Annex F5

Groundwater Monitoring Results

Table F5.1 Groundwater Monitoring Results (January 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	2.61	2.72	2.7	2.61	2.58	2.51	2.48	2.37	2.68	2.66	2.98	6.29	35.86	43.21
Bicarbonate Alkalinity as $CaCO_3$	mg/L	134	301	161	<1	<1	<1	50	<1	74	163	146	59	15	10
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	91	75	94	15	79	16	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	134	301	161	144	106	211	65	110	90	163	146	59	15	10
pH Value	pH Unit	7.7	7.8	7.8	10.9	10.6	11.1	8.8	10.3	8.7	7.7	8	6.6	5.4	5.5
Electrical Conductivity @ 25Â°C	µS/cm	752	786	1060	1220	1210	1400	2770	3070	2330	1150	374	311	95	92
Ammonia as N	mg/L	0.17	<0.01	1.07	7.6	1.9	3.83	6.26	13.3	6.42	<0.01	0.11	<0.01	0.02	<0.01
Chloride	mg/L	118	30	181	270	215	183	889	983	658	231	26	23	16	18
Nitrite as N	mg/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
Reactive Phosphorus as P	mg/L	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.03	0.04	0.02	0.04	<0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	59	85	95	55	158	96	45	43	152	82	7	54	3	3
Sulphide as S_2-	mg/L	<0.1	<0.1	<0.1	6.4	3.3	11	1	10.9	0.5	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	0.2	0.1	1.2	7.8	2	4.3	6.6	14	6.5	<0.1	0.2	0.1	<0.1	0.1
Nitrate as N	mg/L	0.05	0.29	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.12
Total Nitrogen as N	mg/L	0.3	0.4	1.2	7.8	2	4.3	6.6	14	6.5	<0.1	0.2	0.2	0.2	0.2
Boron	µg/L	120	200	170	160	180	170	630	530	500	100	50	20	10	10
Calcium	mg/L	56.5	59.3	84.2	55.4	32	33.5	34.6	67.5	39	86.4	46.8	27.1	0.87	0.86
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	5.68	52.4	5.58	<0.05	<0.05	<0.05	8.86	0.05	12.6	11.4	2.97	4.18	0.98	0.74
Sodium	mg/L	92.4	36.9	102	144	172	166	484	439	352	133	29.4	25.4	14	13.6
Iron	mg/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.14	0.59	<0.04	<0.04
Potassium	mg/L	20.3	10.5	26.2	37.1	58.8	59.3	54.3	45.8	43.5	11.2	7.15	2.95	4	3.51
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	554	142	974	<1	<1	<1	4	<1	9	2550	567	770	28	7
Nickel	µg/L	<1	<1	<1	2	<1	2	<1	<1	<1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	2930	<10	<10	<10	<10	27	<10	<10	<10	<10	14	11	<10
Biochemical Oxygen Demand	mg/L	<2	<2	<2	4	4	9	<2	5	2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	9	<2	15	34	25	44	15	20	26	20	2	7	<2	<2
Total Organic Carbon	mg/L	4	2	10	13	8	12	6	10	11	6	3	2	2	1

Table F5.2 Groundwater Monitoring Results (February 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	2.59	2.66	2.62	2.54	2.53	2.34	2.18	2.23	2.33	2.2	2.71	6.11	35.31	41
Bicarbonate Alkalinity as $CaCO_3$	mg/L	152	307	92	<1	<1	<1	66	<1	78	160	166	62	15	11
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	91	54	147	10	89	8	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	152	307	92	141	64	201	76	121	87	160	166	62	15	11
pH Value	pH Unit	7.8	7.8	7.9	10.7	10.3	11.2	8.6	10.7	8.5	7.7	7.8	6.5	5.5	5.4
Electrical Conductivity @ 25Â°C	µS/cm	851	800	1010	1250	1510	1230	2900	3160	1200	1280	406	307	95	97
Ammonia as N	mg/L	0.34	<0.01	1.25	7.29	2.39	3.86	5.7	14.2	5.14	0.03	0.12	<0.01	<0.01	<0.01
Chloride	mg/L	136	31	209	277	366	192	917	1010	287	282	25	23	16	19
Nitrite as N	mg/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
Reactive Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.01	0.02	0.04	0.02	0.04	<0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	65	92	82	52	110	79	42	39	78	88	5	46	3	4
Sulphide as S_2-	mg/L	<0.1	<0.1	0.2	7.8	2.8	9	0.8	6.9	0.8	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	0.3	<0.1	1.5	8.4	2.8	4.8	6.3	15	5.3	<0.1	0.2	0.2	<0.1	<0.1
Nitrate as N	mg/L	0.07	0.27	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.07
Total Nitrogen as N	mg/L	0.4	0.3	1.5	8.4	2.8	4.8	6.3	15	5.3	<0.1	0.2	0.2	0.1	0.1
Boron	µg/L	140	210	190	170	180	180	680	560	390	110	60	20	10	10
Calcium	mg/L	43.4	58.9	68.3	60	26.3	33.2	30.3	71	22.9	88.8	46.5	28.2	0.95	1.23
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	7.35	48.1	3.5	<0.05	0.06	<0.05	12.6	<0.05	6.58	11.5	3.38	4.09	1.04	0.99
Sodium	mg/L	91.8	35	125	160	215	153	477	525	182	156	29.6	27.2	15.4	17.2
Iron	mg/L	<0.04	<0.04	0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.41	<0.04	<0.04
Potassium	mg/L	18.8	10.7	26	39	54.1	53.9	47.4	54.5	29.5	10.7	6.8	2.78	3.91	3.9
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	1
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	952	144	564	<1	<1	<1	8	<1	10	3130	371	718	18	9
Nickel	µg/L	<1	<1	<1	2	<1	1	<1	<1	<1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	11	<10	<10
Biochemical Oxygen Demand	mg/L	<2	<2	<2	<2	<2	2	<2	2	<2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	10	4	16	43	24	50	14	45	18	10	2	4	5	4
Total Organic Carbon	mg/L	4	6	7	12	5	9	4	8	6	6	6	<1	1	1

Table F5.3 Groundwater Monitoring Results (March 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	2.27	2.41	2.3	2.36	2.34	2.43	2.12	2.21	2.36	2.43	2.66	6.19	35.2	40.94
Bicarbonate Alkalinity as $CaCO_3$	mg/L	136	333	138	<1	<1	<1	61	<1	85	187	81	59	15	11
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	81	87	128	12	67	2	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	136	333	138	155	163	217	72	104	87	187	81	59	15	11
pH Value	pH Unit	8	7.8	8.1	11.2	11.2	11.3	8.7	10.5	8.4	7.6	8.1	6.8	5.5	5.3
Electrical Conductivity @ 25Â°C	µS/cm	939	920	945	1160	1330	1310	2900	2720	1460	1700	395	306	95	99
Ammonia as N	mg/L	0.17	0.02	1.45	5.91	3.8	3.95	6.18	11.8	3.29	0.02	0.06	<0.01	0.11	<0.01
Chloride	mg/L	172	34	212	220	211	192	828	697	296	312	33	23	15	18
Nitrite as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.55	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Reactive Phosphorus as P	mg/L	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.01	0.02	0.01	0.04	<0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	65	120	81	52	119	80	41	73	178	216	56	53	3	4
Sulphide as S_2-	mg/L	<0.1	<0.1	<0.1	6.6	4.6	9.9	0.6	6.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	0.3	0.1	1.7	6.8	4.4	5	6.4	12.3	3.8	0.2	0.2	<0.1	0.2	<0.1
Nitrate as N	mg/L	<0.01	0.88	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	<0.01	<0.01	<0.01	<0.01	0.1	0.08
Total Nitrogen as N	mg/L	0.3	1	1.7	6.8	4.4	5	6.4	12.9	3.8	0.2	0.2	<0.1	0.2	0.2
Boron	µg/L	140	220	200	170	180	180	690	470	320	160	70	20	20	20
Calcium	mg/L	48.2	43.8	61.1	51.8	44.5	31.9	31.3	42.1	63.8	124	38	22.4	0.7	0.91
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	8.33	41.9	3.8	<0.05	<0.05	<0.05	14.3	0.05	6.43	11.6	2.23	3.78	0.84	0.9
Sodium	mg/L	119	35	116	140	159	167	513	378	206	192	31.1	23	12.9	14.5
Iron	mg/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.07	<0.04	<0.04	0.29	0.11	<0.04
Potassium	mg/L	21.3	9	26.9	36.3	56.6	58.3	50.5	47	36.5	14.5	8.72	2.41	3.32	3.7
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	804	355	777	1	<1	<1	10	<1	35	1850	207	764	122	8
Nickel	µg/L	<1	<1	<1	1	1	2	<1	1	<1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	192	<10	<10	<10	<10	<10	<10	<10	<10	168	<10	18	<10
Biochemical Oxygen Demand	mg/L	<2	<2	<2	<2	<2	<2	<2	5	<2	<2	<2	2	<2	<2
Chemical Oxygen Demand	mg/L	4	<2	17	38	28	46	11	29	17	9	8	5	5	3
Total Organic Carbon	mg/L	4	4	11	11	9	12	4	11	9	7	4	3	3	3

Table F5.4 Groundwater Monitoring Results (April 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	2.41	2.53	2.49	2.52	2.51	2.48	2.24	2.37	2.45	2.36	2.72	6.16	35.09	40.74
Bicarbonate Alkalinity as $CaCO_3$	mg/L	152	328	123	<1	<1	<1	70	<1	89	204	239	57	15	11
Carbonate Alkalinity as $CaCO_3$	mg/L	7.8	<1	<1	93	101	157	4	109	<1	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	851	328	123	121	129	189	74	120	89	204	239	57	15	11
pH Value	pH Unit	0.34	8.1	8	11	11.1	11.3	8.4	10.7	8.1	7.9	8.1	7.1	5.5	5.3
Electrical Conductivity @ 25Â°C	µS/cm	136	972	1150	1010	1330	1240	3030	1700	1590	1890	977	326	98	104
Ammonia as N	mg/L	<0.01	<0.01	1.45	5.2	4.71	4.14	6.32	7.74	1.89	0.02	0.16	<0.01	0.01	<0.01
Chloride	mg/L	<0.01	35	197	190	214	173	798	331	300	292	88	21	14	17
Nitrite as N	mg/L	65	<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
Reactive Phosphorus as P	mg/L	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.01	0.01	0.01	0.05	0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	0.3	135	90	58	131	92	42	179	210	287	114	59	3	5
Sulphide as S_2-	mg/L	0.07	<0.1	<0.1	7.3	8.7	9.1	0.7	4.9	0.2	<0.1	0.1	0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	0.4	0.1	1.7	5.8	4.9	5	6.4	8.1	2.1	0.2	0.3	<0.1	<0.1	<0.1
Nitrate as N	mg/L	140	0.68	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.07
Total Nitrogen as N	mg/L	43.4	0.8	1.7	5.8	4.9	5	6.4	8.1	2.1	0.2	0.3	<0.1	0.2	0.1
Boron	µg/L	<0.20	220	200	170	180	180	670	170	290	210	70	20	10	10
Calcium	mg/L	7.35	69.8	73	49.9	47.2	35	31	30.5	82	144	117	28.1	0.8	1.07
Mercury	µg/L	91.8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	<0.04	58.6	4.13	<0.05	<0.05	<0.05	14.5	<0.05	6.12	11.3	8.17	4.16	0.86	0.8
Sodium	mg/L	18.8	42.7	126	125	174	173	477	260	235	244	63.6	28	13.9	13.8
Iron	mg/L	<0.2	<0.04	0.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.45	<0.04	<0.04
Potassium	mg/L	<1	11.6	27.3	32.7	57.8	57.5	47.5	63.8	34.7	17.3	12.1	3.34	4.24	3.7
Cadmium	µg/L	<1	<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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	952	2	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	2	<1
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	<10	359	895	<1	<1	<1	9	<1	41	985	814	764	38	14
Nickel	µg/L	<2	<1	<1	1	2	2	<1	4	<1	<1	<1	<1	<1	<1
Zinc	µg/L	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1070	68	18
Biochemical Oxygen Demand	mg/L	4	<2	2	2	3	6	<2	2	2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	0	4	15	40	43	60	10	36	16	12	6	5	12	<2
Total Organic Carbon	mg/L	0	5	12	9	10	12	5	12	7	8	5	3	5	2

Table F5.5 Groundwater Monitoring Results (May 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	3.38	3.32	3.59	3.63	3.7	2.36	2.27	2.37	2.46	4.72	4.77	5.96	35.15	40.87
Bicarbonate Alkalinity as $CaCO_3$	mg/L	95	147	163	<1	34	<1	70	<1	52	202	138	56	15	12
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	86	<1	98	6	73	<1	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	95	147	163	123	69	209	76	110	52	202	138	56	15	12
pH Value	pH Unit	8	7.9	7.8	11	9.6	11.4	8.5	10.7	7.8	7.5	7.7	6.7	5.7	5.6
Electrical Conductivity @ 25Â°C	µS/cm	459	12600	1070	907	941	1510	3060	1850	2840	1580	566	339	101	106
Ammonia as N	mg/L	0.06	3.46	0.91	2.59	0.7	3.82	5.83	7.41	0.59	0.01	<0.01	0.01	0.03	0.06
Chloride	mg/L	50	4140	144	126	125	185	740	342	486	250	45	22	15	17
Nitrite as N	mg/L	<0.01	<0.01	<0.01	<0.01	0.33	<0.01	<0.01	<0.01	1.36	<0.01	<0.01	<0.01	<0.01	<0.01
Reactive Phosphorus as P	mg/L	0.03	0.02	0.08	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	<0.01	0.04	<0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	36	433	102	65	127	89	41	170	558	168	54	58	3	5
Sulphide as S_2-	mg/L	<0.1	<0.1	<0.1	4.4	0.9	8.2	1.4	3.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	0.2	3.5	1	2.7	1	5.4	6.7	8.7	<10.0	0.1	0.1	0.1	0.1	<0.1
Nitrate as N	mg/L	0.07	0.01	0.77	0.01	0.38	<0.01	<0.01	<0.01	21.6	0.02	0.36	<0.01	0.09	0.05
Total Nitrogen as N	mg/L	0.2	3.6	1.8	2.7	1.7	5.4	6.7	8.7	26.4	0.2	0.5	0.1	0.2	0.1
Boron	µg/L	70	1460	240	200	200	170	710	180	340	310	100	30	20	20
Calcium	mg/L	25.4	144	80	36.6	20.9	54.5	30.5	29.9	200	102	58.6	27	0.77	1.19
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	3.25	178	4.29	0.11	0.36	<0.05	14.8	<0.05	3.39	8.13	3.46	4.25	0.93	0.84
Sodium	mg/L	46	2110	100	103	117	161	457	266	316	174	35.3	24.7	13.4	14.2
Iron	mg/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.5	<0.04	<0.04
Potassium	mg/L	12.7	79.9	24.5	27.7	47.6	57.4	46.4	68.7	58.4	17.2	7.9	2.84	3.79	3.64
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	2	<1	<1	<1	2	1	1	<1	2	<1
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	334	609	731	2	2	<1	11	<1	66	405	8	771	18	8
Nickel	µg/L	<1	<1	<1	<1	<1	2	<1	4	1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	<10	28	12	<10	<10	20	56	14
Biochemical Oxygen Demand	mg/L	<2	<2	<2	6	<2	3	<2	<2	<2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	5	<20	12	24	15	44	10	35	32	17	4	<2	<2	<2
Total Organic Carbon	mg/L	4	<10	7	8	8	14	6	13	15	6	6	2	3	3

Table F5.6 Groundwater Monitoring Results (June 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	3.63	3.70	3.86	3.87	3.95	4.05	3.47	3.68	4.73	4.87	4.91	6.73	37.29	45.18
Bicarbonate Alkalinity as $CaCO_3$	mg/L	95	192	172	<1	52	<1	16	<1	175	180	123	55	14	8
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	71	14	110	47	79	<1	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	95	192	172	93	66	160	63	106	175	180	123	55	14	8
pH Value	pH Unit	7.9	8	7.9	10.9	8.9	11.2	9.7	10.6	8.2	7.7	7.6	6.3	5.4	5.2
Electrical Conductivity @ 25Â°C	µS/cm	466	6860	1140	992	826	1310	2280	3100	14600	1440	411	341	100	107
Ammonia as N	mg/L	0.13	2.16	1.32	2.2	0.32	3.35	5.76	13	0.37	0.02	<0.01	0.02	0.01	<0.01
Chloride	mg/L	55	2160	184	180	119	212	714	1010	5260	252	33	22	15	19
Nitrite as N	mg/L	<0.01	0.02	<0.01	0.16	0.43	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Reactive Phosphorus as P	mg/L	0.01	<0.01	0.03	<0.01	<0.01	<0.01	0.02	0.01	0.06	0.02	<0.01	0.05	0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	42	269	125	116	131	131	66	37	911	192	36	61	2	2
Sulphide as S_2-	mg/L	<0.1	<0.1	<0.1	2.9	<0.1	4.3	1.8	14.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	0.2	2.2	1.8	2.5	0.8	4.1	6.4	13.8	0.5	0.1	0.2	<0.1	<0.1	<0.1
Nitrate as N	mg/L	0.01	0.14	0.02	0.02	1.02	0.13	<0.01	<0.01	0.01	<0.01	0.31	<0.01	0.12	0.11
Total Nitrogen as N	mg/L	0.2	2.4	1.8	2.7	2.2	4.2	6.4	13.8	0.5	0.1	0.5	<0.1	0.2	0.1
Boron	µg/L	80	900	160	190	190	180	470	490	2940	210	70	20	10	10
Calcium	mg/L	32.2	97.8	86.3	39.7	18.6	31.8	27.2	63.9	94.4	101	43.7	27.7	0.88	1.01
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	3.63	107	5.96	0.9	0.38	<0.05	1.37	0.25	233	9.66	2.69	4.21	0.94	0.94
Sodium	mg/L	47.3	1160	109	124	110	158	394	540	2540	158	26.3	27	13	13.2
Iron	mg/L	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.41	<0.04	<0.04
Potassium	mg/L	13.6	52.8	26.9	29.9	46.1	57.1	60.1	56.9	124	13.7	6.39	2.9	3.87	3.82
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	1	<1
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	419	511	1000	1	<1	<1	<1	<1	238	310	7	791	18	8
Nickel	µg/L	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	162	<10	<10	<10	<10	11	<10	<10	<10	<10	609	<10	10
Biochemical Oxygen Demand	mg/L	<2	2	<2	<2	<2	<2	<2	3	<2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	4	29	19	18	16	29	24	47	68	8	<2	3	5	2
Total Organic Carbon	mg/L	4	7	10	7	7	12	7	11	7	7	4	4	5	4

Table F5.7 Groundwater Monitoring Results (July 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	3.5	3.63	3.7	3.73	3.76	3.76	3.37	3.62	4.59	4.74	4.73	7.17	38.35	46.08
Bicarbonate Alkalinity as $CaCO_3$	mg/L	107	276	163	<1	36	<1	<1	<1	171	173	122	56	16	11
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	61	22	103	91	82	<1	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	107	276	163	68	58	170	141	116	171	173	122	56	16	11
pH Value	pH Unit	8	7.9	7.8	10.3	9.4	11.3	11.1	10.7	8.1	7.6	7.6	6.9	5.7	5.3
Electrical Conductivity @ 25Â°C	µS/cm	702	2060	1080	681	883	1300	1300	3140	14600	1380	433	319	92	120
Ammonia as N	mg/L	0.26	0.21	1.12	2	0.55	3.25	4.85	14	0.63	<0.01	0.02	0.01	<0.01	<0.01
Chloride	mg/L	101	338	154	108	127	169	195	1020	4130	228	36	18	14	22
Nitrite as N	mg/L	<0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Reactive Phosphorus as P	mg/L	<0.01	0.07	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.02	<0.01	0.03	<0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	70	209	132	81	135	132	138	42	795	154	45	68	3	4
Sulphide as S_2-	mg/L	0.1	<0.1	<0.1	3.4	<0.1	3.6	5.1	13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	0.4	0.4	1.3	2	0.9	3.7	5.1	14.2	0.9	0.1	0.1	<0.1	<0.1	<0.1
Nitrate as N	mg/L	<0.01	0.78	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	0.17	<0.01	0.13	0.18
Total Nitrogen as N	mg/L	0.4	1.2	1.4	2	0.9	3.7	5.1	14.2	1	0.1	0.3	<0.1	0.2	0.2
Boron	µg/L	110	290	190	220	220	200	220	540	2690	160	90	20	20	20
Calcium	mg/L	42.8	78.4	91.3	18.5	18.2	36.4	23.9	71.3	111	104	45.7	28.6	0.92	1.4
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	4.95	75.2	6.42	1.32	0.31	<0.05	<0.05	0.13	228	11.1	2.54	4.58	1	1.2
Sodium	mg/L	73	224	106	92.1	123	161	186	582	2460	156	33.2	24	13	16.2
Iron	mg/L	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.32	<0.04	<0.04
Potassium	mg/L	17.1	22.6	27.1	27.4	47.8	62.4	53.1	4.06	11.8	12.4	7.43	2.93	3.81	4.16
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	2	<1	<1	<1	<1	1	2	<1	<1	<1
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	517	366	936	2	3	<1	<1	<1	229	1490	9	738	17	16
Nickel	µg/L	<1	<1	<1	<1	<1	1	2	<1	<1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	13	10	12
Biochemical Oxygen Demand	mg/L	<2	<2	2	<2	<2	3	<2	13	<2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	26	6	15	16	12	32	35	42	60	15	9	<2	<2	6
Total Organic Carbon	mg/L	6	2	9	7	8	11	14	12	6	6	5	1	1	4

Table F5.8 Groundwater Monitoring Results (August 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	3.58	3.69	3.79	3.87	3.95	3.83	3.31	3.61	4.36	4.38	5.46	7.28	38.57	45.07
Bicarbonate Alkalinity as $CaCO_3$	mg/L	95	210	178	<1	49	<1	<1	<1	60	182	143	59	18	12
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	76	22	134	111	82	<1	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	95	210	178	100	71	200	152	109	60	182	143	59	18	12
pH Value	pH Unit	8.2	8	7.9	10.8	9.4	11.4	11	10.7	8.2	7.7	7.9	7	6.1	5.8
Electrical Conductivity @ 25Â°C	µS/cm	536	6390	1120	834	828	1360	1380	2480	2400	1280	408	325	96	122
Ammonia as N	mg/L	0.2	1.38	1.29	1.91	0.55	2.79	5.63	9.22	0.97	0.01	0.01	<0.01	0.03	<0.01
Chloride	mg/L	81	1950	176	133	117	197	274	636	520	221	28	21	15	24
Nitrite as N	mg/L	<0.01	0.34	0.01	0.01	<0.01	<0.01	<0.01	0.32	0.16	<0.01	<0.01	<0.01	<0.01	<0.01
Reactive Phosphorus as P	mg/L	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	<0.01	0.04	<0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	42	310	123	91	135	112	97	116	388	151	30	65	3	5
Sulphide as S_2-	mg/L	0.1	<0.1	<0.1	5.6	0.4	11.3	14.2	9.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	0.4	1.5	1.6	2.3	1	3.6	6.5	10.2	1.6	0.2	<0.1	<0.1	<0.1	<0.1
Nitrate as N	mg/L	<0.01	0.17	<0.01	<0.01	<0.01	<0.01	0.01	0.07	2.3	<0.01	0.1	<0.01	0.13	0.17
Total Nitrogen as N	mg/L	0.4	2	1.6	2.3	1	3.6	6.6	10.6	4	0.2	0.2	<0.1	0.2	0.2
Boron	µg/L	100	970	220	210	240	180	250	410	640	230	80	30	20	20
Calcium	mg/L	28.1	90	85.3	32.1	14.1	39.7	22.2	42.1	82.6	90.8	46.9	28.5	0.84	1.19
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	4.49	106	5.64	0.28	0.19	<0.05	<0.05	0.09	25.5	9.43	2.58	4.33	0.96	1.2
Sodium	mg/L	53.9	1060	105	104	113	162	196	320	407	133	24.6	23.8	12.6	15.2
Iron	mg/L	0.05	<0.04	0.07	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.53	<0.04	<0.04
Potassium	mg/L	12.7	48.7	27.2	28.5	45.8	62.5	51.9	49.4	46.5	11.4	6.76	2.92	3.78	4.25
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	<1	1	<1	<1	2	<1	<1	<1	2	<1	<1	<1	2	4
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	336	130	854	3	2	<1	<1	<1	50	986	13	778	35	11
Nickel	µg/L	<1	<1	<1	<1	<1	1	2	2	1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	<10	<10	12	<10	<10	<10	<10	<10	<10	<10	11	11	14
Biochemical Oxygen Demand	mg/L	<2	<2	2	<2	<2	6	3	<2	<2	<2	<2	2	<2	<2
Chemical Oxygen Demand	mg/L	10	17	19	21	20	30	43	29	28	8	7	6	6	5
Total Organic Carbon	mg/L	2	<1	6	6	7	9	12	11	8	1	2	1	1	<1

Table F5.9 Groundwater Monitoring Results (September 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	3.09	3.3	3.21	3.32	3.38	3.3	2.88	3.14	3.65	3.81	4.01	6.99	37.41	45.7
Bicarbonate Alkalinity as $CaCO_3$	mg/L	108	269	155	<1	20	<1	<1	<1	108	173	132	58	18	12
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	92	38	145	122	102	<1	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	108	269	155	118	57	185	155	123	108	173	132	58	18	12
pH Value	pH Unit	8.2	8.2	8.2	11.2	9.8	11.3	11.2	11.1	8.2	7.9	7.3	7.2	6	5.6
Electrical Conductivity @ 25Â°C	µS/cm	1570	989	1240	833	1000	1250	1200	1620	8450	1220	335	315	91	117
Ammonia as N	mg/L	0.59	0.04	1.78	2.88	1.48	3.54	5.04	5.74	1.68	<0.01	<0.01	<0.01	0.03	<0.01
Chloride	mg/L	373	53	205	132	173	193	185	297	2510	214	20	21	14	25
Nitrite as N	mg/L	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.15	<0.01	<0.01	<0.01	<0.01	<0.01
Reactive Phosphorus as P	mg/L	0.02	0.01	0.01	<0.01	<0.01	0.01	0.01	<0.01	0.03	0.03	0.01	0.04	0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	77	179	132	75	133	109	127	177	567	124	12	64	3	4
Sulphide as S_2-	mg/L	0.2	<0.1	0.1	5.4	2	9.2	7.5	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	0.7	0.2	1.9	3	1.7	3.9	5.4	6.1	1.8	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrate as N	mg/L	<0.01	0.71	<0.01	<0.01	<0.01	<0.01	0.01	0.02	1.6	<0.01	0.05	<0.01	0.12	0.17
Total Nitrogen as N	mg/L	0.7	0.9	1.9	3	1.7	3.9	5.4	6.2	3.5	<0.1	<0.1	<0.1	0.2	0.2
Boron	µg/L	200	190	210	190	210	190	200	180	560	150	40	20	20	10
Calcium	mg/L	57.4	62	80.6	36.2	16.2	32.9	27.1	40.8	141	93.4	41.9	29.2	0.97	1.12
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	13.3	56.4	5.59	<0.05	0.17	<0.05	<0.05	0.06	31.5	10.2	2.38	4.53	1.08	1.25
Sodium	mg/L	185	61.3	117	90.8	145	152	153	209	525	140	21	25.3	13.8	16.7
Iron	mg/L	0.1	<0.04	0.15	<0.04	0.24	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.62	0.15	<0.04
Potassium	mg/L	19.8	13.6	28.2	28.3	50.1	57.1	47.8	64.9	63.2	11.4	6.25	3.35	4.28	4.75
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	<1	2	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	1	2
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	806	174	1060	<1	1	<1	<1	<1	64	1690	15	797	32	12
Nickel	µg/L	<1	<1	<1	<1	1	1	2	3	1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	11	10
Biochemical Oxygen Demand	mg/L	<2	<2	<2	<2	<2	<2	4	<2	<2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	15	5	21	26	24	44	42	27	29	5	3	<2	<2	<2
Total Organic Carbon	mg/L	3	<1	7	6	7	10	10	11	12	1	1	1	<1	<1

Table F5.10 Groundwater Monitoring Results (October 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	2.92	3.06	3.03	3.1	3.38	3.05	2.88	3.06	3.49	3.41	3.53	6.73	36.54	45.13
Bicarbonate Alkalinity as $CaCO_3$	mg/L	90	251	186	<1	2	<1	<1	<1	53	189	167	54	16	11
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	76	66	125	72	91	<1	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	90	251	186	127	68	197	85	133	53	189	167	54	16	11
pH Value	pH Unit	8	8	7.9	11.2	10.2	11.3	10.6	11.1	8.1	7.7	8	6.9	5.7	5.5
Electrical Conductivity @ 25Â°C	µS/cm	2080	953	1140	912	1020	1330	2110	1810	2060	1170	461	314	92	97
Ammonia as N	mg/L	1.23	0.02	1.47	2.49	1.28	3.1	5.23	4.97	0.43	<0.01	<0.01	<0.01	<0.01	<0.01
Chloride	mg/L	534	46	182	139	173	205	601	344	388	178	30	22	15	19
Nitrite as N	mg/L	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01
Reactive Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.04	<0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	83	187	112	71	137	98	70	218	371	130	30	60	3	2
Sulphide as S_2-	mg/L	0.2	<0.1	0.1	4.7	1.5	10.1	4	2.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	1.4	0.1	1.6	3.1	1.8	4.3	6.1	6.3	1	0.1	<0.1	0.2	<0.1	<0.1
Nitrate as N	mg/L	<0.01	0.64	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	1.2	0.1	<0.01	<0.01	0.1	0.11
Total Nitrogen as N	mg/L	1.4	0.8	1.6	3.1	1.8	4.3	6.1	6.3	2.3	0.2	<0.1	0.2	0.1	0.1
Boron	µg/L	240	190	210	200	240	200	480	190	380	240	70	20	20	10
Calcium	mg/L	60.7	62.3	82.7	40.6	16.8	34.4	32.5	56.6	120	95.7	62.7	27.2	0.92	0.9
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	23	52.4	6.44	<0.05	0.08	<0.05	<0.05	<0.05	4.12	8.96	3.27	4.55	1	1.02
Sodium	mg/L	293	50.9	112	95.5	140	161	309	238	266	128	25.9	23.9	11.4	12.2
Iron	mg/L	<0.04	<0.04	0.16	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.58	<0.04	<0.04
Potassium	mg/L	23.1	11.5	25.3	27.9	46.4	55.3	53.7	69.4	43.4	12.3	6.66	2.71	3.4	3.37
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	1	2	<1	<1	<1	1
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	800	152	1000	2	<1	<1	<1	<1	33	209	58	809	31	8
Nickel	µg/L	<1	<1	<1	<1	<1	2	<1	3	<1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	491	<10	<10
Biochemical Oxygen Demand	mg/L	<2	<2	<2	3	<2	8	2	2	2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	12	4	14	19	22	39	22	34	27	8	4	4	4	3
Total Organic Carbon	mg/L	3	2	5	4	7	8	4	10	8	3	1	<1	<1	<1

Table F5.11 Groundwater Monitoring Results (November 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	3.07	3.1	3.15	3.27	3.23	3.09	2.91	3.07	3.46	3.34	3.46	6.8	36.3	44.87
Bicarbonate Alkalinity as $CaCO_3$	mg/L	88	223	188	<1	<1	<1	12	<1	102	183	170	54	16	12
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	90	64	141	51	92	<1	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	88	223	188	108	68	184	63	125	102	183	170	54	16	12
pH Value	pH Unit	8.1	8	7.9	10.9	10.6	11.3	10	11.1	8	7.9	8.1	7	5.7	5.6
Electrical Conductivity @ 25Â°C	µS/cm	1440	2340	946	848	1170	1230	2330	1760	1520	876	583	309	92	95
Ammonia as N	mg/L	1.4	0.35	0.61	2.98	1.94	3.33	5.73	5.82	0.02	<0.01	0.02	0.02	<0.01	0.03
Chloride	mg/L	326	514	119	150	198	199	642	342	234	97	50	21	14	18
Nitrite as N	mg/L	<0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Reactive Phosphorus as P	mg/L	0.02	0.01	0.02	<0.01	<0.01	0.01	0.01	<0.01	<0.01	0.02	0.01	0.04	0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	66	162	96	75	154	87	48	184	278	106	54	58	3	3
Sulphide as S_2-	mg/L	0.2	<0.1	<0.1	4.4	0.7	5.7	1.6	1.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	1.4	0.4	0.8	3.5	2.4	3.9	6.1	7	0.5	0.1	0.1	0.2	0.1	<0.1
Nitrate as N	mg/L	<0.01	0.04	0.19	<0.01	<0.01	<0.01	<0.01	0.02	1.37	<0.01	<0.01	<0.01	0.09	0.12
Total Nitrogen as N	mg/L	1.4	0.5	1	3.5	2.4	3.9	6.1	7	1.8	0.1	0.1	0.2	0.2	0.2
Boron	µg/L	130	380	180	190	240	160	560	190	270	220	110	20	20	10
Calcium	mg/L	51.2	64.4	84	39.4	25.6	35.5	25.4	53.9	117	73.2	64.4	25.7	0.81	0.85
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	11.8	56.7	5.69	0.59	<0.05	<0.05	0.72	<0.05	4.44	5.49	3.37	1.06	0.96	0.88
Sodium	mg/L	191	315	85.2	106	165	160	384	246	168	95.3	45.2	23.5	13	13.6
Iron	mg/L	0.12	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.52	<0.04	<0.04
Potassium	mg/L	22	21.4	25.8	31.4	58.8	61.7	60.2	73.5	36.7	13.2	9.17	3.09	4.13	3.94
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	1	<1	<1	<1	5	1	<1	<1	<1	<1
Lead	µg/L	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	610	34	690	1	<1	<1	<1	<1	28	5	319	789	21	8
Nickel	µg/L	<1	<1	<1	<1	1	1	<1	3	<1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Biochemical Oxygen Demand	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	10	7	14	22	27	39	18	34	24	9	8	7	6	7
Total Organic Carbon	mg/L	4	2	8	6	8	8	4	11	10	7	6	2	3	2

Table F5.12 Groundwater Monitoring Results (December 2022)

Parameters	Units	MWX-1	MWX-2	MWX-3	MWX-4	MWX-5	MWX-6	MWX-7	MWX-8	MWX-9	MWX-10	MWX-11	MWX-12	MWX-13	MWX-14
Water Level	mPD	2.85	2.97	2.94	2.94	2.96	2.88	2.52	2.68	2.86	2.85	3.1	6.69	35.9	41.66
Bicarbonate Alkalinity as $CaCO_3$	mg/L	88	253	142	3	8	<1	23	<1	105	213	214	54	17	12
Carbonate Alkalinity as $CaCO_3$	mg/L	<1	<1	<1	54	63	144	41	103	<1	<1	<1	<1	<1	<1
Total Alkalinity as $CaCO_3$	mg/L	88	253	142	57	72	172	64	120	105	213	214	54	17	12
pH Value	pH Unit	8.2	8.2	8.1	10.3	10.4	11.3	9.8	11.1	8.2	8	8.1	7.2	5.7	5.8
Electrical Conductivity @ 25Â°C	µS/cm	1280	930	1120	960	980	1200	2340	1680	1540	1310	687	310	93	97
Ammonia as N	mg/L	1.24	0.01	1.49	3.5	1.66	3.54	5.98	6.19	0.46	<0.01	0.07	<0.01	<0.01	<0.01
Chloride	mg/L	294	39	192	166	153	187	728	318	268	157	55	21	15	19
Nitrite as N	mg/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
Reactive Phosphorus as P	mg/L	0.01	0.01	0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	0.02	0.03	0.08	<0.01	<0.01
Sulphate as SO_4 - Turbidimetric	mg/L	64	177	93	79	115	92	42	180	220	176	66	59	3	4
Sulphide as S_2-	mg/L	0.1	<0.1	<0.1	4.1	1.6	15	2.2	6.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen as N	mg/L	1.3	0.2	1.8	4	2.1	4.7	6.9	8.4	1	0.2	0.3	0.1	<0.1	<0.1
Nitrate as N	mg/L	<0.01	0.57	<0.01	<0.01	<0.01	0.01	<0.01	0.01	0.38	<0.01	<0.01	<0.01	0.09	0.1
Total Nitrogen as N	mg/L	1.3	0.8	1.8	4	2.1	4.7	6.9	8.4	1.4	0.2	0.3	0.1	0.2	0.1
Boron	µg/L	120	180	200	200	220	180	630	190	290	400	90	20	20	10
Calcium	mg/L	54.3	57.2	72.9	30.4	12.8	34.2	23.1	46.7	89	87.3	78.3	24	0.8	0.89
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	8.2	55.6	5.02	0.62	<0.05	<0.05	1.28	<0.05	5.74	7.14	5.12	4.13	0.88	0.74
Sodium	mg/L	150	47.9	116	118	136	153	369	230	172	146	43.6	23.9	13.2	13.2
Iron	mg/L	0.07	<0.04	0.09	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.34	<0.04	<0.04
Potassium	mg/L	18.7	11.6	26.7	28	51.3	58.2	52.7	68	32.8	17.5	9.52	3.12	3.99	3.65
Cadmium	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
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Manganese	µg/L	644	149	923	1	<1	<1	<1	<1	52	135	604	654	21	8
Nickel	µg/L	<1	<1	<1	<1	1	2	<1	4	<1	<1	<1	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Biochemical Oxygen Demand	mg/L	<2	<2	4	4	<2	7	<2	4	4	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	6	<2	18	20	27	37	14	35	20	18	12	5	8	8
Total Organic Carbon	mg/L	2	<1	10	14	16	20	8	22	7	10	8	3	5	5

Figure F5.1 Graphical Presentation for Groundwater Monitoring (MWX-1)

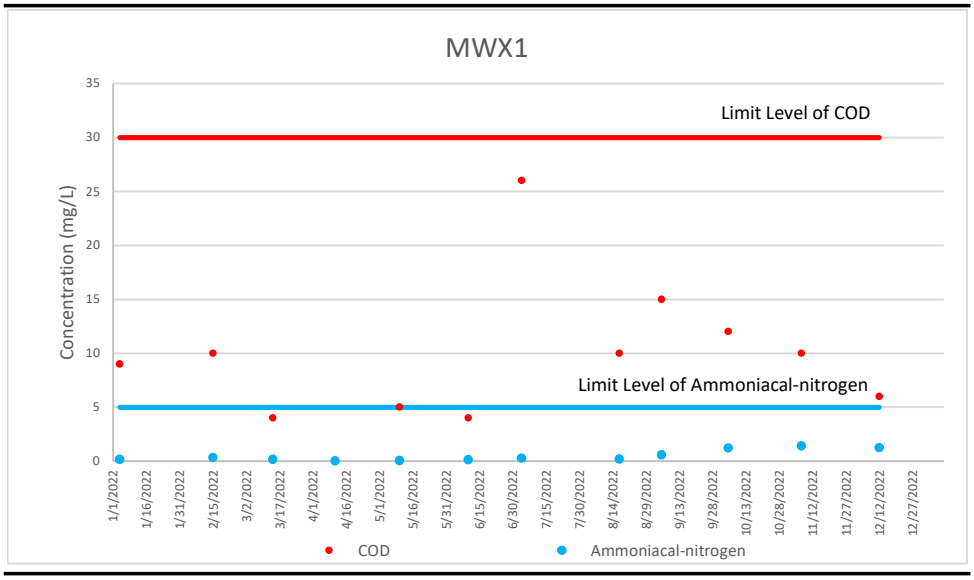

Figure F5.2 Graphical Presentation for Groundwater Monitoring (MWX-2)

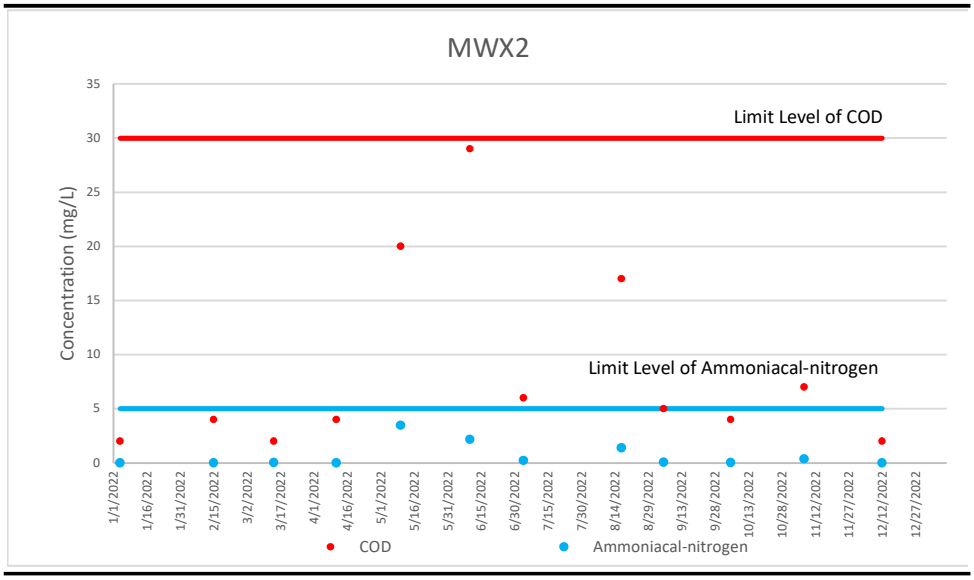

Figure F5.3 Graphical Presentation for Groundwater Monitoring (MWX-3)

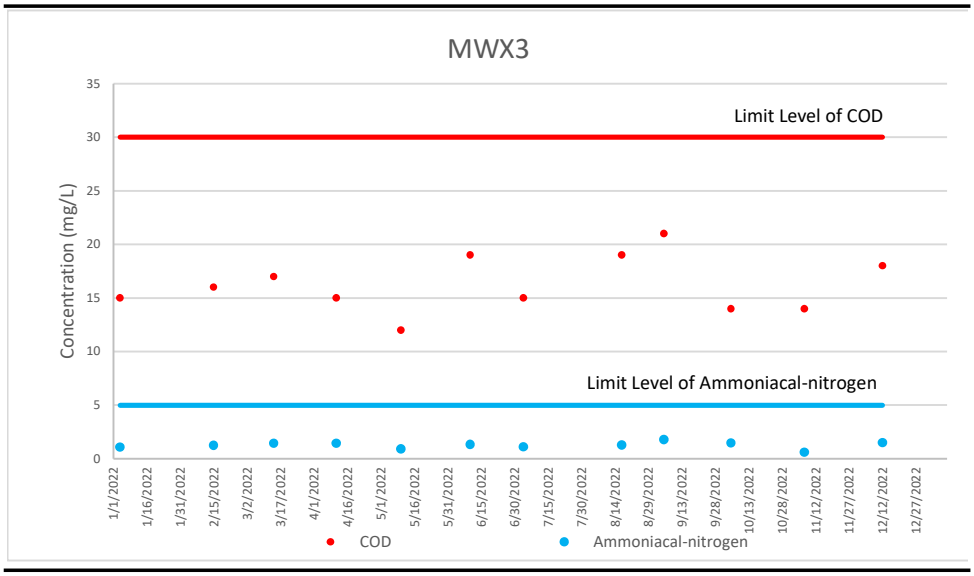

Figure F5.4 Graphical Presentation for Groundwater Monitoring (MWX-4)

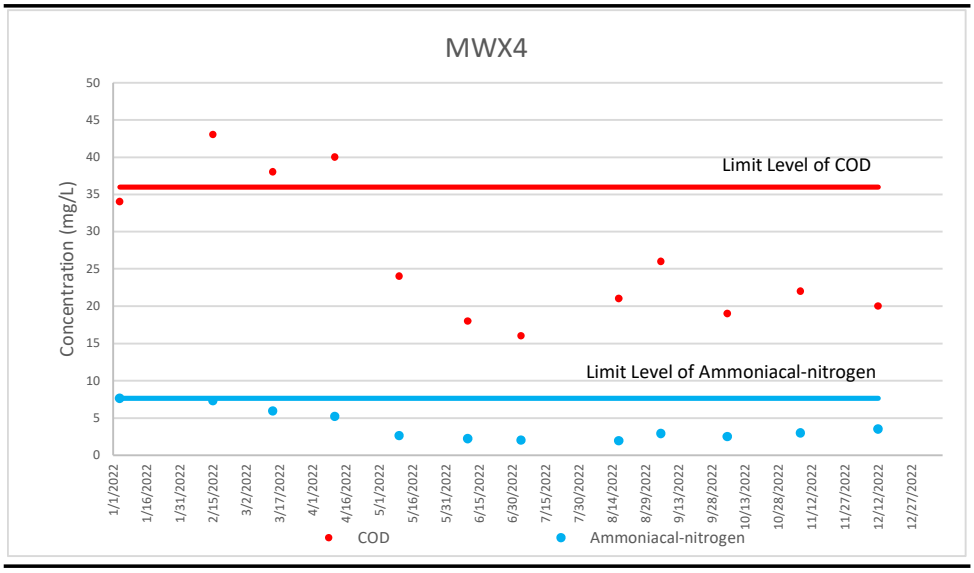

Figure F5.5 Graphical Presentation for Groundwater Monitoring (MWX-5)

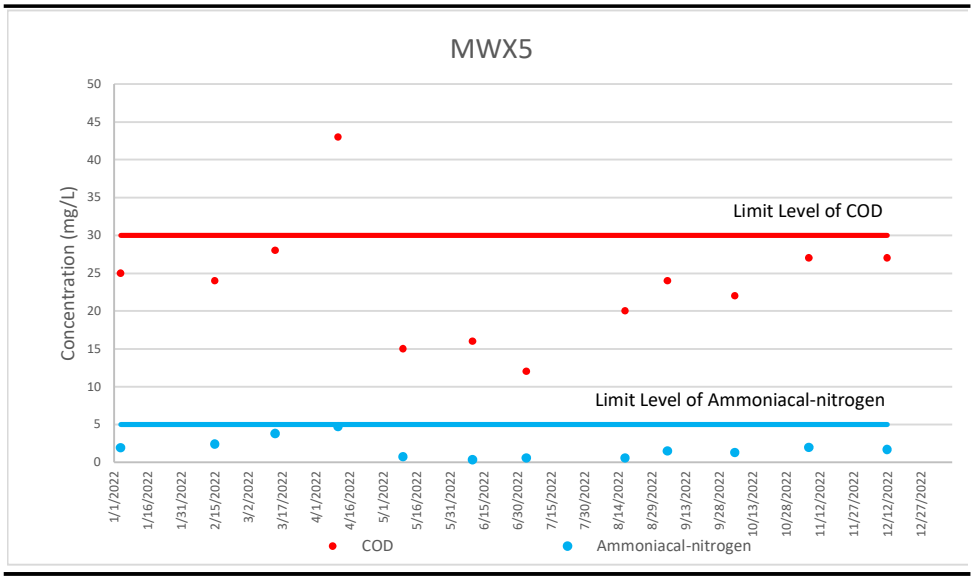

Figure F5.6 Graphical Presentation for Groundwater Monitoring (MWX-6)

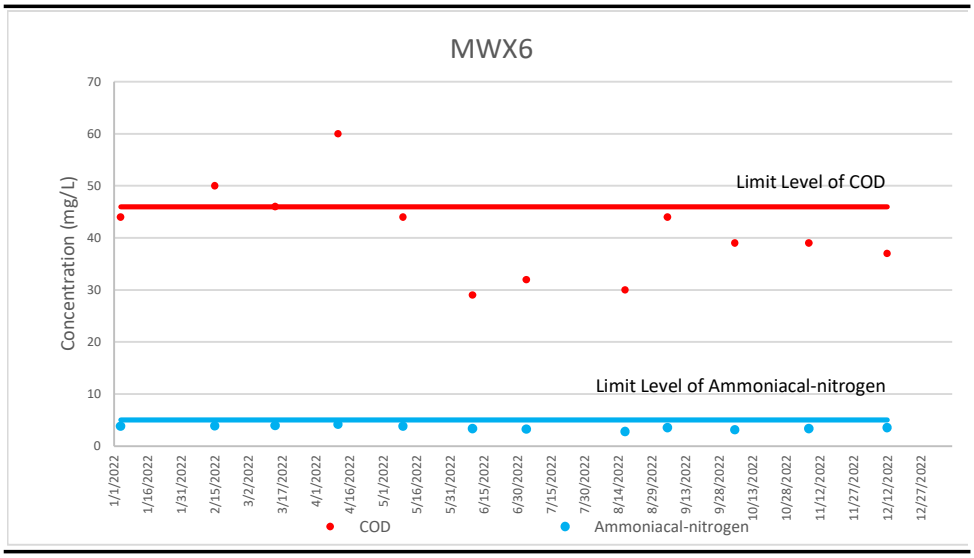

Figure F5.7 Graphical Presentation for Groundwater Monitoring (MWX-7)

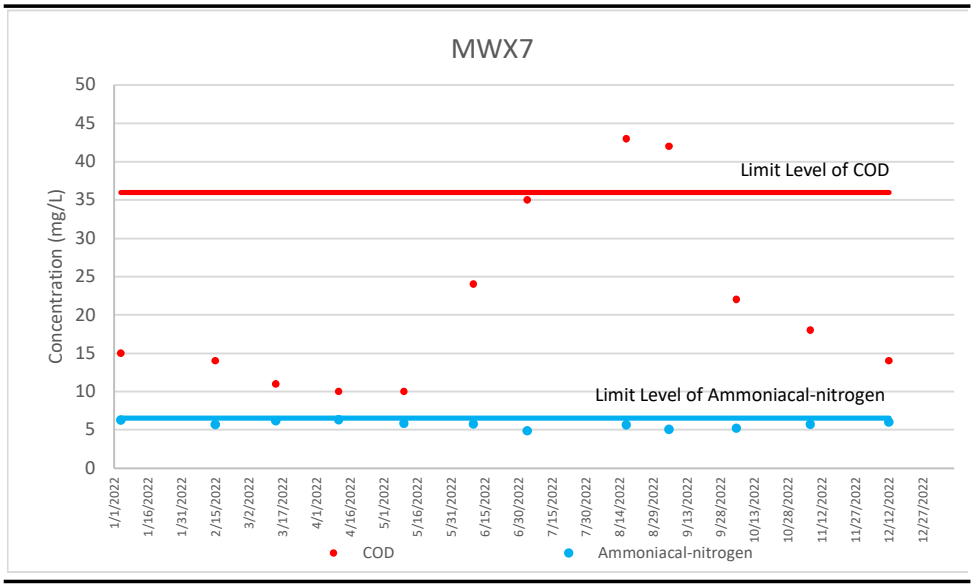

Figure F5.8 Graphical Presentation for Groundwater Monitoring (MWX-8)

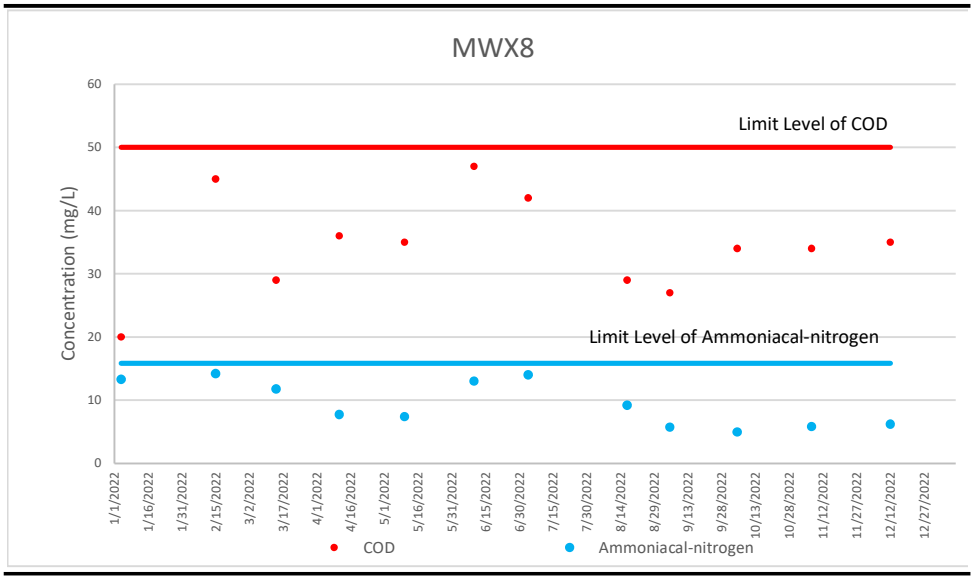

Figure F5.9 Graphical Presentation for Groundwater Monitoring (MWX-9)

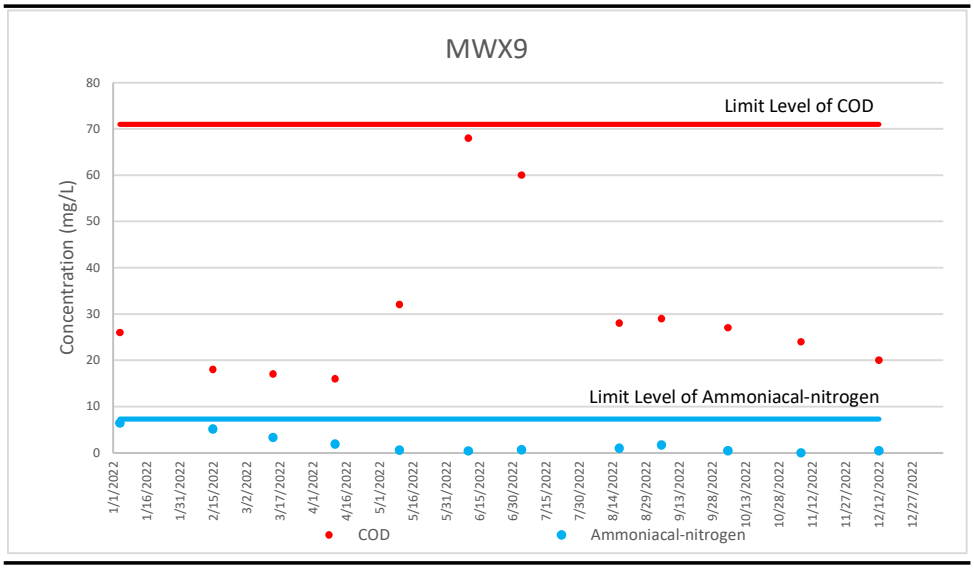

Figure F5.10 Graphical Presentation for Groundwater Monitoring (MWX-10)

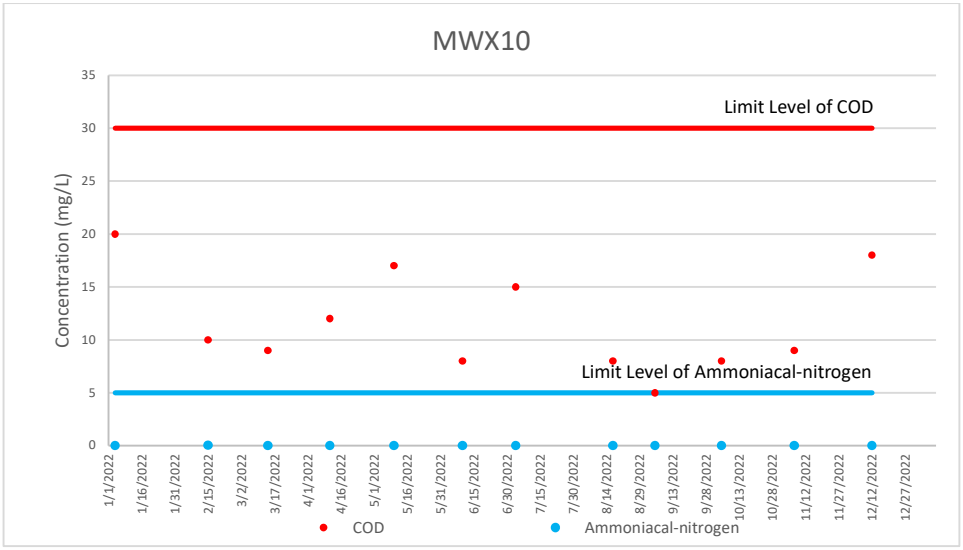

Figure F5.11 Graphical Presentation for Groundwater Monitoring (MWX-11)

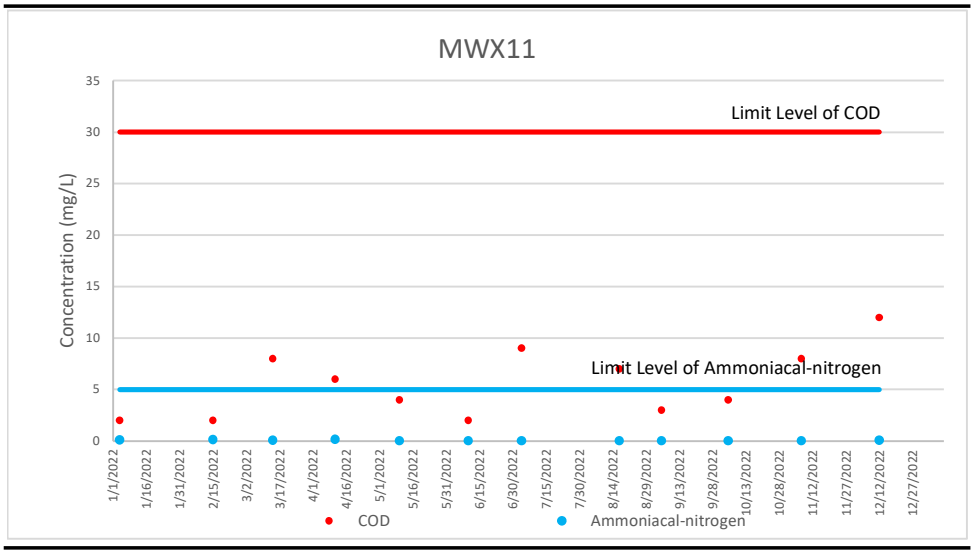

Figure F5.12 Graphical Presentation for Groundwater Monitoring (MWX-12)

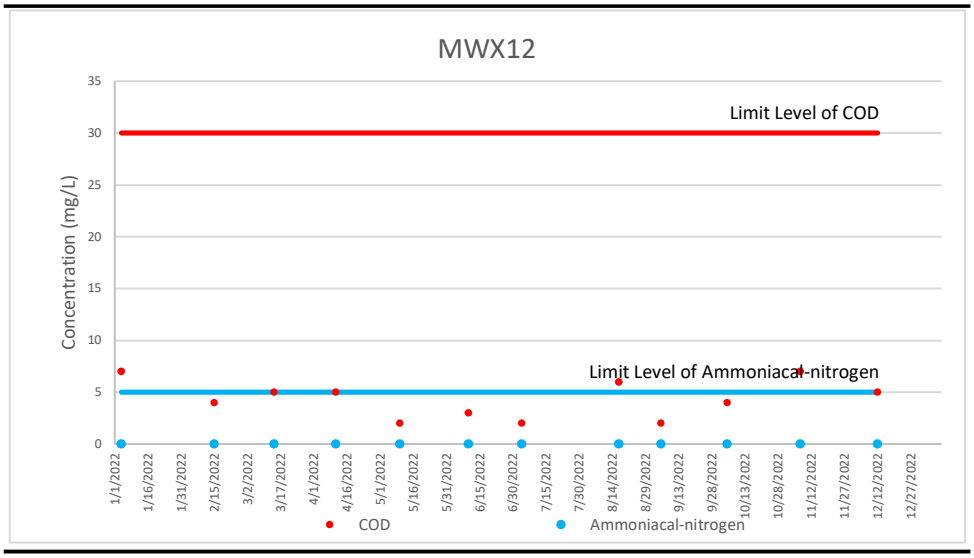

Figure F5.13 Graphical Presentation for Groundwater Monitoring (MWX-13)

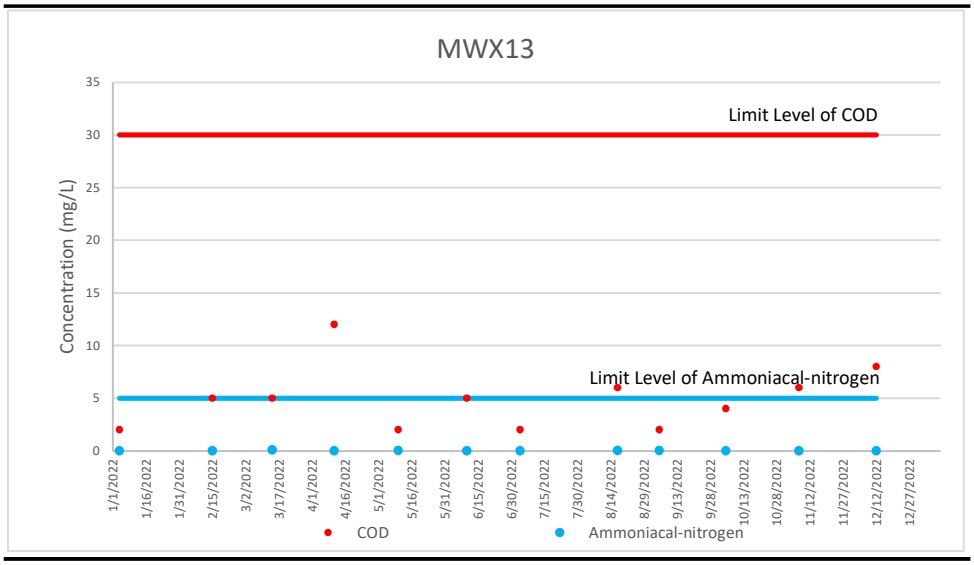

Figure F5.14 Graphical Presentation for Groundwater Monitoring (MWX-14)