	8.3
A8-03							
A8-03	14-Aug-17	0.1	14.3	107	10.8	268	8.4
A8-03	14-Aug-17	0.5	14.3	107	10.8	268	8.4
A8-03	14-Aug-17	1.0	14.3	107	10.8	268	8.4

Table 3B.7-1: Field Profiles at Meliadine Lake B7, July 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
B7-01							
B7-01	20-Jul-17	0.0	9.4	105	11.6	157	7.9
B7-01	20-Jul-17	0.1	9.4	105	11.6	157	7.9
B7-01	20-Jul-17	0.5	9.4	105	11.6	158	7.9
B7-01	20-Jul-17	1.0	9.4	105	11.6	158	7.9
B7-02							
B7-02	20-Jul-17	0.0	9.7	104	11.4	157	7.9
B7-02	20-Jul-17	0.1	9.7	103	11.3	157	7.9
B7-02	20-Jul-17	0.5	9.7	103	11.3	157	7.9
B7-02	20-Jul-17	1.0	9.7	103	11.3	157	7.9
B7-02	20-Jul-17	1.5	9.7	103	11.3	157	7.9
B7-03							
B7-03	20-Jul-17	0.0	10.3	102	11.2	158	7.9
B7-03	20-Jul-17	0.1	10.3	102	11.0	158	7.9
B7-03	20-Jul-17	0.5	10.3	102	11.0	158	7.9
B7-03	20-Jul-17	1.0	10.3	102	11.0	158	7.9
B7-03	20-Jul-17	1.5	10.3	102	11.1	158	7.9
B7-03	20-Jul-17	2.0	10.3	102	11.1	158	7.9

Table 3B.7-2: Field Profiles at Meliadine Lake B7, August 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
B7-01							
B7-01	08-Aug-17	0.0	11.9	106	11.3	160	8.2
B7-01	08-Aug-17	0.1	11.9	106	11.4	160	8.2
B7-01	08-Aug-17	0.5	11.9	106	11.4	160	8.2
B7-01	08-Aug-17	1.0	11.9	106	11.4	160	8.2
B7-02							
B7-02	08-Aug-17	0.0	12.3	102	11.0	159	8.2
B7-02	08-Aug-17	0.1	12.3	104	11.1	160	8.2
B7-02	08-Aug-17	0.5	12.3	105	11.1	160	8.2
B7-02	08-Aug-17	1.0	12.3	105	11.1	159	8.2
B7-02	08-Aug-17	1.5	12.3	105	11.2	160	8.2
B7-03							
B7-03	08-Aug-17	0.0	12.2	102	10.9	160	8.1
B7-03	08-Aug-17	0.1	12.2	103	10.9	160	8.1
B7-03	08-Aug-17	0.5	12.2	103	10.9	160	8.1
B7-03	08-Aug-17	1.0	12.2	103	10.9	160	8.1
B7-03	08-Aug-17	1.5	12.2	103	10.9	160	8.1

Table 3B.8-1: Field Profiles at Meliadine Lake D7, July 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
D7-01							
D7-01	22-Jul-17	0.0	12.1	106	11.1	152	8.2
D7-01	22-Jul-17	0.1	12.1	107	11.1	151	8.2
D7-01	22-Jul-17	0.5	12.1	107	11.2	152	8.2
D7-01	22-Jul-17	1.0	12.1	108	11.2	152	8.2
D7-01	22-Jul-17	1.5	12.1	108	11.2	152	8.2
D7-02							
D7-02	22-Jul-17	0.0	12.4	105	10.9	151	8.1
D7-02	22-Jul-17	0.1	12.3	107	11.1	151	8.2
D7-02	22-Jul-17	0.5	12.3	108	11.2	151	8.2
D7-02	22-Jul-17	1.0	12.3	108	11.2	151	8.2
D7-02	22-Jul-17	1.5	12.3	109	11.2	151	8.1
D7-03							
D7-03	22-Jul-17	0.0	12.4	107	11.1	152	8.1
D7-03	22-Jul-17	0.1	12.4	108	11.1	152	8.1
D7-03	22-Jul-17	0.5	12.4	108	11.2	152	8.1
D7-03	22-Jul-17	1.0	12.4	108	11.2	151	8.2
D7-03	22-Jul-17	1.5	12.4	108	11.2	151	8.2

Table 3B.8-2: Field Profiles at Meliadine Lake D7, August 2017

Station	Date	Depth (m)	Temperature (˚C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	Specific Conductivity (µS/cm)	pH
D7-01							
D7-01	10-Aug-17	0.1	12.8	102	10.8	154	8.3
D7-01	10-Aug-17	0.5	12.8	103	10.9	154	8.3
D7-01	10-Aug-17	1.0	12.8	103	10.9	154	8.3
D7-01	10-Aug-17	1.5	12.8	103	10.9	154	8.3
D7-02							
D7-02	10-Aug-17	0.1	12.7	103	10.9	154	8.3
D7-02	10-Aug-17	0.5	12.8	103	10.9	154	8.3
D7-02	10-Aug-17	1.0	12.8	103	10.9	154	8.3
D7-02	10-Aug-17	1.5	12.8	104	10.9	154	8.3
D7-03							
D7-03	10-Aug-17	0.1	13.0	105	11.0	154	8.4
D7-03	10-Aug-17	0.5	13.0	105	11.0	154	8.4
D7-03	10-Aug-17	1.0	13.0	105	11.0	154	8.4
D7-03	10-Aug-17	1.5	13.0	105	11.1	154	8.4

Table 3C.1: Field and Laboratory Water Quality Data from MEL-01 (near-field) in 2017

Station		Guidelines for the protection of:					MEL-01-01					MEL-01-02					MEL-01-03					MEL-01-04					MEL-01-05				
Sample Date		Aquatic Life		Drinking Water	Aesthetic	SSWQO	19/01/2017	18/02/2017	16/07/2017	09/08/2017	04/09/2017	19/01/2017	18/02/2017	16/07/2017	09/08/2017	04/09/2017	19/01/2017	18/02/2017	16/07/2017	09/08/2017	04/09/2017	19/01/2017	18/02/2017	16/07/2017	09/08/2017	04/09/2017	19/01/2017	18/02/2017	16/07/2017	09/08/2017	04/09/2017
Sample Depth		Acute	Chronic				4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m
Parameters	Unit																														
Field Measured																															
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	7.3	8.1	7.4	7.6	7.6	7.3	8.1	7.4	7.6	7.5	7.4	8.2	7.3	7.6	7.6	7.9	8.2	7.4	7.6	7.6	7.3	7.1	7.3	7.6	7.6
Specific conductivity	µS/cm	-	-	-	-	-	70	98	82	82	80	64	98	82	82	80	77	99	82	82	80	49	96	82	82	80	89	97	82	82	80
Temperature	°C	-	-	-	15	-	0.35	1.1	13	13	9.4	0.57	1.1	13	13	9.4	1.0	1.1	13	13	9.5	0.020	1.2	13	13	9.4	1.1	1.2	13	13	9.4
Dissolved oxygen	mg/L	-	6.5	-	-	-	-	-	11	11	11	-	-	11	11	11	-	-	11	11	11	-	-	11	11	11	-	-	10	11	11
Dissolved oxygen	%	-	-	-	-	-	-	-	104	101	102	-	-	104	100	102	-	-	103	101	103	-	-	104	101	101	-	-	103	102	102
Secchi depth	m	-	-	-	-	-	-	-	5.0	8.9	5.0	-	-	5.5	8.5	5.5	-	-	5.0	7.5	5.5	-	-	5.0	6.5	6.0	-	-	5.0	6.5	5.5
Air temperature	deg c	-	-	-	-	-	-	<20	-	15	15	-	<20	-	15	-	-	<20	-	15	-	-	<20	-	-	-	-	<20	-	15	-
Total depth	m	-	-	-	-	-	9.1	9.1	10	10	8.5	7.9	7.6	8.3	9.0	7.5	8.9	8.5	9.6	9.2	8.6	8.4	8.6	8.9	8.5	8.5	7.3	7.3	8.7	8.6	8.0
Ice thickness	m	-	-	-	-	-	0.90	1.1	-	-	-	0.90	1.4	-	-	-	0.86	1.1	-	-	-	0.86	1.2	-	-	-	0.90	1.2	-	-	-
Conventional Parameters																															
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	**6.9**(S)	7.0	7.2	7.3	7.2	**6.9**(S)	7.0	7.2	7.3	7.2	**6.9**(S)	7.0	7.2	7.4	7.3	**6.9**(S)	7.0	7.2	7.4	7.3	**6.9**(S)	7.0	7.2	7.4	7.3
Specific conductivity	µS/cm	-	-	-	-	-	94	98	78	82	80	94	96	78	82	82	93	97	79	83	84	93	95	78	82	81	95	97	79	82	81
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	30	29	23	24	24	28	29	24	25	25	27	32	24	24	25	29	29	24	24	24	28	28	24	24	24
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	20	16	20	17	17	18	17	17	17	18	18	17	17	17	18	21	16	17	17	17	18	13	17	17	17
Total dissolved solids	mg/L	-	-	-	500	-	67	61	54	50	53	41	64	53	53	55	47	65	55	51	61	56	60	51	49	57	59	53	51	49	59
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	48	46	42	41	42	47	47	41	41	43	46	48	41	41	43	48	46	41	41	42	47	44	41	41	42
Total suspended solids	mg/L	-	-	-	-	-	<1.0	<1.0	1.2	<1.0	2.6	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	3.7	<1.0	<1.0	1.5	<1.0	1.7	<1.0	<1.0	<1.0	1.1	3.3
Turbidity	NTU	-	-	-	-	-	0.42	0.25	0.44	0.23	0.46	0.17	0.24	0.39	0.35	0.41	0.17	0.20	0.41	0.36	0.40	0.20	0.19	0.35	0.35	0.37	0.17	0.15	0.37	0.34	0.40
Major Ions																															
Bicarbonate	mg/L	-	-	-	-	-	25	20	25	21	21	22	21	21	21	22	22	21	20	21	22	25	20	20	21	21	22	16	20	21	21
Calcium	mg/L	-	-	-	-	-	9.4	9.0	7.2	7.4	7.5	8.8	8.9	7.7	7.6	7.8	8.4	10	7.6	7.3	7.7	8.9	9.1	7.5	7.3	7.3	8.9	8.9	7.7	7.4	7.5
Chloride	mg/L	640	120	-	250	-	12	13	11	11	11	13	13	10	11	11	12	13	10	11	11	12	12	10	11	11	13	13	11	11	11
Fluoride	mg/L	-	0.12	1.5	-	2.8	0.028	0.029	0.028	0.032	0.028	0.027	0.029	0.027	0.027	0.030	0.027	0.029	0.027	0.026	0.026	0.027	0.028	0.026	0.027	0.026	0.028	0.029	0.026	0.027	0.026
Magnesium	mg/L	-	-	-	-	-	1.5	1.5	1.2	1.4	1.4	1.6	1.6	1.3	1.4	1.3	1.5	1.6	1.3	1.3	1.3	1.5	1.5	1.2	1.4	1.3	1.6	1.5	1.2	1.3	1.3
Potassium	mg/L	-	-	-	-	-	1.1	1.1	0.87	0.96	1.1	1.1	1.1	0.93	0.98	1.1	1.1	1.1	0.92	0.95	1.0	1.1	1.1	0.92	0.96	0.99	1.1	1.1	0.90	0.96	0.99
Sodium	mg/L	-	-	-	200	-	5.9	5.9	4.7	5.1	5.6	5.9	6.1	5.1	5.2	5.4	5.8	6.3	5.0	5.0	5.4	6.0	5.9	5.0	5.1	5.4	5.9	5.8	5.0	5.2	5.4
Sulphate	mg/L	-	-	-	500	-	5.2	5.4	4.9	4.9	4.7	5.3	5.4	4.8	4.6	4.8	5.2	5.5	4.8	4.6	4.7	5.2	5.3	4.7	4.7	4.7	5.4	5.5	4.7	4.7	4.6
Reactive silica, as SiO2	mg/L	-	-	-	-	-	0.54	0.62	0.60	0.55	0.52	0.52	0.60	0.60	0.55	0.50	0.52	0.60	0.55	0.55	0.50	0.49	0.60	0.58	0.57	0.50	0.51	0.59	0.54	0.58	0.51
Cyanide Species																															
Cyanide	mg/L	-	0.005	0.2	-	-	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001
Cyanide (free)	mg/L	-	0.005	0.2	-	-	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001
Cyanide (WAD)	mg/L	-	0.005	0.2	-	-	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001
Nutrients																															
Nitrate	mg-N/L	124	2.9	10	-	-	0.0058	0.012	<0.005	<0.005	0.0065	0.010	0.0091	<0.005	<0.005	0.015	0.0052	0.013	<0.005	<0.005	0.073	0.0093	0.015	<0.005	<0.005	0.061	<0.005	0.0071	<0.005	<0.005	0.073
Nitrite	mg-N/L	-	0.06	1	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0036	<0.001	<0.001	<0.001	<0.001	0.0014	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total ammonia	mg-N/L	-	0.66 - 427	-	-	-	0.026	0.029	<0.005	0.0074	0.011	0.026	0.029	<0.005	0.0060	0.0097	0.025	0.024	<0.005	<0.005	0.0071	0.026	0.030	<0.005	<0.005	<0.005	0.024	0.024	<0.005	<0.005	<0.005
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	0.24	0.11	0.17	0.24	0.39	0.25	0.14	0.17	0.19	0.37	0.20	0.16	0.16	0.22	0.24	0.24	0.16	0.18	0.22	0.20	0.28	0.19	0.18	0.20	0.21
Total phosphorus	mg-P/L	-	-	-	-	-	0.0037	~~0.027~~	0.0050	0.0054	0.0084	0.0054	~~0.022~~	0.0055	0.0051	0.013	0.0044	~~0.015~~	0.0057	0.0054	0.0081	0.0044	~~0.022~~	0.0056	0.0067	0.0061	0.0045	~~0.025~~	0.0052	0.0069	0.0062
Dissolved phosphorus	mg-P/L	-	-	-	-	-	0.0017	~~0.0046~~	0.0016	0.0025	0.0056	0.0017	~~0.0091~~	0.0018	0.0021	0.0040	0.0020	~~0.0124~~	0.0019	0.0022	0.0035	0.0022	~~0.0213~~	0.0017	0.0021	0.0033	0.0021	~~0.0155~~	0.0023	0.0020	0.0028
Orthophosphate	mg-P/L	-	-	-	-	-	0.0017	0.0013	0.0012	<0.001	<0.001	0.0015	0.0012	0.0010	0.0011	<0.001	0.0016	0.0013	<0.001	<0.001	<0.001	<0.001	0.0019	<0.001	<0.001	<0.001	<0.001	0.0014	0.0011	<0.001	<0.001
Total organic carbon	mg/L	-	-	-	-	-	3.2	3.4	3.0	3.4	4.3	3.3	3.4	3.1	3.5	3.7	3.2	3.6	3.0	3.5	3.4	3.2	3.4	3.0	3.0	3.3	3.2	3.6	3.0	2.8	3.3
Dissolved organic carbon	mg/L	-	-	-	-	-	3.1	3.5	3.1	3.4	4.1	3.0	3.5	3.2	3.5	3.8	3.1	3.6	3.2	3.5	3.3	3.4	3.3	3.5	2.8	3.4	3.2	3.6	3.3	2.6	3.3
Total Metals																															
Aluminum	µg/L	-	5.0 - 100	-	200	-	0.65	1.1	3.7	3.3	22	5.2	1.0	3.1	3.7	7.2	0.93	1.0	3.0	3.9	13	1.3	1.0	3.5	4.1	7.0	2.2	1.5	2.7	2.8	7.0
Antimony	µg/L	-	-	6	-	-	<0.02	0.025	<0.02	<0.02	0.054	<0.02	0.025	<0.02	<0.02	<0.02	<0.02	0.024	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.064	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	5	10	-	25	0.43	0.44	0.41	0.43	0.55	0.46	0.44	0.40	0.39	0.48	0.40	0.39	0.38	0.41	0.49	0.43	0.40	0.40	0.45	0.49	0.43	0.39	0.39	0.35	0.49
Barium	µg/L	-	-	1,000	-	-	8.8	9.5	8.5	7.3	7.9	9.0	8.8	8.6	7.4	7.8	8.6	9.2	8.5	7.7	7.9	9.2	8.7	8.7	7.8	8.0	9.1	9.0	8.3	7.3	7.8
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005
Boron	µg/L	29,000	1,500	5,000	-	-	6.7	4.6	<5.0	<5.0	<5.0	5.9	4.5	<5.0	<5.0	<5.0	6.9	4.6	<5.0	<5.0	<5.0	6.1	4.5	<5.0	5.4	<5.0	4.5	4.5	<5.0	<5.0	<5.0
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5	-	-	<0.005	<0.005	<0.005	<0.005	0.0082	<0.005	<0.005	<0.005	<0.005	0.0057	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	-	-	<0.01	<0.01	0.020	-	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	-	<0.01	0.011	<0.01	-	-	<0.01	<0.01	<0.01
Chromium	µg/L	-	1.0	50	-	-	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	-	0.014	0.012	0.023	0.020	0.044	0.012	0.014	0.021	0.015	0.026	<0.01	0.012	0.022	0.015	0.029	0.012	<0.01	0.019	0.020	0.024	0.015	0.015	0.024	0.016	0.022
Copper	µg/L	-	2	-	1,000	-	0.89	0.88	0.95	1.0	1.4	0.92	0.89	0.96	0.87	1.2	0.89	0.91	0.84	0.99	0.91	0.91	0.92	0.88	0.89	1.0	1.0	0.93	1.2	0.80	0.91
Iron	µg/L	-	300	-	300	1,060	8.6	8.4	26	18	45	6.7	9.5	26	18	28	7.0	9.0	26	19	28	7.8	8.5	27	20	26	7.9	9.7	28	18	28
Lead	µg/L	-	1	10	-	-	<0.01	<0.01	<0.01	<0.01	0.90	0.018	<0.01	<0.01	0.016	0.17	<0.01	<0.01	<0.01	0.011	0.090	<0.01	0.014	<0.01	0.028	0.078	0.031	<0.01	0.011	<0.01	0.079
Lithium	µg/L	-	-	-	-	-	0.84	1.1	0.55	0.60	0.66	1.1	0.96	0.73	0.86	0.68	1.0	0.96	0.63	0.85	0.67	1.1	0.86	0.61	0.82	0.72	1.2	1.0	0.64	0.73	0.69
Manganese	µg/L	-	-	-	50	-	2.8	1.6	6.9	5.1	5.6	1.6	1.7	6.9	5.1	5.3	1.7	1.7	7.1	5.5	5.5	1.7	1.5	7.3	5.5	5.0	1.6	1.8	7.1	5.1	4.8
Mercury	µg/L	-	0.026	1	-	-	0.00050	0.00070	0.0010	0.00050	0.0015	0.00060	0.00050	0.0010	<0.0005	0.0015	0.00050	0.00060	0.0010	0.00060	0.0013	0.00050	0.00060	0.0011	0.00070	0.0019	0.00060	0.00060	0.0011	0.0012	0.00090
Molybdenum	µg/L	-	73	-	-	-	0.093	0.082	0.077	0.089	0.12	0.081	0.083	0.072	0.078	0.083	0.090	0.088	0.072	0.080	0.089	0.091	0.073	0.073	0.091	0.081	0.099	0.083	0.070	0.083	0.084
Nickel	µg/L	-	25	-	-	-	0.71	0.70	0.70	0.64	0.83	0.71	0.68	0.70	0.61	0.71	0.65	0.70	0.72	0.64	0.68	0.71	0.71	0.77	0.67	0.77	0.70	0.71	0.73	0.62	0.71
Rubidium	µg/L	-	-	-	-	-	-	-	1.4	1.4	1.6	-	-	1.4	1.3	1.6	-	-	1.4	1.4	1.6	-	-	1.5	1.4	1.7	-	-	1.4	1.3	1.5
Selenium	µg/L	-	1	50	-	-	<0.04	0.043	<0.04	<0.04	<0.04	<0.04	0.042	<0.04	<0.04	<0.04	0.041	0.040	<0.04	<0.04	<0.04	0.042	0.043	<0.04	<0.04	0.041	0.049	<0.04	<0.04	0.044	<0.04
Silicon	µg/L	-	-	-	-	-	-	-	287	258	313	-	-	284	261	261	-	-	281	264	254	-	-	290	262	259	-	-	287	258	292
Silver	µg/L	-	0.25	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	46	45	36	36	40	46	44	36	37	39	46	44	37	37	38	45	44	37	38	38	47	45	37	37	37
Sulphur	µg/L	-	-	-	-	-	-	-	1,300	1,640	1,660	-	-	1,300	1,400	1,400	-	-	1,330	1,560	1,490	-	-	1,400	1,460	1,460	-	-	1,380	1,400	1,520
Tellurium	µg/L	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2
Thallium	µg/L	-	0.8	-	-	-	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	0.0021	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	<0.002
Thorium	µg/L	-	-	-	-	-	-	-	<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	<0.1	<0.1
Tin	µg/L	-	-	-	-	-	<0.05	<0.05	<0.02	<0.02	0.035	<0.05	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.02	0.052	<0.05	<0.05	<0.02	<0.02	0.027
Titanium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.5	<0.5	0.81	<0.1	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.5	<0.5	<0.5
Tungsten	µg/L	-	-	-	-	-	-	-	<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	<0.1	<0.1
Uranium	µg/L	33	15	20	-	-	0.017	0.017	0.017	0.018	0.021	0.014	0.016	0.016	0.018	0.017	0.016	0.018	0.019	0.019	0.020	0.016	0.016	0.018	0.020	0.019	0.018	0.018	0.019	0.018	0.019
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	30	-	5,000	-	<0.8	2.9	2.3	0.62	7.5	<0.8	<0.8	1.1	1.8	9.5	<0.8	<0.8	1.4	1.3	7.2	<0.8	<0.8	2.7	1.9	4.9	0.91	<0.8	0.77	0.90	6.1
Zirconium	µg/L	-	-	-	-	-	-	-	<0.06	<0.06	0.068	-	-	<0.06	<0.06	<0.06	-	-	<0.06	<0.06	<0.06	-	-	<0.06	<0.06	<0.06	-	-	<0.06	<0.06	<0.06
Dissolved Metals																															
Aluminum	µg/L	-	-	-	-	-	0.76	0.61	1.8	2.3	5.0	1.9	0.71	0.88	1.8	1.5	0.91	1.8	0.94	2.0	0.98	0.61	0.77	1.7	2.0	15.4	0.88	1.2	1.6	1.6	1.3
Antimony	µg/L	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	0.048	<0.02	0.031	<0.02	<0.02	0.026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	-	-	-	-	0.41	0.39	0.32	0.43	0.47	0.43	0.39	0.33	0.42	0.48	0.37	0.37	0.33	0.41	0.41	0.40	0.39	0.30	0.41	0.40	0.41	0.36	0.34	0.41	0.45
Barium	µg/L	-	-	-	-	-	9.3	9.4	7.0	7.4	7.9	9.1	9.1	7.6	7.5	7.6	8.8	9.1	7.4	7.5	7.6	9.1	8.7	7.3	7.3	7.5	9.0	9.1	7.3	7.8	7.5
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005
Boron	µg/L	-	-	-	-	-	8.1	4.4	<10	<10	<10	6.0	4.5	<10	<10	<10	4.9	4.5	<10	<10	<10	5.1	4.5	<10	<10	<10	6.1	4.6	<10	<10	<10
Cadmium	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	0.0086	<0.005	<0.005	<0.005	<0.005	0.0068	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	-	-	<0.01	<0.01	0.011	-	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	0.010
Chromium	µg/L	-	-	-	-	-	<0.06	<0.06	0.12	<0.1	<0.1	<0.06	<0.06	0.16	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	-	<0.01	<0.01	0.011	0.036	0.018	0.013	<0.01	<0.005	0.054	0.016	<0.01	0.013	0.0060	0.035	0.011	<0.01	<0.01	<0.005	0.037	0.011	0.010	<0.01	0.0081	0.023	0.012
Copper	µg/L	-	-	-	-	-	0.98	0.85	1.08	0.87	1.45	0.90	0.88	1.2	0.81	1.3	0.86	1.0	1.2	0.92	0.81	0.90	0.78	1.3	0.88	0.89	0.92	0.89	1.3	1.3	0.87
Iron	µg/L	-	-	-	-	-	4.2	3.5	9.1	8.4	7.6	7.0	3.8	7.2	7.2	5.1	2.7	5.4	7.4	7.3	4.1	2.7	3.6	8.4	7.8	4.4	2.5	4.3	12	7.7	4.7
Lead	µg/L	-	-	-	-	-	<0.01	<0.01	0.047	0.024	0.18	0.051	0.028	0.012	0.011	0.16	<0.01	0.016	0.0062	0.012	0.13	<0.01	<0.01	0.0096	0.0096	0.024	<0.01	<0.01	0.014	0.0095	0.14
Lithium	µg/L	-	-	-	-	-	0.87	1.0	0.57	0.90	0.70	0.94	1.0	0.66	0.81	0.74	0.73	1.1	0.66	0.88	0.73	1.1	1.2	0.63	0.96	0.74	1.1	1.1	0.64	0.93	0.77
Manganese	µg/L	-	-	-	-	-	0.44	0.16	0.81	0.79	0.87	0.24	0.18	0.64	0.60	0.78	0.15	0.40	0.51	0.76	0.53	0.16	0.19	0.72	0.73	0.57	0.17	0.22	0.81	0.66	0.61
Mercury	µg/L	-	-	-	-	-	0.00050	0.00070	0.0010	0.00060	0.00090	0.00060	0.00050	0.0011	0.00080	0.00070	0.00050	0.00060	0.00090	0.00070	0.00080	0.00050	0.00060	0.00090	0.00080	0.00070	0.00060	0.00060	0.00070	0.0010	0.00070
Molybdenum	µg/L	-	-	-	-	-	0.090	0.082	0.078	0.090	0.17	0.093	0.081	0.078	0.18	0.12	0.077	0.073	0.074	0.12	0.15	0.089	0.066	0.077	0.12	0.12	0.095	0.082	0.079	0.087	0.14
Nickel	µg/L	-	-	-	-	-	0.67	0.68	0.64	0.57	0.60	0.71	0.69	0.66	0.59	0.65	0.67	0.75	0.70	0.57	0.59	0.68	0.67	0.71	0.57	0.59	0.71	0.71	0.66	0.69	0.62
Rubidium	µg/L	-	-	-	-	-	-	-	1.2	1.4	1.5	-	-	1.3	1.4	1.5	-	-	1.4	1.4	1.6	-	-	1.3	1.4	1.4	-	-	1.3	1.4	1.5
Selenium	µg/L	-	-	-	-	-	<0.04	0.050	<0.04	<0.04	0.052	0.053	<0.04	<0.04	<0.04	<0.04	<0.04	0.055	<0.04	<0.04	<0.04	<0.04	0.043	<0.04	<0.04	<0.04	0.050	<0.04	<0.04	<0.04	<0.04
Silicon	µg/L	-	-	-	-	-	-	-	253	255	267	-	-	271	257	253	-	-	263	258	246	-	-	266	258	255	-	-	274	278	250
Silver	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	48	44	34	35	38	44	43	36	36	38	44	44	36	34	36	45	45	36	35	35	46	43	37	35	37
Sulphur	µg/L	-	-	-	-	-	-	-	1,330	2,040	1,530	-	-	1,510	1,570	1,620	-	-	1,350	1,610	1,540	-	-	1,370	1,720	1,500	-	-	1,420	1,680	1,490
Tellurium	µg/L	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2
Thallium	µg/L	-	-	-	-	-	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	0.0022	0.0026	<0.005	<0.005	<0.002	0.0021	0.0024	<0.005	<0.005	<0.002	<0.002	0.0022	<0.005	<0.005	<0.002	<0.002	0.0032
Thorium	µg/L	-	-	-	-	-	-	-	<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	<0.1	<0.1
Tin	µg/L	-	-	-	-	-	<0.05	<0.05	0.024	<0.01	0.028	<0.05	<0.05	<0.01	<0.01	0.049	<0.05	<0.05	<0.01	<0.01	0.013	<0.05	<0.05	0.031	<0.01	0.073	<0.05	<0.05	<0.01	0.029	0.036
Titanium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.3	<0.3	<0.3	<0.1	<0.1	<0.3	<0.3	<0.3	<0.1	<0.1	<0.3	<0.3	<0.3	<0.1	<0.1	<0.3	<0.3	<0.3	<0.1	<0.1	<0.3	<0.3	<0.3
Tungsten	µg/L	-	-	-	-	-	-	-	<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	<0.1	<0.1
Uranium	µg/L	-	-	-	-	-	0.016	0.016	0.014	0.017	0.018	0.015	0.016	0.015	0.017	0.019	0.016	0.016	0.014	0.016	0.016	0.016	0.014	0.018	0.018	0.019	0.017	0.017	0.015	0.017	0.017
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	0.086	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	-	-	-	-	0.87	2.1	1.6	1.6	7.7	1.8	<0.8	<0.5	0.76	11	<0.8	11	<0.5	<0.5	7.0	<0.8	<0.8	0.75	1.1	5.1	<0.8	<0.8	0.70	1.3	11
Zirconium	µg/L	-	-	-	-	-	-	-	<0.06	<0.06	0.068	-	-	<0.06	<0.06	<0.06	-	-	<0.06	<0.06	<0.06	-	-	<0.06	<0.06	<0.06	-	-	<0.06	<0.06	0.062

Note: Concentration data values that failed the QC screening are crossed out in the table (e.g., ~~2.1~~). These values were not included in the calculations of summary statistics.
(C) = concentration is higher than the chronic aquatic life CCME guideline or outside the recommended pH, DO or total alkalinity range.
(S) = concentration is higher than the aesthetic Health Canada guideline or outside the recommended pH range.
Water quality data and guidelines represented in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances.
Measured concentrations equal to the guideline values were not identified as exceedances.
m = metres; °C = degrees Celsius; - = not applicable/not recorded; NW = northwest; S = south; SE = southeast; S/SW = south-southwest; SW = southwest; N = north; W/SW = west-southwest; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; % = percent;
CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid

Table 3C.2: Field and Laboratory Water Quality Data from MEL-02 (mid-field) 2017

Station		Guidelines for the protection of:					MEL-02-01					MEL-02-02					MEL-02-03					MEL-02-04					MEL-02-05				
Sample Date		Aquatic Life		Drinking Water	Aesthetic	SSWQO	01/20/2017	02/19/2017	07/23/2017	08/11/2017	09/05/2017	01/20/2017	02/19/2017	07/23/2017	08/11/2017	09/05/2017	01/20/2017	02/19/2017	07/23/2017	08/11/2017	09/05/2017	01/20/2017	02/19/2017	07/23/2017	08/11/2017	09/05/2017	01/20/2017	02/19/2017	07/23/2017	08/11/2017	09/05/2017
Sample Depth		Acute	Chronic				4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m
Parameters	Unit																														
Field Measured																															
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	7.4	7.4	7.5	7.6	7.6	7.4	7.6	7.5	7.6	7.6	7.2	7.4	7.4	7.6	7.6	7.2	**7.0(S)**	7.5	7.6	7.6	7.2	7.6	7.4	7.6	7.6
Specific conductivity	µS/cm	-	-	-	-	-	42	87	76	75	73	30	91	76	75	73	87	94	76	76	75	87	91	76	75	74	91	91	77	75	75
Temperature	°C	-	-	-	15	-	0.03	1.1	13	13	9.6	0.92	1.0	13	13	9.6	0.94	0.72	12	13	9.5	0.95	1.0	12	13	9.6	0.89	1.0	13	13	9.5
Dissolved oxygen	mg/L	-	6.5	-	-	-	-	-	11	11	11	-	-	11	11	11	-	-	11	11	12	-	-	11	11	12	-	-	11	11	12
Dissolved oxygen	%	-	-	-	-	-	-	-	105	102	102	-	-	105	102	103	-	-	105	102	103	-	-	105	102	103	-	-	105	102	75
Secchi depth	m	-	-	-	-	-	-	-	7.0	7.5	6.5	-	-	7.5	9.1	6.0	-	-	7.0	8.5	5.5	-	-	7.0	8.6	6.5	-	-	6.5	8.6	5.0
Air temperature	deg c	-	-	-	-	-	-	<28	-	10	-	-	<28	-	15	-	-	<28	-	18	-	-	<28	-	18	-	-	<28	-	18	-
Total depth	m	-	-	-	-	-	7.0	7.4	8.1	7.5	9.0	9.0	8.9	9.5	9.1	9.0	9.1	9.3	9.8	8.5	9.2	7.5	8.2	8.0	8.6	8.5	8.7	8.1	9.6	8.6	9.0
Ice thickness	m	-	-	-	-	-	0.90	1.3	-	-	-	0.86	1.1	-	-	-	0.86	1.2	-	-	-	1.0	1.3	-	-	-	1.0	1.1	-	-	-
Conventional Parameters																															
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	**6.9(S)**	**6.8(S)**	**6.7(S)**	7.3	7.3	**6.9(S)**	7.0	**6.7(S)**	7.4	7.3	**6.8(S)**	7.0	**6.7(S)**	7.4	7.3	**6.9(S)**	7.0	**6.7(S)**	7.4	7.3	**6.9(S)**	**7.0(S)**	**6.7(S)**	7.4	7.3
Specific conductivity	µS/cm	-	-	-	-	-	83	84	75	75	71	84	87	75	75	74	85	90	75	77	74	86	88	75	76	74	90	86	75	76	74
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	25	26	22	23	23	26	27	22	22	23	27	28	21	23	23	26	27	20	23	23	27	27	21	22	22
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	21	15	17	16	17	17	15	17	16	17	17	16	18	17	17	18	17	18	17	17	21	15	17	17	17
Total dissolved solids	mg/L	-	-	-	500	-	47	30	50	46	45	49	34	49	49	47	49	43	56	44	49	49	62	52	48	50	53	44	52	42	53
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	43	40	38	38	38	41	42	38	37	39	42	43	38	38	38	43	43	37	38	39	46	41	38	37	39
Total suspended solids	mg/L	-	-	-	-	-	<1.0	<1.0	<1.0	1.1	6.8	<1.0	<1.0	<1.0	1.0	6.2	<1.0	<1.0	<1.0	<1.0	3.2	<1.0	1.1	<1.0	1.4	7.6	<1.0	<1.0	<1.0	1.2	3.3
Turbidity	NTU	-	-	-	-	-	0.14	0.15	0.30	0.28	0.85	0.23	0.17	0.30	0.30	0.36	0.16	0.14	0.36	0.29	0.35	0.15	0.18	0.39	0.36	0.47	0.18	0.14	0.27	0.37	0.53
Major Ions																															
Bicarbonate	mg/L	-	-	-	-	-	25	18	21	20	20	21	18	21	20	21	21	19	22	21	21	22	20	22	21	21	26	18	21	20	21
Calcium	mg/L	-	-	-	-	-	7.9	8.2	6.6	7.2	7.2	7.9	8.6	6.7	6.9	7.1	8.4	8.7	6.9	7.0	7.1	8.2	8.2	6.7	7.0	7.5	8.6	8.4	6.6	6.9	7.0
Chloride	mg/L	640	120	-	250	-	10	11	9.5	9.5	9.0	11	11	9.4	9.4	9.4	11	11	9.5	9.4	9.4	11	11	9.5	9.2	9.5	11	11	9.5	9.2	9.4
Fluoride	mg/L	-	0.12	1.5	-	2.8	0.034	0.027	0.027	0.032	0.031	0.029	0.030	0.026	0.028	0.029	0.026	0.029	0.031	0.027	0.025	0.027	0.027	0.029	0.028	0.025	0.028	0.026	0.026	0.027	0.024
Magnesium	mg/L	-	-	-	-	-	1.3	1.3	1.1	1.3	1.2	1.4	1.4	1.1	1.2	1.2	1.4	1.4	1.1	1.2	1.2	1.4	1.4	1.1	1.2	1.2	1.5	1.4	1.1	1.2	1.2
Potassium	mg/L	-	-	-	-	-	1.0	0.98	0.82	0.96	0.95	1.0	1.0	0.84	0.92	1.0	1.1	1.1	0.79	0.93	0.98	1.1	1.0	0.81	0.93	0.98	1.1	1.0	0.81	0.92	0.99
Sodium	mg/L	-	-	-	200	-	4.9	5.2	4.3	4.8	4.7	5.1	5.4	4.4	4.5	5.1	5.3	5.5	4.3	4.8	4.9	5.3	5.4	4.6	4.6	4.9	5.5	5.2	4.3	4.7	4.9
Sulphate	mg/L	-	-	-	500	-	5.0	4.7	4.1	4.1	4.0	4.3	4.8	4.1	4.0	4.1	4.4	4.9	4.2	4.0	3.9	4.5	4.7	4.2	4.1	3.9	4.7	4.5	4.1	4.1	3.9
Reactive silica, as SiO2	mg/L	-	-	-	-	-	0.36	0.42	0.36	0.36	0.30	0.39	0.46	0.36	0.35	0.33	0.41	0.49	0.36	0.36	0.34	0.41	0.46	0.37	0.34	0.35	0.40	0.40	0.35	0.35	0.34
Cyanide Species																															
Cyanide	mg/L	-	0.005	0.2	-	-	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001
Cyanide (free)	mg/L	-	0.005	0.2	-	-	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001
Cyanide (WAD)	mg/L	-	0.005	0.2	-	-	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001
Nutrients																															
Nitrate	mg-N/L	124	2.9	10	-	-	0.0063	<0.005	<0.005	<0.005	0.14	<0.005	0.0088	<0.005	<0.005	0.11	0.0052	0.010	<0.005	<0.005	0.081	<0.005	0.0069	<0.005	<0.005	0.17	0.0076	0.0058	<0.005	<0.005	0.14
Nitrite	mg-N/L	-	0.06	1	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0010	<0.001	<0.001	<0.001	<0.001	0.0015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0011	0.0012	<0.001	<0.001	<0.001
Total ammonia	mg-N/L	-	0.66 - 427	-	-	-	0.021	0.023	<0.005	<0.005	0.0066	0.022	0.018	<0.005	0.0079	<0.005	0.022	0.017	<0.005	<0.005	<0.005	0.022	0.019	0.0073	<0.005	0.0098	0.020	0.019	0.0097	<0.005	<0.005
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	0.18	0.13	0.15	0.16	0.16	0.22	0.11	0.12	0.17	0.18	0.23	0.14	0.17	0.16	0.19	0.21	0.12	0.16	0.18	0.22	0.27	0.11	0.15	0.16	0.22
Total phosphorus	mg-P/L	-	-	-	-	-	0.0038	~~0.054~~	0.0042	0.0043	0.0048	0.0031	~~0.012~~	0.0047	0.0042	0.0068	0.0032	~~0.024~~	0.0038	0.0064	0.0052	0.0034	~~0.022~~	0.0049	0.0044	0.0064	0.0045	~~0.035~~	0.0087	0.0038	0.0079
Dissolved phosphorus	mg-P/L	-	-	-	-	-	0.0019	~~0.011~~	0.0017	0.0026	0.0024	<0.001	~~0.036~~	0.0018	0.0023	0.0044	0.0023	~~0.039~~	0.0027	0.0018	0.0034	0.0012	~~0.011~~	0.0017	0.0012	0.0045	0.0036	~~0.011~~	0.0017	0.0018	0.0035
Orthophosphate	mg-P/L	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	0.0011	0.0016	0.0012	<0.001	<0.001	<0.001	0.0011	0.0012	0.0011	<0.001	0.0011	0.0011	0.0014	0.0011	0.0011	0.0013	0.0012	0.0014	0.0015	<0.001
Total organic carbon	mg/L	-	-	-	-	-	2.7	2.9	2.9	2.9	2.8	2.6	2.8	2.9	3.1	2.9	2.8	3.0	2.9	3.0	2.8	2.8	3.0	2.9	3.0	3.4	3.0	2.8	2.9	3.1	2.9
Dissolved organic carbon	mg/L	-	-	-	-	-	2.9	2.8	2.6	3.1	2.7	2.7	2.9	2.7	2.9	3.1	3.0	3.1	2.6	2.9	3.0	2.8	2.9	2.7	3.3	3.1	2.9	2.9	2.6	3.2	2.8
Total Metals																															
Aluminum	µg/L	-	5.0 - 100	-	200	-	1.1	1.2	2.3	4.0	9.3	1.2	0.95	2.0	2.6	9.1	1.1	0.87	1.9	3.0	6.2	0.95	0.89	2.5	3.6	6.0	0.94	1.5	2.7	2.9	7.9
Antimony	µg/L	-	-	6	-	-	<0.02	<0.02	<0.02	<0.02	0.028	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	5.0	10	-	25	0.28	0.29	0.25	0.28	0.28	0.30	0.28	0.25	0.24	0.29	0.29	0.30	0.24	0.26	0.26	0.28	0.31	0.26	0.27	0.28	0.28	0.28	0.28	0.25	0.31
Barium	µg/L	-	-	1,000	-	-	8.2	8.4	7.7	8.0	7.8	8.7	8.9	7.9	7.7	7.5	9.0	9.2	7.7	7.5	7.5	9.0	9.3	7.8	7.9	7.7	10	8.5	7.9	7.4	8.4
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	0.0052	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005
Boron	µg/L	29,000	1,500	5,000	-	-	5.1	4.0	<5.0	5.7	<5.0	6.3	4.3	<5.0	5.2	<5.0	6.7	4.4	<5.0	<5.0	<5.0	5.2	4.4	<5.0	<5.0	<5.0	7.2	4.1	<5.0	<5.0	<5.0
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5	-	-	<0.005	<0.005	<0.005	<0.005	0.0061	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	-	-	<0.01	<0.01	0.028	-	-	<0.01	<0.01	0.033	-	-	<0.01	0.011	0.022	-	-	<0.01	<0.01	0.039	-	-	<0.01	<0.01	0.012
Chromium	µg/L	-	1.0	50	-	-	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	-	<0.01	<0.01	0.010	0.018	0.021	<0.01	<0.01	0.018	0.013	0.023	0.010	0.010	0.012	0.011	0.018	<0.01	<0.01	0.017	0.012	0.024	0.014	<0.01	0.015	0.0097	0.019
Copper	µg/L	-	2	-	1,000	-	0.80	0.77	0.83	1.0	1.3	0.82	0.82	0.89	0.97	0.94	0.80	0.85	0.76	0.84	0.86	0.84	0.85	0.80	1.5	0.89	0.86	0.84	0.83	0.73	0.91
Iron	µg/L	-	300	-	300	1,060	3.5	3.8	14	13	19	4.4	4.8	13	13	21	10	4.7	14	11	18	4.6	4.6	15	12	21	7.8	4.9	15	11	22
Lead	µg/L	-	1	10	-	-	<0.01	0.012	<0.01	0.032	0.17	<0.01	0.030	<0.01	0.014	0.11	<0.01	0.011	<0.01	0.011	0.080	0.012	0.014	<0.01	0.048	0.067	<0.01	0.020	<0.01	<0.01	0.12
Lithium	µg/L	-	-	-	-	-	1.1	1.0	<0.5	0.72	0.63	0.90	1.1	<0.5	0.76	0.51	0.96	0.97	<0.5	0.79	0.51	0.97	1.1	<0.5	0.85	0.55	1.1	0.98	<0.5	0.94	0.66
Manganese	µg/L	-	-	-	50	-	1.3	1.1	4.3	4.3	3.1	1.6	1.3	4.4	3.8	4.0	1.9	1.3	4.3	3.6	3.8	1.5	1.3	4.1	3.7	4.2	2.5	1.4	4.2	7.7	4.5
Mercury	µg/L	-	0.026	1	-	-	<0.0005	0.00050	0.00070	0.00070	0.00090	<0.0005	0.00060	0.00080	0.00060	0.0016	<0.0005	0.00060	0.00070	0.00060	0.0010	0.00050	0.00050	0.0010	0.00080	0.00070	<0.0005	0.00050	0.00070	0.00080	0.00090
Molybdenum	µg/L	-	73	-	-	-	0.076	0.059	0.073	0.079	0.13	0.075	0.069	0.067	0.081	0.097	0.077	0.067	0.075	0.071	0.097	0.081	0.077	0.070	0.088	0.10	0.082	0.068	0.064	0.071	0.086
Nickel	µg/L	-	25	-	-	-	0.52	0.55	0.48	0.53	0.58	0.55	0.52	0.55	0.48	0.55	0.56	0.57	0.50	0.51	0.53	0.58	0.57	0.55	0.53	0.56	0.54	0.54	0.54	0.48	0.54
Rubidium	µg/L	-	-	-	-	-	-	-	1.4	1.5	1.5	-	-	1.3	1.5	1.5	-	-	1.3	1.4	1.5	-	-	1.3	1.4	1.5	-	-	1.4	1.5	1.6
Selenium	µg/L	-	1	50	-	-	<0.04	0.044	<0.04	0.044	<0.04	<0.04	0.043	<0.04	<0.04	<0.04	0.041	<0.04	<0.04	<0.04	<0.04	<0.04	0.042	<0.04	<0.04	<0.04	0.046	<0.04	<0.04	<0.04	<0.04
Silicon	µg/L	-	-	-	-	-	-	-	178	171	257	-	-	169	176	188	-	-	173	163	186	-	-	176	177	205	-	-	185	164	177
Silver	µg/L	-	0.25	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	42	41	35	36	37	40	42	35	35	37	41	41	35	35	37	43	40	34	35	37	45	42	34	35	37
Sulphur	µg/L	-	-	-	-	-	-	-	1,340	1,220	1,160	-	-	1,350	1,360	1,330	-	-	1,330	1,230	1,360	-	-	1,350	1,170	1,390	-	-	1,310	1,190	1,250
Tellurium	µg/L	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2
Thallium	µg/L	-	0.8	-	-	-	<0.005	<0.005	<0.002	<0.002	0.0025	<0.005	<0.005	<0.002	0.0021	<0.002	<0.005	<0.005	<0.002	<0.002	0.0022	<0.005	<0.005	<0.002	<0.002	0.0022	<0.005	<0.005	<0.002	<0.002	<0.002
Thorium	µg/L	-	-	-	-	-	-	-	<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	<0.1	<0.1
Tin	µg/L	-	-	-	-	-	<0.05	<0.05	<0.02	<0.02	0.072	<0.05	<0.05	<0.02	<0.02	0.15	<0.05	<0.05	<0.02	<0.02	0.086	<0.05	<0.05	<0.02	0.021	0.11	<0.05	<0.05	<0.02	<0.02	0.096
Titanium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.5	<0.5	<0.5
Tungsten	µg/L	-	-	-	-	-	-	-	<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	<0.1	<0.1
Uranium	µg/L	33	15	20	-	-	0.013	0.012	0.014	0.016	0.019	0.014	0.014	0.015	0.017	0.018	0.014	0.013	0.015	0.016	0.019	0.015	0.015	0.013	0.017	0.022	0.014	0.015	0.013	0.016	0.019
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	30	-	5,000	-	<0.8	1.5	0.60	2.0	11	<0.8	<0.8	0.52	4.2	7.7	<0.8	<0.8	<0.5	4.3	5.9	<0.8	0.95	2.2	2.1	7.7	<0.8	27	1.8	0.57	10.0
Zirconium	µg/L	-	-	-	-	-	-	-	<0.06	<0.06	0.097	-	-	<0.06	<0.06	<0.06	-	-	<0.06	<0.06	<0.06	-	-	<0.06	<0.06	0.063	-	-	<0.06	<0.06	0.10
Dissolved Metals																															
Aluminum	µg/L	-	-	-	-	-	0.63	0.83	1.9	2.4	2.9	0.58	1.0	2.0	2.1	2.6	0.82	0.68	1.2	2.3	2.4	<0.3	0.61	0.87	1.9	4.7	0.88	0.98	0.83	2.2	1.9
Antimony	µg/L	-	-	-	-	-	0.059	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.029	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.021	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	-	-	-	-	0.28	0.25	0.24	0.26	0.23	0.29	0.27	0.23	0.27	0.25	0.30	0.29	0.22	0.28	0.24	0.30	0.32	0.24	0.26	0.26	0.28	0.29	0.22	0.27	0.25
Barium	µg/L	-	-	-	-	-	8.2	8.7	7.1	7.6	7.9	8.7	8.9	7.2	7.3	7.5	8.9	9.3	7.3	7.3	7.6	8.7	8.8	7.3	7.5	7.7	9.8	8.7	7.1	7.3	7.6
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005
Boron	µg/L	-	-	-	-	-	4.5	3.8	<10	<10	<10	5.6	4.4	<10	<10	<10	5.3	4.6	<10	<10	<10	4.7	4.2	<10	<10	<10	6.2	4.0	<10	<10	<10
Cadmium	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0062	<0.005	<0.005	<0.005	<0.005	0.0071	<0.005	<0.005	<0.005	<0.005	0.0079	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	-	-	<0.01	<0.01	0.026	-	-	<0.01	<0.01	0.053	-	-	<0.01	<0.01	0.026	-	-	<0.01	<0.01	0.042	-	-	<0.01	<0.01	0.011
Chromium	µg/L	-	-	-	-	-	<0.06	<0.06	0.19	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1	<0.06	<0.06	0.12	<0.1	<0.1	<0.06	<0.06	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	-	<0.01	<0.01	0.022	0.035	0.011	<0.01	<0.01	0.024	0.027	0.011	<0.01	<0.01	0.023	0.032	0.0086	<0.01	<0.01	0.024	0.034	0.018	<0.01	<0.01	0.035	0.037	0.0079
Copper	µg/L	-	-	-	-	-	0.74	0.75	1.2	0.74	1.5	0.77	0.84	1.1	0.81	0.96	0.79	0.81	1.1	0.81	0.94	0.78	0.80	1.1	0.75	0.98	0.82	0.80	0.98	0.77	0.72
Iron	µg/L	-	-	-	-	-	<1.0	1.2	7.0	6.4	3.5	1.3	2.2	5.5	6.1	4.9	1.2	1.9	5.9	7.2	5.4	<1.0	1.7	5.6	6.1	9.8	1.9	1.4	5.6	6.8	4.3
Lead	µg/L	-	-	-	-	-	<0.01	<0.01	0.012	0.014	0.045	<0.01	<0.01	0.0054	0.0080	0.098	<0.01	<0.01	0.0062	0.023	0.070	<0.01	<0.01	<0.005	0.0088	0.080	<0.01	<0.01	0.0060	0.019	0.039
Lithium	µg/L	-	-	-	-	-	0.99	1.0	0.64	0.94	0.74	0.87	1.0	0.63	0.80	0.79	1.1	1.2	0.67	1.2	0.68	1.1	0.85	0.58	0.85	0.89	0.99	1.1	0.81	0.78	0.75
Manganese	µg/L	-	-	-	-	-	0.11	0.16	0.58	0.71	0.51	0.14	0.17	0.87	0.72	0.78	0.14	0.16	0.61	3.6	0.63	0.13	0.17	0.58	0.73	0.76	0.21	0.17	1.5	1.0	0.55
Mercury	µg/L	-	-	-	-	-	<0.0005	0.00050	0.0012	0.00070	0.0011	<0.0005	0.00060	0.0012	0.00070	0.00060	<0.0005	0.00060	0.0012	0.00070	0.00070	0.00050	0.00050	0.0010	0.00080	0.00090	<0.0005	0.00050	0.0012	0.00080	0.00060
Molybdenum	µg/L	-	-	-	-	-	0.079	0.074	0.072	0.089	0.15	0.072	0.069	0.11	0.099	0.23	0.083	0.074	0.075	0.28	0.20	0.077	0.053	0.076	0.085	0.20	0.071	0.072	0.066	0.12	0.10
Nickel	µg/L	-	-	-	-	-	0.51	0.51	0.48	0.43	0.47	0.54	0.57	0.50	0.45	0.52	0.56	0.59	0.47	0.48	0.51	0.56	0.55	0.49	0.43	0.53	0.56	0.57	0.47	0.49	0.42
Rubidium	µg/L	-	-	-	-	-	-	-	1.2	1.4	1.4	-	-	1.2	1.3	1.5	-	-	1.2	1.4	1.4	-	-	1.2	1.4	1.4	-	-	1.2	1.4	1.4
Selenium	µg/L	-	-	-	-	-	<0.04	<0.04	0.042	0.041	<0.04	0.045	0.040	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.048	<0.04	<0.04	<0.04	<0.04	0.041	<0.04	<0.04	<0.04
Silicon	µg/L	-	-	-	-	-	-	-	182	176	148	-	-	171	161	170	-	-	160	167	164	-	-	169	168	177	-	-	161	170	168
Silver	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	41	39	32	34	34	42	42	32	33	35	45	44	32	32	35	43	40	31	33	37	44	41	32	33	35
Sulphur	µg/L	-	-	-	-	-	-	-	1,140	1,450	1,340	-	-	1,040	1,300	1,520	-	-	1,290	1,410	1,490	-	-	1,270	1,360	1,480	-	-	1,230	1,350	1,400
Tellurium	µg/L	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2
Thallium	µg/L	-	-	-	-	-	<0.005	<0.005	0.0023	0.0022	0.0024	<0.005	<0.005	<0.002	0.0023	0.0029	<0.005	<0.005	<0.002	<0.002	0.0023	<0.005	<0.005	0.0026	0.0020	0.0024	<0.005	<0.005	<0.002	<0.002	0.0036
Thorium	µg/L	-	-	-	-	-	-	-	<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	<0.1	<0.1
Tin	µg/L	-	-	-	-	-	<0.05	<0.05	<0.01	<0.01	0.11	<0.05	<0.05	<0.01	<0.01	0.35	<0.05	<0.05	<0.01	0.010	0.24	<0.05	<0.05	<0.01	<0.01	0.21	<0.05	<0.05	<0.01	<0.01	0.11
Titanium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.3	<0.3	<0.3	<0.1	<0.1	<0.3	<0.3	<0.3	<0.1	<0.1	<0.3	<0.3	<0.3	<0.1	<0.1	<0.3	<0.3	<0.3	<0.1	<0.1	<0.3	<0.3	<0.3
Tungsten	µg/L	-	-	-	-	-	-	-	<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	<0.1	<0.1
Uranium	µg/L	-	-	-	-	-	0.015	0.014	0.015	0.017	0.016	0.013	0.014	0.015	0.017	0.017	0.014	0.014	0.013	0.016	0.016	0.014	0.012	0.014	0.016	0.017	0.014	0.014	0.013	0.016	0.016
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	-	-	-	-	<0.8	2.2	0.84	1.1	10	<0.8	<0.8	0.71	1.1	16	<0.8	<0.8	0.65	3.5	9.3	<0.8	1.1	0.91	2.7	10	<0.8	0.98	0.66	1.3	8.8
Zirconium	µg/L	-	-	-	-	-	-	-	<0.06	<0.06	0.095	-	-	<0.06	<0.06	0.44	-	-	<0.06	<0.06	0.12	-	-	<0.06	<0.06	0.13	-	-	<0.06	<0.06	0.098

Note: Concentration data values that failed the QC screening are crossed out in the table (e.g., ~~2.1~~). These values were not included in the calculations of summary statistics.
(S) = concentration is higher than the aesthetic Health Canada guideline or outside the recommended pH range.
Water quality data and guidelines represented in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances.
Measured concentrations equal to the guideline values were not identified as exceedances.
m = metres; °C = degrees Celsius; - = not applicable/not recorded; NW = northwest; S = south; SE = southeast; S/SW = south-southwest; SW = southwest; N = north; W/SW = west-southwest; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; % = percent;
CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid

Table 3C.3: Field and Laboratory Water Quality Data from MEL-03 (reference area 1) in 2017

Station		Guidelines for the protection of:					MEL-03-01			MEL-03-02			MEL-03-03			MEL-03-04			MEL-03-05		
Sample Date		Aquatic Life		Drinking Water	Aesthetic	SSWQO	07/21/2017	08/13/2017	09/01/2017	07/21/2017	08/13/2017	09/01/2017	07/21/2017	08/13/2017	09/01/2017	07/21/2017	08/13/2017	09/01/2017	07/21/2017	08/13/2017	09/01/2017
Sample Depth		Acute	Chronic				4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m	4 m
Parameters	Unit																				
Field Measured																					
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	7.6	7.6	7.6	7.5	7.6	7.7	7.5	7.6	7.0	7.5	7.7	7.7	7.5	7.7	7.7
Specific conductivity	µS/cm	-	-	-	-	-	68	69	69	68	69	69	68	69	69	68	69	69	68	69	69
Temperature	°C	-		-	15	-	11	13	13	11	13	13	11	13	13	11	13	13	11	13	13.5
Dissolved oxygen	mg/L	-	6.5	-	-	-	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Dissolved oxygen	%	-	-	-	-	-	104	104	104	104	104	104	131	104	104	104	104	109	105	105	110
Air temperature	deg c	-	-	-	-	-	-	12	-	-	12	-	-	13	-	-	12	-	-	12	-
Secchi depth	m	-	-	-	-	-	6.5	6.6	7.0	7.0	8.5	8.0	7.0	9.0	9.5	7.5	7.5	7.0	7.8	8.0	6.7
Total depth	m	-	-	-	-	-	7.1	6.6	7.0	8.7	8.5	8.0	10	9.0	9.5	8.4	7.5	8.4	7.8	8.0	6.7
Wind speed	km/H	-	-	-	-	-	20	15	30	-	15	-	20	20	-	-	20	-	-	20	-
Conventional Parameters																					
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	**6.6**[5]	7.4	7.3	**6.7**[5]	7.4	7.3	**6.7**[5]	7.1	7.1	**6.6**[5]	7.2	7.3	**6.7**[5]	7.2	7.31
Specific conductivity	µS/cm	-	-	-	-	-	67	69	69	67	70	69	67	67	71	67	68	68	67	69	67
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	21	20	22	20	21	23	21	20	24	19	21	22	19	20	22
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	16	16	16	17	16	16	17	16	16	16	16	16	17	16	16
Total dissolved solids	mg/L	-	-	-	500	-	43	43	45	37	40	33	43	40	44	42	39	42	47	40	38
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	35	34	35	34	34	37	34	34	37	34	34	36	34	34	35
Total suspended solids	mg/L	-	-	-	-	-	<1.0	<1.0	1.5	<1.0	<1.0	1.5	<1.0	1.0	1.2	<1.0	<1.0	1.2	<1.0	1.0	<1.0
Turbidity	NTU	-	-	-	-	-	0.29	0.29	0.37	0.25	0.31	0.32	0.37	0.32	0.31	0.24	0.29	0.34	0.28	0.35	0.32
Major Ions																					
Bicarbonate	mg/L	-	-	-	-	-	20	19	19	21	19	20	20	19	19	20	20	20	20	20	20
Calcium	mg/L	-	-	-	-	-	6.4	6.3	7.0	6.4	6.5	7.3	6.5	6.3	7.9	6.2	6.6	7.0	6.2	6.4	6.9
Chloride	mg/L	640	120	-	250	-	8.1	8.2	8.4	8.0	8.2	8.4	8.0	8.1	8.4	8.4	8.2	8.5	8.1	8.2	8.3
Fluoride	mg/L	-	0.12	1.5	-	2.8	0.030	0.024	0.026	0.026	0.025	0.028	0.026	0.026	0.029	<0.02	0.027	0.029	0.024	0.025	0.03
Magnesium	mg/L	-	-	-	-	-	1.0	1.1	1.1	1.0	1.1	1.1	1.0	1.1	1.1	0.99	1.1	1.1	1.0	1.1	1.1
Potassium	mg/L	-	-	-	-	-	0.78	0.88	0.97	0.79	0.89	0.97	0.80	0.87	0.98	0.78	0.90	1.00	0.78	0.87	0.92
Sodium	mg/L	-	-	-	200	-	4.1	4.1	4.6	4.1	4.2	4.6	4.2	4.1	4.7	4.1	4.2	4.6	4.1	4.1	4.4
Sulphate	mg/L	-	-	-	500	-	3.7	3.4	3.5	3.6	3.4	3.5	3.5	3.4	3.7	3.8	3.4	3.6	3.4	3.4	3.5
Reactive silica, as SiO2	mg/L	-	-	-	-	-	0.22	0.24	0.25	0.21	0.25	0.25	0.22	0.25	0.26	0.22	0.24	0.26	0.21	0.24	0.25
Cyanide Species																					
Cyanide	mg/L	-	0.005	0.2	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cyanide (free)	mg/L	-	0.005	0.2	-	-	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001	<0.005	<0.001	<0.001
Cyanide (WAD)	mg/L	-	0.005	0.2	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nutrients																					
Nitrate	mg-N/L	124	2.9	10	-	-	<0.005	<0.005	0.014	<0.005	<0.005	0.14	<0.005	<0.005	0.011	<0.005	<0.005	0.020	<0.005	<0.005	<0.005
Nitrite	mg-N/L	-	0.06	1	-	-	<0.001	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total ammonia	mg-N/L	-	0.66 - 427	-	-	-	<0.005	<0.005	<0.005	0.0056	<0.005	<0.005	<0.005	0.0080	<0.005	0.0069	<0.005	0.0078	0.0079	0.0058	<0.005
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	0.13	0.13	0.19	0.15	0.13	0.20	0.11	0.14	0.22	0.11	0.16	0.26	0.096	0.14	0.21
Total phosphorus	mg-P/L	-	-	-	-	-	0.0060	0.0030	0.0044	0.0086	0.0035	0.0047	0.0037	0.0033	0.0046	0.0069	0.0034	0.0058	0.0043	0.0042	0.0038
Dissolved phosphorus	mg-P/L	-	-	-	-	-	0.0027	0.0015	0.0031	0.0016	0.0010	0.0036	0.0020	0.0026	0.0034	0.0023	0.0018	0.0041	0.0020	0.0018	0.0022
Orthophosphate	mg-P/L	-	-	-	-	-	<0.001	<0.001	<0.001	0.0016	<0.001	<0.001	<0.001	<0.001	<0.001	0.0015	<0.001	<0.001	<0.001	<0.001	<0.001
Total organic carbon	mg/L	-	-	-	-	-	2.4	2.1	2.2	2.5	2.1	2.3	2.4	2.3	2.1	2.4	2.3	2.3	2.4	2.3	2.1
Dissolved organic carbon	mg/L	-	-	-	-	-	2.3	2.0	2.2	2.2	2.1	2.5	2.4	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.1
Total Metals																					
Aluminum	µg/L	-	5.0 - 100	-	200	-	3.7	2.5	7.4	4.5	2.3	6.5	3.5	2.3	6.6	4.5	2.6	8.6	4.7	2.6	2.6
Antimony	µg/L	-	-	6	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.022	<0.02	<0.02	<0.02
Arsenic	µg/L	-	5.0	10	-	25	0.18	0.17	0.21	0.20	0.19	0.22	0.19	0.19	0.22	0.19	0.21	0.26	0.19	0.17	0.20
Barium	µg/L	-	-	1,000	-	-	7.2	7.0	7.8	7.7	7.5	7.7	7.6	7.7	7.7	7.5	7.5	7.9	7.1	7.3	7.3
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
Boron	µg/L	29,000	1,500	5,000	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5	-	-	<0.005	<0.005	0.0054	<0.005	<0.005	0.0068	0.010	<0.005	0.0089	0.035	<0.005	0.016	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	<0.01	<0.01	0.018	<0.01	<0.01	0.12	<0.01	<0.01	0.032	<0.01	0.011	0.044	<0.01	<0.01	<0.01
Chromium	µg/L	-	1.0	50	-	-	<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	<0.1	<0.10
Cobalt	µg/L	-	-	-	-	-	0.010	0.0073	0.0087	0.0096	0.0094	0.0098	0.011	0.0089	0.012	0.015	0.011	0.013	0.0073	0.0054	<0.005
Copper	µg/L	-	2	-	1,000	-	0.78	0.76	0.80	0.80	0.79	0.97	0.83	0.72	0.77	0.99	0.78	0.82	0.78	0.69	0.65
Iron	µg/L	-	300	-	300	1,060	12	8.2	15	11	8.5	14	11	7.0	12	12	9.6	16	13	7.7	7
Lead	µg/L	-	1	10	-	-	<0.01	<0.01	0.081	<0.01	<0.01	0.10	<0.01	<0.01	0.090	0.010	<0.01	0.21	<0.01	0.012	<0.010
Lithium	µg/L	-	-	-	-	-	0.92	0.67	<0.5	<0.5	0.66	<0.5	<0.5	0.71	<0.5	0.92	0.67	<0.5	<0.5	0.73	<0.50
Manganese	µg/L	-	-	-	50	-	2.2	1.9	2.5	2.3	2.1	2.6	2.4	2.1	2.5	2.3	2.1	2.7	2.1	2.1	2.2
Mercury	µg/L	-	0.026	1	-	-	0.00090	0.00060	0.00050	0.00050	0.00060	0.00090	<0.0005	0.00080	0.00090	0.0011	0.0010	0.00060	0.00080	0.00090	0.0006
Molybdenum	µg/L	-	73	-	-	-	0.063	0.073	0.079	0.060	0.074	0.077	0.077	0.066	0.078	0.058	0.065	0.11	0.071	0.078	0.060
Nickel	µg/L	-	25	-	-	-	0.39	0.32	0.35	0.41	0.37	0.39	0.40	0.36	0.33	0.98	0.36	0.43	0.39	0.34	0.27
Rubidium	µg/L	-	-	-	-	-	1.4	1.4	1.5	1.4	1.5	1.4	1.4	1.4	1.5	1.3	1.4	1.5	1.3	1.2	1.37
Selenium	µg/L	-	1	50	-	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.045	<0.040
Silicon	µg/L	-	-	-	-	-	112	122	127	107	118	130	111	126	127	109	124	134	115	110	120
Silver	µg/L	-	0.25	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	30	32	32	31	31	33	31	32	32	30	32	33	30	32	32
Sulphur	µg/L	-	-	-	-	-	990	1,020	1,160	1,100	1,130	1,080	1,110	1,220	1,160	1,250	1,150	1,170	1,150	1,080	1140
Tellurium	µg/L	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-0.2
Thallium	µg/L	-	0.8	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0021	<0.002
Thorium	µg/L	-	-	-	-	-	<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	<0.1	-0.1
Tin	µg/L	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.063	<0.02	<0.02	<0.02
Titanium	µg/L	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50
Tungsten	µg/L	-	-	-	-	-	<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	<0.1	-0.1
Uranium	µg/L	33	15	20	-	-	0.014	0.016	0.014	0.014	0.016	0.014	0.013	0.016	0.014	0.016	0.017	0.017	0.014	0.018	0.014
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	30	-	5,000	-	0.85	1.4	2.7	<1.5	0.94	2.5	11	0.65	4.1	4.9	<0.5	5.8	0.68	1.1	2.3
Zirconium	µg/L	-	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.11	<0.06	<0.06	-0.06
Dissolved Metals																					
Aluminum	µg/L	-	-	-	-	-	1.6	1.8	2.3	1.7	2.7	2.0	2.4	1.8	3.8	1.9	1.9	2.7	2.14	1.76	1.81
Antimony	µg/L	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.022	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	-	-	-	-	0.20	0.21	0.23	0.17	0.20	0.22	0.19	0.20	0.21	0.18	0.20	0.20	0.20	0.21	0.19
Barium	µg/L	-	-	-	-	-	7.0	7.0	7.1	6.9	7.4	7.3	7.4	7.3	7.3	7.0	7.4	7.2	7.1	6.8	7.1
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
Boron	µg/L	-	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10.0
Cadmium	µg/L	-	-	-	-	-	<0.005	<0.005	0.0058	<0.005	<0.005	0.0088	<0.005	<0.005	0.019	<0.005	<0.005	0.012	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	<0.01	<0.01	0.018	<0.01	0.011	0.084	<0.01	0.016	0.031	<0.01	<0.01	0.045	<0.010	<0.01	0.014
Chromium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.11	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10
Cobalt	µg/L	-	-	-	-	-	0.025	0.036	0.011	0.021	0.038	0.0077	0.021	0.026	0.019	0.020	0.036	0.0085	0.006	0.025	0.03
Copper	µg/L	-	-	-	-	-	1.1	0.75	0.58	0.98	0.77	0.58	0.95	0.75	0.51	0.95	0.74	0.63	0.65	0.91	0.70
Iron	µg/L	-	-	-	-	-	5.7	4.1	3.5	6.0	3.9	3.3	6.6	5.2	3.9	5.8	5.2	4.2	3.1	6.2	4.0
Lead	µg/L	-	-	-	-	-	<0.005	<0.005	0.021	0.0053	0.0065	0.027	0.011	0.017	0.053	<0.005	0.0095	0.032	0.0084	<0.005	0.007
Lithium	µg/L	-	-	-	-	-	0.53	0.67	0.81	0.69	0.63	0.89	0.59	0.70	0.85	0.58	0.75	0.89	0.74	0.83	0.72
Manganese	µg/L	-	-	-	-	-	0.83	0.50	0.57	0.79	0.46	0.69	0.78	0.52	0.94	0.81	0.53	0.67	0.56	1.8	0.41
Mercury	µg/L	-	-	-	-	-	0.0015	0.00060	0.0016	0.0011	0.00060	0.0014	0.0012	0.00090	0.0020	0.0011	0.0010	0.0014	0.0015	0.0012	0.0012
Molybdenum	µg/L	-	-	-	-	-	0.078	0.066	0.12	0.070	0.10	0.16	0.071	0.085	0.10	0.078	0.073	0.16	0.067	0.066	0.073
Nickel	µg/L	-	-	-	-	-	0.45	0.32	0.41	0.41	0.31	0.44	0.37	0.31	0.19	0.32	0.32	0.52	0.36	0.44	0.29
Rubidium	µg/L	-	-	-	-	-	1.3	1.3	1.4	1.3	1.4	1.4	1.2	1.4	1.4	1.2	1.4	1.4	1.4	1.3	1.36
Selenium	µg/L	-	-	-	-	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.042	<0.040
Silicon	µg/L	-	-	-	-	-	109	116	136	112	117	134	115	116	126	111	121	131	131	101	116
Silver	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	29	29	31	29	31	31	30	29	32	28	31	31	31	28	30
Sulphur	µg/L	-	-	-	-	-	1,080	1,240	1,470	1,170	1,220	1,330	1,320	1,210	1,380	1,080	1,250	1,430	1,410	1,110	1200
Tellurium	µg/L	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-0.2
Thallium	µg/L	-	-	-	-	-	<0.002	0.0020	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0028	<0.002	<0.002	<0.002	<0.0020	<0.002	0.002
Thorium	µg/L	-	-	-	-	-	<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	<0.1	-0.1
Tin	µg/L	-	-	-	-	-	0.054	<0.01	0.025	0.033	<0.01	0.076	0.046	<0.01	0.17	0.015	<0.01	0.076	0.02	0.013	<0.01
Titanium	µg/L	-	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tungsten	µg/L	-	-	-	-	-	<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	<0.1	-0.1
Uranium	µg/L	-	-	-	-	-	0.012	0.015	0.015	0.013	0.016	0.015	0.013	0.015	0.015	0.013	0.017	0.015	0.014	0.015	0.015
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	-	-	-	-	1.9	2.2	4.2	1.2	0.71	3.8	2.1	0.57	9.8	2.0	1.8	5.0	4.6	0.85	<0.5
Zirconium	µg/L	-	-	-	-	-	<0.06	<0.06	0.16	<0.06	0.17	0.19	<0.06	<0.06	<0.06	<0.06	<0.06	0.12	<0.06	<0.06	-0.06

Note: Concentration data values that failed the QC screening are crossed out in the table (e.g., ~~2.1~~). These values were not included in the calculations of summary statistics.
[5] = concentration is higher than the aesthetic Health Canada guideline or outside the recommended pH range.
Water quality data and guidelines represented in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances.
Measured concentrations equal to the guideline values were not identified as exceedances.
m = metres; °C = degrees Celsius; - = not applicable/not recorded; NW = northwest; S = south; SE = southeast; S/SW = south-southwest; SW = southwest; N = north; W/SW = west-southwest; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; % = percent;
CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid

Table 3C.4: Field and Laboratory Water Quality Data from MEL-04 (Reference area 2) in 2017

Station		Guidelines for the protection of:					MEL-04-01	MEL-04-02	MEL-04-03	MEL-04-04	MEL-04-05
Sample Date		Aquatic Life		Drinking Water	Aesthetic	SSWQO	08/15/2017	08/15/2017	08/15/2017	08/15/2017	08/15/2017
Sample Depth		Acute	Chronic				4 m	4 m	4 m	4 m	4 m
Parameters	Unit										
Field Measured											
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	7.7	7.7	7.7	7.6	7.6
Specific conductivity	µS/cm	-	-	-	-	-	68	68	68	68	68
Temperature	°C	-	-	-	15	-	14	14	14	14	14
Dissolved oxygen	mg/L	-	6.5	-	-	-	11	11	11	11	11
Dissolved oxygen	%	-	-	-	-	-	104	104	104	105	104
Secchi depth	m	-	-	-	-	-	7.5	9.5	9.5	8.1	8.4
Total depth	m	-	-	-	-	-	7.5	9.5	9.5	8.1	8.4
Wind direction	km/H	-	-	-	-	-	-	-	-	5.0	10
Wind speed	deg c	-	-	-	-	-	16	16	14	15	15
Conventional Parameters											
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	7.0	7.1	7.1	7.2	7.1
Specific conductivity	µS/cm	-	-	-	-	-	67	67	68	69	68
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	22	22	22	20	21
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	16	16	16	17	16
Total dissolved solids	mg/L	-	-	-	500	-	41	40	41	29	32
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	35	35	35	34	35
Total suspended solids	mg/L	-	-	-	-	-	1.7	<1.0	1.1	1.1	<1.0
Turbidity	NTU	-	-	-	-	-	0.29	0.28	0.30	0.30	0.29
Major Ions											
Bicarbonate	mg/L	-	-	-	-	-	19	20	19	20	19
Calcium	mg/L	-	-	-	-	-	6.4	6.4	6.3	6.3	6.6
Chloride	mg/L	640	120	-	250	-	8.1	8.2	8.1	8.2	8.2
Fluoride	mg/L	-	0.12	1.5	-	2.8	0.029	0.028	0.028	0.031	0.029
Magnesium	mg/L	-	-	-	-	-	1.0	1.0	1.0	0.99	1.0
Potassium	mg/L	-	-	-	-	-	0.81	0.82	0.82	0.81	0.85
Sodium	mg/L	-	-	-	200	-	4.0	4.1	4.0	3.9	4.2
Sulphate	mg/L	-	-	-	500	-	3.6	3.6	3.6	3.6	3.9
Reactive silica, as SiO2	mg/L	-	-	-	-	-	0.26	0.26	0.25	0.26	0.26
Cyanide Species											
Cyanide	mg/L	-	0.005	0.2	-	-	<0.001	<0.001	<0.001	<0.001	<0.001
Cyanide (free)	mg/L	-	0.005	0.2	-	-	<0.001	<0.001	<0.001	<0.001	<0.001
Cyanide (WAD)	mg/L	-	0.005	0.2	-	-	<0.001	<0.001	<0.001	<0.001	<0.001
Nutrients											
Nitrate	mg-N/L	124	2.9	10	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrite	mg-N/L	-	0.06	1	-	-	<0.001	<0.001	<0.001	<0.001	<0.001
Total ammonia	mg-N/L	-	0.66 - 427	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	0.14	0.15	0.16	0.15	0.14
Total phosphorus	mg-P/L	-	-	-	-	-	0.0032	0.0035	0.0033	0.0042	0.0031
Dissolved phosphorus	mg-P/L	-	-	-	-	-	0.0024	0.0024	0.0012	0.0027	0.0014
Orthophosphate	mg-P/L	-	-	-	-	-	<0.001	0.0010	0.0010	<0.001	<0.001
Total organic carbon	mg/L	-	-	-	-	-	2.3	2.3	2.1	2.3	2.3
Dissolved organic carbon	mg/L	-	-	-	-	-	2.3	2.1	2.3	2.2	2.2
Total Metals											
Aluminum	µg/L	-	5.0 - 100	-	200	-	3.2	1.7	2.2	2.4	1.5
Antimony	µg/L	-	-	6	-	-	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	5.0	10	-	25	0.17	0.16	0.18	0.19	0.16
Barium	µg/L	-	-	1,000	-	-	7.6	7.3	7.7	7.4	7.2
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	29,000	1,500	5,000	-	-	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	0.011	0.012	<0.01	<0.01	<0.01
Chromium	µg/L	-	1.0	50	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	-	0.0091	<0.005	0.0072	0.0080	0.037
Copper	µg/L	-	2	-	1,000	-	0.84	0.70	0.76	0.75	0.65
Iron	µg/L	-	300	-	300	1,060	7.3	6.7	6.7	7.1	3.2
Lead	µg/L	-	1	10	-	-	0.013	<0.01	<0.01	<0.01	<0.01
Lithium	µg/L	-	-	-	-	-	0.66	0.67	0.65	0.68	0.72
Manganese	µg/L	-	-	-	50	-	2.2	2.1	2.2	2.1	0.29
Mercury	µg/L	-	0.026	1	-	-	0.00070	0.00050	0.00060	0.00080	0.00080
Molybdenum	µg/L	-	73	-	-	-	0.072	0.069	0.067	0.069	0.074
Nickel	µg/L	-	25	-	-	-	0.41	0.34	0.37	0.37	0.34
Rubidium	µg/L	-	-	-	-	-	1.4	1.4	1.4	1.4	1.4
Selenium	µg/L	-	1	50	-	-	<0.04	<0.04	<0.04	0.045	<0.04
Silicon	µg/L	-	-	-	-	-	131	129	129	128	122
Silver	µg/L	-	0.25	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	31	31	32	32	31
Sulphur	µg/L	-	-	-	-	-	1,060	1,140	1,040	1,150	1,150
Tellurium	µg/L	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	0.8	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002
Thorium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02
Titanium	µg/L	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Tungsten	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	33	15	20	-	-	0.015	0.015	0.015	0.017	0.013
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	30	-	5,000	-	2.5	<0.5	<0.5	1.5	1.5
Zirconium	µg/L	-	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06
Dissolved Metals											
Aluminum	µg/L	-	-	-	-	-	1.4	1.4	1.4	1.4	2.7
Antimony	µg/L	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	-	-	-	-	0.28	0.22	0.19	0.19	0.19
Barium	µg/L	-	-	-	-	-	7.3	7.4	7.4	7.5	7.5
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	-	-	-	-	-	<10	<10	<10	<10	<10
Cadmium	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	<0.01	0.014	0.010	0.014	0.34
Chromium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	-	0.029	0.031	0.024	0.035	0.012
Copper	µg/L	-	-	-	-	-	0.73	0.73	0.71	0.71	0.75
Iron	µg/L	-	-	-	-	-	3.4	3.3	3.6	3.5	7.5
Lead	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	0.032
Lithium	µg/L	-	-	-	-	-	0.76	0.78	0.66	0.72	0.76
Manganese	µg/L	-	-	-	-	-	0.40	0.47	0.44	0.42	2.3
Mercury	µg/L	-	-	-	-	-	0.00080	0.00080	0.0012	0.0014	0.00090
Molybdenum	µg/L	-	-	-	-	-	0.072	0.071	0.065	0.082	0.097
Nickel	µg/L	-	-	-	-	-	0.43	0.34	0.46	0.35	0.38
Rubidium	µg/L	-	-	-	-	-	1.3	1.3	1.3	1.3	1.4
Selenium	µg/L	-	-	-	-	-	<0.04	<0.04	<0.04	<0.04	<0.04
Silicon	µg/L	-	-	-	-	-	114	114	120	117	124
Silver	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	31	31	30	31	31
Sulphur	µg/L	-	-	-	-	-	1,020	1,040	1,110	1,040	1,070
Tellurium	µg/L	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	-	-	-	-	<0.002	<0.002	<0.002	<0.002	0.0021
Thorium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	0.074
Titanium	µg/L	-	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3
Tungsten	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	-	-	-	-	-	0.015	0.014	0.015	0.015	0.017
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	-	-	-	-	<0.5	0.85	<0.5	<0.5	1.4
Zirconium	µg/L	-	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06

Note: Concentration data values that failed the QC screening are crossed out in the table (e.g., ~~2.1~~). These values were not included in the calculations of summary statistics.
Water quality data and guidelines represented in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances.
Measured concentrations equal to the guideline values were not identified as exceedances.
m = metres; °C = degrees Celsius; - = not applicable/not recorded; NW = northwest; S = south; SE = southeast; S/SW = south-southwest; SW = southwest; N = north; W/SW = west-southwest; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; % = percent;
CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid

Table 3C.5: Field and Laboratory Water Quality Data from MEL-05 (Reference area 3) in 2017

Station		Guidelines for the protection of:					MEL-05-01	MEL-05-02	MEL-05-03	MEL-05-04	MEL-05-05
Sample Date		Aquatic Life		Drinking Water	Aesthetic	SSWQO	08/12/2017	08/12/2017	08/12/2017	08/12/2017	08/12/2017
Sample Depth		Acute	Chronic				4 m	4 m	4 m	4 m	4 m
Parameters	Unit										
Field Measured											
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	7.6	7.7	7.7	7.7	7.7
Specific conductivity	µS/cm	-	-	-	-	-	73	73	73	72	73
Temperature	°C	-	-	-	15	-	13	13	13	13	13
Dissolved oxygen	mg/L	-	6.5	-	-	-	11	11	11	11	11
Dissolved oxygen	%	-	-	-	-	-	103	103	103	103	103
Secchi depth	m	-	-	-	-	-	10	8.7	8.0	10	7.8
Air temperature	deg c	-	-	-	-	-	15	15	13	13	13
Total depth	m	-	-	-	-	-	10	8.7	8.0	10	7.8
Wind speed	km/H	-	-	-	-	-	15	25	25	30	20
Conventional Parameters											
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	7.4	7.4	7.4	7.4	7.4
Specific conductivity	µS/cm	-	-	-	-	-	73	73	73	73	73
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	23	22	22	23	22
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	18	17	17	17	17
Total dissolved solids	mg/L	-	-	-	500	-	41	45	44	46	43
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	36	36	36	36	36
Total suspended solids	mg/L	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Turbidity	NTU	-	-	-	-	-	0.25	0.24	0.26	0.25	0.27
Major Ions											
Bicarbonate	mg/L	-	-	-	-	-	21	21	21	21	21
Calcium	mg/L	-	-	-	-	-	7.1	6.9	6.9	7.2	6.9
Chloride	mg/L	640	120	-	250	-	8.3	8.4	8.4	8.4	8.4
Fluoride	mg/L	-	0.12	1.5	-	2.8	0.028	0.026	0.026	0.026	0.023
Magnesium	mg/L	-	-	-	-	-	1.2	1.1	1.1	1.1	1.1
Potassium	mg/L	-	-	-	-	-	0.91	0.89	0.90	0.92	0.91
Sodium	mg/L	-	-	-	200	-	4.3	4.2	4.3	4.3	4.3
Sulphate	mg/L	-	-	-	500	-	3.6	3.6	3.5	3.6	3.2
Reactive silica, as SiO2	mg/L	-	-	-	-	-	0.27	0.27	0.27	0.26	0.27
Cyanide Species											
Cyanide	mg/L	-	0.005	0.2	-	-	<0.001	<0.001	<0.001	<0.001	<0.001
Cyanide (free)	mg/L	-	0.005	0.2	-	-	<0.001	<0.001	<0.001	<0.001	<0.001
Cyanide (WAD)	mg/L	-	0.005	0.2	-	-	<0.001	<0.001	<0.001	<0.001	<0.001
Nutrients											
Nitrate	mg-N/L	124	2.9	10	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrite	mg-N/L	-	0.06	1	-	-	<0.001	<0.001	<0.001	<0.001	<0.001
Total ammonia	mg-N/L	-	0.66 - 427	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	0.14	0.16	0.14	0.12	0.14
Total phosphorus	mg-P/L	-	-	-	-	-	0.0031	0.0030	0.0032	0.0047	0.0036
Dissolved phosphorus	mg-P/L	-	-	-	-	-	0.0022	0.0026	0.0019	0.0033	0.0026
Orthophosphate	mg-P/L	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001
Total organic carbon	mg/L	-	-	-	-	-	2.7	2.0	2.3	2.2	2.3
Dissolved organic carbon	mg/L	-	-	-	-	-	2.7	2.1	2.2	2.4	2.1
Total Metals											
Aluminum	µg/L	-	5.0 - 100	-	200	-	3.0	2.7	2.7	2.5	1.8
Antimony	µg/L	-	-	6	-	-	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	5.0	10	-	25	0.28	0.22	0.25	0.22	0.25
Barium	µg/L	-	-	1,000	-	-	8.0	7.5	7.8	7.4	7.7
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	29,000	1,500	5,000	-	-	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5	-	-	0.0077	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	0.028	0.013	0.011	0.016	0.014
Chromium	µg/L	-	1.0	50	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	-	0.014	0.014	0.013	0.010	0.010
Copper	µg/L	-	2	-	1,000	-	1.0	0.71	0.86	0.74	0.83
Iron	µg/L	-	300	-	300	1,060	7.6	7.0	7.5	6.6	6.8
Lead	µg/L	-	1	10	-	-	0.070	0.010	0.011	<0.01	<0.01
Lithium	µg/L	-	-	-	-	-	0.93	0.68	0.67	0.68	0.63
Manganese	µg/L	-	-	-	50	-	3.3	2.5	2.5	2.4	2.8
Mercury	µg/L	-	0.026	1	-	-	0.00050	0.00050	<0.0005	0.00060	0.00070
Molybdenum	µg/L	-	73	-	-	-	0.078	0.082	0.074	0.078	0.073
Nickel	µg/L	-	25	-	-	-	0.50	0.36	0.37	0.31	0.41
Rubidium	µg/L	-	-	-	-	-	1.5	1.3	1.4	1.4	1.4
Selenium	µg/L	-	1	50	-	-	0.043	0.041	<0.04	<0.04	<0.04
Silicon	µg/L	-	-	-	-	-	131	130	130	123	134
Silver	µg/L	-	0.25	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	34	33	33	33	32
Sulphur	µg/L	-	-	-	-	-	1,150	1,070	1,070	1,150	1,200
Tellurium	µg/L	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	0.8	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002
Thorium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02
Titanium	µg/L	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Tungsten	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	33	15	20	-	-	0.015	0.015	0.017	0.014	0.015
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	30	-	5,000	-	5.8	1.4	1.3	2.0	0.56
Zirconium	µg/L	-	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06
Dissolved Metals											
Aluminum	µg/L	-	-	-	-	-	1.6	1.5	1.9	1.6	1.6
Antimony	µg/L	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	-	-	-	-	0.25	0.23	0.24	0.26	0.26
Barium	µg/L	-	-	-	-	-	7.6	7.4	7.7	7.6	7.5
Beryllium	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	-	-	-	-	-	<10	<10	<10	<10	<10
Cadmium	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	-	0.043	0.022	0.077	0.028	0.014
Chromium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	-	0.032	0.031	0.037	0.034	0.037
Copper	µg/L	-	-	-	-	-	0.70	0.69	0.77	0.78	0.74
Iron	µg/L	-	-	-	-	-	3.9	4.1	4.1	4.3	4.4
Lead	µg/L	-	-	-	-	-	0.011	0.0059	0.0085	0.0061	0.014
Lithium	µg/L	-	-	-	-	-	0.78	0.70	0.66	0.79	0.72
Manganese	µg/L	-	-	-	-	-	0.51	0.59	0.63	0.62	0.62
Mercury	µg/L	-	-	-	-	-	0.00060	0.00060	0.00050	0.00060	0.00060
Molybdenum	µg/L	-	-	-	-	-	0.075	0.079	0.087	0.075	0.089
Nickel	µg/L	-	-	-	-	-	0.31	0.31	0.32	0.32	0.31
Rubidium	µg/L	-	-	-	-	-	1.4	1.3	1.3	1.3	1.4
Selenium	µg/L	-	-	-	-	-	<0.04	<0.04	<0.04	<0.04	0.044
Silicon	µg/L	-	-	-	-	-	124	124	128	124	124
Silver	µg/L	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	-	31	31	30	31	31
Sulphur	µg/L	-	-	-	-	-	1,200	1,190	1,160	1,240	1,240
Tellurium	µg/L	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	-	-	-	-	<0.002	0.0021	<0.002	<0.002	<0.002
Thorium	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
Titanium	µg/L	-	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3
Tungsten	µg/L	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	-	-	-	-	-	0.015	0.014	0.014	0.015	0.014
Vanadium	µg/L	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	-	-	-	-	1.3	1.4	1.3	0.80	0.84
Zirconium	µg/L	-	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06

Note: Concentration data values that failed the QC screening are crossed out in the table (e.g., ~~2.1~~). These values were not included in the calculations of summary statistics.
Water quality data and guidelines represented in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances.
Measured concentrations equal to the guideline values were not identified as exceedances.
m = metres; °C = degrees Celsius; - = not applicable/not recorded; NW = northwest; S = south; SE = southeast; S/SW = south-southwest; SW = southwest; N = north; W/SW = west-southwest; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; % = percent; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid

Table 3C.6: Field and Laboratory Water Quality Data from Lake A8 in 2017

Station		Guidelines for the protection of:				A8-01		A8-02		A8-03	
Sample Date		Aquatic Life		Drinking Water	Aesthetic	07/17/2017	08/14/2017	07/17/2017	08/14/2017	07/17/2017	08/14/2017
Sample Depth		Acute	Chronic			1 m	1 m	1 m	1 m	1 m	1 m
Parameters	Unit										
Field Measured											
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	7.9	8.3	7.9	8.3	7.9	8.4
Specific conductivity	µS/cm	-	-	-	-	306	306	306	306	255	268
Temperature	°C	-	-	-	15	14	14	14	14	14	14
Dissolved oxygen	mg/L	-	6.5	-	-	10.0	11	10	11	10	11
Dissolved oxygen	%	-	-	-	-	101	105	101	105	102	107
Secchi depth	m	-	-	-	-	2.5	2.5	1.8	2.4	2.3	1.4
Air temperature	deg c	-	-	-	-	-	16	-	16	-	16
Total depth	m	-	-	-	-	2.5	2.5	1.8	2.4	2.3	1.4
Wind speed	km/H	-	-	-	-	-	15	-	10	-	10
Conventional Parameters											
pH	-	-	6.5 - 9.0	-	7.0 - 11	7.7	7.7	7.8	7.7	7.9	7.7
Specific conductivity	µS/cm	-	-	-	-	305	318	300	307	250	269
Hardness, as $CaCO_3$	mg/L	-	-	-	-	113	108	110	115	98	104
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	47	48	45	46	50	51
Total dissolved solids	mg/L	-	-	-	500	197	219	213	229	166	194
Total dissolved solids (calculated)	mg/L	-	-	-	500	151	150	148	152	127	134
Total suspended solids	mg/L	-	-	-	-	<1.0	1.9	<1.0	3.4	1.0	2.0
Turbidity	NTU	-	-	-	-	0.50	0.38	0.49	0.39	0.61	0.46
Major Ions											
Bicarbonate	mg/L	-	-	-	-	58	59	55	56	61	62
Calcium	mg/L	-	-	-	-	37	35	36	36	32	33
Carbonate	mg/L	-	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride	mg/L	640	120	-	250	60	61	60	61	43	48
Fluoride	mg/L	-	0.12	1.5	-	0.036	0.034	0.036	0.035	0.039	0.038
Hydroxide	mg/L	-	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Magnesium	mg/L	-	-	-	-	5.0	4.8	4.9	4.8	4.3	4.5
Potassium	mg/L	-	-	-	-	2.0	2.2	2.2	2.2	1.9	1.9
Sodium	mg/L	-	-	-	200	8.3	8.4	8.4	8.2	6.8	7.1
Sulphate	mg/L	-	-	-	500	8.5	8.2	8.6	8.3	6.6	6.7
Reactive silica, as SiO2	mg/L	-	-	-	-	0.60	0.69	0.59	0.69	1.2	1.4
Cyanide Species											
Cyanide	mg/L	-	0.005	0.2	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cyanide (free)	mg/L	-	0.005	0.2	-	<0.005	<0.001	<0.005	<0.001	<0.005	<0.001
Cyanide (WAD)	mg/L	-	0.005	0.2	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nutrients											
Nitrate	mg-N/L	124	2.9	10	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrite	mg-N/L	-	0.06	1	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total ammonia	mg-N/L	-	0.66 - 427	-	-	<0.005	0.015	0.0089	0.0050	0.0053	0.011
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	0.30	0.31	0.30	0.31	0.38	0.31
Total phosphorus	mg-P/L	-	-	-	-	0.0074	0.0049	0.0062	0.0046	0.0097	0.0072
Dissolved phosphorus	mg-P/L	-	-	-	-	0.0020	0.0024	0.0017	0.0021	0.0025	0.0024
Orthophosphate	mg-P/L	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	0.0012
Total organic carbon	mg/L	-	-	-	-	3.6	4.1	3.7	4.3	4.5	4.8
Dissolved organic carbon	mg/L	-	-	-	-	3.9	3.9	3.9	4.2	5.0	4.8
Total Metals											
Aluminum	µg/L	-	5.0 - 100	-	200	4.5	1.6	1.2	1.8	1.1	2.0
Antimony	µg/L	-	-	6	-	0.026	<0.02	0.40	<0.02	0.41	<0.02
Arsenic	µg/L	-	5.0	10	-	2.3	1.9	2.1	2.0	2.5	2.2
Barium	µg/L	-	-	1,000	-	30	28	31	29	27	26
Beryllium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	29,000	1,500	5,000	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5	-	0.0051	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	0.016	0.017	0.016	0.016	0.015	0.015
Chromium	µg/L	-	1.0	50	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	0.045	0.021	0.024	0.028	0.027	0.037
Copper	µg/L	-	2	-	1,000	0.71	0.63	0.61	0.85	0.66	0.75
Iron	µg/L	-	300	-	300	59	31	28	31	44	48
Lead	µg/L	-	1	10	-	0.030	<0.01	<0.01	<0.01	<0.01	0.016
Lithium	µg/L	-	-	-	-	9.1	10	10	10	7.4	8.3
Manganese	µg/L	-	-	-	50	12	6.7	6.0	7.3	8.1	10
Mercury	µg/L	-	0.026	1	-	0.0010	0.00060	0.0010	0.00080	0.0013	0.00090
Molybdenum	µg/L	-	73	-	-	0.22	0.22	0.22	0.22	0.22	0.23
Nickel	µg/L	-	25	-	-	0.87	0.82	0.82	0.77	0.94	0.90
Rubidium	µg/L	-	-	-	-	2.2	2.1	2.2	2.2	2.0	2.1
Selenium	µg/L	-	1	50	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Silicon	µg/L	-	-	-	-	284	320	276	339	570	677
Silver	µg/L	-	0.25	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	266	270	266	270	200	219
Sulphur	µg/L	-	-	-	-	2,810	2,710	2,660	2,740	2,080	2,400
Tellurium	µg/L	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	0.8	-	-	0.0036	0.0030	0.0031	0.0029	0.0040	0.0036
Thorium	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	<0.02	<0.02	0.030	<0.02	<0.02	<0.02
Titanium	µg/L	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tungsten	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	33	15	20	-	0.048	0.052	0.054	0.050	0.048	0.051
Vanadium	µg/L	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	30	-	5,000	2.8	1.1	<0.5	1.2	1.2	1.2
Zirconium	µg/L	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Dissolved Metals											
Aluminum	µg/L	-	-	-	-	1.8	2.7	2.4	3.1	7.2	1.9
Antimony	µg/L	-	-	-	-	0.024	0.096	0.020	<0.02	<0.02	<0.02
Arsenic	µg/L	-	-	-	-	1.8	1.9	1.8	1.8	2.1	2.2
Barium	µg/L	-	-	-	-	29	28	29	29	25	25
Beryllium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	-	-	-	-	<10	<10	<10	<10	<10	<10
Cadmium	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	0.016	0.020	0.017	0.021	0.014	0.023
Chromium	µg/L	-	-	-	-	0.17	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	0.018	0.050	0.017	0.040	0.037	0.058
Copper	µg/L	-	-	-	-	1.0	0.84	0.92	0.75	1.1	0.90
Iron	µg/L	-	-	-	-	15	15	16	19	29	29
Lead	µg/L	-	-	-	-	0.0092	0.15	0.014	0.034	0.030	0.020
Lithium	µg/L	-	-	-	-	10	9.6	9.8	9.7	6.8	7.8
Manganese	µg/L	-	-	-	-	1.50	2.82	1.10	1.48	1.76	2.89
Mercury	µg/L	-	-	-	-	0.00090	0.0011	0.00090	0.00090	0.0010	0.0010
Molybdenum	µg/L	-	-	-	-	0.23	0.26	0.22	0.25	0.21	0.29
Nickel	µg/L	-	-	-	-	0.81	0.74	0.81	0.73	1.2	0.84
Rubidium	µg/L	-	-	-	-	2.0	2.2	2.1	2.2	2.0	2.0
Selenium	µg/L	-	-	-	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Silicon	µg/L	-	-	-	-	338	327	304	331	553	656
Silver	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	271	251	256	253	194	206
Sulphur	µg/L	-	-	-	-	2,860	3,000	2,790	2,840	2,160	2,390
Tellurium	µg/L	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	-	-	-	0.0042	0.0038	0.0037	0.0039	0.0047	0.0037
Thorium	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	<0.01	0.016	<0.01	0.011	<0.01	0.012
Titanium	µg/L	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tungsten	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	-	-	-	-	0.049	0.055	0.053	0.056	0.046	0.053
Vanadium	µg/L	-	-	-	-	<0.05	<0.05	<0.05	<0.05	0.055	<0.05
Zinc	µg/L	-	-	-	-	0.71	1.8	2.0	1.9	8.3	2.0
Zirconium	µg/L	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06

Note: Concentration data values that failed the QC screening are crossed out in the table (e.g., ~~2.1~~). These values were not included in the calculations of summary statistics.
Water quality data and guidelines represented in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances.
Measured concentrations equal to the guideline values were not identified as exceedances.
m = metres; °C = degrees Celsius; - = not applicable/not recorded; NW = northwest; S = south; SE = southeast; S/SW = south-southwest; SW = southwest; N = north; W/SW = west-southwest; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; % = percent; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid

Table 3C.7: Field and Laboratory Water Quality Data from Lake B7 in 2017

Station		Guidelines for the protection of:				B7-01		B7-02		B7-03	
Sample Date		Aquatic Life		Drinking Water	Aesthetic	07/20/2017	08/08/2017	07/20/2017	08/08/2017	07/20/2017	08/08/2017
Sample Depth		Acute	Chronic			1 m	1 m	1 m	1 m	1 m	1 m
Parameters	Unit										
Field Measured											
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	7.9	8.2	7.9	8.2	7.9	8.1
Specific conductivity	µS/cm	-	-	-	-	158	160	157	159	158	160
Temperature	°C	-	-	-	15	9.4	12	9.7	12	10	12
Dissolved oxygen	mg/L	-	6.5	-	-	12	11	11	11	11	11
Dissolved oxygen	%	-	-	-	-	105	106	103	105	102	103
Secchi depth	m	-	-	-	-	1.5	1.4	2.1	1.8	2.1	1.9
Air temperature	deg c	-	-	-	-	-	10	-	10	-	10
Total depth	m	-	-	-	-	1.5	1.4	2.1	1.8	2.1	1.9
Conventional Parameters											
pH	-	-	6.5 - 9.0	-	7.0 - 11	7.7	7.7	7.7	7.6	7.6	7.6
Specific conductivity	µS/cm	-	-	-	-	162	163	161	162	161	163
Hardness, as $CaCO_3$	mg/L	-	-	-	-	63	62	65	61	63	60
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	38	38	37	37	37	38
Total dissolved solids	mg/L	-	-	-	500	109	95	101	96	102	98
Total dissolved solids (calculated)	mg/L	-	-	-	500	77	81	78	80	77	80
Total suspended solids	mg/L	-	-	-	-	2.2	2.2	1.0	<1.0	1.1	<1.0
Turbidity	NTU	-	-	-	-	0.45	0.47	0.33	0.41	0.44	0.42
Major Ions											
Bicarbonate	mg/L	-	-	-	-	46	46	45	45	46	46
Calcium	mg/L	-	-	-	-	20	21	21	21	21	20
Chloride	mg/L	640	120	-	250	20	23	20	23	20	23
Fluoride	mg/L	-	0.12	1.5	-	0.022	0.037	<0.02	0.037	<0.02	0.037
Magnesium	mg/L	-	-	-	-	2.5	2.5	2.6	2.5	2.4	2.5
Potassium	mg/L	-	-	-	-	1.4	1.4	1.4	1.4	1.2	1.3
Sodium	mg/L	-	-	-	200	4.0	4.2	4.0	4.4	4.0	4.1
Sulphate	mg/L	-	-	-	500	4.8	6.0	4.7	5.9	4.7	5.9
Reactive silica, as SiO2	mg/L	-	-	-	-	0.30	0.34	0.34	0.36	0.37	0.37
Cyanide Species											
Cyanide	mg/L	-	0.005	0.2	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cyanide (free)	mg/L	-	0.005	0.2	-	<0.005	<0.001	<0.005	<0.001	<0.005	<0.001
Cyanide (WAD)	mg/L	-	0.005	0.2	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nutrients											
Nitrate	mg-N/L	124	2.9	10	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrite	mg-N/L	-	0.06	1	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total ammonia	mg-N/L	-	0.66 - 427	-	-	<0.005	0.042	<0.005	0.025	0.0084	0.0095
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	0.33	0.39	0.36	0.41	0.34	0.44
Total phosphorus	mg-P/L	-	-	-	-	0.0056	0.0065	0.0069	0.0059	0.0056	0.0061
Dissolved phosphorus	mg-P/L	-	-	-	-	0.0035	0.0034	0.0029	0.0036	0.0028	0.0029
Orthophosphate	mg-P/L	-	-	-	-	<0.001	<0.001	<0.001	<0.001	0.0012	<0.001
Total organic carbon	mg/L	-	-	-	-	5.5	5.4	5.4	5.4	4.8	5.4
Dissolved organic carbon	mg/L	-	-	-	-	5.6	5.3	5.3	5.2	5.1	5.1
Total Metals											
Aluminum	µg/L	-	5.0 - 100	-	200	3.0	3.1	5.7	2.6	4.0	1.9
Antimony	µg/L	-	-	6	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	5.0	10	-	1.3	1.4	1.3	1.3	1.4	1.3
Barium	µg/L	-	-	1,000	-	18	19	19	19	18	18
Beryllium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	29,000	1,500	5,000	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5	-	<0.005	<0.005	0.0070	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	0.012
Chromium	µg/L	-	1.0	50	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	0.035	0.034	0.039	0.035	0.036	0.035
Copper	µg/L	-	2	-	1,000	0.72	0.77	1.1	0.94	0.76	0.72
Iron	µg/L	-	300	-	300	61	66	56	60	55	57
Lead	µg/L	-	1	10	-	<0.01	0.011	0.084	0.019	0.015	<0.01
Lithium	µg/L	-	-	-	-	5.1	4.9	4.0	4.7	3.9	4.2
Manganese	µg/L	-	-	-	50	4.1	4.2	4.5	4.9	4.4	4.7
Mercury	µg/L	-	0.026	1	-	0.0021	0.00050	0.0017	0.00050	0.0010	0.00050
Molybdenum	µg/L	-	73	-	-	0.17	0.16	0.17	0.18	0.17	0.17
Nickel	µg/L	-	25	-	-	1.1	0.99	1.3	0.94	1.2	0.93
Rubidium	µg/L	-	-	-	-	1.4	1.6	1.4	1.5	1.4	1.4
Selenium	µg/L	-	1	50	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Silicon	µg/L	-	-	-	-	154	169	170	176	174	174
Silver	µg/L	-	0.25	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	140	139	136	148	137	138
Sulphur	µg/L	-	-	-	-	1,980	1,770	1,920	1,910	1,840	1,960
Tellurium	µg/L	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	0.8	-	-	0.0035	0.0033	0.0030	0.0030	0.0028	0.0027
Thorium	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Titanium	µg/L	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tungsten	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	33	15	20	-	0.028	0.026	0.025	0.026	0.025	0.029
Vanadium	µg/L	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	30	-	5,000	1.5	0.54	10	0.99	1.9	0.65
Zirconium	µg/L	-	-	-	-	<0.06	<0.06	<0.06	<0.06	0.31	<0.06
Dissolved Metals											
Aluminum	µg/L	-	-	-	-	3.5	3.4	1.5	1.6	1.5	3.8
Antimony	µg/L	-	-	-	-	<0.02	<0.02	<0.02	0.036	<0.02	<0.02
Arsenic	µg/L	-	-	-	-	1.2	1.2	1.2	1.2	1.2	1.2
Barium	µg/L	-	-	-	-	18	17	18	18	18	18
Beryllium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	-	-	-	-	<10	<10	<10	19	<10	<10
Cadmium	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	0.012	0.010	0.011
Chromium	µg/L	-	-	-	-	<0.1	<0.1	<0.1	0.16	<0.1	0.19
Cobalt	µg/L	-	-	-	-	0.037	0.053	0.036	0.038	0.035	0.064
Copper	µg/L	-	-	-	-	0.94	0.77	0.96	1.16	1.08	~~1.31~~
Iron	µg/L	-	-	-	-	38	38	31	34	30	22
Lead	µg/L	-	-	-	-	0.064	-	0.016	0.036	0.010	0.24
Lithium	µg/L	-	-	-	-	4.6	4.6	4.5	4.6	4.6	4.5
Manganese	µg/L	-	-	-	-	1.9	0.87	0.89	0.82	0.85	2.7
Mercury	µg/L	-	-	-	-	0.00070	0.00050	0.00060	0.00060	0.00070	0.00060
Molybdenum	µg/L	-	-	-	-	0.17	0.23	0.18	0.27	0.17	0.21
Nickel	µg/L	-	-	-	-	0.96	0.96	1.1	1.0	1.0	1.0
Rubidium	µg/L	-	-	-	-	1.4	1.4	1.4	1.5	1.3	1.4
Selenium	µg/L	-	-	-	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Silicon	µg/L	-	-	-	-	156	157	170	199	206	196
Silver	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	132	139	134	138	133	129
Sulphur	µg/L	-	-	-	-	1,960	1,910	1,970	2,100	1,930	1,980
Tellurium	µg/L	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	-	-	-	0.0034	0.0029	0.0039	0.0026	0.0033	0.0032
Thorium	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	<0.01	<0.01	<0.01	0.037	0.015	0.088
Titanium	µg/L	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tungsten	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	-	-	-	-	0.030	0.029	0.027	0.030	0.027	0.032
Vanadium	µg/L	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	-	-	-	1.5	0.96	2.3	1.5	<0.5	3.2
Zirconium	µg/L	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06

Note: Concentration data values that failed the QC screening are crossed out in the table (e.g., ~~2.1~~). These values were not included in the calculations of summary statistics.
(C) = concentration is higher than the chronic aquatic life CCME guideline or outside the recommended pH, DO or total alkalinity range.
Water quality data and guidelines represented in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
m = metres; °C = degrees Celsius; - = not applicable/not recorded; NW = northwest; S = south; SE = southeast; S/SW = south-southwest; SW = southwest; N = north; W/SW = west-southwest; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; % = percent; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid

Table 3C.8: Field and Laboratory Water Quality Data from Lake D7 in 2017

Station		Guidelines for the protection of:				D7-01		D7-02		D7-03	
Sample Date		Aquatic Life		Drinking Water	Aesthetic	07/21/2017	08/10/2017	07/21/2017	08/10/2017	07/22/2017	08/10/2017
Sample Depth		Acute	Chronic			1 m	1 m	1 m	1 m	1 m	1 m
Parameters	Unit										
Field Measured											
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	8.2	8.3	8.2	8.3	8.2	8.4
Specific conductivity	µS/cm	-	-	-	-	152	154	151	154	151	154
Temperature	°C	-	-	-	15	12	13	12	13	12	13
Dissolved oxygen	mg/L	-	6.5	-	-	11	11	11	11	11	11
Dissolved oxygen	%	-	-	-	-	108	103	108	103	108	105
Secchi depth	m	-	-	-	-	1.7	1.7	1.8	1.9	2.0	1.7
Total depth	m	-	-	-	-	1.7	1.7	1.8	1.9	2.0	1.7
Conventional Parameters											
pH	-	-	6.5 - 9.0	-	7.0 - 11	7.3	7.8	7.3	7.9	7.3	7.9
Specific conductivity	µS/cm	-	-	-	-	152	160	152	158	151	157
Hardness, as $CaCO_3$	mg/L	-	-	-	-	53	56	52	56	52	58
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	55	55	55	55	54	54
Total dissolved solids	mg/L	-	-	-	500	95	89	89	90	100	91
Total dissolved solids (calculated)	mg/L	-	-	-	500	79	81	78	81	78	79
Total suspended solids	mg/L	-	-	-	-	<1.0	2.2	1.0	<1.0	<1.0	1.6
Turbidity	NTU	-	-	-	-	0.82	0.95	0.82	1.0	0.79	1.0
Major Ions											
Bicarbonate	mg/L	-	-	-	-	67	68	67	67	66	66
Calcium	mg/L	-	-	-	-	16	17	15	16	15	17
Carbonate	mg/L	-	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride	mg/L	640	120	-	250	12	12	12	12	12	12
Fluoride	mg/L	-	0.12	1.5	-	0.043	0.044	0.043	0.047	0.043	0.052
Hydroxide	mg/L	-	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Magnesium	mg/L	-	-	-	-	2.9	3.4	2.9	3.3	2.9	3.2
Potassium	mg/L	-	-	-	-	1.3	1.5	1.3	1.5	1.3	1.5
Sodium	mg/L	-	-	-	200	8.0	8.7	8.1	8.6	7.8	8.5
Sulphate	mg/L	-	-	-	500	5.0	5.2	4.9	5.2	5.0	3.8
Reactive silica, as SiO2	mg/L	-	-	-	-	0.14	0.14	0.14	0.14	0.13	0.14
Cyanide Species											
Cyanide	mg/L	-	0.005	0.2	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cyanide (free)	mg/L	-	0.005	0.2	-	<0.005	<0.001	<0.005	<0.001	<0.005	<0.001
Cyanide (WAD)	mg/L	-	0.005	0.2	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nutrients											
Nitrate	mg-N/L	124	2.9	10	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrite	mg-N/L	-	0.06	1	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total ammonia	mg-N/L	-	0.66 - 427	-	-	0.0057	0.012	0.0059	0.0077	0.0069	0.0056
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	0.24	0.45	0.27	0.34	0.24	0.37
Total phosphorus	mg-P/L	-	-	-	-	0.014	0.011	0.013	0.012	0.017	0.012
Dissolved phosphorus	mg-P/L	-	-	-	-	0.0040	0.0061	0.0040	0.0064	0.0041	0.0052
Orthophosphate	mg-P/L	-	-	-	-	0.0018	<0.001	<0.001	<0.001	0.0013	<0.001
Total organic carbon	mg/L	-	-	-	-	4.8	5.2	4.8	5.2	4.9	5.2
Dissolved organic carbon	mg/L	-	-	-	-	4.5	5.1	4.5	5.1	4.4	5.1
Total Metals											
Aluminum	µg/L	-	5.0 - 100	-	200	4.2	5.6	4.7	6.4	5.1	6.7
Antimony	µg/L	-	-	6	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	5.0	10	-	0.98	0.93	1.0	0.94	1.1	0.90
Barium	µg/L	-	-	1,000	-	16	16	17	17	17	15
Beryllium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	29,000	1,500	5,000	-	11	13	11	13	12	13
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5	-	<0.005	<0.005	<0.005	<0.005	0.011	<0.005
Cesium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	µg/L	-	1.0	50	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	µg/L	-	-	-	-	0.043	0.046	0.039	0.047	0.044	0.043
Copper	µg/L	-	2	-	1,000	0.97	0.79	0.81	0.90	1.0	1.2
Iron	µg/L	-	300	-	300	43	49	44	52	42	50
Lead	µg/L	-	1	10	-	<0.01	0.015	<0.01	0.019	<0.02	0.023
Lithium	µg/L	-	-	-	-	1.3	1.8	1.3	1.8	1.6	1.8
Manganese	µg/L	-	-	-	50	10	12	9.2	13	9.3	11
Mercury	µg/L	-	0.026	1	-	0.0011	0.00080	0.0011	0.00080	<0.0005	0.00070
Molybdenum	µg/L	-	73	-	-	0.43	0.46	0.41	0.46	0.43	0.48
Nickel	µg/L	-	25	-	-	0.67	0.64	0.68	0.73	0.80	0.69
Rubidium	µg/L	-	-	-	-	1.4	1.5	1.2	1.4	1.4	1.4
Selenium	µg/L	-	1	50	-	<0.04	0.059	0.040	0.050	<0.04	0.050
Silicon	µg/L	-	-	-	-	83	76	79	83	78	78
Silver	µg/L	-	0.25	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	79	82	78	81	82	81
Sulphur	µg/L	-	-	-	-	1,840	1,740	1,780	1,900	1,790	1,650
Tellurium	µg/L	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	0.8	-	-	<0.002	<0.002	<0.002	<0.002	0.0042	0.0022
Thorium	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Titanium	µg/L	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tungsten	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	33	15	20	-	0.087	0.098	0.084	0.10	0.089	0.10
Vanadium	µg/L	-	-	-	-	<0.05	0.057	0.054	0.069	0.061	0.052
Zinc	µg/L	-	30	-	5,000	1.2	2.0	0.57	2.9	<3.0	1.9
Zirconium	µg/L	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Dissolved Metals											
Aluminum	µg/L	-	-	-	-	2.0	4.6	3.9	5.7	2.3	3.0
Antimony	µg/L	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	µg/L	-	-	-	-	0.79	0.87	0.79	0.91	0.80	0.88
Barium	µg/L	-	-	-	-	15	16	16	16	15	16
Beryllium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Bismuth	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Boron	µg/L	-	-	-	-	11	12	11	11	10	11
Cadmium	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cesium	µg/L	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	0.19	<0.1
Cobalt	µg/L	-	-	-	-	0.040	0.063	0.065	0.058	0.034	0.054
Copper	µg/L	-	-	-	-	1.09	0.85	1.03	0.91	~~1.11~~	0.79
Iron	µg/L	-	-	-	-	16	25	12	36	16	19
Lead	µg/L	-	-	-	-	0.0081	0.039	0.17	0.025	0.010	0.014
Lithium	µg/L	-	-	-	-	1.6	1.8	1.5	1.8	1.6	1.9
Manganese	µg/L	-	-	-	-	0.71	1.5	3.0	5.7	0.63	0.91
Mercury	µg/L	-	-	-	-	0.0016	0.00090	0.0013	0.00090	0.0014	0.00090
Molybdenum	µg/L	-	-	-	-	0.42	0.51	0.40	0.52	0.39	0.51
Nickel	µg/L	-	-	-	-	0.60	0.68	0.62	0.66	0.61	0.66
Rubidium	µg/L	-	-	-	-	1.1	1.3	1.2	1.4	1.2	1.3
Selenium	µg/L	-	-	-	-	<0.04	<0.04	0.046	0.047	0.044	0.041
Silicon	µg/L	-	-	-	-	81	75	64	86	94	73
Silver	µg/L	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	µg/L	-	-	-	-	70	78	70	76	67	76
Sulphur	µg/L	-	-	-	-	1,660	1,930	1,660	1,810	1,610	1,890
Tellurium	µg/L	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L	-	-	-	-	<0.002	0.0027	<0.002	<0.002	<0.002	0.0021
Thorium	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	µg/L	-	-	-	-	<0.01	0.012	0.013	<0.01	0.020	<0.01
Titanium	µg/L	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tungsten	µg/L	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Uranium	µg/L	-	-	-	-	0.098	0.10	0.093	0.098	0.095	0.10
Vanadium	µg/L	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	µg/L	-	-	-	-	1.1	1.5	1.4	1.0	1.4	<0.5
Zirconium	µg/L	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06

Note: Concentration data values that failed the QC screening are crossed out in the table (e.g., ~~2.1~~). These values were not included in the calculations of summary statistics.
(C) = concentration is higher than the chronic aquatic life CCME guideline or outside the recommended pH, DO or total alkalinity range.
Water quality data and guidelines represented in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
m = metres; °C = degrees Celsius; - = not applicable/not recorded; NW = northwest; S = south; SE = southeast; S/SW = south-southwest; SW = southwest; N = north; W/SW = west-southwest; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; % = percent; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid

Table 3D.1-1: Field and Laboratory Statistical Summaries from MEL-01 (near-field) Under-ice Conditions, 2016 to 2017

Parameter	Unit	Guidelines for the protection of:					Under-Ice											
		Aquatic Life		Drinking Water	Aesthetic	SSWQO	2015-2017											
		Acute	Chronic				Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	% Above Guideline				
														A	C	D	S	Q
Field Measured																		
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	20	**6.0**[C,S]	7.3	7.3	8.2	0.62	0	-	15	-	35	-
Specific conductivity	µS/cm	-	-	-	-	-	16	49	75	79	99	16	0	-	-	-	-	-
Temperature	°C	-	-	-	15	-	20	0.02	1.1	1.2	2.1	0.49	0	-	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	-	9	**5.0**[C]	8.9	8.6	13	3.2	0	-	44	-	-	-
Dissolved oxygen	%	-	-	-	-	-	9	38	64	62	90	21	0	-	-	-	-	-
Air temperature	deg c	-	-	-	-	-	15	<20	<29	13	<32	2.7	15	-	-	-	-	-
Total depth	m	-	-	-	-	-	20	7.2	8.4	8.4	9.6	0.68	0	-	-	-	-	-
Ice thickness	m	-	-	-	-	-	20	0.75	1.0	0.99	1.4	0.16	0	-	-	-	-	-
Snow depth	m	-	-	-	-	-	10	0.070	0.15	0.14	0.25	0.051	0	-	-	-	-	-
Conventional Parameters																		
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	20	**6.9**[S]	7.0	7.0	7.3	0.12	0	-	-	-	35	-
Specific conductivity	µS/cm	-	-	-	-	-	20	83	91	90	98	5.4	0	-	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	20	24	27	27	32	2.1	0	-	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	20	13	17	18	21	1.7	0	-	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	-	20	28	54	52	67	10	0	-	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	20	41	45	44	48	2.8	0	-	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	-	20	<1.0	<1.0	0.50	<1.0	0	20	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	20	0.14	0.18	0.20	0.42	0.062	0	-	-	-	-	-
Major Ions																		
Bicarbonate	mg/L	-	-	-	-	-	20	16	21	21	25	2.1	0	-	-	-	-	-
Calcium	mg/L	-	-	-	-	-	15	7.5	8.9	8.6	10	0.75	0	-	-	-	-	-
Chloride	mg/L	640	120	-	250	-	20	10	12	12	13	0.98	0	-	-	-	-	-
Fluoride	mg/L	-	0.12	1.5	-	2.8	20	0.025	0.027	0.027	0.029	0.0014	0	-	-	-	-	-
Magnesium	mg/L	-	-	-	-	-	15	1.3	1.5	1.5	1.6	0.090	0	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	15	0.96	1.1	1.1	1.1	0.065	0	-	-	-	-	-
Sodium	mg/L	-	-	-	200	-	15	5.8	5.9	5.9	6.3	0.14	0	-	-	-	-	-
Sulphate	mg/L	-	-	-	500	-	20	4.6	5.2	5.1	6.8	0.51	0	-	-	-	-	-
Silica	mg/L	-	-	-	-	-	10	0.33	0.38	0.38	0.44	0.032	0	-	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	-	10	0.49	0.57	0.56	0.62	0.048	0	-	-	-	-	-
Cyanide Species																		
Cyanide	mg/L	-	0.005	0.2	-	-	20	<0.002	<0.005	0.0018	<0.005	0.00077	20	-	-	-	-	-
Cyanide (free)	mg/L	-	0.005	0.2	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Cyanide (WAD)	mg/L	-	0.005	0.2	-	-	20	<0.002	<0.005	0.0018	<0.005	0.00077	20	-	-	-	-	-
Nutrients																		
Nitrate	mg-N/L	124	2.9	10	-	-	20	<0.005	0.010	0.023	0.27	0.057	1	-	-	-	-	-
Nitrite	mg-N/L	-	0.06	1	-	-	20	<0.001	<0.001	0.00080	0.0036	0.00072	15	-	-	-	-	-
Total ammonia	mg-N/L	-	0.66 - 157	-	-	-	20	0.014	0.024	0.023	0.030	0.0050	0	-	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	20	0.11	0.20	0.20	0.28	0.040	0	-	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	-	15	0.0018	0.003	0.0033	0.005	0.0010	0	-	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	-	15	<0.001	0.001	0.0015	0.004	0.0011	5	-	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	-	10	<0.001	0.001	0.0013	0.0019	0.00047	2	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	17	3.0	3.2	3.3	3.6	0.17	0	-	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	-	17	3.0	3.2	3.2	3.6	0.18	0	-	-	-	-	-
Total Metals																		
Aluminum	µg/L	-	5.0 - 100	-	200	-	20	0.65	1.1	1.4	5.2	1.0	0	-	-	-	-	-
Antimony	µg/L	-	-	6.0	-	-	20	<0.02	<0.02	0.015	0.064	0.013	16	-	-	-	-	-
Arsenic	µg/L	-	5	10	-	25	20	0.32	0.38	0.39	0.46	0.037	0	-	-	-	-	-
Barium	µg/L	-	-	1,000	-	-	20	8.2	8.8	8.8	9.5	0.31	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0050	<0.01	0	20	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0050	<0.01	0	20	-	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	-	20	4.5	5.4	5.6	8.1	1.1	0	-	-	-	-	-
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5.0	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Chromium	µg/L	-	1	50	-	-	20	<0.06	<0.06	0.030	<0.06	0	20	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	20	<0.01	0.013	0.013	0.015	0.0028	2	-	-	-	-	-
Copper	µg/L	-	2	-	1,000	-	20	0.81	0.89	0.91	1.1	0.068	0	-	-	-	-	-
Iron	µg/L	-	300	-	300	1,060	20	6.7	8.6	8.5	11	1.3	0	-	-	-	-	-
Lead	µg/L	-	1	10	-	-	20	<0.01	<0.01	0.086	**1.2**[C]	0.28	12	-	5.0	-	-	-
Lithium	µg/L	-	-	-	-	-	20	0.51	0.85	0.84	1.2	0.21	0	-	-	-	-	-
Manganese	µg/L	-	-	-	50	-	20	1.5	2.3	2.4	3.8	0.79	0	-	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	-	20	<0.0005	0.00050	0.00041	0.00070	0.00017	10	-	-	-	-	-
Molybdenum	µg/L	-	73	-	-	-	20	0.059	0.080	0.079	0.099	0.011	0	-	-	-	-	-
Nickel	µg/L	-	25	-	-	-	20	0.59	0.67	0.67	0.71	0.038	0	-	-	-	-	-
Selenium	µg/L	-	1	50	-	-	20	<0.04	0.040	0.032	0.049	0.012	10	-	-	-	-	-
Silver	µg/L	-	0.25	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	20	35	42	41	47	4.4	0	-	-	-	-	-
Thallium	µg/L	-	0.80	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	20	<0.05	<0.05	0.025	<0.05	0	20	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	20	<0.1	<0.1	0.050	<0.1	0	20	-	-	-	-	-
Uranium	µg/L	33	15	20	-	-	20	0.012	0.015	0.015	0.018	0.0017	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	20	<0.05	<0.05	0.025	<0.05	0	20	-	-	-	-	-
Zinc	µg/L	-	30	-	5,000	-	20	<0.8	<0.8	0.62	2.9	0.59	16	-	-	-	-	-
Dissolved Metals																		
Aluminum	µg/L	-	-	-	-	-	20	0.59	0.83	0.95	1.9	0.36	0	-	-	-	-	-
Antimony	µg/L	-	-	-	-	-	20	<0.02	<0.02	0.011	0.031	0.0047	19	-	-	-	-	-
Arsenic	µg/L	-	-	-	-	-	20	0.34	0.37	0.37	0.43	0.027	0	-	-	-	-	-
Barium	µg/L	-	-	-	-	-	20	8.2	8.8	8.8	9.4	0.33	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0050	<0.01	0	20	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0050	<0.01	0	20	-	-	-	-	-
Boron	µg/L	-	-	-	-	-	20	4.4	5.3	5.7	8.1	1.2	0	-	-	-	-	-
Cadmium	µg/L	-	-	-	-	-	20	<0.005	<0.005	0.0026	0.0050	0.00056	19	-	-	-	-	-
Chromium	µg/L	-	-	-	-	-	20	<0.06	<0.06	0.030	<0.06	0	20	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0064	0.013	0.0028	16	-	-	-	-	-
Copper	µg/L	-	-	-	-	-	20	0.78	0.87	0.88	1.0	0.061	0	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	20	2.4	3.3	3.6	7.0	1.1	0	-	-	-	-	-
Lead	µg/L	-	-	-	-	-	19	<0.01	0.011	0.038	0.32	0.074	9	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	20	0.57	0.79	0.85	1.2	0.19	0	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	20	0.15	0.34	0.33	0.63	0.15	0	-	-	-	-	-
Mercury	µg/L	-	-	-	-	-	20	<0.0005	0.00050	0.00041	0.00070	0.00017	10	-	-	-	-	-
Molybdenum	µg/L	-	-	-	-	-	20	0.065	0.079	0.079	0.095	0.0090	0	-	-	-	-	-
Nickel	µg/L	-	-	-	-	-	19	0.60	0.65	0.66	0.71	0.035	0	-	-	-	-	-
Selenium	µg/L	-	-	-	-	-	20	<0.04	<0.04	0.029	0.055	0.014	14	-	-	-	-	-
Silver	µg/L	-	-	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	20	35	41	41	48	4.2	0	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	20	<0.05	<0.05	0.025	<0.05	0	20	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	20	<0.1	<0.1	0.050	<0.1	0	20	-	-	-	-	-
Uranium	µg/L	-	-	-	-	-	20	0.012	0.014	0.015	0.017	0.0015	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	20	<0.05	<0.05	0.025	<0.05	0	20	-	-	-	-	-
Zinc	µg/L	-	-	-	-	-	20	<0.8	<0.8	1.1	11	2.5	16	-	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
[C] = concentration is higher than the chronic aquatic life CCME guideline or outside the recommended pH, DO or total alkalinity range.
[S] = concentration is higher than the aesthetic Health Canada guideline or outside the recommended pH range.
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

Table 3D.1-2: Field and Laboratory Statistical Summaries from MEL-01 (near-field) Open-water Conditions, 2015 to 2017

Parameter	Unit	Guidelines for the protection of:					Open Water 2015-2017											
		Aquatic Life		Drinking Water	Aesthetic	SSWQO	Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	% Above Guideline				
		Acute	Chronic											A	C	D	S	Q
Field Measured																		
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	43	**7.0**$^{(S)}$	7.5	7.5	8.1	0.27	0	-	-	-	2.0	-
Specific conductivity	µS/cm	-	-	-	-	-	44	64	72	74	82	6.3	0	-	-	-	-	-
Temperature	°C	-	-	-	15	-	44	6.2	12.6	11.2	14	2.3	0	-	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	-	44	7.4	10.5	10	13	1.2	0	-	-	-	-	-
Dissolved oxygen	%	-	-	-	-	-	42	71	101	96	112	9.6	0	-	-	-	-	-
Secchi depth	m	-	-	-	-	-	40	4.8	5.8	6.1	8.9	1.0	0	-	-	-	-	-
Total depth	m	-	-	-	-	-	42	7.3	8.7	8.7	10	0.69	0	-	-	-	-	-
Conventional Parameters																		
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	44	7.2	7.3	7.3	7.7	0.14	0	-	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	-	44	67	74	75	84	5.0	0	-	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	44	19	23	22	25	1.9	0	-	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	44	13	15	16	20	1.7	0	-	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	-	44	25	47	46	61	8.4	0	-	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	44	32	37	37	43	3.6	0	-	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	-	44	<1.0	1.2	1.5	<5.0	1.0	34	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	44	0.23	0.41	0.44	1.2	0.19	0	-	-	-	-	-
Major Ions																		
Bicarbonate	mg/L	-	-	-	-	-	44	16	19	19	25	2.1	0	-	-	-	-	-
Calcium	mg/L	-	-	-	-	-	44	5.8	7.1	6.9	7.8	0.59	0	-	-	-	-	-
Chloride	mg/L	640	120	-	250	-	44	8.2	9.4	9.5	11	0.89	0	-	-	-	-	-
Fluoride	mg/L	-	0.12	1.5	-	2.8	44	<0.02	0.024	0.020	0.032	0.0080	17	-	-	-	-	-
Magnesium	mg/L	-	-	-	-	-	44	1.0	1.2	1.2	1.4	0.11	0	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	44	0.78	0.89	0.89	1.1	0.073	0	-	-	-	-	-
Sodium	mg/L	-	-	-	200	-	43	4.1	4.9	4.8	6.3	0.45	0	-	-	-	-	-
Sulphate	mg/L	-	-	-	500	-	44	3.2	4.1	4.1	4.9	0.50	0	-	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	-	44	0.093	0.47	0.45	0.60	0.10	0	-	-	-	-	-
Cyanide Species																		
Cyanide	mg/L	-	0.005	0.2	-	-	44	<0.001	<0.002	0.00086	0.0023	0.00033	43	-	-	-	-	-
Cyanide (free)	mg/L	-	0.005	0.2	-	-	44	<0.001	<0.005	0.0020	<0.005	0.00085	44	-	-	-	-	-
Cyanide (WAD)	mg/L	-	0.005	0.2	-	-	44	<0.001	<0.002	0.00083	<0.002	0.00024	44	-	-	-	-	-
Nutrients																		
Nitrate	mg-N/L	124	2.9	10	-	-	44	<0.005	<0.005	0.0075	0.073	0.017	38	-	-	-	-	-
Nitrite	mg-N/L	-	0.06	1	-	-	44	<0.001	<0.001	0.00050	<0.001	0	44	-	-	-	-	-
Total ammonia	mg-N/L	-	0.66 - 157	-	-	-	44	<0.005	<0.005	0.0045	0.019	0.0040	32	-	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	44	<0.05	0.17	0.17	0.39	0.076	2	-	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	-	44	0.0038	0.006	0.0072	0.036	0.0052	0	-	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	-	44	<0.001	0.002	0.0022	0.0056	0.00095	1	-	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	-	44	<0.001	<0.001	0.00073	0.0020	0.00042	32	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	44	2.3	2.9	3.0	4.3	0.41	0	-	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	-	44	2.3	2.9	3.0	4.1	0.40	0	-	-	-	-	-
Total Metals																		
Aluminum	µg/L	-	5.0 - 100	-	200	-	44	1.7	2.9	3.9	22	3.4	1	-	-	-	-	-
Antimony	µg/L	-	-	6.0	-	-	44	<0.02	<0.02	0.015	0.11	0.018	41	-	-	-	-	-
Arsenic	µg/L	-	5.0	10	-	25	44	0.29	0.39	0.39	0.55	0.059	0	-	-	-	-	-
Barium	µg/L	-	-	1,000	-	-	44	6.6	7.3	7.4	8.7	0.56	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	44	<0.01	<0.01	0.0060	<0.1	0.0068	44	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	44	<0.005	<0.01	0.0046	<0.05	0.0034	44	-	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	-	44	3.3	<5.0	4.7	<10	1.9	15	-	-	-	-	-
Cadmium	µg/L	0.38 - 0.66	0.039 - 0.062	5.0	-	-	44	<0.005	<0.005	0.0027	0.0082	0.00098	42	-	-	-	-	-
Chromium	µg/L	-	1.0	50	-	-	44	<0.06	<0.06	0.037	<0.1	0.0097	44	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	44	0.015	0.021	0.022	<0.1	0.0067	1	-	-	-	-	-
Copper	µg/L	-	2	-	1,000	-	44	0.67	0.74	0.82	1.4	0.17	0	-	-	-	-	-
Iron	µg/L	-	300	-	300	1,060	44	15	21	22	45	5.6	0	-	-	-	-	-
Lead	µg/L	-	1	10	-	-	44	<0.01	<0.01	0.037	0.90	0.14	30	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	44	<0.5	0.69	0.72	1.5	0.27	4	-	-	-	-	-
Manganese	µg/L	-	-	-	50	-	44	3.8	5.5	6.3	11	2.0	0	-	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	-	44	<0.0005	0.00060	0.00070	0.0019	0.00037	8	-	-	-	-	-
Molybdenum	µg/L	-	73	-	-	-	44	<0.05	0.066	0.064	0.12	0.020	6	-	-	-	-	-
Nickel	µg/L	-	25	-	-	-	44	0.49	0.59	0.60	0.83	0.086	0	-	-	-	-	-
Selenium	µg/L	-	1.0	50	-	-	44	<0.04	<0.04	0.024	<0.05	0.0087	37	-	-	-	-	-
Silver	µg/L	-	0.25	-	-	-	44	<0.005	<0.005	0.0027	<0.01	0.00078	43	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	44	27	33	33	40	3.7	0	-	-	-	-	-
Thallium	µg/L	-	0.80	-	-	-	44	<0.002	<0.005	0.0022	<0.01	0.0011	42	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	44	<0.02	<0.05	0.022	<0.1	0.0095	41	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	44	<0.1	0.13	0.16	0.81	0.14	33	-	-	-	-	-
Uranium	µg/L	33	15	20	-	-	44	0.012	0.015	0.016	0.022	0.0026	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	44	<0.05	<0.05	0.032	<0.5	0.036	43	-	-	-	-	-
Zinc	µg/L	-	30	-	5,000	-	44	0.62	<0.8	1.5	9.5	2.2	27	-	-	-	-	-
Dissolved Metals																		
Aluminum	µg/L	-	-	-	-	-	38	0.48	1.2	1.4	4.1	0.67	0	-	-	-	-	-
Antimony	µg/L	-	-	-	-	-	44	<0.02	<0.02	0.016	0.16	0.023	37	-	-	-	-	-
Arsenic	µg/L	-	-	-	-	-	44	0.26	0.35	0.36	0.48	0.055	0	-	-	-	-	-
Barium	µg/L	-	-	-	-	-	44	6.5	7.2	7.2	7.9	0.36	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	44	<0.01	<0.01	0.0050	<0.01	0	44	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	44	<0.005	<0.01	0.0041	<0.01	0.0012	44	-	-	-	-	-
Boron	µg/L	-	-	-	-	-	44	3.4	6.6	5.5	<10	1.1	15	-	-	-	-	-
Cadmium	µg/L	-	-	-	-	-	44	<0.005	<0.005	0.0031	0.0086	0.0017	39	-	-	-	-	-
Chromium	µg/L	-	-	-	-	-	44	<0.06	0.070	0.059	0.23	0.046	34	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	44	<0.005	0.010	0.012	0.054	0.011	19	-	-	-	-	-
Copper	µg/L	-	-	-	-	-	31	0.55	0.77	0.87	2.6	0.37	0	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	44	2.6	6.5	6.5	12	1.9	0	-	-	-	-	-
Lead	µg/L	-	-	-	-	-	44	0.0062	<0.01	0.040	0.36	0.071	20	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	44	<0.5	0.70	0.80	2.7	0.47	4	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	44	0.44	0.78	1.1	4.3	0.98	0	-	-	-	-	-
Mercury	µg/L	-	-	-	-	-	44	<0.0005	0.00050	0.00063	0.0018	0.00043	18	-	-	-	-	-
Molybdenum	µg/L	-	-	-	-	-	44	<0.05	0.072	0.079	0.18	0.036	4	-	-	-	-	-
Nickel	µg/L	-	-	-	-	-	42	0.46	0.57	0.58	0.71	0.055	0	-	-	-	-	-
Selenium	µg/L	-	-	-	-	-	44	<0.04	<0.04	0.021	0.052	0.0060	42	-	-	-	-	-
Silver	µg/L	-	-	-	-	-	44	<0.005	<0.005	0.0025	<0.005	0	44	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	44	27	32	32	38	3.1	0	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	44	<0.002	<0.005	0.0022	<0.005	0.00062	38	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	44	<0.01	<0.05	0.097	3.1	0.46	33	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	44	<0.1	<0.1	0.092	<0.3	0.050	40	-	-	-	-	-
Uranium	µg/L	-	-	-	-	-	44	<0.01	0.014	0.014	0.019	0.0030	2	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	44	<0.05	<0.05	0.026	0.086	0.0092	43	-	-	-	-	-
Zinc	µg/L	-	-	-	-	-	44	<0.5	<0.8	2.4	17	3.7	21	-	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
$^{(C)}$ = concentration is higher than the chronic aquatic life CCME guideline or outside the recommended pH, DO or total alkalinity range.
$^{(S)}$ = concentration is higher than the aesthetic Health Canada guideline or outside the recommended pH range.
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; - = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

Table 3D.2-1: Field and Laboratory Statistical Summaries from MEL-02 (mid-field) Under-ice Conditions, 2016 to 2017

Parameter	Unit	Guidelines for the protection of:					Under-Ice 2015-2017											
		Aquatic Life		Drinking Water	Aesthetic	SSWQO	Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	% Above Guideline				
		Acute	Chronic											A	C	D	S	Q
Field Measured																		
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	20	**6.6**(S)	7.1	7.1	7.6	0.31	0	-	-	-	45	-
Specific conductivity	µS/cm	-	-	-	-	-	15	30	87	69	94	24	0	-	-	-	-	-
Temperature	°C	-	-	-	15	-	20	0.03	1.1	1.2	2.0	0.48	0	-	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	-	10	8.9	11	11	12	1.3	0	-	-	-	-	-
Dissolved oxygen	%	-	-	-	-	-	10	66	84	80	88	8.1	0	-	-	-	-	-
Air temperature	deg c	-	-	-	-	-	15	<28	<39	18	<40	2.9	15	-	-	-	-	-
Total depth	m	-	-	-	-	-	20	7.0	8.9	8.7	11	0.79	0	-	-	-	-	-
Ice thickness	m	-	-	-	-	-	19	0.86	1.0	1.0	1.3	0.13	0	-	-	-	-	-
Snow depth	m	-	-	-	-	-	10	0.075	0.15	0.18	0.30	0.075	0	-	-	-	-	-
Conventional Parameters																		
pH	-	-	6.5 - 9.0	-	7.0 - 10.5	-	20	**6.8**(S)	7.0	7.0	7.3	0.16	0	-	-	-	45	-
Specific conductivity	µS/cm	-	-	-	-	-	20	74	83	83	90	4.0	0	-	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	20	23	26	26	28	1.4	0	-	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	20	15	17	17	21	1.9	0	-	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	-	20	<10	45	43	66	13	1	-	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	20	37	41	41	46	2.1	0	-	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	-	20	<1.0	<1.0	0.53	1.1	0.13	19	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	20	0.13	0.15	0.15	0.23	0.023	0	-	-	-	-	-
Major Ions																		
Bicarbonate	mg/L	-	-	-	-	-	20	18	21	21	26	2.3	0	-	-	-	-	-
Calcium	mg/L	-	-	-	-	-	15	7.1	8.2	8.1	8.7	0.50	0	-	-	-	-	-
Chloride	mg/L	640	120	-	250	-	20	8.6	10	10	11	0.80	0	-	-	-	-	-
Fluoride	mg/L	-	0.12	1.5	-	2.8	20	0.021	0.026	0.027	0.034	0.0026	0	-	-	-	-	-
Magnesium	mg/L	-	-	-	-	-	15	1.2	1.4	1.3	1.5	0.083	0	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	15	0.92	1.0	1.0	1.1	0.052	0	-	-	-	-	-
Sodium	mg/L	-	-	-	200	-	15	4.9	5.3	5.3	5.5	0.19	0	-	-	-	-	-
Sulphate	mg/L	-	-	-	500	-	20	3.8	4.4	4.4	5.0	0.31	0	-	-	-	-	-
Silica	mg/L	-	-	-	-	-	10	0.21	0.30	0.29	0.31	0.031	0	-	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	-	10	0.36	0.41	0.42	0.49	0.036	0	-	-	-	-	-
Cyanide Species																		
Cyanide	mg/L	-	0.0050	0.20	-	-	20	<0.002	<0.005	0.0018	<0.005	0.00077	20	-	-	-	-	-
Cyanide (free)	mg/L	-	-	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Cyanide (WAD)	mg/L	-	-	-	-	-	20	<0.002	<0.005	0.0018	<0.005	0.00077	20	-	-	-	-	-
Nutrients																		
Nitrate	mg-N/L	124	2.9	10	-	-	20	<0.005	0.006	0.0063	0.017	0.0041	8	-	-	-	-	-
Nitrite	mg-N/L	-	0.060	1.0	-	-	20	<0.001	<0.001	0.00064	0.0015	0.00030	16	-	-	-	-	-
Total ammonia	mg-N/L	-	0.69 - 50	-	-	-	20	0.0086	0.016	0.016	0.023	0.0048	0	-	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	20	0.11	0.18	0.17	0.27	0.040	0	-	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	-	15	0.0013	0.003	0.0048	0.035	0.008	0	-	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	-	15	<0.001	0.002	0.0023	0.011	0.003	4	-	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	-	10	<0.001	0.001	0.0010	0.0016	0.00038	3	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	19	2.6	2.9	2.9	3.1	0.14	0	-	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	-	19	2.6	2.9	2.9	3.1	0.12	0	-	-	-	-	-
Total Metals																		
Aluminum	µg/L	-	5.0 - 100	-	200	-	20	0.70	0.96	1.0	1.5	0.19	0	-	-	-	-	-
Antimony	µg/L	-	-	6.0	-	-	20	<0.02	<0.02	0.010	<0.02	0	20	-	-	-	-	-
Arsenic	µg/L	-	5.0	10	-	25	20	0.23	0.28	0.28	0.31	0.020	0	-	-	-	-	-
Barium	µg/L	-	-	1,000	-	-	20	8.2	8.8	8.9	10	0.43	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0050	<0.01	0	20	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0050	<0.01	0	20	-	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	-	20	4.0	5.1	5.3	7.2	0.93	0	-	-	-	-	-
Cadmium	µg/L	0.40 - 0.57	0.041 - 0.054	5.0	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Chromium	µg/L	-	1.0	50	-	-	20	<0.06	<0.06	0.030	<0.06	0	20	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0066	0.014	0.0029	15	-	-	-	-	-
Copper	µg/L	-	2	-	1,000	-	20	0.77	0.82	0.83	0.94	0.041	0	-	-	-	-	-
Iron	µg/L	-	300	-	300	1,060	20	2.4	4.1	4.4	10	1.8	0	-	-	-	-	-
Lead	µg/L	-	1	10	-	-	20	<0.01	0.012	0.014	0.042	0.011	9	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	20	0.55	0.84	0.83	1.1	0.21	0	-	-	-	-	-
Manganese	µg/L	-	-	-	50	-	20	0.83	1.4	1.4	2.5	0.34	0	-	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	-	20	<0.0005	<0.0005	0.00034	0.00060	0.00014	14	-	-	-	-	-
Molybdenum	µg/L	-	73	-	-	-	20	0.059	0.074	0.071	0.082	0.0071	0	-	-	-	-	-
Nickel	µg/L	-	25	-	-	-	20	0.45	0.53	0.53	0.58	0.029	0	-	-	-	-	-
Selenium	µg/L	-	1.0	50	-	-	20	<0.04	<0.04	0.030	0.050	0.012	12	-	-	-	-	-
Silver	µg/L	-	0.25	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	20	33	39	39	45	3.2	0	-	-	-	-	-
Thallium	µg/L	-	0.80	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	20	<0.05	<0.05	0.025	<0.05	0	20	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	20	<0.1	<0.1	0.050	<0.1	0	20	-	-	-	-	-
Uranium	µg/L	33	15	20	-	-	20	0.012	0.013	0.013	0.015	0.0012	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	20	<0.05	<0.05	0.025	<0.05	0	20	-	-	-	-	-
Zinc	µg/L	-	30	-	5,000	-	20	<0.8	<0.8	1.8	27	5.9	17	-	-	-	-	-
Dissolved Metals																		
Aluminum	µg/L	-	-	-	-	-	20	<0.3	0.65	0.67	1.0	0.20	1	-	-	-	-	-
Antimony	µg/L	-	-	-	-	-	20	<0.02	<0.02	0.012	0.059	0.011	19	-	-	-	-	-
Arsenic	µg/L	-	-	-	-	-	20	0.23	0.28	0.27	0.32	0.022	0	-	-	-	-	-
Barium	µg/L	-	-	-	-	-	20	8.2	8.8	8.9	9.8	0.41	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0050	<0.01	0	20	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0050	<0.01	0	20	-	-	-	-	-
Boron	µg/L	-	-	-	-	-	20	3.8	5.0	5.0	6.2	0.67	0	-	-	-	-	-
Cadmium	µg/L	-	-	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Chromium	µg/L	-	-	-	-	-	20	<0.06	<0.06	0.030	<0.06	0	20	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.0050	<0.01	0	20	-	-	-	-	-
Copper	µg/L	-	-	-	-	-	20	0.74	0.80	0.80	0.94	0.041	0	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	20	<1.0	1.2	1.3	2.2	0.48	3	-	-	-	-	-
Lead	µg/L	-	-	-	-	-	20	<0.01	<0.01	0.015	0.086	0.020	14	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	20	0.53	0.86	0.83	1.2	0.21	0	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	20	0.11	0.21	0.22	0.33	0.070	0	-	-	-	-	-
Mercury	µg/L	-	-	-	-	-	20	<0.0005	<0.0005	0.00034	0.00060	0.00014	14	-	-	-	-	-
Molybdenum	µg/L	-	-	-	-	-	20	0.053	0.072	0.071	0.083	0.0074	0	-	-	-	-	-
Nickel	µg/L	-	-	-	-	-	20	0.43	0.52	0.53	0.59	0.035	0	-	-	-	-	-
Selenium	µg/L	-	-	-	-	-	20	<0.04	<0.04	0.027	0.048	0.011	14	-	-	-	-	-
Silver	µg/L	-	-	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	20	33	39	39	45	3.2	0	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	20	<0.005	<0.005	0.0025	<0.005	0	20	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	20	<0.05	<0.05	0.025	<0.05	0	20	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	20	<0.1	<0.1	0.050	<0.1	0	20	-	-	-	-	-
Uranium	µg/L	-	-	-	-	-	20	0.010	0.013	0.013	0.015	0.0013	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	20	<0.05	<0.05	0.025	<0.05	0	20	-	-	-	-	-
Zinc	µg/L	-	-	-	-	-	20	<0.8	<0.8	0.61	2.2	0.48	16	-	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
(S) = concentration is higher than the aesthetic Health Canada guideline or outside the recommended pH range.
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

Table 3D.2-2: Field and Laboratory Statistical Summaries from MEL-02 (mid-field) Open-water Conditions, 2015 to 2017

Parameter	Unit	Guidelines for the protection of:					Open Water 2015-2017							% Above Guideline				
		Aquatic Life		Drinking Water	Aesthetic	SSWQO	Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	A	C	D	S	Q
		Acute	Chronic															
Field Measured																		
pH	-	-	6.5 - 9.0	-	7.0 - 11	-	45	**6.6**[(S)]	7.6	7.5	8.1	0.29	0	-	-	-	4.0	-
Specific conductivity	µS/cm	-	-	-	-	-	45	59	69	69	77	5.3	0	-	-	-	-	-
Temperature	°C	-	-	-	15	-	45	8.8	12.5	11.4	14	1.8	0	-	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	-	45	8.1	10.8	10.7	13	1.1	0	-	-	-	-	-
Dissolved oxygen	%	-	-	-	-	-	43	75	102	98	111	9.2	0	-	-	-	-	-
Secchi depth	m	-	-	-	-	-	45	5.0	6.8	6.8	9.1	1.1	0	-	-	-	-	-
Air temperature	deg c	-	-	-	-	-	21	6.0	8.0	9.9	18	4.0	0	-	-	-	-	-
Total depth	m	-	-	-	-	-	45	7.2	9.0	8.8	10	0.71	0	-	-	-	-	-
Conventional Parameters																		
pH	-	-	6.5 - 9.0	-	7.0 - 11	-	45	**6.7**[(S)]	7.3	7.3	7.7	0.24	0	-	-	-	11	-
Specific conductivity	µS/cm	-	-	-	-	-	45	66	70	72	119	7.9	0	-	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	45	19	21	21	23	1.2	0	-	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	45	13	16	16	18	1.2	0	-	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	-	45	29	45	44	69	7.9	0	-	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	45	32	35	35	51	3.3	0	-	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	-	45	<1.0	1.1	1.8	7.6	1.7	36	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	45	0.22	0.31	0.36	0.86	0.15	0	-	-	-	-	-
Major Ions																		
Bicarbonate	mg/L	-	-	-	-	-	45	16	19	19	22	1.5	0	-	-	-	-	-
Calcium	mg/L	-	-	-	-	-	45	6.1	6.7	6.6	7.5	0.36	0	-	-	-	-	-
Chloride	mg/L	640	120	-	250	-	45	7.8	8.6	8.9	21.5	2	0	-	-	-	-	-
Fluoride	mg/L	-	0	1.5	-	2.8	45	<0.02	0.03	0.02	0.03	0.01	6	-	-	-	-	-
Magnesium	mg/L	-	-	-	-	-	45	1.0	1.1	1.1	1.3	0	0	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	45	0.79	0.9	0.9	1.0	0.058	0	-	-	-	-	-
Sodium	mg/L	-	-	-	200	-	45	4.01	4.38	4.45	5.73	0.331	0	-	-	-	-	-
Sulphate	mg/L	-	-	-	500	-	45	3.2	3.7	3.8	5.5	0.38	0	-	-	-	-	-
Silica	mg/L	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	-	45	0.21	0.29	0.30	0.4	0.042	0	-	-	-	-	-
Cyanide Species																		
Cyanide	mg/L	-	0.0050	0.20	-	-	45	<0.001	<0.002	0.00083	<0.002	0.00024	45	-	-	-	-	-
Cyanide (free)	mg/L	-	-	-	-	-	45	<0.001	<0.005	0.0021	<0.005	0.00084	45	-	-	-	-	-
Cyanide (WAD)	mg/L	-	-	-	-	-	45	<0.001	<0.002	0.00083	<0.002	0.00024	45	-	-	-	-	-
Nutrients																		
Nitrate	mg-N/L	124	2.9	10	-	-	45	<0.005	<0.005	0.017	0.17	0.041	37	-	-	-	-	-
Nitrite	mg-N/L	-	0.060	1.0	-	-	45	<0.001	<0.001	0.00050	<0.001	0	45	-	-	-	-	-
Total ammonia	mg-N/L	-	0.69 - 50	-	-	-	45	<0.005	<0.005	0.0037	0.012	0.0026	36	-	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	45	<0.05	0.17	0.17	0.61	0.082	1	-	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	-	45	0.0031	0.004	0.0050	0.015	0.0020	0	-	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	-	45	<0.001	0.002	0.0019	0.0045	0.00080	1	-	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	-	45	<0.001	<0.001	0.00074	0.0016	0.00036	30	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	45	2.2	2.6	2.7	3.4	0.28	0	-	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	-	45	2.1	2.6	2.7	3.3	0.30	0	-	-	-	-	-
Total Metals																		
Aluminum	µg/L	-	5.0 - 100	-	200	-	45	1.5	2.4	3.8	41	6.0	0	-	-	-	-	-
Antimony	µg/L	-	-	6.0	-	-	45	<0.02	<0.02	0.011	0.028	0.0031	43	-	-	-	-	-
Arsenic	µg/L	-	5.0	10	-	25	45	0.22	0.26	0.26	0.32	0.021	0	-	-	-	-	-
Barium	µg/L	-	-	1,000	-	-	45	7.0	7.5	7.6	8.4	0.32	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	45	<0.01	<0.01	0.0050	<0.01	0	45	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	45	<0.005	<0.01	0.0042	<0.01	0.0012	44	-	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	-	45	3.1	<5.0	4.5	8.4	1.8	13	-	-	-	-	-
Cadmium	µg/L	0.40 - 0.57	0.041 - 0.054	5.0	-	-	45	<0.005	<0.005	0.0026	0.0061	0.00054	44	-	-	-	-	-
Chromium	µg/L	-	1.0	50	-	-	45	<0.06	<0.06	0.038	<0.1	0.013	44	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	45	0.0097	0.015	0.016	0.074	0.0095	1	-	-	-	-	-
Copper	µg/L	-	2	-	1,000	-	45	0.65	0.74	0.83	1.8	0.22	0	-	-	-	-	-
Iron	µg/L	-	300	-	300	1,060	45	9.2	13	16	90	12	0	-	-	-	-	-
Lead	µg/L	-	1	10	-	-	45	<0.01	<0.01	0.021	0.17	0.038	33	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	45	<0.5	0.62	0.62	1.5	0.29	10	-	-	-	-	-
Manganese	µg/L	-	-	-	50	-	45	2.6	4.2	4.2	7.7	1.3	0	-	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	-	45	<0.0005	0.00060	0.00060	0.0016	0.00029	13	-	-	-	-	-
Molybdenum	µg/L	-	73	-	-	-	45	<0.05	0.063	0.060	0.13	0.026	12	-	-	-	-	-
Nickel	µg/L	-	25	-	-	-	45	0.40	0.51	0.50	0.74	0.058	0	-	-	-	-	-
Selenium	µg/L	-	1.0	50	-	-	45	<0.04	<0.04	0.025	0.048	0.0094	35	-	-	-	-	-
Silver	µg/L	-	0.25	-	-	-	45	<0.005	<0.005	0.0026	0.0073	0.00072	44	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	45	26	31	32	37	3.0	0	-	-	-	-	-
Thallium	µg/L	-	0.80	-	-	-	45	<0.002	<0.005	0.0021	<0.005	0.00064	41	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	45	<0.02	<0.05	0.031	0.15	0.028	39	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	45	<0.1	<0.1	0.18	2.8	0.41	43	-	-	-	-	-
Uranium	µg/L	33	15	20	-	-	45	0.013	0.014	0.015	0.034	0.0034	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	45	<0.05	<0.05	0.028	0.14	0.018	44	-	-	-	-	-
Zinc	µg/L	-	30	-	5,000	-	45	<0.5	<0.8	1.7	11	2.8	30	-	-	-	-	-
Dissolved Metals																		
Aluminum	µg/L	-	-	-	-	-	42	0.43	1.2	1.4	4.7	0.83	0	-	-	-	-	-
Antimony	µg/L	-	-	-	-	-	45	<0.02	<0.02	0.011	0.029	0.0039	42	-	-	-	-	-
Arsenic	µg/L	-	-	-	-	-	45	0.21	0.24	0.24	0.30	0.018	0	-	-	-	-	-
Barium	µg/L	-	-	-	-	-	45	6.9	7.3	7.4	7.9	0.25	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	45	<0.01	<0.01	0.0051	0.011	0.00089	44	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	45	<0.005	<0.01	0.0042	<0.01	0.0012	45	-	-	-	-	-
Boron	µg/L	-	-	-	-	-	45	3.3	6.1	5.0	<10	1.1	15	-	-	-	-	-
Cadmium	µg/L	-	-	-	-	-	45	<0.005	<0.005	0.0030	0.0095	0.0015	41	-	-	-	-	-
Chromium	µg/L	-	-	-	-	-	45	<0.06	0.065	0.076	0.71	0.11	34	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	45	0.0079	<0.01	0.012	0.037	0.010	27	-	-	-	-	-
Copper	µg/L	-	-	-	-	-	37	0.62	0.77	0.81	1.2	0.14	0	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	44	2.9	4.8	5.2	11	1.7	0	-	-	-	-	-
Lead	µg/L	-	-	-	-	-	45	<0.005	<0.01	0.036	0.81	0.12	20	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	45	<0.5	0.66	0.68	1.5	0.29	7	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	45	0.35	0.72	0.85	3.6	0.61	0	-	-	-	-	-
Mercury	µg/L	-	-	-	-	-	43	<0.0005	0.00050	0.00058	0.0016	0.00039	20	-	-	-	-	-
Molybdenum	µg/L	-	-	-	-	-	45	<0.05	0.066	0.078	0.28	0.055	9	-	-	-	-	-
Nickel	µg/L	-	-	-	-	-	45	0.38	0.47	0.48	0.58	0.047	0	-	-	-	-	-
Selenium	µg/L	-	-	-	-	-	45	<0.04	<0.04	0.022	0.042	0.0067	40	-	-	-	-	-
Silver	µg/L	-	-	-	-	-	45	<0.005	<0.005	0.0025	<0.005	0	45	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	45	27	31	31	37	2.3	0	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	45	<0.002	<0.005	0.0023	<0.005	0.00052	35	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	45	<0.01	<0.05	0.041	0.35	0.066	39	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	45	<0.1	<0.1	0.085	<0.3	0.048	44	-	-	-	-	-
Uranium	µg/L	-	-	-	-	-	45	<0.01	0.014	0.014	0.017	0.0024	1	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	45	<0.05	<0.05	0.025	<0.05	0	45	-	-	-	-	-
Zinc	µg/L	-	-	-	-	-	45	0.65	<0.8	2.8	45	7.2	26	-	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
[(S)] = concentration is higher than the aesthetic Health Canada guideline or outside the recommended pH range.
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

Table 3D.3: Field and Laboratory Statistical Summaries from MEL-03 (Reference area 1) Open-water Conditions, 2016 to 2017

Parameter	Unit	Guidelines for the protection of:					Open-Water 2016-2017											
		Aquatic Life		Drinking Water	Aesthetic	SSWQO	Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	% Above Guideline				
		Acute	Chronic											A	C	D	S	Q
Field Measured																		
pH	-	-	6.5 - 9.0	-	7.0 - 11	-	30	7.0	7.6	7.6	8.0	0.18	0	-	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	-	30	61	67	66	69	2.3	0	-	-	-	-	-
Temperature	°C	-	-	-	15	-	30	5.7	12.6	12	14	2.1	0	-	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	-	30	9.1	10.8	11	12	0.88	0	-	-	-	-	-
Dissolved oxygen	%	-	-	-	-	-	30	88	104	100	131	9.6	0	-	-	-	-	-
Secchi depth	m	-	-	-	-	-	29	6.5	7.5	7.5	9.5	0.80	0	-	-	-	-	-
Air temperature	deg c	-	-	-	-	-	6	5.0	12	11	13	3.0	0	-	-	-	-	-
Total depth	m	-	-	-	-	-	30	3.8	8.3	8.1	10	1.3	0	-	-	-	-	-
Conventional Parameters																		
pH	-	-	6.5 - 9.0	-	7.0 - 11	-	30	**6.6**$^{(S)}$	7.2	7.2	7.7	0.31	0	-	-	-	20	-
Specific conductivity	µS/cm	-	-	-	-	-	30	66	67	68	71	1.4	0	-	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	30	19	21	21	24	1.0	0	-	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	30	13	16	16	18	0.81	0	-	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	-	30	18	43	41	54	7.6	0	-	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	30	31	34	34	37	1.2	0	-	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	-	30	<1.0	<1.0	0.65	1.5	0.31	24	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	30	0.17	0.27	0.28	0.80	0.12	0	-	-	-	-	-
Major Ions																		
Bicarbonate	mg/L	-	-	-	-	-	30	16	19	19	22	0.98	0	-	-	-	-	-
Calcium	mg/L	-	-	-	-	-	30	6.2	6.5	6.6	7.9	0.35	0	-	-	-	-	-
Chloride	mg/L	640	120	-	250	-	30	7.6	8.0	8.0	8.5	0.27	0	-	-	-	-	-
Fluoride	mg/L	-	0.12	1.5	-	2.8	30	<0.02	0.026	0.023	0.030	0.0067	6	-	-	-	-	-
Magnesium	mg/L	-	-	-	-	-	30	0.99	1.1	1.1	1.1	0.034	0	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	30	0.78	0.87	0.87	1.00	0.064	0	-	-	-	-	-
Sodium	mg/L	-	-	-	200	-	30	4.1	4.2	4.3	4.7	0.18	0	-	-	-	-	-
Sulphate	mg/L	-	-	-	500	-	30	3.1	3.4	3.4	3.8	0.18	0	-	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	-	30	0.18	0.22	0.22	0.26	0.023	0	-	-	-	-	-
Cyanide Species																		
Cyanide	mg/L	-	0.0050	0.20	-	-	30	<0.001	<0.002	0.00075	<0.002	0.00025	30	-	-	-	-	-
Cyanide (free)	mg/L	-	-	-	-	-	30	<0.001	<0.005	0.0018	<0.005	0.00096	30	-	-	-	-	-
Cyanide (WAD)	mg/L	-	-	-	-	-	30	<0.001	<0.002	0.00075	<0.002	0.00025	30	-	-	-	-	-
Nutrients																		
Nitrate	mg-N/L	124	2.9	10	-	-	30	<0.005	<0.005	0.0083	0.14	0.025	26	-	-	-	-	-
Nitrite	mg-N/L	-	0.060	1.0	-	-	30	<0.001	<0.001	0.00056	0.0016	0.00023	28	-	-	-	-	-
Total ammonia	mg-N/L	-	0.85 - 6.5	-	-	-	30	<0.005	<0.005	0.0047	0.016	0.0037	20	-	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	30	<0.05	0.14	0.15	0.33	0.057	1	-	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	-	30	0.0030	0.004	0.0047	0.0090	0.0014	0	-	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	-	30	<0.001	0.002	0.0020	0.0041	0.00078	1	-	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	-	30	<0.001	<0.001	0.00060	0.0016	0.00030	27	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	30	2.1	2.3	2.3	2.5	0.11	0	-	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	-	30	2.0	2.2	2.3	2.5	0.15	0	-	-	-	-	-
Total Metals																		
Aluminum	µg/L	-	5.0 - 100	-	200	-	30	1.9	2.7	3.7	8.6	1.8	0	-	-	-	-	-
Antimony	µg/L	-	-	6.0	-	-	30	<0.02	<0.02	0.010	0.022	0.0022	29	-	-	-	-	-
Arsenic	µg/L	-	5.0	10	-	25	30	0.17	0.20	0.20	0.26	0.019	0	-	-	-	-	-
Barium	µg/L	-	-	1,000	-	-	30	7.0	7.5	7.5	7.9	0.22	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	30	<0.01	<0.01	0.0050	<0.01	0	30	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	30	<0.005	<0.01	0.0038	<0.01	0.0013	30	-	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	-	30	4.3	<5.0	4.4	8.0	2.1	15	-	-	-	-	-
Cadmium	µg/L	0.39 - 0.50	0.040 - 0.049	5.0	-	-	30	<0.005	<0.005	0.0047	0.035	0.0064	24	-	-	-	-	-
Chromium	µg/L	-	1.0	50	-	-	30	<0.06	<0.1	0.040	<0.1	0.010	30	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	30	<0.005	0.010	0.010	0.016	0.0036	5	-	-	-	-	-
Copper	µg/L	-	2	-	1,000	-	30	0.65	0.71	0.74	0.99	0.084	0	-	-	-	-	-
Iron	µg/L	-	300	-	300	1,060	30	6.8	11	12	35	5.1	0	-	-	-	-	-
Lead	µg/L	-	1	10	-	-	30	<0.01	<0.01	0.023	0.21	0.045	23	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	30	<0.5	<0.5	0.44	0.92	0.23	16	-	-	-	-	-
Manganese	µg/L	-	-	-	50	-	30	1.9	2.3	2.5	3.7	0.51	0	-	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	-	30	<0.0005	0.00060	0.00057	0.0011	0.00025	8	-	-	-	-	-
Molybdenum	µg/L	-	73	-	-	-	30	<0.05	0.062	0.059	0.11	0.021	6	-	-	-	-	-
Nickel	µg/L	-	25	-	-	-	30	0.27	0.37	0.38	0.98	0.12	0	-	-	-	-	-
Selenium	µg/L	-	1.0	50	-	-	30	<0.04	<0.04	0.024	0.050	0.0098	25	-	-	-	-	-
Silver	µg/L	-	0.25	-	-	-	30	<0.005	<0.005	0.0025	<0.005	0	30	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	30	29	31	31	33	1.1	0	-	-	-	-	-
Thallium	µg/L	-	0.80	-	-	-	30	<0.002	0.0021	0.0018	<0.005	0.00075	29	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	30	<0.02	<0.05	0.019	0.063	0.011	29	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	30	<0.1	0.34	0.18	<0.5	0.10	26	-	-	-	-	-
Uranium	µg/L	33	15	20	-	-	30	0.013	0.014	0.015	0.018	0.0013	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	30	<0.05	<0.05	0.025	<0.05	0	30	-	-	-	-	-
Zinc	µg/L	-	30	-	5,000	-	30	<0.5	<0.8	1.5	11	2.3	17	-	-	-	-	-
Dissolved Metals																		
Aluminum	µg/L	-	-	-	-	-	27	0.85	1.8	1.7	3.3	0.59	0	-	-	-	-	-
Antimony	µg/L	-	-	-	-	-	30	<0.02	<0.02	0.011	0.036	0.0052	28	-	-	-	-	-
Arsenic	µg/L	-	-	-	-	-	30	0.17	0.20	0.20	0.23	0.011	0	-	-	-	-	-
Barium	µg/L	-	-	-	-	-	30	6.8	7.3	7.2	7.6	0.21	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	30	<0.01	<0.01	0.0050	<0.01	0	30	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	30	<0.005	<0.01	0.0040	0.011	0.0018	29	-	-	-	-	-
Boron	µg/L	-	-	-	-	-	29	4.1	<10	5.3	<10	0.65	15	-	-	-	-	-
Cadmium	µg/L	-	-	-	-	-	30	<0.005	<0.005	0.0037	0.019	0.0035	26	-	-	-	-	-
Chromium	µg/L	-	-	-	-	-	30	<0.06	<0.1	0.055	0.15	0.031	24	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	30	0.0059	<0.01	0.013	0.038	0.011	15	-	-	-	-	-
Copper	µg/L	-	-	-	-	-	26	0.51	0.74	0.74	0.95	0.11	0	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	30	2.7	3.9	4.2	6.6	1.0	0	-	-	-	-	-
Lead	µg/L	-	-	-	-	-	30	<0.005	<0.01	0.011	0.053	0.011	15	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	30	<0.5	0.62	0.79	6.4	1.1	5	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	29	0.41	0.65	0.71	1.8	0.27	0	-	-	-	-	-
Mercury	µg/L	-	-	-	-	-	30	<0.0005	0.00075	0.00083	0.0020	0.00055	11	-	-	-	-	-
Molybdenum	µg/L	-	-	-	-	-	30	<0.05	0.071	0.077	0.16	0.032	2	-	-	-	-	-
Nickel	µg/L	-	-	-	-	-	30	0.19	0.36	0.36	0.52	0.060	0	-	-	-	-	-
Selenium	µg/L	-	-	-	-	-	30	<0.04	<0.04	0.025	0.053	0.011	24	-	-	-	-	-
Silver	µg/L	-	-	-	-	-	30	<0.005	<0.005	0.0025	<0.005	0	30	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	30	28	30	30	32	1.1	0	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	30	<0.002	0.0028	0.0020	0.0068	0.0012	26	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	30	<0.01	<0.05	0.031	0.17	0.032	20	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	30	<0.1	<0.3	0.10	<0.3	0.051	30	-	-	-	-	-
Uranium	µg/L	-	-	-	-	-	30	0.011	0.013	0.014	0.017	0.0014	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	30	<0.05	<0.05	0.025	<0.05	0	30	-	-	-	-	-
Zinc	µg/L	-	-	-	-	-	30	<0.5	0.85	1.6	9.8	2.1	13	-	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
$^{(S)}$ = concentration is higher than the aesthetic Health Canada guideline or outside the recommended pH range.
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

Table 3D.4: Field and Laboratory Statistical Summaries from MEL-04 (Reference area 2) Open-water Conditions, 2016 to 2017

Parameter	Unit	Guidelines for the protection of:					Open-Water											
		Aquatic Life		Drinking Water	Aesthetic	SSWQO	2016-2017											
		Acute	Chronic				Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	% Above Guideline				
														A	C	D	S	Q
Field Measured																		
pH	-	-	6.5 - 9.0	-	7.0 - 11	-	10	7.6	7.6	7.6	7.7	0.031	0	-	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	-	10	65	67	67	68	1.5	0	-	-	-	-	-
Temperature	°C	-	-	-	15	-	10	14	13.6	14	14	0.10	0	-	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	-	10	8.7	10.2	10	11	0.77	0	-	-	-	-	-
Dissolved oxygen	%	-	-	-	-	-	10	85	99	98	105	7.6	0	-	-	-	-	-
Secchi depth	m	-	-	-	-	-	10	7.4	8.8	8.7	11	1.1	0	-	-	-	-	-
Air temperature	deg c	-	-	-	-	-	5	14	15	15	16	0.84	0	-	-	-	-	-
Total depth	m	-	-	-	-	-	10	7.4	8.8	8.7	11	1.1	0	-	-	-	-	-
Conventional Parameters																		
pH	-	-	6.5 - 9.0	-	7.0 - 11	-	10	7.0	7.2	7.2	7.3	0.076	0	-	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	-	10	67	67	67	69	0.87	0	-	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	10	20	21	21	22	0.73	0	-	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	10	15	16	16	17	0.50	0	-	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	-	10	29	41	39	52	6.9	0	-	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	10	33	34	34	35	0.80	0	-	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	-	10	<1.0	<1.0	0.74	1.7	0.42	7	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	10	0.17	0.25	0.24	0.30	0.053	0	-	-	-	-	-
Major Ions																		
Bicarbonate	mg/L	-	-	-	-	-	10	18	19	19	21	0.60	0	-	-	-	-	-
Calcium	mg/L	-	-	-	-	-	10	6.2	6.4	6.4	6.7	0.16	0	-	-	-	-	-
Chloride	mg/L	640	120	-	250	-	10	7.9	8.1	8.0	8.2	0.15	0	-	-	-	-	-
Fluoride	mg/L	-	0.12	1.5	-	2.8	10	0.024	0.028	0.027	0.031	0.0022	0	-	-	-	-	-
Magnesium	mg/L	-	-	-	-	-	10	0.99	1.1	1.0	1.1	0.031	0	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	10	0.79	0.82	0.82	0.85	0.017	0	-	-	-	-	-
Sodium	mg/L	-	-	-	200	-	10	3.9	4.1	4.1	4.3	0.10	0	-	-	-	-	-
Sulphate	mg/L	-	-	-	500	-	10	3.3	3.5	3.5	3.9	0.20	0	-	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	-	10	0.19	0.22	0.22	0.26	0.035	0	-	-	-	-	-
Cyanide Species																		
Cyanide	mg/L	-	0.0050	0.20	-	-	10	<0.001	<0.002	0.00075	<0.002	0.00026	10	-	-	-	-	-
Cyanide (free)	mg/L	-	-	-	-	-	10	<0.001	<0.005	0.0015	<0.005	0.0011	10	-	-	-	-	-
Cyanide (WAD)	mg/L	-	-	-	-	-	10	<0.001	<0.002	0.00075	<0.002	0.00026	10	-	-	-	-	-
Nutrients																		
Nitrate	mg-N/L	124	2.9	10	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Nitrite	mg-N/L	-	0.060	1.0	-	-	10	<0.001	<0.001	0.00050	<0.001	0	10	-	-	-	-	-
Total ammonia	mg-N/L	-	1.3 - 1.7	-	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	10	<0.05	0.14	0.12	0.16	0.048	1	-	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	-	10	0.0031	0.004	0.0043	0.0079	0.0014	0	-	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	-	10	0.0012	0.002	0.0020	0.0027	0.00056	0	-	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	-	10	<0.001	<0.001	0.00066	0.0011	0.00026	7	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	10	2.1	2.3	2.2	2.4	0.12	0	-	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	-	10	2.1	2.2	2.2	2.3	0.067	0	-	-	-	-	-
Total Metals																		
Aluminum	µg/L	-	5.0 - 100	-	200	-	10	1.5	2.2	2.2	3.2	0.50	0	-	-	-	-	-
Antimony	µg/L	-	-	6.0	-	-	10	<0.02	<0.02	0.011	0.024	0.0044	9	-	-	-	-	-
Arsenic	µg/L	-	5.0	10	-	25	10	0.16	0.18	0.18	0.21	0.018	0	-	-	-	-	-
Barium	µg/L	-	-	1,000	-	-	10	7.2	7.6	7.5	7.8	0.21	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	10	<0.01	<0.01	0.0050	<0.01	0	10	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	10	<0.005	<0.01	0.0038	<0.01	0.0013	10	-	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	-	10	4.4	<5.0	4.5	7.3	2.2	5	-	-	-	-	-
Cadmium	µg/L	0.40 - 0.45	0.041 - 0.045	5.0	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Chromium	µg/L	-	1.0	50	-	-	10	<0.06	<0.1	0.040	<0.1	0.011	10	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	10	<0.005	0.011	0.011	0.037	0.0096	2	-	-	-	-	-
Copper	µg/L	-	2	-	1,000	-	10	0.65	0.69	0.71	0.84	0.059	0	-	-	-	-	-
Iron	µg/L	-	300	-	300	1,060	10	3.2	7.2	6.8	7.8	1.3	0	-	-	-	-	-
Lead	µg/L	-	1	10	-	-	10	<0.01	<0.01	0.0058	0.013	0.0025	9	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	10	<0.5	0.67	0.60	0.90	0.21	2	-	-	-	-	-
Manganese	µg/L	-	-	-	50	-	10	0.29	2.6	2.4	3.1	0.84	0	-	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	-	10	<0.0005	<0.0006	0.00048	0.00080	0.00023	5	-	-	-	-	-
Molybdenum	µg/L	-	73	-	-	-	10	0.051	0.065	0.065	0.074	0.0069	0	-	-	-	-	-
Nickel	µg/L	-	25	-	-	-	10	0.34	0.37	0.37	0.41	0.023	0	-	-	-	-	-
Selenium	µg/L	-	1.0	50	-	-	10	<0.04	<0.04	0.025	0.047	0.011	8	-	-	-	-	-
Silver	µg/L	-	0.25	-	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	10	29	31	31	32	1.1	0	-	-	-	-	-
Thallium	µg/L	-	0.80	-	-	-	10	<0.002	<0.005	0.0018	<0.005	0.00079	10	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	10	<0.02	<0.05	0.018	<0.05	0.0079	10	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	10	<0.1	<0.5	0.15	<0.5	0.11	10	-	-	-	-	-
Uranium	µg/L	33	15	20	-	-	10	0.011	0.014	0.014	0.017	0.0019	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	10	<0.05	<0.05	0.025	<0.05	0	10	-	-	-	-	-
Zinc	µg/L	-	30	-	5,000	-	10	<0.5	<0.8	0.80	2.5	0.77	7	-	-	-	-	-
Dissolved Metals																		
Aluminum	µg/L	-	-	-	-	-	10	0.78	1.4	1.3	2.7	0.55	0	-	-	-	-	-
Antimony	µg/L	-	-	-	-	-	10	<0.02	<0.02	0.014	0.034	0.0091	8	-	-	-	-	-
Arsenic	µg/L	-	-	-	-	-	10	0.18	0.19	0.20	0.28	0.030	0	-	-	-	-	-
Barium	µg/L	-	-	-	-	-	10	7.2	7.4	7.4	7.7	0.13	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	10	<0.01	<0.01	0.0050	<0.01	0	10	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	10	<0.005	<0.01	0.0038	<0.01	0.0013	10	-	-	-	-	-
Boron	µg/L	-	-	-	-	-	10	3.4	6.3	5.1	<10	0.81	5	-	-	-	-	-
Cadmium	µg/L	-	-	-	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Chromium	µg/L	-	-	-	-	-	10	<0.06	<0.1	0.040	<0.1	0.011	10	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	10	<0.01	0.012	0.016	0.035	0.013	5	-	-	-	-	-
Copper	µg/L	-	-	-	-	-	8	0.63	0.71	0.70	0.75	0.041	0	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	10	<1.0	3.1	2.9	7.5	2.0	1	-	-	-	-	-
Lead	µg/L	-	-	-	-	-	10	<0.005	<0.01	0.0067	0.032	0.0089	9	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	10	<0.5	0.73	0.65	0.78	0.17	1	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	10	0.061	0.43	0.61	2.3	0.66	0	-	-	-	-	-
Mercury	µg/L	-	-	-	-	-	10	<0.0005	0.00085	0.00087	0.0014	0.00048	3	-	-	-	-	-
Molybdenum	µg/L	-	-	-	-	-	10	0.058	0.072	0.072	0.097	0.011	0	-	-	-	-	-
Nickel	µg/L	-	-	-	-	-	8	0.34	0.39	0.40	0.47	0.047	0	-	-	-	-	-
Selenium	µg/L	-	-	-	-	-	10	<0.04	<0.04	0.022	0.041	0.0066	9	-	-	-	-	-
Silver	µg/L	-	-	-	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	10	28	31	31	32	0.86	0	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	10	<0.002	0.0021	0.0019	<0.005	0.00075	9	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	10	<0.01	<0.05	0.022	0.074	0.021	9	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	10	<0.1	<0.3	0.10	<0.3	0.053	10	-	-	-	-	-
Uranium	µg/L	-	-	-	-	-	10	<0.01	0.013	0.013	0.017	0.0034	1	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	10	<0.05	<0.05	0.025	<0.05	0	10	-	-	-	-	-
Zinc	µg/L	-	-	-	-	-	10	<0.5	<0.8	0.50	1.4	0.37	8	-	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

Table 3D.5: Field and Laboratory Statistical Summaries from MEL-05 (Reference area 3) Open-water Conditions, 2016 to 2017

Parameter	Unit	Guidelines for the protection of:					Open-Water											
		Aquatic Life		Drinking Water	Aesthetic	SSWQO	2016-2017											
		Acute	Chronic				Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	% Above Guideline				
														A	C	D	S	Q
Field Measured																		
pH	-	-	6.5 - 9.0	-	7.0 - 11	-	10	7.6	7.7	7.7	7.7	0.033	0	-	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	-	10	68	70	70	73	2.4	0	-	-	-	-	-
Temperature	°C	-	-	-	15	-	10	13	13.3	13	14	0.19	0	-	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	-	10	9.8	10.6	10	11	0.39	0	-	-	-	-	-
Dissolved oxygen	%	-	-	-	-	-	10	95	102	101	103	3.0	0	-	-	-	-	-
Secchi depth	m	-	-	-	-	-	10	7.8	8.6	8.8	10	0.74	0	-	-	-	-	-
Air temperature	deg c	-	-	-	-	-	5	13	13	14	15	1.1	0	-	-	-	-	-
Total depth	m	-	-	-	-	-	10	7.8	9.0	9.1	10	0.86	0	-	-	-	-	-
Conventional Parameters																		
pH	-	-	6.5 - 9.0	-	7.0 - 11	-	10	7.2	7.3	7.3	7.4	0.12	0	-	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	-	10	69	71	71	73	2.0	0	-	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	-	10	21	22	22	23	0.40	0	-	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	-	10	16	17	17	18	0.49	0	-	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	-	10	41	44	44	46	1.6	0	-	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	-	10	34	35	35	36	0.77	0	-	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	-	10	<1.0	<1.0	0.50	<1.0	0	10	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	10	0.21	0.25	0.25	0.27	0.020	0	-	-	-	-	-
Major Ions																		
Bicarbonate	mg/L	-	-	-	-	-	10	20	21	21	21	0.60	0	-	-	-	-	-
Calcium	mg/L	-	-	-	-	-	10	6.7	6.9	7.0	7.2	0.14	0	-	-	-	-	-
Chloride	mg/L	640	120	-	250	-	10	8.0	8.2	8.2	8.4	0.17	0	-	-	-	-	-
Fluoride	mg/L	-	0.12	1.5	-	2.8	10	0.023	0.026	0.026	0.028	0.0013	0	-	-	-	-	-
Magnesium	mg/L	-	-	-	-	-	10	1.1	1.1	1.1	1.2	0.024	0	-	-	-	-	-
Potassium	mg/L	-	-	-	-	-	10	0.80	0.86	0.86	0.92	0.048	0	-	-	-	-	-
Sodium	mg/L	-	-	-	200	-	10	4.2	4.3	4.3	4.3	0.028	0	-	-	-	-	-
Sulphate	mg/L	-	-	-	500	-	10	3.2	3.5	3.5	3.6	0.11	0	-	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	-	10	0.20	0.24	0.24	0.27	0.034	0	-	-	-	-	-
Cyanide Species																		
Cyanide	mg/L	-	0.0050	0.20	-	-	10	<0.001	<0.002	0.00075	<0.002	0.00026	10	-	-	-	-	-
Cyanide (free)	mg/L	-	-	-	-	-	10	<0.001	<0.005	0.0015	<0.005	0.0011	10	-	-	-	-	-
Cyanide (WAD)	mg/L	-	-	-	-	-	10	<0.001	<0.002	0.00075	<0.002	0.00026	10	-	-	-	-	-
Nutrients																		
Nitrate	mg-N/L	124	2.9	10	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Nitrite	mg-N/L	-	0.060	1.0	-	-	10	<0.001	<0.001	0.00050	<0.001	0	10	-	-	-	-	-
Total ammonia	mg-N/L	-	1.2 - 1.6	-	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	-	10	<0.05	0.11	0.092	0.16	0.054	3	-	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	-	10	0.0030	0.004	0.0042	0.0056	0.00093	0	-	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	-	10	0.0019	0.003	0.0026	0.0033	0.00044	0	-	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	-	10	<0.001	<0.001	0.00055	0.0010	0.00016	9	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	10	2.0	2.4	2.4	2.7	0.18	0	-	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	-	10	2.1	2.2	2.3	2.7	0.18	0	-	-	-	-	-
Total Metals																		
Aluminum	µg/L	-	5.0 - 100	-	200	-	10	1.8	1.9	2.2	3.0	0.49	0	-	-	-	-	-
Antimony	µg/L	-	-	6.0	-	-	10	<0.02	<0.02	0.010	<0.02	0	10	-	-	-	-	-
Arsenic	µg/L	-	5.0	10	-	25	10	0.22	0.25	0.24	0.28	0.019	0	-	-	-	-	-
Barium	µg/L	-	-	1,000	-	-	10	7.4	7.7	7.7	8.0	0.16	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	10	<0.01	<0.01	0.0050	<0.01	0	10	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	10	<0.005	<0.01	0.0038	<0.01	0.0013	10	-	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	-	10	<5.0	5.0	4.3	6.6	2.0	5	-	-	-	-	-
Cadmium	µg/L	0.44 - 0.46	0.044 - 0.046	5.0	-	-	10	<0.005	<0.005	0.0030	0.0077	0.0016	9	-	-	-	-	-
Chromium	µg/L	-	1.0	50	-	-	10	<0.06	<0.1	0.040	<0.1	0.011	10	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	10	<0.01	0.011	0.011	0.014	0.0025	1	-	-	-	-	-
Copper	µg/L	-	2	-	1,000	-	10	0.65	0.70	0.75	1.0	0.12	0	-	-	-	-	-
Iron	µg/L	-	300	-	300	1,060	10	6.6	7.6	7.4	8.0	0.45	0	-	-	-	-	-
Lead	µg/L	-	1	10	-	-	10	<0.01	<0.01	0.013	0.070	0.020	7	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	10	<0.5	0.60	0.55	0.93	0.23	3	-	-	-	-	-
Manganese	µg/L	-	-	-	50	-	10	2.4	2.8	2.8	3.3	0.28	0	-	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	-	10	<0.0005	<0.0005	0.00038	0.00070	0.00018	6	-	-	-	-	-
Molybdenum	µg/L	-	73	-	-	-	10	0.060	0.073	0.072	0.082	0.0065	0	-	-	-	-	-
Nickel	µg/L	-	25	-	-	-	10	0.31	0.37	0.38	0.50	0.050	0	-	-	-	-	-
Selenium	µg/L	-	1.0	50	-	-	10	<0.04	<0.04	0.029	0.049	0.012	6	-	-	-	-	-
Silver	µg/L	-	0.25	-	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	10	31	32	32	34	1.0	0	-	-	-	-	-
Thallium	µg/L	-	0.80	-	-	-	10	<0.002	<0.005	0.0018	<0.005	0.00079	10	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	10	<0.02	<0.05	0.018	<0.05	0.0079	10	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	10	<0.1	<0.5	0.15	<0.5	0.11	10	-	-	-	-	-
Uranium	µg/L	33	15	20	-	-	10	0.012	0.014	0.014	0.017	0.0018	0	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	10	<0.05	<0.05	0.025	<0.05	0	10	-	-	-	-	-
Zinc	µg/L	-	30	-	5,000	-	10	0.56	1.3	1.4	5.8	1.6	4	-	-	-	-	-
Dissolved Metals																		
Aluminum	µg/L	-	-	-	-	-	10	0.87	1.3	1.3	1.9	0.39	0	-	-	-	-	-
Antimony	µg/L	-	-	-	-	-	10	<0.02	<0.02	0.010	<0.02	0	10	-	-	-	-	-
Arsenic	µg/L	-	-	-	-	-	10	0.23	0.25	0.25	0.26	0.012	0	-	-	-	-	-
Barium	µg/L	-	-	-	-	-	10	7.4	7.6	7.5	7.7	0.11	0	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	10	<0.01	<0.01	0.0050	<0.01	0	10	-	-	-	-	-
Bismuth	µg/L	-	-	-	-	-	10	<0.005	<0.01	0.0038	<0.01	0.0013	10	-	-	-	-	-
Boron	µg/L	-	-	-	-	-	9	5.2	<10	5.5	<10	0.92	5	-	-	-	-	-
Cadmium	µg/L	-	-	-	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Chromium	µg/L	-	-	-	-	-	10	<0.06	<0.1	0.040	<0.1	0.011	10	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	10	<0.01	0.021	0.020	0.037	0.015	4	-	-	-	-	-
Copper	µg/L	-	-	-	-	-	10	0.60	0.68	0.69	0.78	0.063	0	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	10	<1.0	2.7	2.5	4.4	1.8	3	-	-	-	-	-
Lead	µg/L	-	-	-	-	-	10	0.0059	<0.01	0.0071	0.014	0.0033	5	-	-	-	-	-
Lithium	µg/L	-	-	-	-	-	10	<0.5	0.60	0.55	0.79	0.22	3	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	10	0.066	0.32	0.35	0.63	0.26	0	-	-	-	-	-
Mercury	µg/L	-	-	-	-	-	10	<0.0005	0.00050	0.00042	0.00060	0.00018	5	-	-	-	-	-
Molybdenum	µg/L	-	-	-	-	-	10	0.070	0.077	0.078	0.089	0.0074	0	-	-	-	-	-
Nickel	µg/L	-	-	-	-	-	6	0.31	0.31	0.34	0.47	0.064	0	-	-	-	-	-
Selenium	µg/L	-	-	-	-	-	10	<0.04	<0.04	0.027	0.047	0.012	7	-	-	-	-	-
Silver	µg/L	-	-	-	-	-	10	<0.005	<0.005	0.0025	<0.005	0	10	-	-	-	-	-
Strontium	µg/L	-	-	-	-	-	10	30	31	31	32	0.60	0	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	10	<0.002	0.0021	0.0019	<0.005	0.00075	9	-	-	-	-	-
Tin	µg/L	-	-	-	-	-	10	<0.01	<0.05	0.015	<0.05	0.011	10	-	-	-	-	-
Titanium	µg/L	-	-	-	-	-	10	<0.1	<0.3	0.10	<0.3	0.053	10	-	-	-	-	-
Uranium	µg/L	-	-	-	-	-	10	<0.01	0.014	0.0097	0.015	0.0050	5	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	10	<0.05	<0.05	0.025	<0.05	0	10	-	-	-	-	-
Zinc	µg/L	-	-	-	-	-	10	<0.8	0.80	0.76	1.4	0.42	5	-	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; - = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

Table 3D.6: Field and Laboratory Water Quality Statistical Summaries for Lake A8, Open-water Conditions 2015 to 2017

Parameter	Unit	Guidelines for the protection of:				Open-Water 2015-2017										
		Aquatic Life		Drinking Water	Aesthetic	Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	% Above Guideline			
		Acute	Chronic										A	C	D	S
Field Measured																
pH	-	-	6.5 - 9.0	-	7.0 - 11	15	7.6	8.2	8.1	8.4	0.22	0	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	15	183	289	280	306	32	0	-	-	-	-
Temperature	°C	-	-	-	15	15	12	14	14	15	0.80	0	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	15	7.6	9.8	9.7	11	0.96	0	-	-	-	-
Dissolved oxygen	%	-	-	-	-	15	79	96	96	107	9.0	0	-	-	-	-
Secchi depth	m	-	-	-	-	15	1.4	2.3	2.2	2.6	0.34	0	-	-	-	-
Air temperature	deg c	-	-	-	-	7	10	16	15	20	4.1	0	-	-	-	-
Total depth	m	-	-	-	-	15	1.4	2.3	2.2	2.7	0.35	0	-	-	-	-
Conventional Parameters																
pH	-	-	6.5 - 9.0	-	7.0 - 11	15	7.6	7.8	7.8	8.1	0.16	0	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	15	188	285	278	318	31	0	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	15	73	108	106	115	10	0	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	15	36	45	44	51	4.4	0	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	15	120	197	201	250	34	0	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	15	90	140	137	152	15	0	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	15	<1.0	<1.0	1.3	<5.0	1.0	11	-	-	-	-
Turbidity	NTU	-	-	-	-	15	0.36	0.50	0.54	1.2	0.22	0	-	-	-	-
Major Ions																
Bicarbonate	mg/L	-	-	-	-	15	44	54	54	62	5.3	0	-	-	-	-
Calcium	mg/L	-	-	-	-	15	24	36	35	38	3.3	0	-	-	-	-
Chloride	mg/L	640	120	-	250	15	28	57	54	61	8.8	0	-	-	-	-
Fluoride	mg/L	-	0.12	1.5	-	15	0.024	0.032	0.032	0.039	0.0042	0	-	-	-	-
Magnesium	mg/L	-	-	-	-	15	3.1	4.5	4.5	5.0	0.46	0	-	-	-	-
Potassium	mg/L	-	-	-	-	15	1.4	2.0	2.0	2.2	0.21	0	-	-	-	-
Sodium	mg/L	-	-	-	200	15	4.6	7.8	7.5	8.4	0.97	0	-	-	-	-
Sulphate	mg/L	-	-	-	500	15	4.6	6.6	7.0	8.6	1.0	0	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	15	<0.01	0.58	0.61	1.4	0.34	1	-	-	-	-
Cyanide Species																
Cyanide	mg/L	-	0.0050	0.20	-	15	<0.001	<0.002	0.00080	<0.002	0.00025	15	-	-	-	-
Cyanide (free)	mg/L	-	-	-	-	15	<0.001	<0.005	0.0021	<0.005	0.00083	15	-	-	-	-
Cyanide (WAD)	mg/L	-	-	-	-	15	<0.001	<0.002	0.00080	<0.002	0.00025	15	-	-	-	-
Nutrients																
Nitrate	mg-N/L	124	2.9	10	-	15	<0.005	<0.005	0.0043	0.017	0.0048	13	-	-	-	-
Nitrite	mg-N/L	-	0.060	1.0	-	15	<0.001	<0.001	0.00050	<0.001	0	15	-	-	-	-
Total ammonia	mg-N/L	-	0.26 - 1.8	-	-	15	<0.005	0.0050	0.0057	0.015	0.0039	7	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	15	0.21	0.31	0.32	0.44	0.057	0	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	15	0.0046	0.0062	0.0064	0.0097	0.0012	0	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	15	0.0017	0.0024	0.0024	0.0032	0.00045	0	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	15	<0.001	<0.001	0.00068	0.0013	0.00031	11	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	15	3.4	4.0	4.0	4.9	0.43	0	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	15	3.5	4.0	4.1	5.1	0.50	0	-	-	-	-
Total Metals																
Aluminum	µg/L	-	5.0 - 100	-	200	15	0.99	1.7	1.8	4.5	0.83	0	-	-	-	-
Antimony	µg/L	-	-	6.0	-	15	<0.02	<0.02	0.064	0.41	0.14	11	-	-	-	-
Arsenic	µg/L	-	5.0	10	-	15	1.5	2.1	2.1	2.5	0.25	0	-	-	-	-
Barium	µg/L	-	-	1,000	-	15	20	29	28	31	2.8	0	-	-	-	-
Beryllium	µg/L	-	-	-	-	15	<0.01	<0.01	0.0050	<0.01	0	15	-	-	-	-
Bismuth	µg/L	-	-	-	-	15	<0.005	<0.01	0.0040	<0.01	0.0013	15	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	15	2.5	<5.0	3.8	6.9	1.6	6	-	-	-	-
Cadmium	µg/L	1.5 - 2.4	0.12 - 0.18	5.0	-	15	<0.005	<0.005	0.0027	0.0051	0.00067	14	-	-	-	-
Chromium	µg/L	-	1.0	50	-	15	<0.06	<0.06	0.044	0.12	0.022	14	-	-	-	-
Cobalt	µg/L	-	-	-	-	15	0.017	0.033	0.033	0.051	0.011	0	-	-	-	-
Copper	µg/L	-	2.0 - 2.7	-	1,000	15	0.57	0.66	0.70	0.98	0.12	0	-	-	-	-
Iron	µg/L	-	300	-	300	15	15	46	44	72	17	0	-	-	-	-
Lead	µg/L	-	2.1 - 3.8	10	-	15	<0.01	<0.01	0.010	0.034	0.0097	11	-	-	-	-
Lithium	µg/L	-	-	-	-	15	6.0	9.9	9.4	11	1.3	0	-	-	-	-
Manganese	µg/L	-	-	-	50	15	0.61	8.8	8.5	13	3.6	0	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	15	<0.0005	0.00080	0.00077	0.0013	0.00031	2	-	-	-	-
Molybdenum	µg/L	-	73	-	-	15	0.16	0.21	0.20	0.23	0.024	0	-	-	-	-
Nickel	µg/L	-	75 - 106	-	-	15	0.77	0.81	0.83	0.94	0.056	0	-	-	-	-
Selenium	µg/L	-	1.0	50	-	15	<0.04	<0.04	0.020	<0.04	0	15	-	-	-	-
Silver	µg/L	-	0.25	-	-	15	<0.005	<0.005	0.0025	<0.005	0	15	-	-	-	-
Strontium	µg/L	-	-	-	-	15	152	257	244	270	32	0	-	-	-	-
Thallium	µg/L	-	0.80	-	-	15	0.0029	<0.005	0.0028	<0.005	0.00051	9	-	-	-	-
Tin	µg/L	-	-	-	-	15	<0.02	<0.05	0.020	<0.05	0.0077	14	-	-	-	-
Titanium	µg/L	-	-	-	-	15	<0.1	<0.1	0.13	<0.5	0.10	15	-	-	-	-
Uranium	µg/L	33	15	20	-	15	0.023	0.043	0.042	0.054	0.0099	0	-	-	-	-
Vanadium	µg/L	-	-	-	-	15	<0.05	<0.05	0.025	<0.05	0	15	-	-	-	-
Zinc	µg/L	-	30	-	5,000	15	<0.5	<0.8	0.80	2.8	0.67	9	-	-	-	-
Dissolved Metals																
Aluminum	µg/L	-	-	-	-	13	0.56	1.8	2.0	7.2	1.8	0	-	-	-	-
Antimony	µg/L	-	-	-	-	15	<0.02	<0.02	0.018	0.096	0.022	11	-	-	-	-
Arsenic	µg/L	-	-	-	-	15	1.6	1.8	1.8	2.3	0.21	0	-	-	-	-
Barium	µg/L	-	-	-	-	15	20	29	27	30	2.6	0	-	-	-	-
Beryllium	µg/L	-	-	-	-	15	<0.01	<0.01	0.0050	<0.01	0	15	-	-	-	-
Bismuth	µg/L	-	-	-	-	15	<0.005	<0.01	0.0043	0.010	0.0020	14	-	-	-	-
Boron	µg/L	-	-	-	-	14	2.7	5.5	4.7	<10	0.83	6	-	-	-	-
Cadmium	µg/L	-	-	-	-	15	<0.005	<0.005	0.0025	<0.005	0	15	-	-	-	-
Chromium	µg/L	-	-	-	-	15	<0.06	0.074	0.058	0.17	0.046	12	-	-	-	-
Cobalt	µg/L	-	-	-	-	15	0.012	0.019	0.027	0.058	0.015	0	-	-	-	-
Copper	µg/L	-	-	-	-	13	0.55	0.75	0.79	1.1	0.18	0	-	-	-	-
Iron	µg/L	-	-	-	-	13	2.2	19	17	29	8.7	0	-	-	-	-
Lead	µg/L	-	-	-	-	15	0.0092	0.014	0.038	0.23	0.065	6	-	-	-	-
Lithium	µg/L	-	-	-	-	15	5.7	9.7	9.2	10	1.3	0	-	-	-	-
Manganese	µg/L	-	-	-	-	13	0.064	1.1	1.2	2.9	0.90	0	-	-	-	-
Mercury	µg/L	-	-	-	-	15	<0.0005	0.00050	0.00059	0.0011	0.00034	6	-	-	-	-
Molybdenum	µg/L	-	-	-	-	15	0.16	0.21	0.21	0.29	0.038	0	-	-	-	-
Nickel	µg/L	-	-	-	-	15	0.71	0.81	0.83	1.2	0.11	0	-	-	-	-
Selenium	µg/L	-	-	-	-	15	<0.04	<0.04	0.020	<0.04	0	15	-	-	-	-
Silver	µg/L	-	-	-	-	15	<0.005	<0.005	0.0025	<0.005	0	15	-	-	-	-
Strontium	µg/L	-	-	-	-	15	141	251	240	271	34	0	-	-	-	-
Thallium	µg/L	-	-	-	-	15	0.0037	<0.005	0.0031	<0.005	0.00080	9	-	-	-	-
Tin	µg/L	-	-	-	-	15	<0.01	<0.05	0.019	<0.05	0.0086	12	-	-	-	-
Titanium	µg/L	-	-	-	-	15	<0.1	<0.1	0.090	<0.3	0.051	15	-	-	-	-
Uranium	µg/L	-	-	-	-	15	0.022	0.044	0.043	0.056	0.010	0	-	-	-	-
Vanadium	µg/L	-	-	-	-	15	<0.05	<0.05	0.031	0.083	0.016	13	-	-	-	-
Zinc	µg/L	-	-	-	-	15	0.71	<0.8	2.4	16	4.2	8	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; - = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

Table 3D.7: Field and Laboratory Water Quality Statistical Summaries for Lake B7, Open-water Conditions 2015 to 2017

Parameter	Unit	Guidelines for the protection of:				Open-Water 2015-2017										
		Aquatic Life		Drinking Water	Aesthetic	Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	% Above Guideline			
		Acute	Chronic										A	C	D	S
Field Measured																
pH	-	-	6.5 - 9.0	-	7.0 - 11	16	7.2	7.9	7.9	8.3	0.31	0	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	16	149	159	158	167	5.5	0	-	-	-	-
Temperature	°C	-	-	-	15	16	9	12	12	14	1.9	0	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	16	**6.3**[(C)]	9.8	9.8	12	1.6	0	-	6.0	-	-
Dissolved oxygen	%	-	-	-	-	16	61	96	92	106	14	0	-	-	-	-
Secchi depth	m	-	-	-	-	16	1.3	1.9	1.8	2.3	0.32	0	-	-	-	-
Air temperature	deg c	-	-	-	-	7	10	10	10	10	0	0	-	-	-	-
Total depth	m	-	-	-	-	16	1.3	1.9	1.8	2.3	0.32	0	-	-	-	-
Conventional Parameters																
pH	-	-	6.5 - 9.0	-	7.0 - 11	16	7.4	7.6	7.7	8.1	0.19	0	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	16	161	163	163	166	1.8	0	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	16	60	63	64	69	2.6	0	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	16	32	37	36	38	1.7	0	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	16	95	108	107	120	8.3	0	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	16	77	80	80	82	1.7	0	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	16	<1.0	1.1	1.4	<5.0	0.87	10	-	-	-	-
Turbidity	NTU	-	-	-	-	16	0.32	0.43	0.44	0.64	0.084	0	-	-	-	-
Major Ions																
Bicarbonate	mg/L	-	-	-	-	16	39	45	44	46	2.1	0	-	-	-	-
Calcium	mg/L	-	-	-	-	16	20	21	22	23	1.2	0	-	-	-	-
Chloride	mg/L	640	120	-	250	16	20	24	23	26	1.8	0	-	-	-	-
Fluoride	mg/L	-	0.12	1.5	-	16	<0.02	0.031	0.028	0.037	0.0081	2	-	-	-	-
Magnesium	mg/L	-	-	-	-	16	2.3	2.4	2.4	2.6	0.082	0	-	-	-	-
Potassium	mg/L	-	-	-	-	16	1.2	1.3	1.3	1.4	0.050	0	-	-	-	-
Sodium	mg/L	-	-	-	200	16	3.4	3.9	3.9	4.4	0.25	0	-	-	-	-
Sulphate	mg/L	-	-	-	500	16	4.1	4.6	4.7	6.0	0.64	0	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	16	0.30	0.83	0.72	1.1	0.31	0	-	-	-	-
Cyanide Species																
Cyanide	mg/L	-	0.0050	0.20	-	16	<0.001	<0.002	0.00081	<0.002	0.00025	16	-	-	-	-
Cyanide (free)	mg/L	-	-	-	-	16	<0.001	<0.005	0.0021	<0.005	0.00081	16	-	-	-	-
Cyanide (WAD)	mg/L	-	-	-	-	16	<0.001	<0.002	0.00081	<0.002	0.00025	16	-	-	-	-
Nutrients																
Nitrate	mg-N/L	124	2.9	10	-	16	<0.005	<0.005	0.0038	0.018	0.0040	14	-	-	-	-
Nitrite	mg-N/L	-	0.060	1.0	-	16	<0.001	<0.001	0.00050	<0.001	0	16	-	-	-	-
Total ammonia	mg-N/L	-	0.35 - 5.0	-	-	16	<0.005	0.0061	0.0093	0.042	0.011	7	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	16	0.25	0.33	0.34	0.46	0.064	0	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	16	0.0056	0.0065	0.0067	0.0094	0.0011	0	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	16	0.0015	0.0025	0.0025	0.0036	0.00067	0	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	16	<0.001	<0.001	0.00059	0.0013	0.00026	14	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	16	4.8	5.3	8.2	53	12	0	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	16	2.9	5.2	5.1	5.6	0.61	0	-	-	-	-
Total Metals																
Aluminum	µg/L	-	5.0 - 100	-	200	16	1.3	1.8	2.9	12	2.6	0	-	-	-	-
Antimony	µg/L	-	-	6.0	-	16	<0.02	<0.02	0.010	<0.02	0	16	-	-	-	-
Arsenic	µg/L	-	5.0	10	-	16	1.3	1.4	1.5	2.0	0.21	0	-	-	-	-
Barium	µg/L	-	-	1,000	-	16	18	19	19	20	0.73	0	-	-	-	-
Beryllium	µg/L	-	-	-	-	16	<0.01	<0.01	0.0050	<0.01	0	16	-	-	-	-
Bismuth	µg/L	-	-	-	-	16	<0.005	<0.01	0.0041	<0.01	0.0013	16	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	16	3.6	<5.0	4.8	8.4	2.3	6	-	-	-	-
Cadmium	µg/L	1.3 - 1.4	0.10 - 0.12	5.0	-	16	<0.005	<0.005	0.0038	0.019	0.0042	14	-	-	-	-
Chromium	µg/L	-	1.0	50	-	16	<0.06	<0.06	0.038	<0.1	0.010	16	-	-	-	-
Cobalt	µg/L	-	-	-	-	16	0.034	0.039	0.052	0.23	0.048	0	-	-	-	-
Copper	µg/L	-	2	-	1,000	16	0.59	0.71	0.74	1.1	0.15	0	-	-	-	-
Iron	µg/L	-	300	-	300	16	55	74	77	110	19	0	-	-	-	-
Lead	µg/L	-	1.7 - 2.0	10	-	16	<0.01	0.011	0.019	0.086	0.026	8	-	-	-	-
Lithium	µg/L	-	-	-	-	16	3.9	5.3	5.6	12	1.9	0	-	-	-	-
Manganese	µg/L	-	-	-	50	16	4.1	6.4	6.5	9.5	1.9	0	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	16	<0.0005	0.00065	0.00078	0.0021	0.00052	3	-	-	-	-
Molybdenum	µg/L	-	73	-	-	16	0.13	0.17	0.16	0.21	0.020	0	-	-	-	-
Nickel	µg/L	-	65 - 72	-	-	16	0.81	0.92	0.99	1.5	0.19	0	-	-	-	-
Selenium	µg/L	-	1.0	50	-	16	<0.04	<0.04	0.025	0.049	0.0099	13	-	-	-	-
Silver	µg/L	-	0.25	-	-	16	<0.005	<0.005	0.0027	0.0062	0.00093	15	-	-	-	-
Strontium	µg/L	-	-	-	-	16	136	147	146	156	6.8	0	-	-	-	-
Thallium	µg/L	-	0.80	-	-	16	0.0027	<0.005	0.0031	0.0064	0.0011	8	-	-	-	-
Tin	µg/L	-	-	-	-	16	<0.02	<0.05	0.023	0.078	0.016	15	-	-	-	-
Titanium	µg/L	-	-	-	-	16	<0.1	0.12	0.15	<0.5	0.11	14	-	-	-	-
Uranium	µg/L	33	15	20	-	16	0.020	0.026	0.026	0.029	0.0025	0	-	-	-	-
Vanadium	µg/L	-	-	-	-	16	<0.05	<0.05	0.027	0.050	0.0063	15	-	-	-	-
Zinc	µg/L	-	30	-	5,000	16	0.54	<0.8	3.7	**40**[(C)]	9.9	9	-	6.0	-	-
Dissolved Metals																
Aluminum	µg/L	-	-	-	-	16	0.73	1.4	1.7	3.8	0.96	0	-	-	-	-
Antimony	µg/L	-	-	-	-	16	<0.02	<0.02	0.012	0.036	0.0065	15	-	-	-	-
Arsenic	µg/L	-	-	-	-	16	1.2	1.3	1.3	1.5	0.11	0	-	-	-	-
Barium	µg/L	-	-	-	-	16	17	18	18	20	0.70	0	-	-	-	-
Beryllium	µg/L	-	-	-	-	16	<0.01	<0.01	0.0050	<0.01	0	16	-	-	-	-
Bismuth	µg/L	-	-	-	-	16	<0.005	<0.01	0.0041	<0.01	0.0013	16	-	-	-	-
Boron	µg/L	-	-	-	-	16	2.7	6.7	6.0	19	3.7	5	-	-	-	-
Cadmium	µg/L	-	-	-	-	16	<0.005	<0.005	0.0025	<0.005	0	16	-	-	-	-
Chromium	µg/L	-	-	-	-	16	<0.06	<0.1	0.082	0.19	0.063	10	-	-	-	-
Cobalt	µg/L	-	-	-	-	16	0.017	0.022	0.030	0.064	0.014	0	-	-	-	-
Copper	µg/L	-	-	-	-	9	0.65	0.84	0.86	1.2	0.18	0	-	-	-	-
Iron	µg/L	-	-	-	-	16	22	34	33	51	7.1	0	-	-	-	-
Lead	µg/L	-	-	-	-	15	<0.01	0.019	0.036	0.24	0.058	3	-	-	-	-
Lithium	µg/L	-	-	-	-	16	4.5	5.3	5.6	12	1.9	0	-	-	-	-
Manganese	µg/L	-	-	-	-	16	0.74	0.92	1.5	5.6	1.3	0	-	-	-	-
Mercury	µg/L	-	-	-	-	16	<0.0005	0.00060	0.00051	0.00070	0.00016	4	-	-	-	-
Molybdenum	µg/L	-	-	-	-	16	0.14	0.17	0.18	0.27	0.039	0	-	-	-	-
Nickel	µg/L	-	-	-	-	16	0.82	0.89	0.91	1.1	0.078	0	-	-	-	-
Selenium	µg/L	-	-	-	-	16	<0.04	<0.04	0.020	<0.04	0	16	-	-	-	-
Silver	µg/L	-	-	-	-	16	<0.005	<0.005	0.0025	<0.005	0	16	-	-	-	-
Strontium	µg/L	-	-	-	-	16	129	142	142	154	7.9	0	-	-	-	-
Thallium	µg/L	-	-	-	-	16	0.0026	<0.005	0.0028	<0.005	0.00044	10	-	-	-	-
Tin	µg/L	-	-	-	-	16	<0.01	<0.05	0.025	0.088	0.019	13	-	-	-	-
Titanium	µg/L	-	-	-	-	16	<0.1	<0.1	0.088	<0.3	0.050	16	-	-	-	-
Uranium	µg/L	-	-	-	-	16	0.019	0.027	0.027	0.032	0.0029	0	-	-	-	-
Vanadium	µg/L	-	-	-	-	16	<0.05	<0.05	0.025	<0.05	0	16	-	-	-	-
Zinc	µg/L	-	-	-	-	16	<0.5	<0.8	0.91	3.2	0.84	10	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
[(C)] = concentration is higher than the chronic aquatic life CCME guideline or outside the recommended pH, DO or total alkalinity range.
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

Table 3D.8: Field and Laboratory Water Quality Statistical Summaries for Lake D7, Open-water Conditions 2015 to 2017

Parameter	Unit	Guidelines for the protection of:				Open-Water 2015-2017										
		Aquatic Life		Drinking Water	Aesthetic	Count	Minimum	Median	Mean	Maximum	Standard Deviation	N.D.	% Above Guideline			
		Acute	Chronic										A	C	D	S
Field Measured																
pH	-	-	6.5 - 9.0	-	7.0 - 11	15	7.8	8.3	8.2	8.4	0.16	0	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	15	110	147	141	154	16	0	-	-	-	-
Temperature	°C	-	-	-	15	15	12	13	13	15	0.86	0	-	-	-	-
Dissolved oxygen	mg/L	-	6.5	-	-	15	**6.2**[(C)]	11	9.7	11	1.9	0	-	20	-	-
Dissolved oxygen	%	-	-	-	-	15	62	103	95	108	17	0	-	-	-	-
Secchi depth	m	-	-	-	-	15	1.7	1.9	1.9	2.3	0.14	0	-	-	-	-
Air temperature	deg c	-	-	-	-	3	8.0	9.0	9.0	10	1.0	0	-	-	-	-
Total depth	m	-	-	-	-	15	1.7	1.9	1.9	2.3	0.14	0	-	-	-	-
Conventional Parameters																
pH	-	-	6.5 - 9.0	-	7.0 - 11	15	7.3	7.8	7.8	8.2	0.30	0	-	-	-	-
Specific conductivity	µS/cm	-	-	-	-	15	111	146	142	160	17	0	-	-	-	-
Hardness, as $CaCO_3$	mg/L	-	-	-	-	15	41	52	51	58	5.1	0	-	-	-	-
Total alkalinity, as $CaCO_3$	mg/L	-	-	-	-	15	38	52	50	55	6.1	0	-	-	-	-
Total dissolved solids	mg/L	-	-	-	500	15	52	90	87	103	15	0	-	-	-	-
Total dissolved solids (calculated)	mg/L	-	-	-	500	15	56	75	73	81	8.5	0	-	-	-	-
Total suspended solids	mg/L	-	-	-	-	15	<1.0	<1.0	0.97	<3.0	0.58	11	-	-	-	-
Turbidity	NTU	-	-	-	-	15	0.41	0.82	0.76	1.0	0.19	0	-	-	-	-
Major Ions																
Bicarbonate	mg/L	-	-	-	-	15	46	63	60	68	7.5	0	-	-	-	-
Calcium	mg/L	-	-	-	-	15	13	16	15	17	1.4	0	-	-	-	-
Chloride	mg/L	640	120	-	250	15	8.6	12	11	12	1.3	0	-	-	-	-
Fluoride	mg/L	-	0.12	1.5	-	15	0.030	0.043	0.041	0.052	0.0061	0	-	-	-	-
Magnesium	mg/L	-	-	-	-	15	2.2	2.9	2.8	3.4	0.35	0	-	-	-	-
Potassium	mg/L	-	-	-	-	15	1.00	1.3	1.3	1.5	0.16	0	-	-	-	-
Sodium	mg/L	-	-	-	200	15	5.9	8.0	7.7	8.7	0.94	0	-	-	-	-
Sulphate	mg/L	-	-	-	500	15	2.9	4.3	4.2	5.2	0.78	0	-	-	-	-
Silica	mg/L	-	-	-	-	3	0.17	0.18	0.18	0.19	0.0098	0	-	-	-	-
Reactive silica, as SiO2	mg/L	-	-	-	-	12	0.13	0.21	0.21	0.28	0.071	0	-	-	-	-
Cyanide Species																
Cyanide	mg/L	-	0.0050	0.20	-	15	<0.001	<0.002	0.0011	<0.005	0.00076	15	-	-	-	-
Cyanide (free)	mg/L	-	-	-	-	15	<0.001	<0.005	0.0021	<0.005	0.00083	15	-	-	-	-
Cyanide (WAD)	mg/L	-	-	-	-	15	<0.001	<0.002	0.0011	<0.005	0.00076	15	-	-	-	-
Nutrients																
Nitrate	mg-N/L	124	2.9	10	-	15	<0.005	<0.005	0.0025	<0.005	0	15	-	-	-	-
Nitrite	mg-N/L	-	0.060	1.0	-	15	<0.001	<0.001	0.00050	<0.001	0	15	-	-	-	-
Total ammonia	mg-N/L	-	0.31 - 1.1	-	-	15	<0.005	0.0064	0.0060	0.012	0.0023	3	-	-	-	-
Total Kjeldahl nitrogen	mg-N/L	-	-	-	-	15	0.24	0.35	0.34	0.45	0.056	0	-	-	-	-
Total phosphorus	mg-P/L	-	-	-	-	15	0.011	0.013	0.014	0.033	0.0052	0	-	-	-	-
Dissolved phosphorus	mg-P/L	-	-	-	-	15	0.0024	0.0040	0.0042	0.0064	0.0011	0	-	-	-	-
Orthophosphate	mg-P/L	-	-	-	-	15	<0.001	0.0012	0.0013	0.0042	0.0010	7	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	15	3.4	4.8	4.6	5.2	0.63	0	-	-	-	-
Dissolved organic carbon	mg/L	-	-	-	-	15	1.9	4.5	4.3	5.1	0.82	0	-	-	-	-
Total Metals																
Aluminum	µg/L	-	5.0 - 100	-	200	15	3.1	5.1	5.2	7.1	1.0	0	-	-	-	-
Antimony	µg/L	-	-	6.0	-	15	<0.02	<0.02	0.013	0.035	0.0074	13	-	-	-	-
Arsenic	µg/L	-	5.0	10	-	15	0.90	1.0	1.0	1.2	0.086	0	-	-	-	-
Barium	µg/L	-	-	1,000	-	15	15	16	16	17	0.71	0	-	-	-	-
Beryllium	µg/L	-	-	-	-	15	<0.01	<0.01	0.0050	<0.01	0	15	-	-	-	-
Bismuth	µg/L	-	-	-	-	15	<0.005	<0.01	0.0040	<0.01	0.0013	15	-	-	-	-
Boron	µg/L	29,000	1,500	5,000	-	15	9.0	13	13	18	2.7	0	-	-	-	-
Cadmium	µg/L	0.85 - 1.2	0.076 - 0.10	5.0	-	15	<0.005	<0.005	0.0031	0.011	0.0021	14	-	-	-	-
Chromium	µg/L	-	1.0	50	-	15	<0.06	<0.06	0.040	<0.1	0.012	14	-	-	-	-
Cobalt	µg/L	-	-	-	-	15	0.035	0.044	0.043	0.047	0.0044	0	-	-	-	-
Copper	µg/L	-	2	-	1,000	15	0.58	0.75	0.79	1.2	0.17	0	-	-	-	-
Iron	µg/L	-	300	-	300	15	42	52	68	127	31	0	-	-	-	-
Lead	µg/L	-	1	10	-	15	<0.01	<0.01	0.0091	0.023	0.0060	10	-	-	-	-
Lithium	µg/L	-	-	-	-	15	1.2	1.6	1.6	2.0	0.24	0	-	-	-	-
Manganese	µg/L	-	-	-	50	15	8.4	10	11	13	1.4	0	-	-	-	-
Mercury	µg/L	-	0.026	1.0	-	15	<0.0005	0.00070	0.00069	0.0011	0.00021	1	-	-	-	-
Molybdenum	µg/L	-	73	-	-	15	0.24	0.43	0.39	0.48	0.083	0	-	-	-	-
Nickel	µg/L	-	25	-	-	15	0.54	0.65	0.65	0.80	0.069	0	-	-	-	-
Selenium	µg/L	-	1.0	50	-	15	<0.04	0.043	0.038	0.059	0.016	6	-	-	-	-
Silver	µg/L	-	0.25	-	-	15	<0.005	<0.005	0.0025	<0.005	0	15	-	-	-	-
Strontium	µg/L	-	-	-	-	15	55	78	74	82	9.6	0	-	-	-	-
Thallium	µg/L	-	0.80	-	-	15	<0.002	<0.005	0.0022	<0.005	0.00087	13	-	-	-	-
Tin	µg/L	-	-	-	-	15	<0.02	<0.05	0.019	<0.05	0.0076	15	-	-	-	-
Titanium	µg/L	-	-	-	-	15	0.14	0.28	0.24	<0.5	0.071	6	-	-	-	-
Uranium	µg/L	33	15	20	-	15	0.056	0.081	0.081	0.10	0.014	0	-	-	-	-
Vanadium	µg/L	-	-	-	-	15	<0.05	0.057	0.055	0.070	0.013	2	-	-	-	-
Zinc	µg/L	-	30	-	5,000	15	0.57	<0.8	0.90	<3.0	0.79	10	-	-	-	-
Dissolved Metals																
Aluminum	µg/L	-	-	-	-	15	1.6	2.0	2.7	5.7	1.2	0	-	-	-	-
Antimony	µg/L	-	-	-	-	15	<0.02	<0.02	0.015	0.047	0.012	12	-	-	-	-
Arsenic	µg/L	-	-	-	-	15	0.79	0.87	0.87	0.97	0.060	0	-	-	-	-
Barium	µg/L	-	-	-	-	15	15	16	16	16	0.44	0	-	-	-	-
Beryllium	µg/L	-	-	-	-	15	<0.01	<0.01	0.0050	<0.01	0	15	-	-	-	-
Bismuth	µg/L	-	-	-	-	15	<0.005	<0.01	0.0044	0.011	0.0022	14	-	-	-	-
Boron	µg/L	-	-	-	-	15	10	12	12	16	1.9	0	-	-	-	-
Cadmium	µg/L	-	-	-	-	15	<0.005	<0.005	0.0025	<0.005	0	15	-	-	-	-
Chromium	µg/L	-	-	-	-	15	<0.06	<0.1	0.079	0.19	0.055	9	-	-	-	-
Cobalt	µg/L	-	-	-	-	15	0.012	0.018	0.030	0.065	0.020	0	-	-	-	-
Copper	µg/L	-	-	-	-	9	0.56	0.79	0.80	1.1	0.19	0	-	-	-	-
Iron	µg/L	-	-	-	-	15	12	16	23	47	13	0	-	-	-	-
Lead	µg/L	-	-	-	-	15	0.0081	<0.01	0.023	0.17	0.041	7	-	-	-	-
Lithium	µg/L	-	-	-	-	15	1.3	1.6	1.6	1.9	0.19	0	-	-	-	-
Manganese	µg/L	-	-	-	-	15	0.51	0.74	1.3	5.7	1.4	0	-	-	-	-
Mercury	µg/L	-	-	-	-	15	<0.0005	0.00090	0.0011	0.0026	0.00083	3	-	-	-	-
Molybdenum	µg/L	-	-	-	-	15	0.25	0.40	0.39	0.52	0.091	0	-	-	-	-
Nickel	µg/L	-	-	-	-	15	0.54	0.62	0.62	0.69	0.042	0	-	-	-	-
Selenium	µg/L	-	-	-	-	15	<0.04	<0.04	0.034	0.067	0.016	8	-	-	-	-
Silicon	µg/L	-	-	-	-	6	64	78	79	94	11	0	-	-	-	-
Silver	µg/L	-	-	-	-	15	<0.005	<0.005	0.0025	<0.005	0	15	-	-	-	-
Strontium	µg/L	-	-	-	-	15	55	72	70	78	7.8	0	-	-	-	-
Thallium	µg/L	-	-	-	-	15	<0.002	<0.005	0.0028	0.013	0.0029	12	-	-	-	-
Tin	µg/L	-	-	-	-	15	<0.01	<0.05	0.019	<0.05	0.0084	12	-	-	-	-
Titanium	µg/L	-	-	-	-	15	<0.1	<0.1	0.090	<0.3	0.051	15	-	-	-	-
Uranium	µg/L	-	-	-	-	15	0.047	0.082	0.081	0.10	0.019	0	-	-	-	-
Vanadium	µg/L	-	-	-	-	15	<0.05	<0.05	0.027	0.052	0.0070	14	-	-	-	-
Zinc	µg/L	-	-	-	-	15	<0.5	<0.8	0.68	1.5	0.45	10	-	-	-	-

Notes:
Concentrations greater than relevant water quality guidelines or objectives are bolded and identified based on the following:
[(C)] = concentration is higher than the chronic aquatic life CCME guideline or outside the recommended pH, DO or total alkalinity range.
Water quality data and guidelines shown in this table were rounded to reflect laboratory or field instrument precision after comparisons to guidelines. Therefore, values slightly above guidelines may be displayed as being equal to the guidelines and identified as exceedances. Measured concentrations equal to the guideline values were not identified as exceedances.
SSWQO = draft site specific water quality objectives; % = percent; = no guideline or data; µS/cm = microSiemens per centimetre; °C = degrees Celsius; mg/L = milligrams per litre; % = percent; m = metre; CaCO3 = calcium carbonate; < = less than; NTU = nephelometric turbidity units; SiO2 = silicon dioxide; WAD = weak acid dissociable; mg N/L = milligrams of nitrogen per litre; mg P/L = milligrams of phosphorus per litre; µg/L = micrograms per litre; CCME = Canadian Council of Ministers of the Environment; Golder = Golder Associates
N.D. = number of samples with non-detectable results

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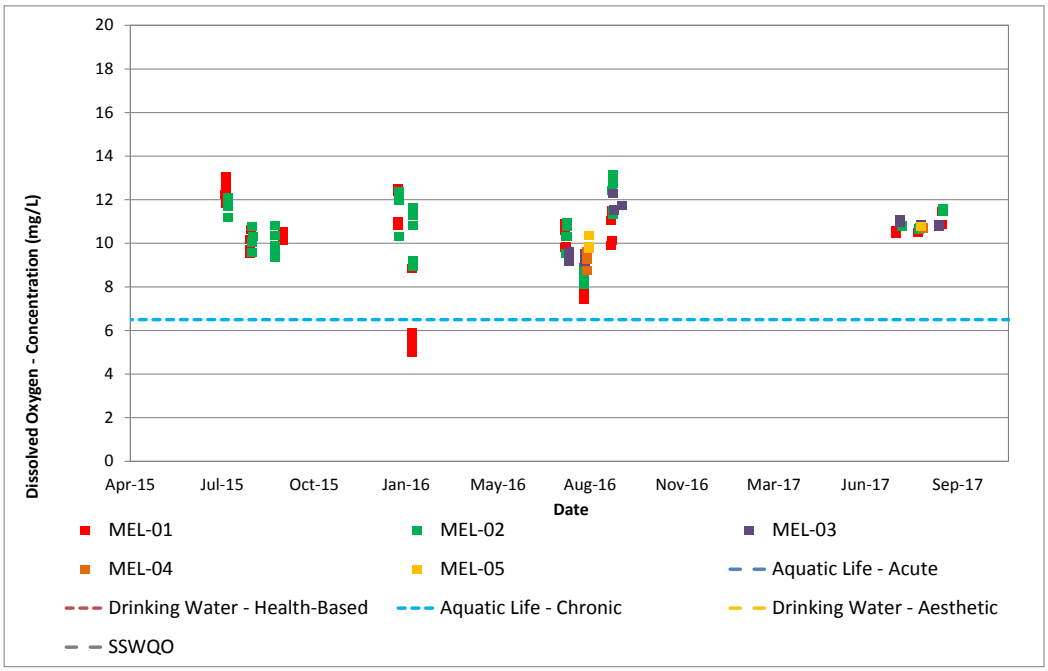
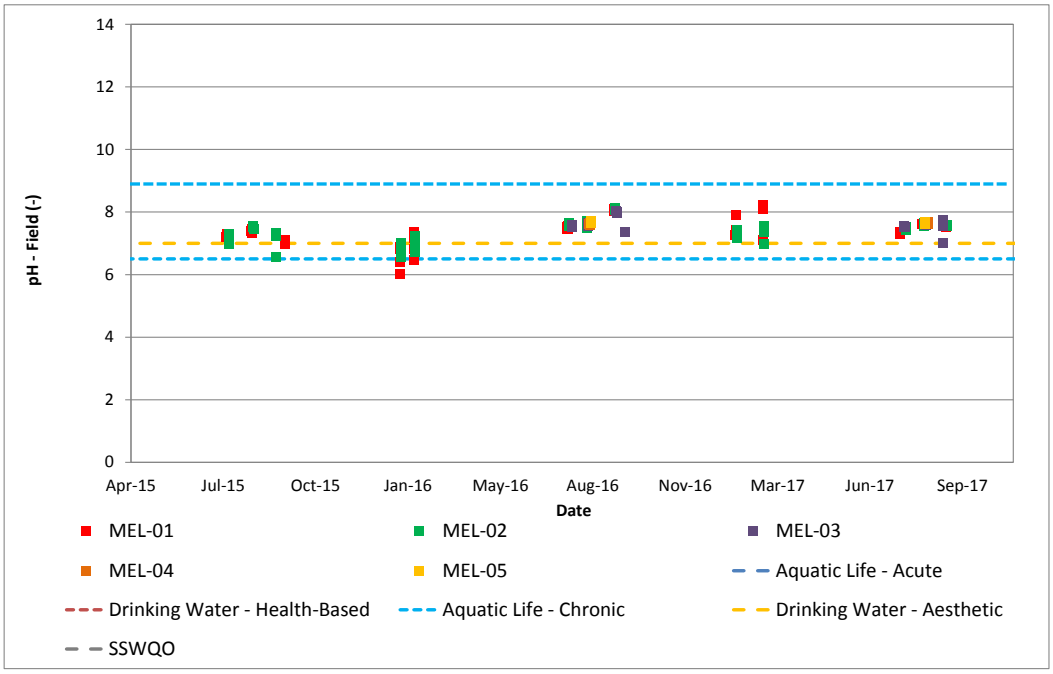
3E1.0 MELIADINE LAKE

3E1.1 Field-measured Parameters



mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

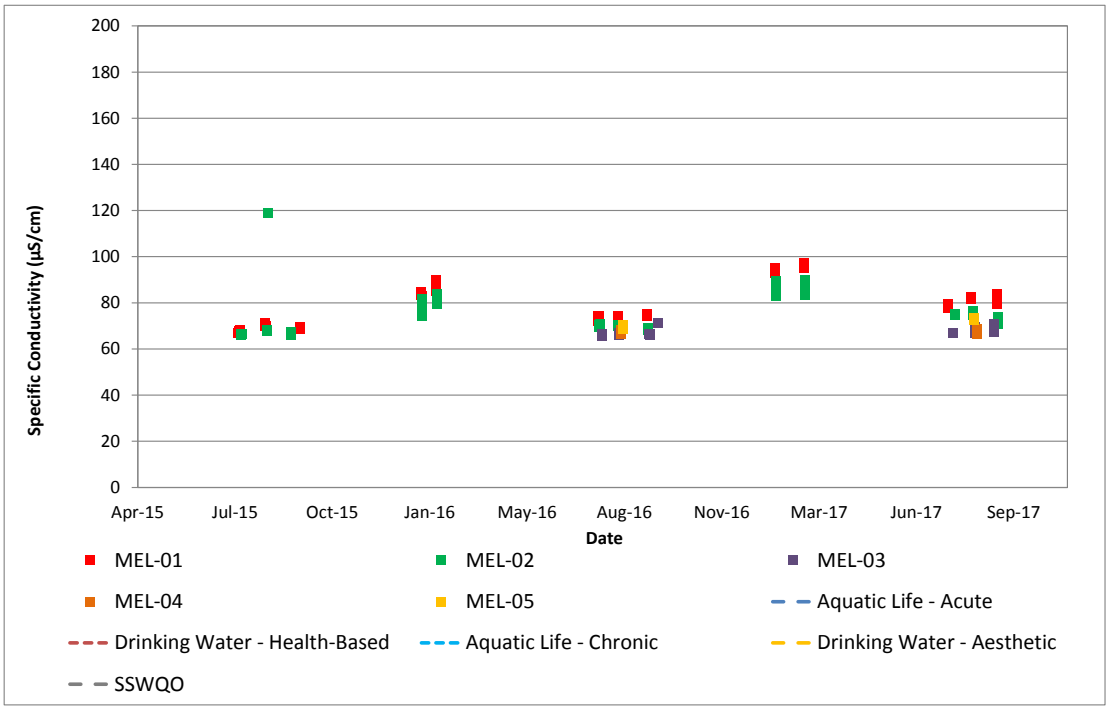
Figure 3E.1-1a: Dissolved Oxygen Concentrations Measured at Meliadine Lake Stations between 2015 and 2017



SSWQO = site-specific Water Quality Objectives.

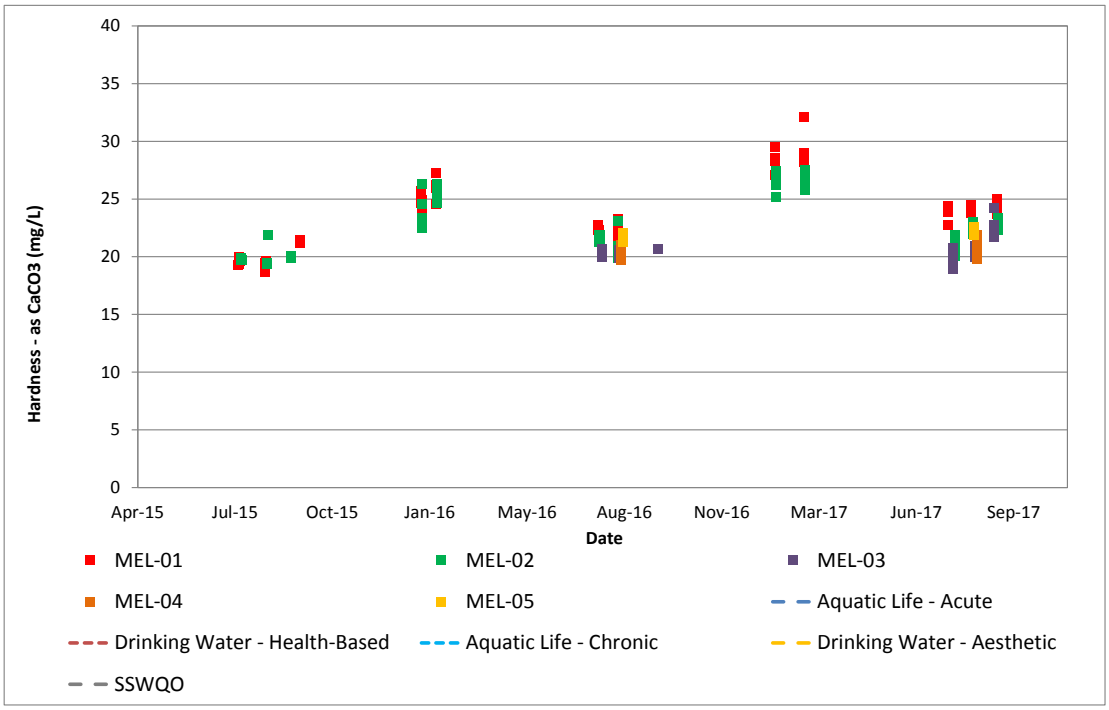
Figure 3E.1-1b: Field pH Measurements at Meliadine Lake Stations between 2015 and 2017

3E1.2 Conventional Parameters



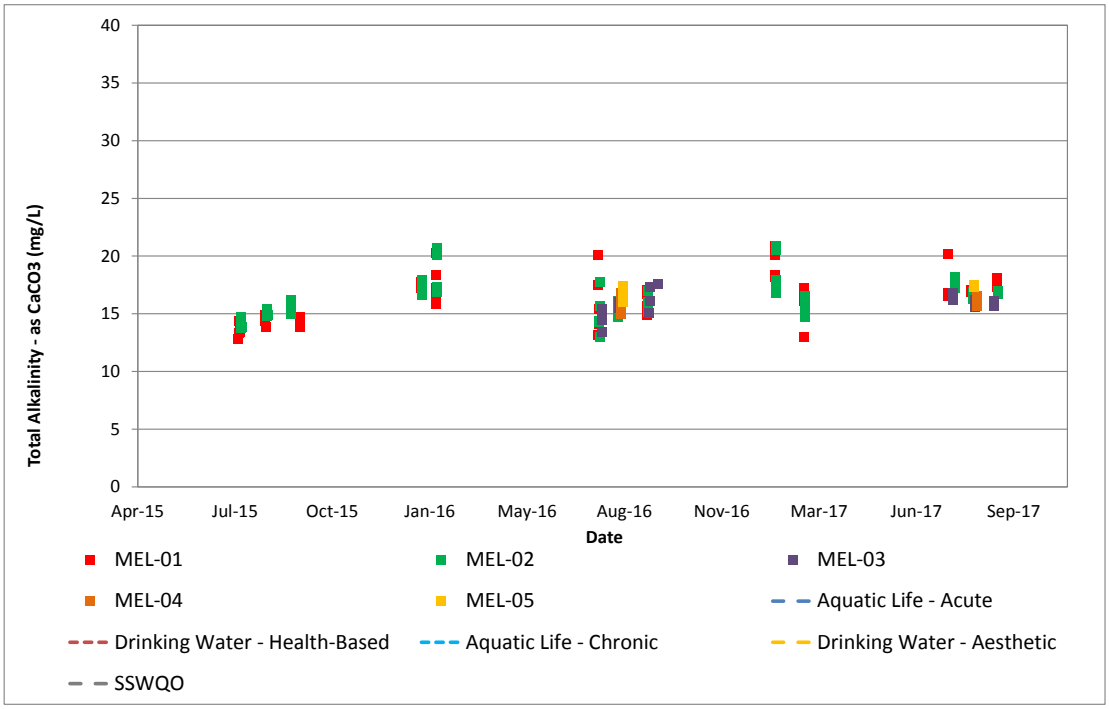
µS/cm = microSiemens per centimetre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-2a: Specific Conductivity (laboratory) for Meliadine Lake Stations between 2015 and 2017



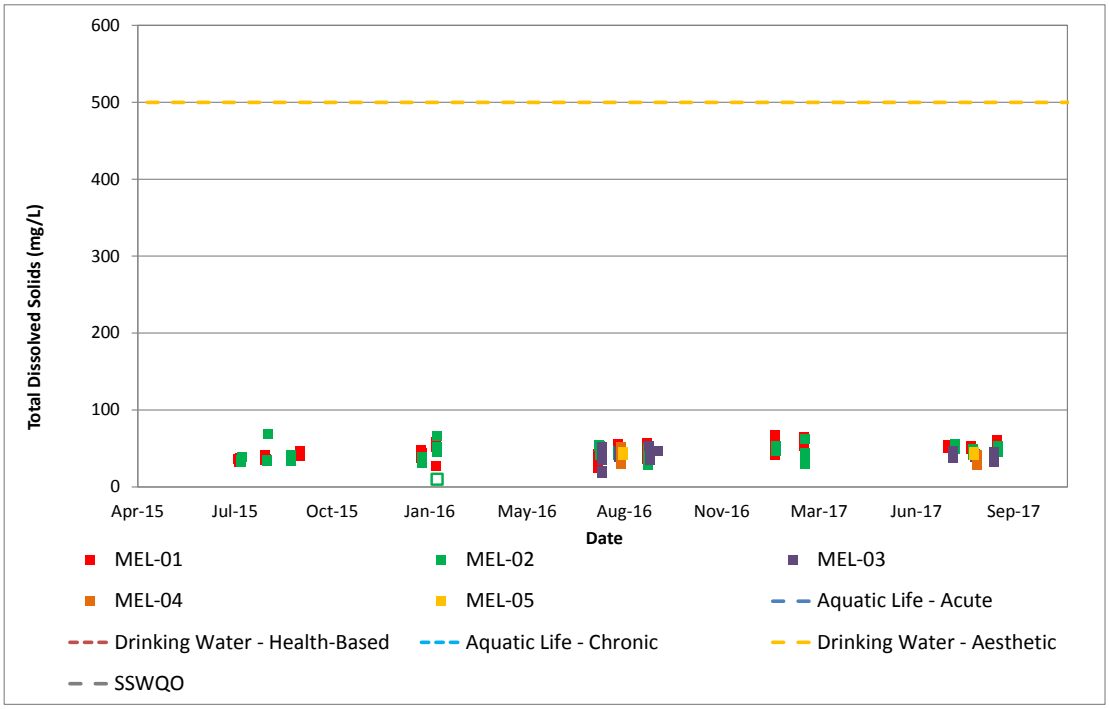
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-2b: Total Hardness (as CaCO3) at Meliadine Lake Stations between 2015 and 2017



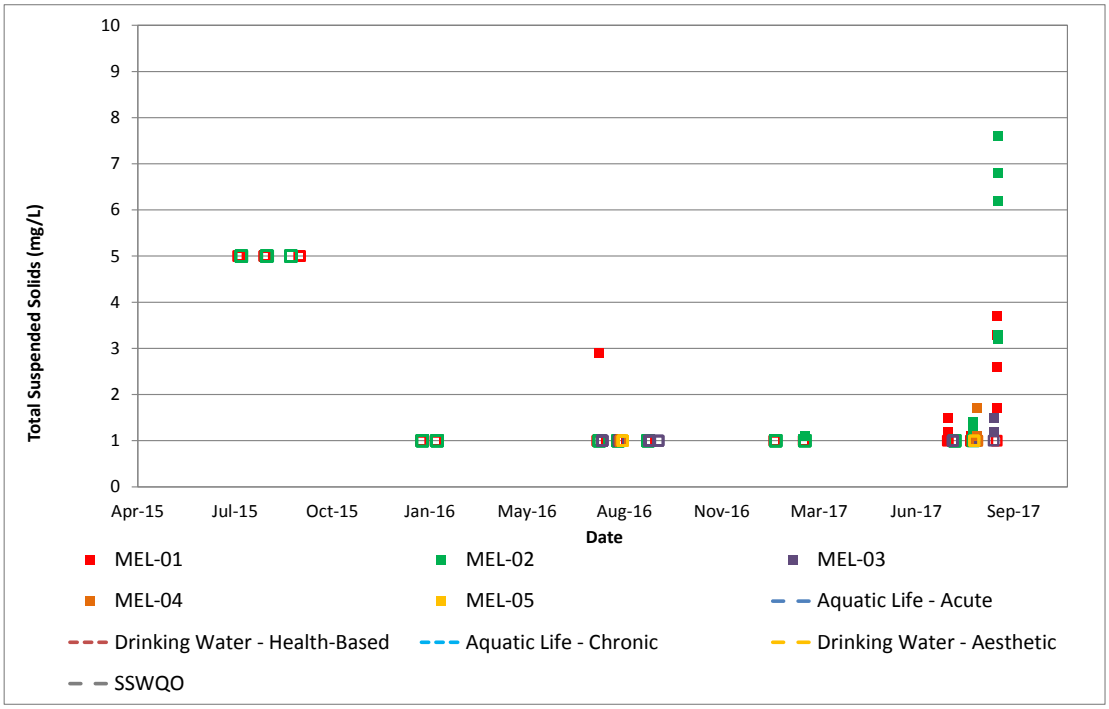
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-2c: Total Alkalinity (as CaCO3) at Meliadine Lake Stations between 2015 and 2017



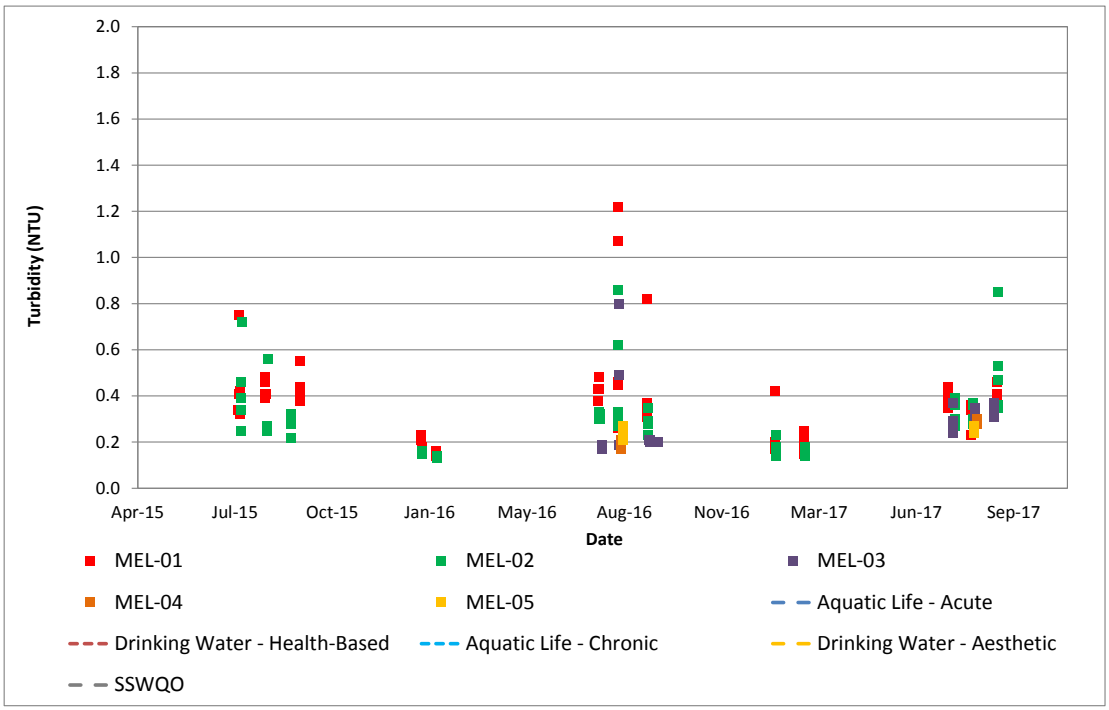
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-2d: Concentrations of Total Dissolved Solids at Meliadine Lake Stations between 2015 and 2017



mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

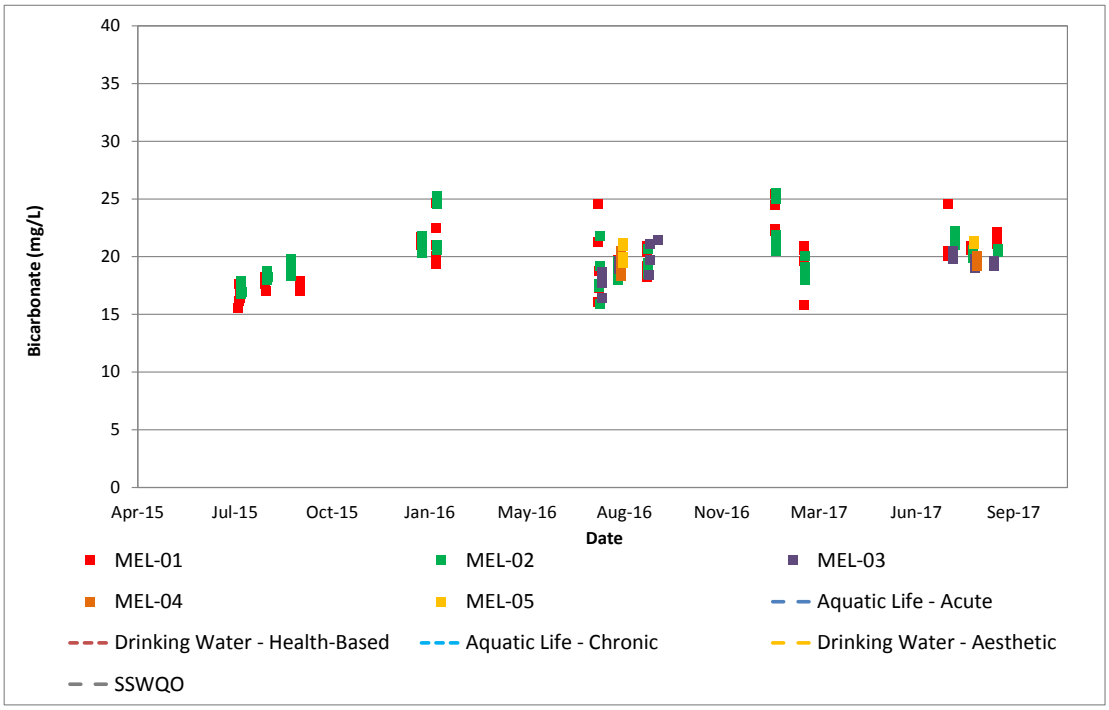
Figure 3E.1-2e: Concentrations of Total Suspended Solids at Meliadine Lake Stations between 2015 and 2017



NTU = Nephelometric Turbidy Units; SSWQO = site-specific Water Quality Objectives.

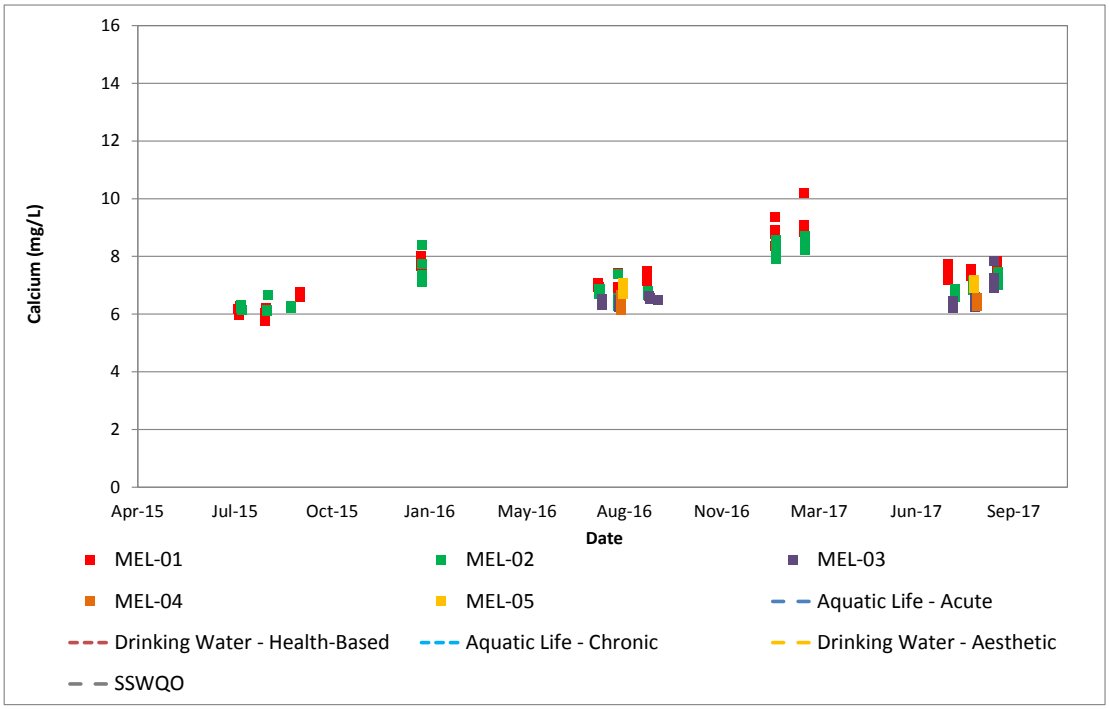
Figure 3E.1-2f: Concentrations of Turbidity at Meliadine Lake Stations between 2015 and 2017

3E1.3 Major Ions



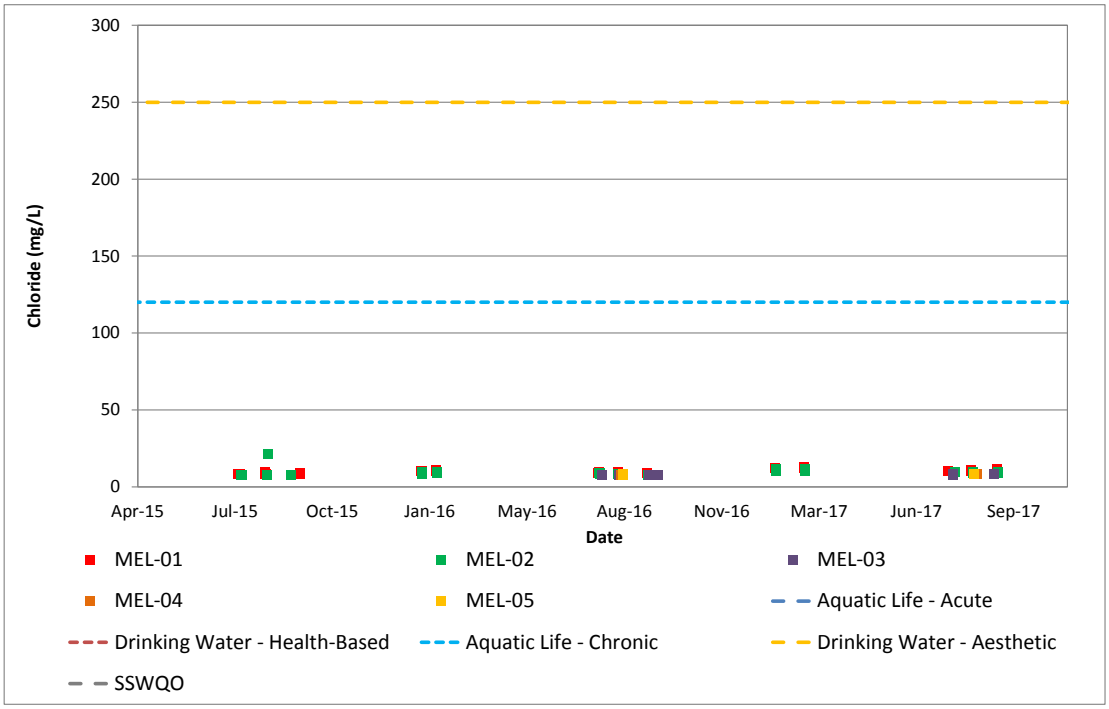
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-3a: Concentrations of Bicarbonate at Meliadine Lake Stations between 2015 and 2017



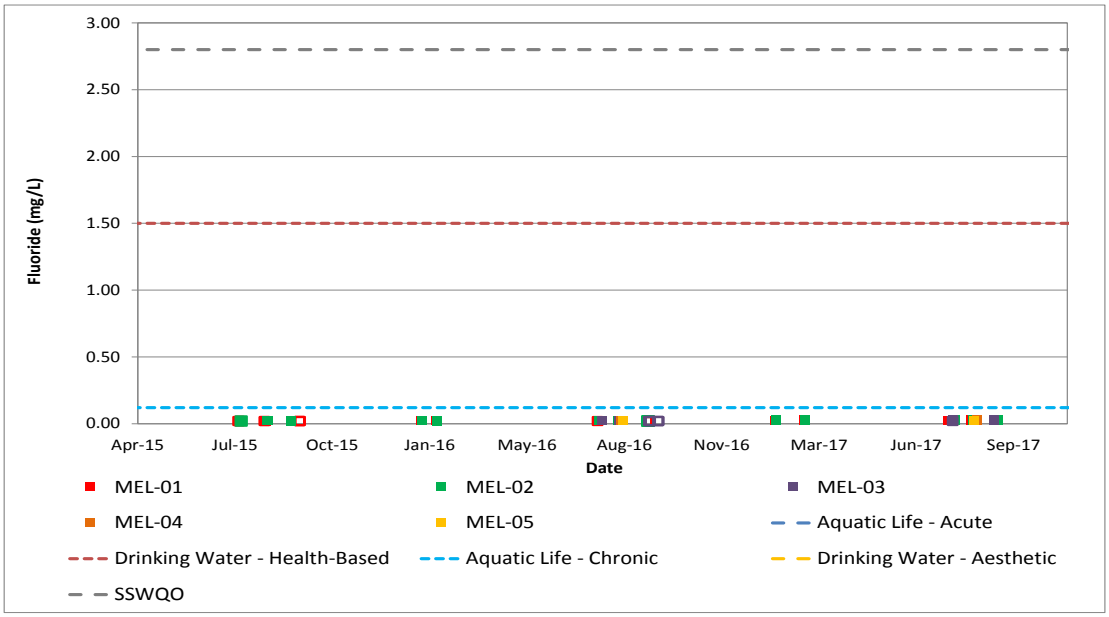
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-3b: Concentrations of Calcium at Meliadine Lake Stations between 2015 and 2017



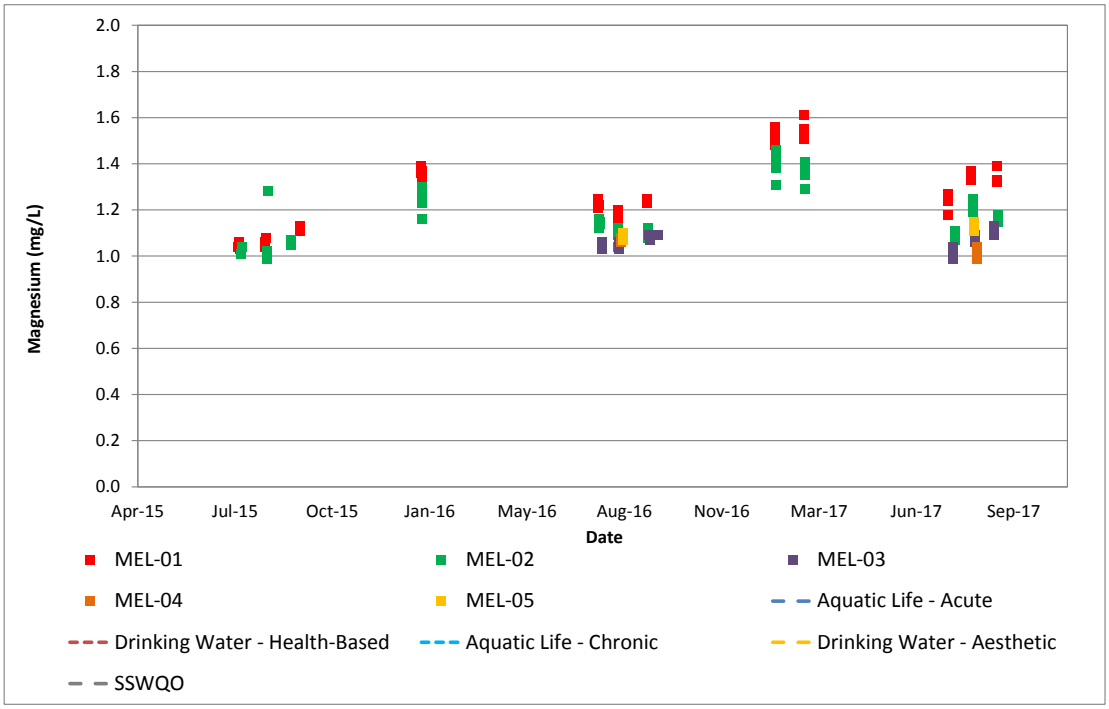
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-3c: Concentrations of Chloride at Meliadine Lake Stations between 2015 and 2017



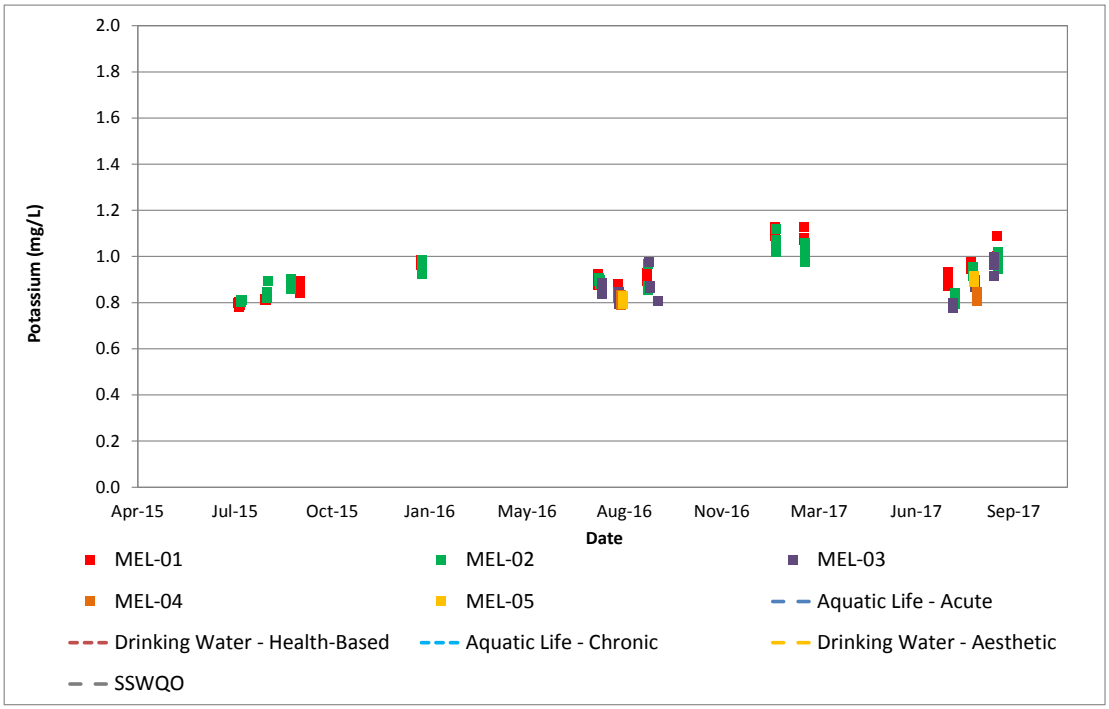
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-3d: Concentrations of Fluoride at Meliadine Lake Stations between 2015 and 2017



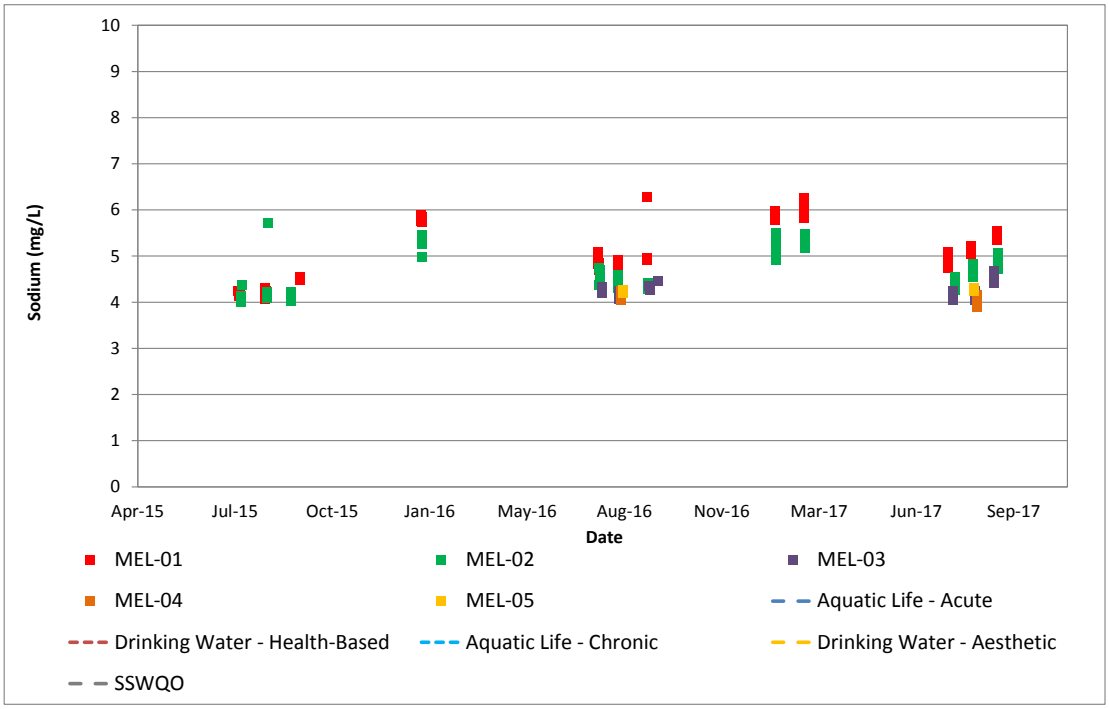
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-3e: Concentrations of Magnesium at Meliadine Lake Stations between 2015 and 2017



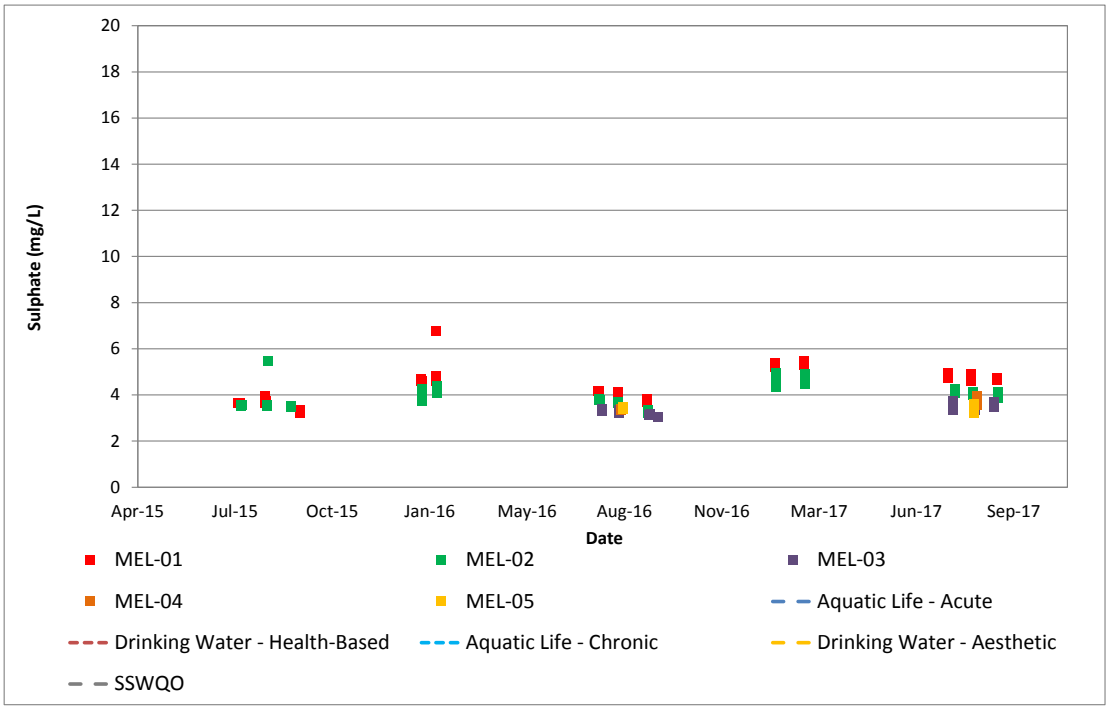
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-3f: Concentrations of Potassium at Meliadine Lake Stations between 2015 and 2017



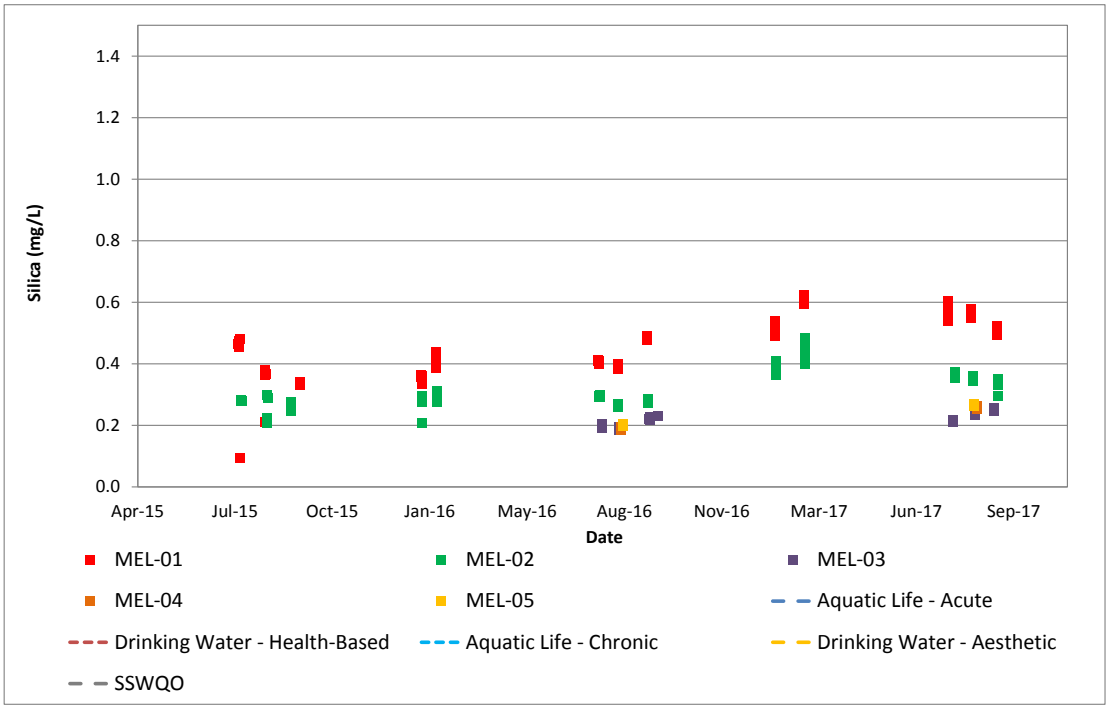
mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-3g: Concentrations of Sodium at Meliadine Lake Stations between 2015 and 2017



mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

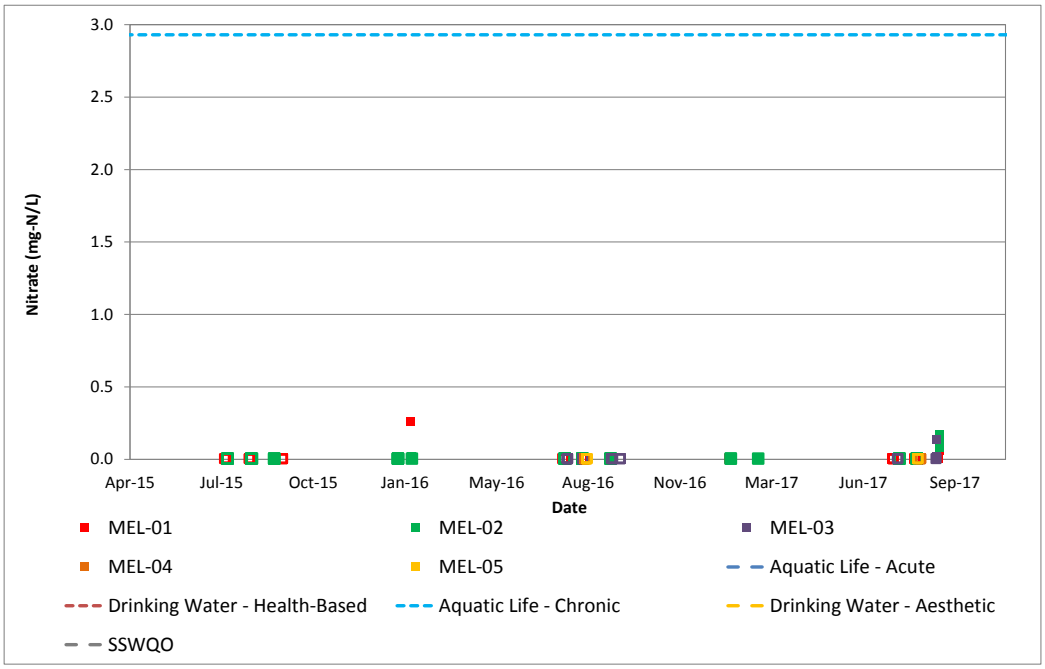
Figure 3E.1-3h: Concentrations of Sulphate at Meliadine Lake Stations between 2015 and 2017



mg/L = milligrams per litre; SSWQO = site-specific Water Quality Objectives.

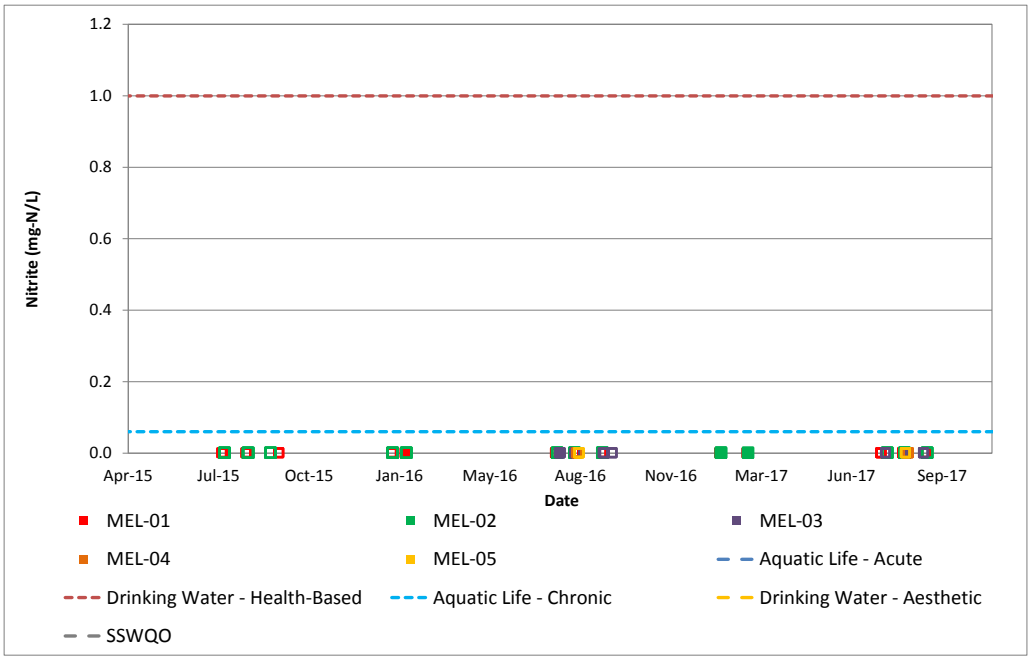
Figure 3E.1-3i: Concentrations of Silica at Meliadine Lake Stations between 2015 and 2017

3E1.4 Nutrients



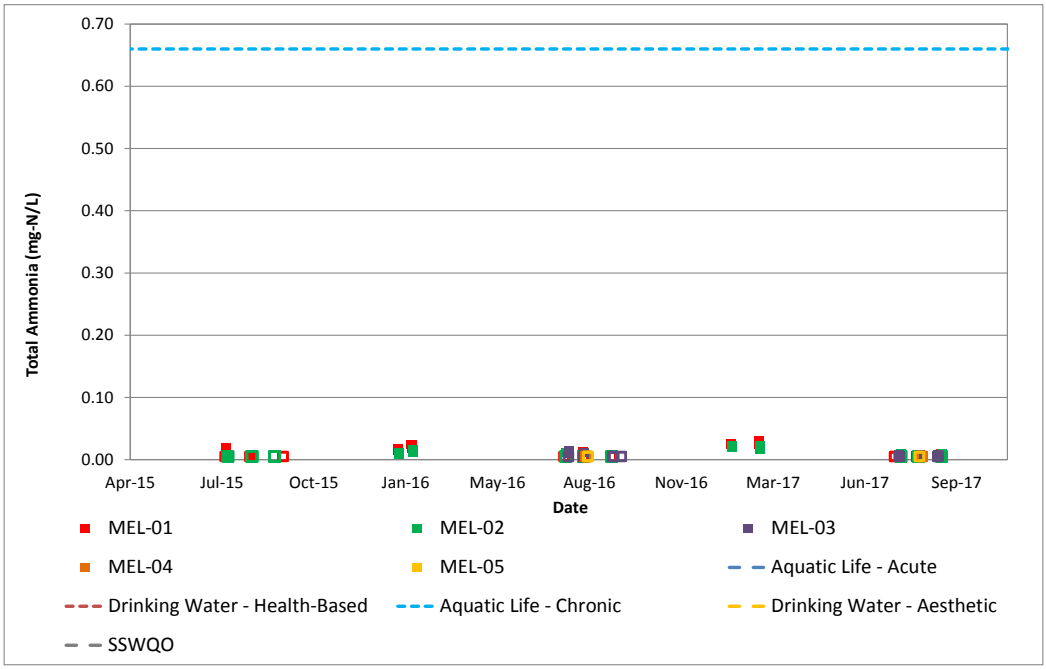
mg-N/L = milligrams as nitrogen per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-4a: Concentrations of Nitrate at Meliadine Lake Stations between 2015 and 2017



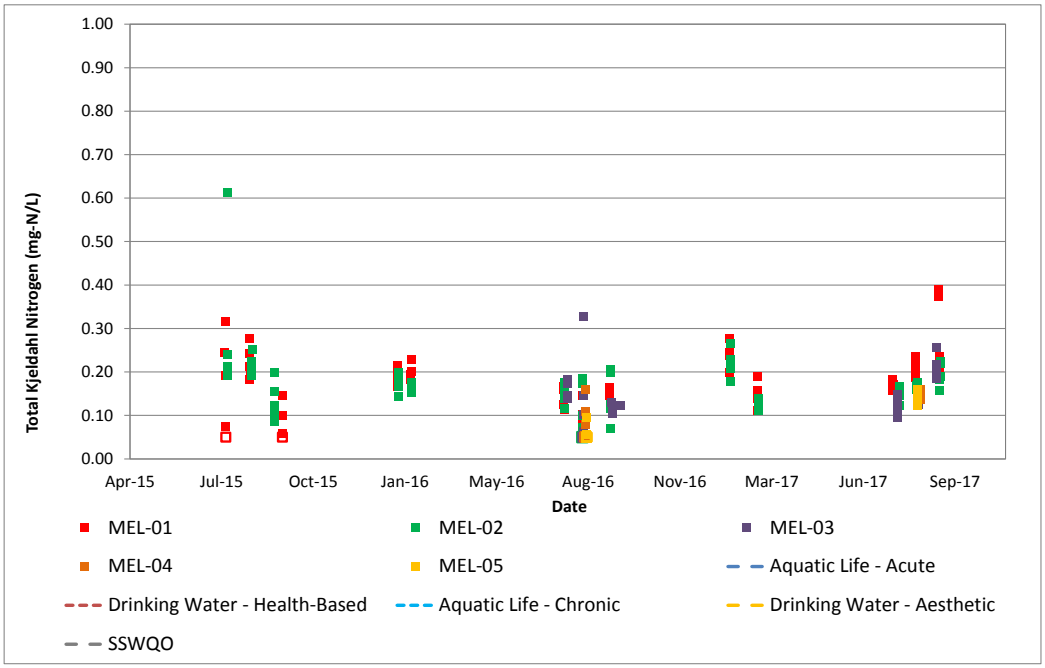
mg-N/L = milligrams as nitrogen per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-4b: Concentrations of Nitrite at Meliadine Lake Stations between 2015 and 2017



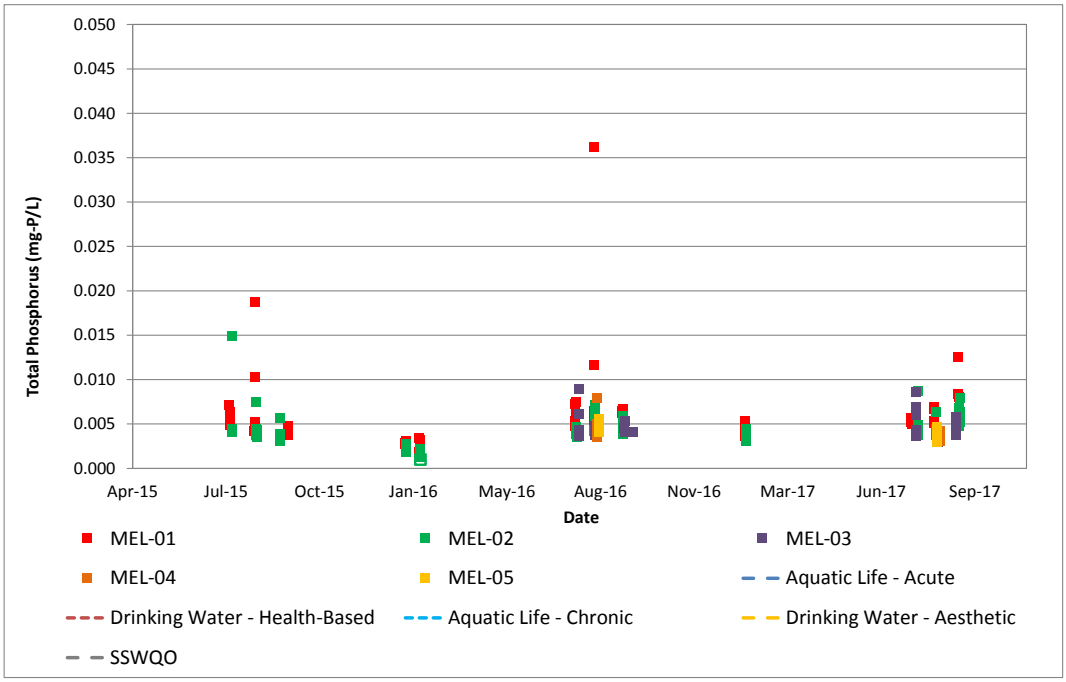
mg-N/L = milligrams as nitrogen per litre; SSWQO = site-specific Water Quality Objectives. Guideline is dependent on pH and temperature; guideline presented in the graph represents the minimum value. Open symbols represent results that are less than the detection limit.

Figure 3E.1-4c: Concentrations of Ammonia at Meliadine Lake Stations between 2015 and 2017



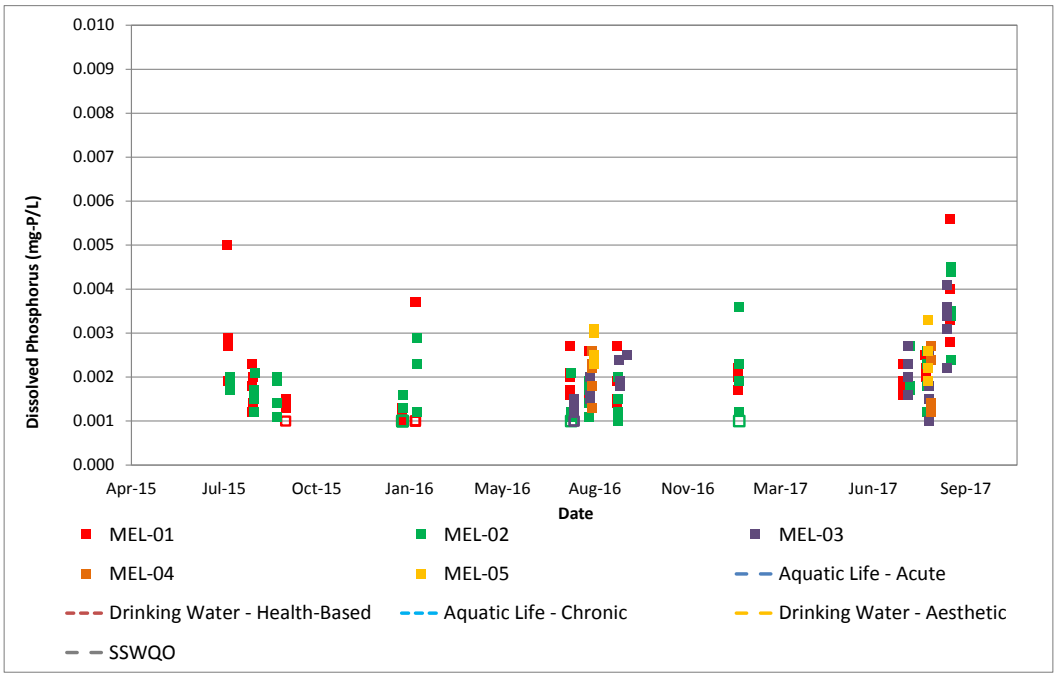
mg-N/L = milligrams as nitrogen per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-4d: Concentrations of Total Kjeldahl Nitrogen at Meliadine Lake Stations between 2015 and 2017



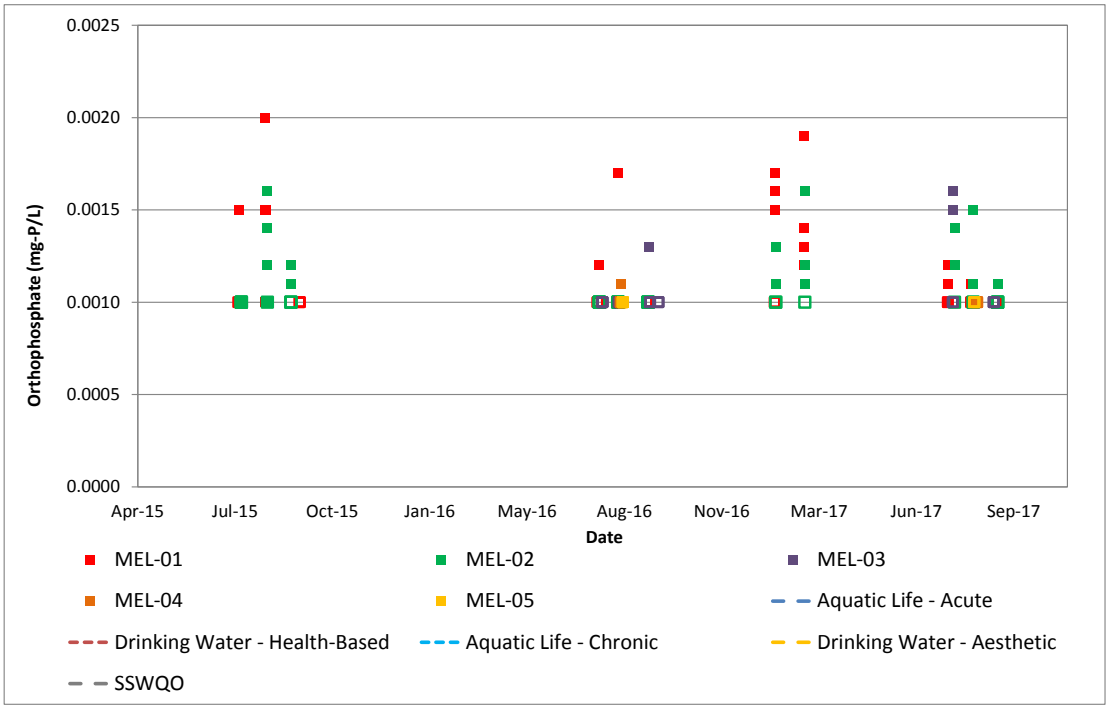
mg-P/L = milligrams as phosphorus per litre; SSWQO = site-specific Water Quality Objectives. Total phosphorus results measured in February 2017 did not pass QC criteria and were omitted from the plot.

Figure 3E.1-4e: Concentrations of Total Phosphorus at Meliadine Lake Stations between 2015 and 2017



mg-P/L = milligrams as phosphorus per litre; SSWQO = site-specific Water Quality Objectives. Dissolved phosphorus results measured in February 2017 did not pass QC criteria and were omitted from the plot.

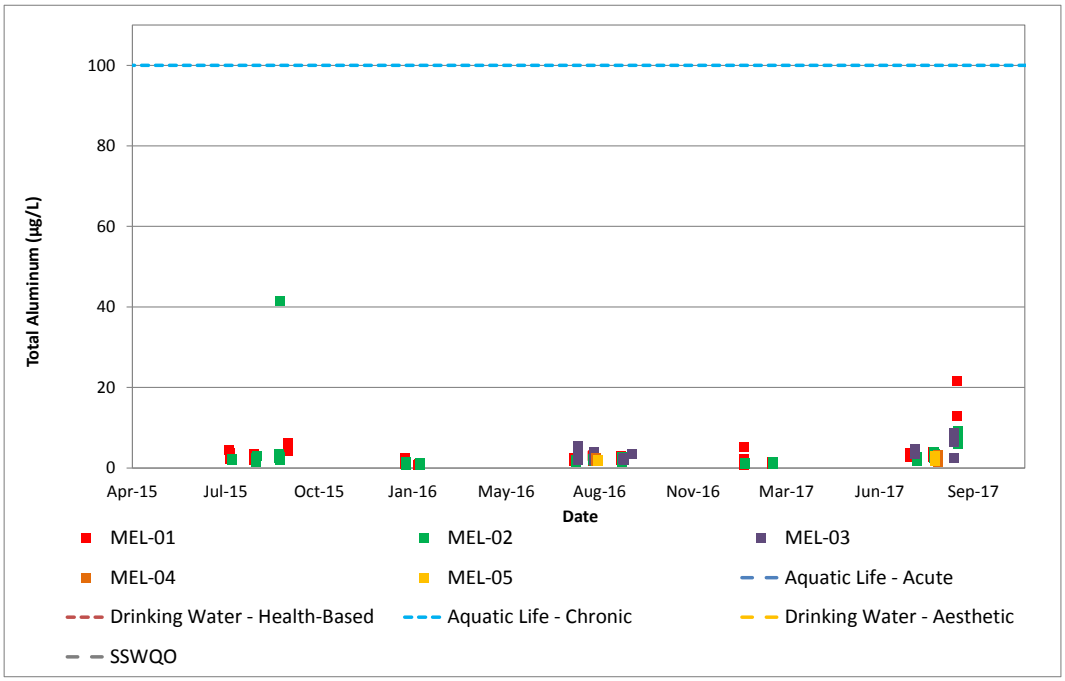
Figure 3E.1-4f: Concentrations of Dissolved Phosphorus at Meliadine Lake Stations between 2015 and 2017



mg-P/L = milligrams as phosphorus per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

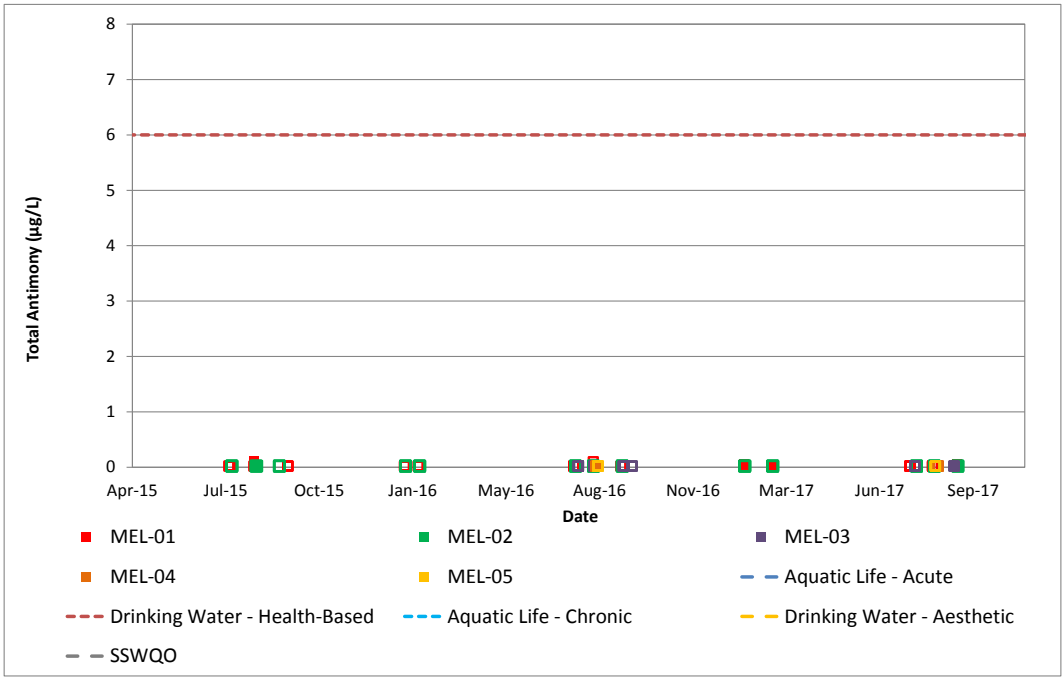
Figure 3E.1-4g: Concentrations of Orthophosphate at Meliadine Lake Stations between 2015 and 2017

3E1.5 Total Metals



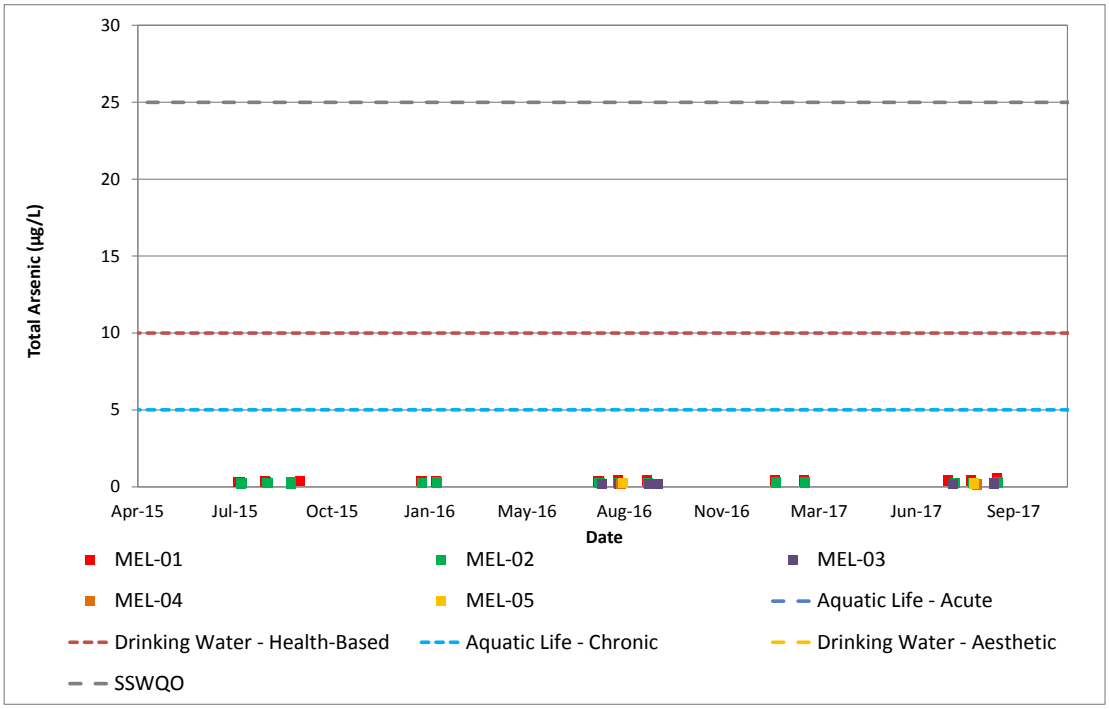
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5a: Concentrations of Total Aluminum at Meliadine Lake Stations between 2015 and 2017



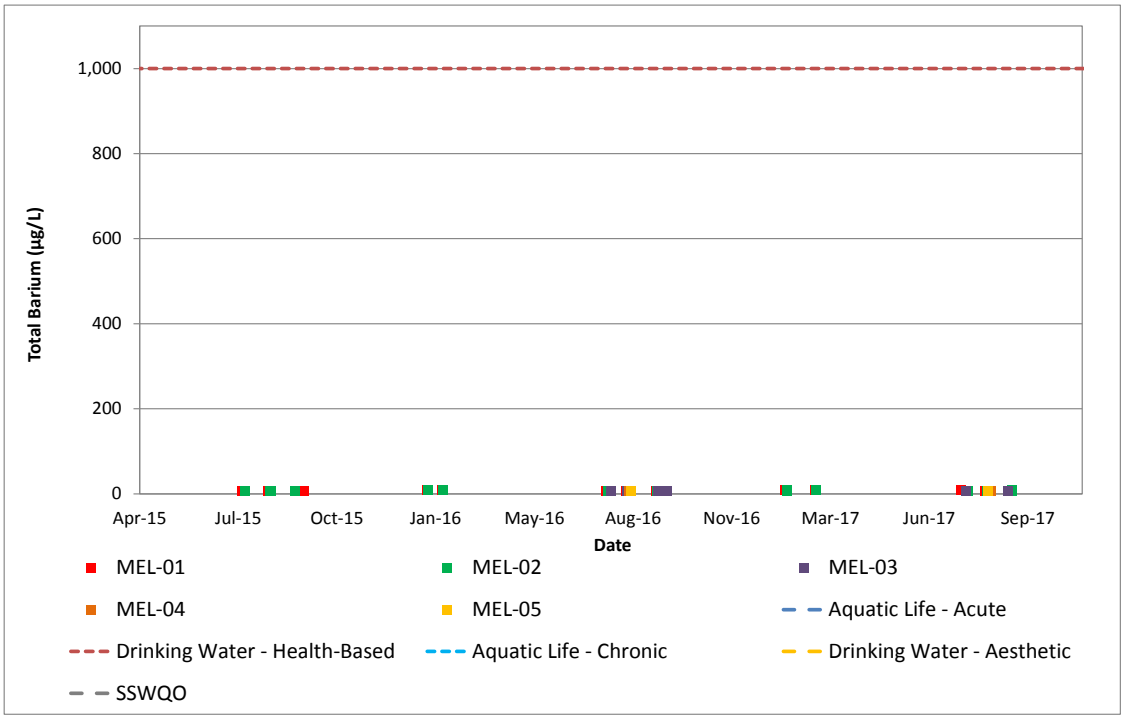
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5b: Concentrations of Total Antimony at Meliadine Lake Stations between 2015 and 2017



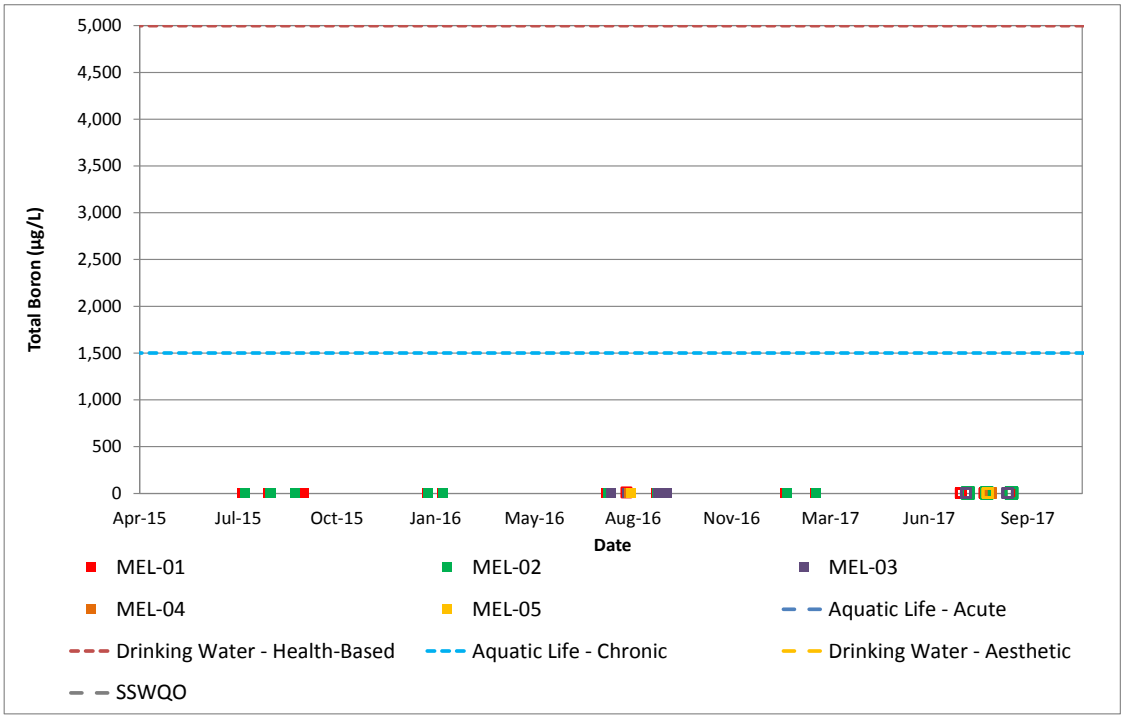
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5c: Concentrations of Total Arsenic at Meliadine Lake Stations between 2015 and 2017



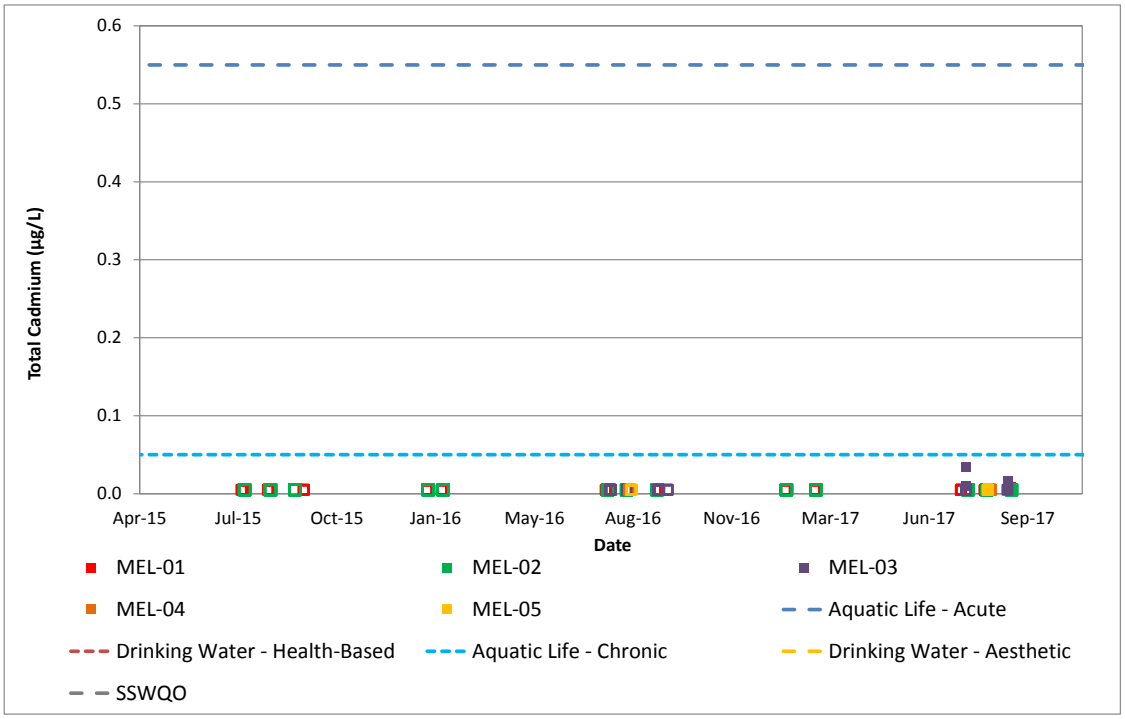
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5d: Concentrations of Total Barium at Meliadine Lake Stations between 2015 and 2017



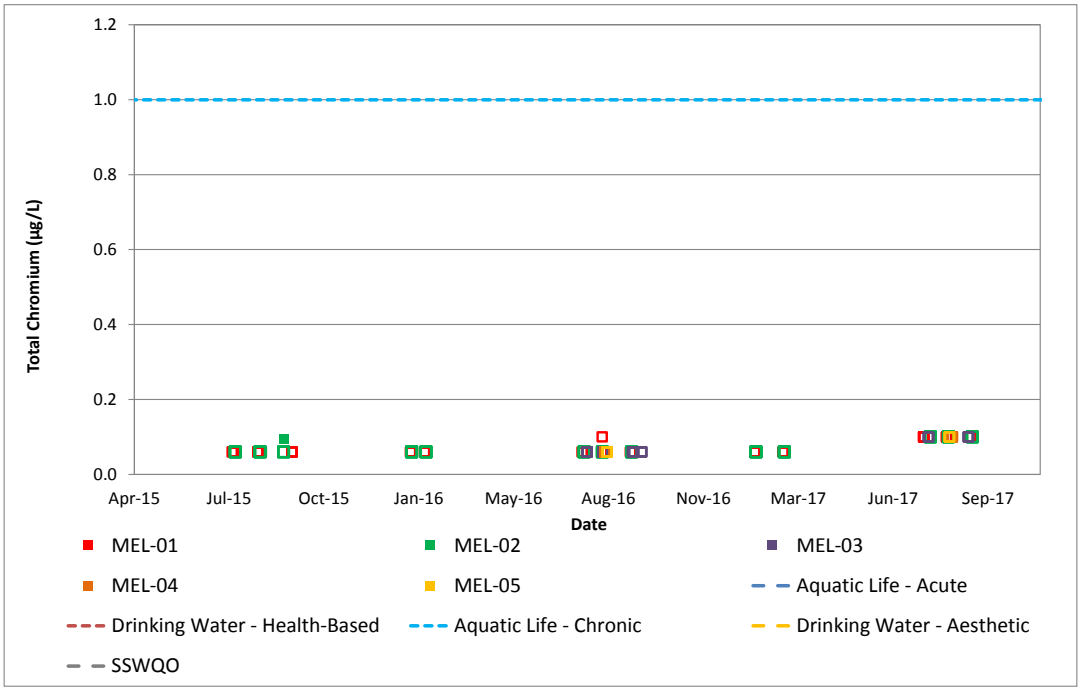
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5e: Concentrations of Total Boron at Meliadine Lake Stations between 2015 and 2017



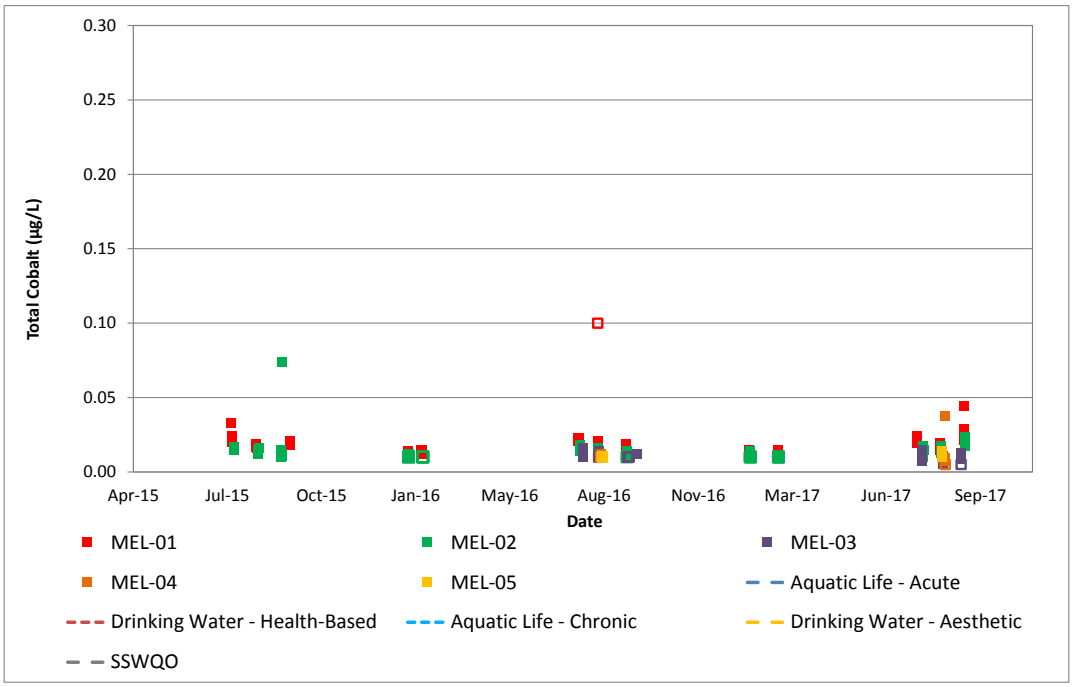
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5f: Concentrations of Total Cadmium at Meliadine Lake Stations between 2015 and 2017



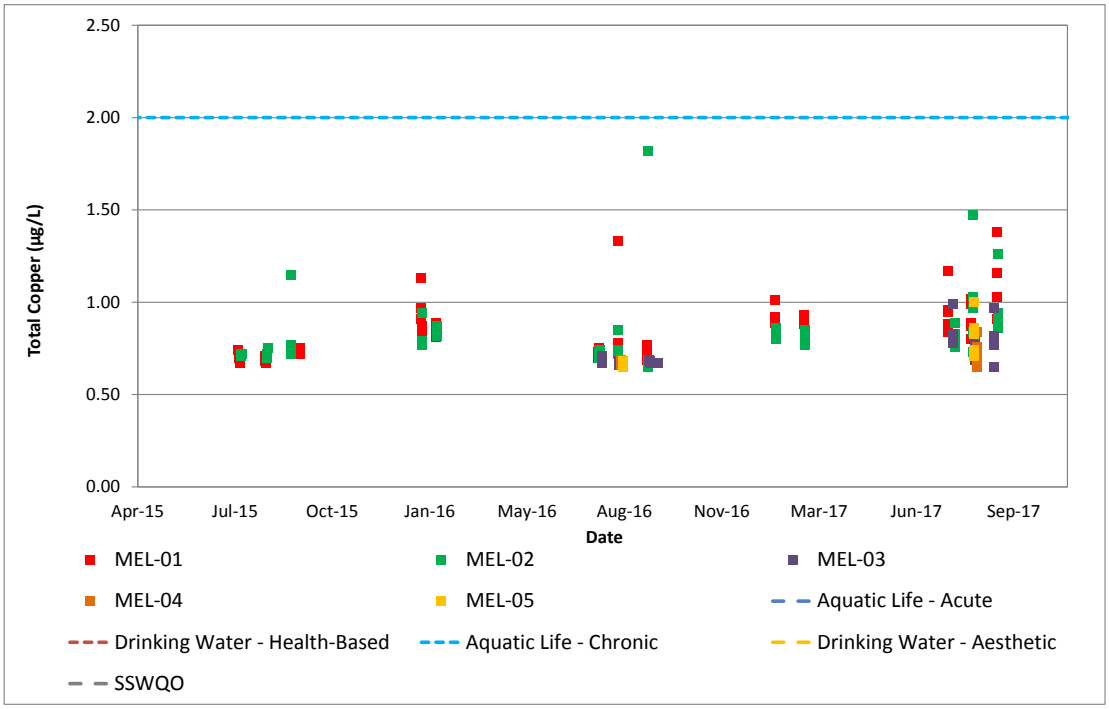
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5g: Concentrations of Total Chromium at Meliadine Lake Stations between 2015 and 2017



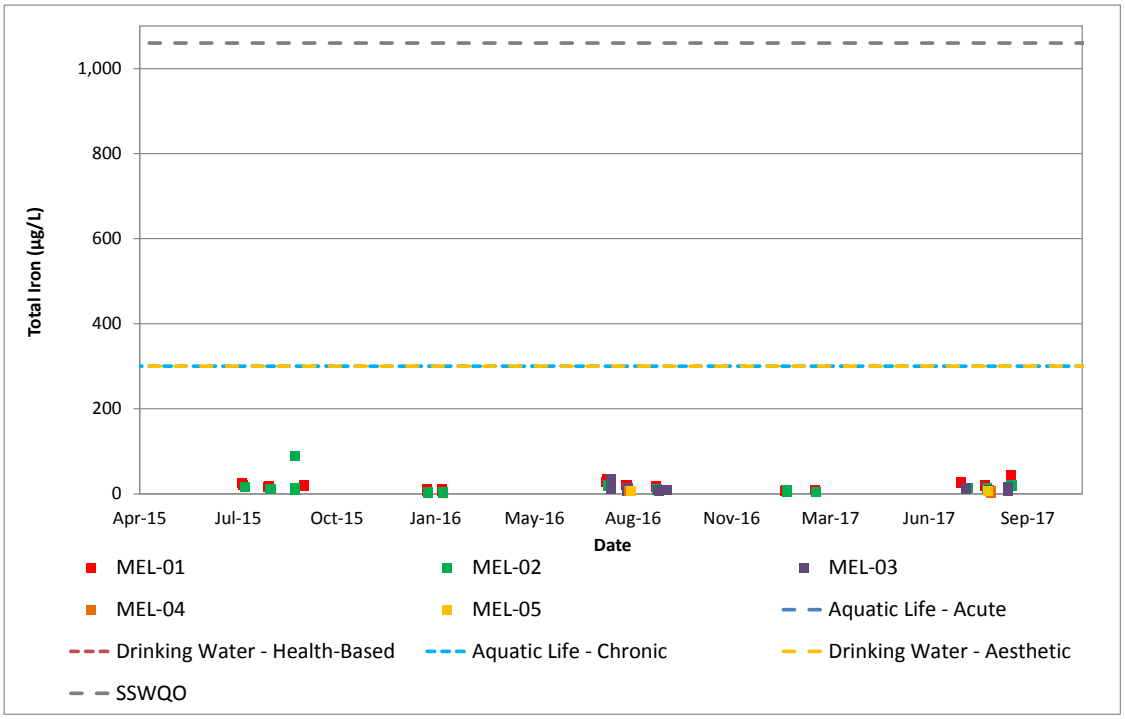
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5h: Concentrations of Total Cobalt at Meliadine Lake Stations between 2015 and 2017



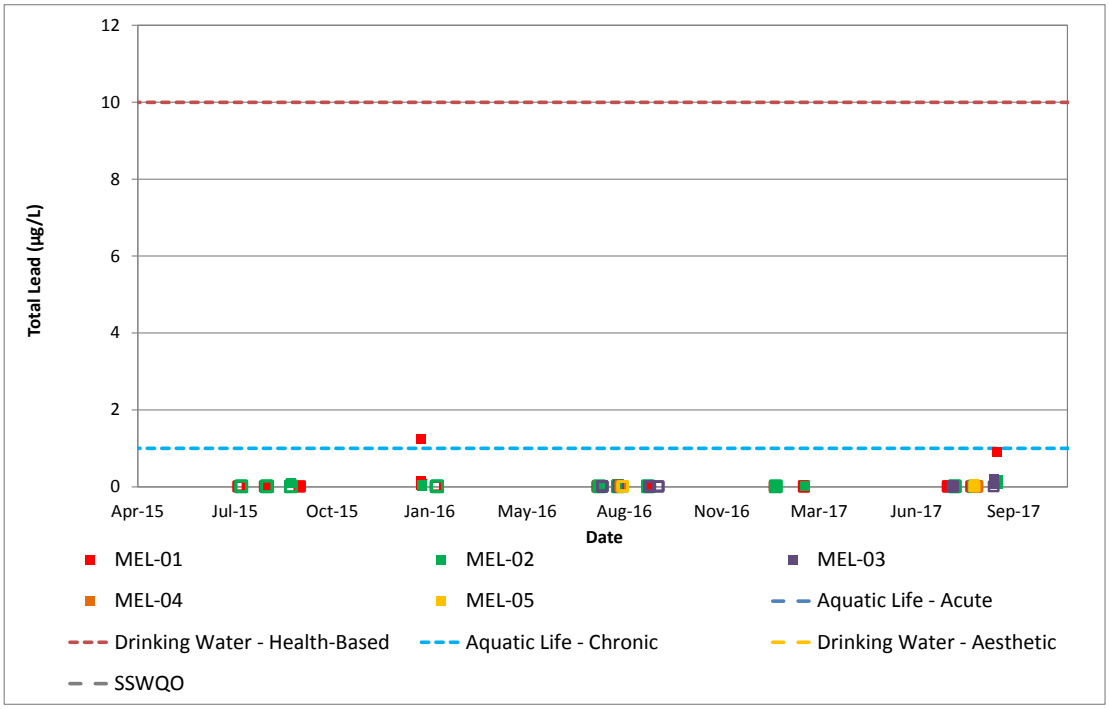
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5i: Concentrations of Total Copper at Meliadine Lake Stations between 2015 and 2017



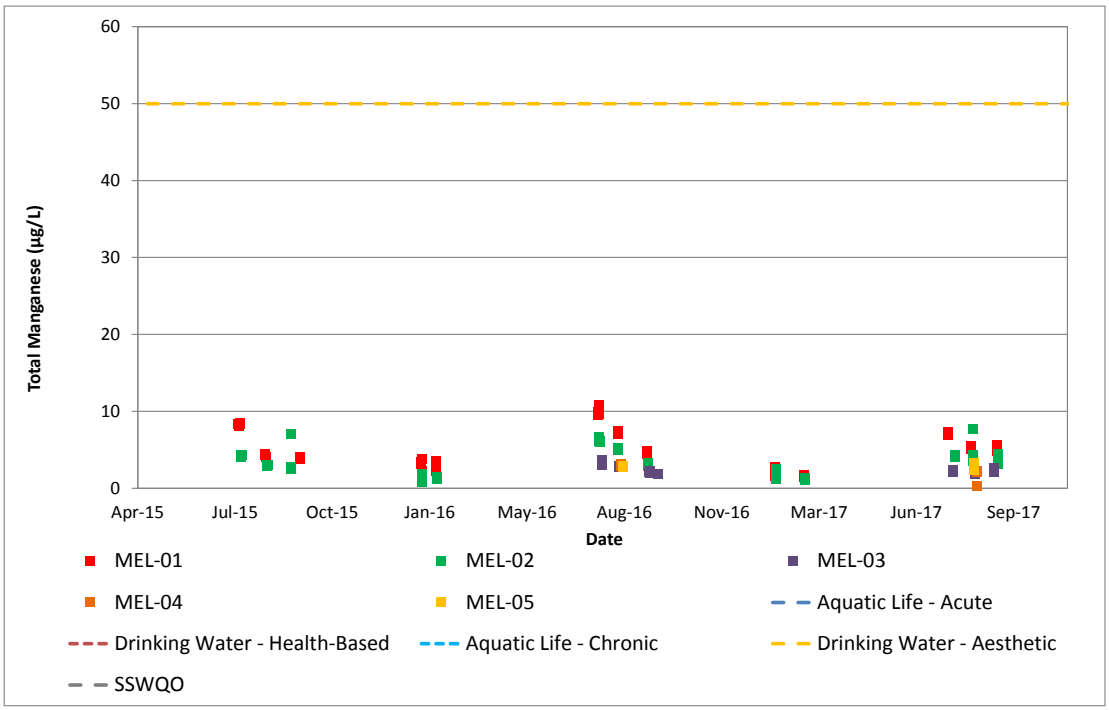
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5j: Concentrations of Total Iron at Meliadine Lake Stations between 2015 and 2017



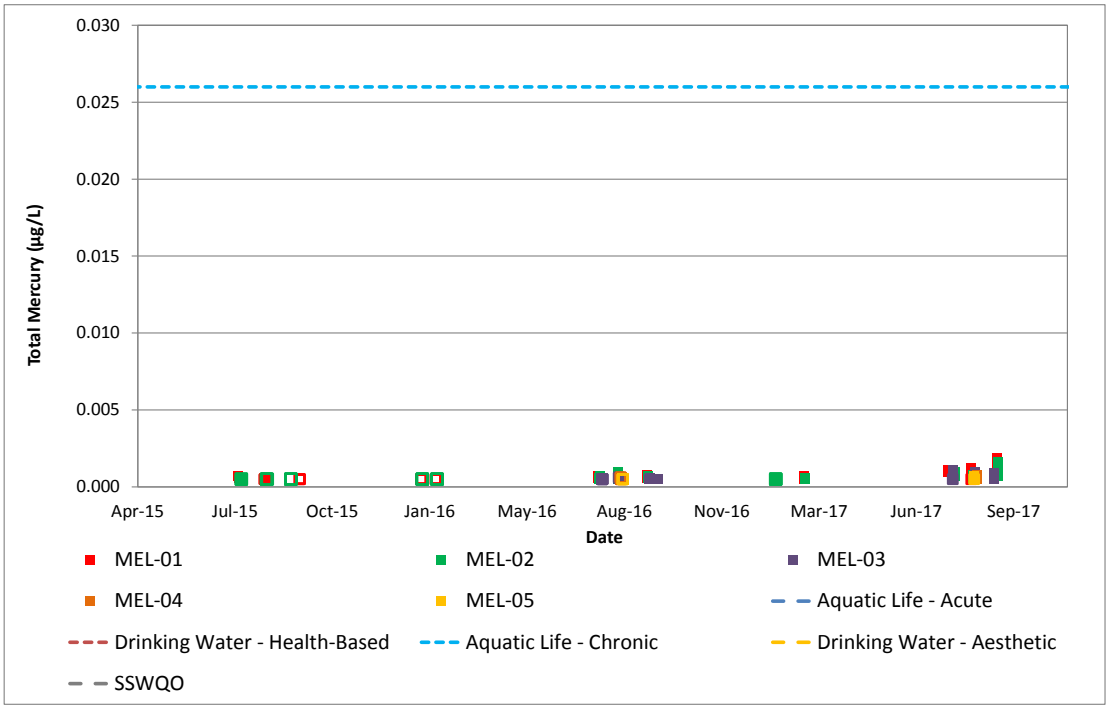
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5k: Concentrations of Total Lead at Meliadine Lake Stations between 2015 and 2017



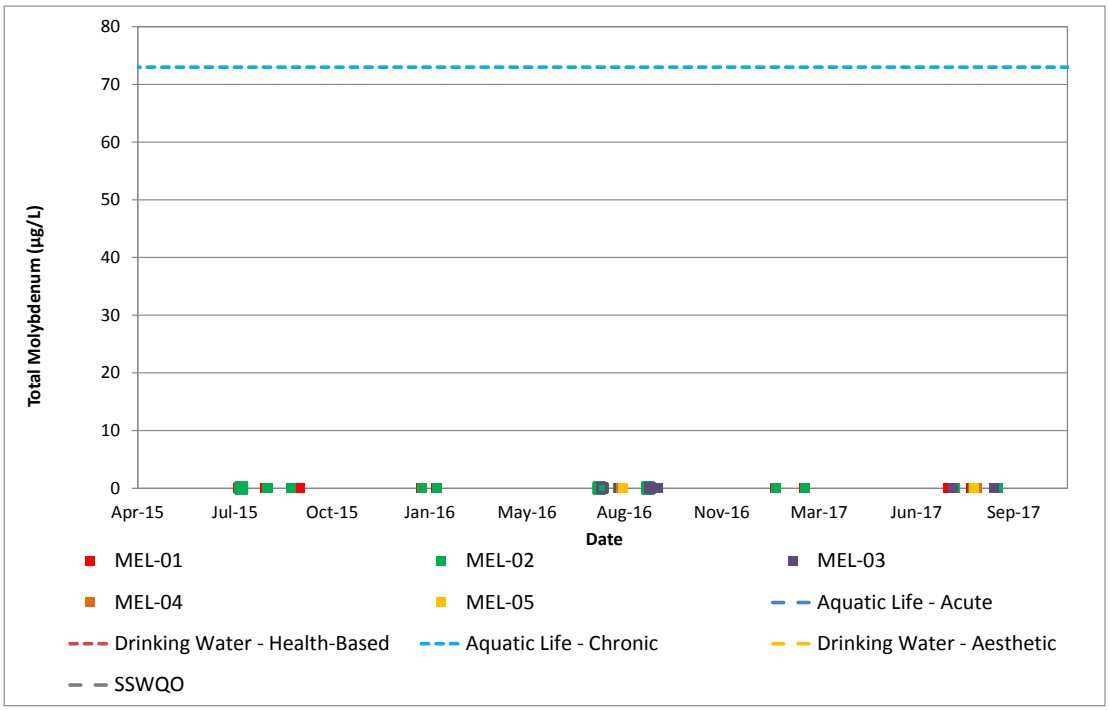
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5l: Concentrations of Total Manganese at Meliadine Lake Stations between 2015 and 2017



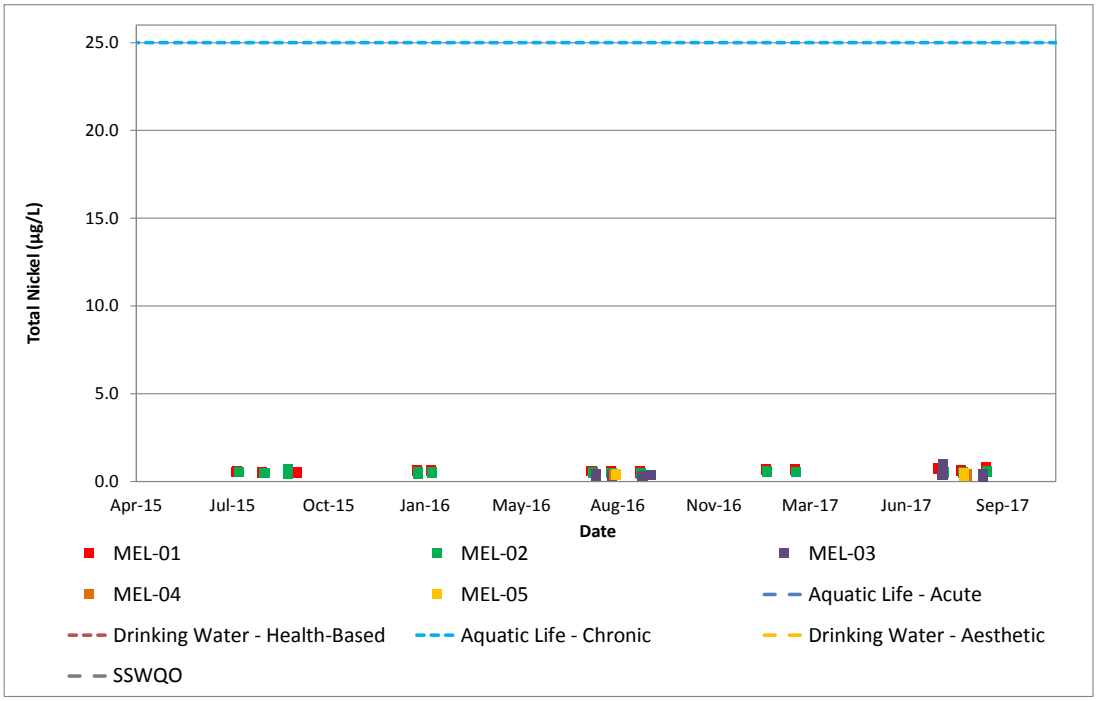
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5m: Concentrations of Total Mercury at Meliadine Lake Stations between 2015 and 2017



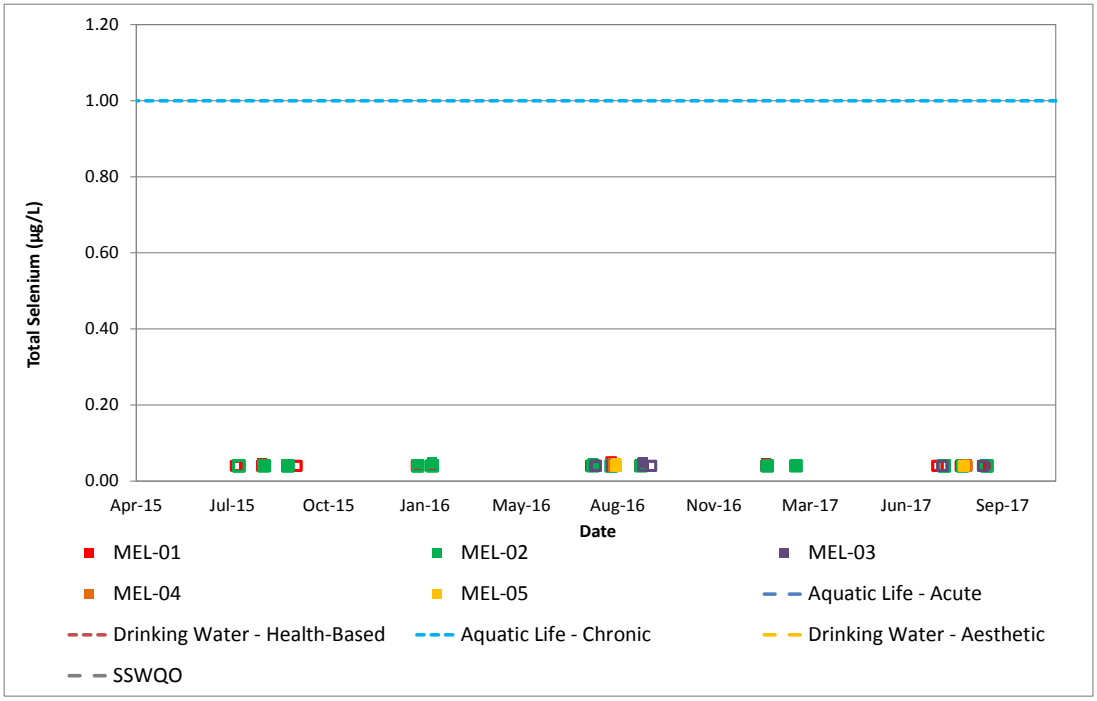
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5n: Concentrations of Total Molybdenum at Meliadine Lake Stations between 2015 and 2017



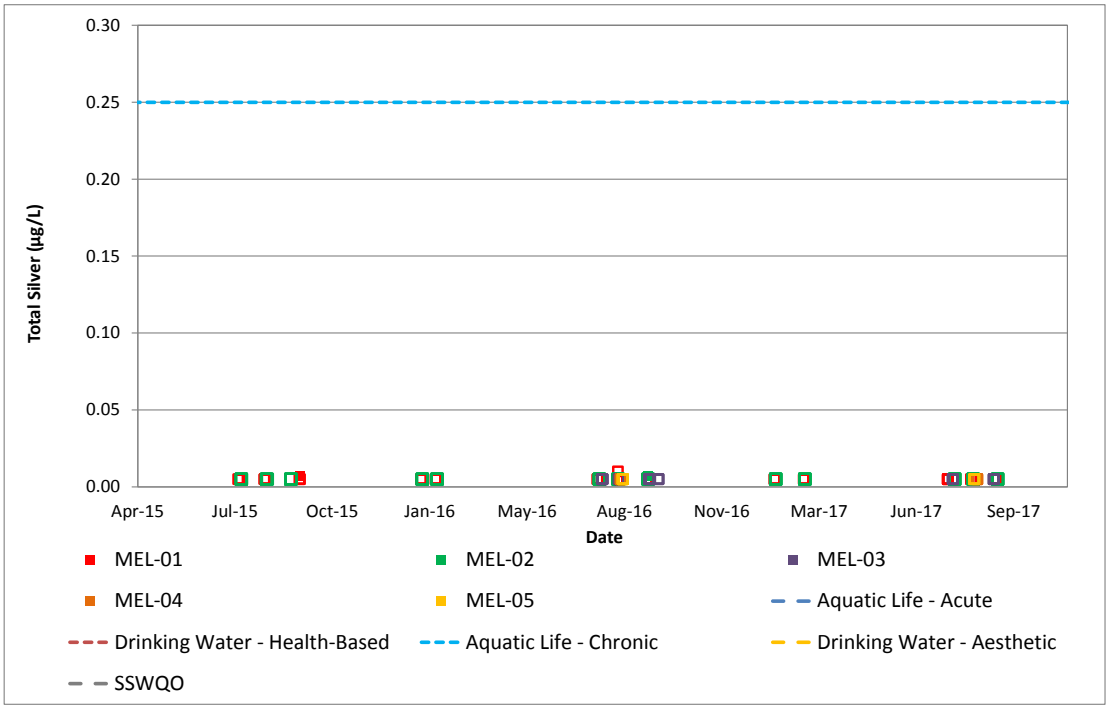
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5o: Concentrations of Total Nickel at Meliadine Lake Stations between 2015 and 2017



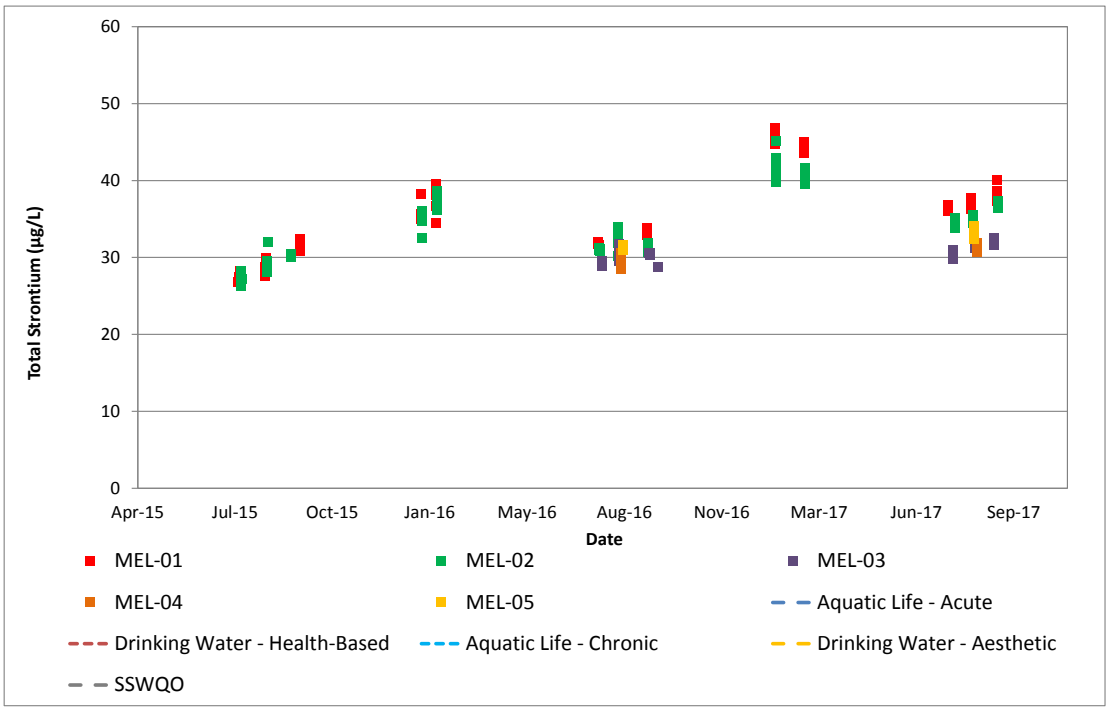
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5p: Concentrations of Total Selenium at Meliadine Lake Stations between 2015 and 2017



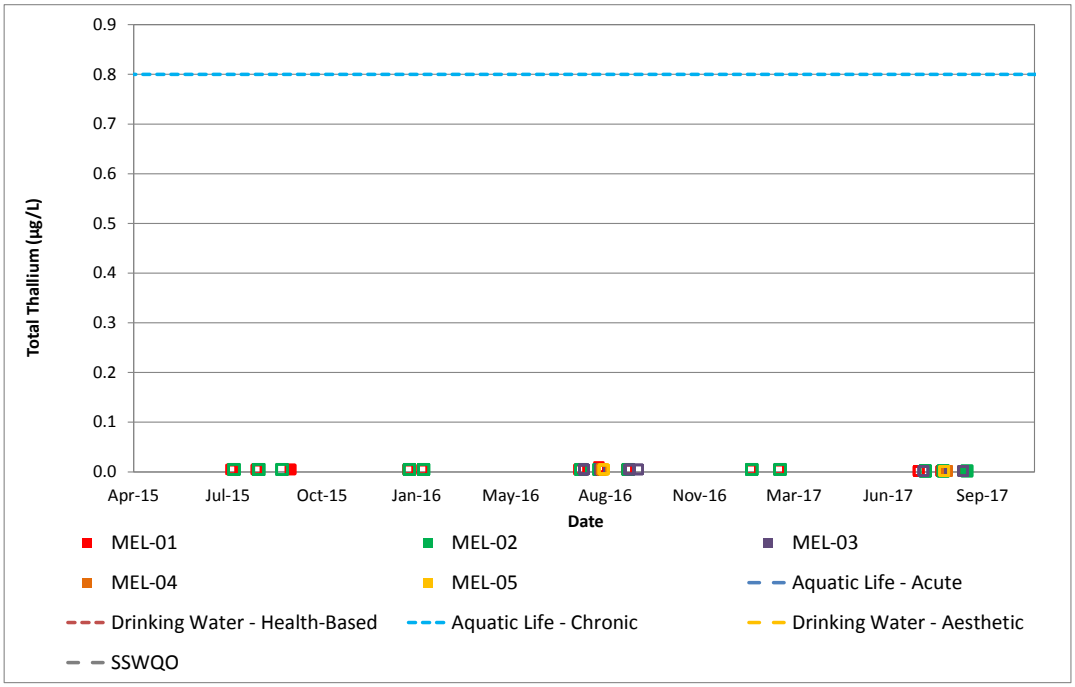
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5q: Concentrations of Total Silver at Meliadine Lake Stations between 2015 and 2017



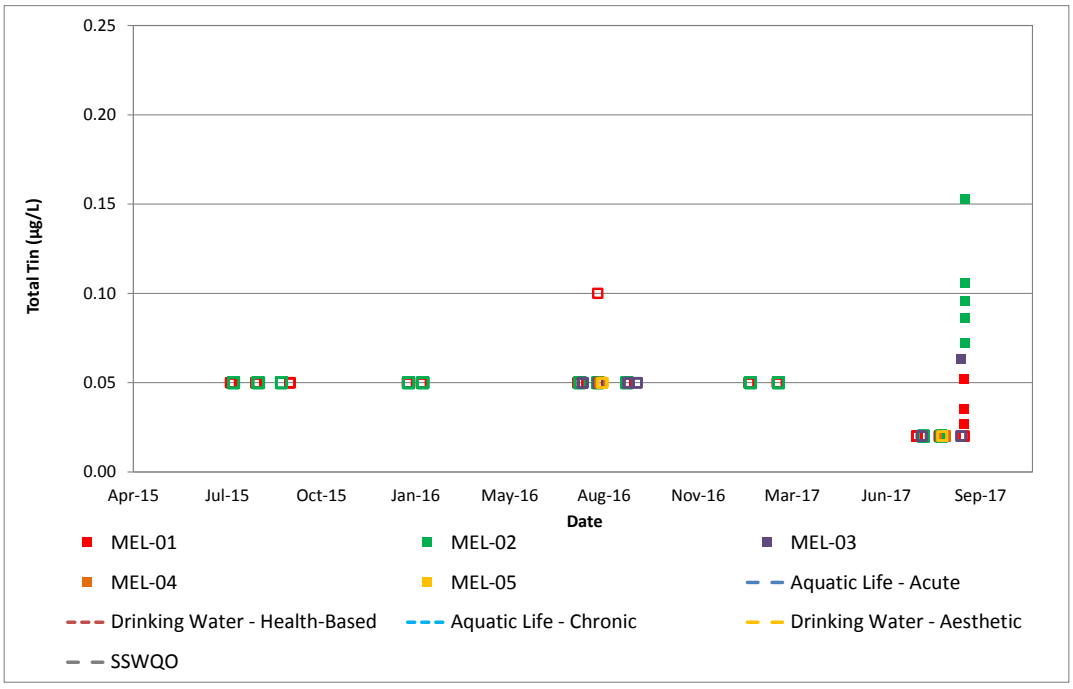
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-5r: Concentrations of Total Strontium at Meliadine Lake Stations between 2015 and 2017



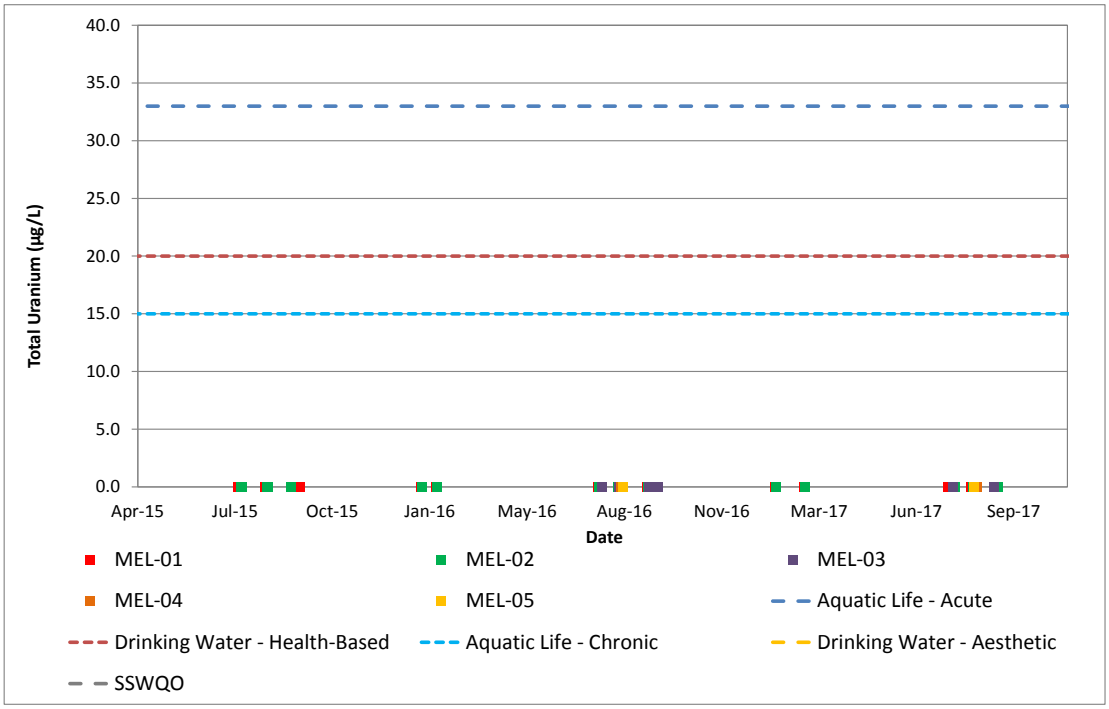
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5s: Concentrations of Total Thallium at Meliadine Lake Stations between 2015 and 2017



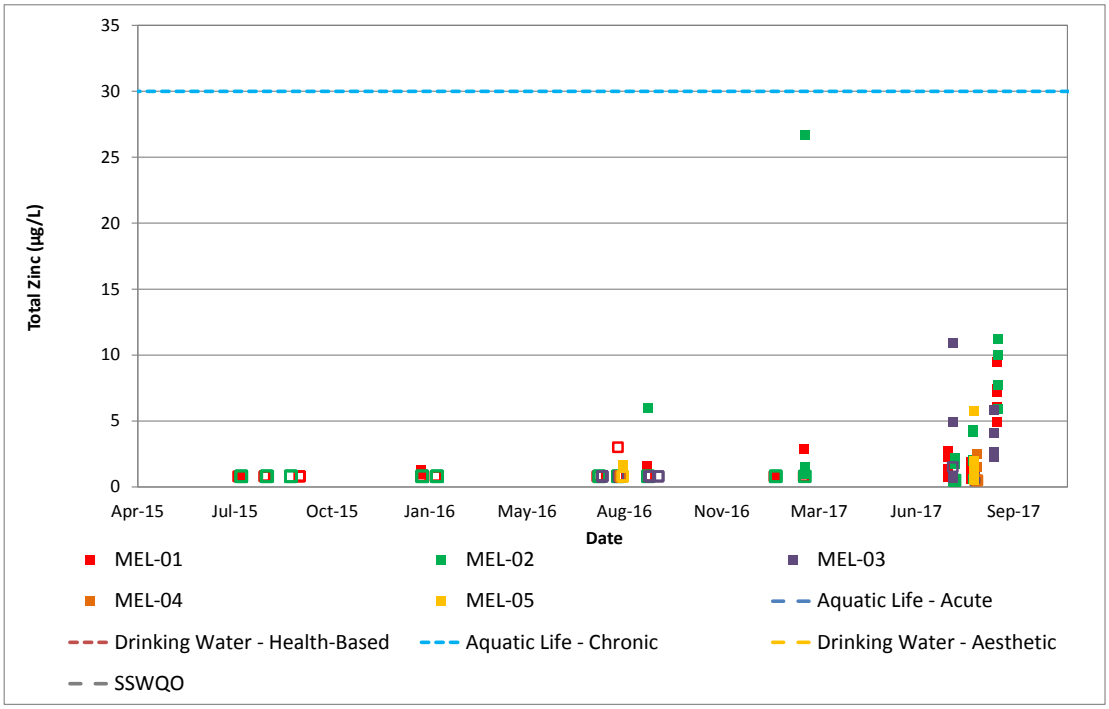
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-5t: Concentrations of Total Tin at Meliadine Lake Stations between 2015 and 2017



µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

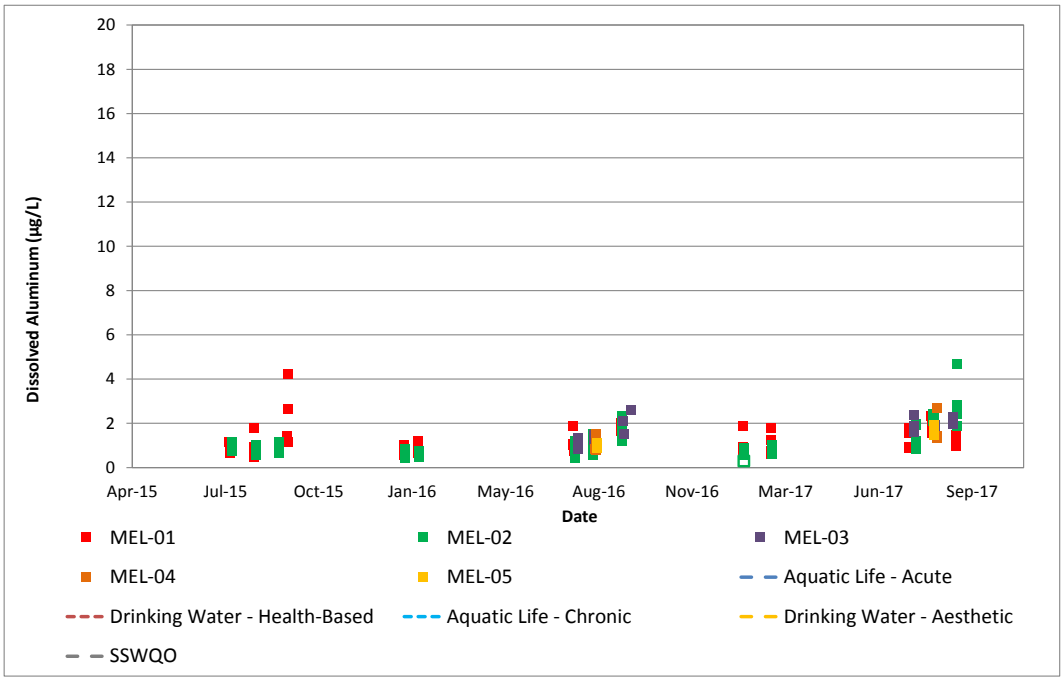
Figure 3E.1-5u: Concentrations of Total Uranium at Meliadine Lake Stations between 2015 and 2017



µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

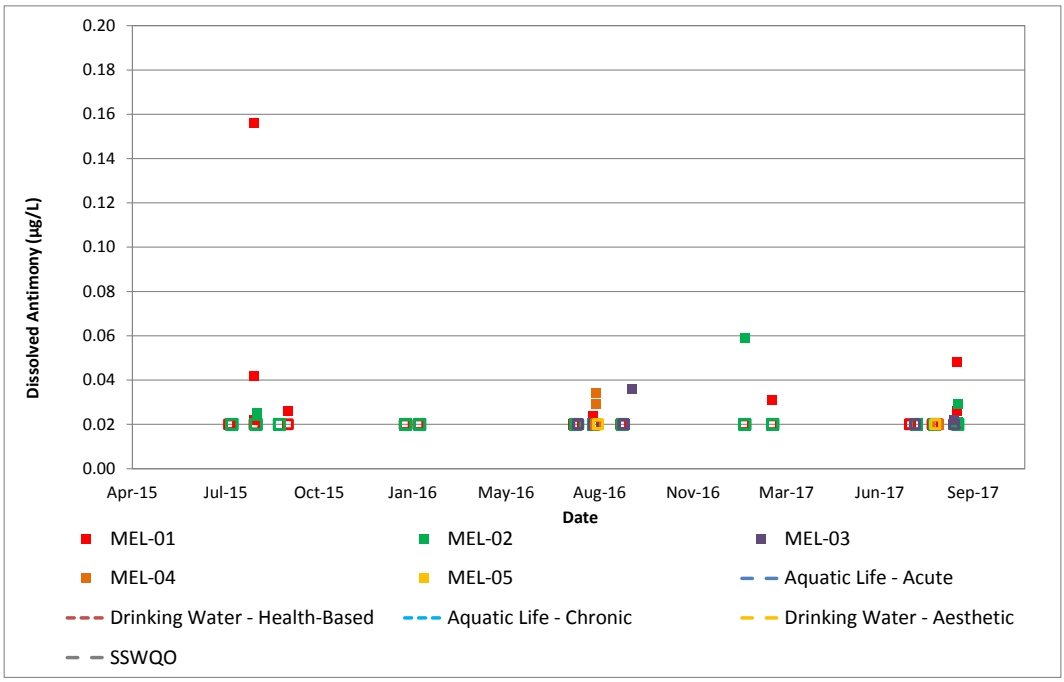
Figure 3E.1-5v: Concentrations of Total Zinc at Meliadine Lake Stations between 2015 and 2017

3E1.6 Dissolved Metals



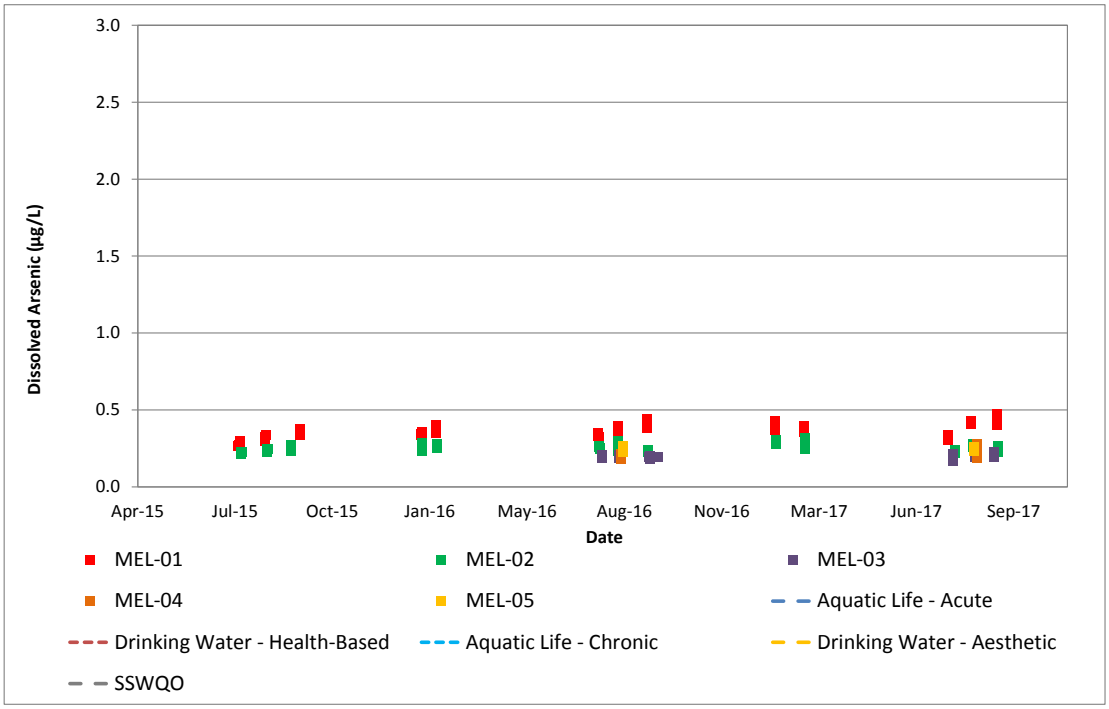
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6a: Concentrations of Dissolved Aluminum at Meliadine Lake Stations between 2015 and 2017



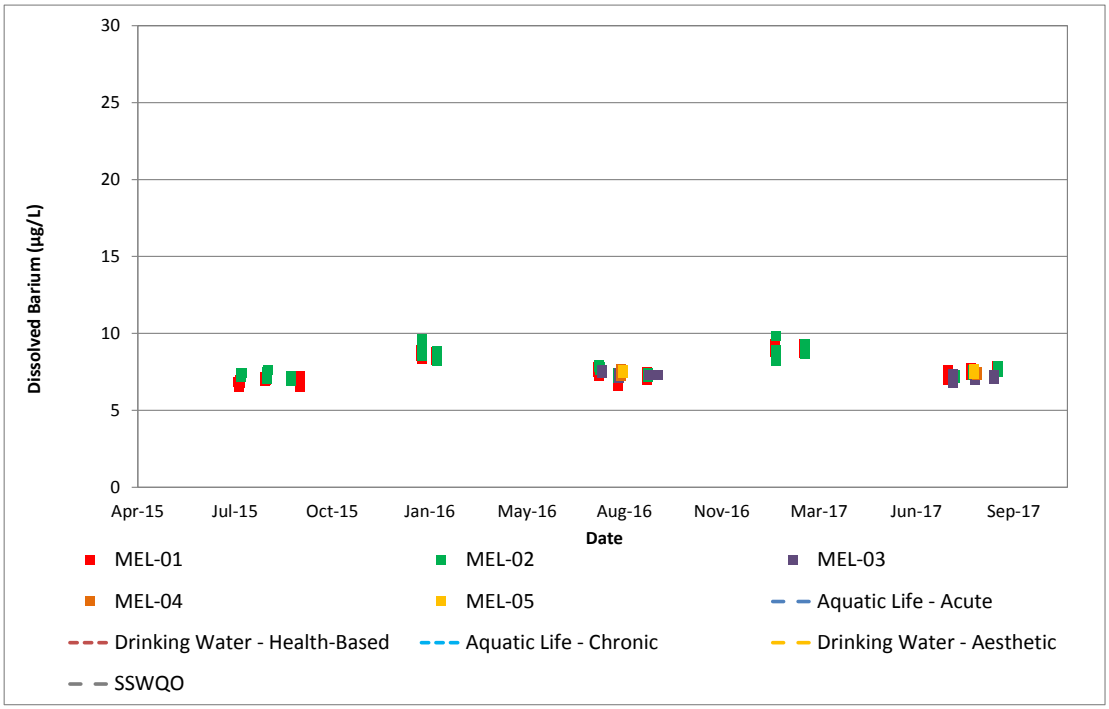
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-6b: Concentrations of Dissolved Antimony at Meliadine Lake Stations between 2015 and 2017



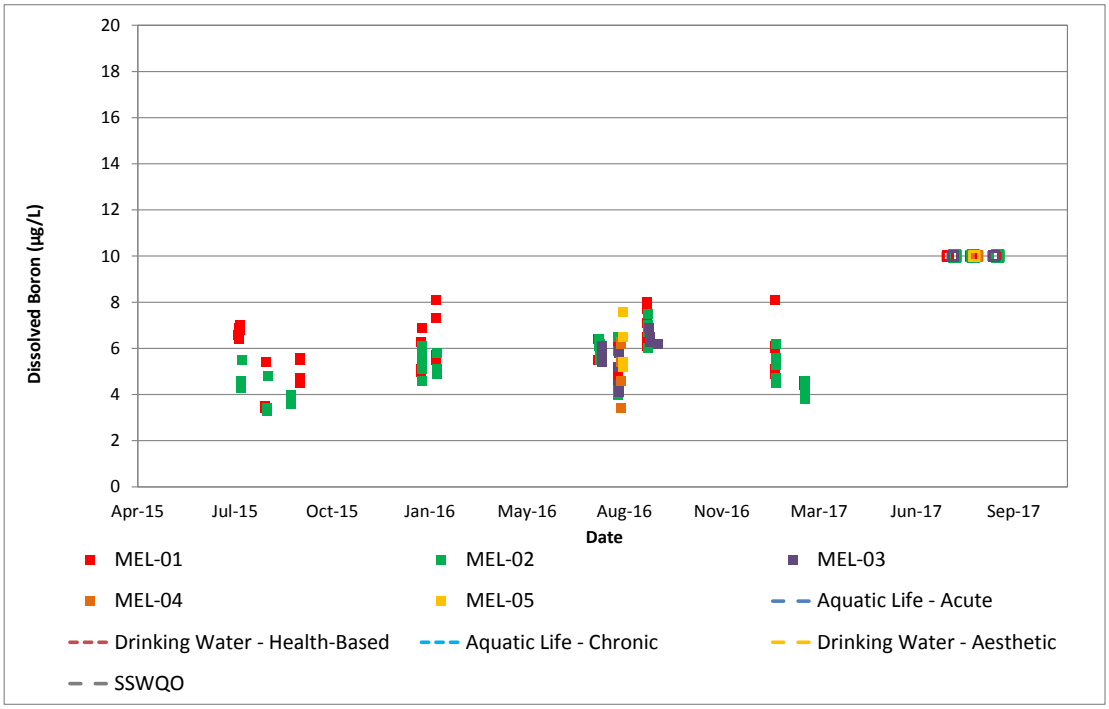
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6c: Concentrations of Dissolved Arsenic at Meliadine Lake Stations between 2015 and 2017



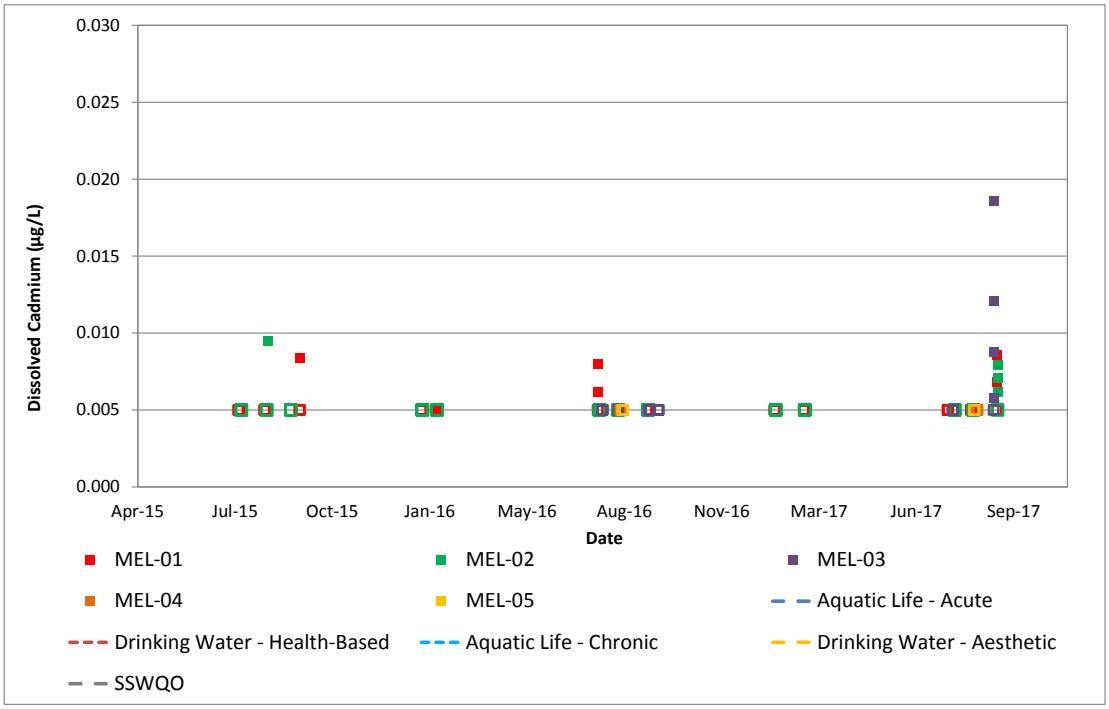
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6d: Concentrations of Dissolved Barium at Meliadine Lake Stations between 2015 and 2017



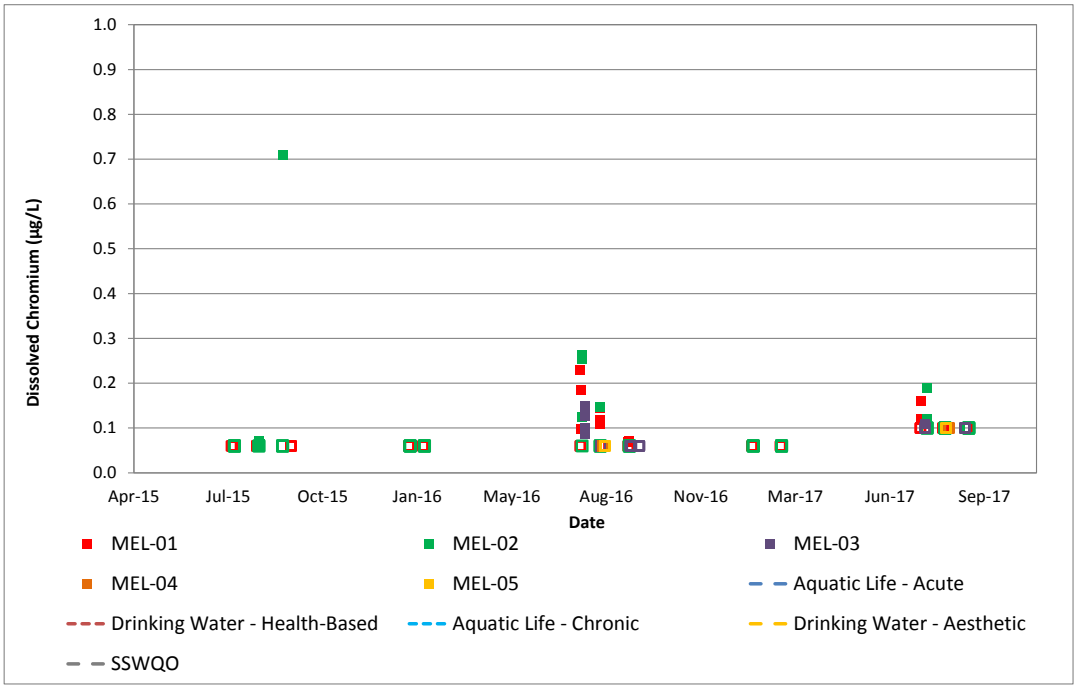
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6e: Concentrations of Dissolved Boron at Meliadine Lake Stations between 2015 and 2017



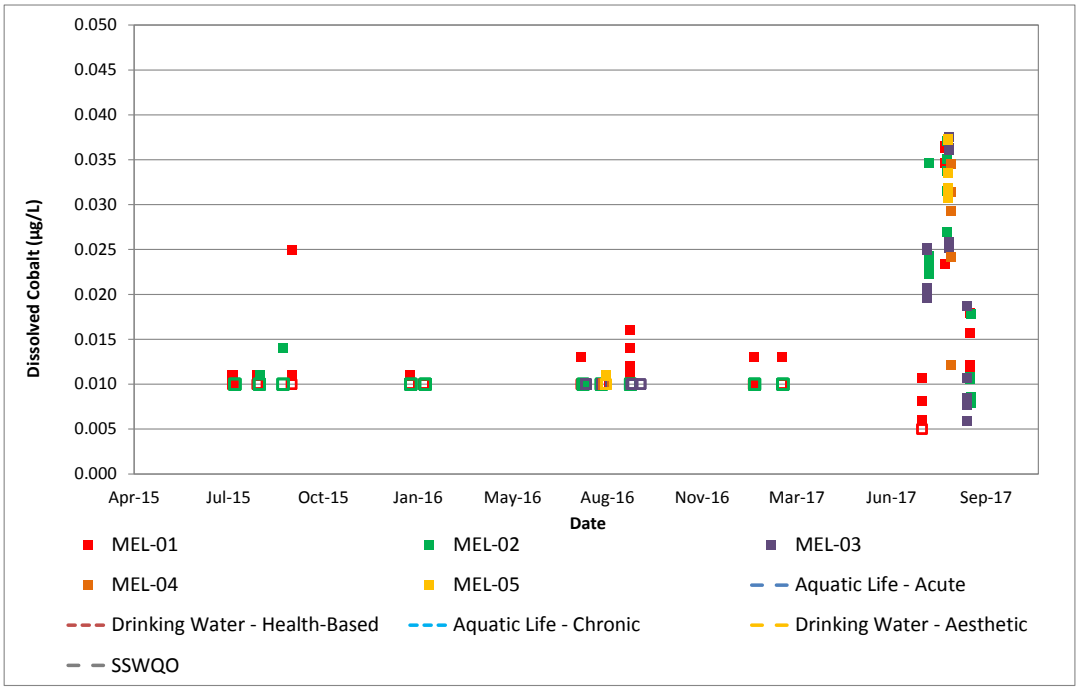
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-6f: Concentrations of Dissolved Cadmium at Meliadine Lake Stations between 2015 and 2017



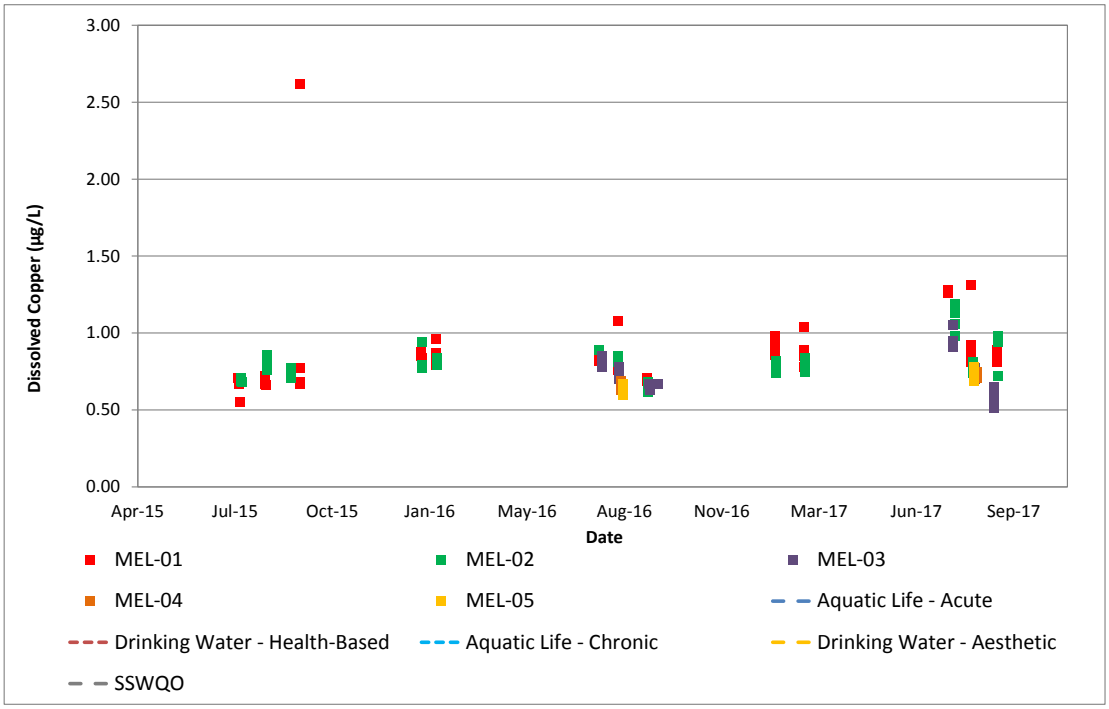
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-6g: Concentrations of Dissolved Chromium at Meliadine Lake Stations between 2015 and 2017



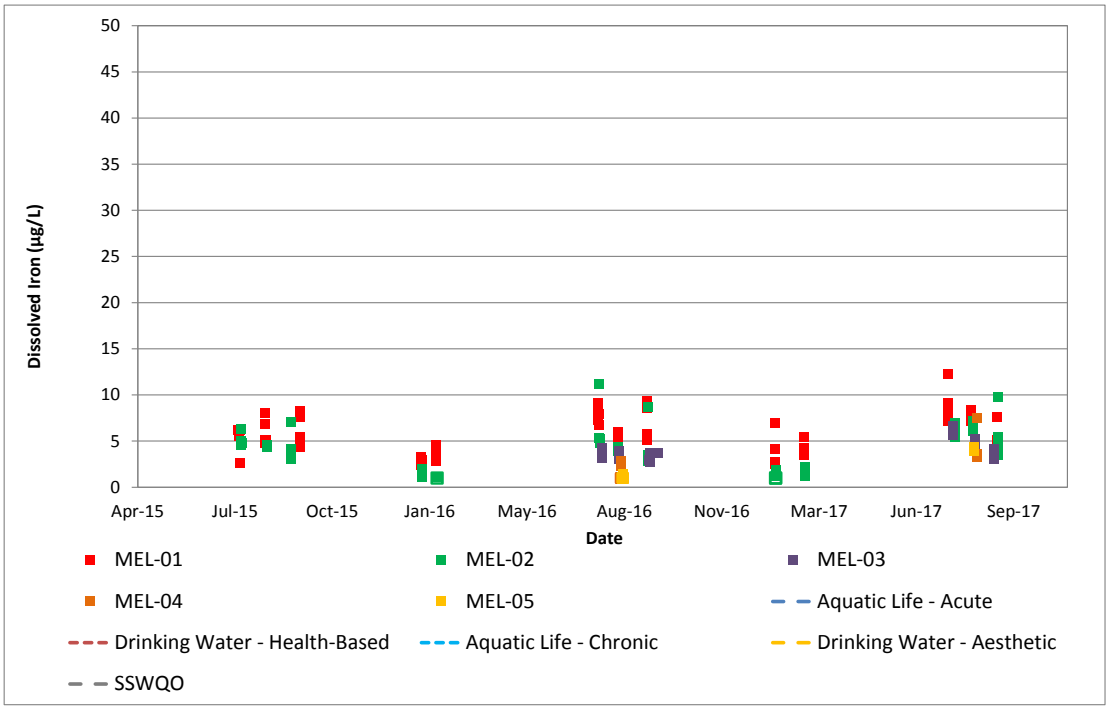
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-6h: Concentrations of Dissolved Cobalt at Meliadine Lake Stations between 2015 and 2017



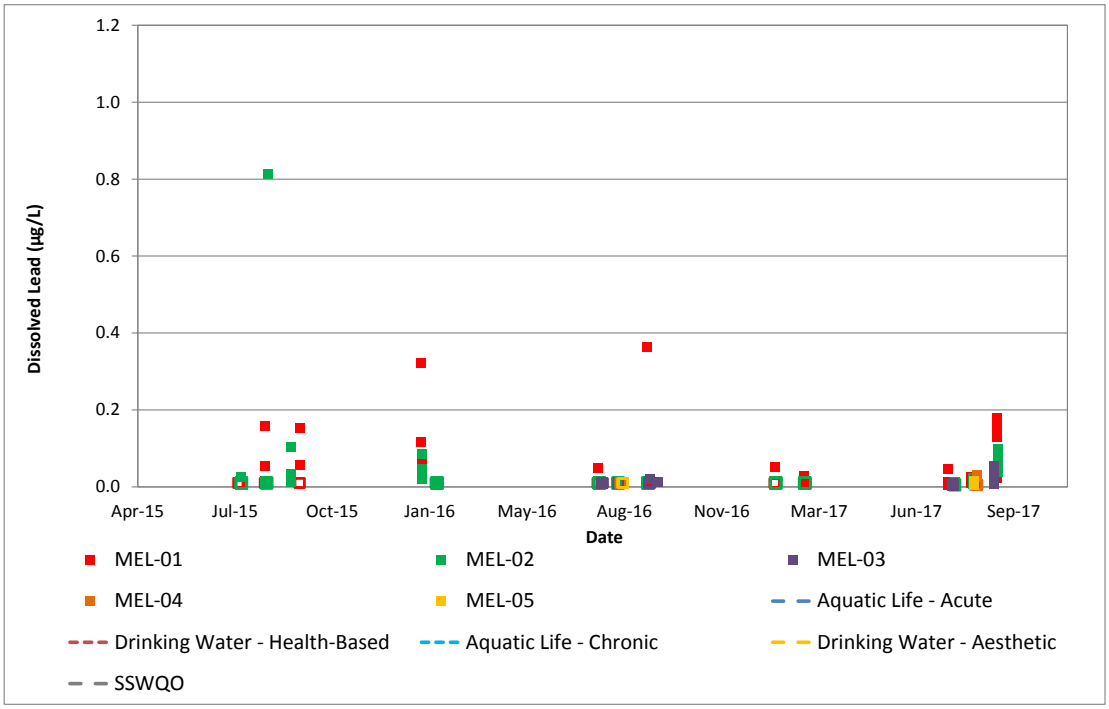
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6i: Concentrations of Dissolved Copper at Meliadine Lake Stations between 2015 and 2017



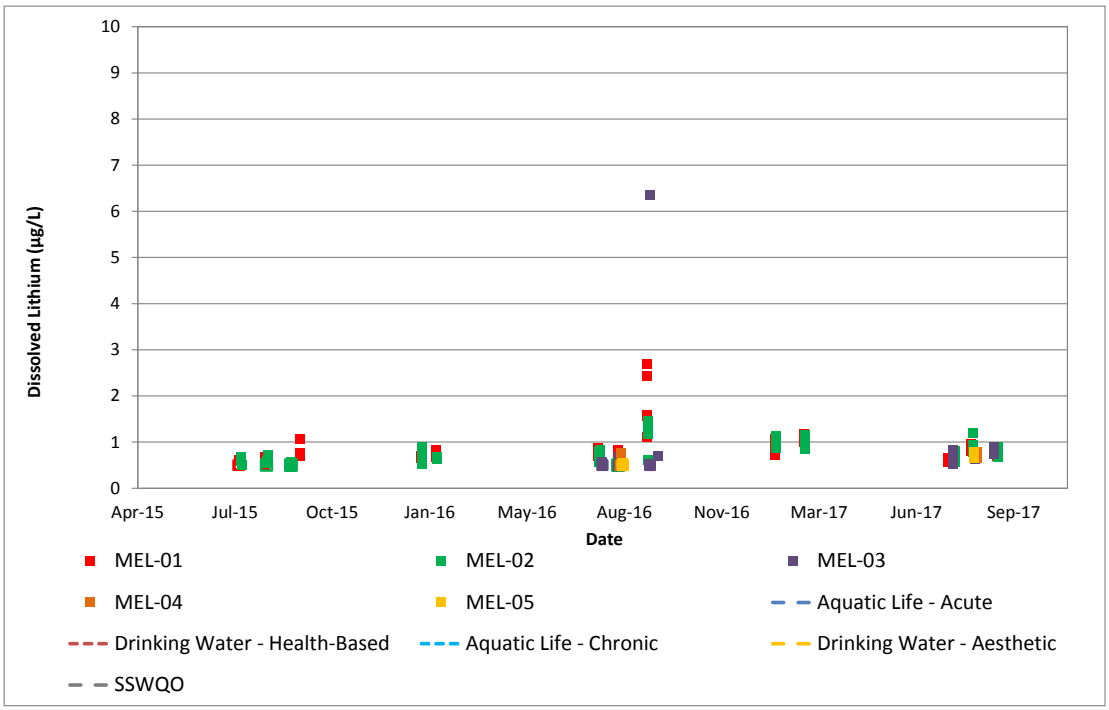
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6j: Concentrations of Dissolved Iron at Meliadine Lake Stations between 2015 and 2017



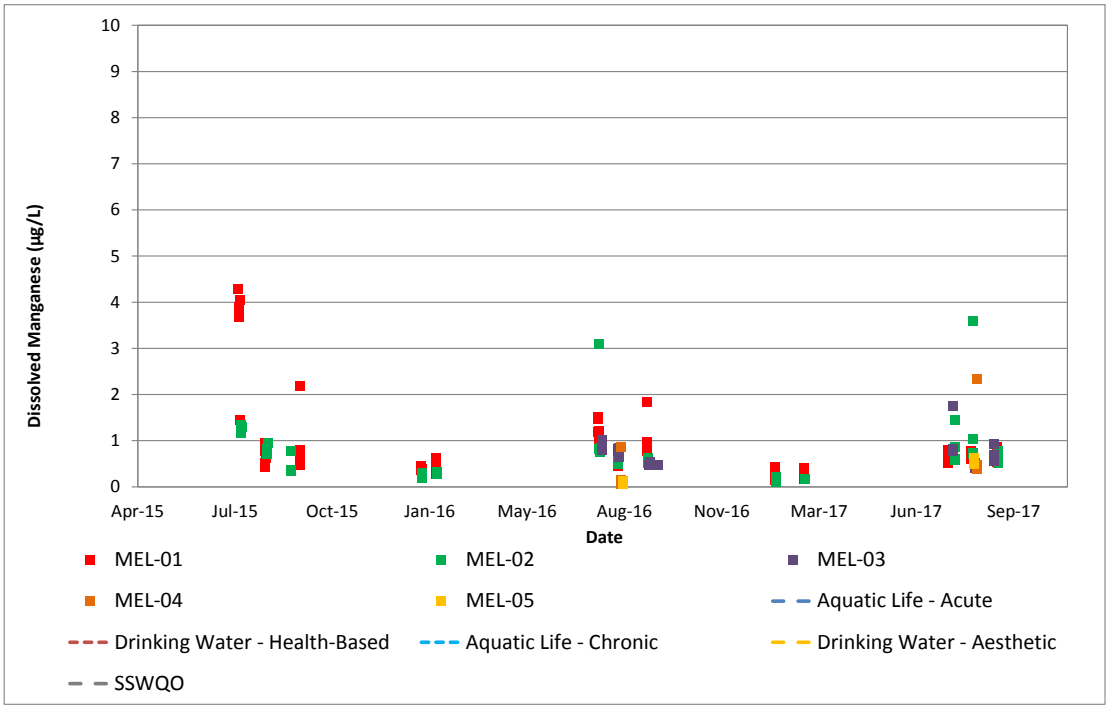
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-6k: Concentrations of Dissolved Lead at Meliadine Lake Stations between 2015 and 2017



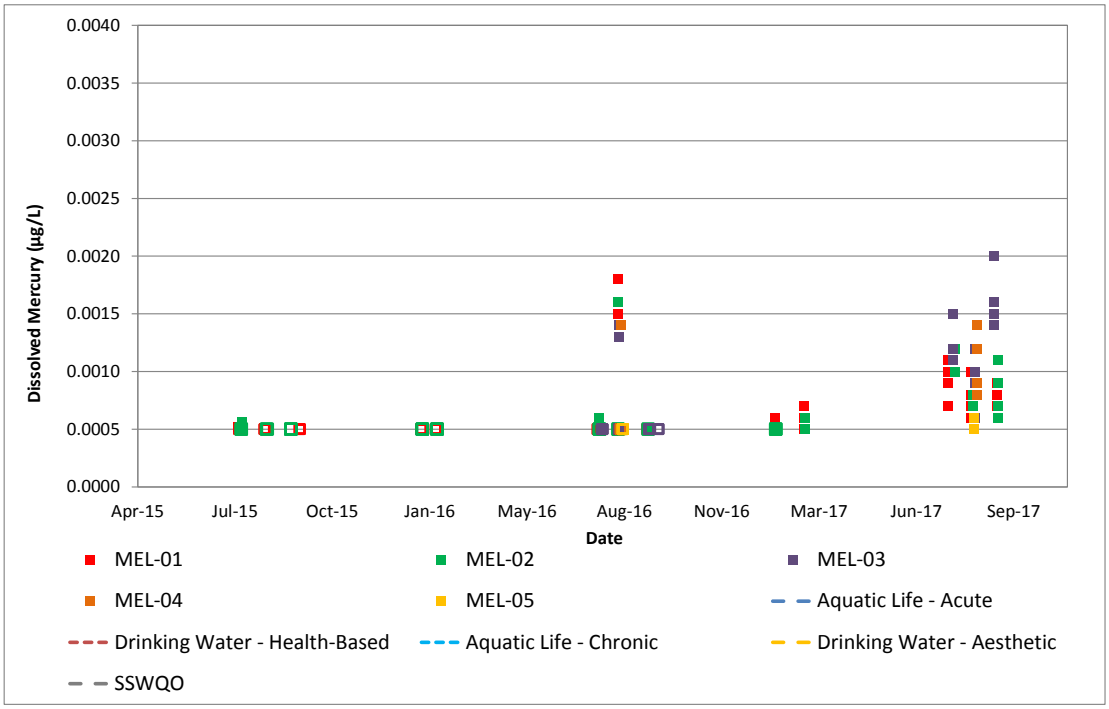
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6l: Concentrations of Dissolved Lithium at Meliadine Lake Stations between 2015 and 2017



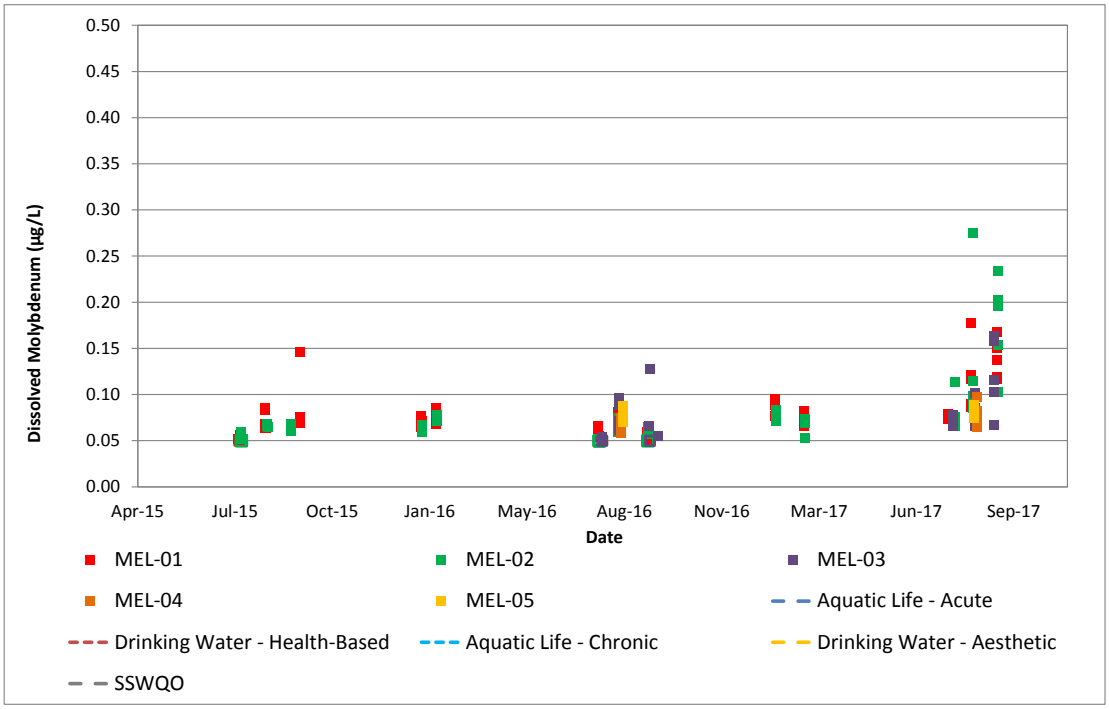
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6m: Concentrations of Dissolved Manganese at Meliadine Lake Stations between 2015 and 2017



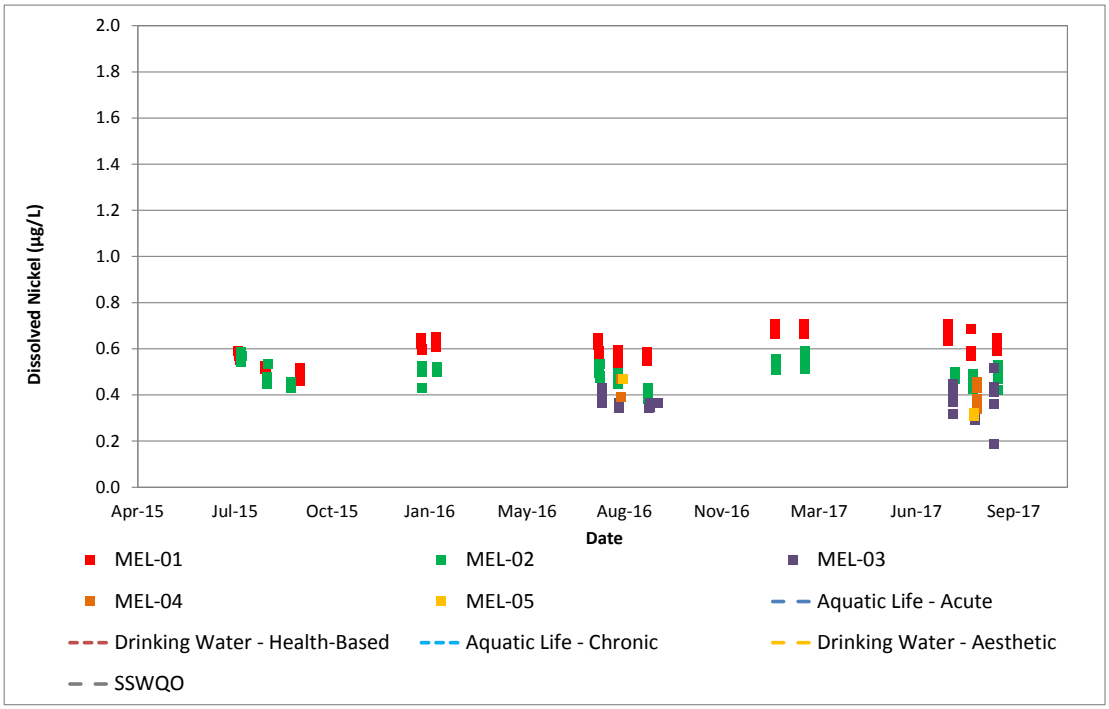
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-6n: Concentrations of Dissolved Mercury at Meliadine Lake Stations between 2015 and 2017



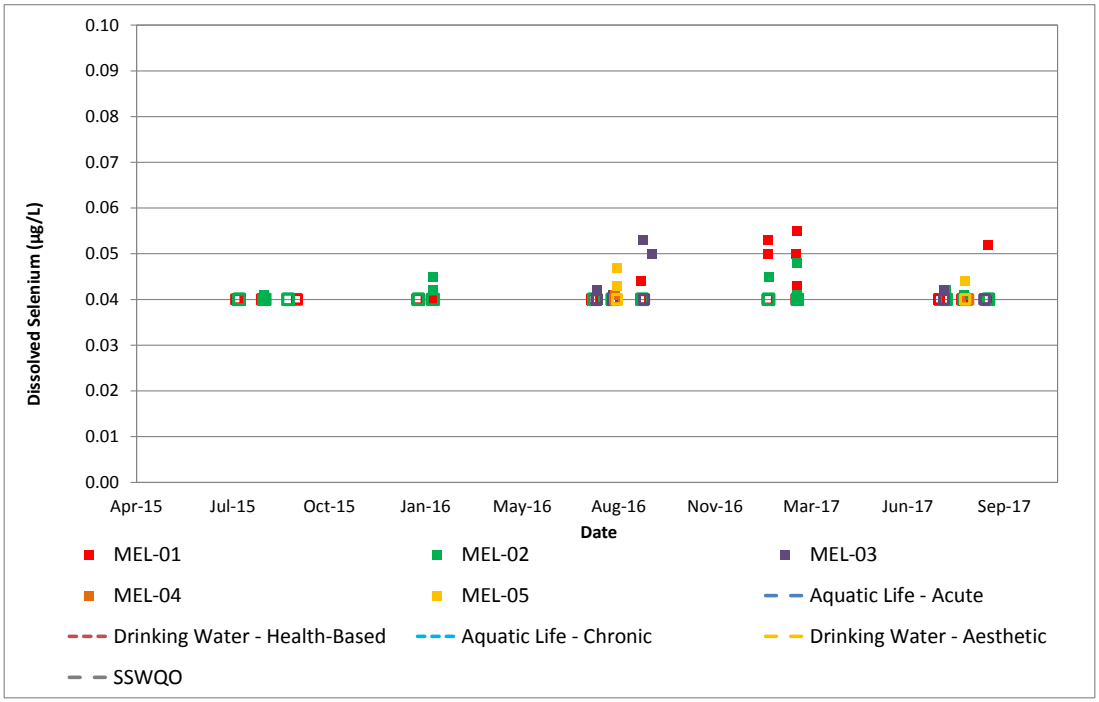
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6o: Concentrations of Dissolved Molybdenum at Meliadine Lake Stations between 2015 and 2017



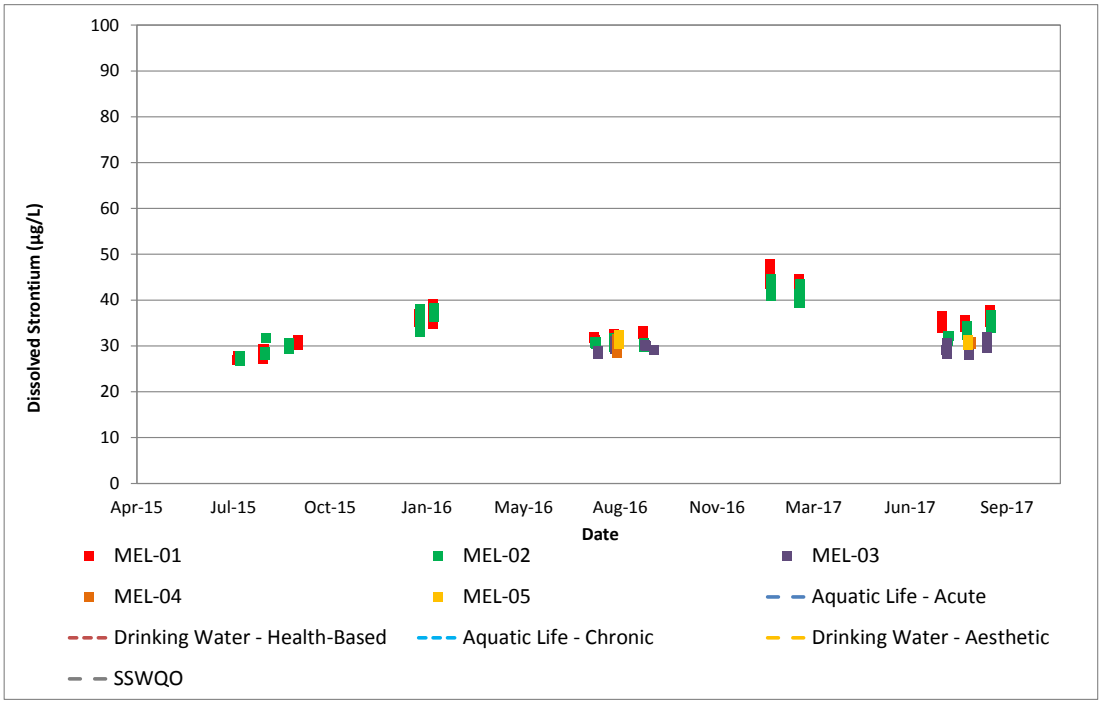
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6p: Concentrations of Dissolved Nickel at Meliadine Lake Stations between 2015 and 2017



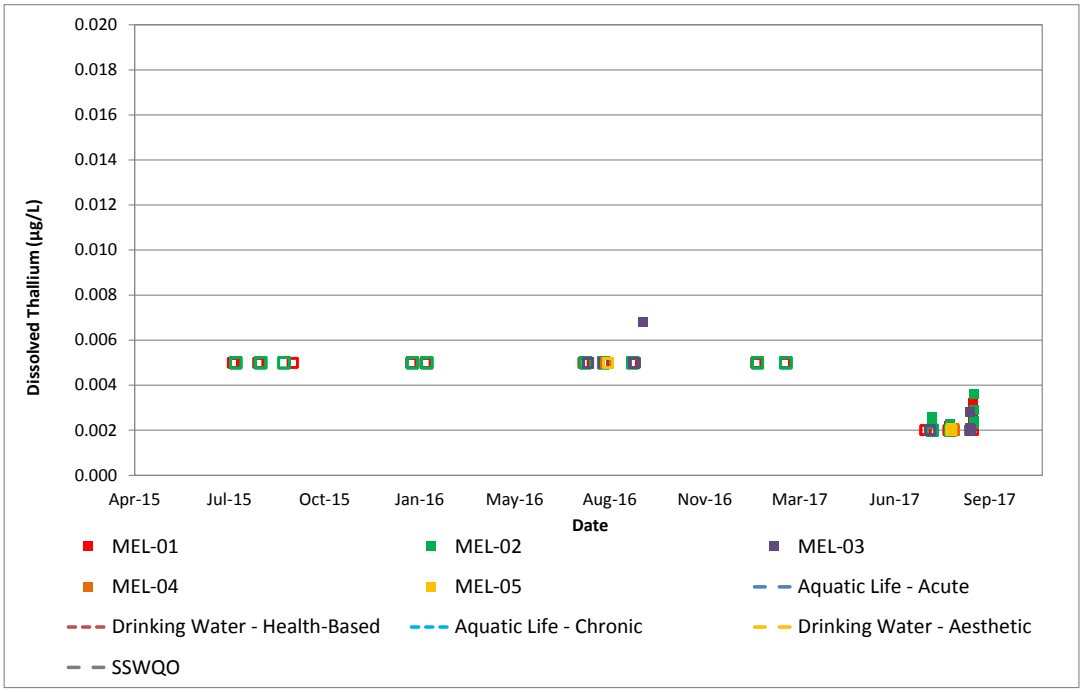
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-6q: Concentrations of Dissolved Selenium at Meliadine Lake Stations between 2015 and 2017



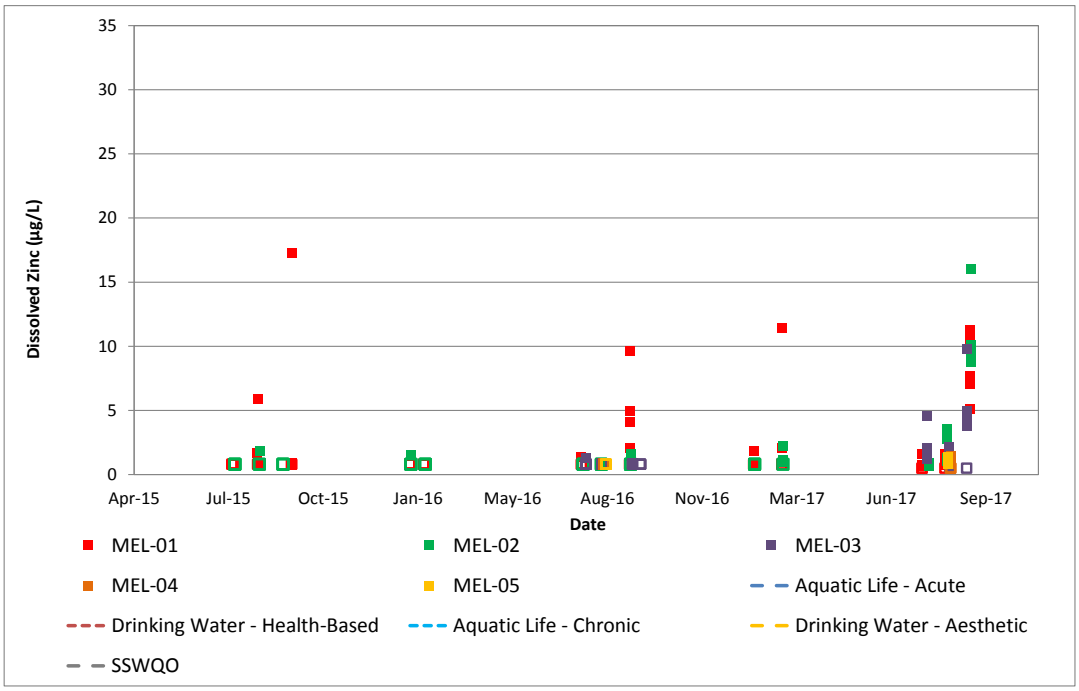
µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives.

Figure 3E.1-6r: Concentrations of Dissolved Strontium at Meliadine Lake Stations between 2015 and 2017



µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-6s: Concentrations of Dissolved Thallium at Meliadine Lake Stations between 2015 and 2017

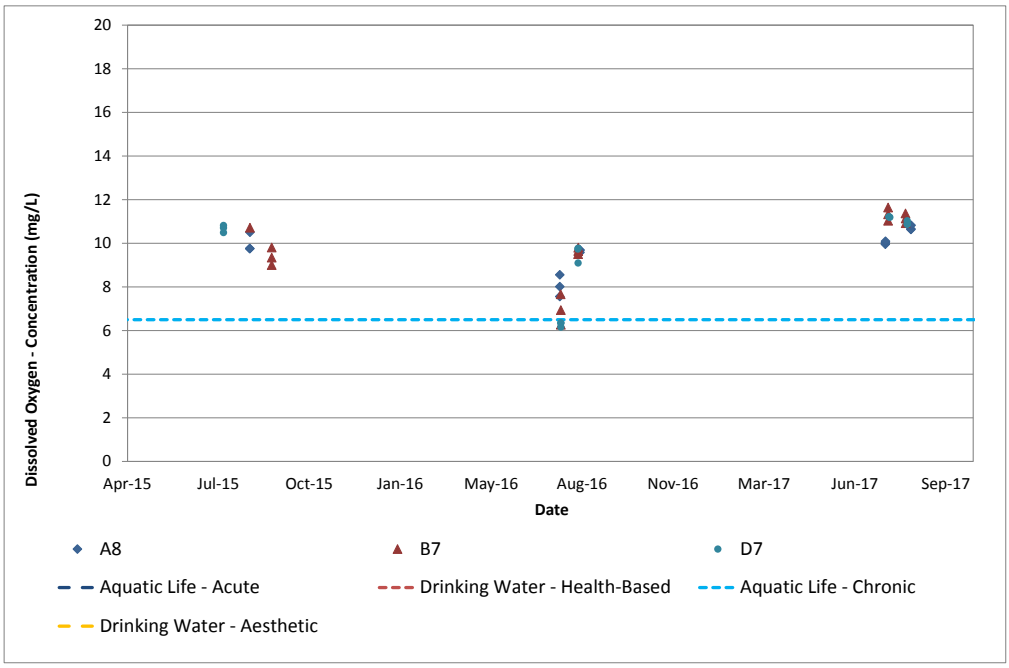


µg/L = micrograms per litre; SSWQO = site-specific Water Quality Objectives. Open symbols represent results that are less than the detection limit.

Figure 3E.1-6t: Concentrations of Dissolved Zinc at Meliadine Lake Stations between 2015 and 2017

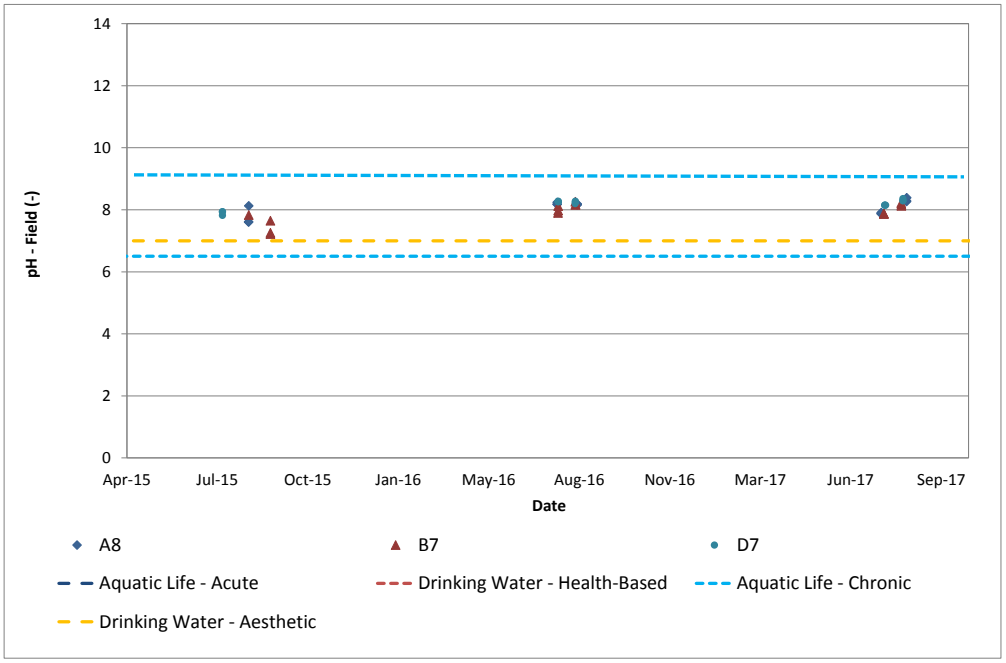
3E2.0 PENINSULA LAKES

3E2.1 Field-measured Parameters



mg/L = milligrams per litre.

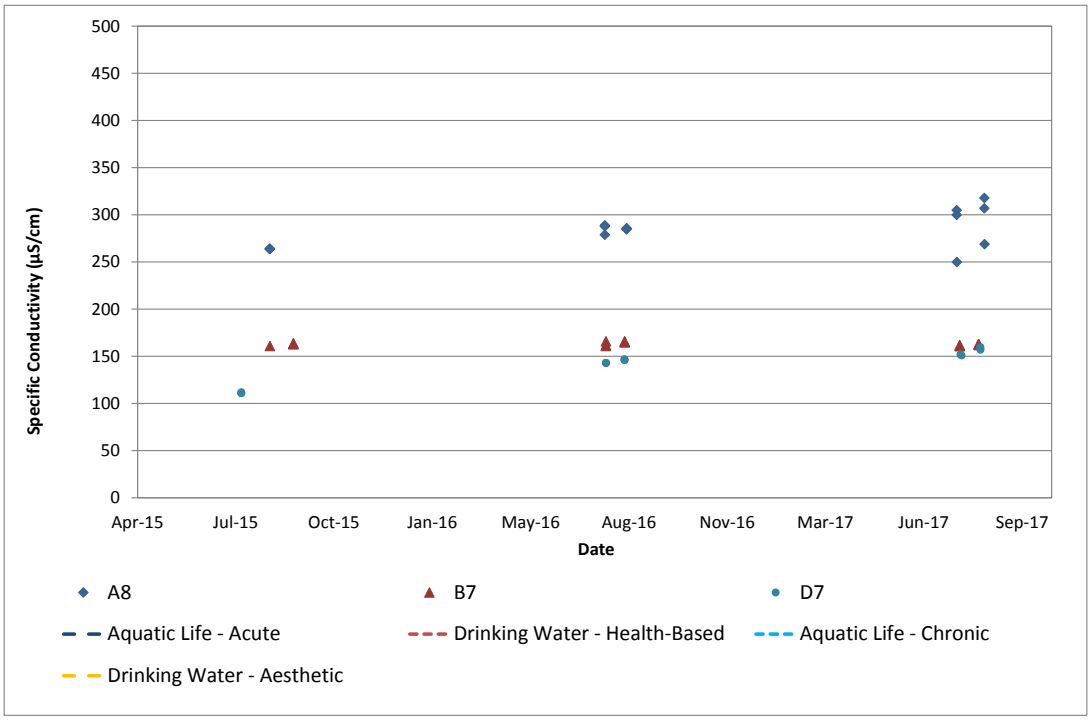
Figure 3E.2-1a: Dissolved Oxygen Concentrations Measured at Peninsula Lakes between 2015 and 2017



mg/L = milligrams per litre.

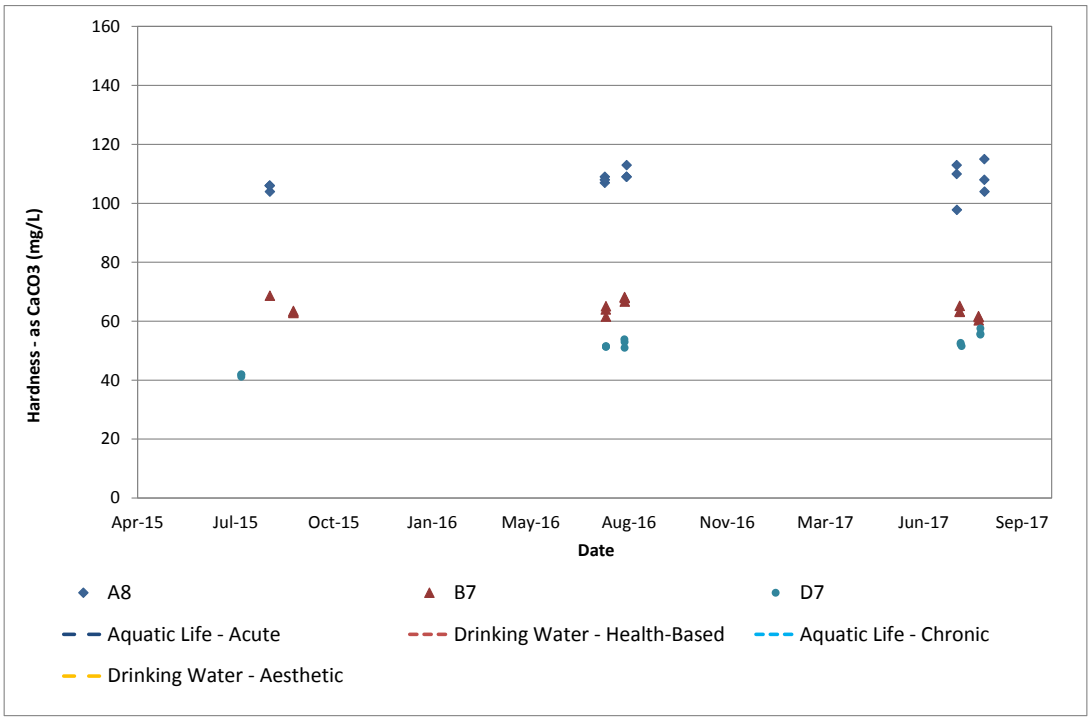
Figure 3E.2-1b: pH Values Measured at Peninsula Lakes between 2015 and 2017

3E2.2 Conventional Parameters



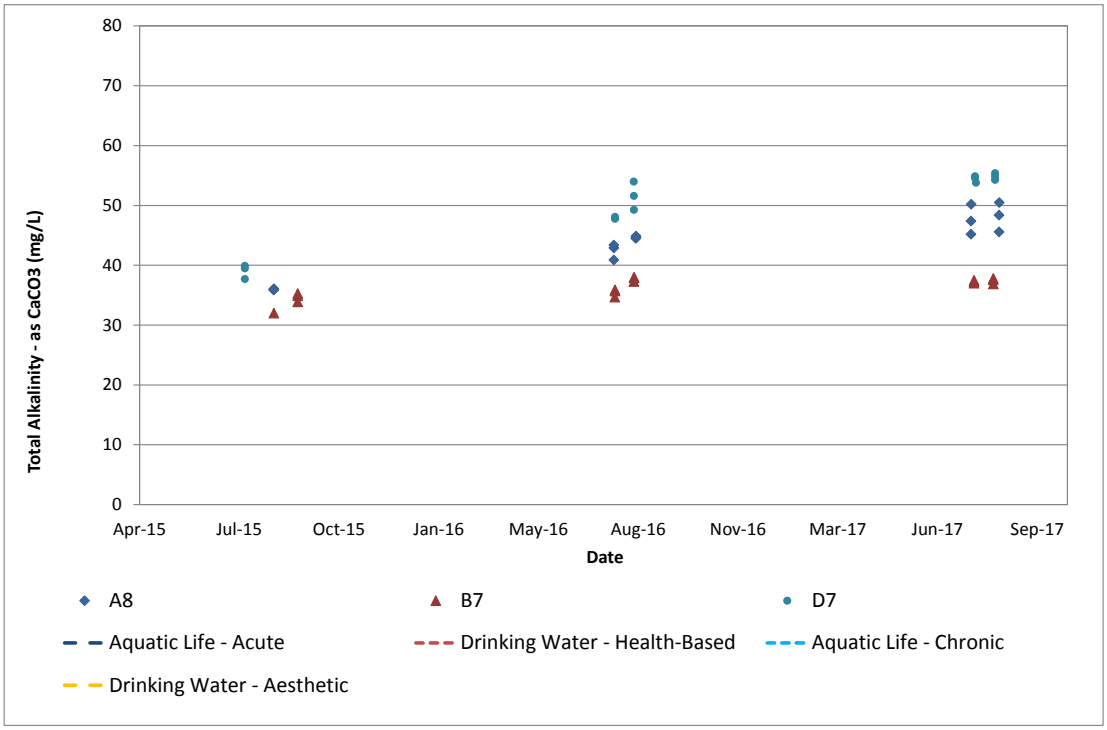
µS/cm = microSiemens per centimetre.

Figure 3E.2-2a: Specific Conductivity (laboratory) at Peninsula Lakes between 2015 and 2017



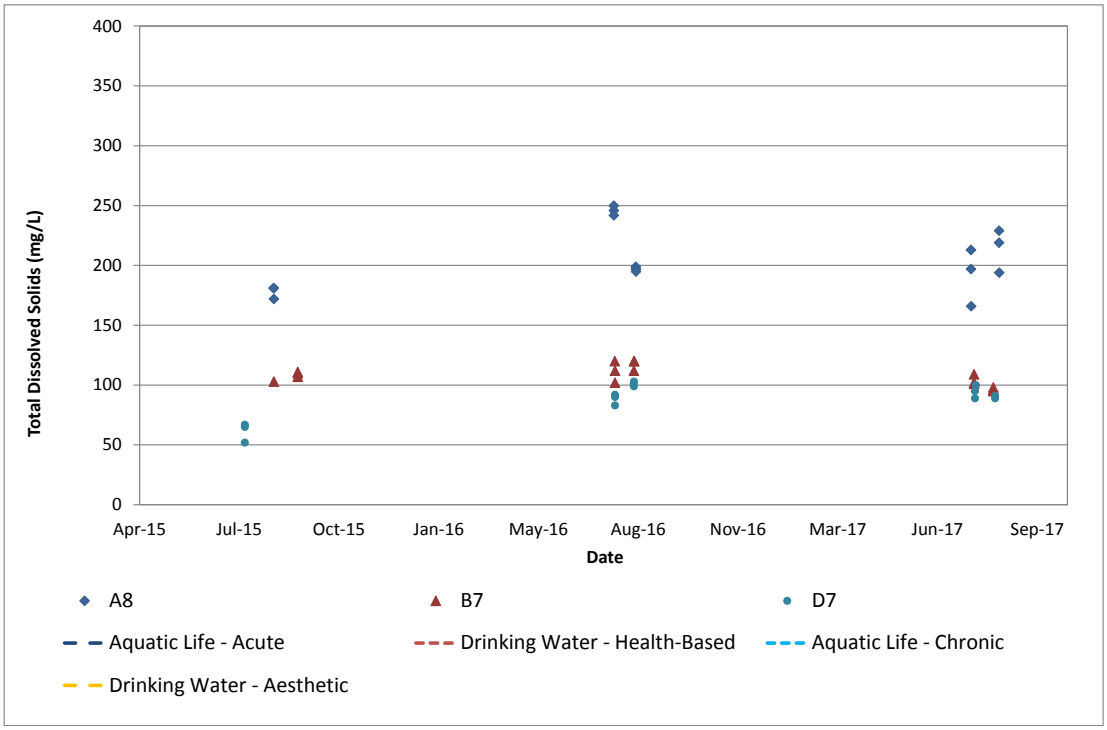
mg/L = milligrams per litre.

Figure 3E.2-2b: Total Hardness (as $CaCO_3$) at Peninsula Lakes between 2015 and 2017



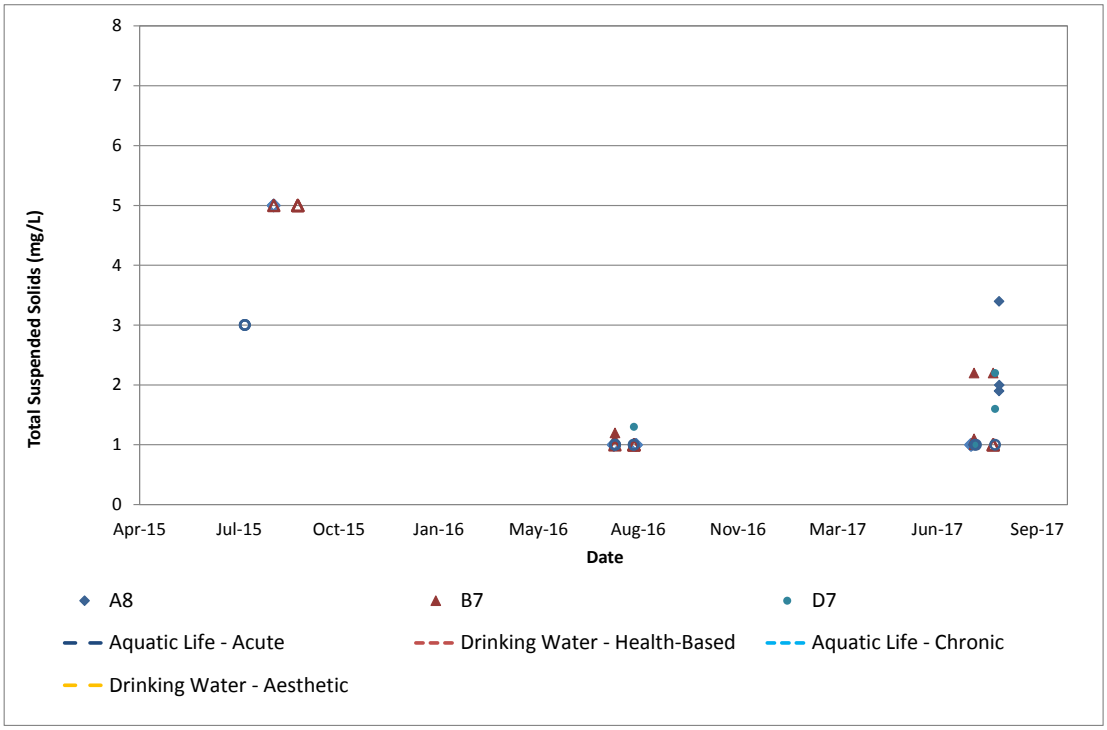
mg/L = milligrams per litre.

Figure 3E.2-2c: Total Alkalinity (as $CaCO_3$) at Peninsula Lakes between 2015 and 2017



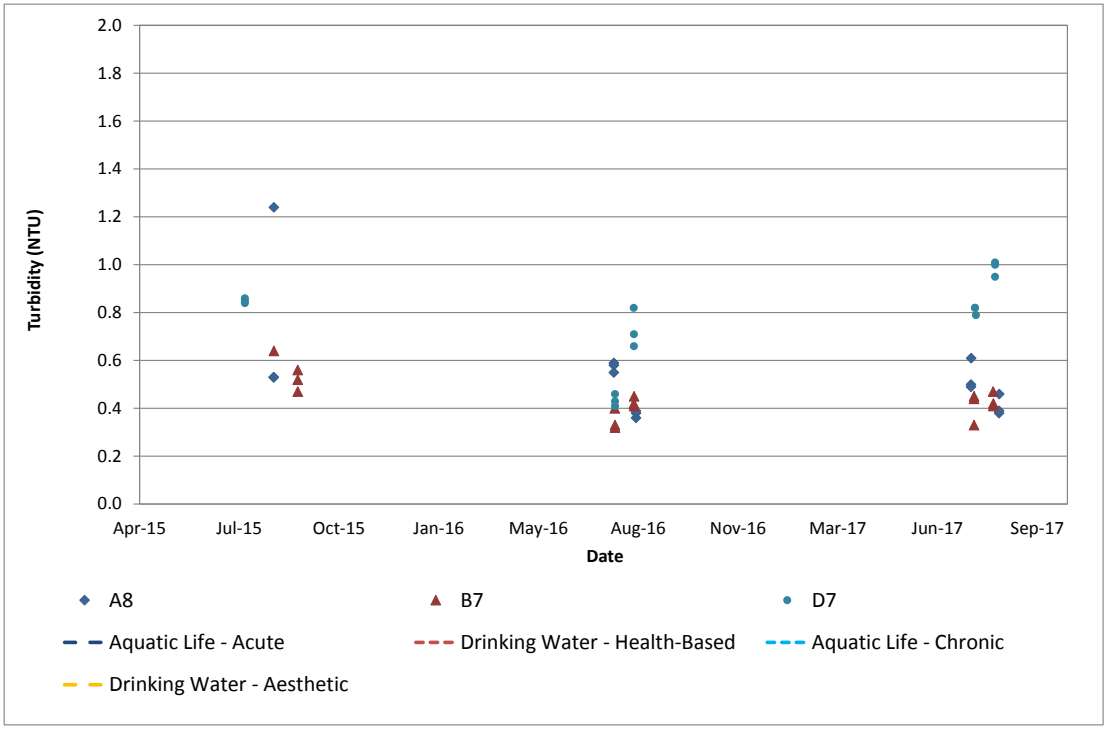
mg/L = milligrams per litre.

Figure 3E.2-2d: Concentrations of Total Dissolved Solids at Peninsula Lakes between 2015 and 2017



mg/L = milligrams per litre. Open symbols represent results that are less than the detection limit.

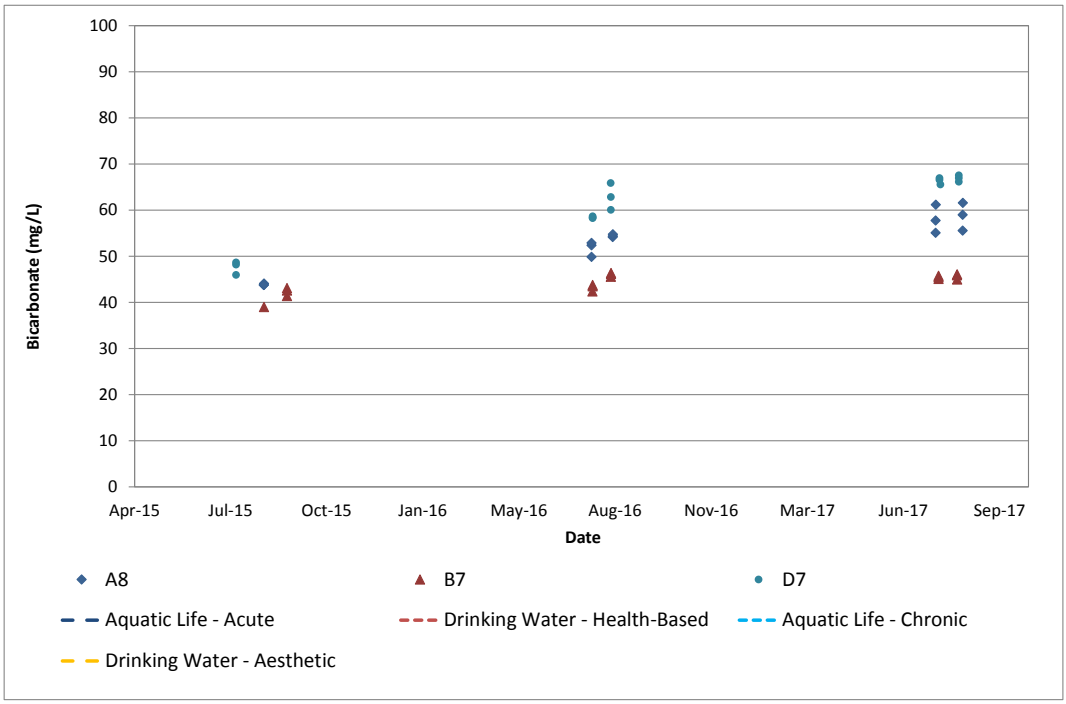
Figure 3E.2-2e: Concentrations of Total Suspended Solids at Peninsula Lakes between 2015 and 2017



NTU = Nephelometric Turbidy Units.

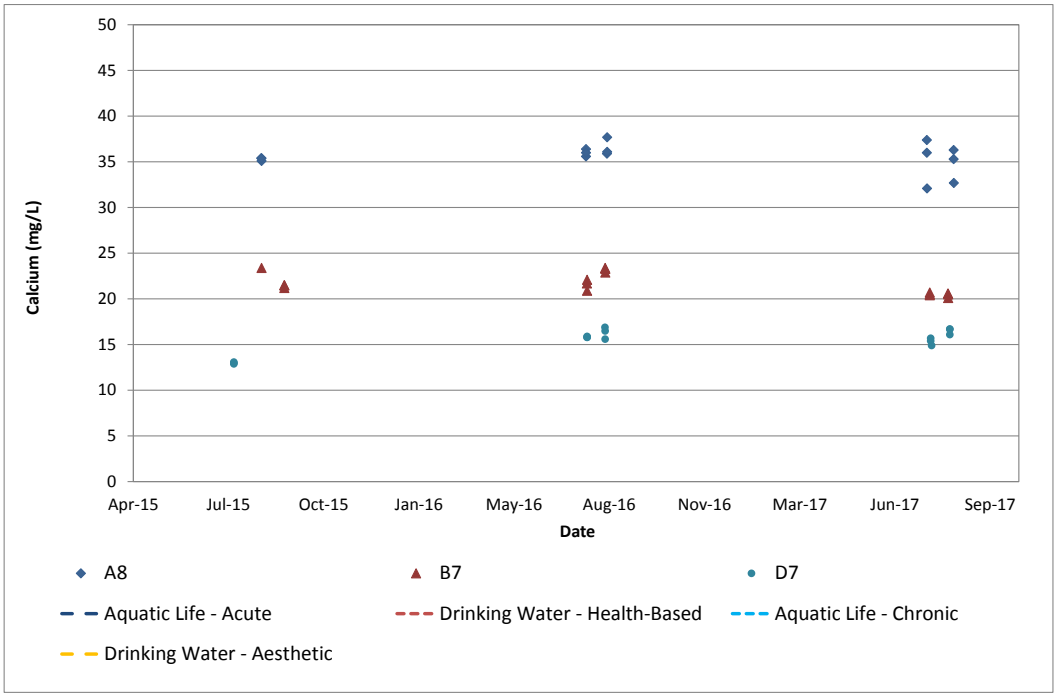
Figure 3E.2-2f: Concentrations of Turbidity at Peninsula Lakes between 2015 and 2017

3E2.3 Major Ions



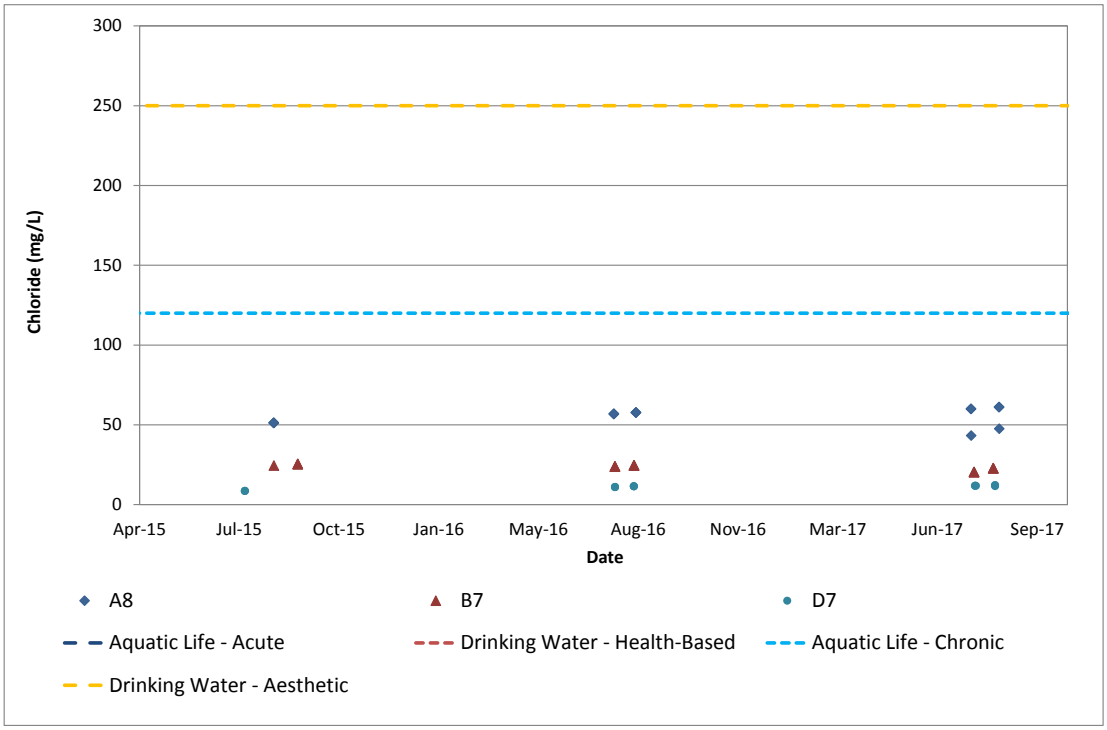
mg/L = milligrams per litre.

Figure 3E.2-3a: Concentrations of Bicarbonate at Peninsula Lakes between 2015 and 2017



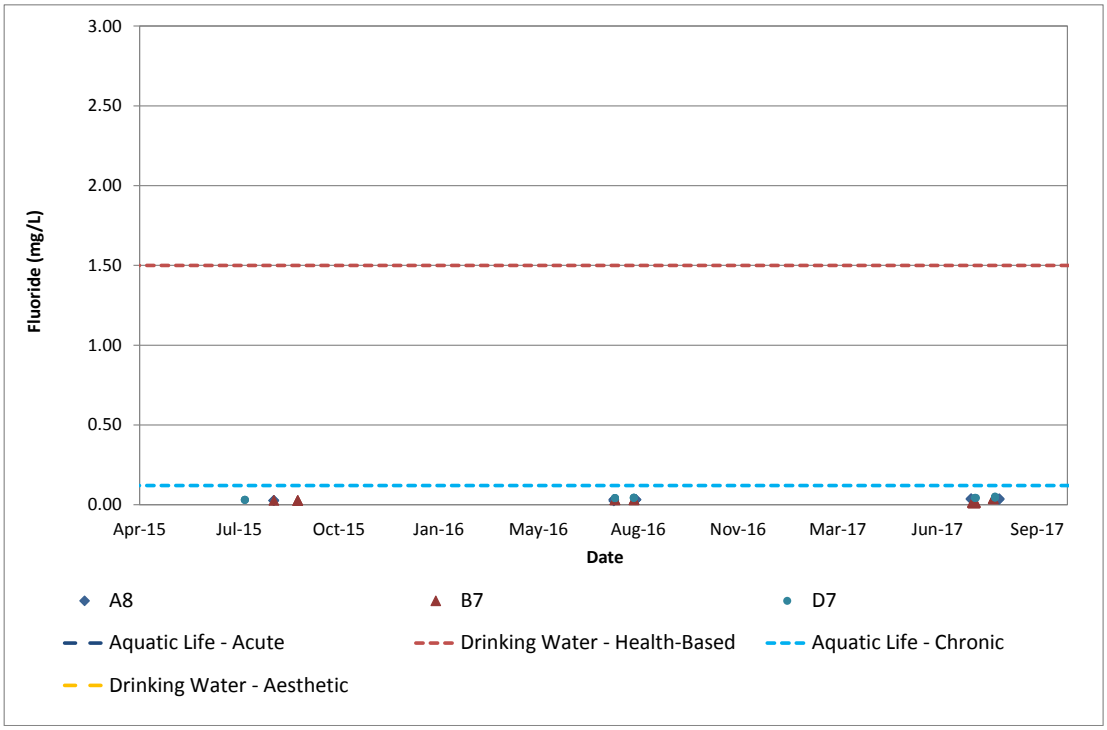
mg/L = milligrams per litre.

Figure 3E.2-3b: Concentrations of Calcium at Peninsula Lakes between 2015 and 2017



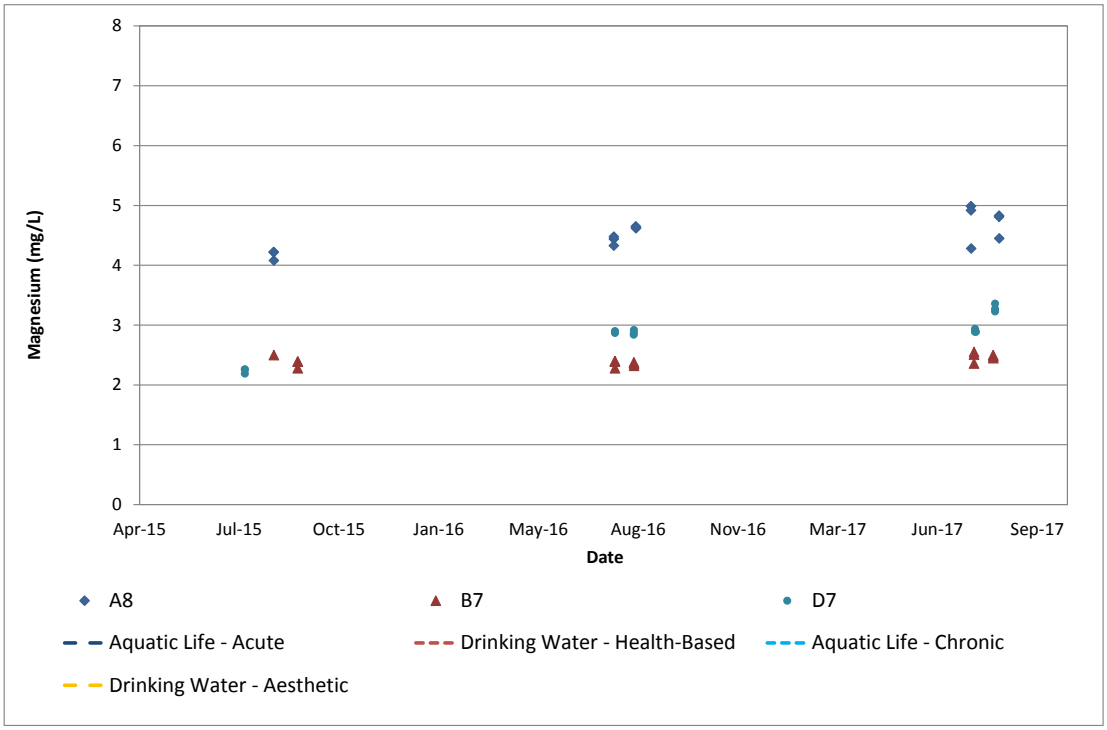
mg/L = milligrams per litre.

Figure 3E.2-3c: Concentrations of Chloride at Peninsula Lakes between 2015 and 2017



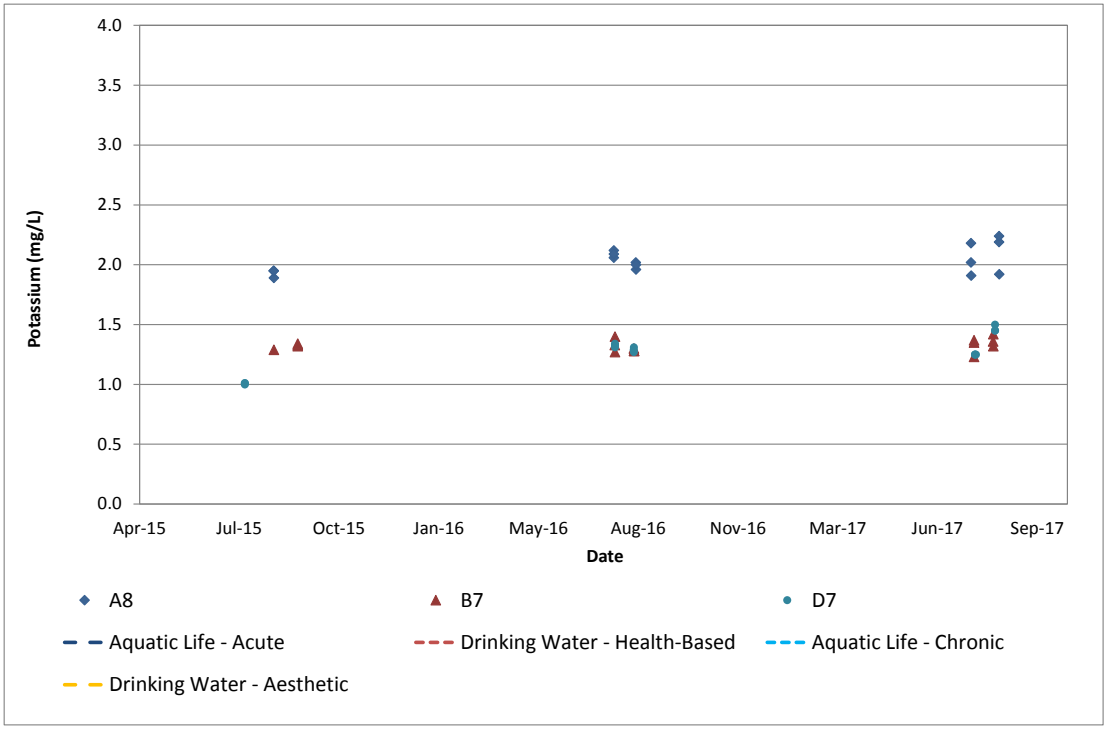
mg/L = milligrams per litre.

Figure 3E.2-3d: Concentrations of Chloride at Peninsula Lakes between 2015 and 2017



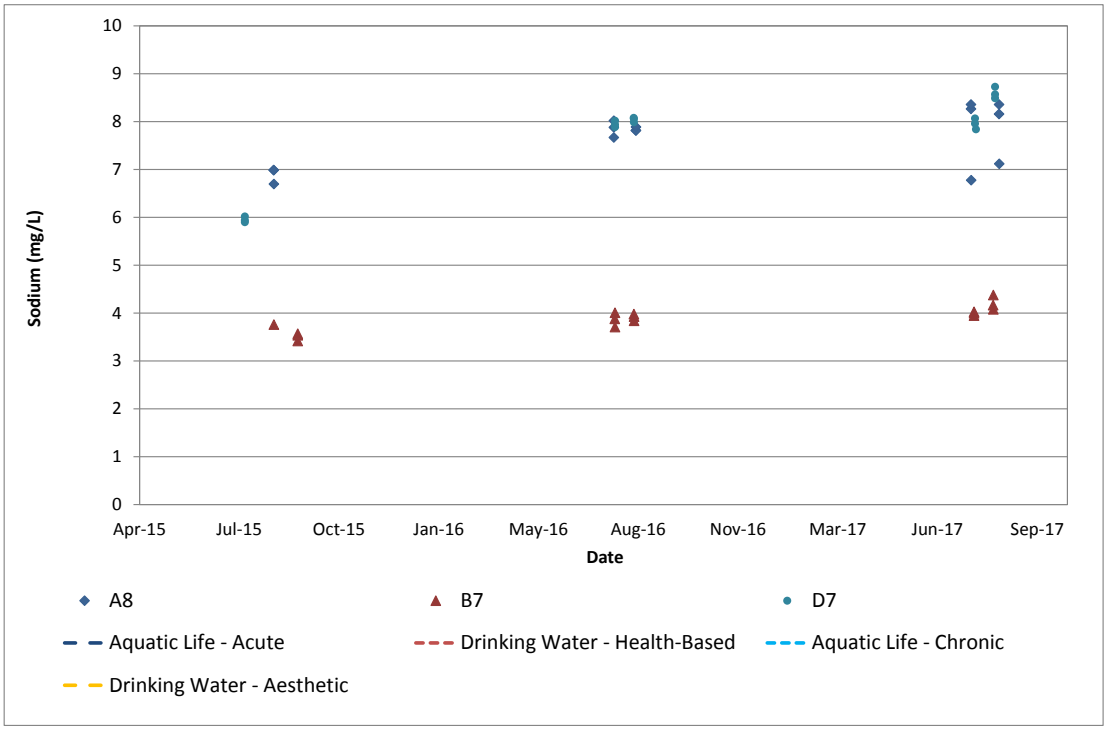
mg/L = milligrams per litre.

Figure 3E.2-3e: Concentrations of Magnesium at Peninsula Lakes between 2015 and 2017



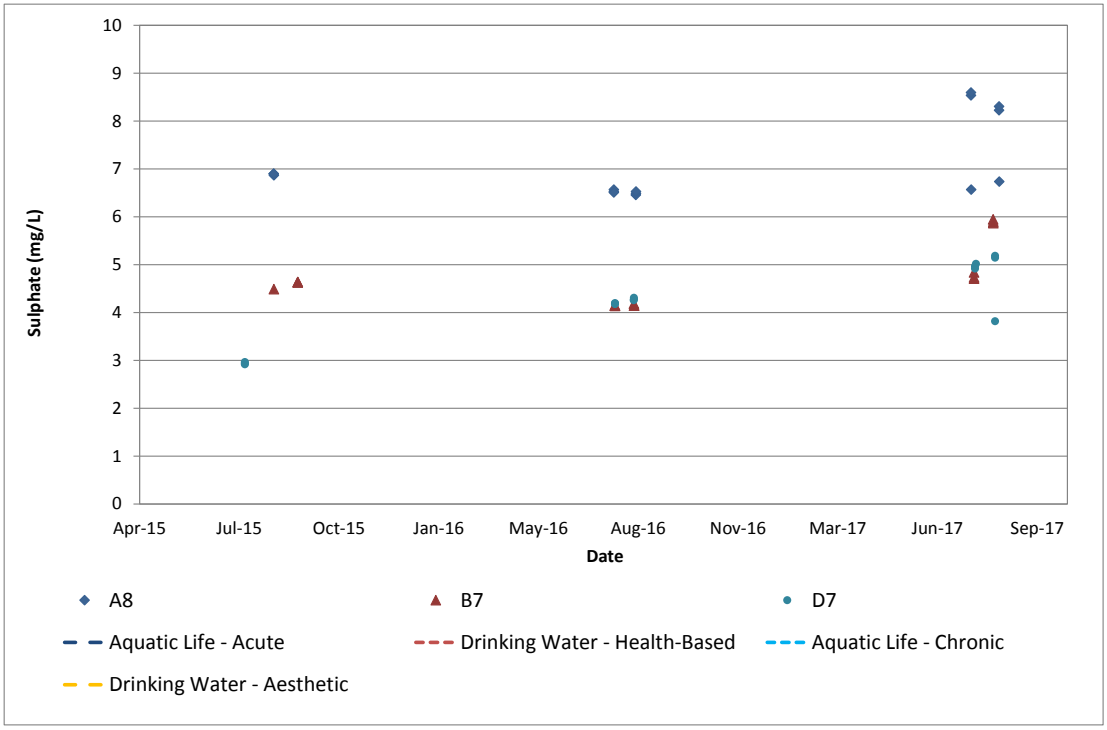
mg/L = milligrams per litre.

Figure 3E.2-3f: Concentrations of Potassium at Peninsula Lakes between 2015 and 2017



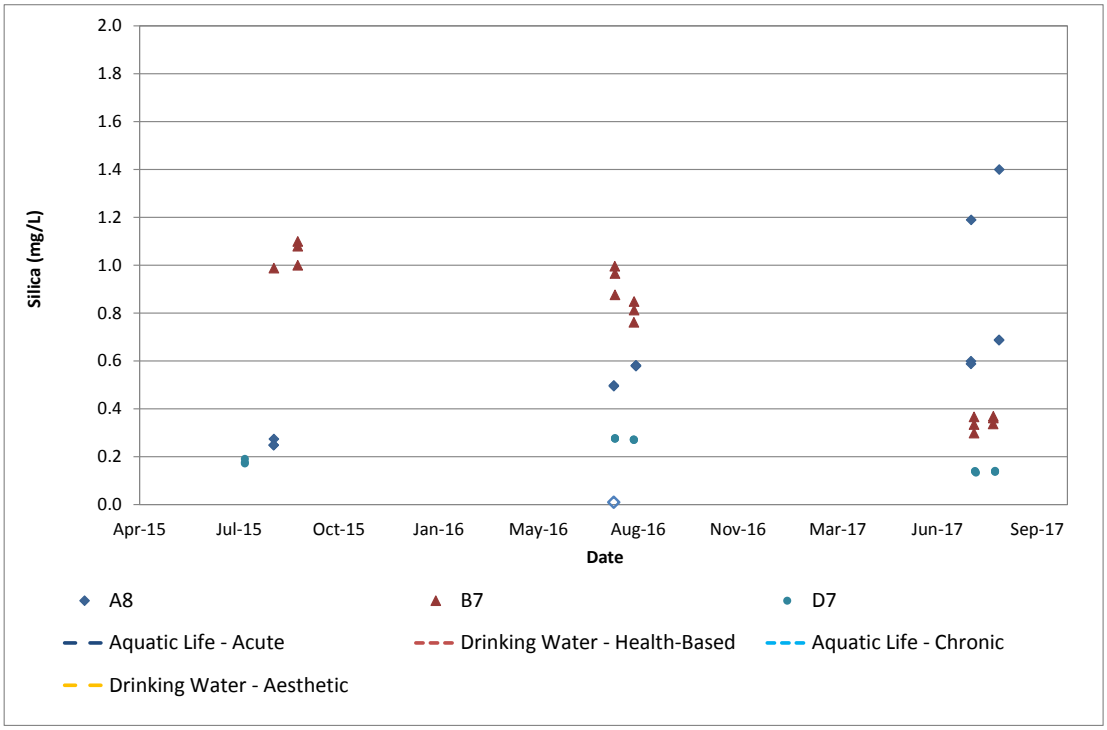
mg/L = milligrams per litre.

Figure 3E.2-3g: Concentrations of Sodium at Peninsula Lakes between 2015 and 2017



mg/L = milligrams per litre.

Figure 3E.2-3h: Concentrations of Sulphate at Peninsula Lakes between 2015 and 2017



mg/L = milligrams per litre.

Figure 3E.2-3i: Concentrations of Silica at Peninsula Lakes between 2015 and 2017