



ANNEX F5

GROUNDWATER MONITORING RESULTS

TABLE F5.1 GROUNDWATER MONITORING RESULTS (OCTOBER 2024)

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	3.62	3.64	3.6	3.55	4	4.08	3.78	3.84	4.76	N/A ^(a)	N/A ^(b)	6.89	38.4	46.77
Bicarbonate Alkalinity as CaCO ₃	mg/L	166	266	246	67	92	<1	184	10	164	N/A	N/A	56	16	11
Carbonate Alkalinity as CaCO ₃	mg/L	<1	<1	<1	<1	9	140	<1	74	<1	N/A	N/A	<1	<1	<1
Total Alkalinity as CaCO ₃	mg/L	166	266	246	67	102	180	184	84	164	N/A	N/A	56	16	11
pH Value	pH Unit	7.8	7.8	7.7	8	8.8	11	8	10.3	8	N/A	N/A	6.9	5.6	5.3
Electrical Conductivity	µS/cm	687	1330	1090	1280	598	974	529	1600	18400	N/A	N/A	334	92	137
Ammonia	mg/L	0.05	0.05	0.98	0.19	0.29	2.49	0.16	3.88	0.44	N/A	N/A	<0.01	<0.01	<0.01
Chloride	mg/L	90	124	155	231	62	118	39	333	6460	N/A	N/A	20	14	27
Nitrite	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	N/A	N/A	<0.01	<0.01	<0.01
Phosphorus	mg/L	<0.01	0.02	0.02	0.02	0.01	<0.01	0.02	<0.01	0.06	N/A	N/A	0.04	0.01	<0.01
Sulphate	mg/L	46	248	98	198	79	67	31	185	918	N/A	N/A	62	3	7
Sulphide	mg/L	<0.1	<0.1	<0.1	<0.1	0.7	4.3	1.2	3.3	<0.1	N/A	N/A	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen	mg/L	0.2	0.3	1.3	0.5	0.6	3.1	0.3	4.4	0.5	N/A	N/A	<0.1	0.1	<0.1
Nitrate	mg/L	0.11	2.34	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	N/A	N/A	<0.01	0.13	0.24
Total Nitrogen	mg/L	0.3	2.7	1.4	0.5	0.6	3.1	0.3	4.4	0.5	N/A	N/A	<0.1	0.2	0.3
Boron	µg/L	140	360	220	410	260	280	170	240	2940	N/A	N/A	60	20	20

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
Calcium	mg/L	47.4	98.1	102	67.1	15.2	12.2	67.5	33.5	155	N/A	N/A	27.4	0.83	1.46
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	N/A	N/A	<0.20	<0.20	<0.20
Magnesium	mg/L	8.95	52	7.72	2.63	0.51	<0.05	4.69	0.37	337	N/A	N/A	4.66	0.99	1.58
Sodium	mg/L	75.2	95.8	97.7	170	84.3	136	31.9	243	3050	N/A	N/A	24.5	13.6	19.4
Iron	mg/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.09	<0.04	<0.04	N/A	N/A	0.19	<0.04	<0.04
Potassium	mg/L	19.2	22.3	25.1	31.8	38.7	53.2	13.3	63.6	161	N/A	N/A	3.16	3.99	5.06
Cadmium	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2	<0.2
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	N/A	N/A	<1	<1	<1
Copper	µg/L	<1	2	4	<1	1	1	6	<1	<1	N/A	N/A	2	2	3
Lead	µg/L	<1	<1	<1	<1	<1	2	<1	<1	<1	N/A	N/A	<1	<1	<1
Manganese	µg/L	282	54	806	23	8	<1	412	24	339	N/A	N/A	711	25	14
Nickel	µg/L	<1	<1	<1	<1	<1	1	<1	2	<1	N/A	N/A	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	22	<10	<10	N/A	N/A	19	15	16
Biochemical Oxygen Demand	mg/L	<2	<2	<2	<2	<2	<2	3	2	<2	N/A	N/A	<2	<2	<2
Chemical Oxygen Demand	mg/L	6	3	16	16	14	34	12	33	<20	N/A	N/A	3	3	4
Total Organic Carbon	mg/L	3	<1	7	5	5	8	3	11	<5	N/A	N/A	2	<1	2

Note:

- (a) Monitoring well MWX-10 is under maintenance.
(b) Monitoring well MWX-11 is not accessible due to the landscape reparation work.

TABLE F5.2 GROUNDWATER MONITORING RESULTS (NOVEMBER 2024)

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	3.27	3.76	2.97	3.2	3.5	3.06	3.42	3.23	3.7	N/A ^(a)	N/A ^(b)	6.99	36.9	45.31
Bicarbonate Alkalinity as CaCO ₃	mg/L	162	283	178	12	32	<1	84	<1	162	N/A	N/A	55	17	12
Carbonate Alkalinity as CaCO ₃	mg/L	<1	<1	<1	40	63	137	14	83	<1	N/A	N/A	<1	<1	<1
Total Alkalinity as CaCO ₃	mg/L	162	283	178	52	95	178	99	104	162	N/A	N/A	55	17	12
pH Value	pH Unit	7.6	7.8	7.9	9.7	9.8	10.9	8.8	10.5	7.9	N/A	N/A	6.9	5.6	5.4
Electrical Conductivity	µS/cm	883	1130	1230	650	755	1060	837	1670	20000	N/A	N/A	310	94	119
Ammonia	mg/L	0.03	0.05	1.61	1.81	1.32	3.3	1.94	4.26	0.33	N/A	N/A	<0.01	0.2	<0.01
Chloride	mg/L	155	49	228	127	106	153	124	338	6320	N/A	N/A	20	15	24
Nitrite	mg/L	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	N/A	N/A	0.01	<0.01	<0.01
Phosphorus	mg/L	<0.01	0.02	0.02	0.01	<0.01	<0.01	<0.01	<0.01	0.07	N/A	N/A	0.03	<0.01	<0.01
Sulphate	mg/L	40	255	84	77	81	69	104	187	924	N/A	N/A	58	3	4
Sulphide	mg/L	<0.1	<0.1	<0.1	3.1	2.7	10.2	0.4	3	0.1	N/A	N/A	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen	mg/L	0.2	1.2	2	2.1	1.8	4	2.4	4.9	0.6	N/A	N/A	0.1	0.4	0.1
Nitrate	mg/L	0.05	3.32	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	N/A	N/A	<0.01	0.09	0.13
Total Nitrogen	mg/L	0.3	4.5	2	2.1	1.8	4	2.4	4.9	0.7	N/A	N/A	0.1	0.5	0.2

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
Boron	µg/L	160	340	220	190	220	220	200	200	2790	N/A	N/A	60	20	20
Calcium	mg/L	47.6	91.1	76.3	21.7	10.4	11.3	30.3	41.3	165	N/A	N/A	25.3	0.81	1.33
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	N/A	N/A	<0.20	<0.20	<0.20
Magnesium	mg/L	10.5	55.2	6.18	0.59	0.19	<0.05	2.09	<0.05	356	N/A	N/A	4.28	0.97	1.19
Sodium	mg/L	97.9	55.7	143	89.9	106	147	123	231	3230	N/A	N/A	23.7	12.2	22.4
Iron	mg/L	<0.04	<0.04	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	N/A	N/A	0.38	<0.04	<0.04
Potassium	mg/L	18.2	19.6	28.7	19.9	39.2	53.3	27.1	62.5	168	N/A	N/A	2.97	3.82	4.3
Cadmium	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2	<0.2
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	N/A	N/A	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	<1	1	<1	<1	<1	N/A	N/A	<1	1	3
Lead	µg/L	<1	<1	<1	<1	<1	4	<1	<1	<1	N/A	N/A	<1	<1	<1
Manganese	µg/L	191	180	575	4	2	<1	11	<1	378	N/A	N/A	633	56	13
Nickel	µg/L	<1	<1	<1	<1	<1	2	<1	2	<1	N/A	N/A	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	N/A	N/A	12	<10	<10
Biochemical Oxygen Demand	mg/L	<2	<2	<2	<2	<2	8	<2	<2	<2	N/A	N/A	<2	<2	<2
Chemical Oxygen Demand	mg/L	5	4	22	19	21	44	22	32	<20	N/A	N/A	4	5	4
Total Organic Carbon	mg/L	2	<1	7	6	6	11	8	10	<5	N/A	N/A	2	1	2

Note:

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
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(a) Monitoring well MWX-10 is under maintenance.

(b) Monitoring well MWX-11 is not accessible due to the safety considerations.

TABLE F5.3 GROUNDWATER MONITORING RESULTS (DECEMBER 2024)

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	3.17	3.14	3.12	2.93	3.39	3.14	3.12	N/A ^(a)	3.66	N/A ^(b)	N/A ^(c)	7.23	36.84	45.24
Bicarbonate Alkalinity as CaCO ₃	mg/L	166	282	213	19	83	<1	<1	<1	162	N/A	N/A	56	14	10
Carbonate Alkalinity as CaCO ₃	mg/L	<1	<1	<1	36	10	140	90	93	<1	N/A	N/A	<1	<1	<1
Total Alkalinity as CaCO ₃	mg/L	166	282	213	56	93	188	122	121	162	N/A	N/A	56	14	10
pH Value	pH Unit	7.8	7.8	7.9	9.6	8.8	11.1	10.7	10.9	7.9	N/A	N/A	6.9	5.6	5.4
Electrical Conductivity	µS/cm	918	1090	862	572	686	1080	1200	1710	19800	N/A	N/A	305	91	108
Ammonia	mg/L	0.07	0.06	0.62	1.8	0.41	3.55	6.59	4.45	0.45	N/A	N/A	0.02	<0.01	0.01
Chloride	mg/L	160	49	107	101	79	158	215	332	6680	N/A	N/A	19	14	21
Nitrite	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	N/A	N/A	<0.01	<0.01	<0.01
Phosphorus	mg/L	<0.01	0.02	0.02	0.01	0.01	<0.01	<0.01	<0.01	0.06	N/A	N/A	0.03	0.01	<0.01
Sulphate	mg/L	48	267	65	69	88	71	116	202	1020	N/A	N/A	60	3	3
Sulphide	mg/L	<0.1	<0.1	<0.1	2.6	0.6	13.1	10.6	3.1	<0.1	N/A	N/A	<0.1	<0.1	<0.1

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
Total Kjeldahl Nitrogen	mg/L	0.2	0.6	0.9	1.8	0.8	4.6	7.8	4.8	0.6	N/A	N/A	0.1	<0.1	<0.1
Nitrate	mg/L	0.04	3.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	N/A	N/A	0.01	0.12	0.11
Total Nitrogen	mg/L	0.2	3.7	0.9	1.8	0.8	4.6	7.8	4.8	0.6	N/A	N/A	0.1	0.2	0.2
Boron	µg/L	160	330	160	150	230	210	230	210	2890	N/A	N/A	30	10	10
Calcium	mg/L	48.4	85.8	80.8	23	12.4	16.4	10.2	45.3	160	N/A	N/A	24.2	0.8	1.15
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	N/A	N/A	<0.20	<0.20	<0.20
Magnesium	mg/L	10.6	53.8	5.48	0.93	0.37	<0.05	0.07	0.08	351	N/A	N/A	4.13	0.95	1.04
Sodium	mg/L	104	56.1	48.7	49.2	91.5	155	41.5	231	3050	N/A	N/A	25.1	14.5	17.2
Iron	mg/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.04	<0.04	<0.04	N/A	N/A	0.42	<0.04	<0.04
Potassium	mg/L	18	19.7	17.6	14.6	42.2	56.5	14.9	58.8	156	N/A	N/A	3.13	4.06	4.58
Cadmium	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2	<0.2
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	N/A	N/A	<1	<1	<1
Copper	µg/L	1	<1	<1	<1	<1	2	<1	<1	2	N/A	N/A	<1	2	4
Lead	µg/L	<1	<1	<1	<1	<1	2	<1	<1	<1	N/A	N/A	<1	<1	<1
Manganese	µg/L	42	81	412	29	6	<1	41	2	416	N/A	N/A	728	38	13
Nickel	µg/L	<1	<1	<1	<1	<1	1	<1	3	<1	N/A	N/A	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	N/A	N/A	10	13	<10
Biochemical Oxygen Demand	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	N/A	N/A	<2	<2	<2

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
Chemical Oxygen Demand	mg/L	4a	3	9	8	12	40	6	28	<20	N/A	N/A	5	7	7
Total Organic Carbon	mg/L	3	2	5	4	5	10	4	9	<5	N/A	N/A	2	2	3

Note:

- (a) The dip level of Monitoring well MWX-8 could not be measured due to thick grass layer.
- (b) Monitoring well MWX-10 is under maintenance.
- (c) Monitoring well MWX-11 is not accessible due to the safety considerations.

FIGURE F5.1 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-1)

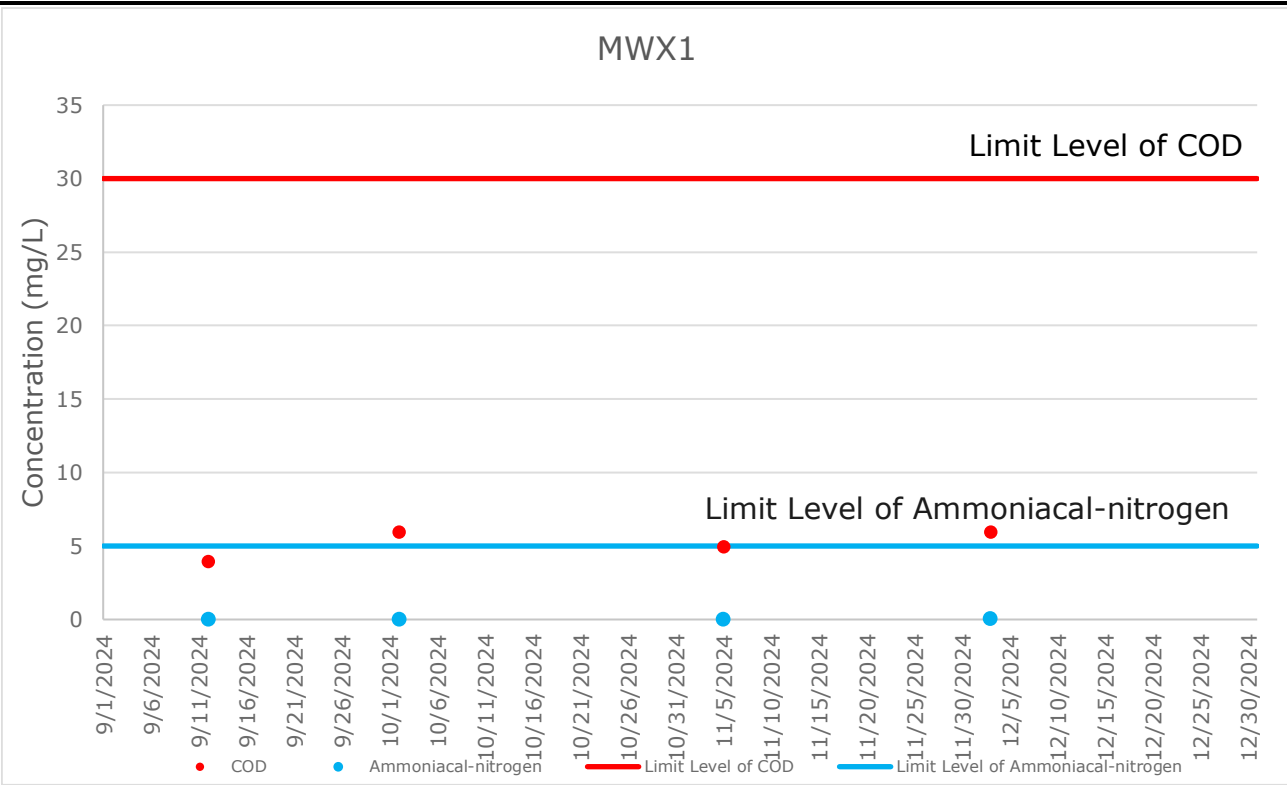


FIGURE F5.2 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-2)

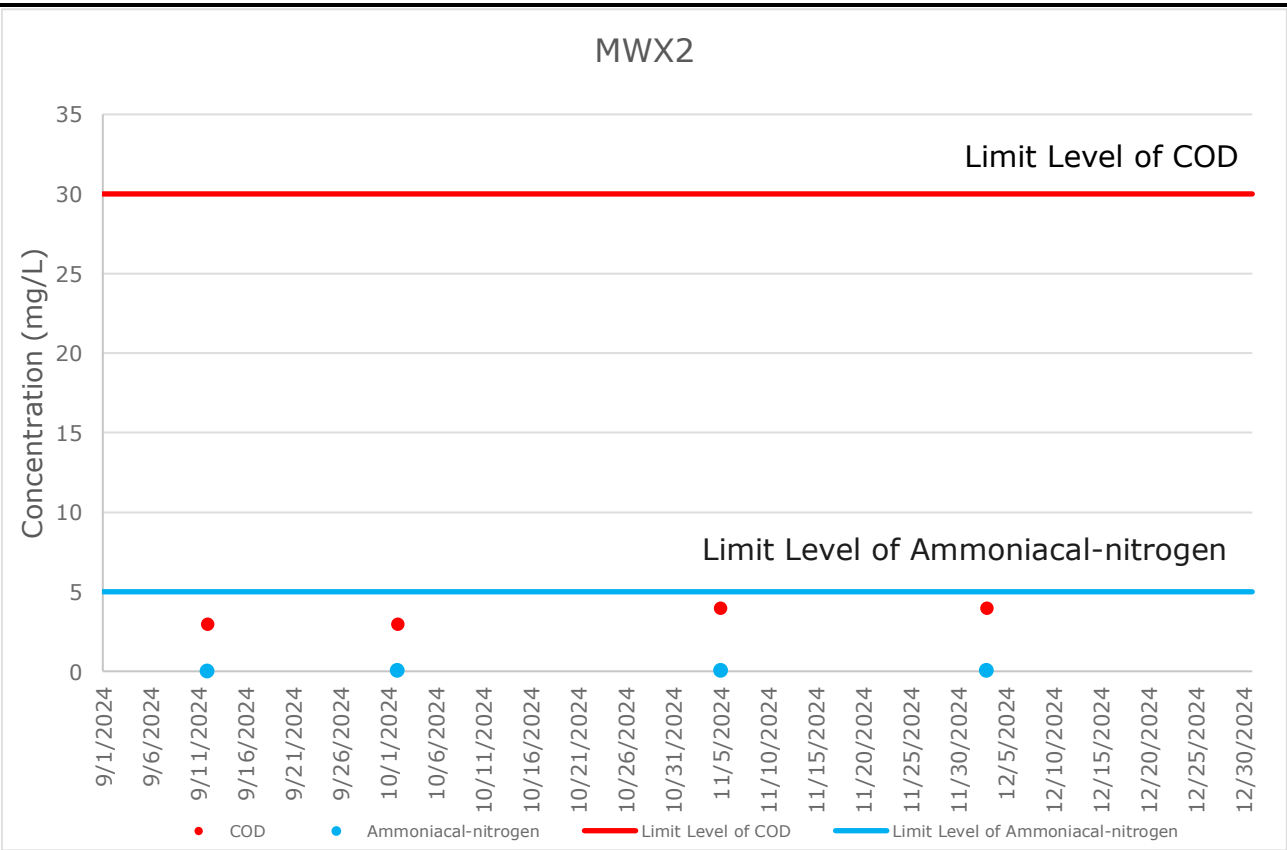


FIGURE F5.3 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-3)

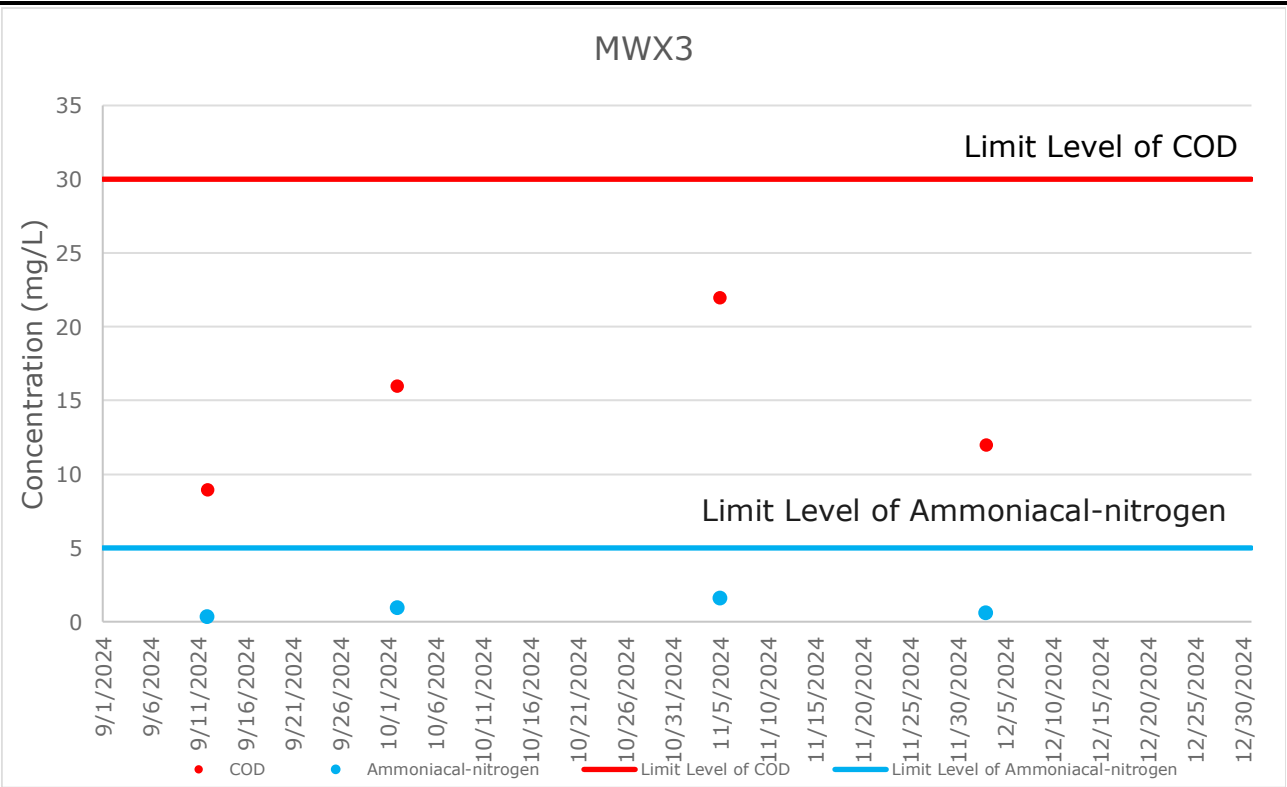


FIGURE F5.4 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-4)

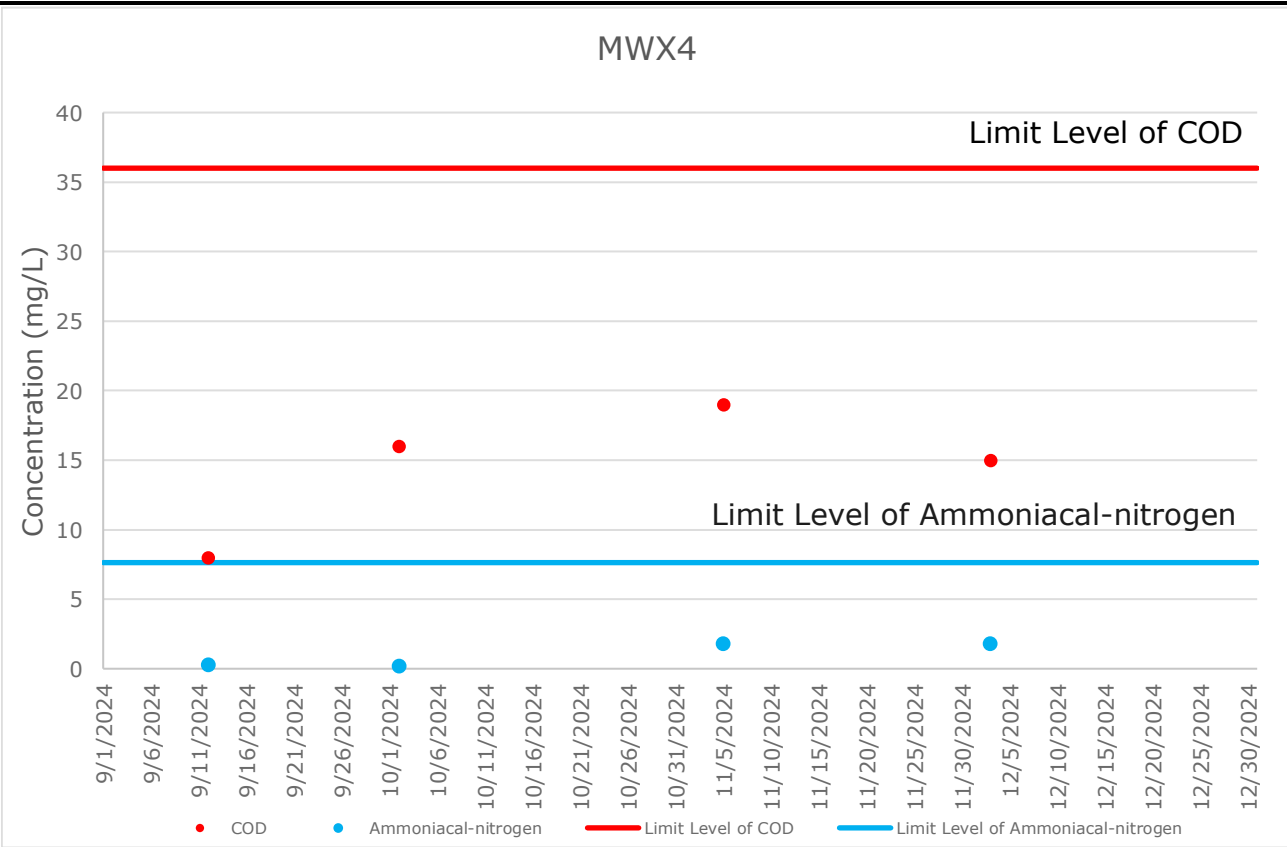


FIGURE F5.5 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-5)

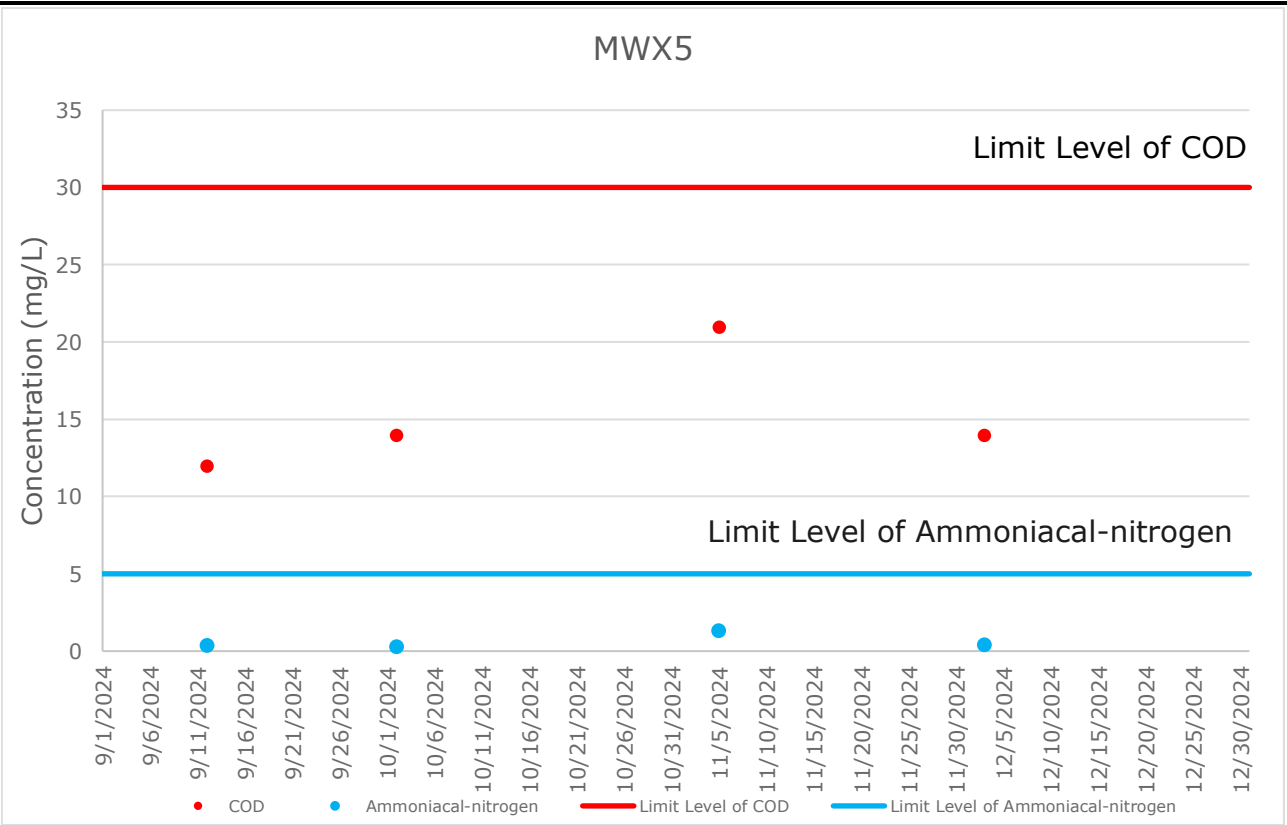


FIGURE F5.6 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-6)

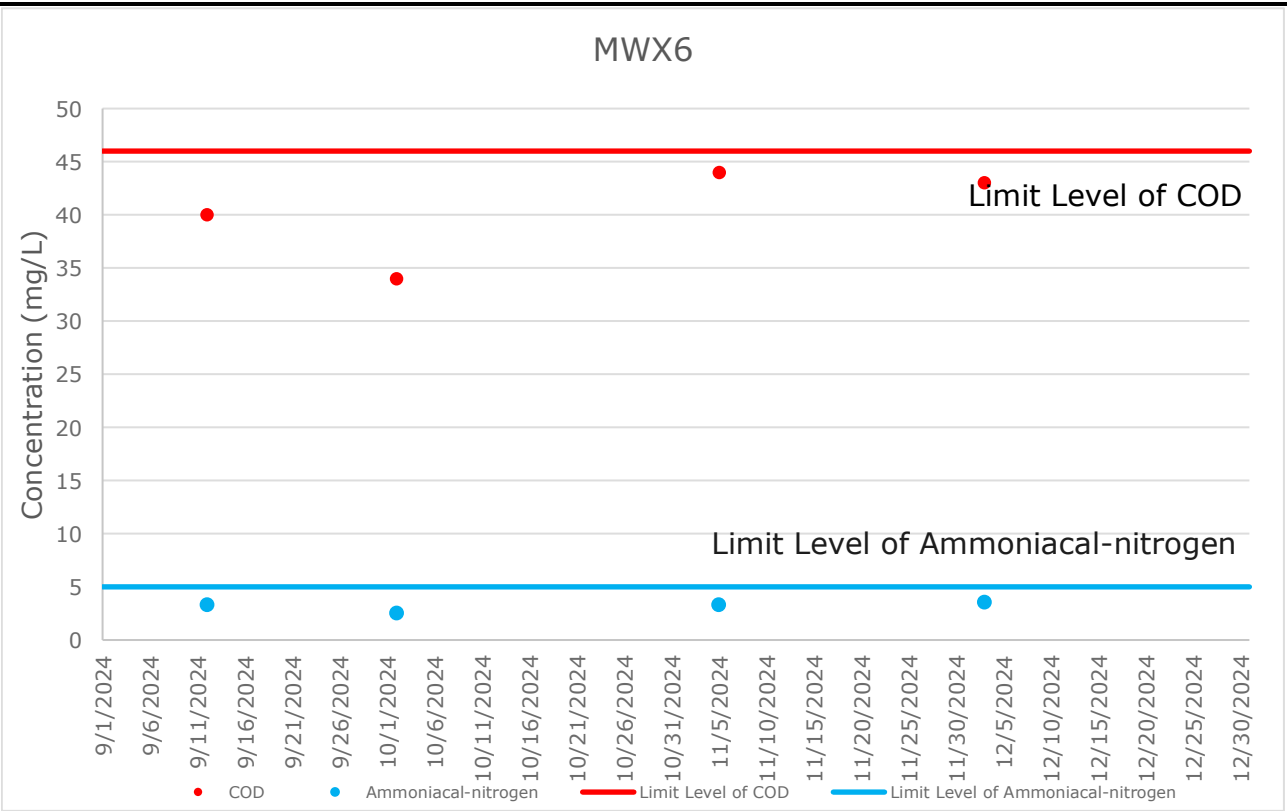


FIGURE F5.7 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-7)

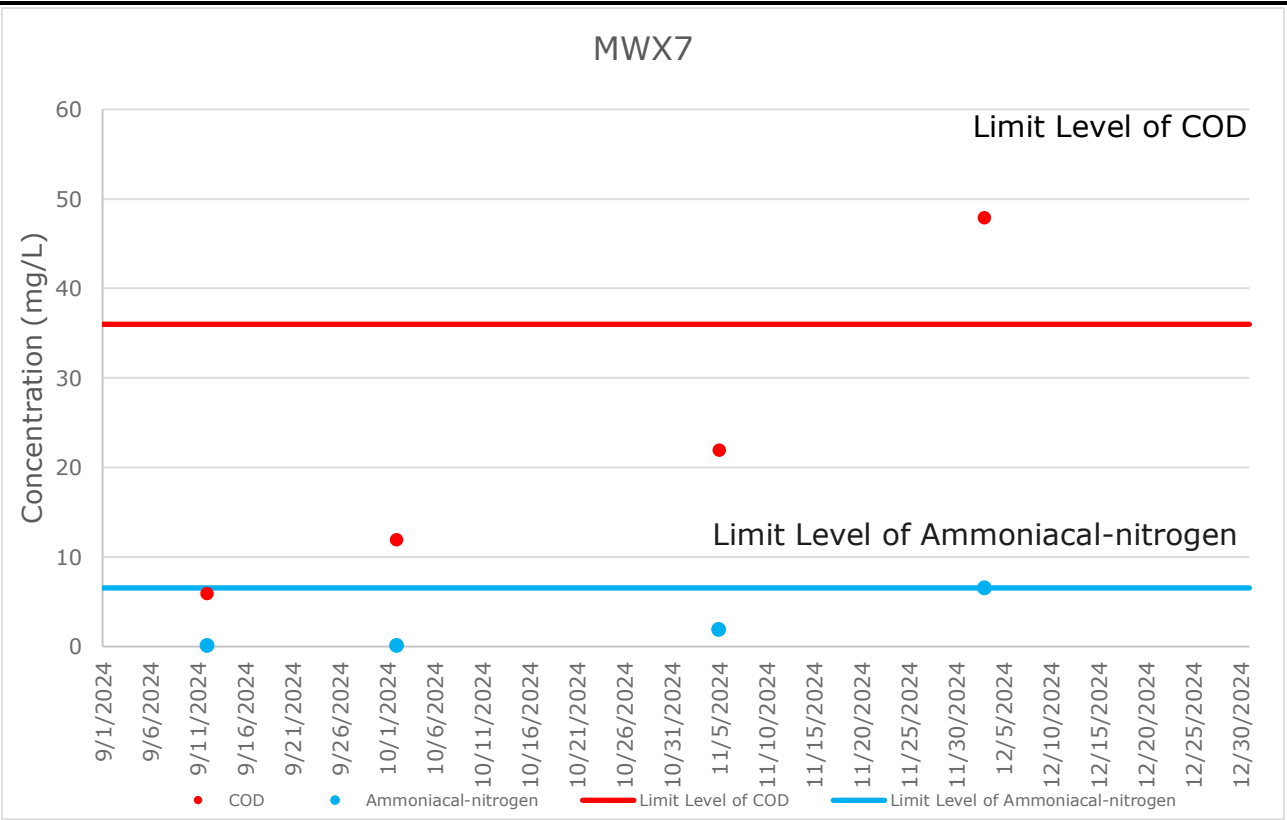


FIGURE F5.8 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-8)

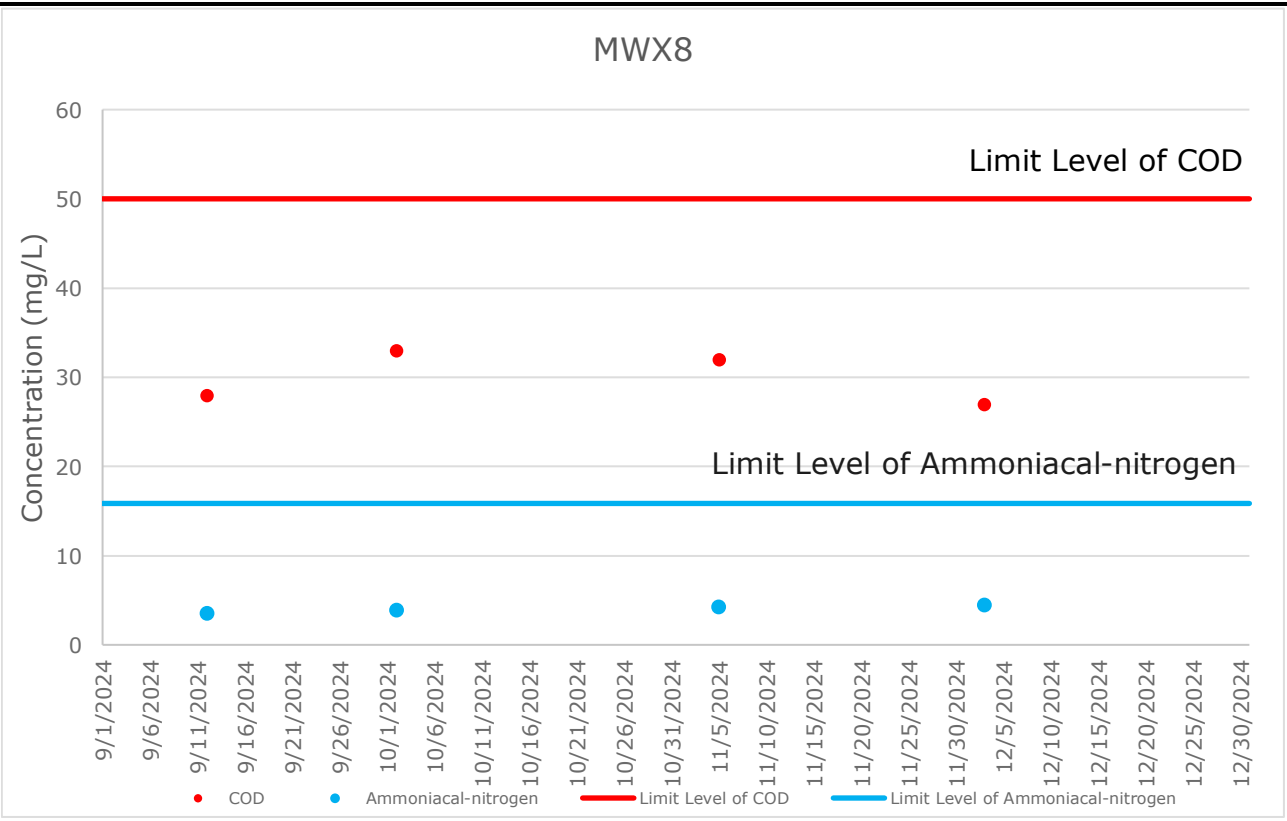


FIGURE F5.9 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-9)

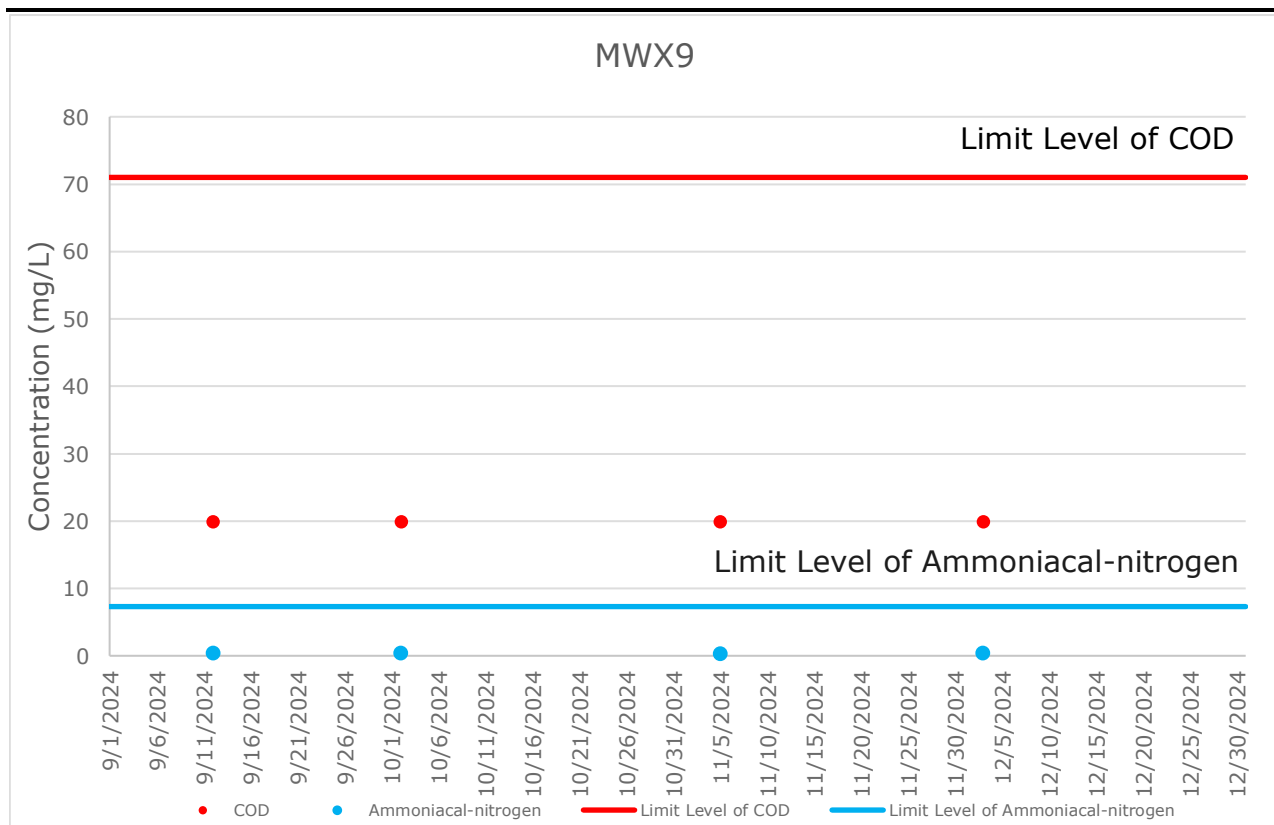


FIGURE F5.10 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-10)

No groundwater data for MWX-10 due to monitoring well MWX-10 is under maintenance.

FIGURE F5.11 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-11)

No groundwater data for MWX-10 due to monitoring well MWX-11 is not accessible for the landscape reparation work in October 2024 and safety considerations in November and December 2024.

FIGURE F5.12 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-12)

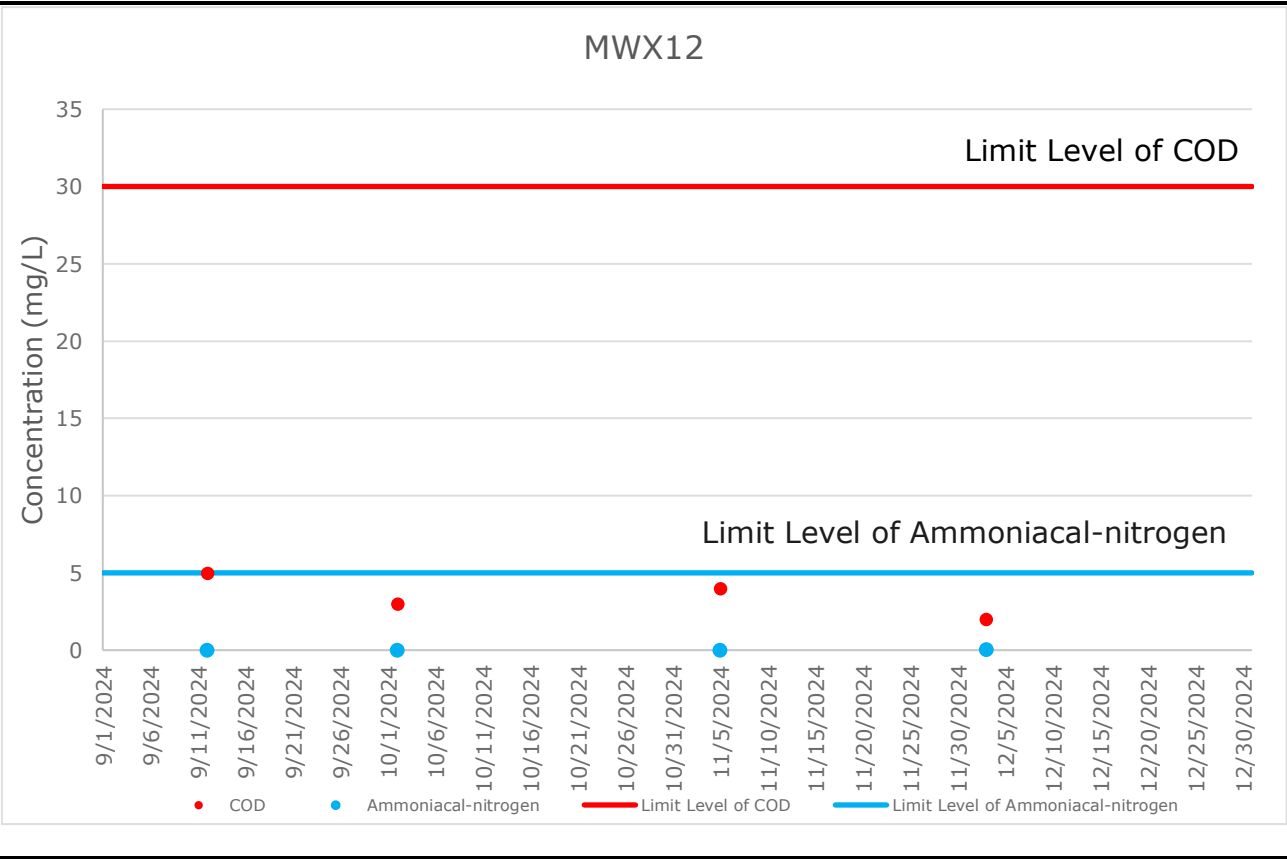


FIGURE F5.13 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-13)

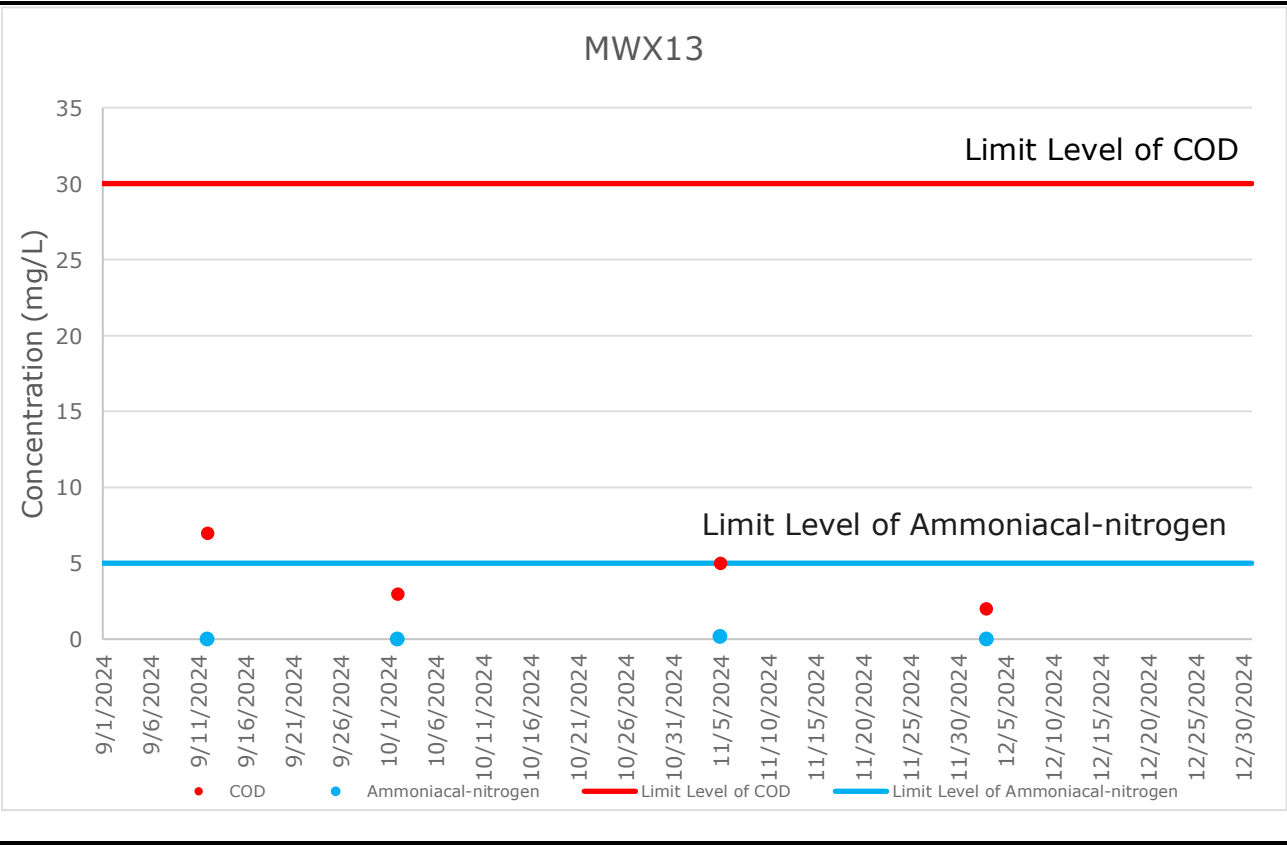


FIGURE F5.14 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-14)

