

**APPENDIX 19 2023 DDH SAMPLES**

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DDH	Sample date	1/28/2023	4/25/2023	8/6/2023	9/11/2023	10/7/2023
	Name	DDH ML425-9740-D7	ML500-8994-F3	ML425-9563-D11	ML300-103040-D3	ML300-10340-F1
<b>Conventional Parameters</b>						
pH	pH units	7.08	7.37	6.91	7.24	7.54
Turbidity	NTU	61	20	74	19	51
Conductivity	umhos/cm	78000	67000	77000	59000	58000
Hardness, as CaCO3	mg/L	14400	9250	12400	8020	7900
Hardness, as CaCO3 (dissolved)	mg/L	14500	10400	13500	8740	7880
Total alkalinity, as CaCO3	mg/L	52	88	63	73	96
Carbonate, as CaCO3	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bicarbonate, as CaCO3	mg/L	52	87	63	72	95
TDS	mg/L	50100	46100	54400	38900	36100
TSS	mg/L	36	32	44	34	21
Total organic carbon	mg/L	1.5	4.5	1.5	2.3	3.2
Dissolved organic carbon	mg/L	1.5	4.5	2.1	2.5	3.1
<b>Major Ions</b>						
Chloride	mg/L	31000	38000	-	-	-
Fluoride	mg/L	< 0.10	< 0.10	< 0.10	0.11	-
Silica	mg/L	6.1	4.8	4.9	4.7	4.5
Sulfate	mg/L	3600	2900	3300	2300	-
<b>Nutrients and Chlorophyll a</b>						
Ammonia Nitrogen (as N)	mg/L	3.8	3.6	3.7	4.1	3.3
Nitrate (as N)	mg/L	< 1.0	< 1.0	< 1.0	0.66	< 1.0
Nitrite (as N)	mg/L	< 0.10	< 0.10	< 0.10	0.02	< 0.10
Nitrate + nitrite (as N)	mg/L	< 1.0	< 1.0	< 1.0	0.67	< 1.0
Total Kjeldahl nitrogen	mg/L	5.9	6	5	5.6	4.1
Total phosphorus	mg/L	0.042	< 0.020	0.024	0.056	0.1
Orthophosphate (P)	mg/L	< 0.010	< 0.010	< 0.050	< 0.010	< 0.010
<b>Total Metals</b>						
Aluminum	mg/L	< 0.15	< 0.15	< 0.15	0.16	< 0.15
Antimony	mg/L	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Arsenic	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Barium	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	0.06
Beryllium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Bismuth	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Boron	mg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5

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Cadmium	mg/L	< 0.00050	< 0.00050	< 0.00050	0.00153	< 0.00050
Calcium (total)	mg/L	1800	1090	1550	1170	1070
Chromium	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Cobalt	mg/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Copper	mg/L	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Iron	mg/L	5.91	3.11	6.96	4.07	4.73
Lead	mg/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Lithium	mg/L	0.25	0.28	0.31	0.27	0.33
Magnesium (total)	mg/L	2410	1580	2070	1240	1270
Manganese	mg/L	1.01	0.595	1.35	0.549	0.532
Mercury	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Molybdenum	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Nickel	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Potassium (total)	mg/L	381	350	386	268	292
Selenium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Silicon	mg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Silver	mg/L	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Sodium (total)	mg/L	16600	11800	14500	9600	9870
Strontium	mg/L	60.3	31.7	40.1	35	30.7
Sulphur	mg/L	1110	858	964	698	786
Thallium	mg/L	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Tin	mg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Titanium	mg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Uranium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Vanadium	mg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Zinc	mg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Zirconium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
<b>Dissolved Metals</b>						
Aluminum	mg/L	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Antimony	mg/L	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Arsenic	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Barium	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	0.06
Beryllium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050

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	Name	DDH ML425-9740-D7	ML500-8994-F3	ML425-9563-D11	ML300-103040-D3	ML300-10340-F1
Bismuth	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Boron	mg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Cadmium	mg/L	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Calcium (Dissolved)	mg/L	1810	1170	1660	1290	1070
Chromium	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Cobalt	mg/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Copper	mg/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Iron	mg/L	4.05	2.01	6.26	3.06	2.44
Lead	mg/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Lithium	mg/L	0.23	0.28	0.33	0.34	0.32
Magnesium (Dissolved)	mg/L	2430	1810	2260	1340	1260
Manganese	mg/L	1.04	0.632	1.42	0.624	0.522
Mercury	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Molybdenum	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Nickel	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Potassium (Dissolved)	mg/L	362	380	418	295	291
Selenium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Silicon	mg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Silver	mg/L	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Sodium (Dissolved)	mg/L	15700	12600	15700	9940	10200
Strontium	mg/L	57.3	35.7	43	40.6	33.1
Sulphur	mg/L	1060	985	1100	799	744
Thallium	mg/L	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Tin	mg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Titanium	mg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Uranium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Vanadium	mg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Zinc	mg/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Zirconium	mg/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
<b>Radionuclides</b>						
Radium-226	Bq/l	2.1	0.45	1.2	0.42	0.39