

Blaenau Gwent County Borough Council

Silent Valley Landfill

2024 Second Quarter Monitoring Report

Reference: 4-50

Issue 01 | 31 July 2024



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1. Introduction

This 2024 Second Quarter Monitoring Report is a consolidated report detailing the findings of this quarter's results from the surface water, groundwater, landfill gas and leachate results for the monitoring undertaken in the period January to March 2024 in accordance with the Silent Valley Environmental Permit ^[1] (Permit no. MP3835SV) and the Aftercare Phase Environmental and Infrastructure Monitoring Program ^[5].

The data has been collected as referenced in Schedule 3 of the Consolidated Permit ^[1]. This report refers to the 2023 Annual and Fourth Quarter Monitoring Report ^[3].

1.1 Monitoring Regime

The monitoring regime is undertaken in accordance with the Aftercare Phase Environmental and Infrastructure Monitoring Program ^[5] and in line with the Consolidated Permit ^[1], which is fully detailed within the 2019 Annual Report ^[2].

2. Discussion of Monitoring Results

2.1 Rainfall

Measured rainfall data is illustrated in **Appendix A, Figures A1 and A2**.

Based on the available data, the following summary has been provided:

- April recorded the most rainfall with 156mm in total. This was the wettest April since 2012 with 11 days of consecutive rainfall. May recorded the highest daily rainfall total 36.3mm on the 13th.
- June was the driest month of the quarter, recording 29mm, around average for this time of year in comparison to 2008-2023 records. June recorded 19 non-consecutive days without rainfall.

2.2 Leachate

2.2.1 Leachate Quality Monitoring

Leachate quality monitoring results from within the waste body and from leachate standpipes are presented in **Appendix B, Table B1**.

To assess compliance, the Allowable Maximum Concentrations (AMC) are compared with the overall average concentrations from all combined wells.

No average leachate concentrations have exceeded AMC this quarter and are compliant with the Permit.

Hazardous Substance Monitoring

A hazardous substance suite was carried out this quarter in leachate wells, this suite is screened every four years as per the Permit requirements^[1]. The screening of these substances was carried out using the current list of minimum reporting values (MRVs) derived from the Environment Agency and NRW^[20]. The leachate screening of hazardous substances can be found in **Table B1.1**.

Results from the leachate wells indicate they are compliant for hazardous substances and the majority of contaminants were actually recorded below the Limit of Detection (LoD).

2.2.2 Leachate Level Monitoring

Leachate head level monitoring results are presented in **Appendix B, Table B2**. The monthly average level for all the wells remains below the required 3.0m, as per the Permit^[1].

2.2.3 BSC Pipe

Leachate head measurements are undertaken in BH1 to BH4 which are located along the alignment of the BSC pipe. Leachate levels have remained relatively consistent indicating no rise in leachate levels therefore the pipe is working as required. Results are included **Appendix A, Figure A7** and **Appendix B, Table B6**.

2.3 Surface Water

The surface water quality monitoring results are presented in **Appendix B, Table B3**, and graphically in **Appendix A, Figure A3**.

Commentaries are provided for upstream and downstream monitoring points in the Nant Merddog as discussed below.

2.3.1 Upstream Surface Water

Surface water monitoring locations, SWU, SW2A1, SWW4, SWW1 and SWW2 are located downstream of the landfill and monitored on a six-monthly basis in accordance with the Permit requirements.

These locations were compliant this quarter.

2.3.2 Downstream Surface Water

SWD and SWD1

Results show both SWD and SWD1 are compliant this quarter.

2.4 Groundwater

2.4.1 Groundwater Quality Monitoring

Groundwater quality monitoring results are presented in **Appendix A, Figures A4 and A5** and in **Appendix B, Table B4**.

Any non-compliances for both upstream and downstream wells are discussed in the following sections.

2.4.1.1 Upstream Groundwater Wells

Wells GW3A and GW4

GW3A and GW4 monitor the sandstone strata classified as S3-East, and GW11B are installed in the sandstone strata classified as S2-West. GW11B has not been sampled since the third quarter of 2019 as there has been not enough volume to take a sample.

GW4 continues to exceed assessment level of 1.0mg/l for manganese (1.45mg/l). The concentration of manganese has decreased from last quarter (1.88mg/l). Manganese has consistently exceeded the assessment level since 2022.

These groundwater wells are positioned upstream and primarily monitor background concentrations.

2.4.1.2 Downstream Groundwater Wells

The results from the compliance wells indicate that generally the pumping system at the toe of the landfill is continuing to successfully control the potential egress of leachate from the landfill. No issues associated with pump failure within the cut-off system have been recorded during 2023 and 2024.

Wells GW6 and GW7

GW6 and GW7 have been installed in the centre of the valley in the sandstone strata classified as S1.

Both wells are compliant this quarter.

Well GW9

GW9 is installed in the sandstone strata classified as S2-East.

GW9 has become compliant for ammoniacal nitrogen with a concentration of 0.7mg/l. GW9. This is the first compliance for ammoniacal nitrogen after exceeding all of 2023. This well will continue to be monitored closely for any arising trends associated with this new compliance.

Well GW10

GW10 has been installed in the sandstone strata classified as S3-East.

GW10 has continued to exceed assessment level of 1.0mg/l for manganese (2.09mg/l). The concentrations of manganese have continued to fluctuate in this well throughout 2022 and 2023.

Well GW12

GW12 has been installed in the sandstone strata classified as S2-West. GW12 has not exceeded the control levels and it remains compliant this quarter.

Hazardous Substance Monitoring

A hazardous substance suite was carried out this quarter in groundwater wells, this suite is screened every four years as per Permit requirements ^[1]. The screening of these substances was carried out using the current list of minimum reporting values (MRVs) derived from the Environment Agency and NRW ^[20]. The groundwater screening of hazardous substances can be found in **Table B4.1**.

Results from the groundwater wells indicate they are compliant for hazardous substances with the majority of concentrations recorded below the Limit of Detection (LoD) for all MRVs. Where MRV's are not present World Health Organisation (WHO) freshwater criteria has been used in first instance.

Two minor exceedances are present at GW10 for aromatic chainages >C12-C16 (0.1mg/l) and >C21-C35 (0.94mg/l). Both chainages exceed the WHO criteria of 0.09mg/l, however it is unlikely that these minor exceedances will have a significant impact on the groundwater.

2.4.2 Groundwater Levels Monitoring

Groundwater levels are monitored on a quarterly basis in the compliance and upstream wells. The monitoring results are illustrated graphically in **Appendix A, Figure A6**. Water levels have remained relatively consistent this quarter with no significant differences from the 2023 readings ^[3].

2.5 Landfill Gas

2.5.1 Methane

The landfill gas monitoring results are presented in **Appendix B, Table B5**.

- Methane concentrations continue to be recorded below the respective control and trigger levels (where available) in all monitoring locations.
- The previous methane exceedances within GMW13 (red valve) and GMW14 (red and yellow valves) have returned to compliance throughout the second quarter. Therefore no actions will be undertaken. It is anticipated these exceedances were anomalies.
- As stated by Golder Associates ^[14], single exceedances do not require to be actioned. However, if ongoing exceedances are recorded then the relevant people require to be informed and appropriate measures of identification and solutions identified.

2.5.2 Carbon Dioxide

All monitoring wells remained compliant this quarter with exception to the following:

- GMW2 red valve exceeded trigger levels of 1.5%v/v in June (1.5%v/v). This is the first exceedance of 2024.
- GMW4 red valve continues for a second quarter to exceed trigger levels of 1.5%v/v in April (2.7%v/v), May (1.8%v/v) and June (2.4%v/v). An assessment into these elevations will be undertaken considering two quarters of exceedances.
- GMW6 exceeds control level for the red valve of 3.8%v/v in June (4%v/v). This is the first exceedance of control level, and no action is required at this time.
- GMW13 exceeds control level of 5.5%v/v and trigger level of 6%v/v for the yellow valve in April (5.6%v/v) and May (6%v/v). Carbon dioxide concentrations have now returned to below control levels in June.
- GMW14/14A remains compliant this quarter. GMW14/14a has been fluctuating the last two quarters. An investigation into GMW14/14A including gas chromatography will be undertaken to understand these fluctuations and the source of the carbon dioxide.

3. Conclusion

The monitoring data and interpretation produced in this report has not identified any significant issues relating to contaminant levels recorded above the screening criteria within the leachate and groundwater. Where limited minor exceedances have been identified, there is no evidence to suggest they are having a discernible impact on the surrounding environment and the landfill continues to comply with the requirements of the permit.

- GW4 continues to exceed assessment level of 1.0mg/l for manganese. These groundwater wells are positioned upstream and primarily monitor background concentrations and do not indicate an issue with the landfill. GW10 also continues to exceed assessment level of 1.0mg/l for manganese (2.09mg/l). This well is downstream. Further investigation may be required into these concentrations.
- GW9 has become compliant for ammoniacal nitrogen with a concentration of 0.7mg/l. GW9. This is the first compliance for ammoniacal nitrogen after exceeding all of 2023. This well will continue to be monitored closely for any arising trends associated with this new compliance.
- GMW4 red valve continues for a second quarter to exceed trigger levels for carbon dioxide, an investigation into these exceedances will now be undertaken.
- Two minor exceedances are present at GW10 for Aromatic chainages >C12-C16 (0.1mg/l) and >C21-C35 (0.94mg/l). Both chainages exceed the WHO criteria of 0.09mg/l, however it is unlikely that these minor exceedances will have a significant impact on the groundwater.
- GMW14/14A remains compliant this quarter. GMW14/14a has been fluctuating the last two quarters. An investigation into GMW14/14A including gas chromatography is being undertaken to understand these fluctuations.

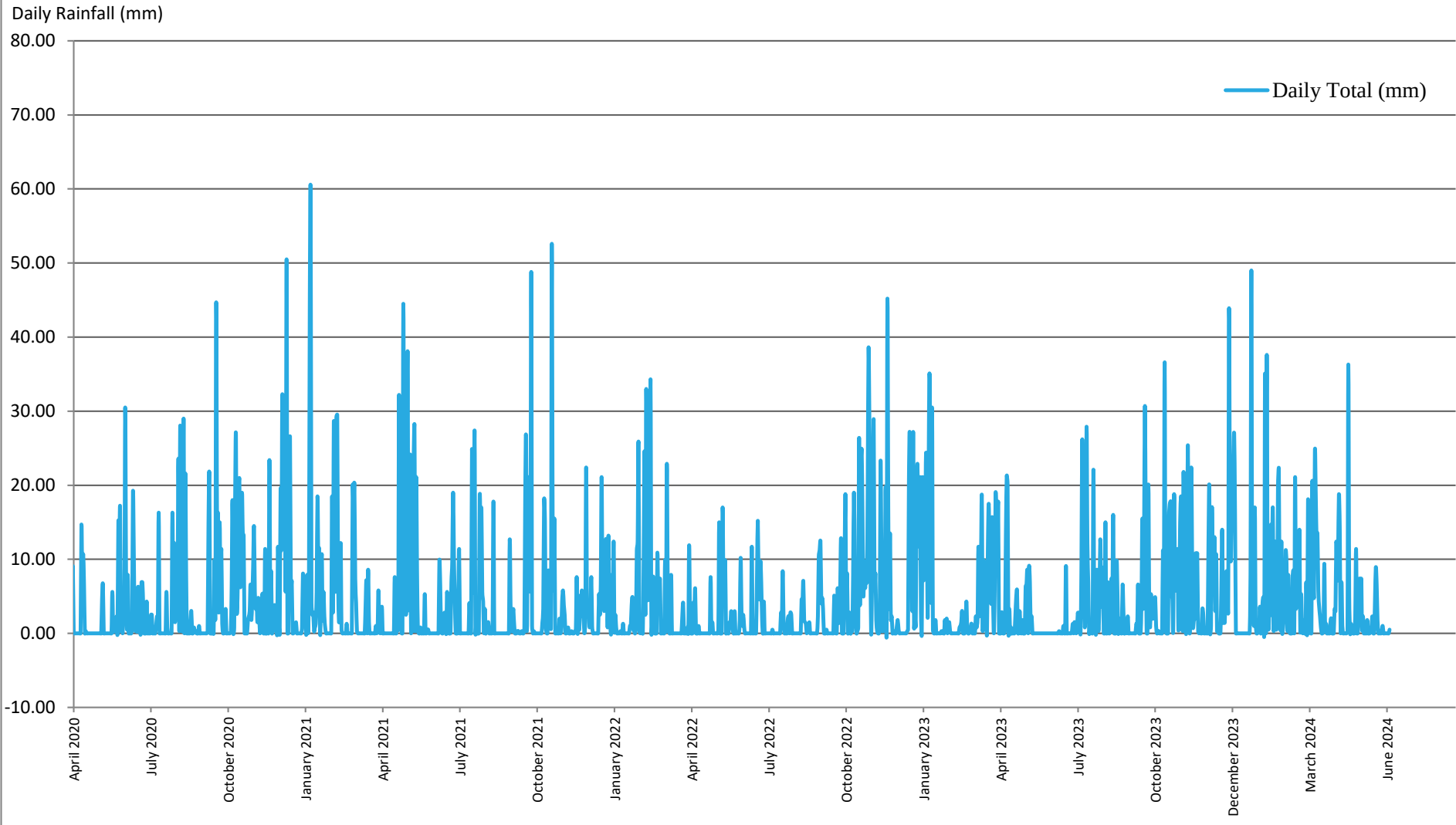
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- [1]Environment Agency, Silent Valley Landfill Site, Pollution Prevention and Control (England and Wales) Regulations 2000, Landfill (England and Wales) Regulations 2002, Permit number MP3835SV, November 2005, Permit amended as of 04/03/16.
- [2]Arup, Silent Valley Landfill, 2019 Annual Monitoring Report, 31st January 2020.
- [3]Arup, Silent Valley Landfill, 2023 Annual and Fourth Quarter Monitoring Report, 31st January 2023.
- [4]Arup, Silent Valley Landfill, Interim GW9 and Nant Merddog W, Issue May 2015.
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- [10]Environment Agency, Guidance on the management of landfill gas, document reference LFTGN03, June 2014.

- [11]The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.
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- [14]Golder Associates, Establishment of Trigger Levels at Silent Valley landfill site, letter report dated 21 December 2006.
- [15]Arup (2011) Silent Valley landfill Investigation into the Western Flank of the Cut-off System. Compliance Wells GW9 and GW10.
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- [17]Arup (2015) Silent Valley GW9 and Nant Merddog Monitoring Report.
- [18]Arup (2017) Review of Environmental Consequence of non-Compliance at GW9.
- [19]Arup (2020) Updated review of non-Compliance at GW9.
- [20] Environment Agency Updated list of Hazardous Substances [ONLINE] Available at: <https://www.gov.uk/government/publications/values-for-groundwater-risk-assessments/hazardous-substances-to-groundwater-minimum-reporting-values>. Date accessed 25-07-2024

Appendix A: Monitoring Results - Graphs

Figure A1
Daily rainfall totals and sampling events (April 2019 - June 2024)



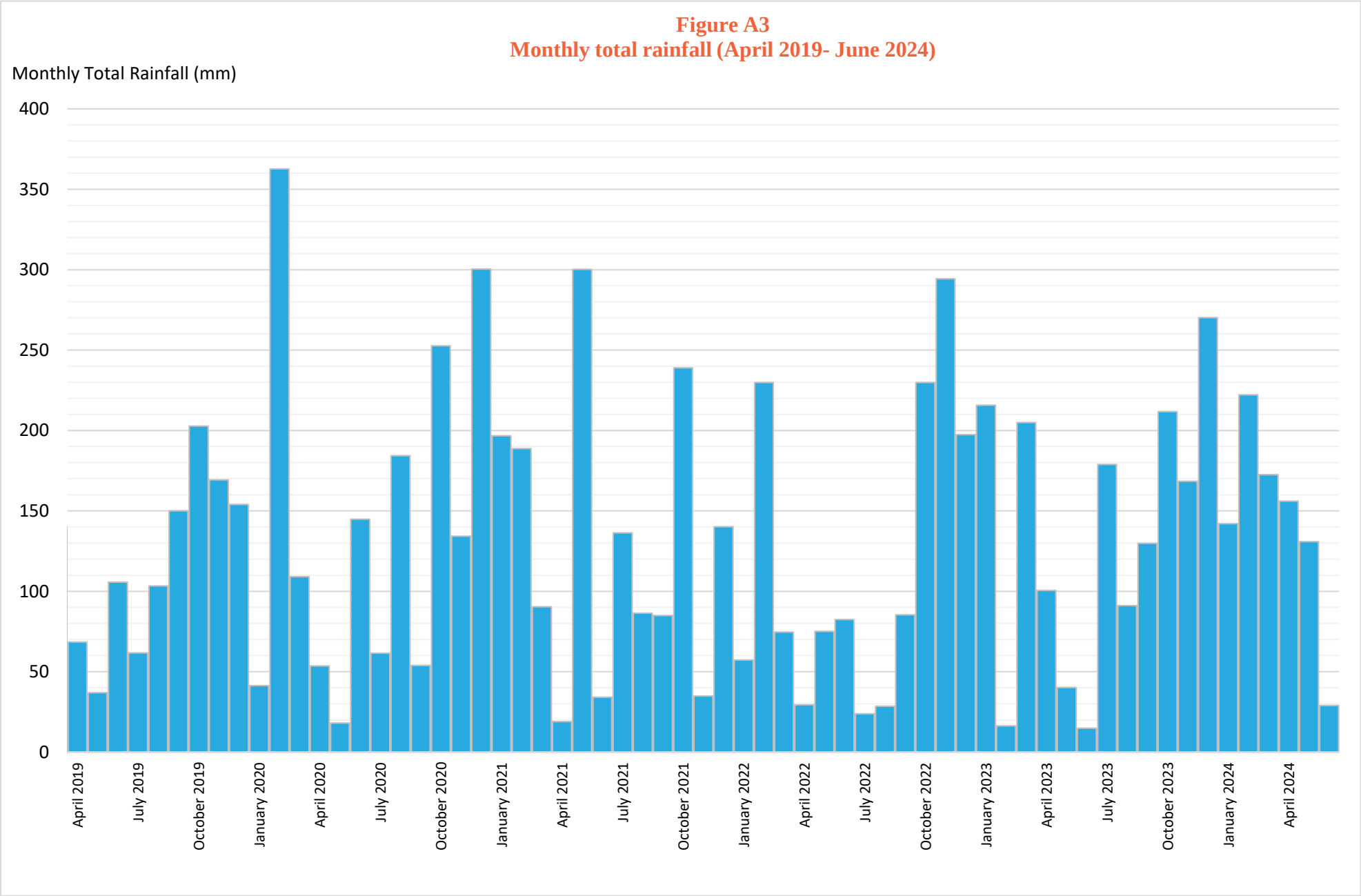


Figure A3
Surface water monitoring graphs

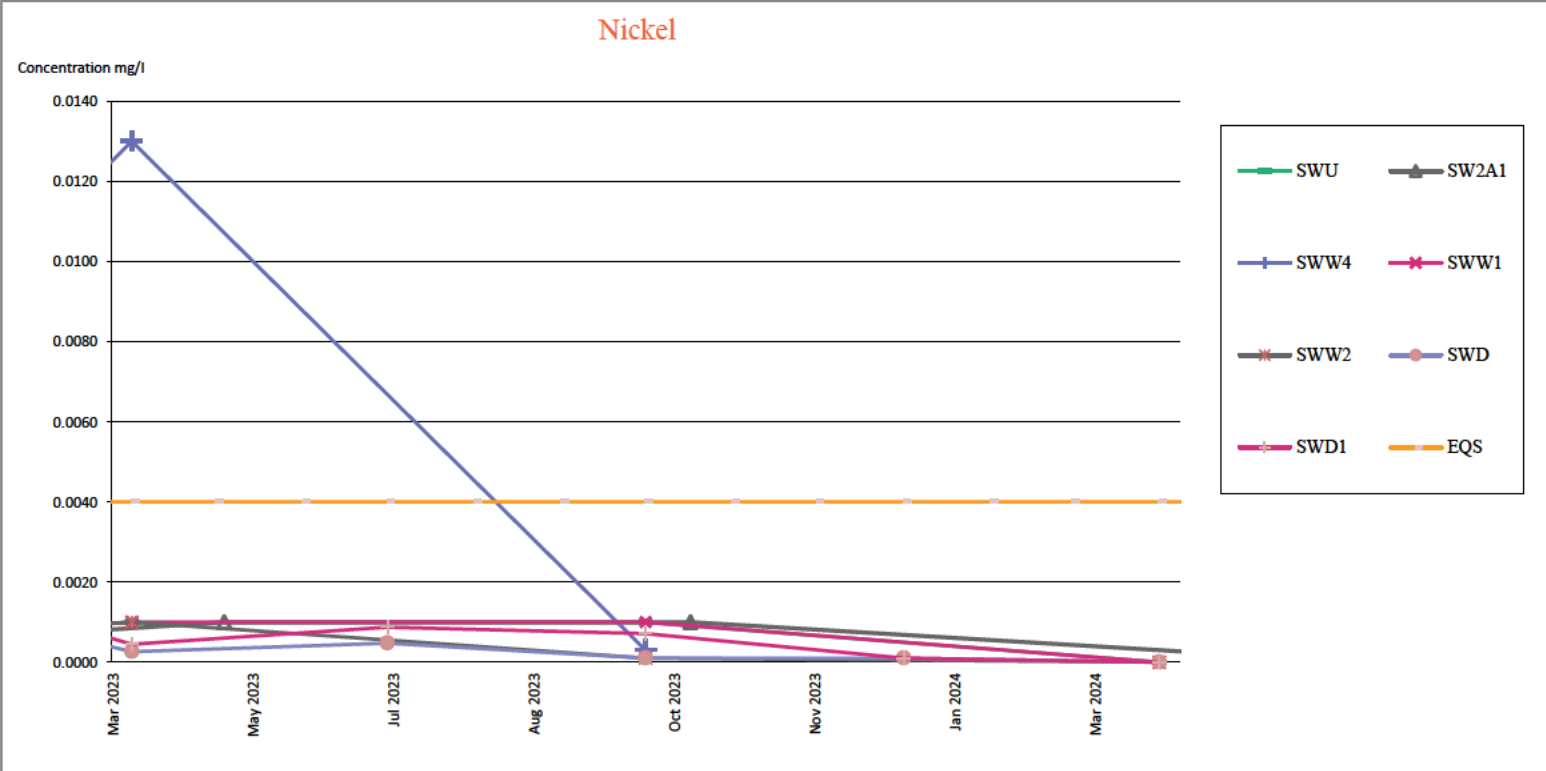
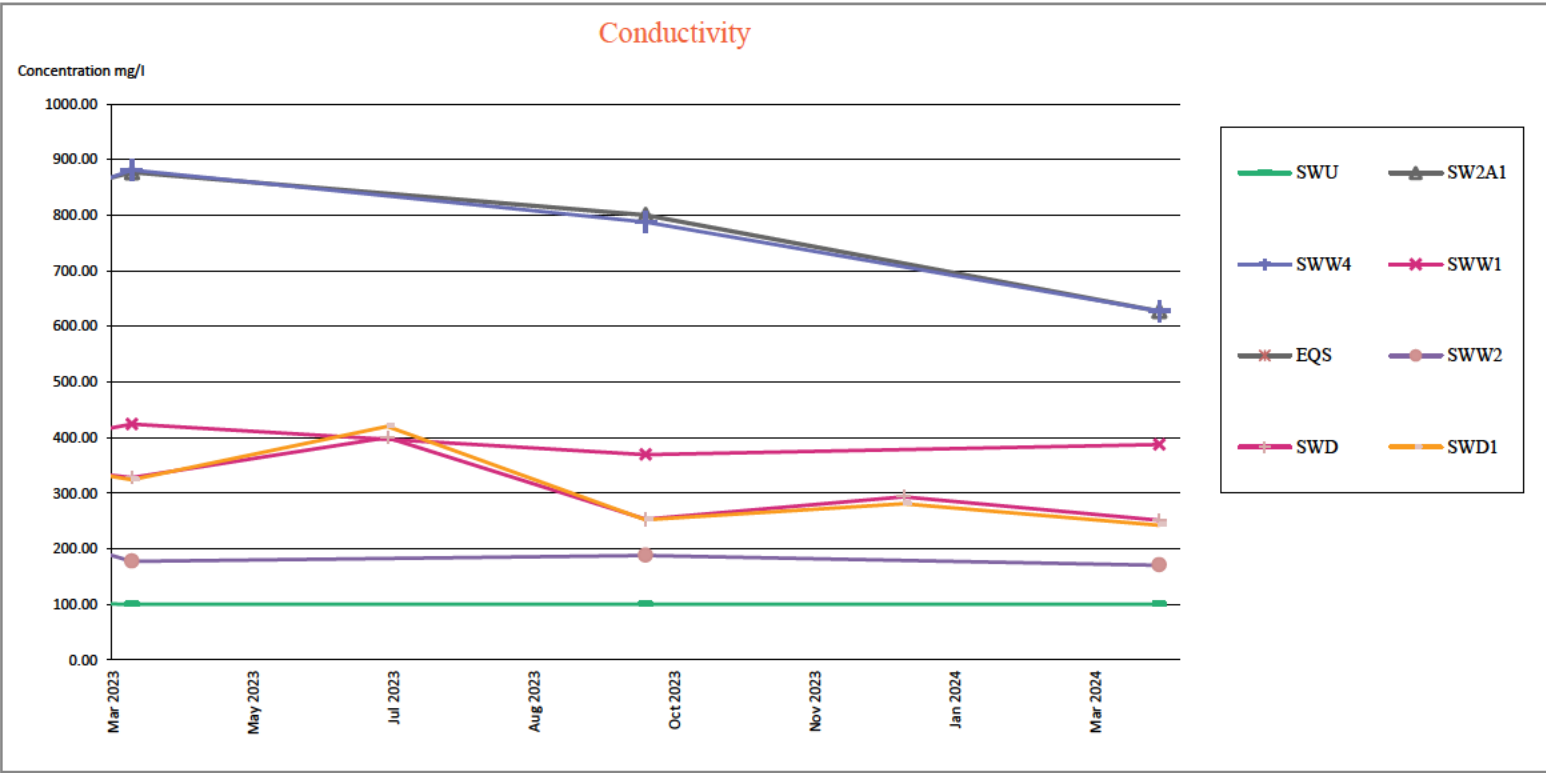
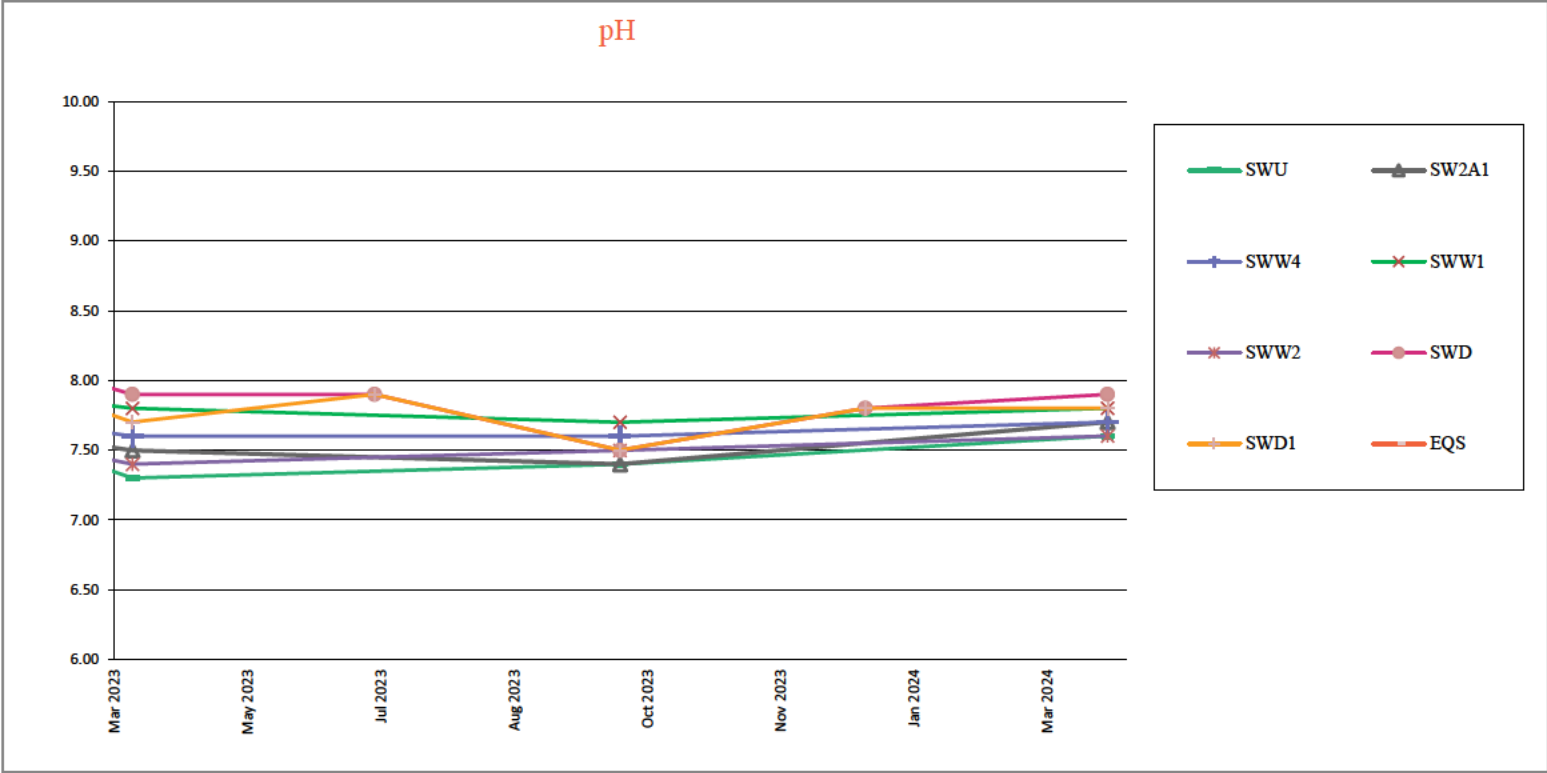
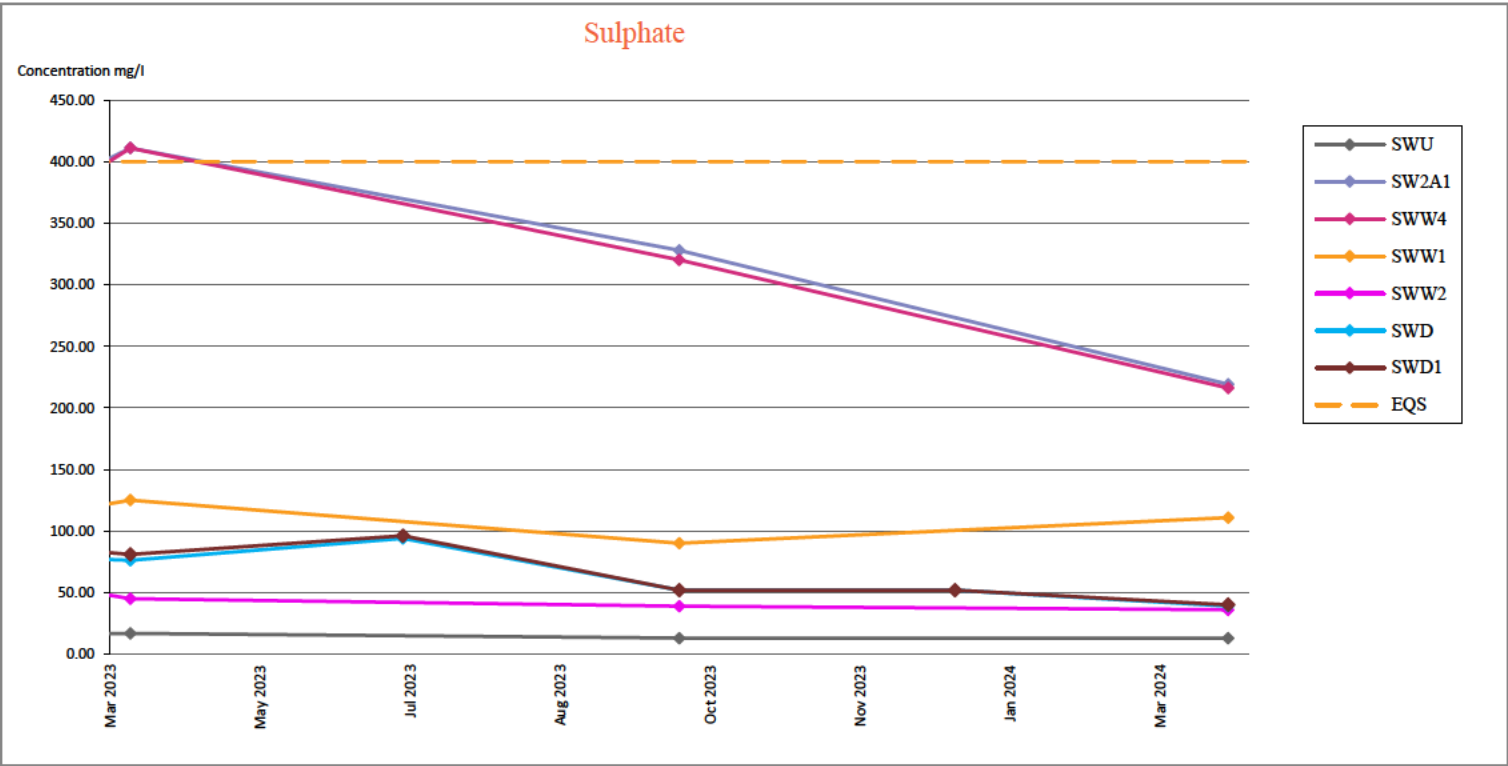
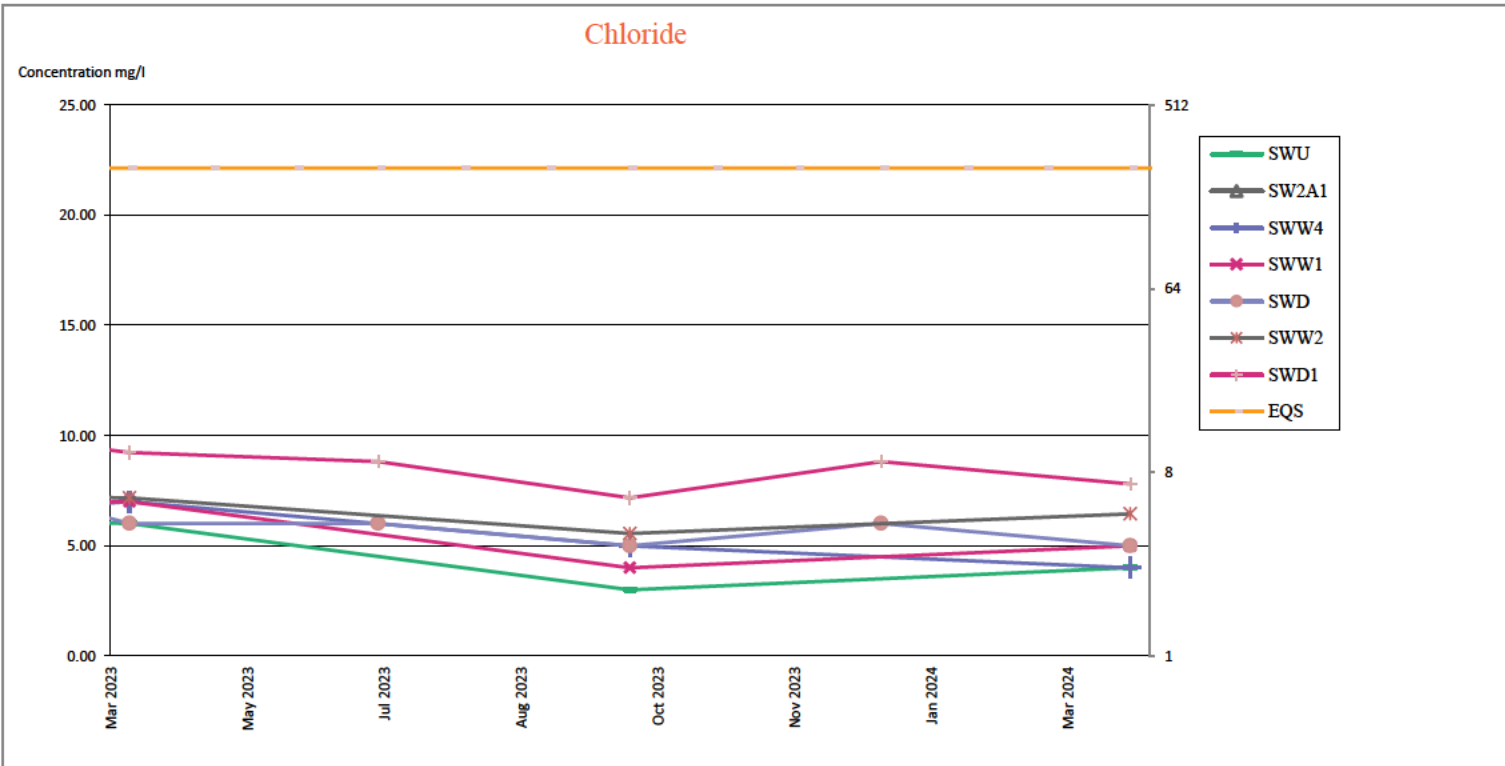
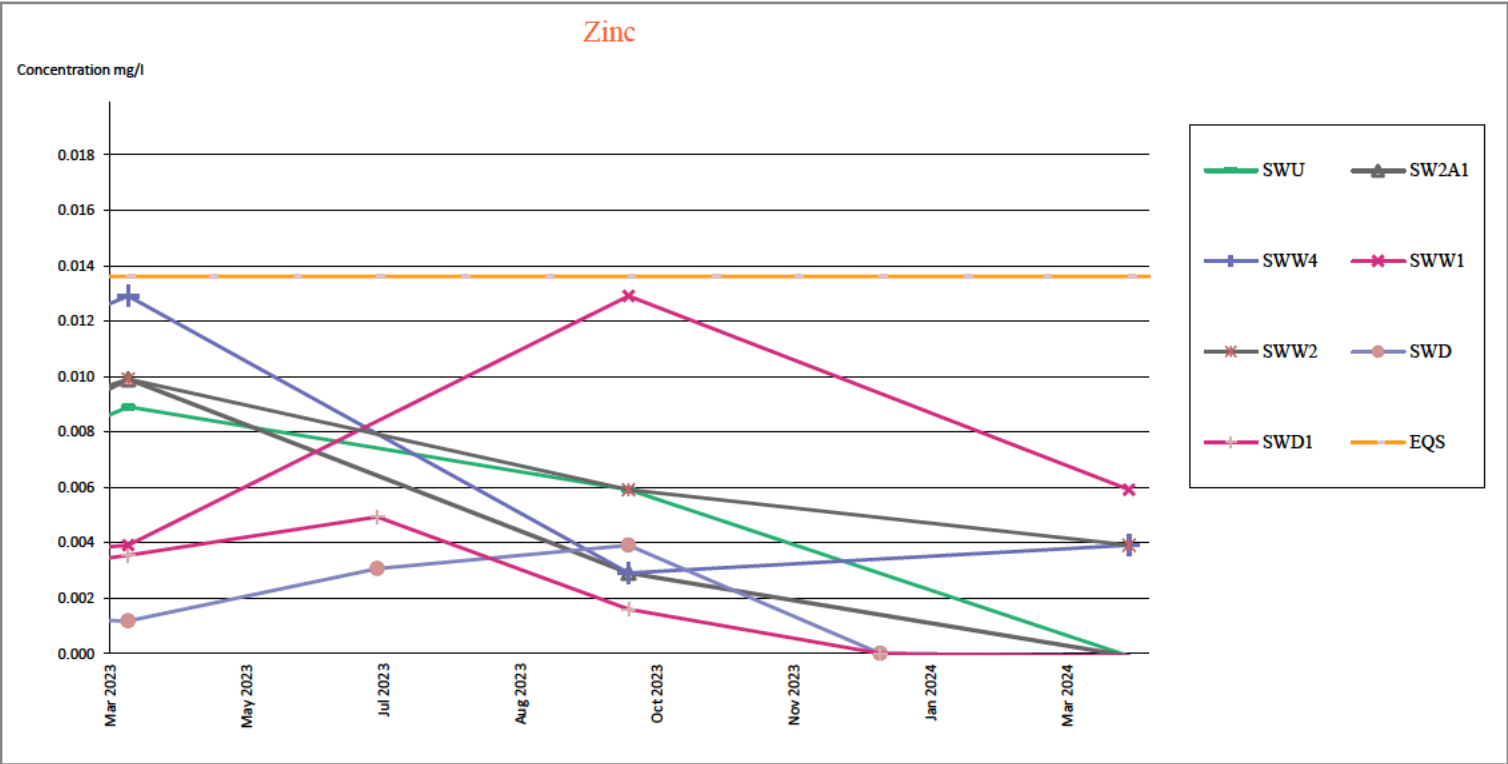
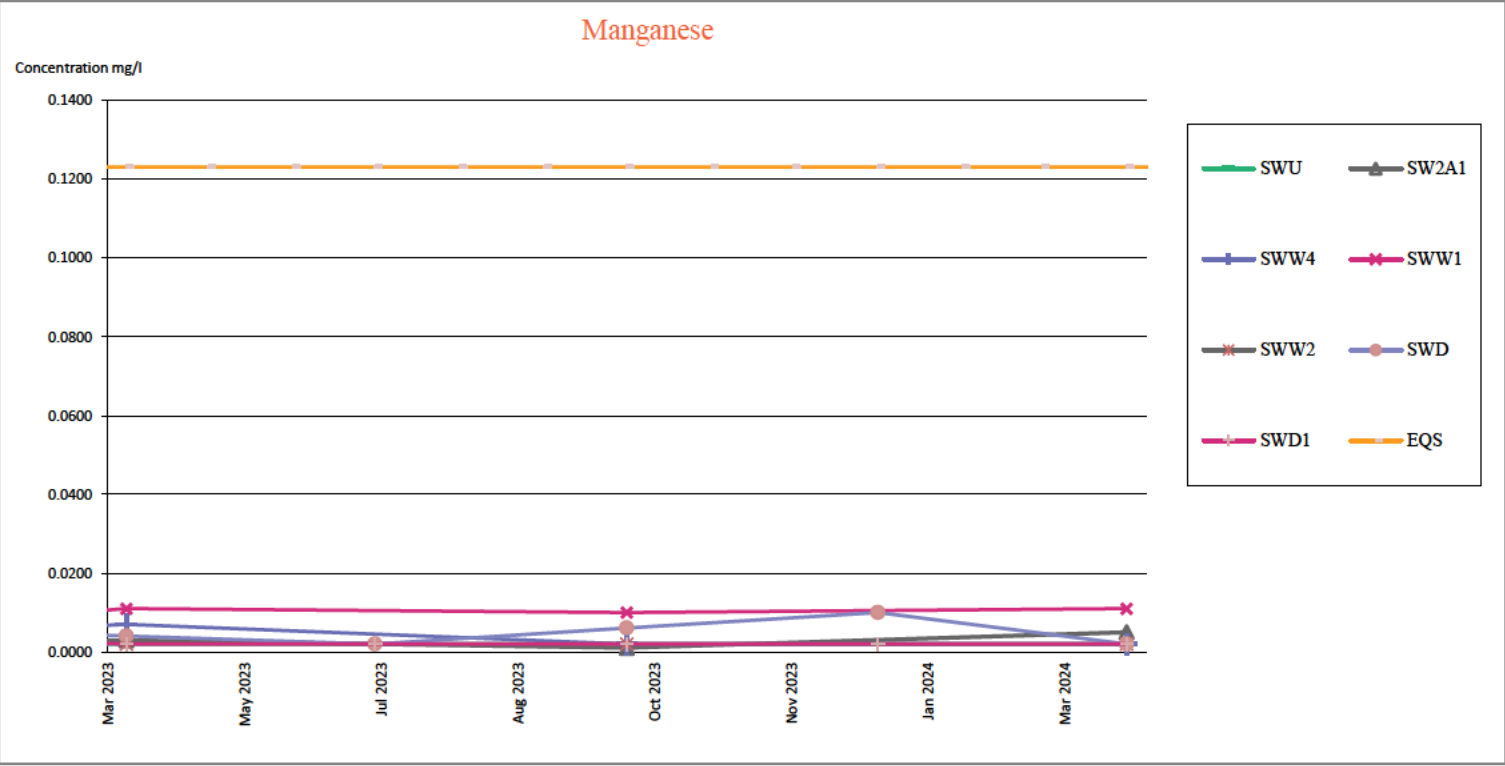


Figure A3
Surface water monitoring graphs



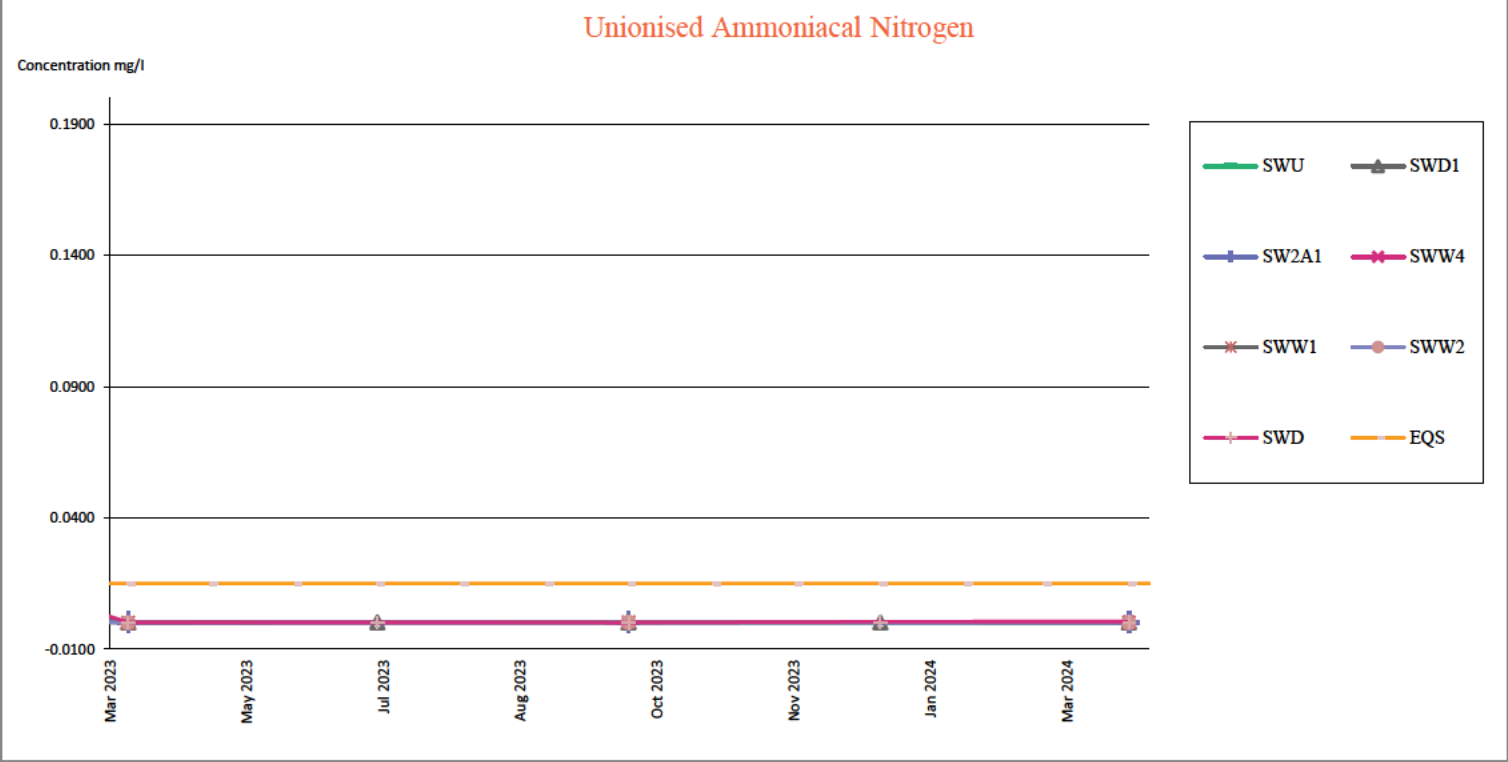
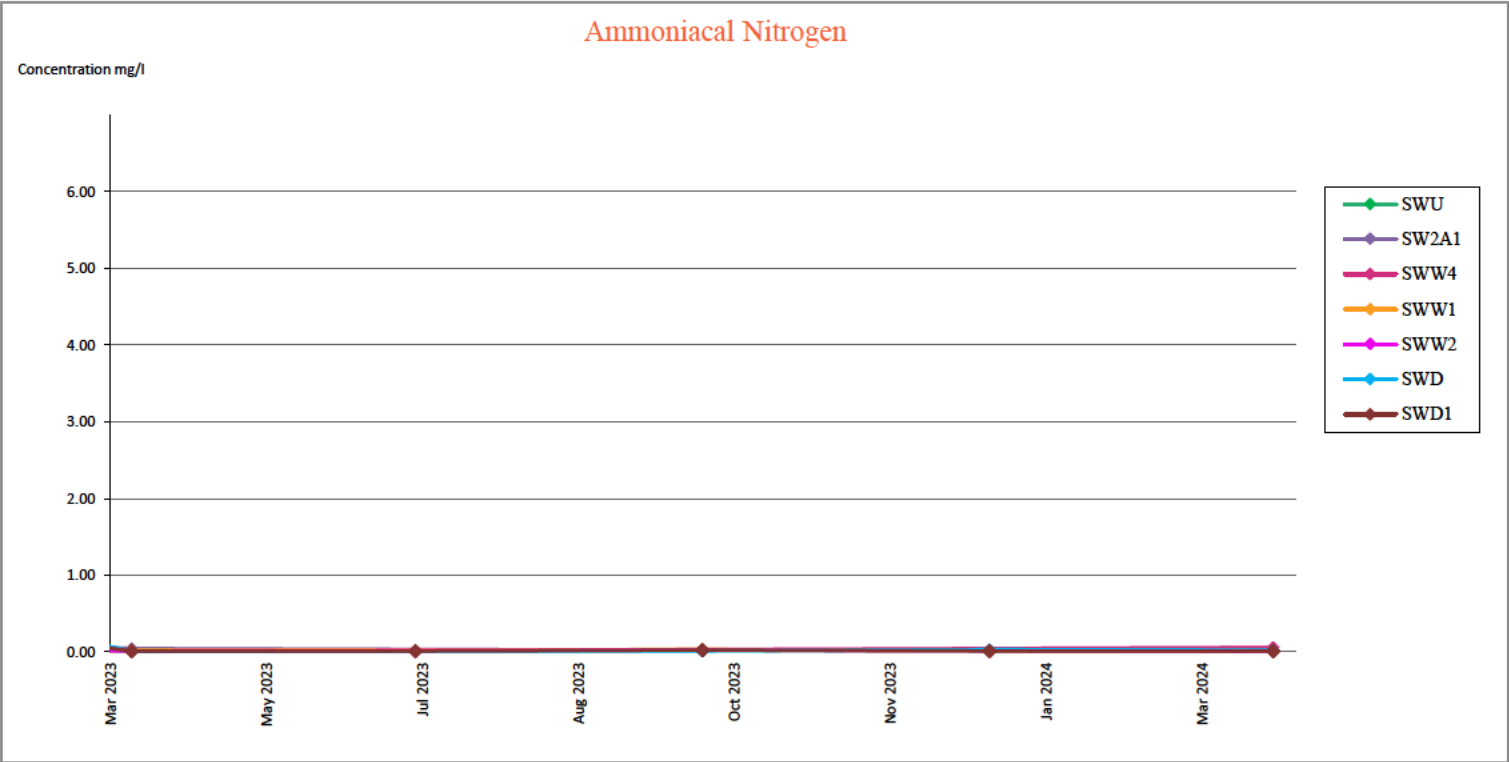


Figure A5
Groundwater quality monitoring results - Compliance wells graphs

Compliance wells graphs

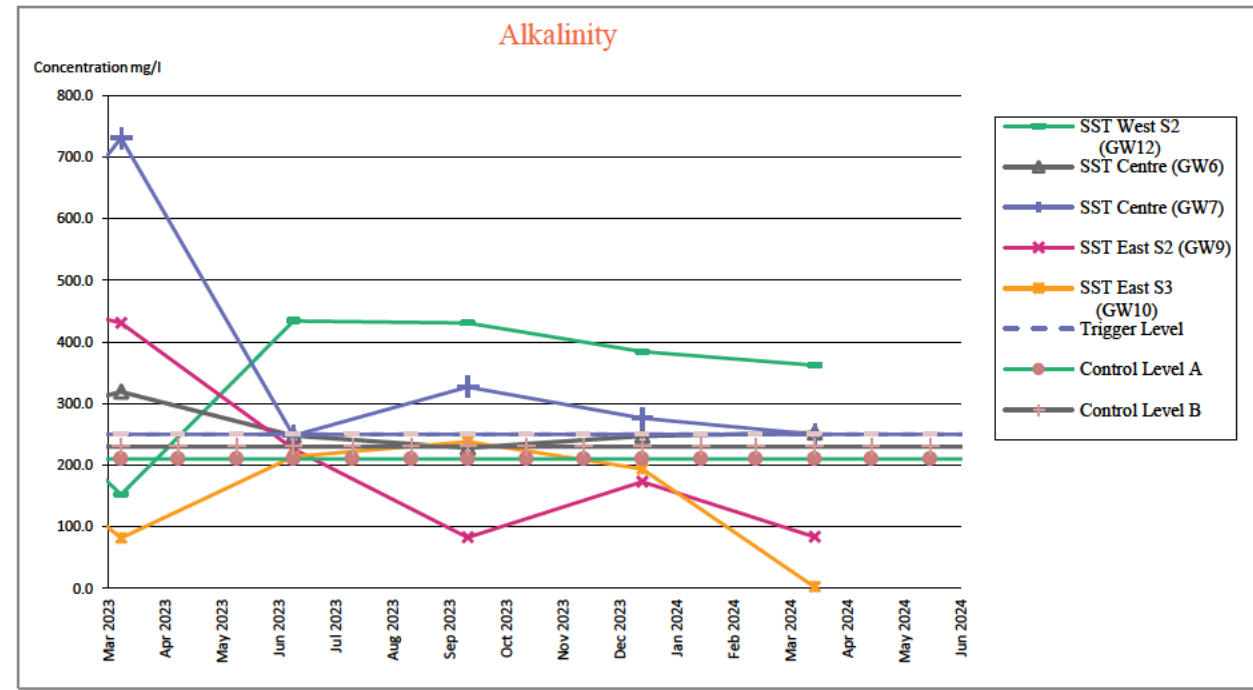
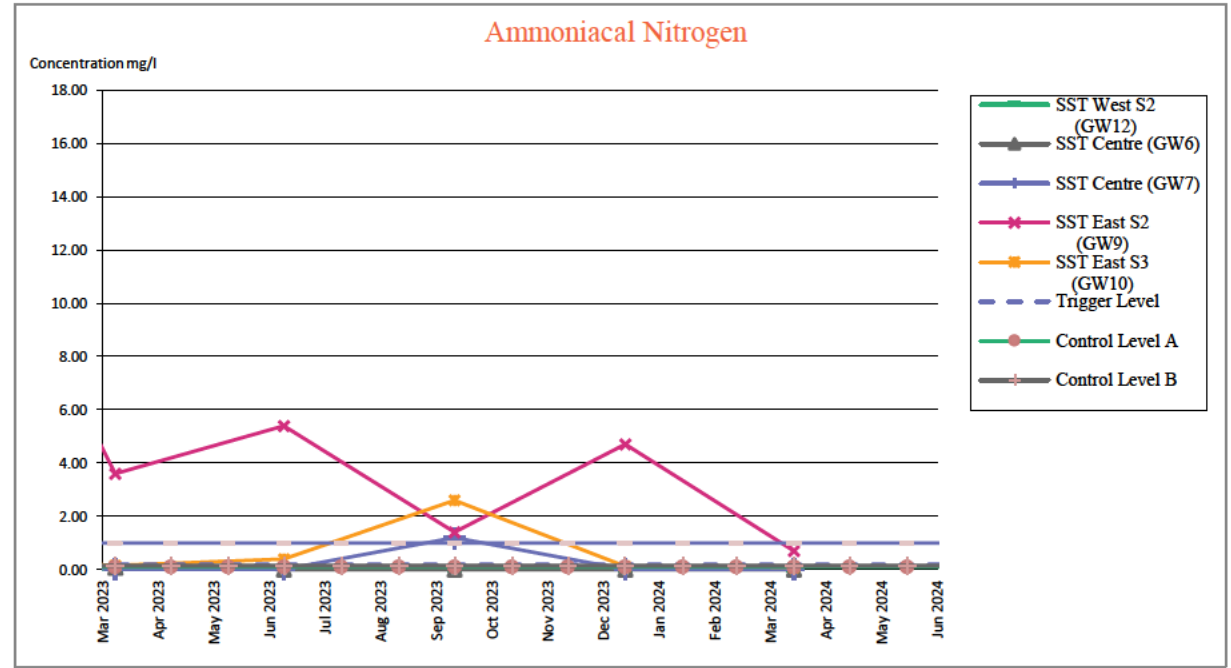
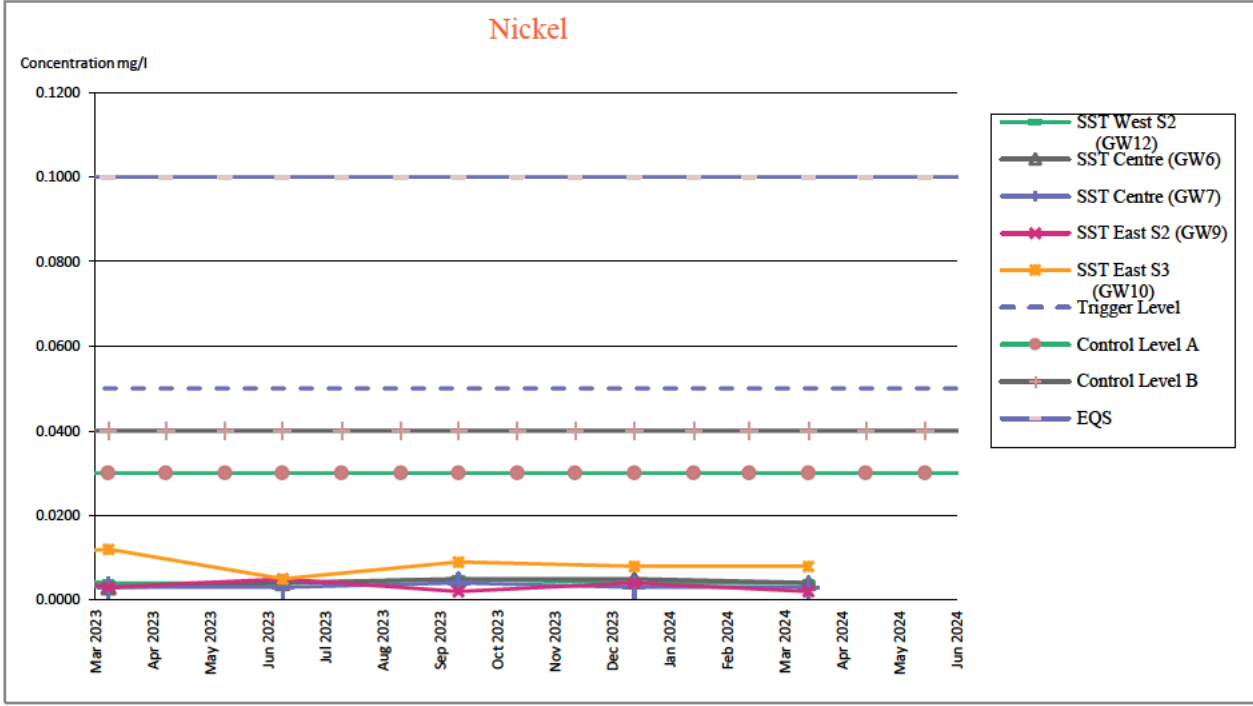
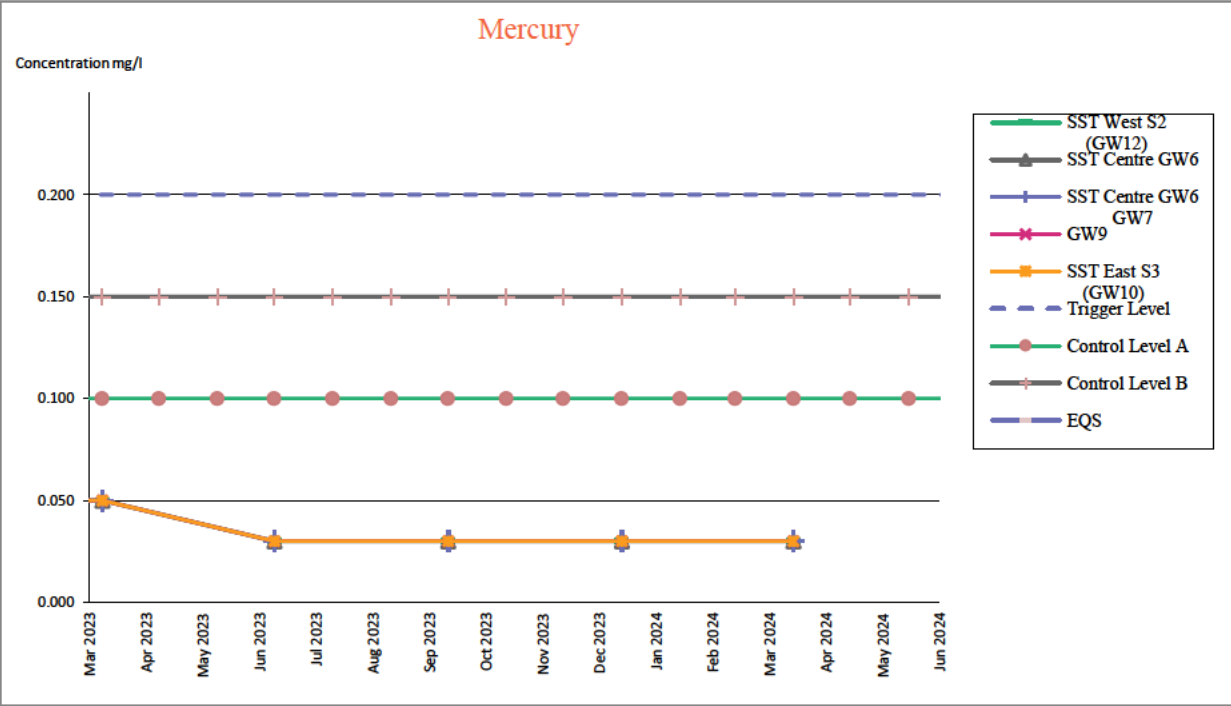


Figure A5
Groundwater quality monitoring results - Compliance wells graphs

Compliance wells graphs

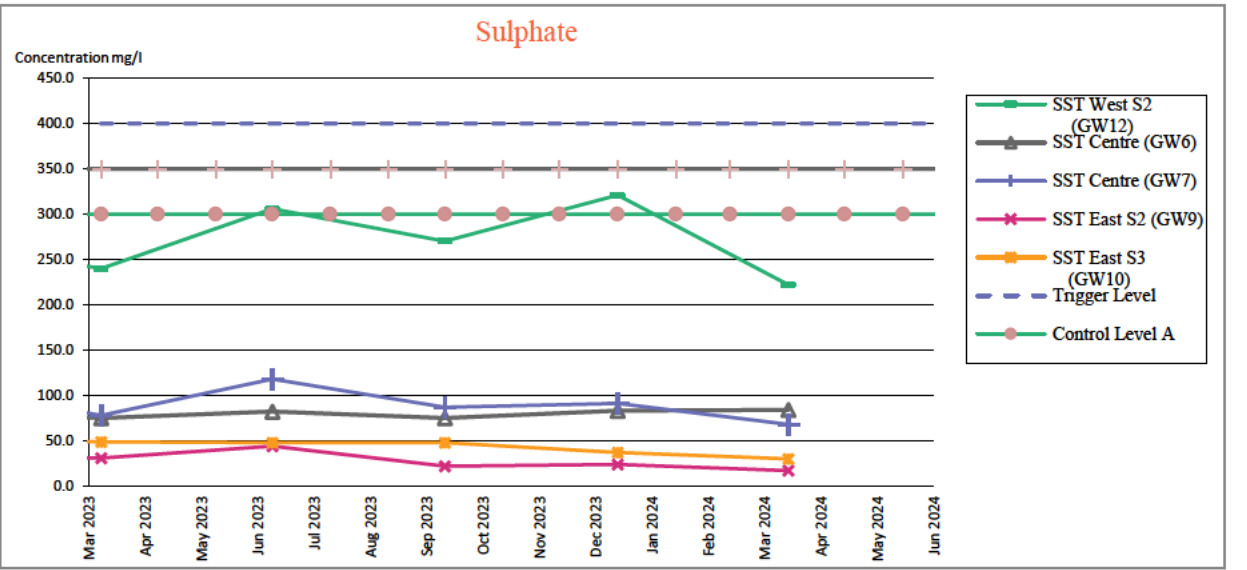
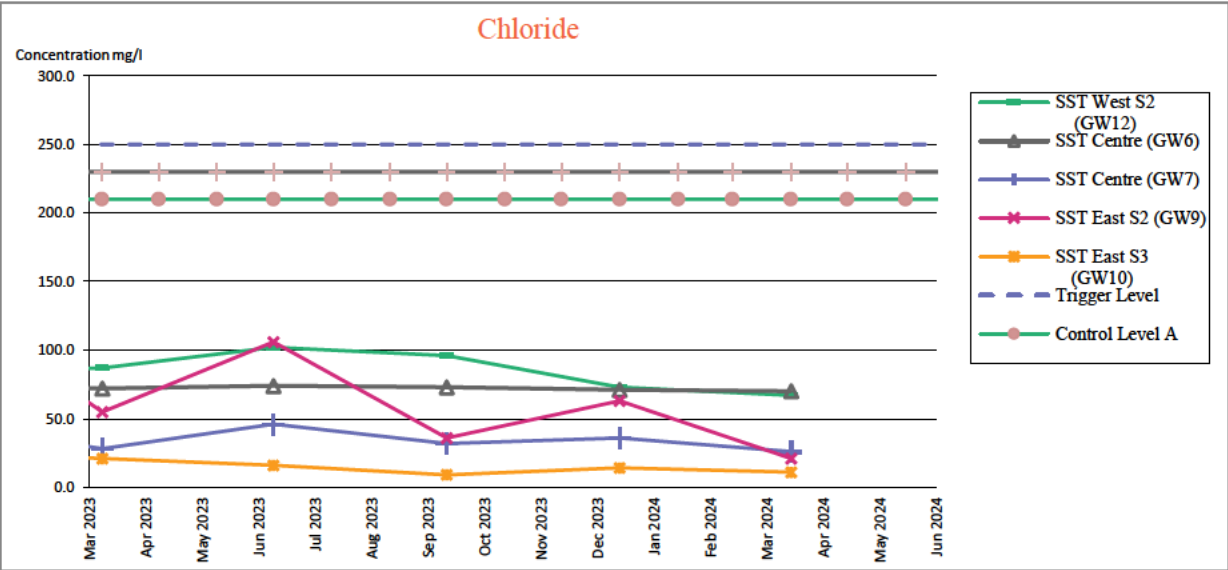
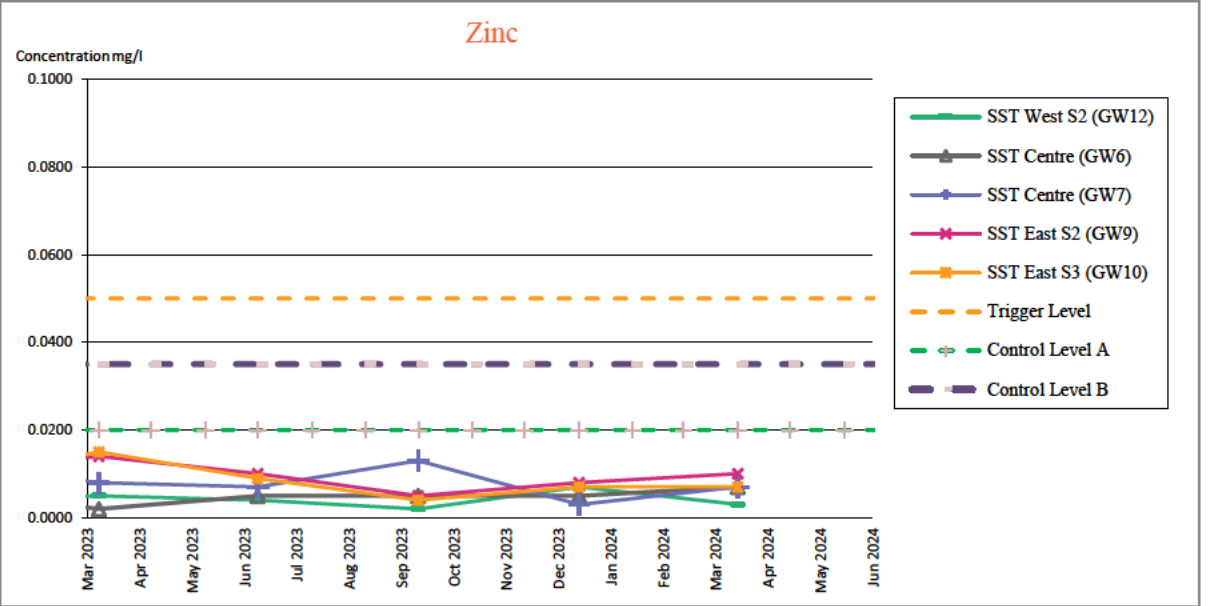
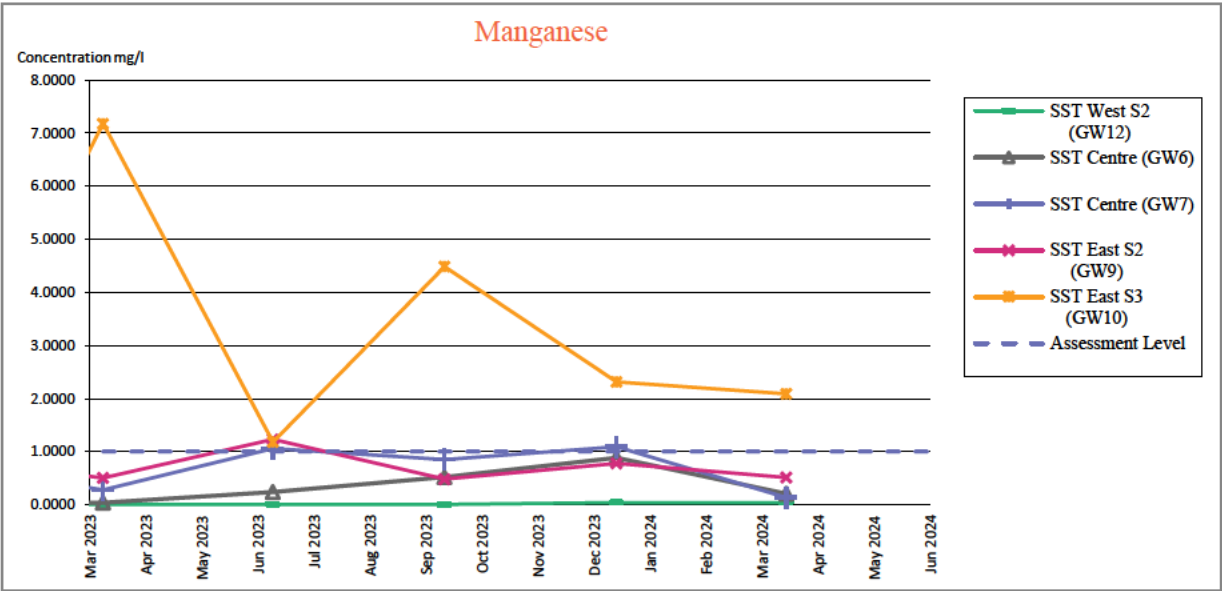


Figure A5
Groundwater quality monitoring results - Compliance wells graphs

Compliance wells graphs

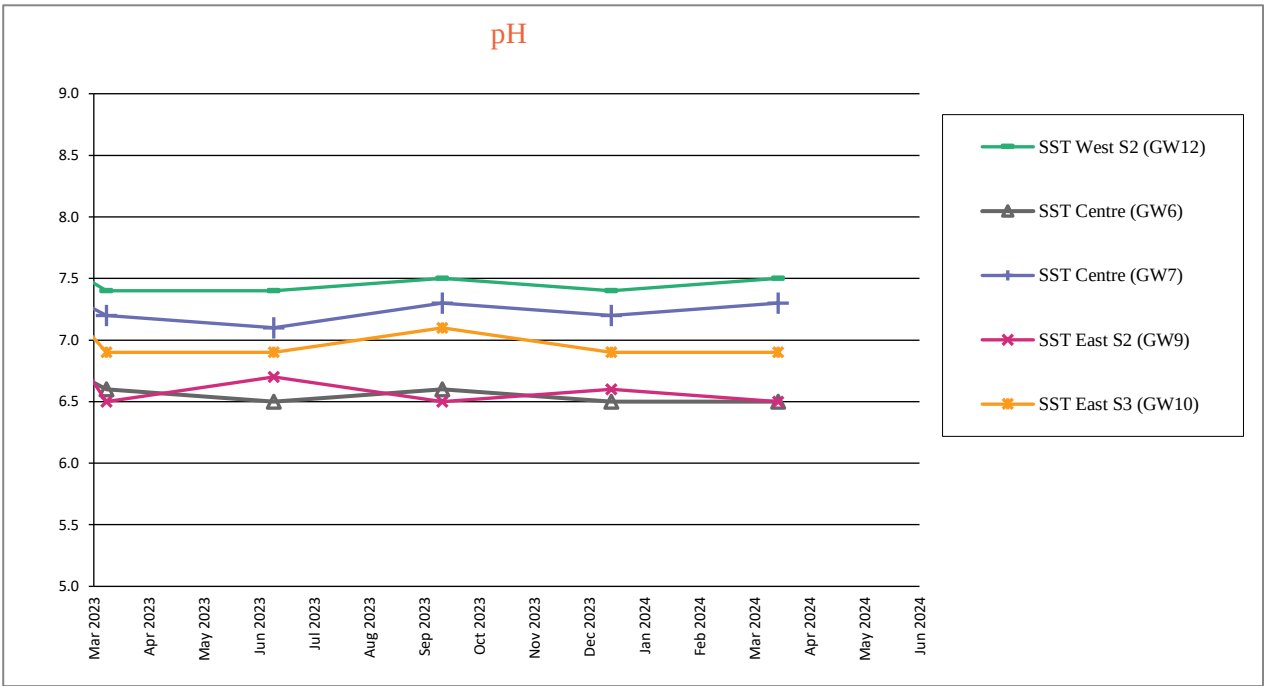


Figure A5
Groundwater quality monitoring results - Upstream wells graphs

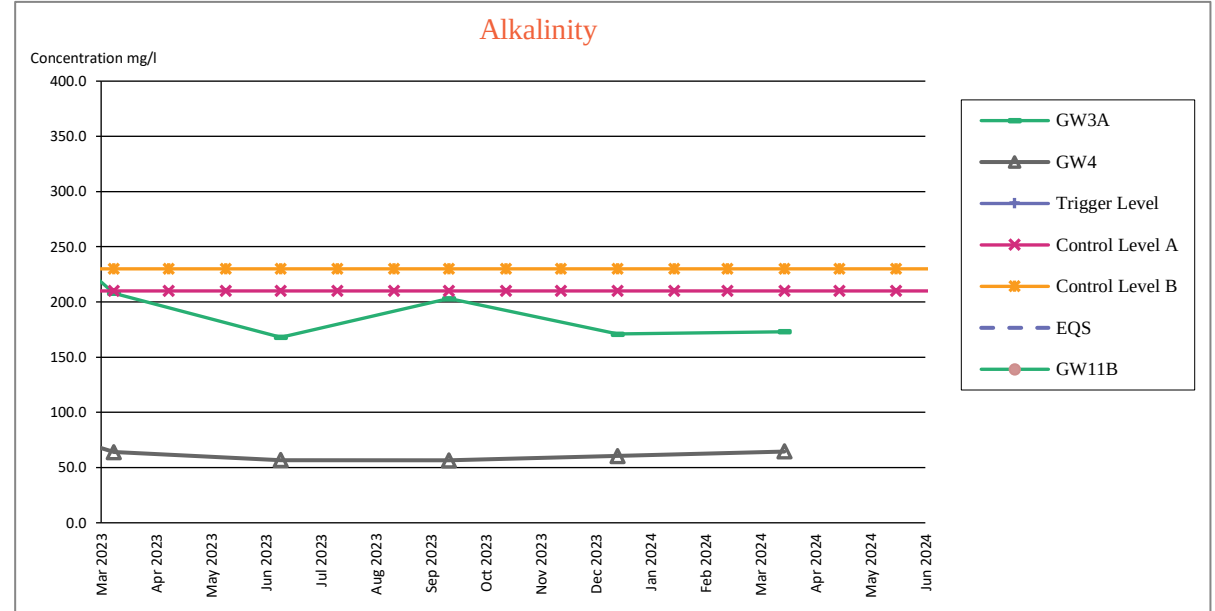
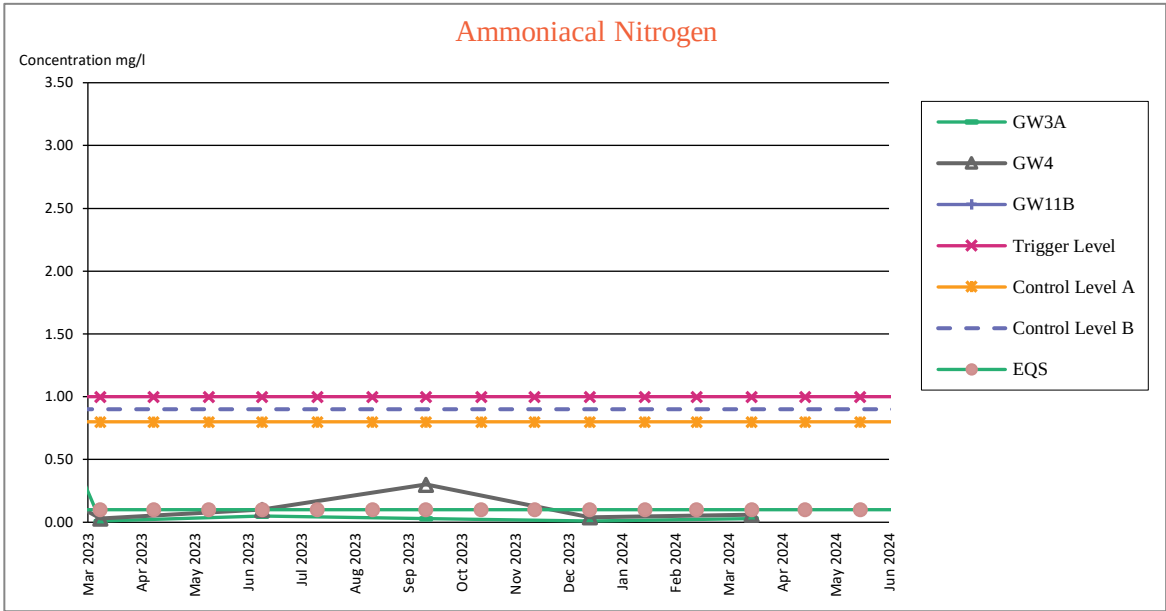
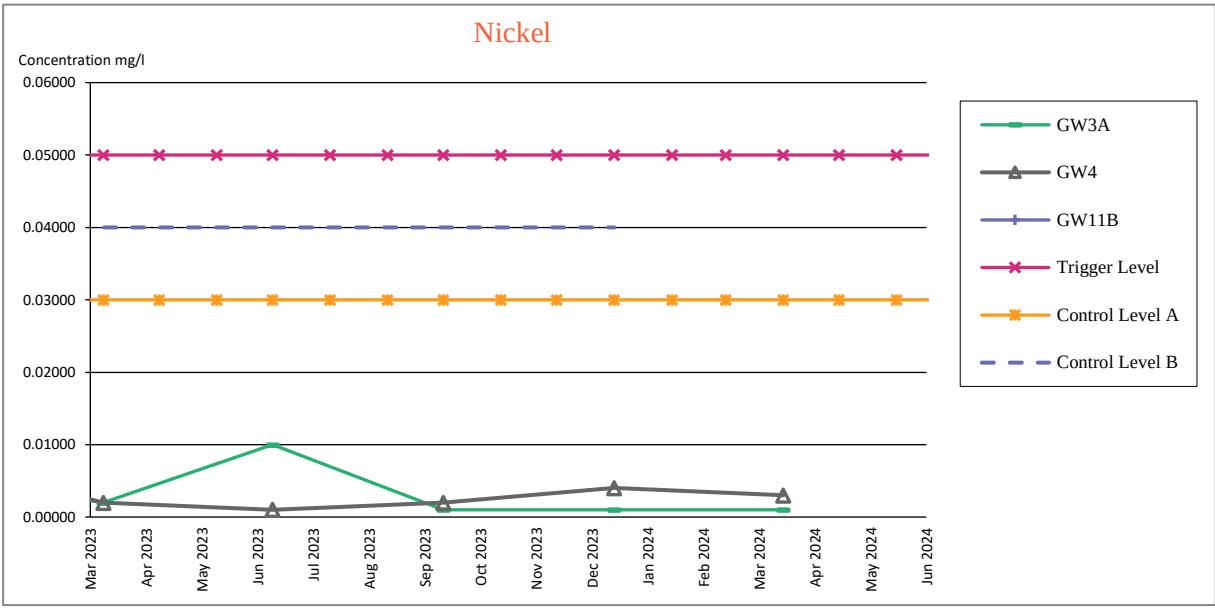
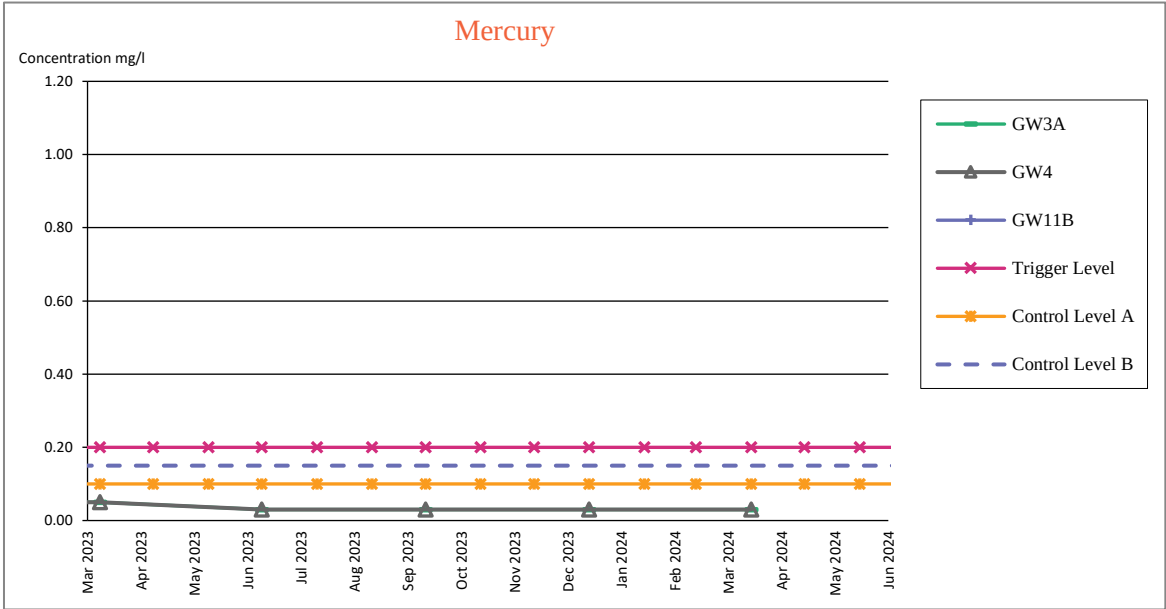


Figure A5
Groundwater quality monitoring results - Upstream wells graphs

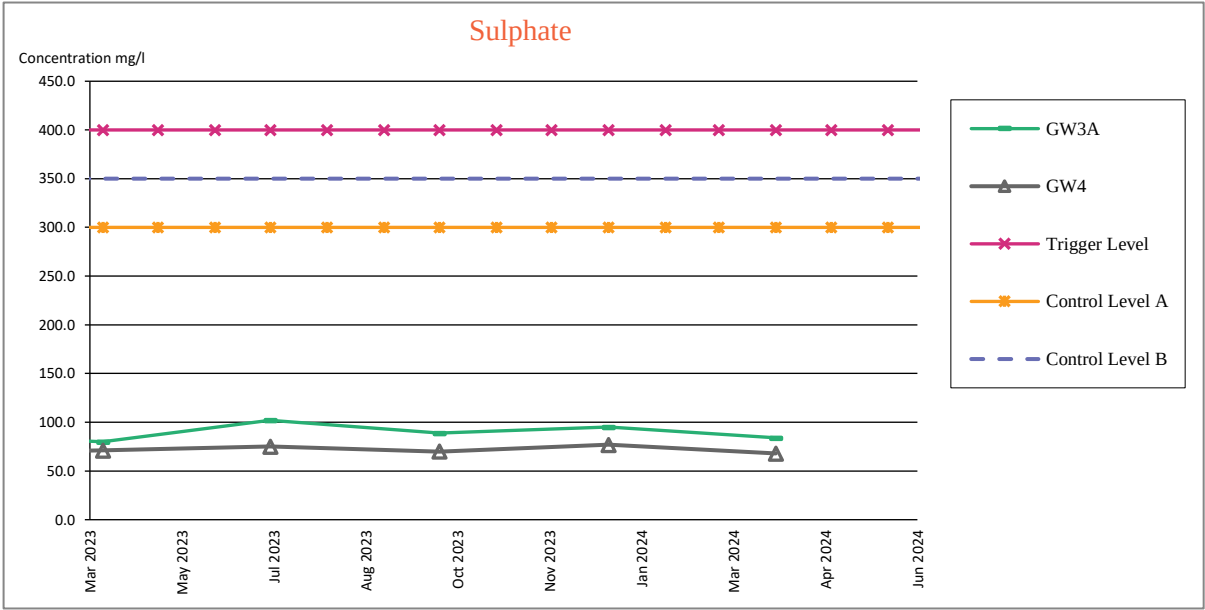
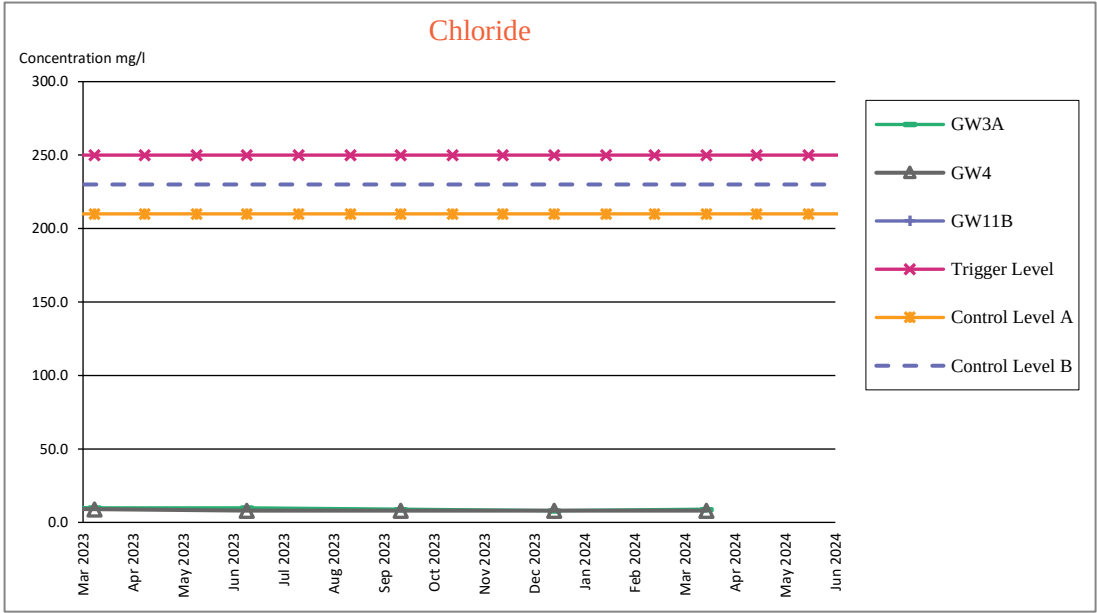
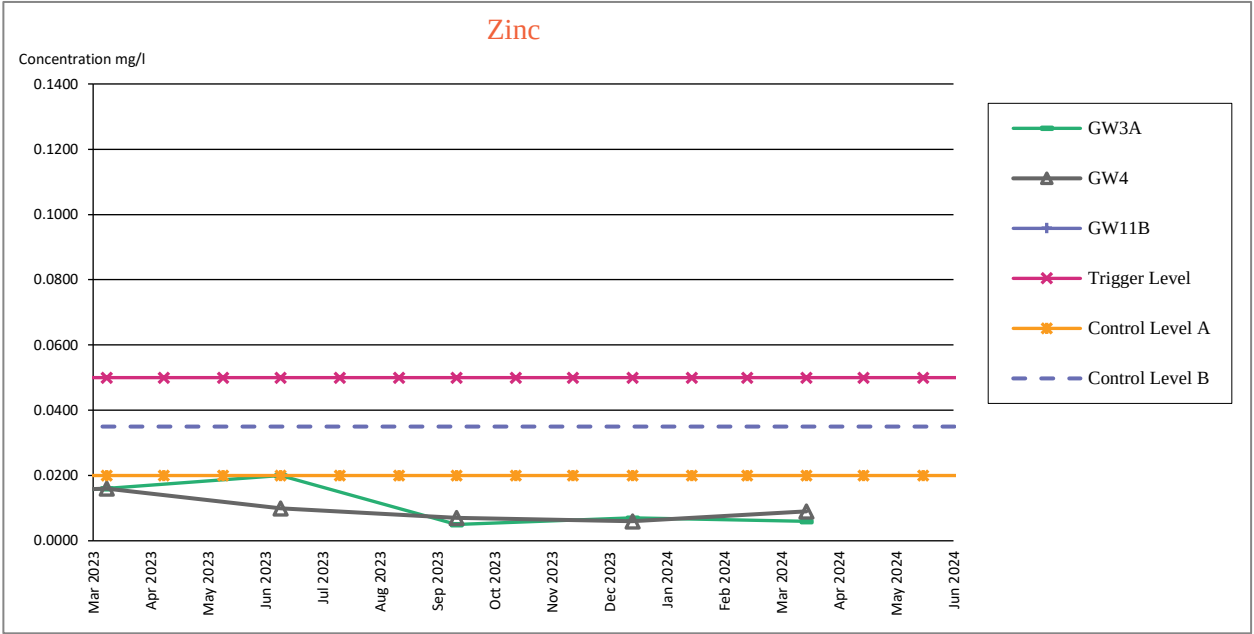
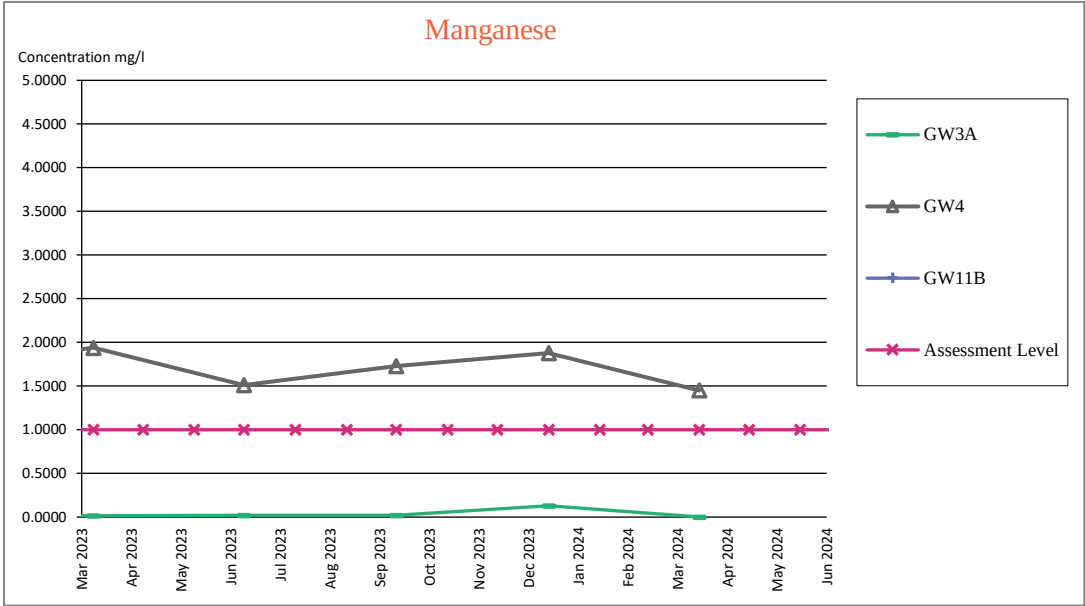


Figure A5
Groundwater quality monitoring results - Upstream wells graphs

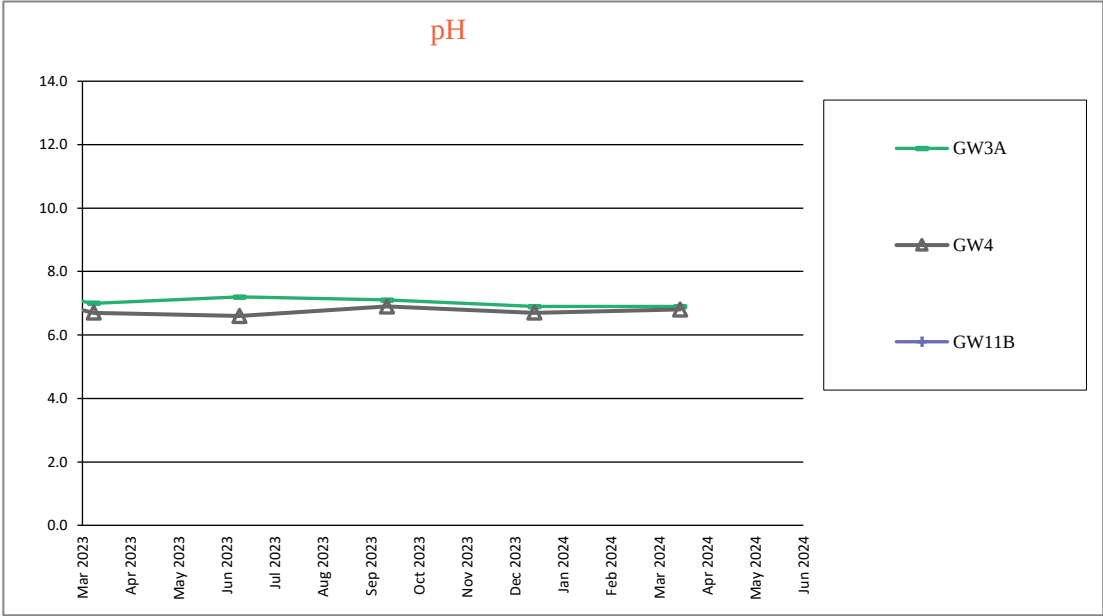


Figure A6
Groundwater monitoring levels downstream of compliance wells

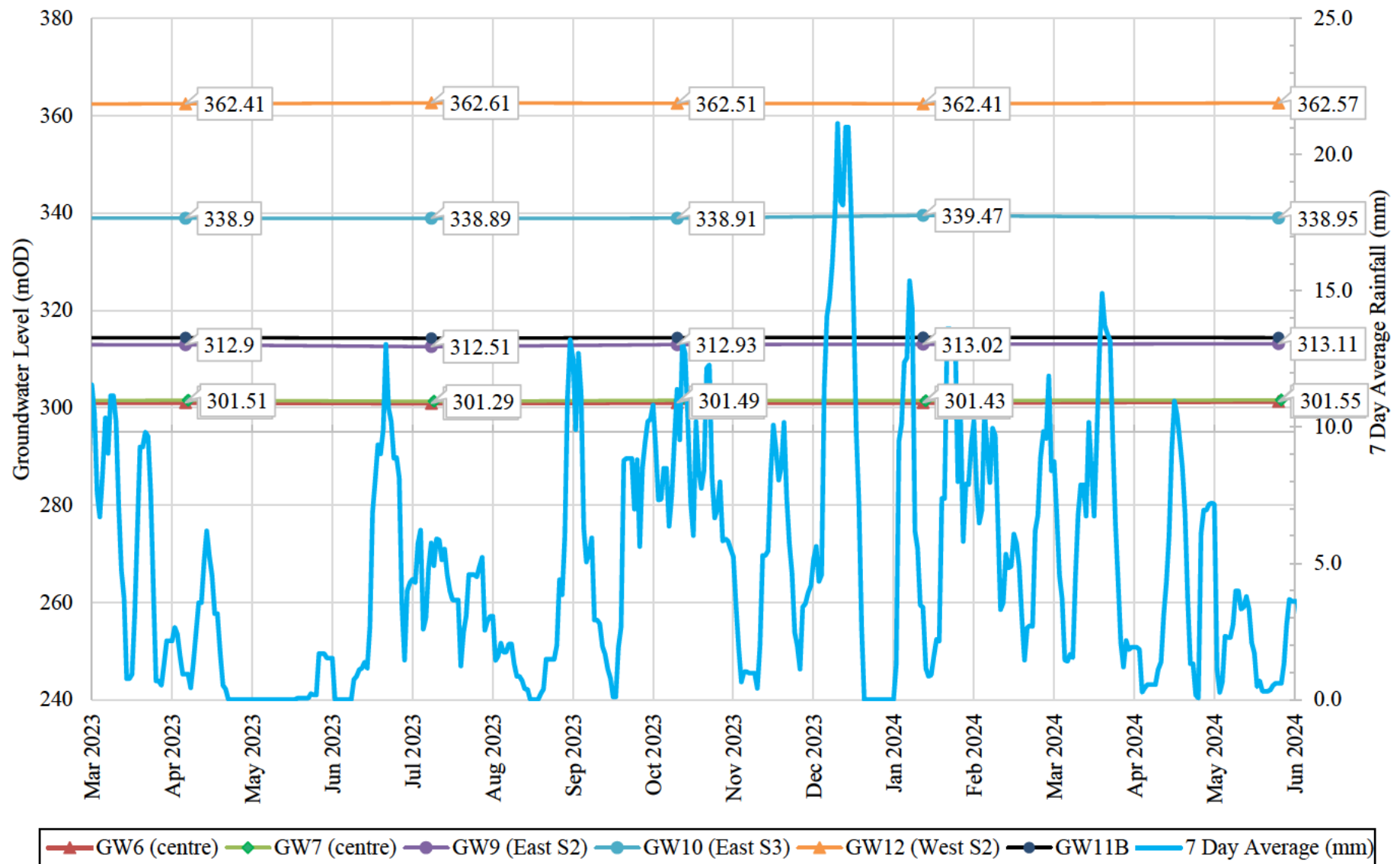
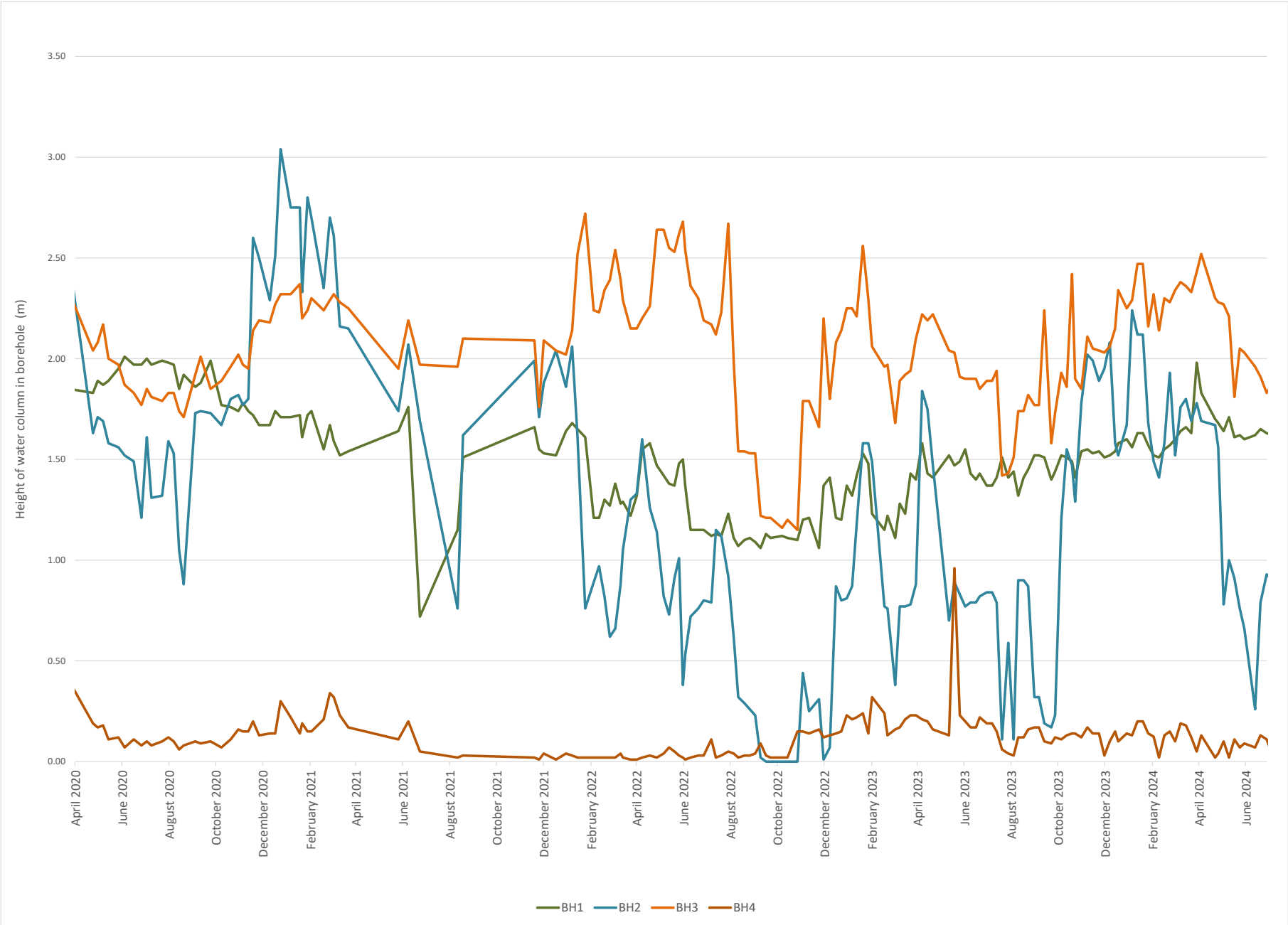


Figure A7
Height of water column (m) from base of well in boreholes BH1 to BH 4



Appendix B: Monitoring Results - Tables

Appendix B
Table B1
Leachate Monitoring Results

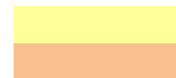
April 2024												
LOCATION	Units	L1A	L1B	LC1A	LC2A	LC4A	LC5B	Maximum concentration (mg/l)	Monthly Average (mg/l)	Acceptable Maximum Concentration (AMC) (mg/l)	LP3A	LP4
Date Sampled	-							-	-	-		
Manganese in filtrate as Mn	mg/l	N/S	0.689	N/S	0.086	0.644	0.327	0.689	0.44	--	0.003	0.05
Mercury, filt trace as Hg	mg/l	N/S	0.00005	N/S	0.00062	0.00005	0.00079	0.00079	0.0004	0.00056	0.00005	0.00005
Nickel in filtrate as Ni	mg/l	N/S	0.004	N/S	0.091	0.006	0.113	0.113	0.05	0.0681	0.003	0.003
Zinc, ultra-low filtered as Zn	mg/l	N/S	0.01	N/S	0.024	0.007	0.032	0.032	0.02	1.38	0.006	0.021
pH	pH Units	N/S	7.5	N/S	8.3	7.3	8.3	8.3	7.85	--	8.3	7.6
Conductivity- Electrical 20C	uS/cm	N/S	1610	N/S	11500	4090	12200	12200	7350	--	1340	1650
Alkalinity as CaCO3	mg/l	N/S	427	N/S	4440	1980	5150	5150	2999	--	385	472
Ammoniacal Nitrogen as N	mg/l	N/S	0.01	N/S	403	229	497	497	282	526	0.01	3.9
Chloride as Cl	mg/l	N/S	82	N/S	594	152	649	649	369	1408	76	89
Sulphate as SO4	mg/l	N/S	295	N/S	536	15	108	536	239	999	160	206
Redox Potential ^(see note 4)	mV	N/S	301	N/S	-123.6	-146.2	37.1	301	17	--	275.5	266
Total Suspended Solids	mg/l	N/S	14	N/S	3680	2380	1130	3680	1801	--	8	10
Solids, Total Dissolved 180 deg C	mg/l	N/S	1170	N/S	5230	1800	5170	5230	3343	--	929	1130
Dissolved Oxygen, Fixed*	mg/l	N/S	8.4	N/S	0.4	1.7	1.2	8.4	2.93	--	9.6	7.6
TOC (filtered)	mg/l	N/S	11.1	N/S	333	83.8	475	475	226	--	8.55	10.4

Notes

1. < denotes 'less than'.
2. L1A,L1B, LC1A, LC2A,LC4A, LC5B: Wells in Waste.
3. -- denotes 'no acceptable maximum concentration available'.
4. The redox potential was not measured on site and there is a possibility that it has changed between sampling and analysis
5. LC5B is a replacement for LC5A well.
6. N/S denotes 'not sampled'.

Exceedance of AMC (per well)

Exceedance of AMC (monthly average)



Determinant	Units	EA MRV's	L1B	LP3A	LP4	LC2A	LC4A	LC5B
Benzene	µg/l	1	<10	<10	<10	<10	<10	<10
Toluene	µg/l	4	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/l	-	<10	<10	<10	<10	<10	<10
m/p-Xylene	µg/l	3	<20	<20	<20	<20	<20	<20
o-Xylene	µg/l	3	<10	<10	<10	<10	<10	<10
Total GRO C5-C10	mg/l	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
C5-C6 Aliphatic	mg/l	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
>C6-C7 Aliphatic	mg/l	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
>C7-C8 Aliphatic	mg/l	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
>C8-C10 Aliphatic	mg/l	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
C5-C7 Aromatic	mg/l	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
>C7-C8 Aromatic	mg/l	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
>C8-C10 Aromatic	mg/l	-	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Total TPH >C8-C40 (Aliphatic)	mg/l	n/c	0.05	<0.04	0.04	4.04	16	2.74
>C10-C12 (Aliphatic)	mg/l	-	<0.04	<0.04	<0.04	<0.40	<0.40	<0.40
>C12-C16 (Aliphatic)	mg/l	-	<0.04	<0.04	<0.04	<0.40	<0.40	<0.40
>C16-C21 (Aliphatic)	mg/l	n/c	<0.04	<0.04	<0.04	0.41	1	<0.40
>C21-C35 (Aliphatic)	mg/l	n/c	<0.04	<0.04	<0.04	2.91	12.6	1.64
Total TPH >C8-C40 (Aromatic)	mg/l	n/c	0.24	0.15	0.25	3.06	5.58	4.95
>C10-C12 (Aromatic)	mg/l	n/c	<0.04	<0.04	<0.04	<0.40	<0.40	<0.40
>C12-C16 (Aromatic)	mg/l	n/c	0.04	<0.04	0.05	0.4	0.49	0.66
>C16-C21 (Aromatic)	mg/l	n/c	<0.04	<0.04	<0.04	0.42	0.71	0.8
>C21-C35 (Aromatic)	mg/l	n/c	0.07	0.05	0.09	1.4	3.02	2.01
1,2,4-Trichlorobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
1,2-Dichlorobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
1,3-Dichlorobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
1,4-Dichlorobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
1-Methylnaphthalene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
2,4,5-Trichlorophenol	mg/l	-	<0.020	<0.020	<0.020	<0.100	<0.020	<0.200
2,4,6-Trichlorophenol	mg/l	-	<0.020	<0.020	<0.020	<0.100	<0.020	<0.200
2,4-Dichlorophenol	mg/l	0.0001	<0.020	<0.020	<0.020	<0.100	<0.020	<0.200
2,4-Dimethylphenol	mg/l	-	<0.020	<0.020	<0.020	<0.100	<0.020	<0.200
2,4-Dinitrophenol	mg/l	-	<0.010	<0.010	<0.010	<0.050	<0.010	<0.100
2,4-Dinitrotoluene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
2,6-Dinitrotoluene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
2-Chloronaphthalene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
2-Chlorophenol	mg/l	-	<0.020	<0.020	<0.020	<0.100	<0.020	<0.200
2-Methylnaphthalene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
2-Methylphenol	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
2-Nitroaniline	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
2-Nitrophenol	mg/l	-	<0.020	<0.020	<0.020	<0.100	<0.020	<0.200
3- & 4-Methylphenol	mg/l	-	<0.020	<0.020	<0.020	<0.100	<0.020	<0.200
3-Nitroaniline	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
4,6-Dinitro-2-methylphenol	mg/l	-	<0.050	<0.050	<0.050	<0.250	<0.050	<0.500
4-Bromophenyl-phenylether	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
4-Chloro-3-methylphenol	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
4-Chloroaniline	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
4-Chlorophenol	mg/l	-	<0.020	<0.020	<0.020	<0.100	<0.020	<0.200
4-Chlorophenyl-phenylether	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
4-Nitroaniline	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
4-Nitrophenol	mg/l	-	<0.050	<0.050	<0.050	<0.250	<0.050	<0.500
Acenaphthene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Acenaphthylene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020

Determinant	Units	EA MRV's	L1B	LP3A	LP4	LC2A	LC4A	LC5B
Anthracene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Azobenzene	mg/l	-	<0.010	<0.010	<0.010	<0.050	<0.010	<0.100
Benzo[a]anthracene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Benzo[a]pyrene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Benzo[b]fluoranthene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Benzo[g,h,i]perylene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Benzo[k]fluoranthene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Benzoic Acid	mg/l	-	<0.100	<0.100	<0.100	<0.500	<0.100	<1.00
Benzyl alcohol	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Biphenyl	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
bis(2-Chloroethoxy)methane	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
bis(2-Chloroethyl)ether	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
bis(2-Chloroisopropyl)ether	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
bis(2-Ethylhexyl)phthalate	mg/l	n/c	<0.005	<0.005	<0.005	<0.025	0.008	<0.050
Butylbenzylphthalate	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Carbazole	mg/l	-	<0.010	<0.010	<0.010	<0.050	<0.010	<0.100
Chrysene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Coronene	mg/l	-	<0.050	<0.050	<0.050	<0.250	<0.050	<0.500
Dibenzo[a,h]anthracene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Dibenzofuran	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Diethylphthalate	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Dimethylphthalate	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Di-n-butylphthalate	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Di-n-octylphthalate	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Diphenyl ether	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Fluoranthene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Fluorene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Hexachlorobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Hexachlorobutadiene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Hexachlorocyclopentadiene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Hexachloroethane	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Indeno[1,2,3-cd]pyrene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Isophorone	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Naphthalene	mg/l	-	<0.002	<0.002	<0.002	<0.010	0.006	<0.020
Nitrobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
N-Nitroso-di-n-propylamine	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
N-Nitrosodiphenylamine	mg/l	-	<0.005	<0.005	<0.005	<0.025	<0.005	<0.050
Pentachlorophenol	mg/l	-	<0.050	<0.050	<0.050	<0.250	<0.050	<0.500
Phenanthrene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
Phenol	mg/l	-	<0.020	<0.020	<0.020	<0.100	<0.020	<0.200
Pyrene	mg/l	-	<0.002	<0.002	<0.002	<0.010	<0.002	<0.020
1,1,1,2-Tetrachloroethane	µg/l	-	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	µg/l	0.1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/l	-	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	µg/l	0.1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/l	1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/l	-	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/l	-	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/l	-	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	µg/l	-	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/l	-	<5	<5	<5	<5	<5	<5
1,2,4-Trimethylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/l	-	<5	<5	<5	<5	<5	<5

Determinant	Units	EA MRV's	L1B	LP3A	LP4	LC2A	LC4A	LC5B
1,2-Dibromoethane	µg/l	-	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/l	-	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	µg/l	-	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/l	-	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/l	-	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
1,3-Dichlorobenzene	µg/l	-	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/l	-	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/l	-	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/l	-	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/l	1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	µg/l	1	<1	<1	<1	<1	<1	<1
Benzene	µg/l	-	<1	<1	<1	<1	<1	<1
Bromobenzene	µg/l	-	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/l	-	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/l	-	<1	<1	<1	<1	<1	<1
Bromoform	µg/l	-	<1	<1	<1	<1	<1	<1
Bromomethane	µg/l	-	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	µg/l	-	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/l	-	<1	<1	<1	2	<1	<1
Chloroethane	µg/l	-	<5	<5	<5	<5	<5	<5
Chloroform	µg/l	0.1	<5	<5	<5	<5	<5	<5
Chloromethane	µg/l	-	<1	<1	<1	<1	<1	<1
cis 1,2-Dichloroethene	µg/l	-	<1	<1	<1	<1	<1	<1
cis 1,3-Dichloropropene	µg/l	-	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/l	-	<1	<1	<1	<1	<1	<1
Dibromomethane	µg/l	-	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/l	-	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/l	n/c	<0.5	<0.5	<0.5	1.1	<0.5	1.2
Hexachlorobutadiene	µg/l	0.005	<5	<5	<5	<5	<5	<5
iso-Propylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1
m and p-Xylene	µg/l	3	<1	<1	<1	<1	<1	1
MTBE	µg/l	3	<1	<1	<1	<1	<1	<1
Naphthalene	µg/l	-	<5	<5	<5	<5	<5	<5
n-Butylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1
o-Xylene	µg/l	3	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/l	-	<1	<1	<1	<1	<1	1
Propylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1
Styrene	µg/l	-	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/l	-	<5	<5	<5	<5	<5	<5
Toluene	µg/l	-	<1	<1	<1	<1	<1	1
trans 1,2-Dichloroethene	µg/l	-	<1	<1	<1	<1	<1	<1
trans 1,3-Dichloropropene	µg/l	-	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/l	-	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/l	-	<1	<1	<1	<1	<1	<1
Vinyl Chloride	µg/l	-	<1	<1	<1	<1	<1	<1
Acetic acid	mg/l	-	<10	<10	<10	<10	<10	<10
Propionic acid	mg/l	-	<10	<10	<10	<10	<10	<10
n-Isobutyric acid	mg/l	-	<10	<10	<10	<10	<10	<10
Isovaleric acid	mg/l	-	<10	<10	<10	<10	<10	<10
n-Valeric acid	mg/l	-	<10	<10	<10	<10	<10	<10
Isocaproic acid	mg/l	-	<10	<10	<10	<10	<10	<10

Determinant	Units	EA MRV's	L1B	LP3A	LP4	LC2A	LC4A	LC5B
n-Caproic acid	mg/l	-	<20	<20	<20	<20	<20	<20
Heptanoic acid	mg/l	-	<20	<20	<20	<20	<20	<20

*n/c = No Criteria

Table B2
Leachate Head Levels

		Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
LC1A	Elevation of base of landfill mAOD	357.62			357.62								
	Elevation at top of casing mAOD	398.85			398.85								
	Depth to leachate from top of casing (m)	40.38			40.30								
	Leachate elevation (mAOD)	358.47			358.55								
	Calculated leachate head (m)	0.85			0.93								
LC2A	Elevation of base of landfill mAOD	362.49			362.49								
	Elevation at top of casing mAOD	401.12			401.12								
	Depth to leachate from top of casing (m)	35.54			35.65								
	Leachate elevation (mAOD)	365.58			365.47								
	Calculated leachate head (m)	3.09			2.98								
LC4A	Elevation of base of landfill mAOD	372.27			372.27								
	Elevation at top of casing mAOD	401.14			401.14								
	Depth to leachate from top of casing (m)	26.77			26.82								
	Leachate elevation (mAOD)	374.37			374.32								
	Calculated leachate head (m)	2.10			2.05								
LC5B	Elevation of base of landfill mAOD	349.79			349.79								
	Elevation at top of casing mAOD	380.75			380.75								
	Depth to leachate from top of casing (m)	29.87			29.12								
	Leachate elevation (mAOD)	350.88			350.88								
	Calculated leachate head (m)	1.09			1.09								
L1	Casing height (mAOD)	357.00			357.00								
	Leachate (mbgl)	DRY			DRY								
	Leachate (m AOD)	-			-								
	Base of landfill (m AOD)	336.80			336.80								
	Depth of well from top of casing (m)	20.02			21.02								
	Base of well (m AOD)	336.98			0.00								
	Calculated leachate head (m)												
L1A*	Casing height (mAOD)	355.79			355.79								
	Leachate (mbgl)	DRY			40.30								
	Leachate (m AOD)	-			315.49								
	Base of landfill (m AOD)	316.64			316.64								
	Depth of well from top of casing (m)	20.95			20.92								
	Base of well (m AOD)	334.84			334.87								
	Calculated leachate head (m)				1.15								
L1B*	Casing height (mAOD)	354.80			354.80								
	Leachate (mbgl)	25.77			25.50								
	Leachate (m AOD)	329.03			329.30								
	Base of landfill (m AOD)	319.60			319.60								
	Depth of well from top of casing (m)	34.80			34.80								
	Base of well (m AOD)	320.00			320.00								
	Calculated leachate head (m)	9.43			9.70								

2024	Quarterly Leachate Head Averages (m)
January	2.01
February	
March	
April	1.99
May	
June	
July	
August	
September	
October	
November	
December	

Minimum monthly leachate head average

Maximum monthly leachate head average

- Notes:
- Top of casings were re-surveyed in August 2019
1. LC1A top of casing is 1710mm above ground level.
2. LC2A top of casing is 820mm above GL.
3. LC4A top of casing is 1040mm above GL.

* Well not included in monthly average.

Note: L1 is generally dry or with very little water in it.

Table B3
Surface Water Monitoring Results

Month	Location	Date	Mercury, ultra-low total as Hg	Manganese in filtrate as Mn	Nickel in filtrate as Ni	Bioavailable Ni	Zinc, ultra-low total as Zn	Bioavailable Zn	pH	Conductivity-Electrical 20C	Ammoniacal Nitrogen as N	*Unionised Ammoniacal Nitrogen based on measured Temperature	Measured surface water temperature	Chloride as Cl	Sulphate as SO4	Total Suspended Soilds	Dissolved Oxygen, fixed	TOC, filtered	Redox Potential	Alkalinity as CaCO3	Calcium
Freshwater EQS**			ug/l	mg/l	mg/l	mg/l	mg/l	mg/l		uS/cm	mg/l	mg/l	°C	mg/l	mg/l	mg/l	mg/l	mg/l	mV	mg/l	mg/l
January	Upstream of Landfill	SWU SW2AI SWW4	Six-monthly	Not sampled this quarter																	
	NW Ditch System	SWW1 SWW2	Six-monthly	Not sampled this quarter																	
	Downstream of Landfill	SWD SWD1	Quarterly	< 0.03 < 0.03	< 0.0100 < 0.0020	< 0.0010 < 0.0020	< 0.0001 < 0.0001	< 0.0001 < 0.0001	7.8 7.8	293 281	< 0.03 < 0.01	0.0003 0.0001	8.7 7.8	6.00 9.00	52.0 52.0	<5 <5	11 12	1.3 1.6	315.20 12.10	84 72	43 36
April	Upstream of Landfill	SWU SW2AI SWW4	Six-monthly	< 0.03 < 0.04 < 0.07	< 0.002 0.005 < 0.002	< 0.002 < 0.001 < 0.001	< 0.0001 < 0.0001 < 0.0001	< 0.0001 < 0.0001 < 0.0001	7.6 7.7 7.7	100 627 627	0.01 0.02 0.06	0.00007 0.00022 0.00067	10.00 12.2 12.5	4.00 3.0 4.00	13.0 219.0 216.0	<5 # <5	11 10 11	0.5 5.0 6.0	357.20 328.60 328.90	12 92 94	4 93 86
	NW Ditch System	SWW1 SWW2	Six-monthly	< 0.03 < 0.06	< 0.011 < 0.002	< 0.001 < 0.001	< 0.0001 < 0.0001	< 0.0001 < 0.0001	7.8 7.6	387.0 170.0	< 0.01 < 0.01	0.00012 0.00007	10.7 9.5	5.00 5.00	111.0 36.0	<5 <5	10 11	1.0 0.4	330.80 398.60	73 36	44 17
	Downstream of Landfill	SWD SWD1	Quarterly Quarterly	< 0.03 < 0.03	< 0.0020 < 0.0020	< 0.0010 < 0.0030	< 0.0001 < 0.0001	< 0.0001 < 0.0001	7.9 7.8	251 242	0.02 < 0.01	0.00035 0.00014	12.4 12.3	5.00 7.00	39.0 40.0	# #	10 10	1.3 1.9	346.70 313.70	81 64	36 29
July	Upstream of Landfill	SWU SW2AI SWW4	Six-monthly	Not sampled this quarter																	
	NW Ditch System	SWW1 SWW2	Six-monthly	Not sampled this quarter																	
	Downstream of Landfill	SWD SWD1	Quarterly																		
October	Upstream of Landfill	SWU SW2AI SWW4	Six-monthly																		
	NW Ditch System	SWW1 SWW2	Six-monthly																		
	Downstream of Landfill	SWD SWD1	Quarterly																		
Minimum				< 0.0020	< 0.0010	< 0.0001	< 0.0040	< 0.0001	7.6	100	< <	0.0001	7.8	3.0	13.0	9.8	0.0	0.4	12.1	12.1000	4.0000
Maximum				< 0.0110	< 0.0030	< 0.0001	< 0.0100	< 0.0001	7.9	627	< <	0.0007	12.5	9	219	12	0.0	6	399	94	93
Count				9	9	9	9	9	9	9		9	9	9	9	9	0	9	9	9	9

Notes
1.The redox potential was not measured on site and there is a possibility that it has changed between sampling and analysis
2.N/S - Not analysed
3.Unionised ammoniacal nitrogen based on measured
4.Environmental Quality Standard EQS 1 for freshwater is derived to protect the most sensitive aquatic life.
5.NW Ditch - North Western (ditch system)

	Exceedance of EQS
	Upstream of Nant Merddog
	Downstream of Nant Merddog

Table B4
Groundwater monitoring results

Location	Month	Date	Test reference number	Redox Potential	Mercury, filtrate as Hg	Manganese in filtrate as Mn	Nickel in filtrate as Ni	Zinc, ultra-low filtered as Zn	pH	Electrical Conductivity 20C	Alkalinity as CaCO3	Ammoniacal Nitrogen as N	Unionised Ammoniacal Nitrogen ***	Measure water temperature	Chloride as Cl	Sulphate as SO4	Calcium	D.O. concentration	TOC (Filtered)				
				mV	ug/l	mg/l	mg/l	mg/l	pH units	uS/cm	mg/l	mg/l	mg/l	°C	mg/l	mg/l	mg/l	mg/l	mg/l				
	Trigger Level				(0.2*)		0.05	(0.05*)	--	--	--	1	--	--	250	400	--	--	--				
	Control Level A				(0.1**)	--	0.03	(0.02**)	--	--	--	0.8	--	--	210	300	--	--	--				
	Control Level B				(0.15**)	--	0.04	(0.035**)	--	--	--	0.9	--	--	230	350	--	--	--				
	Assessment Level				--	(1.0*)	--	--	--	--	--	--	--	--	--	--	--	--	--				
UPSTREAM WELLS																							
SST East S3																							
GW3A	Jan-23	21/02/23	1597147	-150	<	0.05	0.0240	0.00550	0.0120	7.8	540.0	340.0	3.00	0.0434	13.0	12.0	87.0	76.0	8.7	4.9			
	Feb-23	Quarterly																					
	Mar-23																						
	Apr-23	04/05/23	23050829-006	235.8	<	0.05	0.016	0.00200	0.0160	7.0	556.0	208.0	0.01	0.0000	13.4	10.0	80.0	84.0	8.7	1.4			
	May-23	Quarterly																					
	Jun-23																						
	Jul-23	20/07/23	23072702-006	12.1	<	0.03	<	0.0200	<	0.0100	<	0.0200	7.2	537.0	168.0	0.05	0.0002	13.8	10.0	102.0	72.0	12.1	3.3
	Aug-23	Quarterly																					
	Sep-23																						
	Oct-23	17/10/23	23102561-006	348.6	<	0.030	0.0190	<	0.001	0.0050	7.1	583.0	203	0.03	0.0001	13.5	9.0	89.0	84.0	8.8	4.0		
	Nov-23	Quarterly																					
	Dec-23																						
	Jan-24	05/02/24	24020781-007	240	<	0.030	0.1300	<	0.00100	0.0070	6.9	528.0	171.0	<	0.01	0.00002	13.0	8.0	95.0	72.0	10.6	11.7	
	Feb-24	Quarterly																					
	Mar-24																						
	Apr-24	12/06/24	24052866-007	261.4	<	0.030	<	0.002	<	0.001	0.006	6.9	507	173	0.03	0.000058	13.6	9	84	61	6.5	6.45	
	May-24	Quarterly																					
	Jun-24																						
	Jul-24																						
	Aug-24																						
	Sep-24																						
	Oct-24																						
	Nov-24																						
	Dec-24																						
GW4	Jan-23	21/02/23	1597148	-140	<	0.05	1.70	0.0079	0.0140	7.8	280.0	110.0	0.74	0.0083	9.5	9.9	68.0	21.0	7.5	3.5			
	Feb-23	Quarterly																					
	Mar-23																						
	Apr-23	04/05/23	23050829-007	270.9	<	0.050	1.94	0.0020	0.0160	6.7	285.0	64.0	0.03	0.0000	10.0	9.0	71.0	19.0	9.5	1.5			
	May-23	Quarterly																					
	Jun-23																						
	Jul-23	20/07/23	23072702-007	326.2	<	0.03	1.5100	0.0010	0.0100	6.6	301.0	56.8	0.10	0.0001	10.0	8.0	75.0	18.0	9.8	0.7			
	Aug-23	Quarterly																					
	Sep-23																						
	Oct-23	17/10/23	23102561-007	389.3	<	0.030	1.7300	0.002	0.0070	6.9	289.0	56.6	0.30	0.0004	9.6	8.0	70.0	17.0	7.8	4.0			
	Nov-23	Quarterly																					
	Dec-23																						
	Jan-24	05/02/24	24020781-008	331	<	0.030	1.88	0.0040	0.0060	6.7	296.0	60.5	0.04	0.00004	9.3	8.0	77.0	18.0	8.1	6.7			
	Feb-24	Quarterly																					
	Mar-24																						
	Apr-24	12/06/24	24052866-008	331.3	<	0.030	1.45	0.003	0.009	6.8	295	64.5	0.06	0.000071	10.1	8	68	15	8.7	4.65			
	May-24	Quarterly																					
	Jun-24																						
	Jul-24																						
	Aug-24																						
	Sep-24																						
	Oct-24																						
	Nov-24																						
	Dec-24																						

Table B4
Groundwater monitoring results

Location	Month	Date	Test reference number	Redox Potential	Mercury, filtrate as Hg	Manganese in filtrate as Mn	Nickel in filtrate as Ni	Zinc, ultra-low filtered as Zn	pH	Electrical Conductivity 20C	Alkalinity as CaCO3	Ammoniacal Nitrogen as N	Unionised Ammoniacal Nitrogen ***	Measure water temperature	Chloride as Cl	Sulphate as SO4	Calcium	D.O. concentration	TOC (Filtered)				
				mV	ug/l	mg/l	mg/l	mg/l	pH units	uS/cm	mg/l	mg/l	mg/l	°C	mg/l	mg/l	mg/l	mg/l	mg/l				
Trigger Level					(0.2 ^u)		0.05	(0.05 ^u)	--	--	--	1	--	--	250	400	--	--	--				
Control Level A					(0.1 ^{uu})	--	0.03	(0.02 ^{uu})	--	--	--	0.8	--	--	210	300	--	--	--				
Control Level B					(0.15 ^{uuu})	--	0.04	(0.035 ^{uuu})	--	--	--	0.9	--	--	230	350	--	--	--				
Assessment Level					--	(1.0 ^u)	--	--	--	--	--	--	--	--	--	--	--	--	--				
DOWNSTREAM WELLS / COMPLIANCE WELLS																							
SST West S2																							
GW12	Jan-23	21/02/23	1597153	-72	<	0.050	0.0090	0.0073	0.0039	8.2	1600.0	420.0	0.20	0.0111	19.2	83.0	270.0	150.0	7.3	10.0			
	Feb-23	Quarterly																					
	Mar-23																						
	Apr-23	04/05/23	23050829-012	287.9	<	0.050	<	0.002	0.0040	0.0050	7.4	1650.0	152.0	0.01	0.0001	19.2	87.0	240.0	151.0	8.9	15.1		
	May-23	Quarterly																					
	Jun-23																						
	Jul-23	20/07/23	23072702-012	11.2	<	0.03	<	0.0020	0.0040	0.0040	7.4	1810.0	434.0	<	0.10	0.0008	18.1	102.0	306.0	162.0	11.2	10.3	
	Aug-23	Quarterly																					
	Sep-23																						
	Oct-23	17/10/23	23102561-012	315.5	<	0.030		0.0040	0.005	0.0020	7.5	1750.0	431	0.01	0.0001	18.7	96.0	270.0	156.0	9.1	9.1		
	Nov-23	Quarterly																					
	Dec-23																						
	GW12	Jan-24	05/02/24	24020781-013	316	<	0.030		0.0390	0.0040	0.0070	7.4	1450.0	384.0	0.01	0.0001	19.5	73.0	321.0	142.0	9.8	30.5	
		Feb-24	Quarterly																				
		Mar-24																					
		Apr-24	12/06/24	24052866-013	368.2	<	0.030		0.038	0.004	0.0030	7.5	1410	362	<	0.01	0.0001	19.3	67	222.0	143	7.8	9.89
		May-24	Quarterly																				
		Jun-24																					
		Jul-24																					
		Aug-24																					
Sep-24																							
Oct-24																							
Nov-24																							
Dec-24																							
SST Centre																							
GW6	Jan-23	21/02/23	1597149	-120	<	0.050	0.0071	0.0067	0.0063	7.3	770.0	250.0	0.32	0.0013	11.7	73.0	83.0	34.0	8.5	6.5			
	Feb-23	Quarterly																					
	Mar-23																						
	Apr-23	04/05/23	23050829-008	289.1	<	0.050		0.04	0.003	0.002	6.6	952	319	0.08	0.0001	12.0	72	75	77	9	9.4		
	May-23	Quarterly																					
	Jun-23																						
	Jul-23	20/07/23	23072702-008	369.9	<	0.030		0.2410	0.0040	0.0050	6.5	893.0	248.0	0.02	0.00001	11.7	74.0	82.0	50.0	10.5	13.7		
	Aug-23	Quarterly																					
	Sep-23																						
	Oct-23	17/10/23	23102561-008	388.8	<	0.030		0.5220	0.005	0.0050	6.6	866.0	228	0.01	0.00001	11.7	73.0	75.0	42.0	8.5	<	4.0	
	Nov-23	Quarterly																					
	Dec-23																						
	GW6	Jan-24	05/02/24	24020781-009	335	<	0.030		0.8830	0.0050	0.0050	6.5	871.0	247.0	0.02	0.00001	12.5	71.0	83.0	49.0	9.6	6.2	
		Feb-24	Quarterly																				
		Mar-24																					
		Apr-24	12/06/24	24052866-009	343	<	0.030		0.207	0.004	0.007	6.5	892	253	0.02	0.000015	12.9	70	84	47	7.5	6.29	
		May-24	Quarterly																				
		Jun-24																					
		Jul-24																					
		Aug-24																					
Sep-24																							
Oct-24																							
Nov-24																							
Dec-24																							
GW7		Jan-23	21/02/23	1597150	-95	<	0.05	0.7700	0.0079	0.0120	7.9	830.0	380.0	0.26	0.004	11.7	46.0	110.0	76.0	7.8	8.0		
	Feb-23	Quarterly																					
	Mar-23																						
	Apr-23	04/05/23	23050829-009	284.8	<	0.050		0.282	0.0030	0.0080	7.2	714.0	731.0	0.02	0.000	11.6	28.0	78.0	74.0	8.7	4.3		
	May-23	Quarterly																					
	Jun-23																						
	Jul-23	20/07/23	23072702-009	349.5	<	0.030		1.0600	0.0030	0.0070	7.1	903.0	248.0	<	0.01	0.000	12.0	46.0	118.0	99.0	8.8	5.0	
	Aug-23	Quarterly																					
	Sep-23																						
	Oct-23	17/10/23	23102561-009	347.5	<	0.030		0.8510	0.004	0.0130	7.3	914.0	327	1.20	0.0054	12.6	32.0	87.0	105.0	9.4	5.7		
	Nov-23	Quarterly																					
	Dec-23																						
	GW7	Jan-24	05/02/24	24020781-010	308	<	0.030		1.0900	0.0030	0.0030	7.2	827.0	276.0	<	0.01	0.00003	12.3	36.0	91.0	94.0	9.6	5.5
Feb-24		Quarterly																					
Mar-24																							
Apr-24		12/06/24	24052866-010	326.3	<	0.030		0.134	0.003	0.007	7.3	726	250	<	0.01	0.00005	13.3	26	68	74	10	3.81	
May-24		Quarterly																					
Jun-24																							
Jul-24																							
Aug-24																							
Sep-24																							
Oct-24																							
Nov-24																							
Dec-24																							

Table B4
Groundwater monitoring results

Location	Month	Date	Test reference number	Redox Potential	Mercury, filtrate as Hg	Manganese in filtrate as Mn	Nickel in filtrate as Ni	Zinc, ultra-low filtered as Zn	pH	Electrical Conductivity 20C	Alkalinity as CaCO3	Ammoniacal Nitrogen as N	Unionised Ammoniacal Nitrogen ***	Measure water temperature	Chloride as Cl	Sulphate as SO4	Calcium	D.O. concentration	TOC (Filtered)			
				mV	ug/l	mg/l	mg/l	mg/l	pH units	uS/cm	mg/l	mg/l	mg/l	°C	mg/l	mg/l	mg/l	mg/l	mg/l			
Trigger Level					(0.2 ^a)		0.05	(0.05 ^a)	--	--	--	1	--	--	250	400	--	--	--			
Control Level A					(0.1 ^{ab})	--	0.03	(0.02 ^{ab})	--	--	--	0.8	--	--	210	300	--	--	--			
Control Level B					(0.15 ^{ab})	--	0.04	(0.035 ^{ab})	--	--	--	0.9	--	--	230	350	--	--	--			
Assessment Level					--	(1.0 ^a)	--	--	--	--	--	--	--	--	--	--	--	--	--			
SST East S2	GW9	Jan-23	21/02/23	1597151	-94	<	0.05	0.8800	0.0100	0.0100	8.5	7300.0	500.0	16.00	1.0	11.7	140.0	34.0	67.0	15.0		
		Feb-23	Quarterly																			
		Mar-23																				
		Apr-23	04/05/23	23050829-010	268.1	<	0.05	0.505	0.0030	0.0140	6.5	697.0	431.0	3.60	0.003	13.4	55.0	31.0	43.0	7.6	12.6	
		May-23	Quarterly																			
		Jun-23																				
		Jul-23	20/07/23	23072702-010	341.2	<	0.03	1.2300	0.0050	0.0100	6.7	1080.0	226.0	5.40	0.006	12.3	106.0	44.0	61.0	9.3	6.7	
		Aug-23	Quarterly																			
		Sep-23																				
		Oct-23	17/10/23	23102561-010	390	<	0.030	0.4820	0.002	0.0050	6.5	553.0	82.6	1.40	0.001	12.1	36.0	22.0	30.0	5.6	5.4	
		Nov-23	Quarterly																			
		Dec-23																				
	GW9	Jan-24	05/02/24	24020781-011	328	<	0.030	0.7750	0.0040	0.0080	6.6	868.0	173.0	4.70	0.004	11.6	63.0	24.0	48.0	8.6	10.8	
		Feb-24	Quarterly																			
		Mar-24																				
		Apr-24	12/06/24	24052866-011	340.1	<	0.030	0.515	0.002	0.01	6.5	405	83.6	0.7	0.00048	12.2	21	17	27	2.9	7.02	
		May-24	Quarterly																			
		Jun-24																				
		Jul-24																				
		Aug-24																				
		Sep-24																				
		Oct-24																				
		Nov-24																				
		Dec-24																				
SST East S3	GW10	Jan-23	21/02/23	1597152	-67	<	0.05	0.9300	0.0095	0.0079	8.4	620.0	310.0	0.44	0.0208	10.8	26.0	50.0	66.0	7.0	7.4	
		Feb-23	Quarterly																			
		Mar-23																				
		Apr-23	04/05/23	23050829-011	280.3	<	0.05	7.18	0.0120	0.0150	6.9	627.0	81.8	0.16	0.0002	10.6	21.0	49.0	74.0	8.4	15.6	
		May-23	Quarterly																			
		Jun-23																				
		Jul-23	20/07/23	23072702-011	257.1	<	0.03	1.1800	0.0050	0.0090	6.9	615.0	214.0	0.40	0.0006	10.5	16.0	48.0	80.0	8.4	9.9	
		Aug-23	Quarterly																			
		Sep-23																				
		Oct-23	17/10/23	23102561-011	238.2	<	0.030	4.4800	0.009	0.0040	7.1	589.0	238	2.60	0.0067	11.3	9.0	48.0	81.0	3.5	7.1	
		Nov-23	Quarterly																			
		Dec-23																				
	GW10	Jan-24	05/02/24	24020781-012	333	<	0.030	2.3100	0.0080	0.0070	6.9	528.0	194.0	0.12	0.00020	11.4	14.0	37.0	72.0	7.9	47.4	
		Feb-24	Quarterly																			
		Mar-24																				
		Apr-24	12/06/24	24052866-012	377.6	<	0.03	2.09	0.008	0.007	6.9	549	2.4	<	0.1	0.00016	10.8	11	30	75	8.3	9.14
		May-24	Quarterly																			
		Jun-24																				
		Jul-24																				
		Aug-24																				
		Sep-24																				
		Oct-24																				
		Nov-24																				
		Dec-24																				

	Exceedance of Control Level
	Exceedance of Trigger Level
	Exceedance of Assessment Level

Notes
* The redox potential was not measured on site and there is a possibility that it has changed between sampling and analysis {*/}
** Unionised ammoniacal nitrogen based on measured Temperature and pH; unionised ammoniacal nitrogen = total ammonia/(1+10^{(10.055-(0.0324*°C)-pH)}), where T°C is measured water temperature.
^ Ammonia result confirmed on duplicate analysis.

Determinant	Units	EA MRV's	GW3A	GW4	GW6	GW7	GW9	GW10	GW12
Benzene	µg/l	1	<10	<10	<10	<10	<10	<10	<10
Toluene	µg/l	4	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/l	-	<10	<10	<10	<10	<10	<10	<10
m/p-Xylene	µg/l	3	<20	<20	<20	<20	<20	<20	<20
o-Xylene	µg/l	3	<10	<10	<10	<10	<10	<10	<10
Total GRO C5-C10	mg/l	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
C5-C6 Aliphatic	mg/l	*15	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
>C6-C7 Aliphatic	mg/l	*15	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
>C7-C8 Aliphatic	mg/l	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
>C8-C10 Aliphatic	mg/l	*0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
C5-C7 Aromatic	mg/l	*0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
>C7-C8 Aromatic	mg/l	*0.07	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
>C8-C10 Aromatic	mg/l	*0.03	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Total TPH >C8-C40 (Aliphatic)	mg/l	n/c	0.05	0.05	0.01	0.03	0.06	0.25	0.05
>C10-C12 (Aliphatic)	mg/l	*0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01
>C12-C16 (Aliphatic)	mg/l	*0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01
>C16-C21 (Aliphatic)	mg/l	n/c	<0.01	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01
>C21-C35 (Aliphatic)	mg/l	n/c	0.02	0.03	<0.01	0.01	0.04	<0.10	0.02
Total TPH >C8-C40 (Aromatic)	mg/l	n/c	0.08	0.05	0.02	0.04	0.06	0.49	0.11
>C10-C12 (Aromatic)	mg/l	*0.09	<0.01	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01
>C12-C16 (Aromatic)	mg/l	*0.09	0.01	<0.01	<0.01	<0.01	0.01	0.1	0.01
>C16-C21 (Aromatic)	mg/l	*0.09	0.01	<0.01	<0.01	<0.01	0.01	<0.10	0.02
>C21-C35 (Aromatic)	mg/l	*0.09	0.03	0.02	<0.01	0.02	0.03	0.14	0.04
1,2,4-Trichlorobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichlorobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,3-Dichlorobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,4-Dichlorobenzene	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1-Methylnaphthalene	mg/l	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2,4,5-Trichlorophenol	mg/l	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
2,4,6-Trichlorophenol	mg/l	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
2,4-Dichlorophenol	mg/l	0.0001	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
2,4-Dimethylphenol	mg/l	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
2,4-Dinitrophenol	mg/l	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2,4-Dinitrotoluene	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2,6-Dinitrotoluene	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2-Chloronaphthalene	mg/l	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2-Chlorophenol	mg/l	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
2-Methylnaphthalene	mg/l	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2-Methylphenol	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2-Nitroaniline	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2-Nitrophenol	mg/l	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
3- & 4-Methylphenol	mg/l	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
3-Nitroaniline	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4,6-Dinitro-2-methylphenol	mg/l	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
4-Bromophenyl-phenylether	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4-Chloro-3-methylphenol	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4-Chloroaniline	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4-Chlorophenol	mg/l	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
4-Chlorophenyl-phenylether	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4-Nitroaniline	mg/l	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4-Nitrophenol	mg/l	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthene	mg/l	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Acenaphthylene	mg/l	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Anthracene	mg/l	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Azobenzene	mg/l	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo[a]anthracene	mg/l	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo[a]pyrene	mg/l	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo[b]fluoranthene	mg/l	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

[illegible]

Determinant	Units	EA MRV's	GW3A	GW4	GW6	GW7	GW9	GW10	GW12
4-Chlorotoluene	µg/l	1	<1	<1	<1	<1	<1	<1	<1
Benzene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Bromoform	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/l	-	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Chloroethane	µg/l	-	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/l	0.1	<5	<5	<5	<5	<5	<5	<5
Chloromethane	µg/l	-	<1	<1	<1	<1	<1	<1	<1
cis 1,2-Dichloroethene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
cis 1,3-Dichloropropene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/l	n/c	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/l	0.005	<5	<5	<5	<5	<5	<5	<5
iso-Propylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
m and p-Xylene	µg/l	3	<1	<1	<1	<1	<1	<1	<1
MTBE	µg/l	3	<1	<1	<1	<1	<1	<1	<1
Naphthalene	µg/l	-	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/l	3	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Propylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/l	-	<5	<5	<5	<5	<5	<5	<5
Toluene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
trans 1,2-Dichloroethene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
trans 1,3-Dichloropropene	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/l	-	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	µg/l	-	<1	<1	<1	<1	<1	<1	<1
Acetic acid	mg/l	-	<10	<10	<10	<10	<10	<10	<10
Propionic acid	mg/l	-	<10	<10	<10	<10	<10	<10	<10
n-Isobutyric acid	mg/l	-	<10	<10	<10	<10	<10	<10	<10
Isovaleric acid	mg/l	-	<10	<10	<10	<10	<10	<10	<10
n-Valeric acid	mg/l	-	<10	<10	<10	<10	<10	<10	<10
Isocaproic acid	mg/l	-	<10	<10	<10	<10	<10	<10	<10
n-Caproic acid	mg/l	-	<20	<20	<20	<20	<20	<20	<20
Heptanoic acid	mg/l	-	<20	<20	<20	<20	<20	<20	<20

*in absence of MRV the World Health Organisation (WHO) guide values are used

 Exceeding criteria

Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
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Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Comments	
0.2	0.4	0.3	0.6	0.6	1.5							Red Valve, 25.5m depth	GMW2
0	0	0	0.1	0.1	0.3							Yellow Valve,14m depth	
0	0	0.2	8.4	2.6	0.1							White Valve, 4m depth	
-	-	-	-	-	-	-	-	-	-	-	-	Trigger Levels	
-	-	-	-	-	-	-	-	-	-	-	-	Control Levels	
1.5												Trigger Level Red	
4.3												Trigger Level Yellow	
12.1												Trigger Level White	
1												Control Level Red	
3.8												Control Level Yellow	
11.6												Control Level White	
0.5	0.1	0.4	1	3.8	0.7							Red Valve, 19m depth	GMW3
0.3	0.2	0.1	0.2	0.8	0.15							Yellow Valve,9m depth	
0.8	0.8	1.2	0.2	1.1	0.7							White Valve, 3.5m depth	
-	-	-	-	-	-	-	-	-	-	-	-	Trigger Levels	
-	-	-	-	-	-	-	-	-	-	-	-	Control Levels	
7.3												Trigger Level Red	
2.67												Trigger Level Yellow	
24.02												Trigger Level White	
6.8												Control Level Red	
2.17												Control Level Yellow	
23.5												Control Level White	
1.5	2.1	2.1	2.7	1.8	2.4							Red Valve, 30m depth	GMW4
0	0.1	0.1	0.2	0.3	0.1							Yellow Valve,20m depth	
0	0	0	nt	0	0							White Valve, 5m depth	
-	-	-	-	-	-	-	-	-	-	-	-	Trigger Levels	
-	-	-	-	-	-	-	-	-	-	-	-	Control Levels	
1.5												Trigger Level Red	
4.3												Trigger Level Yellow	
12.1												Trigger Level White	
1												Control Level Red	
3.8												Control Level Yellow	
11.6												Control Level White	
4	4.9	5.2	5.2	5	5.2							Red Valve, 26.3m depth	GMW5
0.2	0.2	0.5	0.3	0.4	0.4							Yellow Valve,15m depth	
2.5	2.6	3.2	3.6	2.4	3.4							White Valve, 5m depth	
-	-	-	-	-	-	-	-	-	-	-	-	Trigger Levels	
-	-	-	-	-	-	-	-	-	-	-	-	Control Levels	
8.48												Trigger Level Red	
4.1												Trigger Level Yellow	
4.8												Trigger Level White	
7.98												Control Level Red	
3.6												Control Level Yellow	
4.3												Control Level White	
2.5	2.9	2.9	2.7	2.7	4							Red Valve, 26.3m depth	GMW6
2.5	3.3	2.8	2.4	2.1	1.5							Yellow Valve,15m depth	
1.3	1.4	1.5	1.6	1.5	1.9							White Valve, 5m depth	
-	-	-	-	-	-	-	-	-	-	-	-	Trigger Levels	
-	-	-	-	-	-	-	-	-	-	-	-	Control Levels	
4.3												Trigger Level Red	
5												Trigger Level Yellow	
3.76												Trigger Level White	
3.8												Control Level Red	
4.5												Control Level Yellow	
3.26												Control Level White	

Table B5
Landfill Gas Monitoring Results

		METHANE (% by Volume)												CARBON DIOXIDE (% by Volume)													
Location	Valve	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Comments	
GMW7	Yellow Valve	0	0	0	0	0	0.1							0	0.2	0.1	0.2	0.3	0.5							Yellow Valve,12 depth	GMW7
	White Valve	damaged	damaged	damaged	0	nt	nt							damaged	damaged	damaged	0.2	nt	nt							White Valve, 5m depth	
	Trigger Levels	1												-												Trigger Levels	
	Control Levels	0.5												-												Control Levels	
	Trigger Level Yellow	-												1.8												Trigger Level Yellow	
	Trigger Level White	-												1.82												Trigger Level White	
	Control Level Yellow	-												1.3												Control Level Yellow	
	Control Level White	-												1.32												Control Level White	
GMW12	Red Valve	0	0	0	0	0.1	0							1.2	1.7	1	0.8	0.3	0.9							Red Valve, 26.3m depth	GMW12
	Yellow Valve	0	0	0	0	0.1	0							1.7	0.8	3.3	0.6	0.5	1.95							Yellow Valve,15m depth	
	White Valve	0	0	0	0	0.1	0							0.6	1.4	0.1	0.5	0.2	0.3							White Valve, 5m depth	
	Trigger Level Red	1.89												4.5												Trigger Level Red	
	Trigger Level Yellow	1												2.9												Trigger Level Yellow	
	Trigger Level White	1												5.5												Trigger Level White	
	Control Level Red	1.39												4												Control Level Red	
	Control Level Yellow	0.5												2.4												Control Level Yellow	
GMW13	Red Valve	0	0	1.1	0	0	0							1	1.1	1.1	1	1.2	1.05							Red Valve, 26.3m depth	GMW13
	Yellow Valve	0	0	0	0	0	0							2.7	2.8	2.6	5.6	6	4.1							Yellow Valve,15m depth	
	White Valve	0	0	0	0	0	0							1.6	1.9	1.1	1.4	2.4	1.25							White Valve, 5m depth	
	Trigger Level Red	1.14												7.9												Trigger Level Red	
	Trigger Level Yellow	1.2												6												Trigger Level Yellow	
	Trigger Level White	1												5.82												Trigger Level White	
	Control Level Red	0.64												7.4												Control Level Red	
	Control Level Yellow	0.7												5.5												Control Level Yellow	
GMW14/14A	Red Valve	0	0	0.9	0	0.1	0.1							1	0.7	20.8	0.6	0	0.1							Red Valve, 26.3m depth	GMW14/14A
	Yellow Valve	0	0	0.7	0	0.1	0.1							2.1	3.4	21.2	0.1	0	2.9							Yellow Valve,15m depth	
	White Valve	0	0	0.6	0	0.1	0.1							0.3	0.4	21.4	1.2	0	1.9							White Valve, 5m depth	
	Trigger Level Red	1												1.5												Trigger Level Red	
	Trigger Level Yellow	1.2												5.9												Trigger Level Yellow	
	Trigger Level White	1.2												5.4												Trigger Level White	
	Control Level Red	0.5												1												Control Level Red	
	Control Level Yellow	0.7												5.4												Control Level Yellow	
GMW17**	Red Valve	0	0	1.5	0	0	0							0.7	0	15.9	1.3	1.2	1							Red Valve, 26.3m depth	GMW17**
	Yellow Valve	0	0	5.4	0	0	0.1							5.2	5.3	10.7	5.7	5.6	5.2							Yellow Valve,15m depth	
	White Valve	0	0	3.5	0	0	0.1							3.6	4	17.5	3.9	3.5	3.7							White Valve, 5m depth	
	Yellow Valve	0	0	0	0	nt	0							0	0.2	21.6	2	nt	1							Yellow Valve,12 depth	
	White Valve	0	0	6	0	0	0							5.4	5.4	17.2	5.3	5.4	4.2							White Valve, 5m depth	
	Yellow Valve	0	0	0	0	0	0							0	0.2	21.6	2	nt	1							Yellow Valve,12 depth	
	White Valve	0	0	6	0	0	0							5.4	5.4	17.2	5.3	5.4	4.2							White Valve, 5m depth	
	White Valve	0	0	6	0	0	0							5.4	5.4	17.2	5.3	5.4	4.2							White Valve, 5m depth	

Notes:
1. Water denotes 'water in well - reading abandoned'.
2. NT denotes 'reading not taken'.
3. NT in GMW14 is due to cattle quarantine paddock around well location.
4. Where the asterisc (*) is present, no trigger levels have been set, as high levels of methane and carbon dioxide gas are recorded. This is likely to be associated with the presence of bog/marshland.
5. Where two asteriscs (**) are present, no trigger levels have been set, as not require by the Permit (Reference [2]).
ntc - reading not taken due to cattle presence at location of the well
Exceedance of Trigger
Exceedance of Control

Date	BH1		BH2		BH3		BH4		Water column (m)			
	Water level depth (m)	Well depth to base (m)	Water level depth (m)	Well depth to base(m)	Water level depth (m)	Well depth to base (m)	Water level depth (m)	Well depth to base (m)	BH1	BH2	BH3	BH4
21/11/2019	18.24	20.05	6.11	8.72	4.51	6.77	9.89	10.12	1.81	2.61	2.26	0.23
05/12/2019	18.31	20.05	6.26	8.70	4.44	6.75	9.86	10.12	1.74	2.44	2.31	0.26
13/12/2019	18.28	20.04	6.26	8.70	4.57	6.76	9.91	10.11	1.76	2.44	2.19	0.20
17/12/2019	18.28	20.04	6.19	8.70	4.49	6.76	9.90	10.11	1.76	2.51	2.27	0.21
14/01/2020	18.32	20.04	6.21	8.70	4.45	6.76	9.79	10.12	1.72	2.49	2.31	0.33
23/01/2020	18.38	20.04	6.19	8.70	4.42	6.76	9.76	10.12	1.66	2.51	2.34	0.36
30/01/2020	18.33	20.04	6.27	8.72	4.57	6.77	9.86	10.12	1.71	2.45	2.20	0.26
07/02/2020	18.40	20.04	6.40	8.72	4.44	6.77	9.88	10.12	1.64	2.32	2.33	0.24
17/02/2020	18.37	20.04	6.14	8.72	4.48	6.77	9.95	10.12	1.67	2.58	2.29	0.17
24/03/2020	18.19	20.04	6.22	8.72	4.44	6.77	9.72	10.12	1.85	2.50	2.33	0.40
24/04/2020	18.20	20.03	7.08	8.71	4.73	6.77	9.93	10.12	1.83	1.63	2.04	0.19
30/04/2020	18.14	20.03	7.00	8.71	4.69	6.77	9.95	10.12	1.89	1.71	2.08	0.17
07/05/2020	18.16	20.03	7.02	8.71	4.60	6.77	9.94	10.12	1.87	1.69	2.17	0.18
14/05/2020	18.14	20.03	7.13	8.71	4.77	6.77	10.01	10.12	1.89	1.58	2.00	0.11
27/05/2020	18.08	20.03	7.15	8.71	4.80	6.77	10.00	10.12	1.95	1.56	1.97	0.12
04/06/2020	18.08	20.09	7.20	8.72	4.90	6.77	10.05	10.12	2.01	1.52	1.87	0.07
16/06/2020	18.07	20.04	7.24	8.73	4.94	6.77	10.02	10.13	1.97	1.49	1.83	0.11
26/06/2020	18.12	20.09	7.51	8.72	5.00	6.77	10.04	10.12	1.97	1.21	1.77	0.08
03/07/2020	18.09	20.09	7.10	8.71	4.92	6.77	10.02	10.12	2.00	1.61	1.85	0.10
09/07/2020	18.07	20.04	7.41	8.72	4.96	6.77	10.04	10.12	1.97	1.31	1.81	0.08
23/07/2020	18.05	20.04	7.40	8.72	4.98	6.77	10.02	10.12	1.99	1.32	1.79	0.10
31/07/2020	18.06	20.04	7.13	8.72	4.94	6.77	10.02	10.14	1.98	1.59	1.83	0.12
07/08/2020	18.07	20.04	7.19	8.72	4.94	6.77	10.02	10.12	1.97	1.53	1.83	0.10
14/08/2020	18.19	20.04	7.67	8.72	5.03	6.77	10.06	10.12	1.85	1.05	1.74	0.06
20/08/2020	18.17	20.09	7.83	8.71	5.06	6.77	10.05	10.13	1.92	0.88	1.71	0.08
04/09/2020	18.18	20.04	6.99	8.72	4.85	6.77	10.02	10.12	1.86	1.73	1.92	0.10
11/09/2020	18.21	20.09	6.97	8.71	4.76	6.77	10.03	10.12	1.88	1.74	2.01	0.09
24/09/2020	18.10	20.09	6.98	8.71	4.92	6.77	10.02	10.12	1.99	1.73	1.85	0.10
08/10/2020	18.28	20.05	7.05	8.72	4.88	6.77	10.06	10.13	1.77	1.67	1.89	0.07
20/10/2020	18.29	20.05	6.92	8.72	4.81	6.77	10.01	10.12	1.76	1.80	1.96	0.11
30/10/2020	18.30	20.04	6.90	8.72	4.75	6.77	9.96	10.12	1.74	1.82	2.02	0.16
05/11/2020	18.26	20.04	6.94	8.71	4.80	6.77	9.97	10.12	1.78	1.77	1.97	0.15
12/11/2020	18.30	20.04	6.92	8.72	4.82	6.77	9.98	10.13	1.74	1.80	1.95	0.15
18/11/2020	18.32	20.04	6.12	8.72	4.63	6.77	9.93	10.13	1.72	2.60	2.14	0.20
26/11/2020	18.37	20.04	6.22	8.72	4.58	6.77	9.99	10.12	1.67	2.50	2.19	0.13
10/12/2020	18.37	20.04	6.43	8.72	4.59	6.77	9.98	10.12	1.67	2.29	2.18	0.14
17/12/2020	18.30	20.04	6.21	8.72	4.50	6.77	9.98	10.12	1.74	2.51	2.27	0.14
24/12/2020	18.33	20.04	5.68	8.72	4.45	6.77	9.82	10.12	1.71	3.04	2.32	0.30
06/01/2021	18.35	20.06	5.97	8.72	4.45	6.77	9.90	10.12	1.71	2.75	2.32	0.22
18/01/2021	18.30	20.02	5.97	8.72	4.40	6.77	9.98	10.12	1.72	2.75	2.37	0.14
21/01/2021	18.42	20.03	6.37	8.70	4.56	6.76	9.93	10.12	1.61	2.33	2.20	0.19
28/01/2021	18.32	20.04	5.90	8.70	4.53	6.77	9.97	10.12	1.72	2.80	2.24	0.15
02/02/2021	18.30	20.04	6.00	8.70	4.47	6.77	9.97	10.12	1.74	2.70	2.30	0.15
18/02/2021	18.49	20.04	6.37	8.72	4.53	6.77	9.92	10.13	1.55	2.35	2.24	0.21
26/02/2021	18.35	20.02	6.00	8.70	4.48	6.77	9.77	10.11	1.67	2.70	2.29	0.34
03/03/2021	18.43	20.02	6.09	8.70	4.45	6.77	9.79	10.11	1.59	2.61	2.32	0.32
11/03/2021	18.50	20.02	6.55	8.71	4.49	6.77	9.89	10.12	1.52	2.16	2.28	0.23
22/03/2021	18.49	20.03	6.55	8.70	4.52	6.77	9.94	10.11	1.54	2.15	2.25	0.17
26/05/2021	18.40	20.04	6.98	8.72	4.82	6.77	10.02	10.13	1.64	1.74	1.95	0.11
08/06/2021	18.28	20.04	6.64	8.71	4.58	6.77	9.92	10.12	1.76	2.07	2.19	0.20
23/06/2021	19.32	20.04	7.02	8.71	4.80	6.77	10.07	10.12	0.72	1.69	1.97	0.05
11/08/2021	18.87	20.02	7.92	8.68	4.79	6.75	10.09	10.11	1.15	0.76	1.96	0.02
18/08/2021	18.51	20.02	7.10	8.72	4.65	6.75	10.09	10.12	1.51	1.62	2.10	0.03
19/11/2021	18.37	20.03	6.70	8.69	4.67	6.76	10.09	10.11	1.66	1.99	2.09	0.02
25/11/2021	18.48	20.03	7.01	8.72	4.98	6.74	10.11	10.12	1.55	1.71	1.76	0.01
01/12/2021	18.49	20.02	6.79	8.67	4.65	6.74	10.08	10.12	1.53	1.88	2.09	0.04
17/12/2021	18.50	20.02	6.64	8.68	4.70	6.74	10.11	10.12	1.52	2.04	2.04	0.01
30/12/2021	18.39	20.03	6.85	8.71	4.71	6.73	10.09	10.13	1.64	1.86	2.02	0.04
07/01/2022	18.35	20.03	6.65	8.71	4.59	6.73	10.09	10.12	1.68	2.06	2.14	0.03
14/01/2022	18.38	20.03	7.10	8.71	4.21	6.73	10.10	10.12	1.65	1.61	2.52	0.02
24/01/2022	18.41	20.02	7.95	8.71	4.01	6.73	10.10	10.12	1.61	0.76	2.72	0.02
04/02/2022	18.81	20.02	7.83	8.72	4.50	6.74	10.10	10.12	1.21	0.89	2.24	0.02
11/02/2022	18.82	20.03	7.75	8.72	4.51	6.74	10.10	10.12	1.21	0.97	2.23	0.02
18/02/2022	18.73	20.03	7.90	8.72	4.40	6.74	10.10	10.12	1.30	0.82	2.34	0.02
25/02/2022	18.75	20.02	8.10	8.72	4.35	6.74	10.1	10.12	1.27	0.62	2.39	0.02
04/03/2022	18.65	20.03	8.06	8.72	4.20	6.74	10.11	10.13	1.38	0.66	2.54	0.02
11/03/2022	18.75	20.03	7.84	8.72	4.35	6.74	10.09	10.13	1.28	0.88	2.39	0.04
14/03/2022	18.73	20.02	7.68	8.73	4.45	6.74	10.09	10.11	1.29	1.05	2.29	0.02
24/03/2022	18.81	20.03	7.41	8.71	4.61	6.76	10.11	10.12	1.22	1.30	2.15	0.01

Date	BH1		BH2		BH3		BH4		Water column (m)			
	Water level depth (m)	Well depth to base (m)	Water level depth (m)	Well depth to base(m)	Water level depth (m)	Well depth to base (m)	Water level depth (m)	Well depth to base (m)	BH1	BH2	BH3	BH4
01/04/2022	18.71	20.03	7.38	8.71	4.60	6.75	10.11	10.12	1.32	1.33	2.15	0.01
08/04/2022	18.48	20.03	7.10	8.7	4.54	6.74	10.1	10.12	1.55	1.60	2.20	0.02
18/04/2022	18.44	20.02	7.45	8.71	4.48	6.74	10.09	10.12	1.58	1.26	2.26	0.03
27/04/2022	18.55	20.02	7.58	8.72	4.10	6.74	10.09	10.11	1.47	1.14	2.64	0.02
06/05/2022	18.60	20.02	7.90	8.72	4.11	6.75	10.07	10.11	1.42	0.82	2.64	0.04
13/05/2022	18.65	20.03	7.99	8.72	4.20	6.75	10.05	10.12	1.38	0.73	2.55	0.07
20/05/2022	18.66	20.03	7.81	8.72	4.21	6.74	10.07	10.12	1.37	0.91	2.53	0.05
26/05/2022	18.55	20.03	7.71	8.72	4.12	6.74	10.09	10.12	1.48	1.01	2.62	0.03
31/05/2022	18.53	20.03	8.34	8.72	4.06	6.74	10.11	10.13	1.50	0.38	2.68	0.02
03/06/2022	18.65	20.02	8.19	8.72	4.20	6.74	10.11	10.12	1.37	0.53	2.54	0.01
10/06/2022	18.88	20.03	7.99	8.71	4.40	6.76	10.11	10.13	1.15	0.72	2.36	0.02
20/06/2022	18.88	20.03	7.95	8.71	4.45	6.75	10.09	10.12	1.15	0.76	2.30	0.03
27/06/2022	18.87	20.02	7.90	8.70	4.55	6.74	10.09	10.12	1.15	0.80	2.19	0.03
07/07/2022	18.91	20.03	7.91	8.70	4.57	6.74	10.01	10.12	1.12	0.79	2.17	0.11
13/07/2022	18.90	20.03	7.57	8.72	4.62	6.74	10.11	10.13	1.13	1.15	2.12	0.02
20/07/2022	18.91	20.03	7.60	8.72	4.51	6.74	10.10	10.13	1.12	1.12	2.23	0.03
29/07/2022	18.80	20.03	7.80	8.72	4.07	6.74	10.08	10.13	1.23	0.92	2.67	0.05
05/08/2022	18.92	20.03	8.10	8.72	4.75	6.74	10.09	10.13	1.11	0.62	1.99	0.04
11/08/2022	18.95	20.02	8.39	8.71	5.20	6.74	10.11	10.13	1.07	0.32	1.54	0.02
19/08/2022	18.92	20.02	8.42	8.71	5.20	6.74	10.10	10.13	1.10	0.29	1.54	0.03
26/08/2022	18.91	20.02	8.46	8.72	5.21	6.74	10.09	10.12	1.11	0.26	1.53	0.03
02/09/2022	18.93	20.02	8.49	8.72	5.21	6.74	10.09	10.13	1.09	0.23	1.53	0.04
09/09/2022	18.97	20.03	8.69	8.71	5.52	6.74	10.09	10.18	1.06	0.02	1.22	0.09
16/09/2022	18.90	20.03	8.71	8.71	5.53	6.74	10.11	10.14	1.13	0.00	1.21	0.03
22/09/2022	18.91	20.02	8.71	8.71	5.53	6.74	10.10	10.12	1.11	0.00	1.21	0.02
07/10/2022	18.90	20.02	8.71	8.71	5.58	6.74	10.10	10.12	1.12	0.00	1.16	0.02
14/10/2022	18.92	20.03	8.68	8.68	5.56	6.76	10.11	10.13	1.11	0.00	1.20	0.02
27/10/2022	18.92	20.02	8.68	8.68	5.61	6.76	9.98	10.13	1.10	0.00	1.15	0.15
03/11/2022	18.82	20.02	8.24	8.68	4.97	6.76	9.97	10.12	1.20	0.44	1.79	0.15
11/11/2022	18.80	20.01	8.40	8.65	4.97	6.76	9.98	10.12	1.21	0.25	1.79	0.14
24/11/2022	18.95	20.01	8.36	8.67	5.10	6.76	9.97	10.13	1.06	0.31	1.66	0.16
30/11/2022	18.64	20.01	8.69	8.70	4.56	6.76	10.01	10.13	1.37	0.01	2.20	0.12
08/12/2022	18.60	20.01	8.61	8.68	4.97	6.77	9.99	10.12	1.41	0.07	1.80	0.13
16/12/2022	18.82	20.03	7.80	8.67	4.67	6.75	9.98	10.12	1.21	0.87	2.08	0.14
23/12/2022	18.82	20.02	7.87	8.67	4.63	6.77	9.97	10.12	1.20	0.80	2.14	0.15
30/12/2022	18.65	20.02	7.81	8.62	4.51	6.76	9.90	10.13	1.37	0.81	2.25	0.23
06/01/2023	18.70	20.02	7.81	8.68	4.51	6.76	9.91	10.12	1.32	0.87	2.25	0.21
12/01/2023	18.60	20.02	7.50	8.68	4.55	6.76	9.90	10.12	1.42	1.18	2.21	0.22
20/01/2023	18.50	20.03	7.10	8.68	4.20	6.76	9.89	10.13	1.53	1.58	2.56	0.24
27/01/2023	18.55	20.03	7.10	8.68	4.46	6.76	9.98	10.12	1.48	1.58	2.30	0.14
01/02/2023	18.80	20.03	7.19	8.68	4.70	6.76	9.80	10.12	1.23	1.49	2.06	0.32
17/02/2023	18.87	20.02	7.91	8.68	4.80	6.76	9.88	10.12	1.15	0.77	1.96	0.24
21/02/2023	18.81	20.03	7.90	8.66	4.80	6.77	9.99	10.12	1.22	0.76	1.97	0.13
03/03/2023	18.91	20.02	8.30	8.68	5.08	6.76	9.95	10.11	1.11	0.38	1.68	0.16
09/03/2023	18.75	20.03	7.90	8.67	4.88	6.77	9.94	10.11	1.28	0.77	1.89	0.17
16/03/2023	18.80	20.03	7.90	8.67	4.85	6.77	9.91	10.12	1.23	0.77	1.92	0.21
23/03/2023	18.60	20.03	7.90	8.68	4.80	6.74	9.90	10.13	1.43	0.78	1.94	0.23
30/03/2023	18.62	20.02	7.80	8.68	4.64	6.74	9.89	10.12	1.40	0.88	2.10	0.23
07/04/2023	18.45	20.03	6.83	8.67	4.52	6.74	9.92	10.13	1.58	1.84	2.22	0.21
14/04/2023	18.59	20.02	6.92	8.67	4.55	6.74	9.92	10.12	1.43	1.75	2.19	0.20
21/04/2023	18.61	20.02	7.15	8.62	4.52	6.74	9.96	10.12	1.41	1.47	2.22	0.16
12/05/2023	18.56	20.08	7.96	8.66	4.70	6.74	9.99	10.12	1.52	0.70	2.04	0.13
19/05/2023	18.51	19.98	7.80	8.69	4.71	6.74	9.99	10.95	1.47	0.89	2.03	0.96
26/05/2023	18.53	20.02	7.85	8.68	4.83	6.74	9.90	10.13	1.49	0.83	1.91	0.23
02/06/2023	18.48	20.03	7.91	8.68	4.86	6.76	9.93	10.13	1.55	0.77	1.90	0.20
09/06/2023	18.59	20.02	7.98	8.77	4.84	6.74	9.95	10.12	1.43	0.79	1.90	0.17
16/06/2023	18.62	20.02	7.98	8.77	4.84	6.74	9.95	10.12	1.40	0.79	1.90	0.17
21/06/2023	18.60	20.03	7.86	8.68	4.89	6.74	9.90	10.12	1.43	0.82	1.85	0.22
30/06/2023	18.65	20.02	7.85	8.69	4.85	6.74	9.94	10.13	1.37	0.84	1.89	0.19
07/07/2023	18.65	20.02	7.85	8.69	4.85	6.74	9.94	10.13	1.37	0.84	1.89	0.19
13/07/2023	18.61	20.02	7.90	8.69	4.80	6.74	9.98	10.13	1.41	0.79	1.94	0.15
20/07/2023	18.51	20.02	8.59	8.70	5.33	6.75	10.08	10.14	1.51	0.11	1.42	0.06
28/07/2023	18.60	20.01	8.10	8.69	5.31	6.74	10.09	10.13	1.41	0.59	1.43	0.04
04/08/2023	18.57	20.01	8.60	8.71	5.23	6.74	10.07	10.10	1.44	0.11	1.51	0.03
10/08/2023	18.70	20.02	7.79	8.69	4.98	6.72	10.01	10.13	1.32	0.90	1.74	0.12
17/08/2023	18.60	20.01	7.79	8.69	4.98	6.72	10.01	10.13	1.41	0.90	1.74	0.12
23/08/2023	18.56	20.01	7.80	8.67	4.92	6.74	9.96	10.12	1.45	0.87	1.82	0.16
31/08/2023	18.49	20.01	8.35	8.67	4.95	6.72	9.96	10.13	1.52	0.32	1.77	0.17
06/09/2023	18.49	20.01	8.35	8.67	4.95	6.72	9.96	10.13	1.52	0.32	1.77	0.17

Date	BH1		BH2		BH3		BH4		Water column (m)			
	Water level depth (m)	Well depth to base (m)	Water level depth (m)	Well depth to base(m)	Water level depth (m)	Well depth to base (m)	Water level depth (m)	Well depth to base (m)	BH1	BH2	BH3	BH4
13/09/2023	18.51	20.02	8.50	8.69	4.50	6.74	10.02	10.12	1.51	0.19	2.24	0.10
22/09/2023	18.62	20.02	8.52	8.69	5.15	6.73	10.03	10.12	1.40	0.17	1.58	0.09
27/09/2023	18.59	20.03	8.46	8.69	5.00	6.73	10.01	10.13	1.44	0.23	1.73	0.12
05/10/2023	18.50	20.02	7.49	8.69	4.80	6.73	10.01	10.12	1.52	1.20	1.93	0.11
12/10/2023	18.50	20.01	7.14	8.69	4.86	6.72	9.99	10.12	1.51	1.55	1.86	0.13
19/10/2023	18.52	20.01	7.14	8.61	4.30	6.72	9.99	10.13	1.49	1.47	2.42	0.14
23/10/2023	18.60	20.01	7.40	8.69	4.82	6.72	9.98	10.12	1.41	1.29	1.90	0.14
31/10/2023	18.49	20.03	6.91	8.69	4.88	6.73	10.01	10.13	1.54	1.78	1.85	0.12
08/11/2023	18.48	20.03	6.67	8.69	4.62	6.73	9.96	10.13	1.55	2.02	2.11	0.17
15/11/2023	18.50	20.03	6.70	8.69	4.68	6.73	9.99	10.13	1.53	1.99	2.05	0.14
23/11/2023	18.48	20.02	6.80	8.69	4.68	6.72	9.98	10.12	1.54	1.89	2.04	0.14
30/11/2023	18.51	20.02	6.72	8.67	4.70	6.73	10.10	10.13	1.51	1.95	2.03	0.03
07/12/2023	18.51	20.03	6.81	8.89	4.66	6.72	10.02	10.12	1.52	2.08	2.06	0.10
14/12/2023	18.48	20.02	7.10	8.68	4.58	6.73	9.97	10.12	1.54	1.58	2.15	0.15
18/12/2023	18.42	20.00	7.16	8.68	4.41	6.75	10.00	10.10	1.58	1.52	2.34	0.10
29/12/2023	18.43	20.03	7.01	8.68	4.50	6.75	9.98	10.12	1.60	1.67	2.25	0.14
05/01/2024	18.46	20.02	6.45	8.69	4.44	6.73	9.99	10.12	1.56	2.24	2.29	0.13
12/01/2024	18.39	20.02	6.56	8.68	4.27	6.74	9.90	10.10	1.63	2.12	2.47	0.20
19/01/2024	18.39	20.02	6.56	8.68	4.27	6.74	9.90	10.10	1.63	2.12	2.47	0.20
26/01/2024	18.46	20.03	7.01	8.69	4.58	6.74	9.98	10.12	1.57	1.68	2.16	0.14
02/02/2024	18.50	20.02	7.19	8.68	4.42	6.74	10.00	10.12	1.52	1.49	2.32	0.12
09/02/2024	18.51	20.02	7.27	8.68	4.60	6.74	10.10	10.12	1.51	1.41	2.14	0.02
16/02/2024	18.47	20.02	7.10	8.68	4.44	6.74	9.99	10.12	1.55	1.58	2.30	0.13
23/02/2024	18.46	20.03	6.75	8.68	4.46	6.74	9.97	10.12	1.57	1.93	2.28	0.15
01/03/2024	18.42	20.02	7.16	8.68	4.40	6.74	10.00	10.10	1.60	1.52	2.34	0.10
08/03/2024	18.39	20.03	6.92	8.68	4.36	6.74	9.94	10.13	1.64	1.76	2.38	0.19
15/03/2024	18.37	20.03	6.88	8.68	4.38	6.74	9.95	10.13	1.66	1.80	2.36	0.18
22/03/2024	18.40	20.03	6.99	8.68	4.41	6.74	9.90	10.02	1.63	1.69	2.33	0.12
29/03/2024	18.05	20.03	6.90	8.68	4.29	6.72	9.98	10.03	1.98	1.78	2.43	0.05
04/04/2024	18.20	20.03	6.98	8.67	4.20	6.72	9.99	10.12	1.83	1.69	2.52	0.13
22/04/2024	18.32	20.02	7.01	8.68	4.44	6.74	10.00	10.02	1.70	1.67	2.30	0.02
26/04/2024	18.35	20.03	7.12	8.68	4.44	6.72	9.99	10.03	1.68	1.56	2.28	0.04
03/05/2024	18.39	20.03	7.91	8.69	4.46	6.73	10.02	10.12	1.64	0.78	2.27	0.10
10/05/2024	18.32	20.03	7.69	8.69	4.52	6.73	10.10	10.12	1.71	1.00	2.21	0.02
17/05/2024	18.42	20.03	7.78	8.69	4.92	6.73	10.01	10.12	1.61	0.91	1.81	0.11
24/05/2024	18.41	20.03	7.93	8.69	4.68	6.73	10.05	10.12	1.62	0.76	2.05	0.07
30/05/2024	18.43	20.03	8.03	8.69	4.70	6.73	10.03	10.12	1.60	0.66	2.03	0.09
13/06/2024	18.41	20.03	8.43	8.69	4.77	6.73	10.05	10.12	1.62	0.26	1.96	0.07
20/06/2024	18.38	20.03	7.90	8.69	4.82	6.73	9.99	10.12	1.65	0.79	1.91	0.13
28/06/2024	18.40	20.03	7.76	8.69	4.90	6.73	10.01	10.12	1.63	0.93	1.83	0.11
05/07/2024	18.41	20.03	7.79	8.69	4.86	6.73	10.08	10.12	1.62	0.90	1.87	0.04