ARUP

Blaenau Gwent County Borough Council

Silent Valley Landfill

2025 First Quarter Monitoring Report

Reference: 4-50

Issue 01 | 30 April 2025

Job number 115825-00

Ove Arup & Partners Limited
Bedford House
3rd Floor
16-22 Bedford Street
Belfast BT2 7FD
United Kingdom
arup.com

ARUP

Document Verification

Project title	Silent Valley Landfill
Document title	2025 First Quarter Monitoring Report
Job number	115825-00
Document ref	4-50
File reference	GEO

Revision	Date				
Draft 01	25/04/2025	**Filename**	Silent Valley Q1 Monitoring Report 2025 Draft		
		Description	Draft for Issue		
			Prepared by	**Checked by**	**Approved by**
		Name	[redacted]		
		Signature			
Issue 01	30/04/2025	**Filename**	Silent Valley Q1 Monitoring Report 2025 Issue		
		Description	Issue		
			Prepared by	**Checked by**	**Approved by**
		Name	[redacted]		
		Signature			
		Filename			
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name			
		Signature			

Issue Document Verification with Document ✓

Contents

Appendices

1. Introduction

This 2025 First Quarter Monitoring Report presents the surface water, groundwater, landfill gas and leachate results for the monitoring undertaken in the period January to March 2025 in accordance with 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 2024 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:

- March recorded the highest rainfall for the quarter, with 205mm, matching the record set in March 2023. Since monitoring began in 2008, no other March has exceeded this total.
- February was the driest month of the quarter, recording 94.8mm, around average for this time of year in comparison to 2008-2024 records. Despite 13 days without rainfall, February also recorded the highest daily rainfall total on 23rd with 37.8mm.

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. If AMC levels are exceeded, contingency actions are triggered.

No quarterly average leachate levels exceeded the AMC therefore these wells are compliant with the permit.

2.2.2 Leachate Level Monitoring

Leachate head level monitoring results are presented in **Appendix A, Figure A2** and **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 not monitored 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.

It is noted this quarter that sulphate and calcium in all groundwater monitoring wells recorded concentrations below detection limits which is unusual for these determinants. Upon querying the results, the laboratory stated no errors were identified during reporting, however based on historical knowledge of the site and previous monitoring of concentrations, it is believed that these are laboratory reporting errors rather than actual groundwater changes.

Next quarter's results will be closely monitored to verify accuracy and ensure consistency in data reporting.

2.4.1.1 Upstream Groundwater Wells

The monitoring of upstream wells is undertaken to understand the groundwater quality upstream of the landfill. These wells provide insight to any potential contaminants that may originate from off-site sources, which may impact groundwater quality.

Wells GW3A and GW4

GW3A and GW4 monitor the sandstone strata classified as S3-East.

Both upstream wells are compliant, with the exception of manganese in GW4.

GW4 remains elevated above the assessment level of 1.0mg/l for manganese (1.71mg/l) but the concentration has decreased from last quarter (2.12mg/l). Considering GW3 and GW4 are upstream, these groundwater wells are monitoring 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 2024 and 2025.

Wells GW6 and GW7

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

Both GW6 and GW7 are compliant for manganese this quarter. Historically manganese has fluctuated in GW7 and is considered to be impacted by the upstream GW4, in addition GW6 has also returned to compliancy after exceeding the last two quarters of 2024.

Well GW9

GW9 is installed in the sandstone strata classified as S2-East and continues to exceed the trigger level of 1.0mg/l for ammoniacal nitrogen (4.1mg/l). The well has recorded is an increase from the previous quarter however, ammoniacal nitrogen concentrations have been known to fluctuate in this well.

Numerous reports have been compiled regarding the non-compliance issue at GW9. These reports consistently indicate that there are no discernible environmental consequences resulting from this non-compliance.

GW9 continues to exceed assessment level of 1.0mg/l for manganese. This has increased from last quarter to a concentration of 1.62mg/l. Manganese in GW9 will be monitored closely on the receipt of next quarters findings.

Well GW10

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

GW10 has continued to exceed the assessment level of 1.0mg/l for manganese (2.31mg/l). The concentrations of manganese have continued to fluctuate in this well throughout 2023 and 2024.

Well GW12

GW12 has been installed in the sandstone strata classified as S2-West and has remained compliant this quarter.

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 2024 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 with exception to the following locations:

- GW13 red valve: singular exceedance of the control level 0.7%v/v in March (1.1%v/v). As per Golders 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”.
- GW14/14A yellow and white valves: exceeded trigger level of 1%v/v in the yellow valve (3.1%v/v) in March and the control level of 0.7%v/v in the white valve (0.75v/v) in March.

2.5.2 Carbon Dioxide

All monitoring wells remained compliant this quarter with exception of GMW3, GMW13 and GMW14/14A.

The exceedances throughout this quarter of both control and trigger levels include:

- GMW3 red valve: singular exceedance of the control level 6.8%v/v in February (7.1%v/v). The concentration returned to compliancy in March.
- GMW13 yellow valve: exceeded trigger level of 6%v/v in February (6.2%v/v) and March (6%v/v) after fluctuating throughout 2024. A technical note is currently being prepared on this exceedance and will be sent as a separate note.
- GMW14/14A all valves: exceeding red valve trigger level of 1.5%v/v in February (1.8%v/v) and March (20.4%v/v). Yellow valve trigger level of 5.9%v/v exceeded in March (16.5%v/v) and white valve trigger level of 5.4%v/v exceeded in March (19.3%v/v). This well continued to fluctuate throughout 2024. A gas chromatography note will be sent separately to this report.

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.

The first quarterly report of 2024 has noted the following:

- Downstream groundwater wells GW9 and GW10 are recording elevated manganese concentrations above the assessment level of 1.0mg/l. The leachate results within the landfill remain consistent with the 2024

results, showing no change in manganese concentrations. Typically, the upstream groundwater well (GW4) recorded elevated manganese concentrations from the steel works waste deposited to the north of the landfill and old mine workings in the area, it is assumed this is the source of the manganese in the downstream wells within the sandstone strata. In summary, the results indicate a potential off-site issue impacting the downstream groundwater, unrelated to the landfill.

- GW9 continues to exceed the ammoniacal nitrogen trigger level. Blaenau Gwent County Borough Council awaits a response regarding the review and approval of the IC1b report on groundwater and leachate pumping conclusions, which may result in disapplying the ammoniacal nitrogen limits for GW9. Numerous studies have been conducted previously concluding that ammoniacal nitrogen exceedances in GW9 do not have a discernible impact on environment.
- GMW13 and GMW14/14A have exceeded respective control and trigger levels for methane during the month of March. While singular exceedances do not need to be actioned, these will be closely monitored into the next quarter.
- Both GW13 and GW14/14A continue to fluctuate above respective control and trigger levels for carbon dioxide, a technical note on GW13 and a gas chromatography note for GMW14/14A will be submitted separately following this quarterly report.

References

[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, 2024 Annual and Fourth Quarter Monitoring Report, 31st January 2024.

[4] Arup, Silent Valley Landfill, Interim GW9 and Nant Merddog W, Issue May 2015.

[5] Arup, Silent Valley Landfill, Aftercare Phase Environmental and Infrastructure Monitoring Program, Issue June 2013.

[6] Arup, Silent Valley Landfill, Hydrogeological Risk Assessment, document reference 04/6363, November 2004.

[7] Arup, Silent Valley Landfill, Investigation into the Western Flank of the Cut-off System. Compliance Well GW9 and GW10, document reference 115825, August 2011.

[8] Environment Agency, Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water, report reference LFTGN02, June 2014.

[9] Arup, Silent Valley Landfill, Hydrogeological Risk Assessment (Supplementary Revision May 2009), document reference 09/7543, June 2009.

[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.

[12] Water Framework Directive - United Kingdom Technical Advisory Group (WFD-UKTAG), “Metal Bioavailability Assessment Tool (M-BAT),” 2014.

[13] Arup, Silent Valley Landfill, Hydrogeological Risk assessment, document reference 2019/9559, July 2019.

[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.

Appendix A: Monitoring Results - Graphs

Figure A1

Daily rainfall totals (January 2021- March 2025)

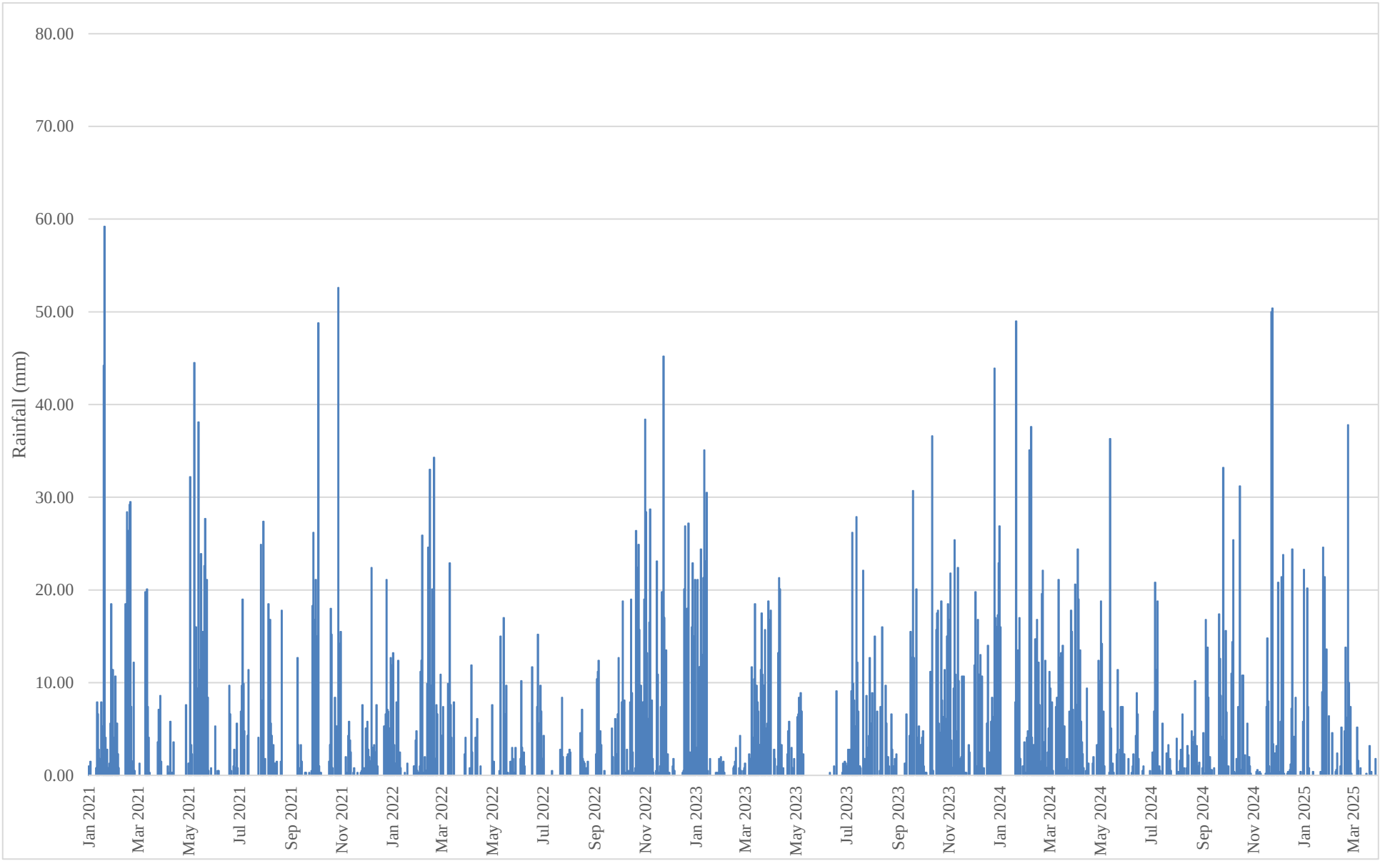
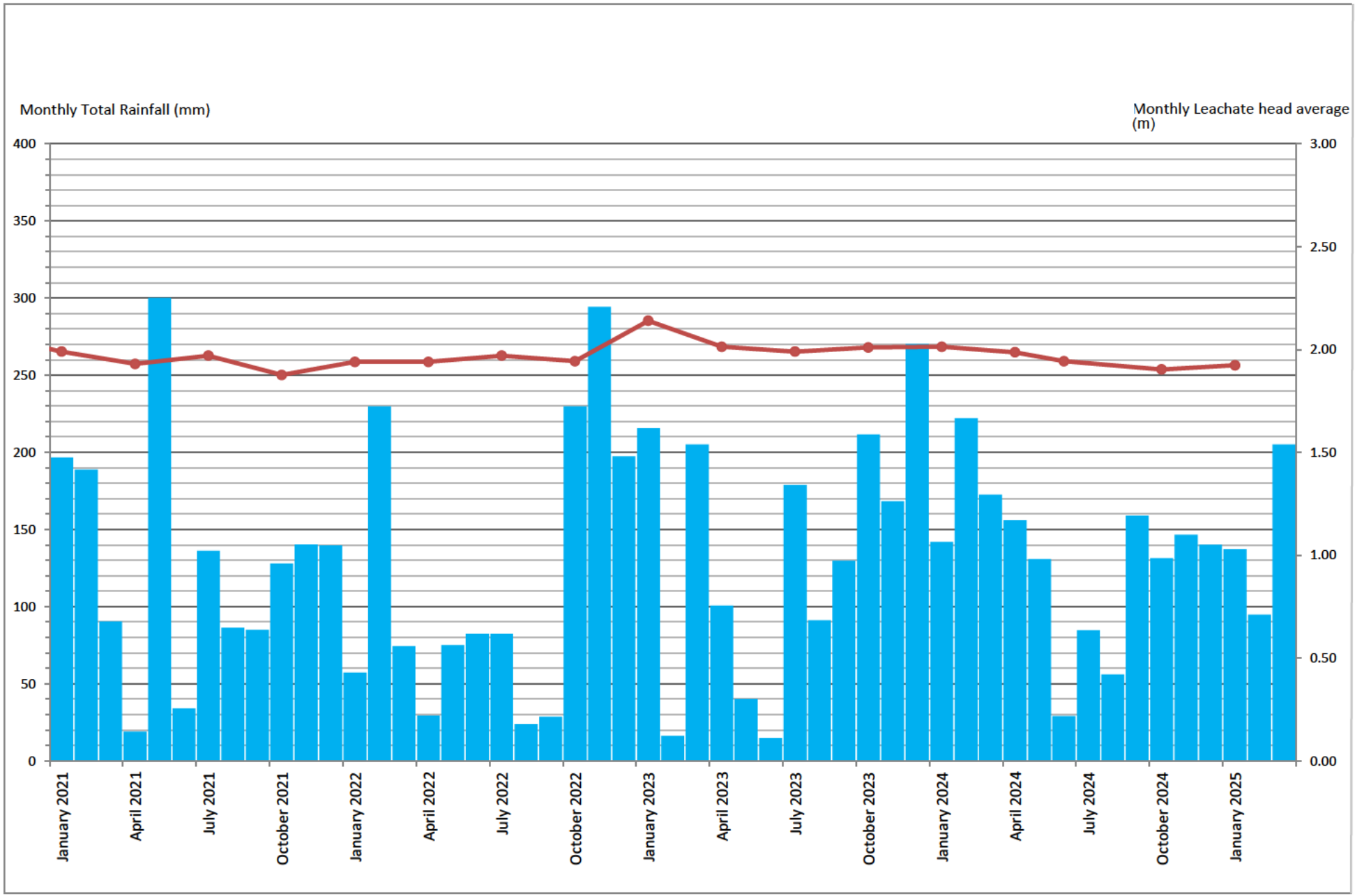
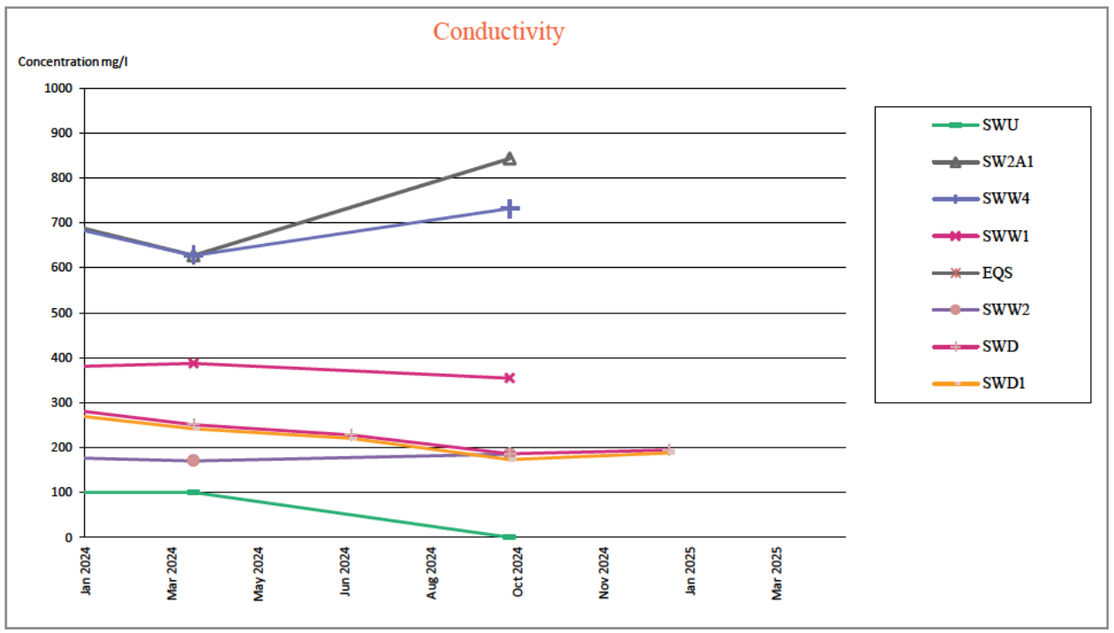


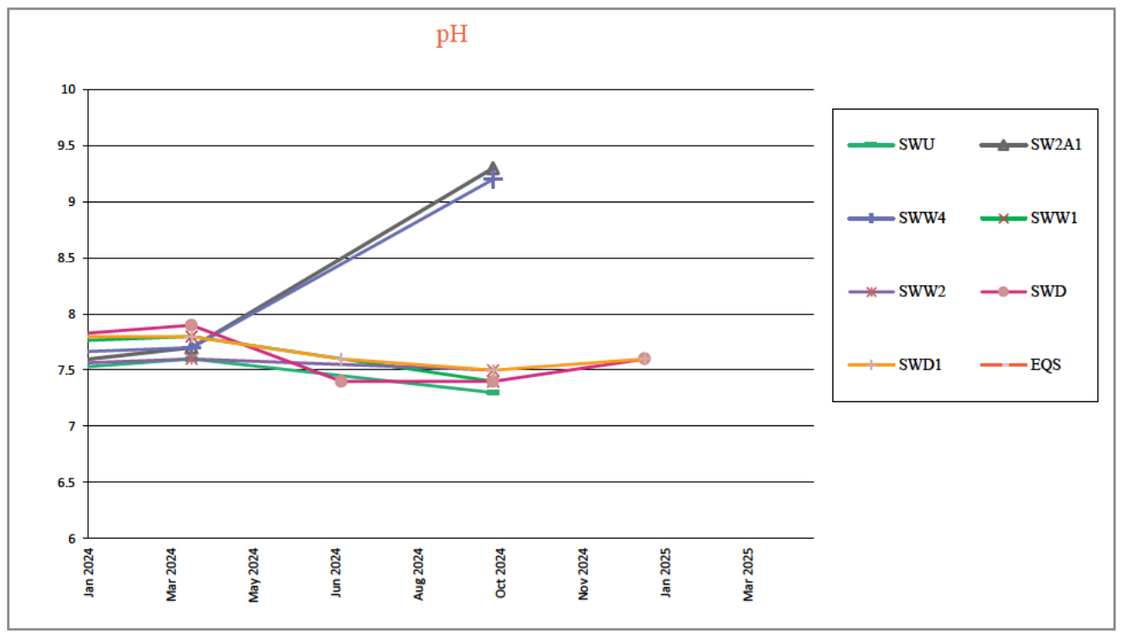
Figure A2

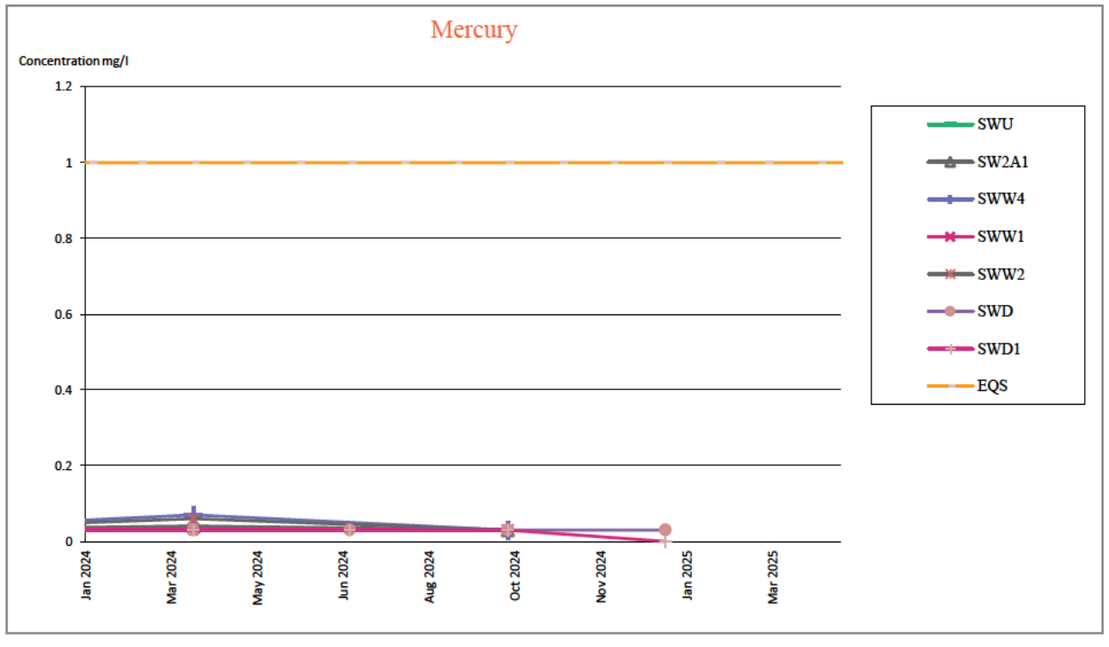
Monthly Rainfall Totals and Average Leachate Head Levels

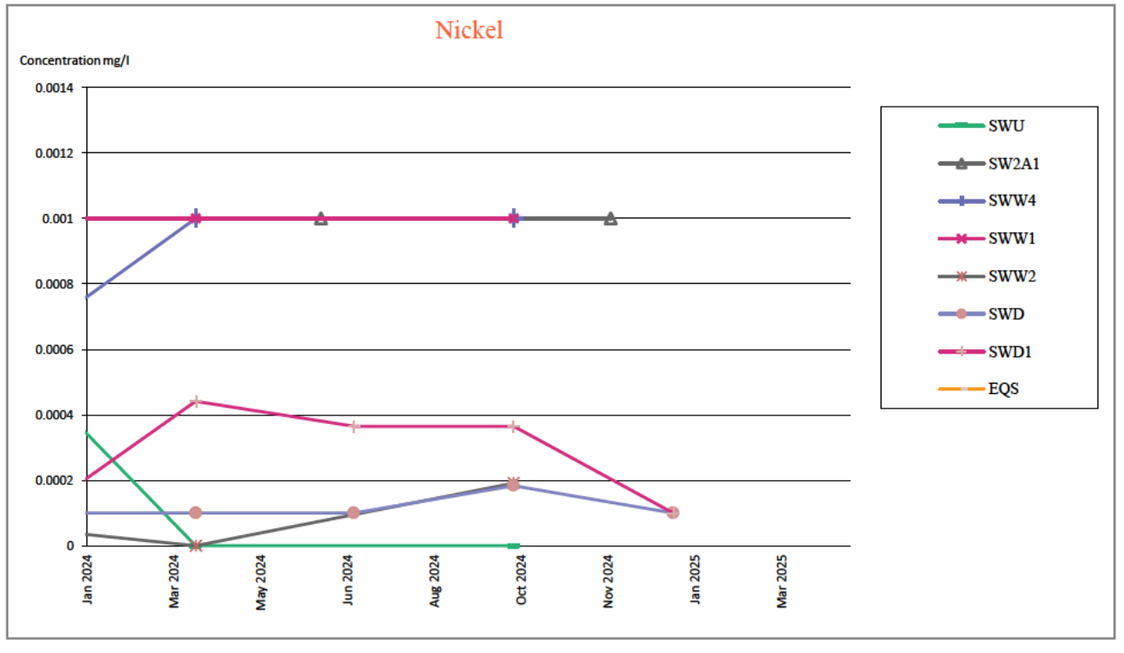


Surface water monitoring graphs

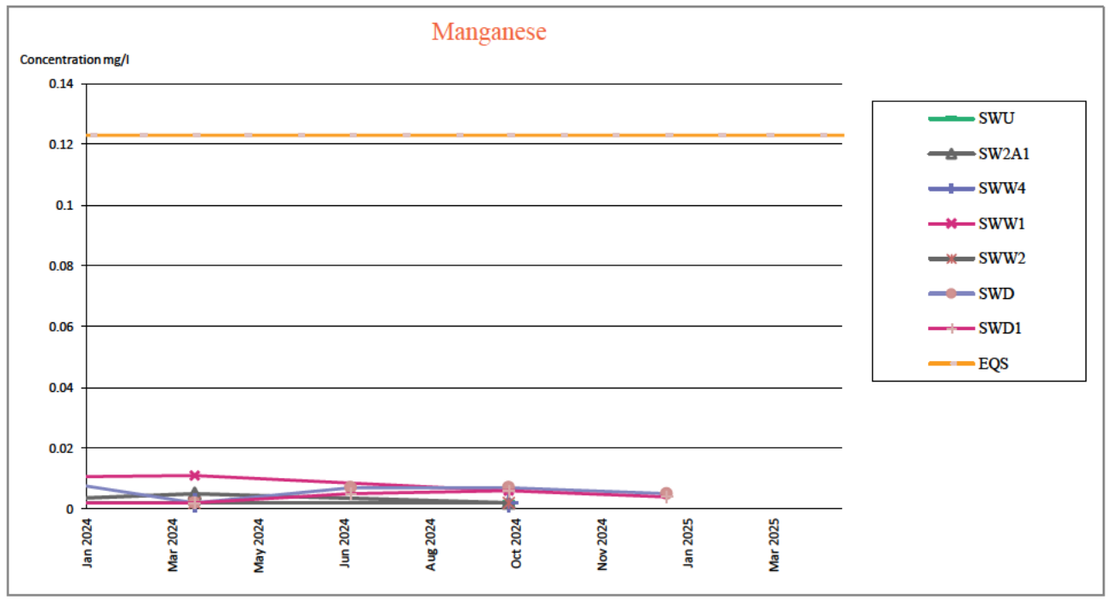


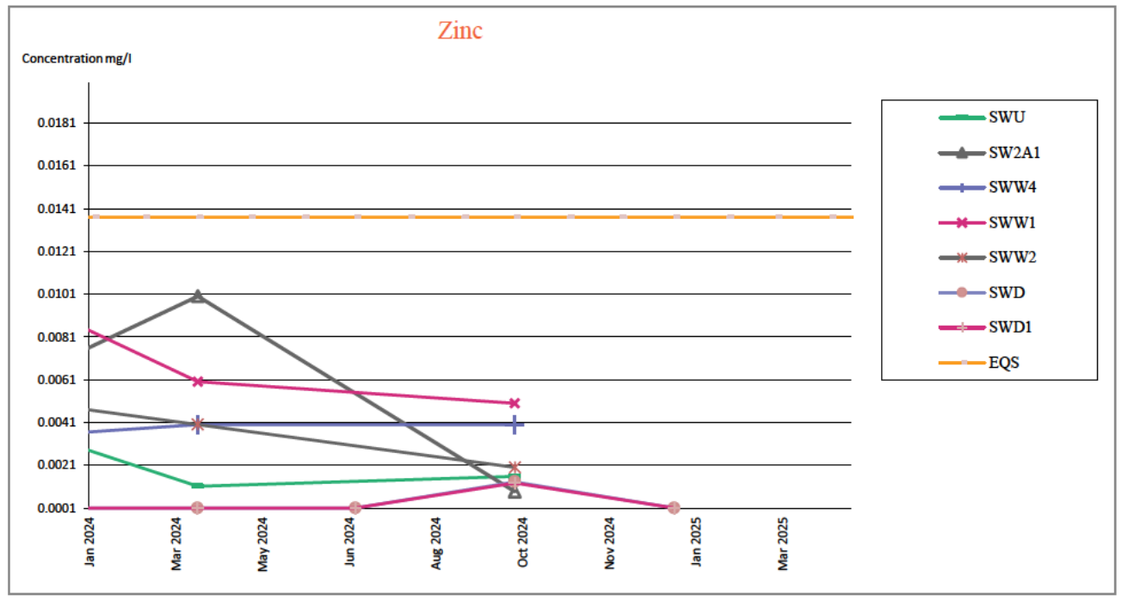


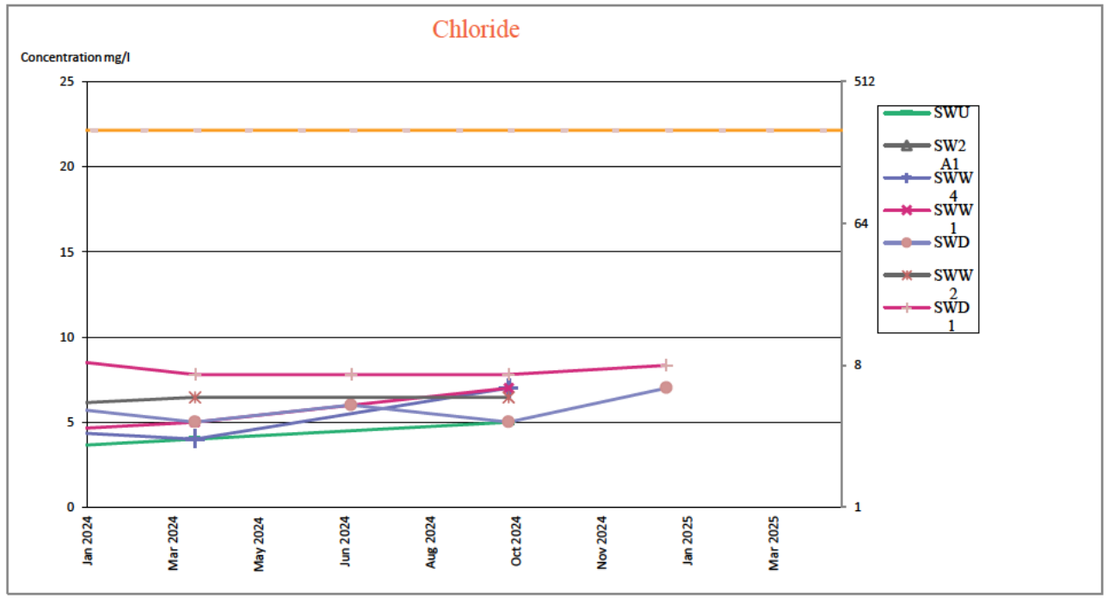




Surface water monitoring graphs







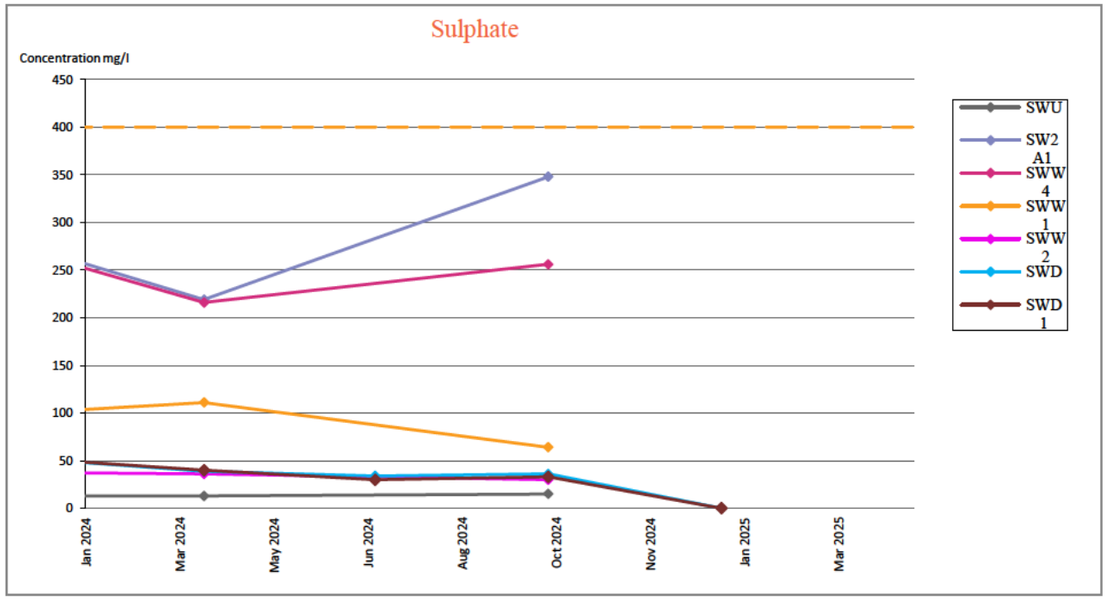
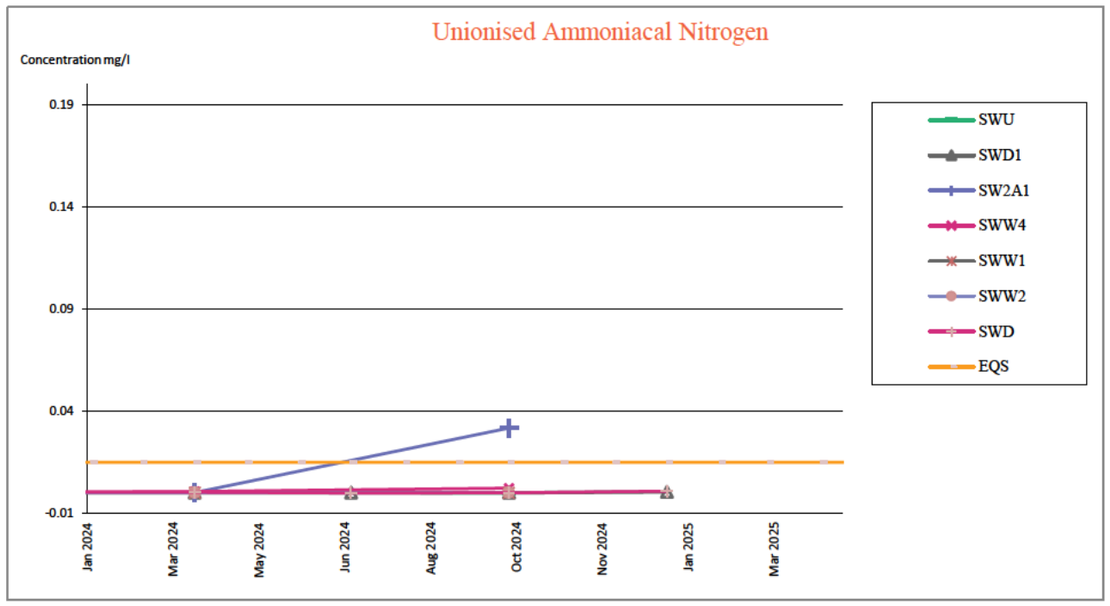
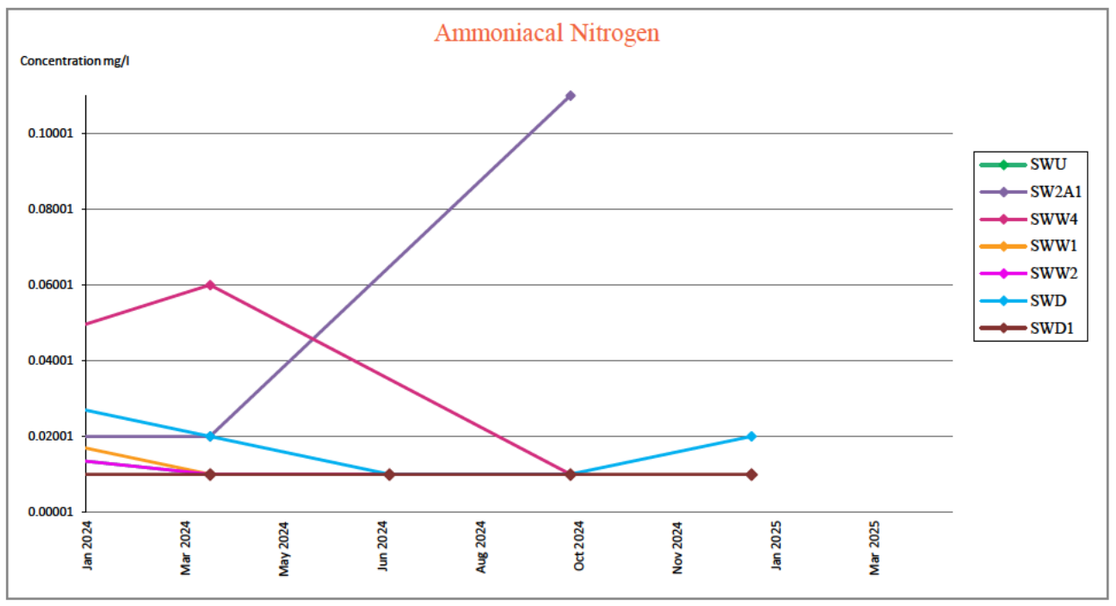


Figure A3

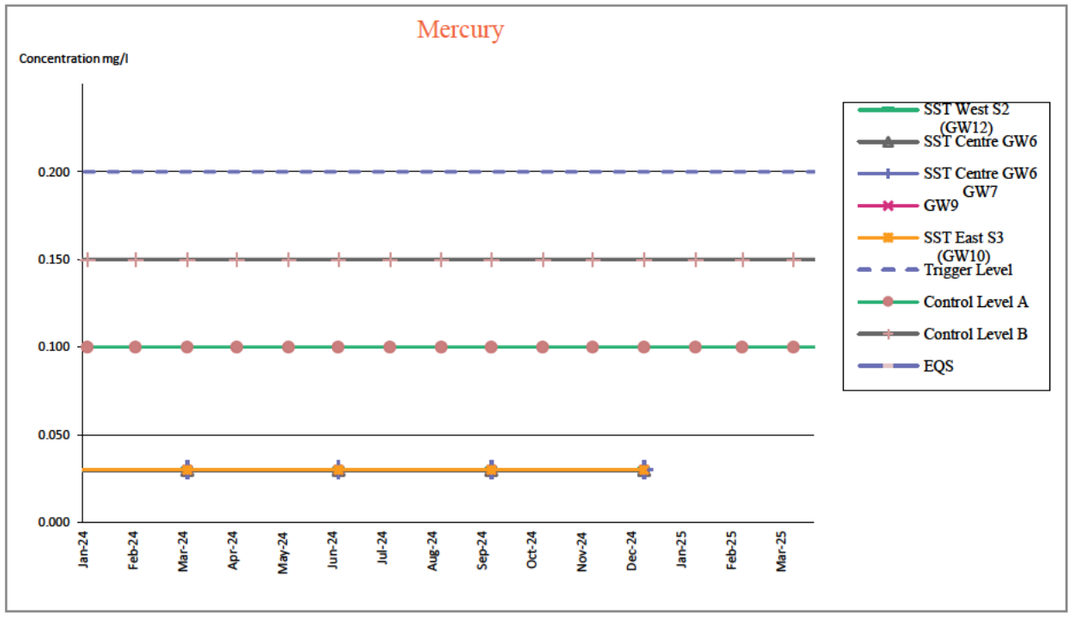
Surface water monitoring graphs

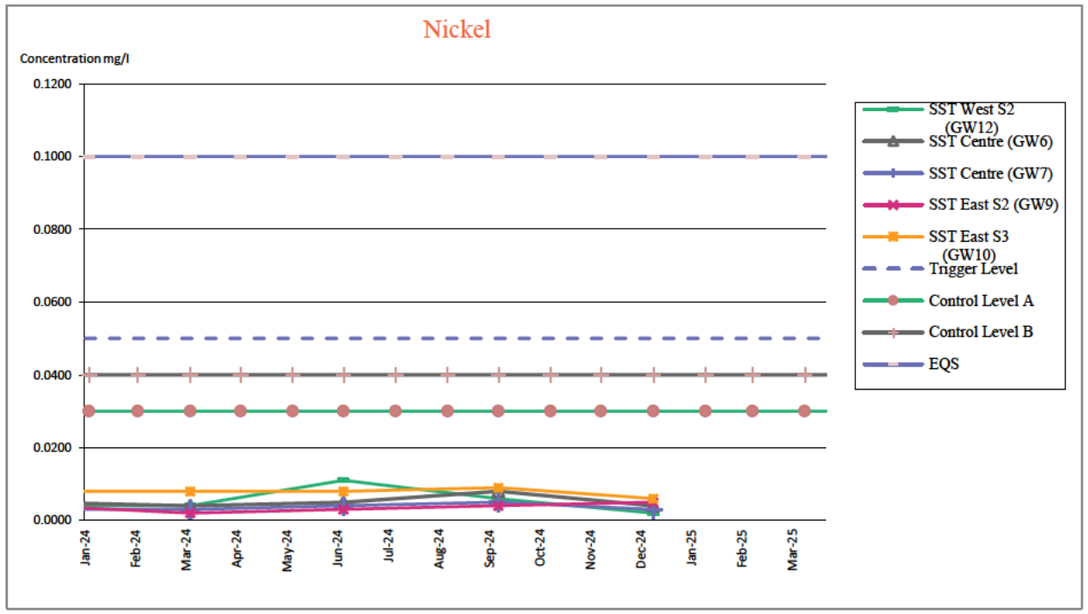


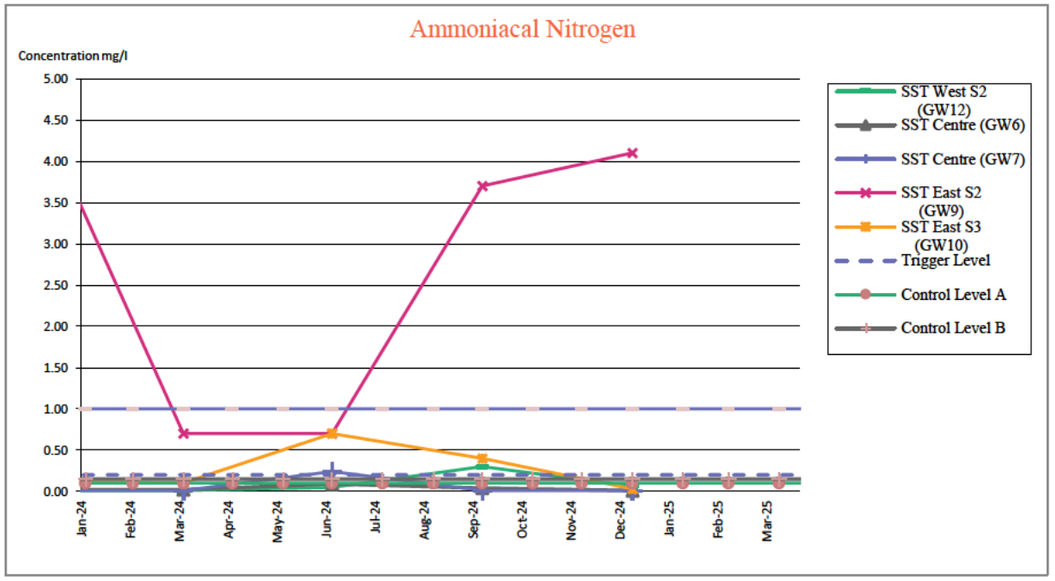


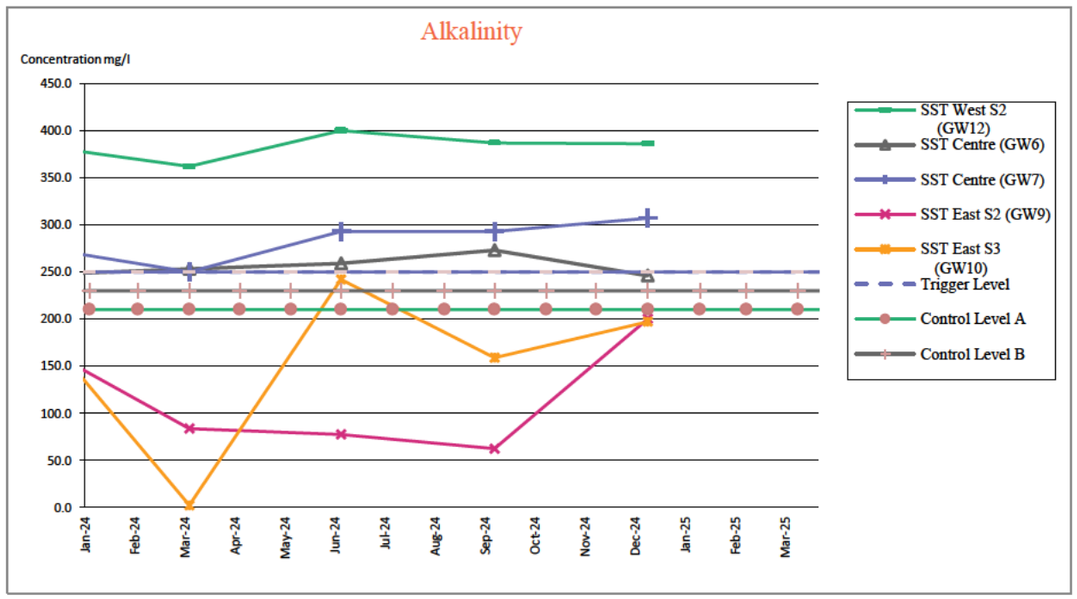
Groundwater quality monitoring results - Compliance wells graphs

Compliance wells graphs



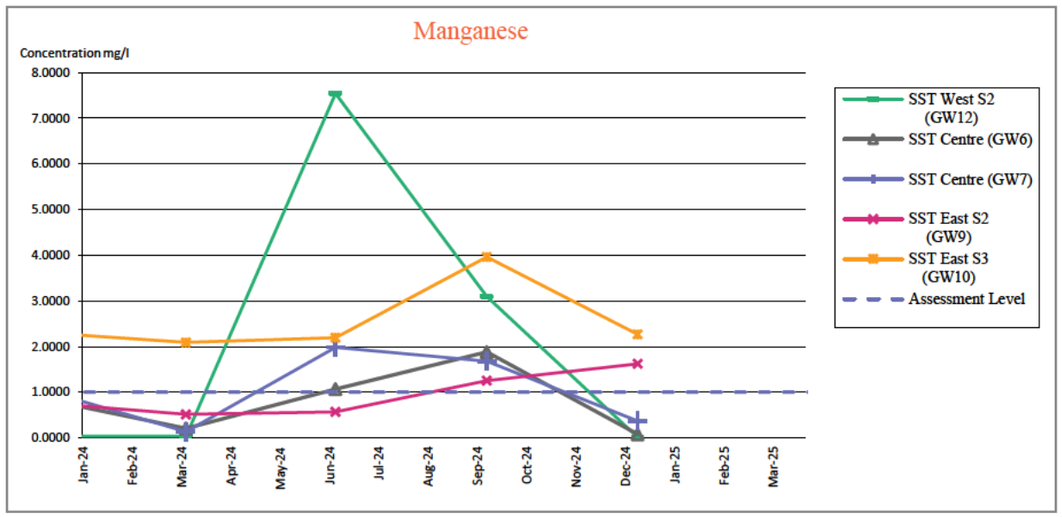


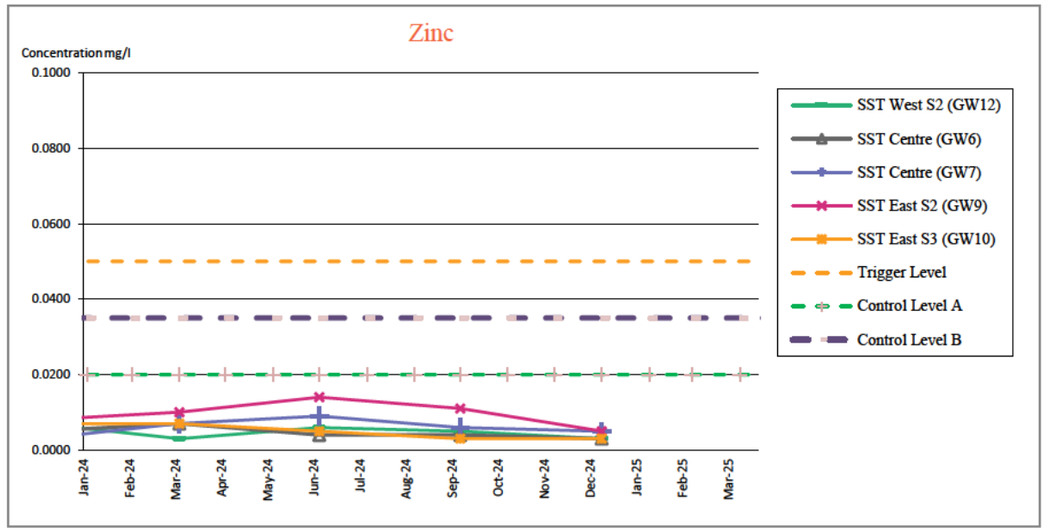


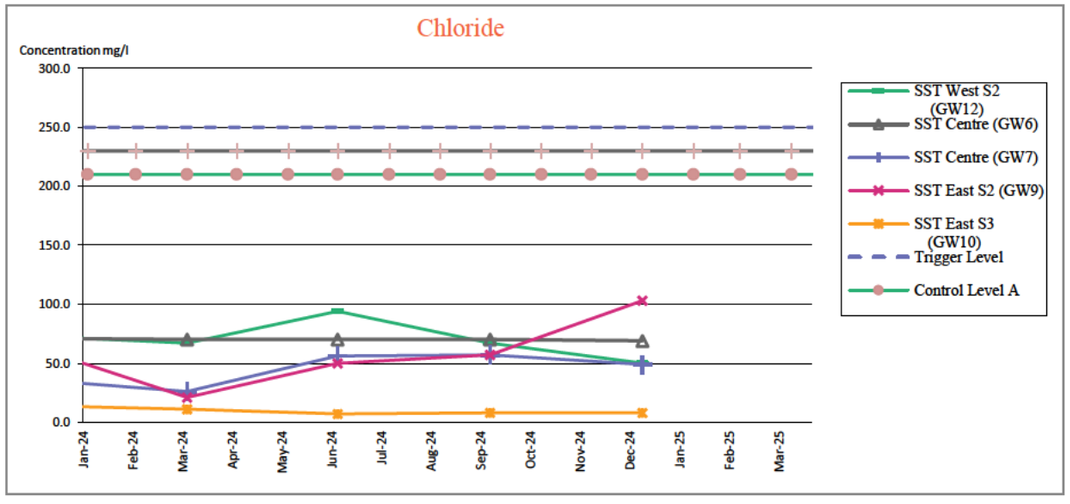


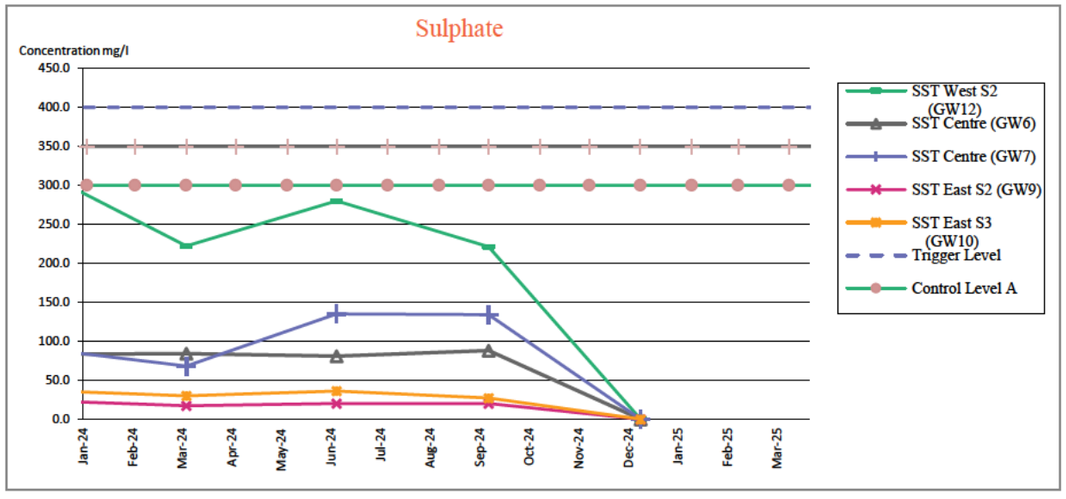
Groundwater quality monitoring results - Compliance wells graphs

Compliance wells graphs



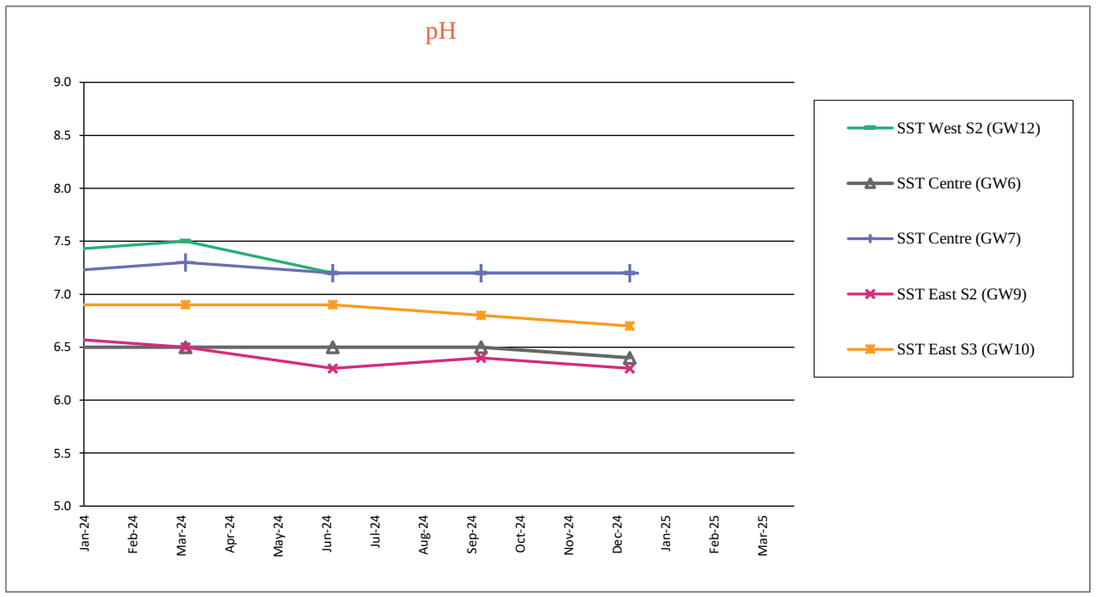




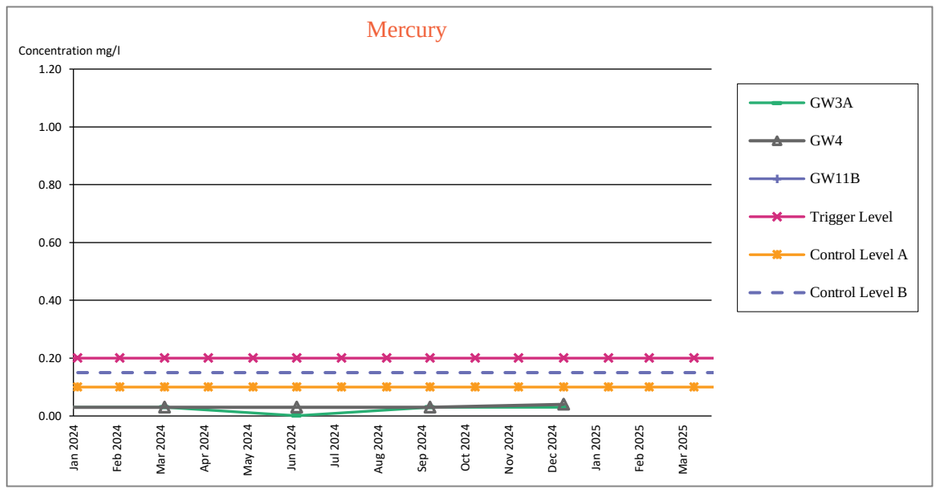


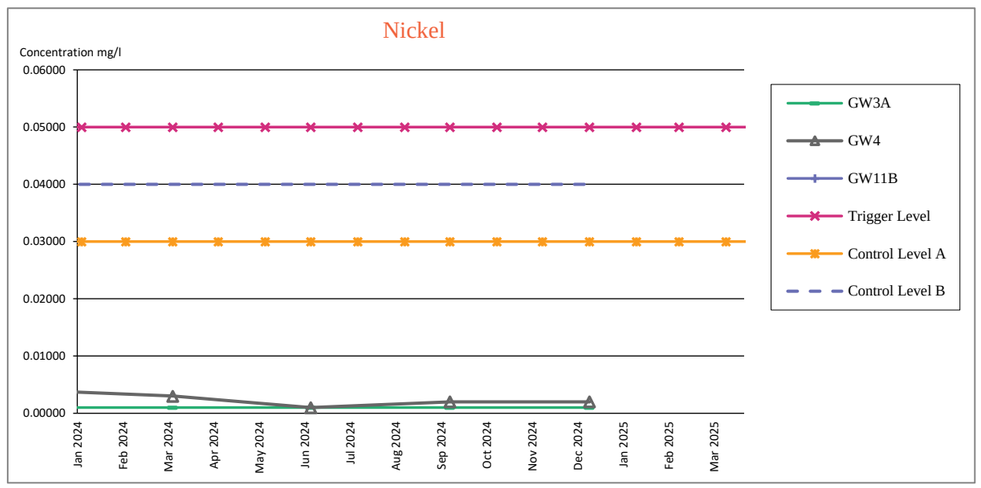
Groundwater quality monitoring results - Compliance wells graphs

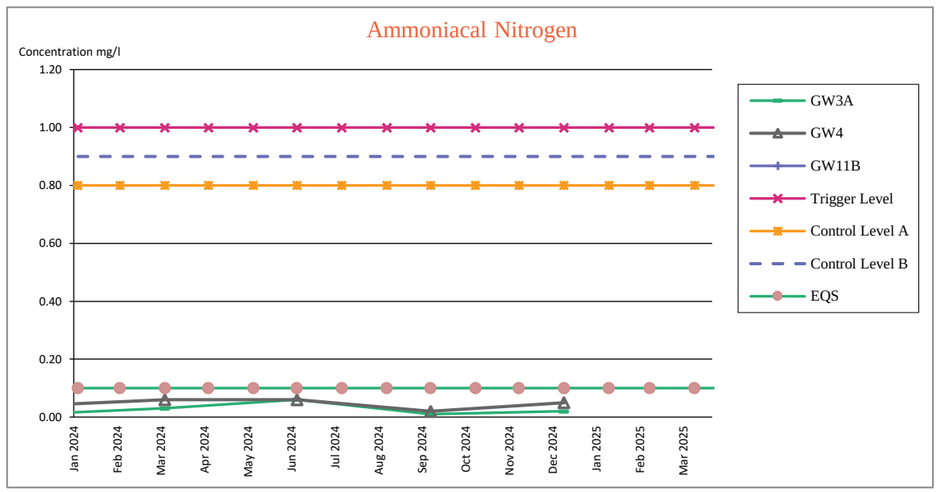
Compliance wells graphs

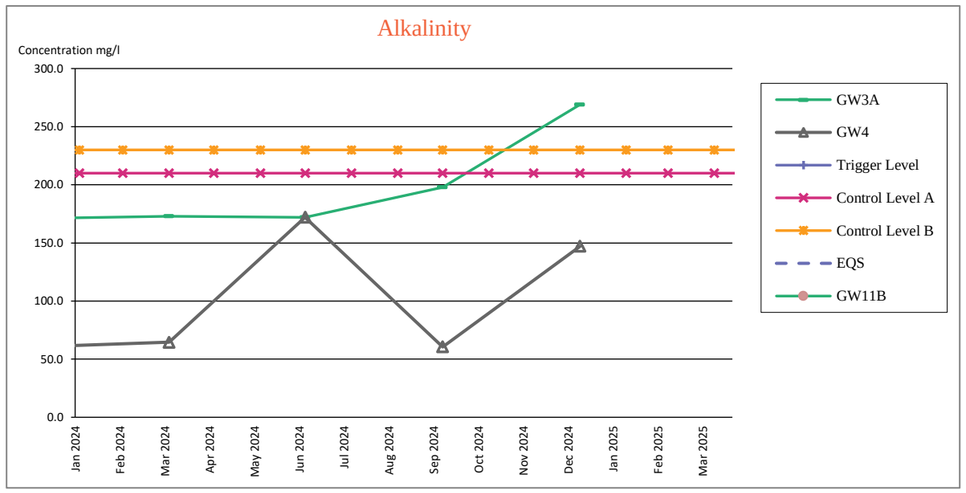


Groundwater quality monitoring results - Upstream wells graphs

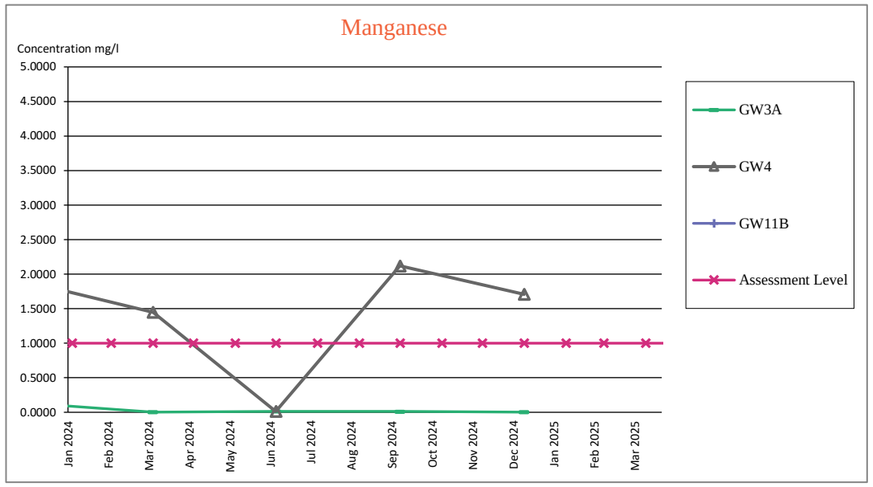


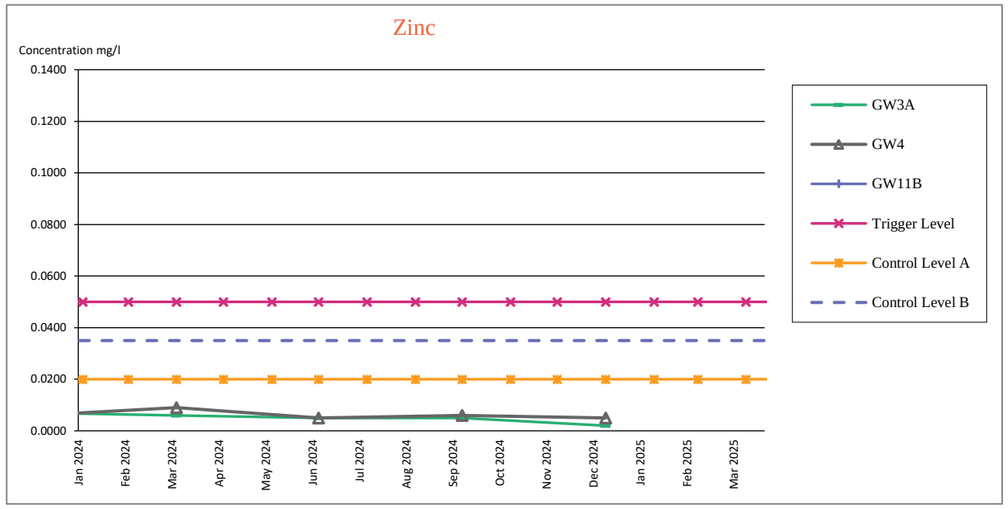


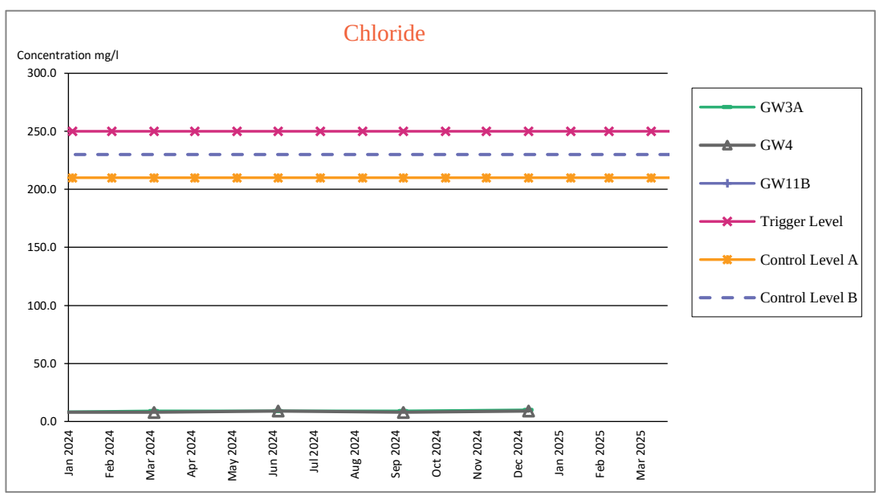


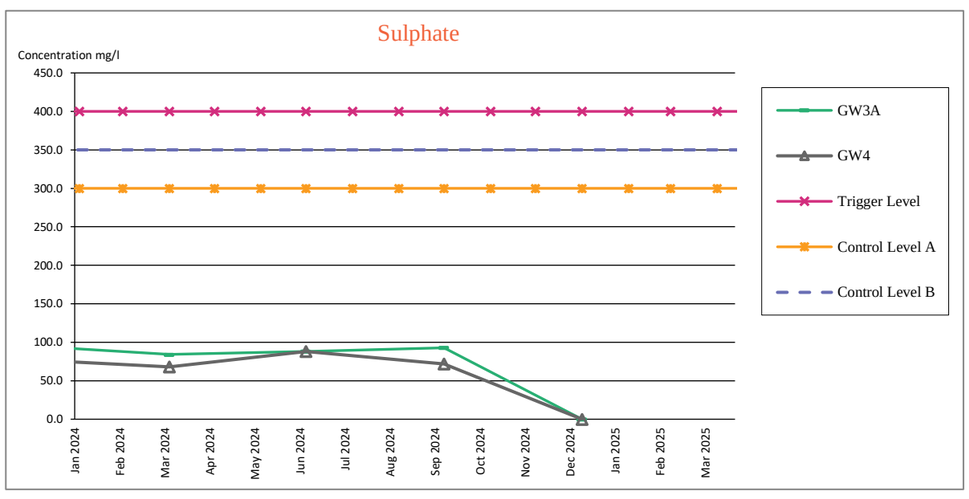


Groundwater quality monitoring results - Upstream wells graphs

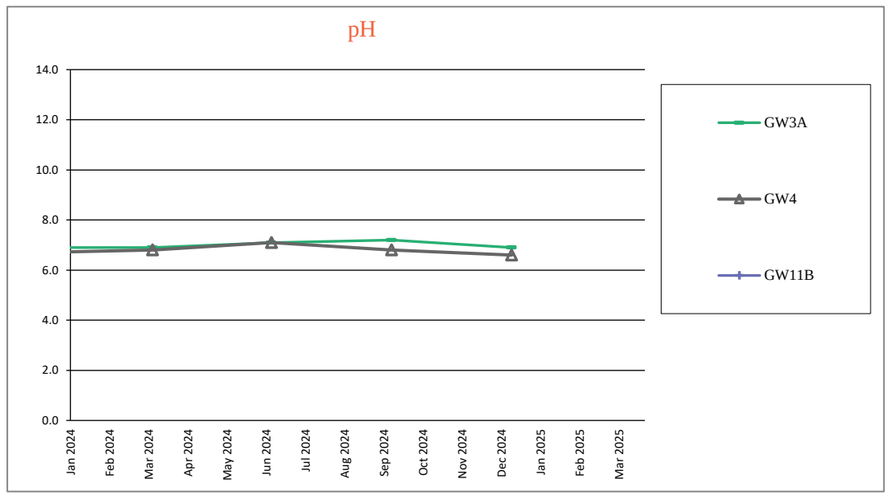




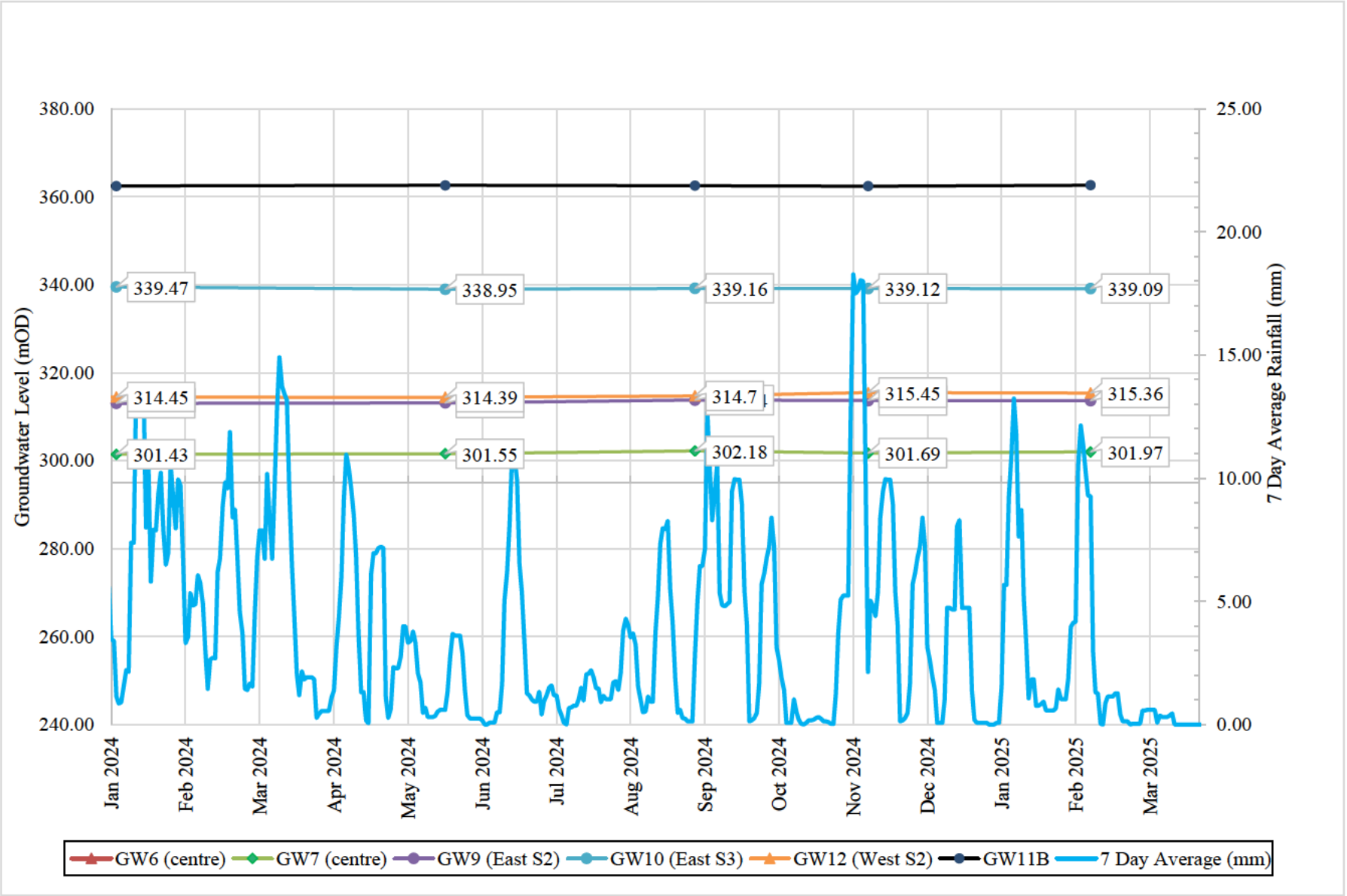




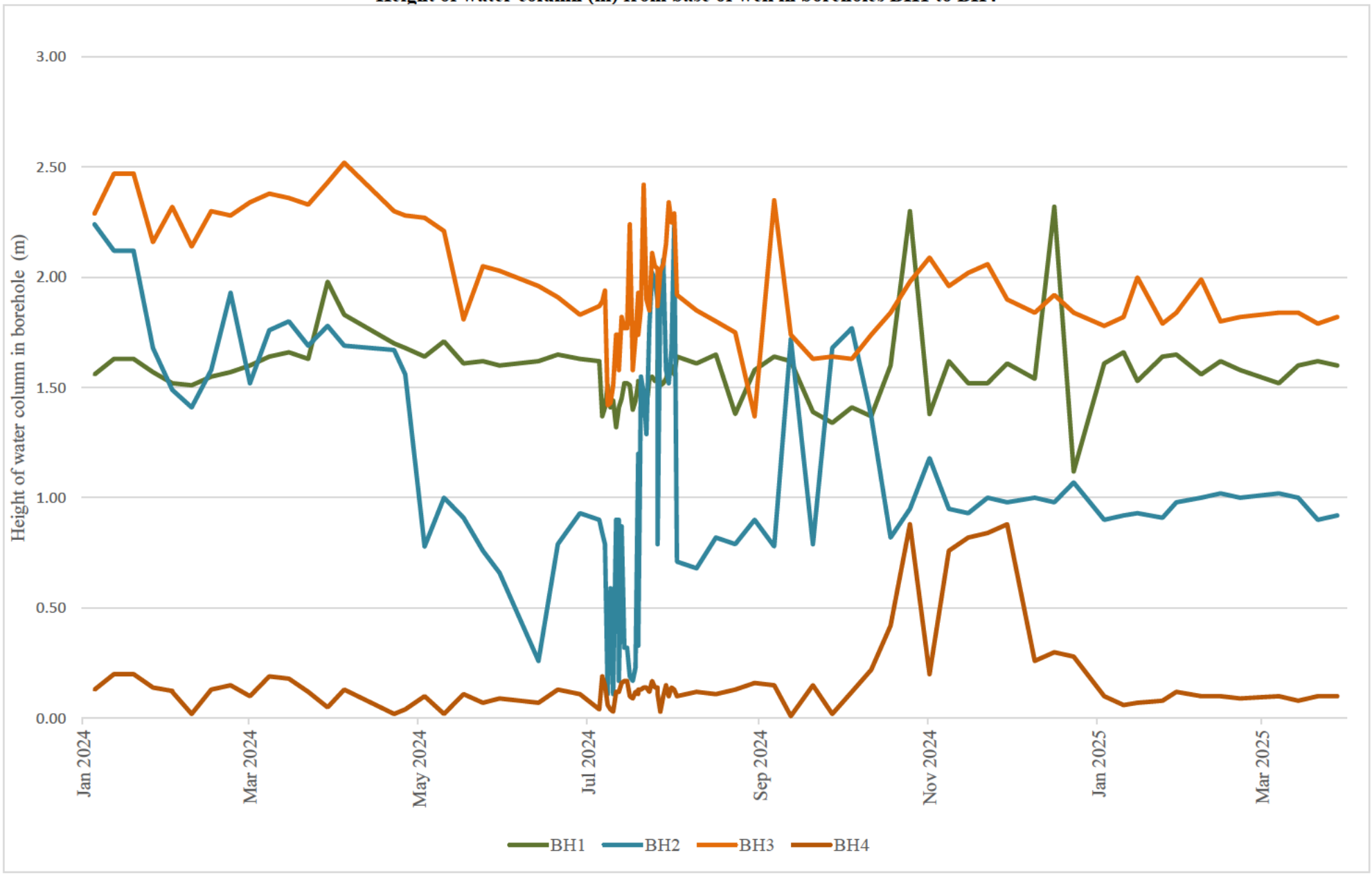
Groundwater quality monitoring results - Upstream wells graphs



Groundwater monitoring levels downstream of compliance wells



Height of water column (m) from base of well in boreholes BH1 to BH4



Appendix B: Monitoring Results - Table

Leachate Monitoring Results

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	29/01/2025							-	-	-		
pH	pH Units		7.4		8.2	7.2	8.1	8.2	7.73	--	8	7.9
Conductivity- Electrical 20C	uS/cm		1890		11400	4090	8730	11400	6528	--	1160	1640
Redox Potential (see note 4)	mV		226		151	-22	-249	226	27	--	240	224
Dissolved Oxygen, Fixed*	mg/l		13.5		8	5.7	2.8	13.5	7.50	--	13.2	12.9
Alkalinity as CaCO3	mg/l		488		4910	2480	4170	4910	3012	--	375	540
Total Suspended Solids	mg/l		15		1720	1990	8080	8080	2951	--	< 5	7
Solids, Total Dissolved 180 deg C	mg/l		1420		5600	1740	3910	5600	3168	--	746	1190
TOC (filtered)	mg/l	N/S	11.4	N/S	305	47.3	360	360	181	--	7.16	8.72
Ammoniacal Nitrogen as N	mg/l		0.02		635	209	572	635	354	**526**	0.04	2.3
Chloride as Cl	mg/l		116		865	169	681	865	458	**1408**	70	90
Manganese in filtrate as Mn	mg/l		0.106		0.098	0.845	0.268	0.845	0.33	**--**	0.003	0.049
Mercury, filt trace as Hg	mg/l		< 0.00003		< 0.0003	< 0.00003	< 0.0003	0.00030	0.0002	**0.00056**	< 0.00003	< 0.00003
Nickel in filtrate as Ni	mg/l		0.006		0.083	0.006	0.065	0.083	0.04	**0.0681**	0.002	0.004
Sulphate as SO4	mg/l		< 3		< 30	< 3	<30	30	12	**999**	< 3	< 3
Zinc, ultra-low filtered as Zn	mg/l		0.009		0.041	0.005	0.022	0.041	0.02	**1.38**	0.007	0.016

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)

Leachate Head Levels

		Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25
	Elevation of base of landfill mAOD	357.62											
	Elevation at top of casing mAOD	398.85											
	Depth to leachate from top of casing (m)	**40.36**											
LC1A	Leachate elevation (mAOD)	358.49											
	Calculated leachate head (m)	0.87											
	Elevation of base of landfill mAOD	362.49											
	Elevation at top of casing mAOD	401.12											
LC2A	**Depth to leachate from top of casing (m)**	**35.80**											
	Leachate elevation (mAOD)	365.32											
	Calculated leachate head (m)	2.83											
	Elevation of base of landfill mAOD	372.27											
	Elevation at top of casing mAOD	401.14											
LC4A	**Depth to leachate from top of casing (m)**	**26.80**											
	Leachate elevation (mAOD)	374.34											
	Calculated leachate head (m)	2.07											
	Elevation of base of landfill mAOD	349.79											
	Elevation at top of casing mAOD	380.75											
	Depth to leachate from top of casing (m)	**29.90**											
LC5B	Leachate elevation (mAOD)	350.85											
	Calculated leachate head (m)	1.06											
	Casing height (mAOD)	357.00											
	Leachate (mbgl)	DRY											
	Leachate (m AOD)	-											
L1	Base of landfill (m AOD)	336.80											
	Depth of well from top of casing (m)	**Not sampled**											
	Base of well (m AOD)												
	Calculated leachate head (m)												
	Casing height (mAOD)	355.79											
	Leachate (mbgl)	**DRY**											
	Leachate (m AOD)	-											
L1A*	Base of landfill (m AOD)	316.64											
	Depth of well from top of casing (m)	**20.95**											
	Base of well (m AOD)	334.84											
	Calculated leachate head (m)												
	Casing height (mAOD)	354.80											
	Leachate (mbgl)	**25.43**											
	Leachate (m AOD)	329.37											
L1B*	Base of landfill (m AOD)	319.60											
	Depth of well from top of casing (m)	**34.40**											
	Base of well (m AOD)	320.40											
	Calculated leachate head (m)	9.77											

2025	Quarterly Leachate Head Averages (m)
January	1.92
February	
March	
April	
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.
** NS - Not Sampled

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

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
				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
	Freshwater EQS**			1	0.123		0.004		0.0137				0.015**		250	400						
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	0.0050	< 0.0010	< 0.0001	0.005	< 0.0001	7.6	194	0.02	0.0009	7.3	7.00	<3	7.00	13	0.9	305.00	61	<1
				0.00	0.0040	< 0.0010	< 0.0001	0.005	< 0.0001	7.6	188	< 0.01	0.0004	6.8	8.00	<3	<5	14	1.2	292.00	67	<1
April	Upstream of Landfill	SWU SW2AI SWW4	Six-monthly																			
	NW Ditch System	SWW1 SWW2	Six-monthly																			
	Downstream of Landfill	SWD SWD1	Quarterly Quarterly																			
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				< 0.0040	< 0.0010	< 0.0001	< 0.0050	< 0.0001	7.6	188	<	< 0.0004	6.8	7.0	0.0	7.0	13.0	0.9	292.0	61.0000	0.0000	
Maximum				< 0.0050	< 0.0010	< 0.0001	< 0.0050	< 0.0001	7.6	194	<	< 0.0009	7.3	8	0	7	13.8	1	305	67	0	
Count				2	2	2	2	2	2	2		2	2	2	0	1	2	2	2	2	0	

Exceedance of EQS
Upstream of Nant Merddog
Downstream of Nant Merddog

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)

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[aa])**	--	**0.03**	**(0.02[aa])**	--	--	--	**0.8**	--	--	**210**	**300**	--	--	--
	Control Level B				**(0.15[aa])**	--	**0.04**	**(0.035[aa])**	--	--	--	**0.9**	--	--	**230**	**350**	--	--	--
	Assessment Level				--	**(1.0[a])**	--	--	--	--			--	--	--	--	--	--	--
UPSTREAM WELLS																			
SST East S3																			
	Jan-24	05/02/24	24020781-007	240	< 0.03	0.1300	< 0.00100	0.0070	6.9	528.0	171.0	< 0.01	0.0000	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	< 0.03	< 0.002	< 0.00100	0.0060	6.9	507.0	173.0	0.03	0.0001	13.6	9.0	84.0	61.0	6.5	6.5
	May-24		Quarterly																
	Jun-24																		
	Jul-24	17/10/24	24102838-007	133	< 0.00	0.0120	< 0.0010	0.0050	7.1	511.0	172.0	0.06	0.0002	13.3	9.0	88.0	66.0	10.9	1.5
	Aug-24		Quarterly																
	Sep-24																		
	Oct-24	27/11/24	24114228-007	260	< 0.030	0.0110	< 0.001	0.0050	7.2	580.0	198	< 0.01	0.0000	13.4	9.0	93.0	81.0	10.9	1.2
	Nov-24		Quarterly																
	Dec-24																		
GW3A	Jan-25	20/02/25	25020081-007	144	< 0.03	< 0.0020	< 0.00100	< 0.0020	6.9	575.0	269.0	0.02	0.00	13.0	10.0	<3	<1	12.8	0.9
	Feb-25		Quarterly																
	Mar-25																		
	Apr-25																		
	May-25																		
	Jun-25																		
	Jul-25																		
	Aug-25																		
	Sep-25																		
	Oct-25																		
	Nov-25																		
	Dec-25																		
GW4	Jan-24	05/02/24	24020781-008	331	< 0.03	1.88	0.0040	0.0060	6.7	296.0	60.5	0.04	0.0000	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	0.0030	0.0090	6.8	295.0	64.5	0.06	0.0001	10.1	8.0	68.0	15.0	8.7	4.7
	May-24		Quarterly																
	Jun-24																		
	Jul-24	17/10/24	24102838-008	133	< 0.03	0.0120	< 0.0010	0.0050	7.1	511.0	172.0	0.06	0.0001	10.1	9.0	88.0	66.0	10.9	1.5
	Aug-24		Quarterly																
	Sep-24																		
	Oct-24	26/11/24	24114228-008	267	< 0.030	2.1200	0.002	0.0060	6.8	295.0	60.5	0.02	0.0000	9.2	8.0	72.0	17.0	10.1	< 0.4
	Nov-24		Quarterly																
	Dec-24																		
	Jan-25	20/02/25	25020081-008	269	0.04	1.7100	0.00200	0.0050	6.6	290.0	147.0	0.05	0.00004	9.4	9.0	<3	<1	10.8	2.9
	Feb-25		Quarterly																
	Mar-25																		
	Apr-25																		
	May-25																		
	Jun-25																		
	Jul-25																		
	Aug-25																		
	Sep-25																		
	Oct-25																		
	Nov-25																		
	Dec-25																		

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[aa])**	--	**0.03**	**(0.02[aa])**	--	--	--		**0.8**	--	--	**210**	**300**	--	--	--
	Control Level B					**(0.15[aa])**	--	**0.04**	**(0.035[aa])**	--	--	--		**0.9**	--	--	**230**	**350**	--	--	--
	Assessment Level					--	**(1.0[a])**	--	--	--	--				--	--	--	--	--	--	--
DOWNSTREAM WELLS / COMPLIANCE WELLS																					
SST West S2																					
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	17/10/24	**24102838-013**	254	<	0.03	7.5400	0.0110	0.0060	7.2	1670.0	400.0		0.05	0.0003	18.2	94.0	280.0	154.0	6.4	9.1
	Aug-24		Quarterly																		
	Sep-24																				
	Oct-24	26/11/24	24114228-013	262	<	0.030	3.0900	0.006	0.0050	7.2	1380.0	387		0.30	0.0016	17.7	67.0	221.0	139.0	9.4	6.1
	Nov-24		Quarterly																		
	Dec-24																				
	Jan-25	20/02/25	25020081-013	343	<	0.03	0.0070	0.00200	0.0030	7.2	1130.0	386.0		0.06	0.00029	16.8	50.0	<3	<1	12.1	4.3
	Feb-25		Quarterly																		
	Mar-25																				
	Apr-25																				
	May-25																				
	Jun-25																				
	Jul-25																				
	Aug-25																				
	Sep-25																				
	Oct-25																				
	Nov-25																				
	Dec-25																				
SST Centre																					
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	17/10/24	24102838-009	236	<	0.030	1.0700	0.0050	0.0040	6.5	892.0	259.0		0.09	0.000063	12.3	70.0	81.0	50.0	10.8	3.7
	Aug-24		Quarterly																		
	Sep-24																				
	Oct-24	26/11/24	24114228-009	256	<	0.030	1.8800	0.008	0.0040	6.5	941.0	273		0.04	0.000027	12.1	70.0	88.0	52.0	10.2	3.5
	Nov-24		Quarterly																		
	Dec-24																				
	Jan-25	20/02/25	25020081-009	272	<	0.030	0.0770	0.0040	0.0030	6.4	788.0	246.0		0.01	0.00001	11.9	69.0	<3	<1	11.6	5.8
	Feb-25		Quarterly																		
	Mar-25																				
	Apr-25																				
	May-25																				
	Jun-25																				
	Jul-25																				
	Aug-25																				
	Sep-25																				
	Oct-25																				
	Nov-25																				
	Dec-25																				
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	17/10/24	24102838-010	213	<	0.030	1.9800	0.0040	0.0090	7.2	982.0	293.0		0.24	0.00082	12.0	56.0	135.0	98.0	10.5	5.8
	Aug-24		Quarterly																		
	Sep-24																				
	Oct-24	26/11/24	24114228-010	249	<	0.030	1.6800	0.005	0.0060	7.2	1000.0	293	<	0.01	0.00003	11.6	57.0	134.0	96.0	10.2	5.2
	Nov-24		Quarterly																		
	Dec-24																				
	Jan-25	20/02/25	25020081-010	296	<	0.030	0.3650	0.0030	0.0050	7.2	903.0	307.0	<	0.01	0.00003	11.7	49.0	<3	<1	11.6	4.7
	Feb-25		Quarterly																		
	Mar-25																				
	Apr-25																				
	May-25																				
	Jun-25																				
	Jul-25																				
	Aug-25																				
	Sep-25																				
	Oct-25																				
	Nov-25																				
	Dec-25																				

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^aa)**	--	**0.03**	**(0.02^aa)**	--	--	--	**0.8**	--	--	**210**	**300**	--	--	--
	Control Level B					**(0.15^aa)**	--	**0.04**	**(0.035^aa)**	--	--	--	**0.9**	--	--	**230**	**350**	--	--	--
	Assessment Level					--	**(1.0^a)**	--	--	--	--			--	--	--	--	--	--	--
SST East S2																				
	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	17/10/24	24102838-011	228	<	0.03	0.5670	0.0030	0.0140	6.3	740.0	77.4	0.70	0.00029	11.7	50.0	20.0	41.0	11.1	4.9
	Aug-24		Quarterly																	
	Sep-24																			
	Oct-24	26/11/24	24114228-011	314	<	0.030	1.2500	0.004	0.0110	6.4	1060.0	62.4	3.70	0.00194	11.6	57.0	20.0	50.0	6.2	3.2
	Nov-24		Quarterly																	
GW9	Dec-24																			
	Jan-25	20/02/25	25020081-011	345	<	0.030	1.6200	0.0050	0.0050	6.3	1150.0	200.0	4.10	0.00172	11.7	103.0	<3	<1	8.5	5.6
	Feb-25		Quarterly																	
	Mar-25																			
	Apr-25																			
	May-25																			
	Jun-25																			
	Jul-25																			
	Aug-25																			
	Sep-25																			
	Oct-25																			
	Nov-25																			
	Dec-25																			
SST East S3																				
	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	<	0.030	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	17/10/24	24102838-012	215	<	0.030	2.1900	0.0080	0.0050	6.9	578.0	242.0	0.70	0.00115	11.5	7.0	36.0	83.0	10.2	6.1
	Aug-24		Quarterly																	
	Sep-24																			
	Oct-24	26/11/24	24114228-012	169	<	0.030	3.9600	0.009	0.0030	6.8	408.0	159	0.40	0.00054	11.8	8.0	27.0	59.0	6.9	4.5
	Nov-24		Quarterly																	
GW10	Dec-24																			
	Jan-25	20/02/25	25020081-012	355	<	0.030	2.2600	0.0060	0.0030	6.7	397.0	197.0	0.03	0.00003	10.8	8.0	<3	<1	11.9	2.8
	Feb-25		Quarterly																	
	Mar-25																			
	Apr-25																			
	May-25																			
	Jun-25																			
	Jul-25																			
	Aug-25																			
	Sep-25																			
	Oct-25																			
	Nov-25																			
	Dec-25																			

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/$(1+10^{(10.055-(0.0324*T°)-pH)})$, where T°C is measured water temperature.
^ Ammonia result confirmed on duplicate analysis.

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	
Date monitored		13-Jan	11-Feb	11-Mar										13-Jan	11-Feb	11-Mar											
GMW2	Red Valve	0.1	0.1	0.1										0.5	0.3	0.4										Red Valve, 25.5m depth	GMW2
	Yellow Valve	0.1	0.1	0.1										0.1	0.1	0.1										Yellow Valve,14m depth	
	White Valve	0.1	0.1	0.1										0.1	0.1	8.3										White Valve, 4m depth	
	Trigger Levels	1												-	-	-	-	-	-	-	-	-		-	-	Trigger Levels	
	Control Levels	0.5												-	-	-	-	-	-	-	-	-		-	-	Control Levels	
	Trigger Level Red	-												1.5												Trigger Level Red	
	Trigger Level Yellow	-												4.3												Trigger Level Yellow	
	Trigger Level White	-												12.1												Trigger Level White	
	Control Level Red	-												1												Control Level Red	
	Control Level Yellow	-												3.8												Control Level Yellow	
	Control Level White	-												11.6												Control Level White	
GMW3	Red Valve	0.1	0.1	1.6										0.6	7.1	1.7										Red Valve, 19m depth	GMW3
	Yellow Valve	0.1	0.1	0.1										0.1	0.1	0.3										Yellow Valve,9m depth	
	White Valve	0.1	0.1	0.1										0.5	0.2	15.2										White Valve, 3.5m depth	
	Trigger Levels	1												-	-	-	-	-	-	-	-	-	-	-	-	Trigger Levels	
	Control Levels	0.5												-	-	-	-	-	-	-	-	-	-	-	-	Control Levels	
	Trigger Level Red	-												7.3												Trigger Level Red	
	Trigger Level Yellow	-												2.67												Trigger Level Yellow	
	Trigger Level White	-												24.02												Trigger Level White	
	Control Level Red	-												6.8												Control Level Red	
	Control Level Yellow	-												2.17												Control Level Yellow	
	Control Level White	-												23.5												Control Level White	
GMW4	Red Valve	0.1	0.1	0										0.2	0.1	0.1										Red Valve, 30m depth	GMW4
	Yellow Valve	0.1	0.1	0										0.1	0.2	0.2										Yellow Valve,20m depth	
	White Valve	0.1	0.1	0										0.1	0.1	0.1										White Valve, 5m depth	
	Trigger Levels	1												-	-	-	-	-	-	-	-	-	-	-	-	Trigger Levels	
	Control Levels	0.5												-	-	-	-	-	-	-	-	-	-	-	-	Control Levels	
	Trigger Level Red	-												1.5												Trigger Level Red	
	Trigger Level Yellow	-												4.3												Trigger Level Yellow	
	Trigger Level White	-												12.1												Trigger Level White	
	Control Level Red	-												1												Control Level Red	
	Control Level Yellow	-												3.8												Control Level Yellow	
	Control Level White	-												11.6												Control Level White	
GMW5	Red Valve	0.1	0	0										2.1	5.4	5.2										Red Valve, 26.3m depth	GMW5
	Yellow Valve	0.1	0	0										0.4	2.7	1.6										Yellow Valve,15m depth	
	White Valve	0.1	0	0										3.5	3.1	3.2										White Valve, 5m depth	
	Trigger Levels	1												-	-	-	-	-	-	-	-	-	-	-	-	Trigger Levels	
	Control Levels	0.5												-	-	-	-	-	-	-	-	-	-	-	-	Control Levels	
	Trigger Level Red	-												8.48												Trigger Level Red	
	Trigger Level Yellow	-												4.1												Trigger Level Yellow	
	Trigger Level White	-												4.8												Trigger Level White	
	Control Level Red	-												7.98												Control Level Red	
	Control Level Yellow	-												3.6												Control Level Yellow	
	Control Level White	-												4.3												Control Level White	
GMW6	Red Valve	0.1	0	0										2.1	2	2										Red Valve, 26.3m depth	GMW6
	Yellow Valve	0.1	0	0										2.3	3.4	1.8										Yellow Valve,15m depth	
	White Valve	0.1	0	0										1.5	1.4	1.5										White Valve, 5m depth	
	Trigger Levels	1												-	-	-	-	-	-	-	-	-	-	-	-	Trigger Levels	
	Control Levels	0.5												-	-	-	-	-	-	-	-	-	-	-	-	Control Levels	
	Trigger Level Red	-												4.3												Trigger Level Red	
	Trigger Level Yellow	-												5												Trigger Level Yellow	
	Trigger Level White	-												3.76												Trigger Level White	
	Control Level Red	-												3.8												Control Level Red	
	Control Level Yellow	-												4.5												Control Level Yellow	
	Control Level White	-												3.26												Control Level White	

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	0.1	0	0										0.2	0.2	0.2										Yellow Valve,12 depth	GMW7
	White Valve	0.1	tap broke	tap broke										0.2	tap broke	tap broke										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	0.1	0.1	0										0.6	2.3	0.6										Red Valve, 26.3m depth	GMW12
	Yellow Valve	0	0.1	0										0.1	0.9	0.7										Yellow Valve,15m depth	
	White Valve	0.1	0.1	0										0.1	1.4	0.1										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	
	Control Level White	0.5												5												Control Level White	
GMW13	Red Valve	0.1	0.1	1.1										1.1	1.1	1.1										Red Valve, 26.3m depth	GMW13
	Yellow Valve	0.1	0.1	0										5.3	6.2	6										Yellow Valve,15m depth	
	White Valve	0	0.1	0										0.1	2.4	1.8										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	
	Control Level White	0.5												5.32												Control Level White	
GMW14/14A	Red Valve	0.1	0.1	0.3										0.6	1.8	20.4										Red Valve, 26.3m depth	GMW14/14A
	Yellow Valve	0	0.1	3.1										3.6	3.7	16.5										Yellow Valve,15m depth	
	White Valve	0	0.1	0.7										0.4	1.7	19.2										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	
	Control Level White	0.7												4.9												Control Level White	
GMW1**	Red Valve	0.1	0.1	0.1										1.8	1.7	0.1										Red Valve, 23.5m depth	GMW1**
	Yellow Valve	1.8	1.5	1										1.6	1.2	1										Yellow Valve,14.7m depth	
	White Valve	0.4	0.1	0.1										1	0.1	1.1										White Valve, 6.5m depth	
GMW8*	Yellow Valve	9.7	10.6	3.8										5.7	6.3	2.4										Yellow Valve,17.5m depth	GMW8*
	White Valve	0.1	0.1	0										4.4	4.4	3.9										White Valve, 5.7m depth	
GMW9*	Red Valve	0.1	0.1	0										1.6	1.2	1.5										Red Valve, 27m depth	GMW9*
	Yellow Valve	29.4	27.9	25.8										9.4	9.7	9.2										Yellow Valve,15m depth	
	White Valve	0.1	0.1	0										0.1	0.1	0.1										White Valve, 8.5m depth	
GMW10*	Red Valve	18	0.1	0.1										2.8	0.7	2.6										Red Valve, 19.5m depth	GMW10*
	Yellow Valve	41.7	0.1	42.5										4.8	5.3	4.7										Yellow Valve,15m depth	
	White Valve	0.1	37.5	0.1										2.2	4.5	3.3										White Valve, 8m depth	
GMW17**	Red Valve	0.1	0.1	0.1										6.8	0.1	20.9										Red Valve, 26.3m depth	GMW17**
	Yellow Valve	0.1	0	1.4										1.4	1.3	15.3										Yellow Valve,15m depth	
	White Valve	0	0	pump fail										3.1	0.1	pump fail										White Valve, 5m depth	
GMW18**	Yellow Valve	0.1	0.1	pump fail										1	0.1	pump fail										Yellow Valve,12 depth	GMW18**
	White Valve	0	0	6.5										6.4	5.2	17.2										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

BSC Pipe Monitoring

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
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
06/07/2024	18.65	20.02	7.85	8.69	4.85	6.74	9.94	10.13	1.37	0.84	1.89	0.19
07/07/2024	18.61	20.02	7.9	8.69	4.8	6.74	9.98	10.13	1.41	0.79	1.94	0.15
08/07/2024	18.51	20.02	8.59	8.7	5.33	6.75	10.08	10.14	1.51	0.11	1.42	0.06
09/07/2024	18.6	20.01	8.1	8.69	5.31	6.74	10.09	10.13	1.41	0.59	1.43	0.04
10/07/2024	18.57	20.01	8.6	8.71	5.23	6.74	10.07	10.1	1.44	0.11	1.51	0.03
11/07/2024	18.7	20.02	7.79	8.69	4.98	6.72	10.01	10.13	1.32	0.9	1.74	0.12
12/07/2024	18.6	20.01	7.79	8.69	4.98	6.72	10.01	10.13	1.41	0.9	1.74	0.12
13/07/2024	18.56	20.01	7.8	8.67	4.92	6.74	9.96	10.12	1.45	0.87	1.82	0.16
14/07/2024	18.49	20.01	8.35	8.67	4.95	6.72	9.96	10.13	1.52	0.32	1.77	0.17
15/07/2024	18.49	20.01	8.35	8.67	4.95	6.72	9.96	10.13	1.52	0.32	1.77	0.17
16/07/2024	18.51	20.02	8.5	8.69	4.5	6.74	10.02	10.12	1.51	0.19	2.24	0.1
17/07/2024	18.62	20.02	8.52	8.69	5.15	6.73	10.03	10.12	1.4	0.17	1.58	0.09
18/07/2024	18.59	20.03	8.46	8.69	5	6.73	10.01	10.13	1.44	0.23	1.73	0.12
19/07/2024	18.5	20.02	7.49	8.69	4.8	6.73	10.01	10.12	1.52	1.2	1.93	0.11
20/07/2024	18.5	20.01	7.14	8.69	4.86	6.72	9.99	10.12	1.51	1.55	1.86	0.13
21/07/2024	18.52	20.01	7.14	8.61	4.3	6.72	9.99	10.13	1.49	1.47	2.42	0.14
22/07/2024	18.6	20.01	7.4	8.69	4.82	6.72	9.98	10.12	1.41	1.29	1.9	0.14
23/07/2024	18.49	20.03	6.91	8.69	4.88	6.73	10.01	10.13	1.54	1.78	1.85	0.12
24/07/2024	18.48	20.03	6.67	8.69	4.62	6.73	9.96	10.13	1.55	2.02	2.11	0.17
25/07/2024	18.5	20.03	6.7	8.69	4.68	6.73	9.99	10.13	1.53	1.99	2.05	0.14
26/07/2024	18.48	20.02	6.8	8.69	4.68	6.72	9.98	10.12	1.54	1.89	2.04	0.14
27/07/2024	18.51	20.02	6.72	8.67	4.7	6.73	10.1	10.13	1.51	1.95	2.03	0.03
28/07/2024	18.51	20.03	6.81	8.89	4.66	6.72	10.02	10.12	1.52	2.08	2.06	0.1
29/07/2024	18.48	20.02	7.1	8.68	4.58	6.73	9.97	10.12	1.54	1.58	2.15	0.15
30/07/2024	18.42	20	7.16	8.68	4.41	6.75	10	10.1	1.58	1.52	2.34	0.1
31/07/2024	18.43	20.03	7.01	8.68	4.5	6.75	9.98	10.12	1.6	1.67	2.25	0.14
01/08/2024	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	9.9	10.1	1.63	2.12	2.47	0.2
19/01/2024	18.39	20.02	6.56	8.68	4.27	6.74	9.9	10.1	1.63	2.12	2.47	0.2
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	18.5	20.02	7.19	8.68	4.42	6.74	10	10.12	1.52	1.49	2.32	0.12
09/02/2024	18.51	20.02	7.27	8.68	4.6	6.74	10.1	10.12	1.51	1.41	2.14	0.02
16/02/2024	18.47	20.02	7.1	8.68	4.44	6.74	9.99	10.12	1.55	1.58	2.3	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	4.4	6.74	10	10.1	1.6	1.52	2.34	0.1
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	1.8	2.36	0.18
22/03/2024	18.4	20.03	6.99	8.68	4.41	6.74	9.9	10.02	1.63	1.69	2.33	0.12
29/03/2024	18.05	20.03	6.9	8.68	4.29	6.72	9.98	10.03	1.98	1.78	2.43	0.05
04/04/2024	18.2	20.03	6.98	8.67	4.2	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	10.02	1.7	1.67	2.3	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	0.1
10/05/2024	18.32	20.03	7.69	8.69	4.52	6.73	10.1	10.12	1.71	1	2.21	0.02

BSC Pipe Monitoring

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
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	4.7	6.73	10.03	10.12	1.6	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	7.9	8.69	4.82	6.73	9.99	10.12	1.65	0.79	1.91	0.13
28/06/2024	18.4	20.03	7.76	8.69	4.9	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	0.9	1.87	0.04
12/07/2024	18.62	20.03	8.52	8.69	5.15	6.73	10	10.12	1.41	0.17	1.58	0.12
19/07/2024	18.5	20.03	8.36	8.69	4.99	6.73	9.99	10.12	1.53	0.33	1.74	0.13
26/07/2024	18.41	20.03	7.9	8.69	4.86	6.73	10.01	10.12	1.62	0.79	1.87	0.11
02/08/2024	18.39	20.03	7.98	8.69	4.81	6.73	10.02	10.12	1.64	0.71	1.92	0.1
09/08/2024	18.42	20.03	8.01	8.69	4.88	6.73	10	10.12	1.61	0.68	1.85	0.12
16/08/2024	18.38	20.03	7.87	8.69	4.93	6.73	10.01	10.12	1.65	0.82	1.8	0.11
23/08/2024	18.65	20.03	7.9	8.69	4.98	6.73	9.99	10.12	1.38	0.79	1.75	0.13
30/08/2024	18.45	20.03	7.79	8.69	5.36	6.73	9.96	10.12	1.58	0.9	1.37	0.16
06/09/2024	18.39	20.03	7.9	8.68	4.38	6.73	9.98	10.13	1.64	0.78	2.35	0.15
12/09/2024	18.4	20.02	6.9	8.62	4.99	6.73	10.01	10.02	1.62	1.72	1.74	0.01
20/09/2024	18.64	20.03	7.9	8.69	5.1	6.73	9.98	10.13	1.39	0.79	1.63	0.15
27/09/2024	18.68	20.02	6.99	8.67	5.09	6.73	10	10.02	1.34	1.68	1.64	0.02
04/10/2024	18.63	20.04	6.9	8.67	5.11	6.74	10	10.12	1.41	1.77	1.63	0.12
11/10/2024	18.66	20.03	7.3	8.67	5	6.74	9.9	10.12	1.37	1.37	1.74	0.22
18/10/2024	18.6	20.2	7.85	8.67	4.9	6.74	9.7	10.12	1.6	0.82	1.84	0.42
25/10/2024	18.50	20.80	7.75	8.70	4.78	6.76	9.22	10.10	2.30	0.95	1.98	0.88
01/11/2024	18.64	20.02	7.50	8.68	4.65	6.74	9.82	10.02	1.38	1.18	2.09	0.20
08/11/2024	18.44	20.06	7.73	8.68	4.80	6.76	9.28	10.04	1.62	0.95	1.96	0.76
15/11/2024	18.52	20.04	7.71	8.64	4.76	6.78	9.24	10.06	1.52	0.93	2.02	0.82
22/11/2024	18.54	20.06	7.68	8.68	4.70	6.76	9.22	10.06	1.52	1.00	2.06	0.84
29/11/2024	18.47	20.08	7.78	8.76	4.84	6.74	9.72	10.60	1.61	0.98	1.90	0.88
09/12/2024	18.52	20.06	7.74	8.74	4.90	6.74	9.78	10.04	1.54	1.00	1.84	0.26
16/12/2024	18.48	20.80	7.78	8.76	4.82	6.74	9.72	10.02	2.32	0.98	1.92	0.30
23/12/2024	18.92	20.04	7.69	8.76	4.88	6.72	9.76	10.04	1.12	1.07	1.84	0.28
03/01/2025	18.41	20.02	7.79	8.69	4.95	6.73	10.02	10.12	1.61	0.90	1.78	0.10
10/01/2025	18.38	20.04	7.78	8.70	4.92	6.74	10.04	10.10	1.66	0.92	1.82	0.06
15/01/2025	18.52	20.05	7.75	8.68	4.94	6.94	10.05	10.12	1.53	0.93	2.00	0.07
24/01/2025	18.40	20.04	7.78	8.69	4.93	6.72	10.04	10.12	1.64	0.91	1.79	0.08
29/01/2025	18.41	20.06	7.70	8.68	4.90	6.74	10.02	10.14	1.65	0.98	1.84	0.12
07/02/2025	18.48	20.04	7.70	8.70	4.72	6.71	10.04	10.14	1.56	1.00	1.99	0.10
14/02/2025	18.40	20.02	7.72	8.74	4.92	6.72	10.02	10.12	1.62	1.02	1.80	0.10
21/02/2025	18.44	20.02	7.70	8.70	4.90	6.72	10.05	10.14	1.58	1.00	1.82	0.09
07/03/2025	18.50	20.02	7.70	8.72	4.90	6.74	10.02	10.12	1.52	1.02	1.84	0.10
14/03/2025	18.42	20.02	7.72	8.72	4.90	6.74	10.02	10.10	1.60	1.00	1.84	0.08
21/03/2025	18.40	20.02	7.79	8.69	4.93	6.72	10.04	10.14	1.62	0.90	1.79	0.10
28/03/2025	18.42	20.02	7.77	8.69	4.92	6.74	10.02	10.12	1.60	0.92	1.82	0.10