



ANNEX F5

GROUNDWATER MONITORING RESULTS

TABLE F5.1 GROUNDWATER MONITORING RESULTS (JANUARY 2025)

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	3.03	2.97	3.22	3.74	3.3	3.44	2.97	N/A ^(a)	3.41	N/A ^(b)	N/A ^(c)	6.86	36.18	44.29
Bicarbonate Alkalinity as CaCO ₃	mg/L	156	290	140	<1	90	<1	<1	34	159	N/A	N/A	56	14	10
Carbonate Alkalinity as CaCO ₃	mg/L	<1	<1	<1	80	5	134	96	13	<1	N/A	N/A	<1	<1	<1
Total Alkalinity as CaCO ₃	mg/L	156	290	140	90	96	173	118	47	159	N/A	N/A	56	14	10
pH Value	pH Unit	7.8	7.9	7.9	10.6	8.6	11.1	10.8	9.2	8	N/A	N/A	6.9	5.6	5.5
Electrical Conductivity	µS/cm	1020	1120	1140	617	791	1080	1260	1780	21300	N/A	N/A	300	92	97
Ammonia	mg/L	<0.01	0.06	1.47	2.87	0.48	3.49	4.91	4.18	0.38	N/A	N/A	<0.01	<0.01	<0.01
Chloride	mg/L	198	46	221	100	117	152	228	398	6920	N/A	N/A	19	14	18
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	0.01	0.02	0.01	<0.01	<0.01	<0.01	<0.01	0.07	N/A	N/A	0.04	<0.01	<0.01
Sulphate	mg/L	57	265	84	57	88	75	143	139	1070	N/A	N/A	59	3	3
Sulphide	mg/L	<0.1	<0.1	0.1	4	0.4	12.3	5.9	4.3	<0.1	N/A	N/A	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen	mg/L	0.1	0.3	1.7	2.9	0.8	4	6.2	5.1	0.7	N/A	N/A	<0.1	<0.1	<0.1
Nitrate	mg/L	0.09	2.92	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	N/A	N/A	<0.01	0.08	0.12
Total Nitrogen	mg/L	0.2	3.2	1.7	2.9	0.8	4	6.2	5.1	0.7	N/A	N/A	<0.1	0.1	0.2
Boron	µg/L	230	380	250	220	240	200	270	230	3350	N/A	N/A	30	20	10
Calcium	mg/L	47.8	86.9	69.2	20	14.1	19.8	14	20.4	180	N/A	N/A	23	0.75	0.83
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	11.1	55.5	4.61	0.09	0.54	<0.05	<0.05	0.06	397	N/A	N/A	3.97	0.92	0.81

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
Sodium	mg/L	112	57.5	120	79.6	106	140	186	262	3470	N/A	N/A	23.6	12.2	12.8
Iron	mg/L	<0.04	<0.04	0.13	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	N/A	N/A	0.36	<0.04	<0.04
Potassium	mg/L	17.6	19	27.3	19.8	45.5	52.1	53	64	175	N/A	N/A	2.94	3.74	3.47
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	3	2
Lead	µg/L	<1	<1	<1	<1	<1	1	<1	<1	<1	N/A	N/A	<1	<1	<1
Manganese	µg/L	232	212	769	<1	4	<1	<1	<1	374	N/A	N/A	672	20	7
Nickel	µg/L	<1	<1	<1	<1	<1	2	2	3	<1	N/A	N/A	<1	<1	<1
Zinc	µg/L	<10	<10	104	<10	<10	<10	<10	<10	<10	N/A	N/A	17	14	10
Biochemical Oxygen Demand	mg/L	<2	<2	<2	<2	<2	6	2	2	<2	N/A	N/A	<2	<2	<2
Chemical Oxygen Demand	mg/L	5	5	21	19	16	42	48	33	<20	N/A	N/A	5	3	4
Total Organic Carbon	mg/L	3	3	8	7	7	11	15	11	<5	N/A	N/A	2	2	2

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.

TABLE F5.2 GROUNDWATER MONITORING RESULTS (FEBRUARY 2025)

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	3.52	3.19	2.98	3.33	3.51	2.87	3.01	N/A ^(a)	3.18	N/A ^(b)	N/A ^(c)	5.83	35.92	41.82
Bicarbonate Alkalinity as CaCO ₃	mg/L	156	292	132	<1	48	<1	<1	<1	158	N/A	N/A	57	14	10
Carbonate Alkalinity as CaCO ₃	mg/L	<1	<1	<1	79	45	131	81	86	<1	N/A	N/A	<1	<1	<1
Total Alkalinity as CaCO ₃	mg/L	156	292	132	100	93	187	105	126	158	N/A	N/A	57	14	10
pH Value	pH Unit	7.6	7.8	7.8	10.6	9.6	11.1	10.5	10.4	7.9	N/A	N/A	6.9	5.6	5.6
Electrical Conductivity	µS/cm	1090	1110	1110	591	843	1130	1320	3550	21900	N/A	N/A	297	92	97
Ammonia	mg/L	0.02	0.08	1.59	2.71	0.83	3.81	5	16.4	0.54	N/A	N/A	<0.01	0.01	0.02
Chloride	mg/L	218	56	206	88	139	174	230	1050	7040	N/A	N/A	20	14	18
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	0.01	0.01	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	56	251	75	44	91	75	163	53	1010	N/A	N/A	55	3	3
Sulphide	mg/L	<0.1	<0.1	0.3	4.1	4.1	16.1	0.4	17.7	0.1	N/A	N/A	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen	mg/L	0.1	0.2	1.8	2.8	1.4	4.6	5.9	16.8	0.8	N/A	N/A	<0.1	0.1	<0.1
Nitrate	mg/L	0.13	2.25	0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	N/A	N/A	<0.01	0.08	0.12
Total Nitrogen	mg/L	0.3	2.5	1.8	2.8	1.4	4.6	5.9	16.8	0.8	N/A	N/A	<0.1	0.2	0.2
Boron	µg/L	210	360	210	210	220	170	270	460	2750	N/A	N/A	70	30	20
Calcium	mg/L	52.4	82.8	65.9	19.1	6.96	25.7	16.5	94.2	201	N/A	N/A	23.4	0.77	0.81
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

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
Magnesium	mg/L	12.1	54.2	4.26	<0.05	0.47	<0.05	<0.05	<0.05	407	N/A	N/A	4.04	0.93	0.78
Sodium	mg/L	125	59.3	117	73.2	120	138	195	511	3430	N/A	N/A	23.8	12.3	12.9
Iron	mg/L	<0.04	<0.04	0.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	N/A	N/A	0.09	<0.04	<0.04
Potassium	mg/L	19.1	18.2	25.2	19.8	46.8	49.2	52	70.4	198	N/A	N/A	2.82	3.58	3.24
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	3	4	5
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	N/A	N/A	<1	<1	<1
Manganese	µg/L	192	264	618	<1	<1	<1	<1	<1	373	N/A	N/A	650	16	6
Nickel	µg/L	<1	<1	<1	<1	<1	1	1	<1	<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	11	11
Biochemical Oxygen Demand	mg/L	<2	<2	2	3	2	8	<2	6	<2	N/A	N/A	<2	<2	<2
Chemical Oxygen Demand	mg/L	6	5	18	14	19	37	39	48	<20	N/A	N/A	2	<2	3
Total Organic Carbon	mg/L	2	3	6	6	7	10	14	13	<5	N/A	N/A	1	1	1

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.

TABLE F5.3 GROUNDWATER MONITORING RESULTS (MARCH 2025)

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	2.94	2.96	2.84	2.74	2.69	2.91	N/A ^(a)	3.04	N/A ^(b)	3.2	6.66	35.59	36.81
Bicarbonate Alkalinity as CaCO ₃	mg/L	156	292	139	<1	<1	<1	<1	<1	152	N/A	152	58	15	10
Carbonate Alkalinity as CaCO ₃	mg/L	<1	<1	<1	70	102	137	84	67	<1	N/A	<1	<1	<1	<1
Total Alkalinity as CaCO ₃	mg/L	156	292	139	78	139	183	100	67	152	N/A	152	58	15	10
pH Value	pH Unit	7.8	7.9	8	10.2	10.8	11	10.3	9.5	7.9	N/A	7.8	7.1	5.7	5.7
Electrical Conductivity	µS/cm	1140	1120	1100	586	992	1090	1360	3580	20600	N/A	1410	288	92	100
Ammonia	mg/L	0.2	0.1	1.6	3.02	2.3	3.56	4.34	13.7	0.7	N/A	0.04	<0.01	<0.01	<0.01
Chloride	mg/L	198	52	192	93	131	160	209	1020	5850	N/A	298	18	13	17
Nitrite	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	<0.01	<0.01	N/A	<0.01	<0.01	<0.01	<0.01
Phosphorus	mg/L	<0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	N/A	<0.01	0.03	<0.01	<0.01
Sulphate	mg/L	51	240	61	45	72	71	139	48	961	N/A	59	49	3	4
Sulphide	mg/L	<0.1	<0.1	0.2	4	10.7	14.1	<0.1	6.8	0.2	N/A	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen	mg/L	0.3	<1.0	1.8	3.5	2.8	4.5	5.4	14.9	0.8	N/A	<0.1	0.2	<0.1	<0.1
Nitrate	mg/L	<0.01	2.45	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	N/A	<0.01	<0.01	0.08	0.08
Total Nitrogen	mg/L	0.3	2.9	1.8	3.5	2.8	4.5	5.5	14.9	0.8	N/A	<0.1	0.2	0.1	<0.1
Boron	µg/L	190	340	210	190	190	160	240	440	2680	N/A	100	20	10	10
Calcium	mg/L	52.4	78.8	59.4	15.8	22.2	26.1	17	67.7	195	N/A	90.6	22.6	0.74	0.89
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	N/A	<0.20	<0.20	<0.20	<0.20

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
Magnesium	mg/L	12.7	54.2	4.12	0.06	<0.05	<0.05	<0.05	0.06	345	N/A	8.02	3.86	0.94	0.82
Sodium	mg/L	130	57.8	116	76.4	122	134	193	470	3000	N/A	150	22.7	12.3	13.3
Iron	mg/L	<0.04	<0.04	0.15	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	N/A	<0.04	0.17	<0.04	<0.04
Potassium	mg/L	18.2	18.6	26	19.5	47	48.8	51.7	65.1	179	N/A	9.96	2.87	3.76	3.44
Cadmium	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	N/A	<0.2	<0.2	<0.2	<0.2
Chromium	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	N/A	<1	<1	<1	<1
Copper	µg/L	<1	<1	<1	<1	<1	<1	2	<1	<1	N/A	<1	2	<1	3
Lead	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	N/A	<1	<1	<1	<1
Manganese	µg/L	275	303	582	<1	<1	<1	<1	1	467	N/A	662	612	13	7
Nickel	µg/L	<1	<1	<1	<1	1	1	2	1	<1	N/A	<1	<1	<1	<1
Zinc	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	N/A	<10	20	11	41
Biochemical Oxygen Demand	mg/L	<2	<2	<2	<2	4	12	<2	14	<2	N/A	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	7	<2	14	13	28	39	34	32	<20	N/A	8	6	7	5
Total Organic Carbon	mg/L	2	<1	6	7	8	11	14	13	<5	N/A	2	1	4	1

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.

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

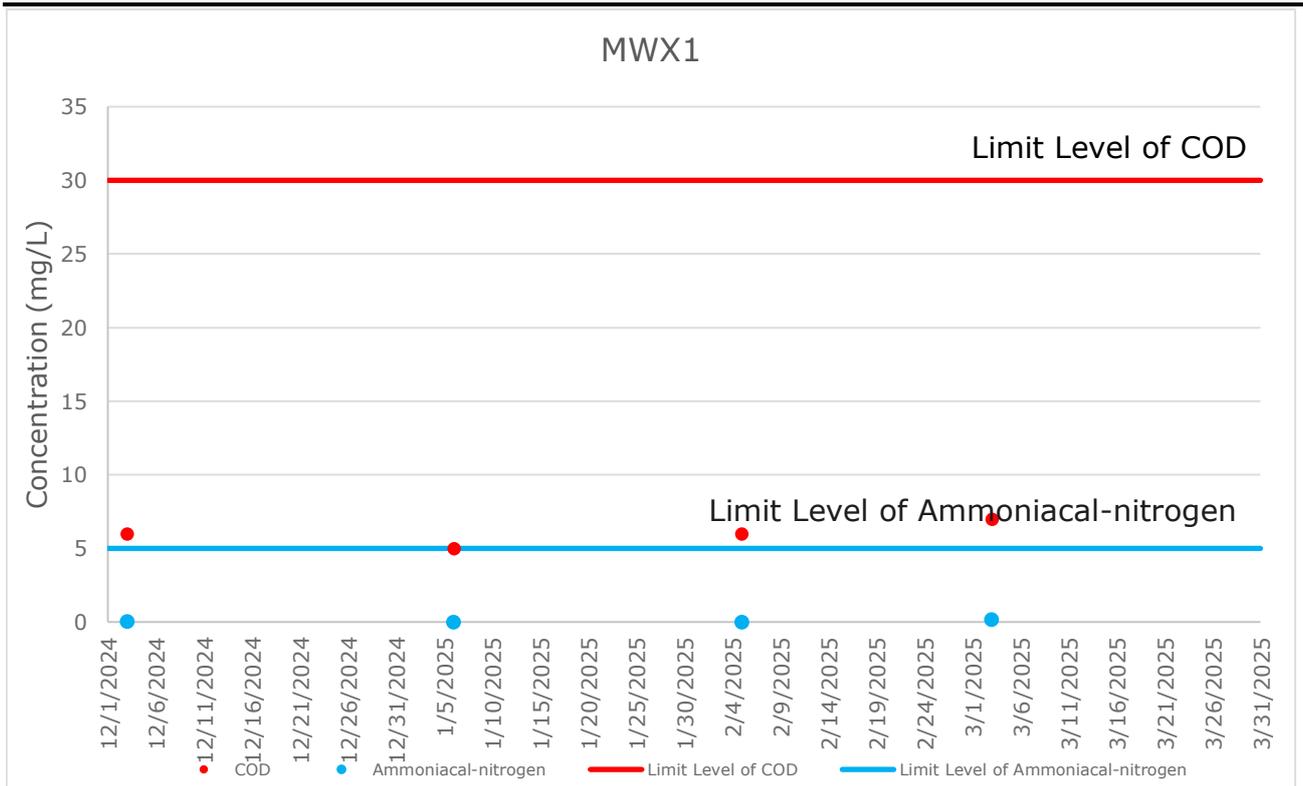


FIGURE F5.2 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-2)

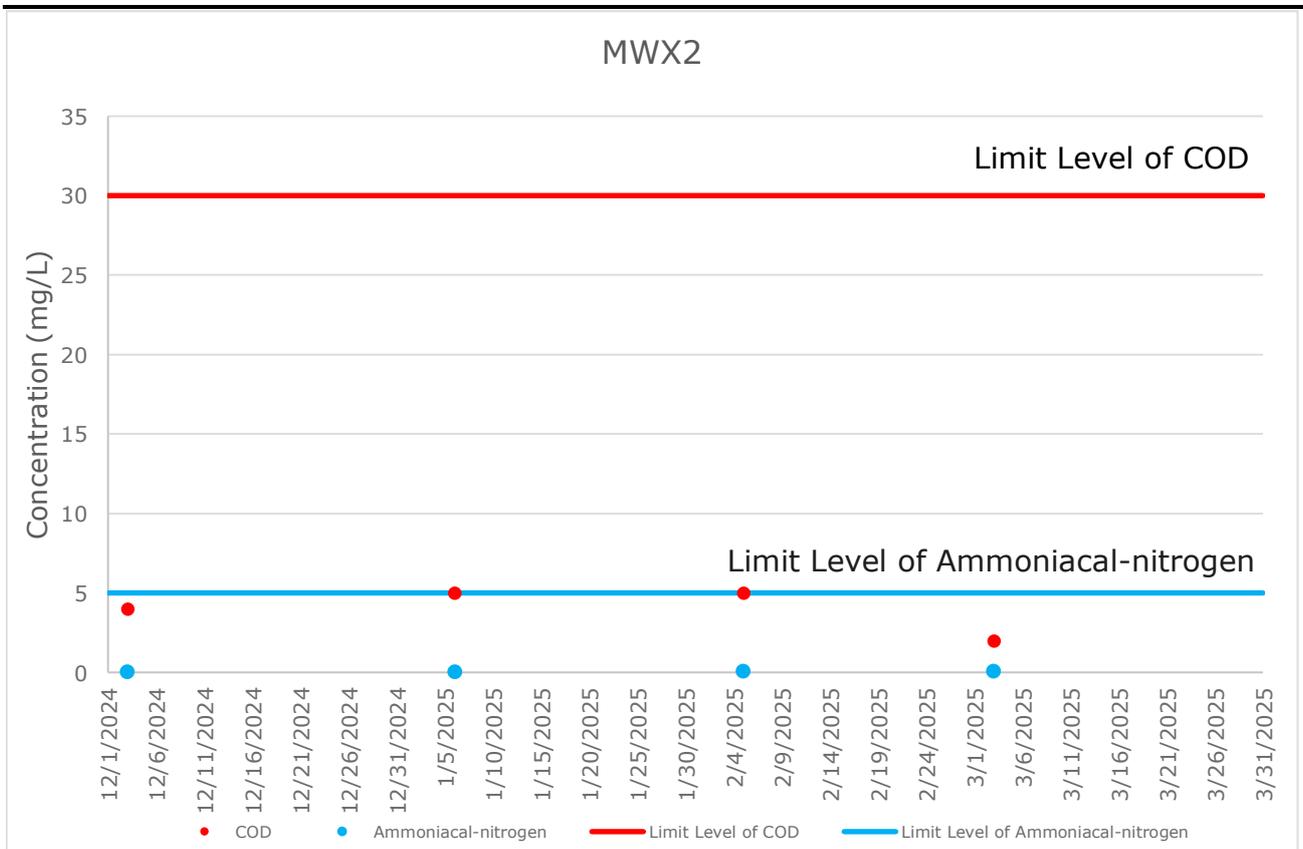


FIGURE F5.3 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-3)

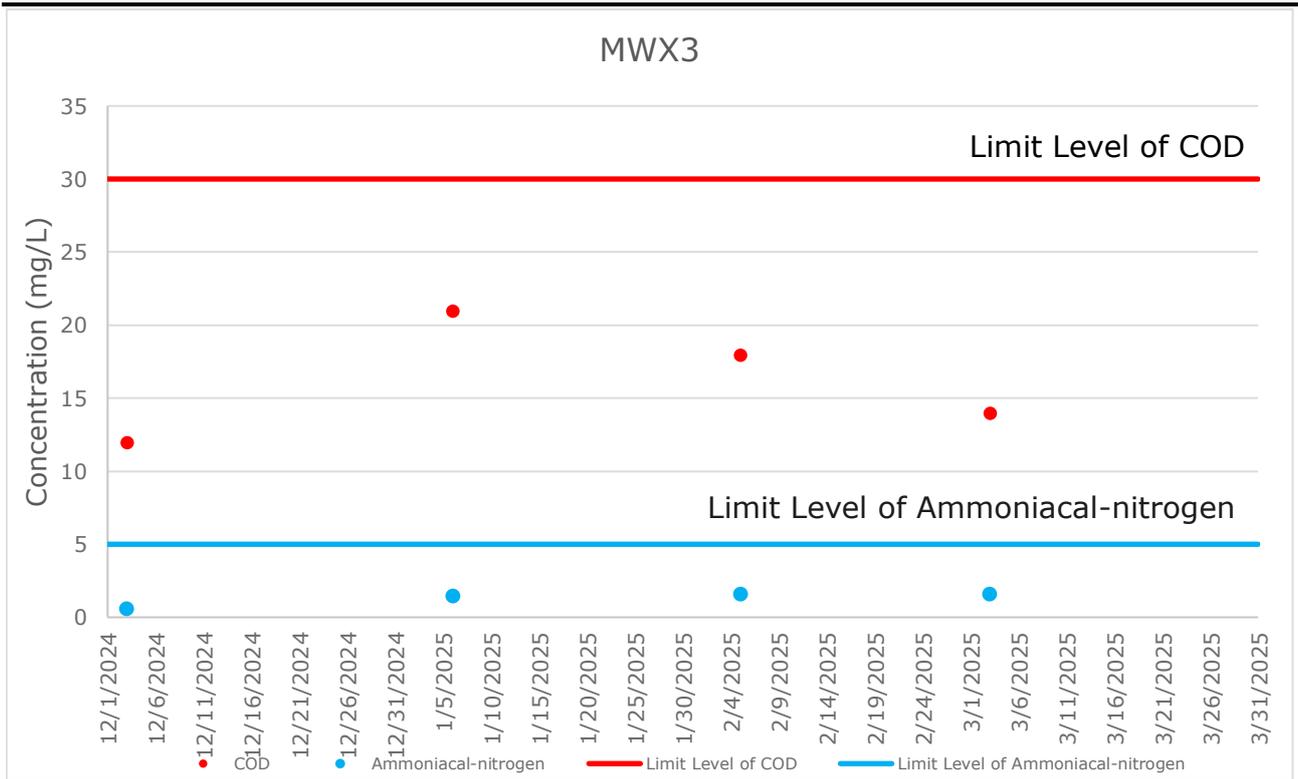


FIGURE F5.4 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-4)

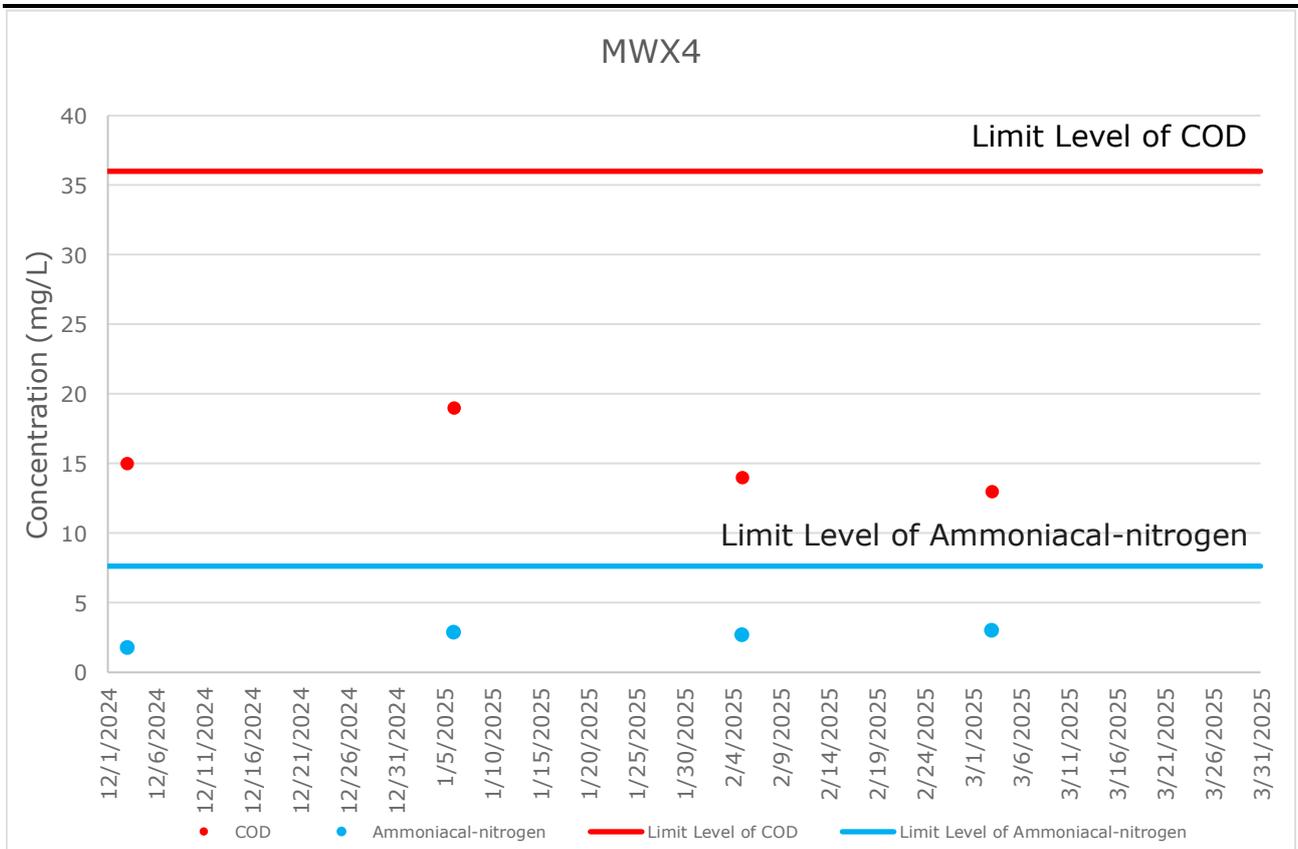


FIGURE F5.5 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-5)

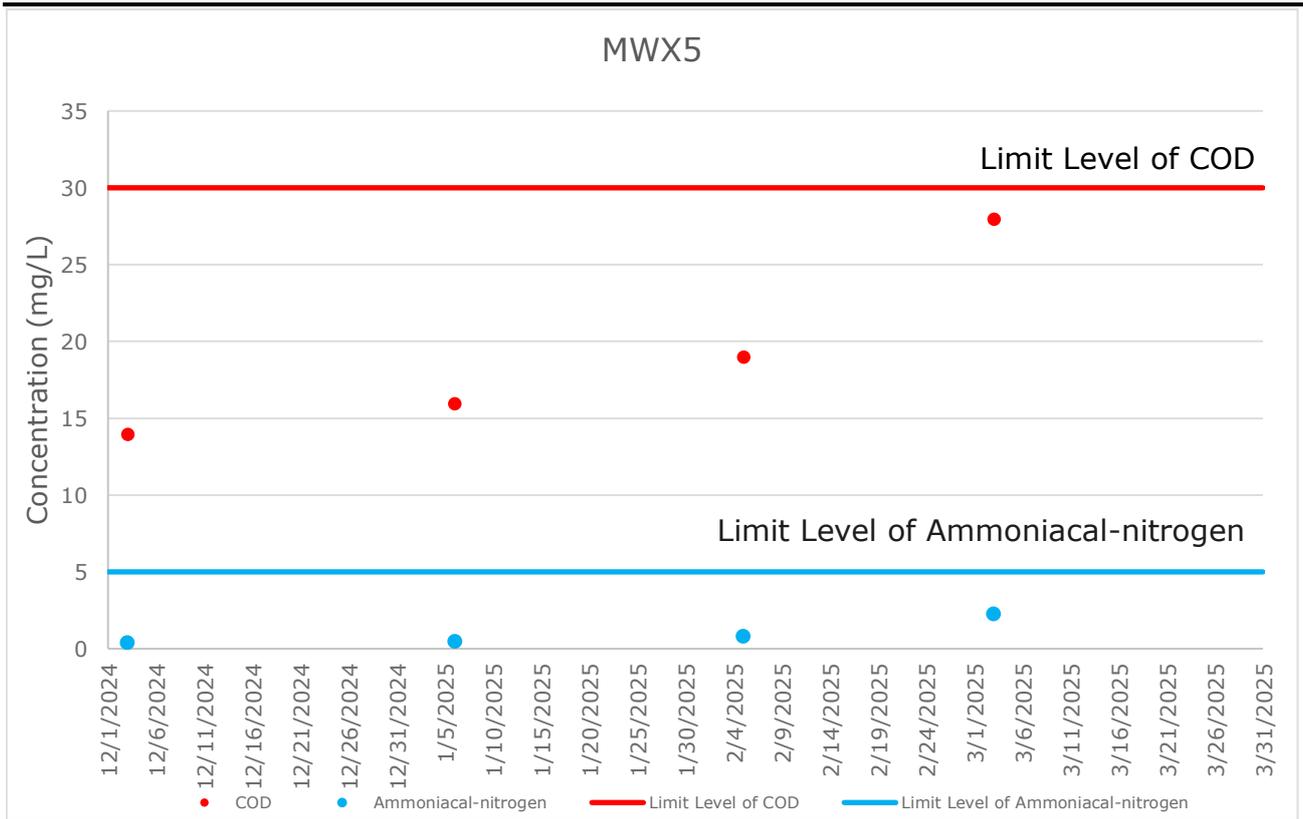


FIGURE F5.6 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-6)

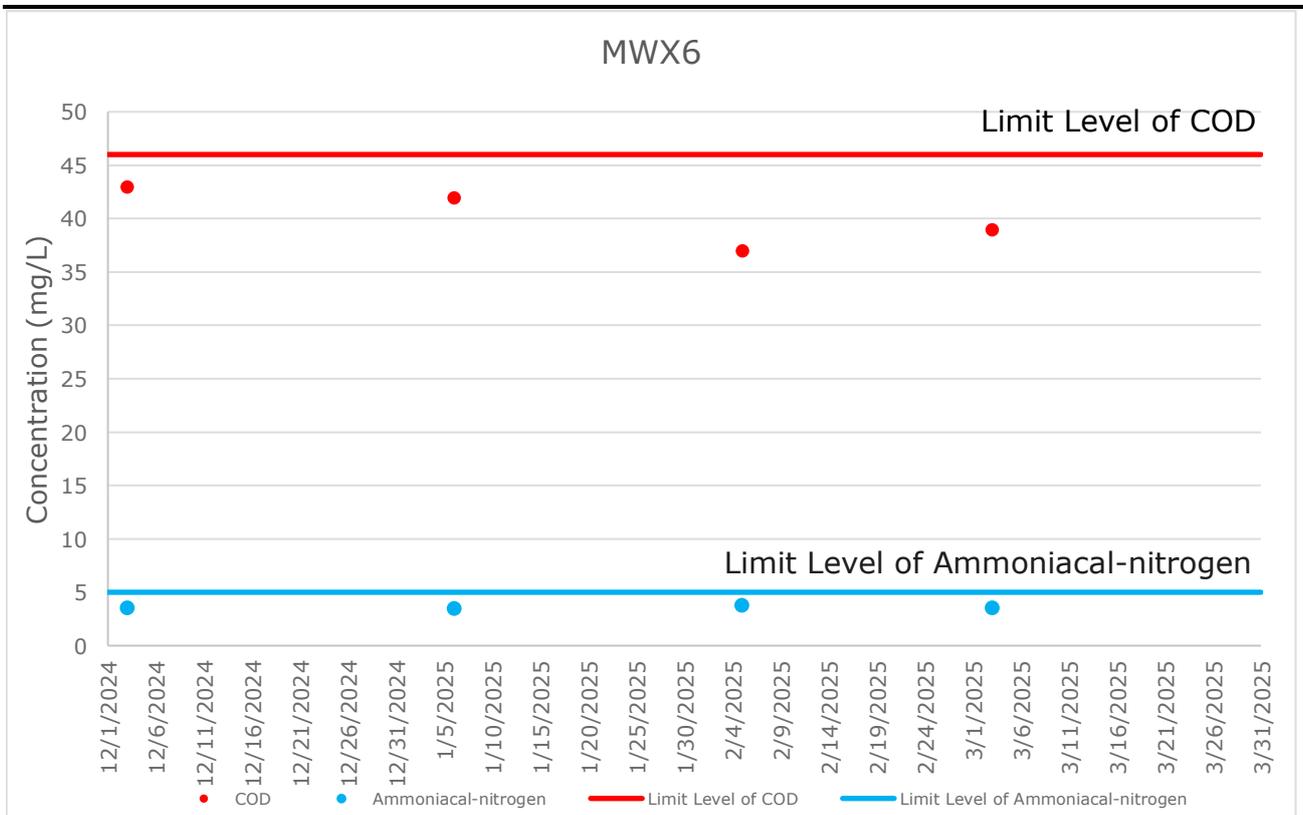


FIGURE F5.7 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-7)

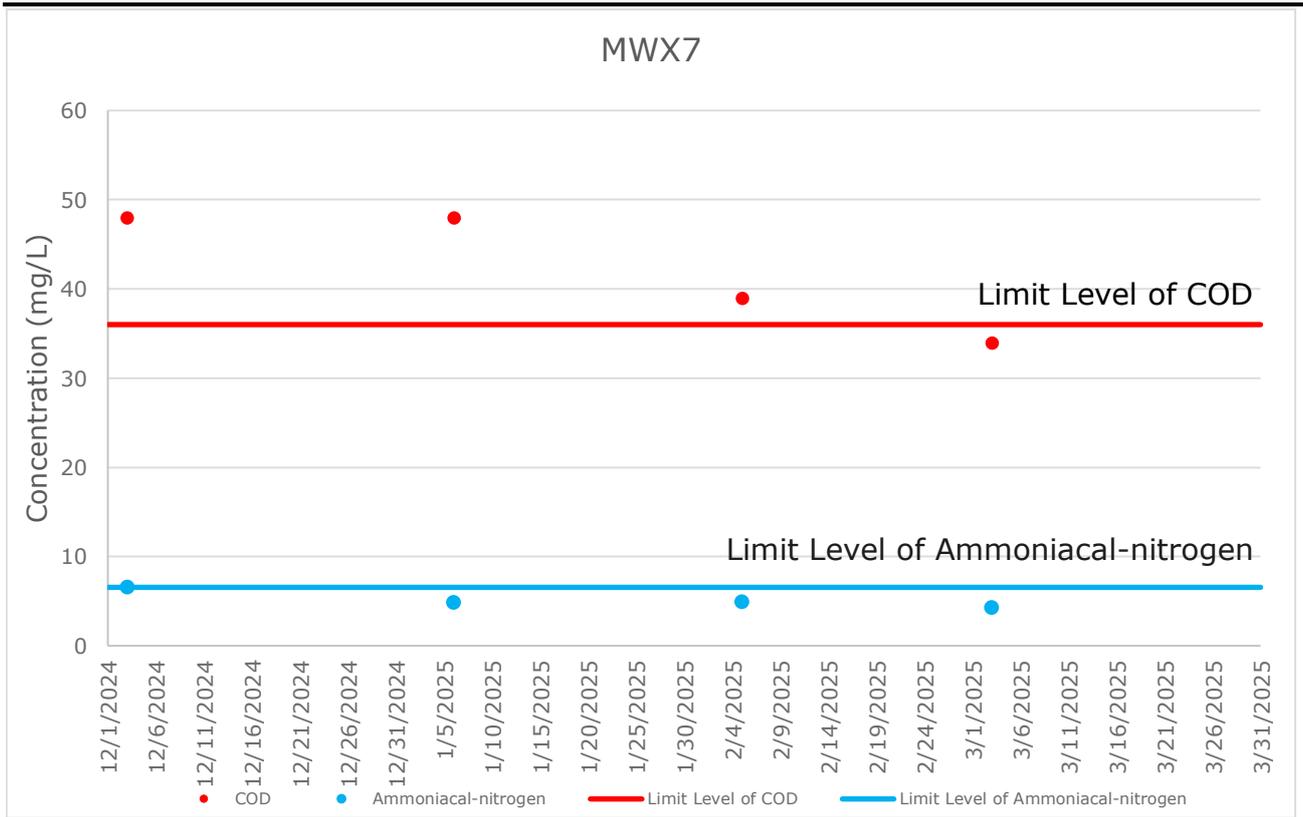


FIGURE F5.8 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-8)

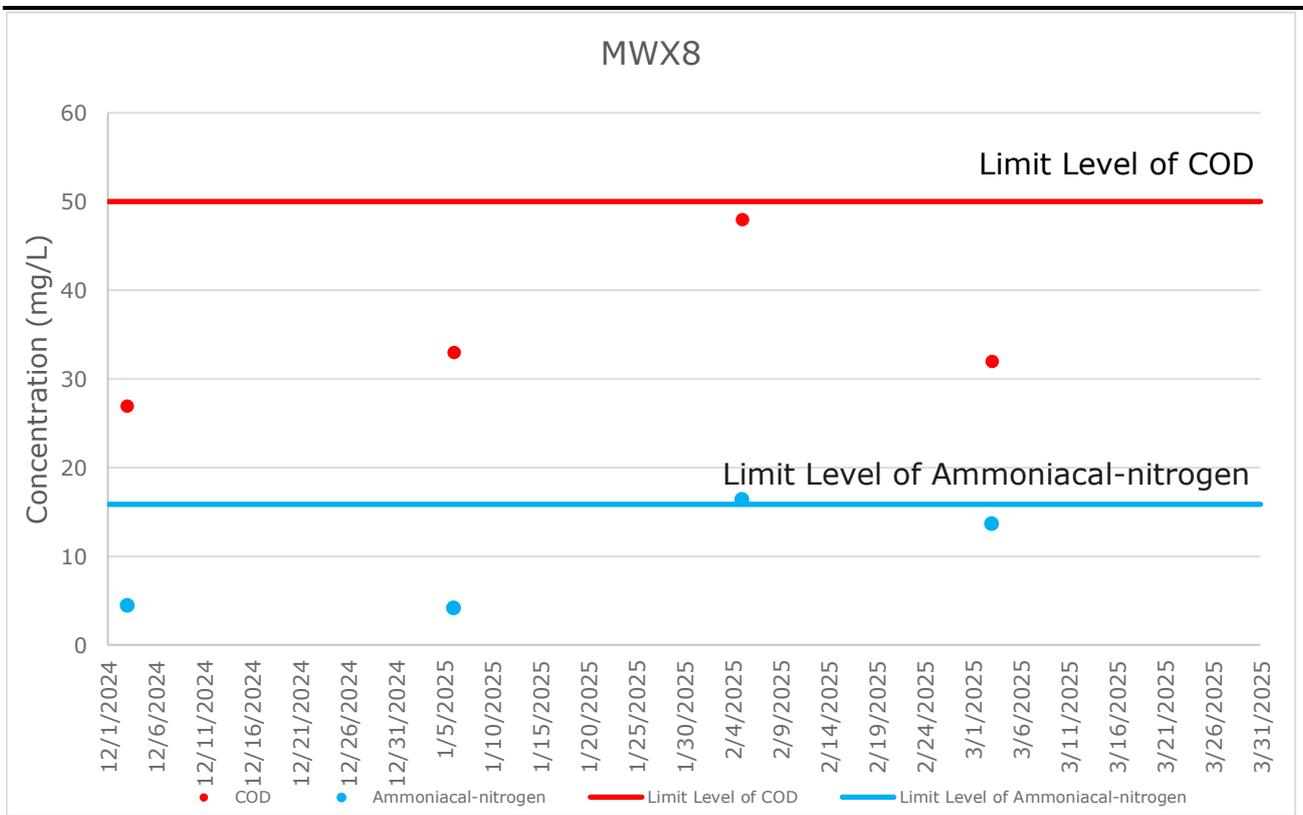


FIGURE F5.9 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-9)

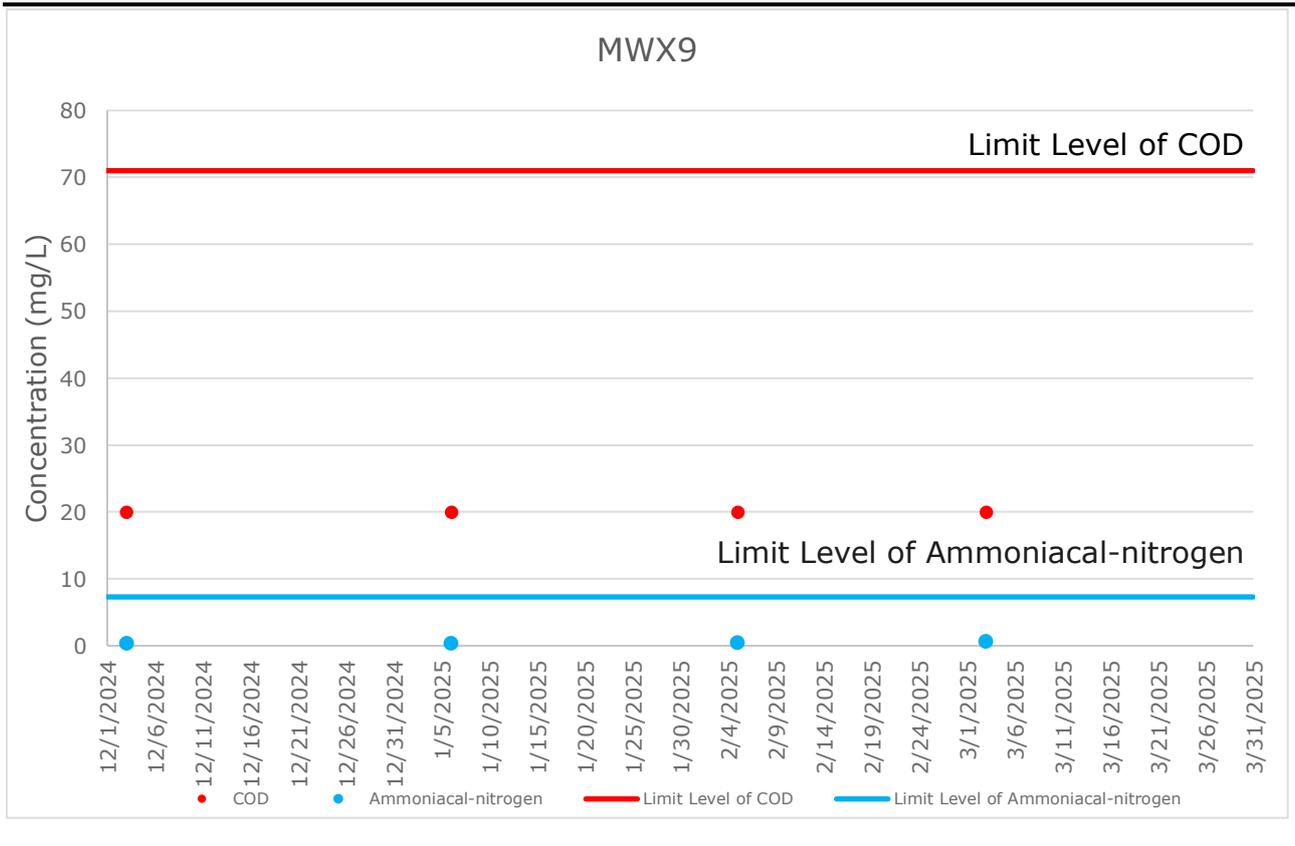


FIGURE F5.10 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-10)

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 safety considerations in January and February 2025.

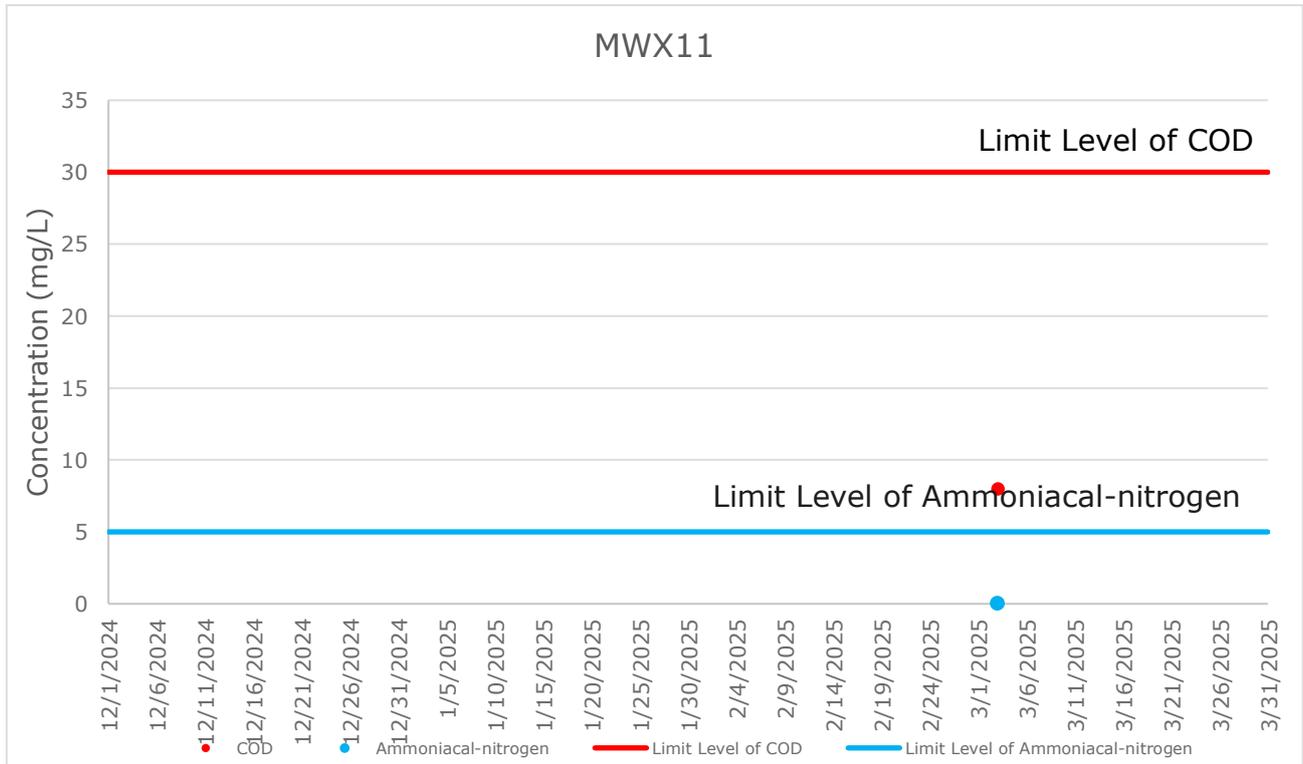


FIGURE F5.12 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-12)

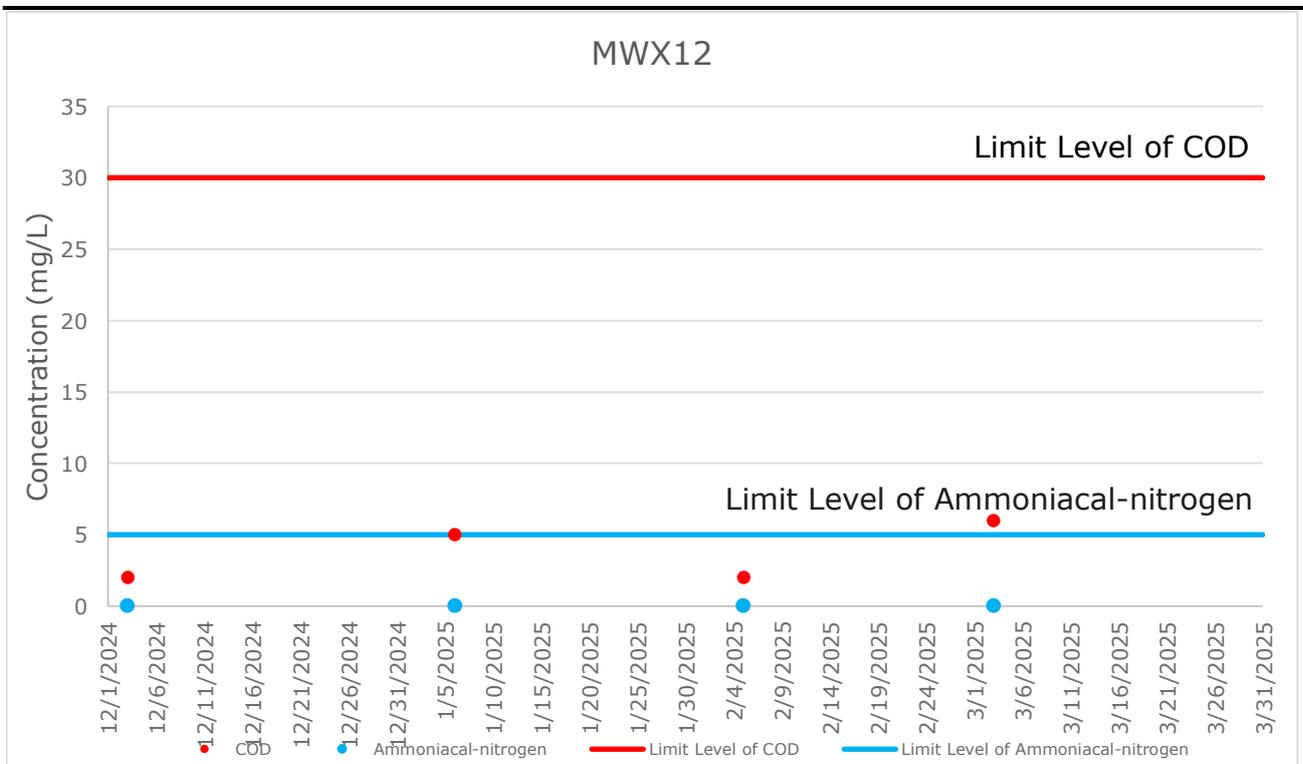


FIGURE F5.13 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-13)

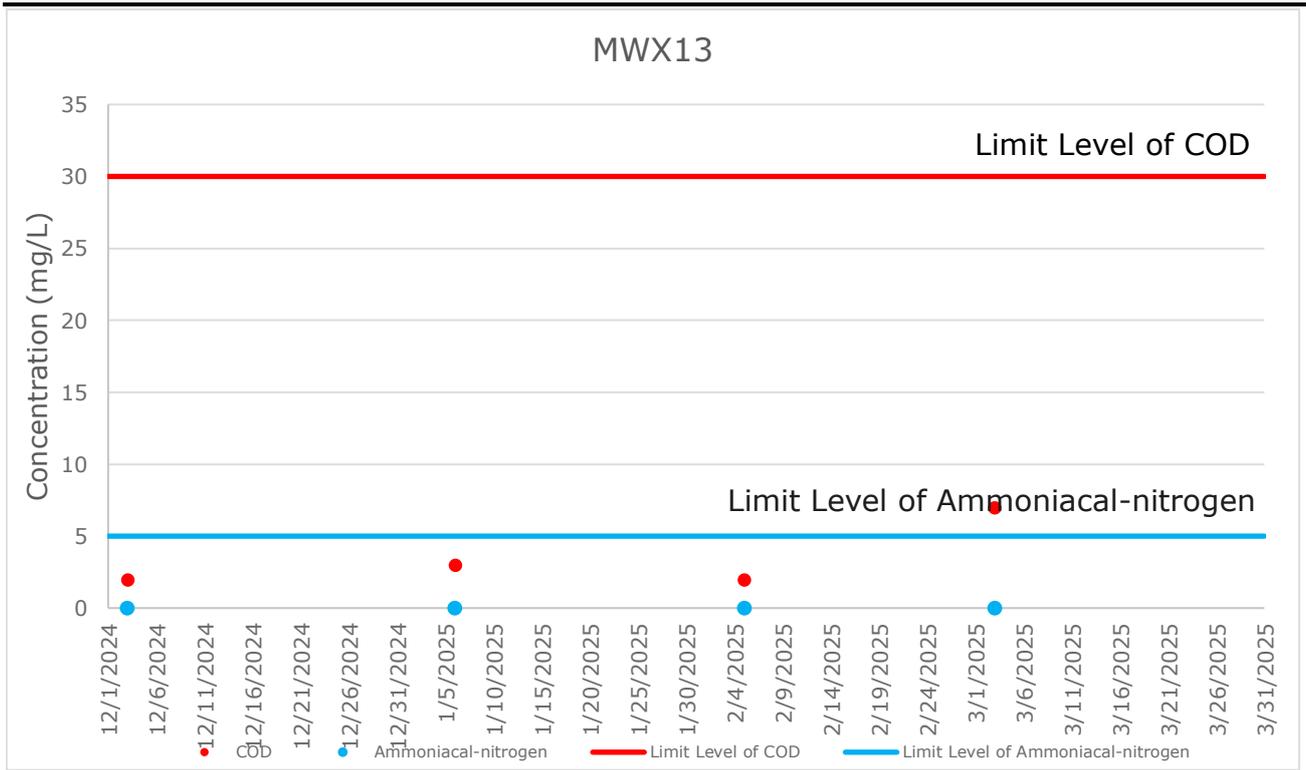


FIGURE F5.14 GRAPHICAL PRESENTATION FOR GROUNDWATER MONITORING (MWX-14)

