

# MOBUOY QUARTERLY MONITORING REPORT – Q4 2025



## Abstract

Report summarizing the results and providing interpretation of the Environmental Monitoring Programme at the Mobuoy Road illegal waste site between 1st October and 31st December 2025, with the annual trend analysis for 2025 included.

Mobuoy Remediation Project Team

## Mobuoy Remediation Project - Environmental Monitoring – Quarterly Report – Q4 2025

### Contents

Executive Summary.....	2
1.0 Introduction .....	5
2.0 Our Current Understanding of the site – CSM.....	6
2.1 Review of Potential Contaminants of Concern.....	7
3.0 Aims of the Environmental Monitoring Programme .....	8
4.0 Collaborative Working .....	8
5.0 Monitoring Programme Design .....	9
Current Monitoring Programme .....	9
6.0 Surface Water Monitoring Results.....	12
6.1 Surface Water Monitoring Results Summary for Q4 2025. ....	12
6.2 Surface Water Monitoring Trends Analysis for Q4 2025 .....	16
6.2.1 Iron Trends in Surface Waters .....	16
6.2.2 Manganese Trends in Surface Waters .....	17
6.2.3 Ammoniacal Nitrogen Trends in Surface Water .....	18
6.2.4 Potential Contaminants of Concern – Trends in Surface Water.....	19
6.3 Surface Water Monitoring Results – PFAS (Per- & Polyfluoroalkyl substances).....	21
7.0 Qualitative Organics Screening Data .....	23
7.1 What is Organics Screening?.....	23
7.2 Benefits of screening over Quantitative Analysis .....	23
7.3 Limitations of the screen .....	23
7.4 How do we use the screen to manage risk from the Mobuoy site?.....	23
8.0 Groundwater Monitoring Results.....	25
8.1 Groundwater Monitoring Results Summary for Q4 2025.....	25
8.2 Groundwater Monitoring Results – Trend Analysis 2025.....	27
8.3 Groundwater Monitoring Results – PFAS (Per- & Polyfluoroalkyl substances).....	35
9.0 Summary and Conclusions .....	36

### Appendices

Appendix A – Potential Contaminants of Concern – Trends in Surface Water

Appendix B – PFAS Monitoring results (Surface Water & Groundwater)

Appendix C – Groundwater Trend Analysis – Mann Kendall Test

## Executive Summary

<b>Reporting Period:</b>	<b>01/10/2025 – 31/12/2025 (with annual trend assessment)</b>
<b>Report Date:</b>	12/02/2026
<b>Monitoring Status:</b>	Mobuoy EMP continues as per the agreed schedule.
<b>Monitoring in Period:</b>	<p>Monitoring carried out at site –</p> <ol style="list-style-type: none"> <li>Q4 Groundwater Monitoring round complete – December 2025.</li> <li>Monthly Surface Water monitoring completed in October, November &amp; December 2025.</li> <li>Bi-weekly Organics monitoring @ SW6 &amp; SW8 continues as per schedule.</li> <li>1 x round MNA monitoring completed in November 2025.</li> <li>PFAS Monitoring – 1 x round (reduced) completed in October 2025.</li> <li>The Technical Team continue to carry out weekly site inspections including field chemistry and visual inspection of surface water samples.</li> </ol>
<b>Mobuoy monitoring programme updates:</b>	PFAS monitoring - 3No. monitoring rounds scheduled in 2025.
<b>Surface Water Quality Issues:</b>	No surface water quality issues attributed to the Mobuoy Rd waste site have occurred within the reporting timeframe.
<b>Mobuoy On-Call Officer:</b>	No incidents at site within the reporting timeframe.
<b>Surface Water Quality Monitoring</b>	
<b>Qualitative Organics Screen:</b>	<b>No water quality issues</b> identified through the Organics Screening programme in the reporting timeframe. No ‘Medium peaks’ or ‘Large peaks’ were detected in the Raw or Final sample points for parameters classed as “Substances Routinely Monitored on the Mobuoy Site” or “Substances Identified in Screens of Surface Waters on the Mobuoy Site”.
<b>Quantitative Organics monitoring of Surface Water:</b>	<b>No water quality issues</b> identified through the Quantitative Organics monitoring in the reporting timeframe. All Organic parameters detected to date belong to the class of chemicals known as “PAHs” (Polycyclic Aromatic Hydrocarbons). In Q4 2025, Benzo(a)pyrene was detected in exceedance of the Environmental Quality Standard (EQS) but below the Drinking Water Standard (DWS) and World Health Organisation (WHO) guideline for drinking water quality at SW6 (u/s – upstream of the Mobuoy site) & SW8 (d/s – downstream of the Mobuoy site). The concentration of PAHs at SW8 (d/s) is comparable with SW6 (u/s), indicating a source upstream from the Mobuoy site.

	<p>A statistical trend assessment (Mann Kendall) of parameters indicates an upward trend for Naphthalene at SW8 (d/s) on the R.Faughan. Currently, the upward trend is not considered to be significant as Naphthalene concentrations at SW6 (u/s) &amp; SW8 (d/s) in 2025 are comparable and remain below the EQS (2ug/l). The concentrations detected during 2025 are in the parts-per-trillion range, which is considered low level at which Naphthalene is commonly present in the environment. At such low concentrations, year to year variability is expected, and fluctuations may result in apparent upward trends without indicating a substantive change in environmental conditions. Naphthalene is a ubiquitous environmental pollutant and is detected in rivers throughout Northern Ireland.</p>
<p><b>Surface Water Monitoring – Metals and Inorganic Parameters:</b></p>	<p><b>No water quality issues identified.</b></p> <ul style="list-style-type: none"> <li>• Ammoniacal Nitrogen, Iron &amp; Manganese are comparable between SW6 (u/s) &amp; SW8 (d/s) monitoring locations.</li> <li>• Concentrations of Iron detected at SW6 (u/s) &amp; SW8 (d/s) were above the DWS but below the EQS in Q4 2025.</li> <li>• Concentrations of Manganese detected above the DWS but below the EQS at SW8 (d/s) in October, November and December 2025 and above the DWS but below the EQS at SW6 (u/s) in November and December 2025.</li> <li>• Iron &amp; Manganese concentrations are known to be elevated in the Faughan catchment with elevated detections found historically upstream of the site at SW6.</li> <li>• A statistical trend assessment of parameters indicates a downward trend for Manganese at SW6 &amp; SW8, and for Nickel at SW8.</li> <li>• Water quality is comparable between SW6 (u/s) and SW8 (d/s), no adverse impacts on water quality in the River Faughan attributable to the Mobuoy site were observed.</li> </ul>
<p><b>Field Chemistry:</b></p>	<p><b>No water quality issues identified in Q4 2025.</b></p> <ul style="list-style-type: none"> <li>• 13 x site inspections were conducted by NIEA staff in Q4 2025. Site inspections involve a walkover of the River Faughan &amp; tributaries that flow adjacent to the site where visual assessments are recorded and ‘field chemistry’ analysis carried out for a range of water quality parameters such as pH, Conductivity, Ammoniacal Nitrogen, Dissolved Oxygen &amp; Turbidity.</li> <li>• Concentrations detected were comparable between SW6 (u/s) and SW8 (d/s).</li> </ul>
<p><b>Groundwater Quality Monitoring</b></p>	
<p><b>Groundwater Monitoring:</b></p>	<ul style="list-style-type: none"> <li>• Ammoniacal Nitrogen, Iron and Manganese were detected above their respective EQS in waste zones throughout the site.</li> <li>• Concentrations of Nickel detected above the EQS in Waste Zones 1, 5, 6 &amp; 8.</li> <li>• Concentrations of Cadmium detected above the EQS in Waste Zones 5, 6, 7 &amp; 8.</li> <li>• Concentrations of Chromium (III) were detected above the EQS at monitoring locations within Waste Zones 1 &amp; 3.</li> </ul>

- Concentrations of Sodium detected above the DWS in Waste Zones 1, 3 & 8.
- Concentrations of Chloride detected above the DWS in Waste Zones 1, 3 & 8.
- Elevated Conductivity was detected above the DWS in Waste Zones 1, 3, 6 & 8.
- An elevated concentration of Nitrite was detected above the DWS at a monitoring location within Waste Zone 8.
- Concentrations of Benzene detected above the EQS in Waste Zones 5 & 8.
- Concentrations of Toluene detected above the EQS in Waste Zone 8.
- An elevated concentration of Ethylbenzene was detected above the 'WHO Guideline for drinking water quality' at a monitoring location in Waste Zone 5.
- Concentrations of 'PAH' parameters (particularly Naphthalene, Anthracene, Fluoranthene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene & Benzo(a)pyrene) detected above applicable standards predominantly in Waste Zones 1, 3, 5, 8 & 9.

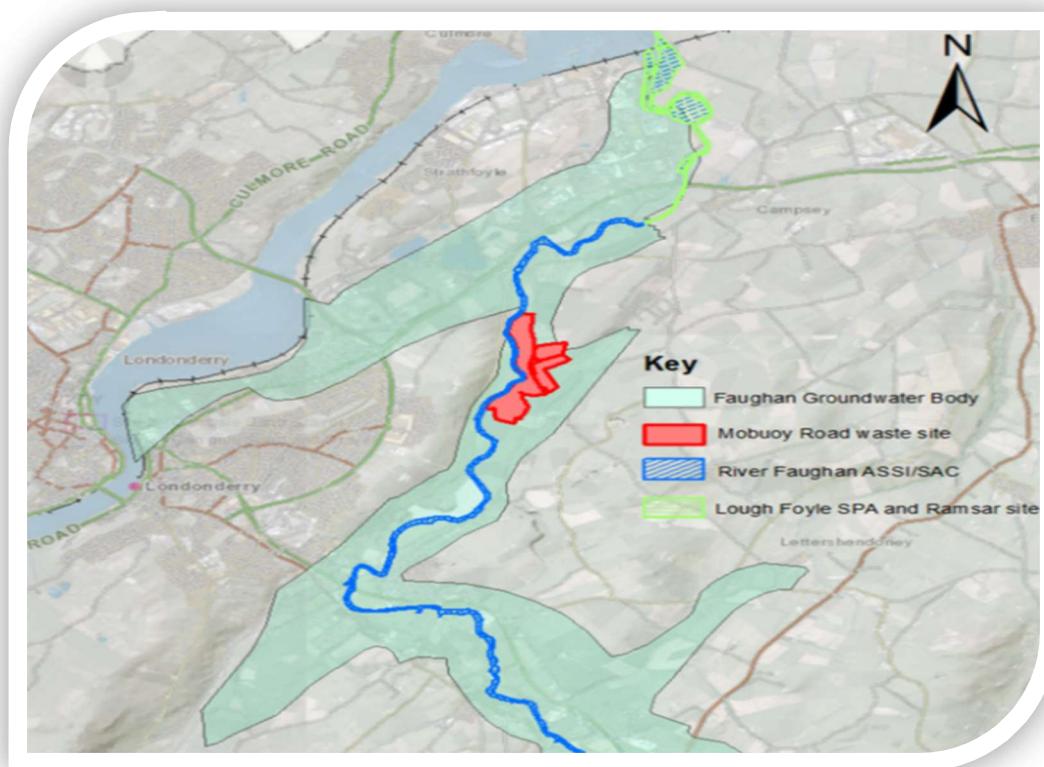
## 1.0 Introduction

The Mobuoy Road waste site contains deposits of uncontrolled waste that have impacted the groundwater beneath the site. The groundwater beneath the site flows towards the River Faughan and contributes to the flow in the river. The River Faughan flows to the north towards Lough Foyle and NI Water abstract water for public supply approximately 2km downstream of the site. The water abstracted by NI Water is then fully treated at the water treatment works, in line with the requirements of the Drinking Water Regulations, before going into the drinking water supply network.

The River Faughan is designated as an Area of Special Scientific Interest (ASSI) and as a Special Area of Conservation (SAC) due to its Atlantic salmon and otter populations.

NIEA is developing plans for remediation of the Mobuoy Road Waste site. Prior to any remediation, the environmental impacts of the waste deposits are closely monitored to assess any impact to the water environment through a comprehensive Environmental Monitoring Programme (EMP). Results are monitored and interpreted continuously by a dedicated project team. The purpose of this report is to provide a quarterly summary of the results, interpretations, and any resulting actions.

Figure 1 – Site Location and Setting



## 2.0 Our Current Understanding of the site – CSM

The risks of the waste on the environment have been thoroughly assessed in line with the Land Contamination Risk Management process (<https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>).

An updated Detailed Quantitative Risk Assessment (DQRA) was completed in October 2022 (<https://www.daera-ni.gov.uk/publications/mobuoy-remediation-project-industry-engagement-remediation-options>). Important components of the DQRA are the Conceptual Site Model (CSM), identification of Potential Contaminants of Concern (PCOCs); and modelling of those PCOCs to assess the risk to the both the groundwater underlying the site and the River Faughan.

The CSM is constructed on the '**Source-Pathway-Receptor**' model. In the case of the Mobuoy site the CSM divides the site into discrete 'source zones' based on the different waste types and therefore different PCOCs in each zone.

Figure 2 - Source Zones (DQRA)



**Source Zones** have common pathways by which contamination could migrate to receptors.

Two **pathways** are identified for the Mobuoy site:

1. Migration through the groundwater, and
2. Transport via a Tributary, which intersects part of the site, to the River Faughan.

The **receptors** sensitive to pollution from the site are the groundwater that underlies the site; the River Faughan and its ecology; and the drinking water abstraction at Cloghole.

Where the DQRA identifies a contaminant linkage, further detailed risk assessment has been undertaken using established modelling methodologies (Environment Agencies Remedial Targets Methodology using ConSim and Water Balance Modelling). This modelling has resulted in a risk rating for each contaminant in each source zone depending on the modelled concentrations at the receptor and the travel time to the receptor.

## 2.1 Review of Potential Contaminants of Concern

Potential contaminants of concern for the site per source zone are outlined in Figure 3 below. The Updated DQRA (Tetratech, October 2022) divides the site into ten 'source zones' as presented in Figure 2 above. PCOCs are assigned a risk rating from negligible to moderate depending on the degree to which modelling predicts these contaminants exceed their respective screening criteria at the site boundary and the predicated travel time to the receptor. The ratings within the table are based on established modelling methodologies.

Figure 3 - DQRA table 12.3 – Summary of DQRA Results – Risk to River Faughan

Mobyuoy Road Waste Site								Updated DQRA
Table 12-3 - Summary of DQRA Results – Risk to River Faughan								
Contaminant of Concern	Source Area 1,2,3	Source Area 3,8	Source Area 5	Source Area 6	Source Area 7	Source Area 8	Source Area 9	
<b>Metals</b>								
Arsenic	Low							
Boron	Low	Low						
Cadmium			Moderate	Moderate	Moderate	Moderate		
Copper	Negligible							
Zinc	Low	Moderate	Moderate	Low	Moderate	Low	Low	
Nickel	Low	Moderate	Negligible	Low	Low	Moderate	Low	
Mercury	Negligible	Low						
<b>PAHs</b>								
Naphthalene	Moderate	Moderate	Moderate	Moderate				
Fluoranthene		Moderate	Moderate					
Anthracene		Moderate	Moderate					
<b>BTEX</b>								
Benzene		Moderate	Moderate	Low				
Toluene	Negligible	Moderate	Low		Negligible			
Ethylbenzene		Moderate	Moderate					
<b>TPH (aromatic)</b>								
C5 to C7 Aromatic		Moderate	Moderate					
C8 to C10 Aromatic		Moderate						
C10 to C12 Aromatic	Moderate	Moderate	Moderate					
C12 to C16 Aromatic		Moderate	Moderate					
C16 to C21 Aromatic		Moderate	Low					
C21 to C35 Aromatic		Low						
<b>Other</b>								
Ammonia	Moderate	Negligible	Negligible	Moderate		Moderate	Low	
Chloride	Low			Low		Moderate		
Free Cyanide	Moderate			Moderate	Moderate		Moderate	

It is of note that this is the risk rating at the boundary condition of the site but when dilution from the River Faughan is taken into account the DQRA concludes that impact to the Faughan is not likely.

### 3.0 Aims of the Environmental Monitoring Programme

The purpose of the Environmental Monitoring Programme (EMP) is to:

1. Protect the raw water quality and sufficiency at Cloghole abstraction point in the River Faughan where NI Water abstract raw water to Carmoney Water Treatment Works for full treatment for public drinking water supply.
2. Protect water quality of the River Faughan.
3. Inform remediation design of the Mobuoy Road waste site.

This is done by:

1. Monitoring the water quality in the River Faughan to detect any immediate risk to water quality in the River Faughan.
2. Monitoring groundwater wells (or boreholes), installed into waste and natural ground on-site for any changes in chemical concentration within the groundwater. Monitoring the groundwater gives an early warning of changing risk to the receptors. The Potential Contaminants of Concern (PCOCs) identified for 'source zones' have travel times ranging from <1yr to >17000 yrs. These travel times feed into the modelled risk rating in the DQRA. If we observe an increasing trend in concentration or a change in spatial extent this could mean changes in the risk to the receptors.
3. Biological monitoring is undertaken in the River Faughan. Biological monitoring detects changes in the population structures of living organisms that occur when an ecosystem is subjected to pollution or other types of environmental stress. Biological monitoring gives the best indication of the river health in the medium term.

In addition to monitoring undertaken for protection of public health and surface water receptors, monitoring for purposes of informing remediation design is undertaken in the form of 'Monitored Natural Attenuation' monitoring and 'Tarry Waste' monitoring (further explanation in section 5.0).

### 4.0 Collaborative Working

The EMP is implemented and developed at the site alongside a collaborative partnership with NI Water, Loughs Agency, and NIEA Water Management Unit. Additional support and oversight of the EMP, including water quality testing results generated, is provided by other project stakeholders through quarterly meetings of the Mobuoy Water Quality Technical Advisory Group (WQTAG). The WQTAG promotes a collaborative working platform for (a) Data Sharing; (b) Sharing expert advice on surface water and drinking water quality matters, and (c) Sharing working knowledge of other water quality pressures in the Faughan catchment.

## 5.0 Monitoring Programme Design

### Current Monitoring Programme

The current monitoring programme consists of multiple complementary lines of monitoring:

- 1) **Mobuoy EMP** - The Environmental Monitoring Plan which is primarily aimed at risk management and the protection of sensitive receptors and encompasses:
  - Qualitative Screening for organic parameters in the River Faughan undertaken by NIEA and at the NI Water abstraction at Cloghole (raw water abstraction) and the treated water at Carmoney Water Treatment Works (WTW) by NIEA on behalf of NI Water.
  - Quantitative chemical analysis of site surface waters & the River Faughan.
  - Biological monitoring of surface waters in the River Faughan.
  - Quantitative chemical analysis of site groundwater.
  - PFAS analysis of River Faughan and site Groundwater – Analysis summary to be reported annually (Q4 report).
  
- 2) **MNA Monitoring** – Monitored Natural Attenuation Monitoring is for the purposes of remedial design to collect evidence of contamination attenuation processes in the site groundwater. MNA, where site conditions are suitable, has been shown to be effective in the remediation of organics substances such as hydrocarbons. Subsequently, the MNA programme has been targeted towards areas where there is a greater concentration of organics impact. Serves a dual purpose for Tarry Waste monitoring.
  
- 3) **Tarry Waste Monitoring** - The greatest impact of organics on the site is associated with 'Tarry Waste' deposits. Additional 'Tarry Waste' specific parameters have been added to the MNA programme of monitoring rather than the EMP to maximise resource i.e. locations are already scheduled for MNA monitoring so some additional tarry waste parameters have been added.

### Surface Water Monitoring Locations and Schedule

A summary of the surface water monitoring locations is presented in Figure 4 below with a summary schedule for surface water monitoring outlined in Table 1 below.

Figure 4 –Surface Water Monitoring Locations.

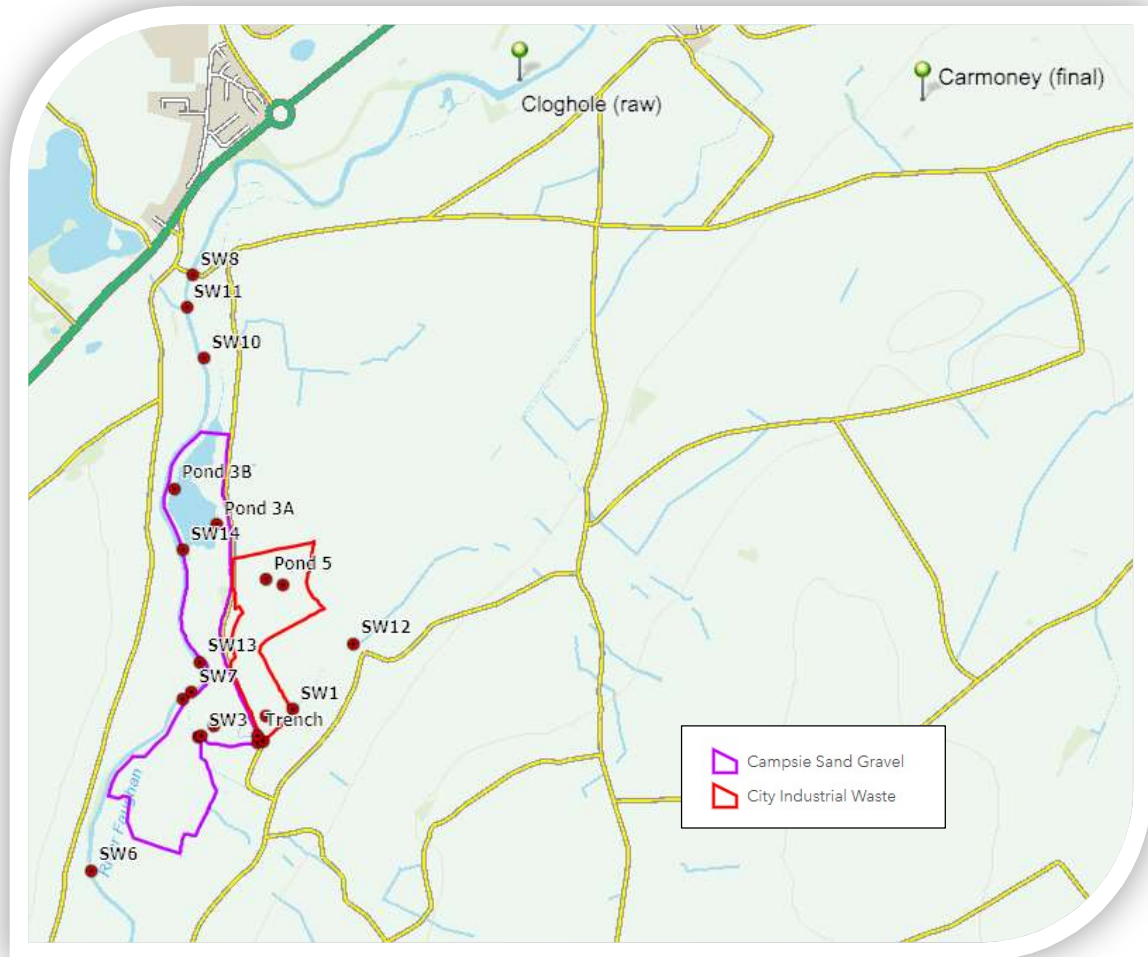


Table 1 - Summary of Surface Water Monitoring: Q4 2025 October - December

Quantitative - Metals and Inorganics	
Surface Water	<p><b>Monthly (October, November &amp; December) – Tributary (SW2, SW3, SW4, SW5, SW12); and River Faughan (SW6, SW7, SW8, SW10, SW11, SW14); and Site Standing Waters (Lagoon, Trench, Pond 3a)</b></p> <p><b>Quarterly (October) - Tributary (SW1, SW9) and Site Standing Waters (Pond 2, Pond 4 &amp; Pond 5)</b></p>
Quantitative - Organics	
Surface Water	<b>Monthly - River Faughan (SW6/ SW8)</b>
Raw Water and Treated Water at the Water Treatment Works	<p><b>Monthly – Raw (Cloghole abstraction) and Final Water (Carmoney Water Treatment Works).</b></p> <p><i>*Note this is in addition to the sampling and analysis undertaken by NI Water.</i></p>
Qualitative Organics Screen	
Surface Water	<p><b>Daily – NIW Raw (River Faughan @ Cloghole) and Treated (Carmoney WTW)</b></p> <p><b>Monthly - SW6/ SW8</b></p> <p><b>Monthly – SW5/SW12/SW10/Pond 3a</b></p>

#### Groundwater Monitoring Locations and Schedule

A summary of the monitoring zones for groundwater are presented in Figure 2 in Section 2.0 of this report. The schedule by zone for the groundwater monitoring is outlined in Table 2 below.

The monitoring of site boreholes, both leachate (wells installed into waste) and groundwater wells (installed into natural ground) is split over two monitoring programmes; the Mobuoy EMP and the MNA monitoring programme. This is due to their slightly differing purposes. The EMP is primarily for the purposes of environmental protection, whereas the MNA programme is primarily for collection of evidence for remedial design.

Groundwater is sampled as per the monitoring schedule. Sampling frequency and suites of analysis are based on the risks identified in the detailed quantitative risk assessment (DQRA) for the site.

Table 2 – Summary of Groundwater Monitoring programme: Q4 2025 October - December

Source Zone	NIEA – Mobuoy Environmental Monitoring Programme		Monitored Natural Attenuation Monitoring Programme
	Quarterly	Annual	Round 21
<b>Zone 1</b>	BH302; BH113; BH646	BH610D	BH302; BH407; BH408; BH610D; BH646
<b>Zone 2</b>	-	-	BH649B
<b>Zone 3</b>	BH659D; BH649B; BH666	-	BH405; BH406; BH659D; BH666; BH679
<b>Zone 4</b>	-	-	BH114
<b>Zone 5</b>	BH07; BH102; BH627; BH629; BH631	BH628; BH630; BH662	BH07; BH102; BH626; BH627; BH628; BH629; BH630; BH631
<b>Zone 6</b>	BH101; BH104; BH119; BH201; BH623D; BH624D; BH653; BH654D	-	-
<b>Zone 7</b>	BH205	BH212	-
<b>Zone 8</b>	BH06; BH106; BH107; BH206; BH402; BH403; BH404; BH409; BH410; BH411; BH633; BH634; BH636D; BH651	BH401	BH06; BH106; BH107; BH206; BH402D; BH403; BH404; BH410; BH633; BH634; BH636D; BH651
<b>Zone 9</b>	BH220; BH635D; BH637	BH111; BH638	BH111
<b>CIW Yard</b>	-	-	-
<b>Off-site</b>	BH1 Drumahoe	BH612	-
<b>Total</b>	<b>38 x Boreholes</b>	<b>9 x Boreholes</b>	<b>33 x Boreholes</b>

## 6.0 Surface Water Monitoring Results

### 6.1 Surface Water Monitoring Results Summary for Q4 2025.

Surface water quality results are screened against relevant Environmental Quality Standards (EQS) & Drinking Water Standards (DWS). The EQS are standards derived or set out by the 'Water Framework Directive (Priority Substances and Classification) Regulations (NI), 2015' designed to protect the water environment ecology and habitats. The DWS are standards derived or set out by the 'Water Supply (Water Quality) Regulations (NI) 2017'. For parameters where both an EQS & DWS are available, the most stringent value has been used for comparison. Long term trends in the data are monitored for any trends which may indicate an impact from the Mobuoy site. Trend analysis for key contaminants is presented in section 6.2 of this report.

Table 3 – Summary of Metallic Parameters (Trace Metals) in surface waters: Q4 2025 October – December.

Parameter	Screening Value (EQS / DWS)	Tributary (SW1, SW2, SW3, SW4, SW5, SW9, SW12)	River Faughan (SW6, SW7, SW8, SW10, SW11, SW13, SW14)		
	Units (µg/l)	No. Detections Above DWS / EQS	Concentration Range (ug/l)	No. Detections Above DWS / EQS	Concentration Range (ug/l)
<b>Arsenic</b>	10 (2)	0	0.19 – 0.68	0	0.38 – 0.52
<b>Cadmium</b>	0.09 (1)	0	0.03 <sup>a</sup> – 0.06	0	0.03 <sup>a</sup>
<b>Calcium</b>	-	0	35,601 – 47,090	0	18,309 – 37,699
<b>Chromium</b>	50 (2)	0	0.13 <sup>a</sup> – 0.26	0	0.13 <sup>a</sup> – 0.35
<b>Chromium (III)</b>	4.7 (1)	0	0.13 <sup>a</sup>	0	0.13 <sup>a</sup> – 0.35
<b>Chromium (VI)</b>	3.4 (1)	0	0.03 <sup>a</sup> – 0.13	0	0.03 <sup>a</sup>
<b>Copper</b>	1 (Bioavailable*) (1)	0	1.70 – 6.18	0	0.82 – 2.16
<b>Lead</b>	1.2 (Bioavailable*) (1)	0	0.03 <sup>a</sup> – 0.18	0	0.03 <sup>a</sup> – 0.32
<b>Nickel</b>	4 (Bioavailable*) (1)	0	1.07 – 1.97	0	0.92 – 1.63
<b>Mercury</b>	0.07 (1)	0	0.0025 <sup>a</sup>	0	0.0025 <sup>a</sup>
<b>Aluminium</b>	200 (2)	0	0.05 <sup>a</sup>	0	0.05 <sup>a</sup>
<b>Iron</b>	200 (2)	0	20 <sup>a</sup> – 140	3@SW6 3@SW8 3@ SW13 2@SW14	61 – 703
<b>Magnesium</b>	-	0	4,552 – 7,249	0	3,110 – 5,528
<b>Manganese</b>	50 (2)	1@SW3 1@SW4 3@SW5	12.5 <sup>a</sup> - 284	2@SW6 3@SW8 1@SW10 2 @ SW13 2@SW14	37 – 72
<b>Potassium</b>	-	0	4,152 – 7,968	0	1,925 – 7,188
<b>Vanadium</b>	-	0	0.05 – 0.31	0	0.03 <sup>a</sup> – 0.30
<b>Selenium</b>	10 (2)	0	0.27 – 0.84	0	0.10 <sup>a</sup>
<b>Sodium</b>	200,000 (2)	0	10,409 – 14,704	0	8,464 – 13,769
<b>Zinc</b>	10.9AA+ABC (Bioavailable*)** (1)	0	1.41 – 5.61	0	1.51 – 3.31
<b>Sulphate</b>	250,000 (2)	0	11,576 – 20,643	0	6,951 – 13,413
<b>Sulphur</b>	-	0	3,864 – 6,890	0	2,320 – 4,477

(1) EQS (The Water Framework Directive (Priority Substances and Classification) Regulations (NI) 2015)

(2) DWS (The Water Supply (Water Quality) Regulations (NI) 2017)

\*Bioavailable – The fraction of the dissolved concentration likely to result in toxic effects as determined using the ‘Metals Bioavailability Assessment Tool’.

\*\*AA- Annual average, ABC – Ambient Background Concentration. ABC is an estimate of background levels of Zinc based on a low percentile of monitoring data. A figure of 1µg/l has been estimated for freshwaters in NI.

<sup>a</sup> Where monitoring data received is below the laboratory ‘Limit of Quantification’ (LOQ), half the LOQ value is reported.

Metals results from Q4 2025 for the monthly and quarterly scheduled surface water monitoring in the River Faughan and the tributary adjacent to the site (Table 3), indicate that Iron & Manganese concentrations detected were in exceedance of the DWS but below the EQS at a number of surface water monitoring locations. Further interpretation is provided in Section 6.2 below. Concentrations of Copper reported are for the ‘dissolved’ concentration. The EQS for Copper is based on the concentration that is ‘Bioavailable’. The concentration that is ‘Bioavailable’ is calculated using a model known as ‘MBAT’ (Metals Bioavailability Assessment Tool). Although the dissolved concentration range reported in Q4 would indicate an exceedance of the EQS, when the ‘MBAT’ model is applied, concentrations of Copper detected in Q4 are below the EQS.

Table 4 – Summary of Inorganics Parameters in surface waters – Q4 2025 October – December.

Parameter	Screening Value (EQS / DWS)	Tributary (SW1, SW2, SW3, SW4, SW5, SW9, SW12)		River Faughan (SW6, SW7, SW8, SW10, SW11, SW13, SW14)	
	Units (mg/l)	No. Detections Above EQS	Concentration Range (mg/l)	No. Detections Above EQS	Concentration Range (mg/l)
<b>Alkalinity</b>	-	0	70.0 – 94.0	0	40.0 – 94.0
<b>Ammoniacal Nitrogen</b>	0.3 (1)	0	0.02 <sup>a</sup> – 0.18	0	0.02 <sup>a</sup> – 0.06
<b>Biochemical Oxygen Demand</b>	4 (1)	0	1.5 <sup>a</sup> – 3.7	0	1.5 <sup>a</sup>
<b>Chloride</b>	250 (2)	0	20.80 – 29.50	0	14.9 – 21.6
<b>Conductivity</b>	2500µS/cm (2)	0	281.5 – 366	0	163.9 – 302.2
<b>Dissolved Organic Carbon</b>	-	0	2.68 – 7.66	0	4.66 – 12.59
<b>Nitrate</b>	50 (2)	0	3.53 – 6.06	0	0.82 – 1.61
<b>Nitrite</b>	0.1 (2)	0	0.005 – 0.041	0	0.006 – 0.011
<b>pH</b>	>6 <9 (1)	0	6.56 – 7.5	0	7.2 – 7.7
<b>Total Oxidised Nitrogen</b>	-	0	3.56 – 6.07	0	0.83 – 1.62
<b>Total Phosphorus</b>	-	0	0.04 – 0.34	0	0.05 – 0.11

(1) EQS (The Water Framework Directive (Priority Substances and Classification) Regulations (NI) 2015)

(2) DWS (The Water Supply (Water Quality) Regulations (NI) 2017)

<sup>a</sup> Where monitoring data received is below the laboratory 'Limit of Quantification' (LOQ), half the LOQ value is reported.

Inorganic results for surface waters monitored in Q4 2025 show that there were no exceedances for any parameters. Overall, Inorganic parameters monitored in Q4 2025 are comparable between the upstream (SW6) and downstream (SW8) monitoring locations in the River Faughan.

Table 5 – Summary of Organics Parameters exceeding a screening standard in Q4 2025 October – December.

	Parameter	EQS Units (µg/l)	No. of detections	Average concentration (µg/l)	Max concentration (µg/l)	Min concentration (µg/l)
<b>SW6</b>	Benzo(a)pyrene	0.00017 (1)	1	0.005	0.005	0.005
<b>SW8</b>	Benzo(a)pyrene	0.00017 (1)	1	0.003	0.003	0.003

(1) EQS (The Water Framework Directive (Priority Substances and Classification) Regulations (NI) 2015)

(2) DWS (The Water Supply (Water Quality) Regulations (NI) 2017)

(AA) – Annual average.

Organics quantitative analysis of surface waters in Q4 2025 found low level detections of Benzo(a)pyrene above the EQS (Environmental Quality Standard). Benzo(a)pyrene belongs to the class of chemicals known as Polycyclic Aromatic Hydrocarbons (PAHs). Although detections were found to be above the EQS at SW6 (upstream) & SW8 (downstream), concentrations were not in breach of their "Maximum Allowable Concentration" (MAC). MAC is an environmental standard used to evaluate short term impacts. When compared with relevant Drinking Water Standards (DWS), detections of Benzo(a)pyrene in Q4 2025 were found to be below the DWS (0.01ug/l) and the World Health Organisation (WHO) guideline for drinking water (0.7ug/l).

Detections of PAHs in Q4 2025 are low level and present in the upstream sample (SW6) as well as the downstream sample (SW8) indicating a source upstream of the Mobuoy site. PAHs are ubiquitous environmental pollutants generated primarily during the incomplete combustion of organic materials. The EQS for PAHs are highly conservative compared to the drinking water standards for these substances.

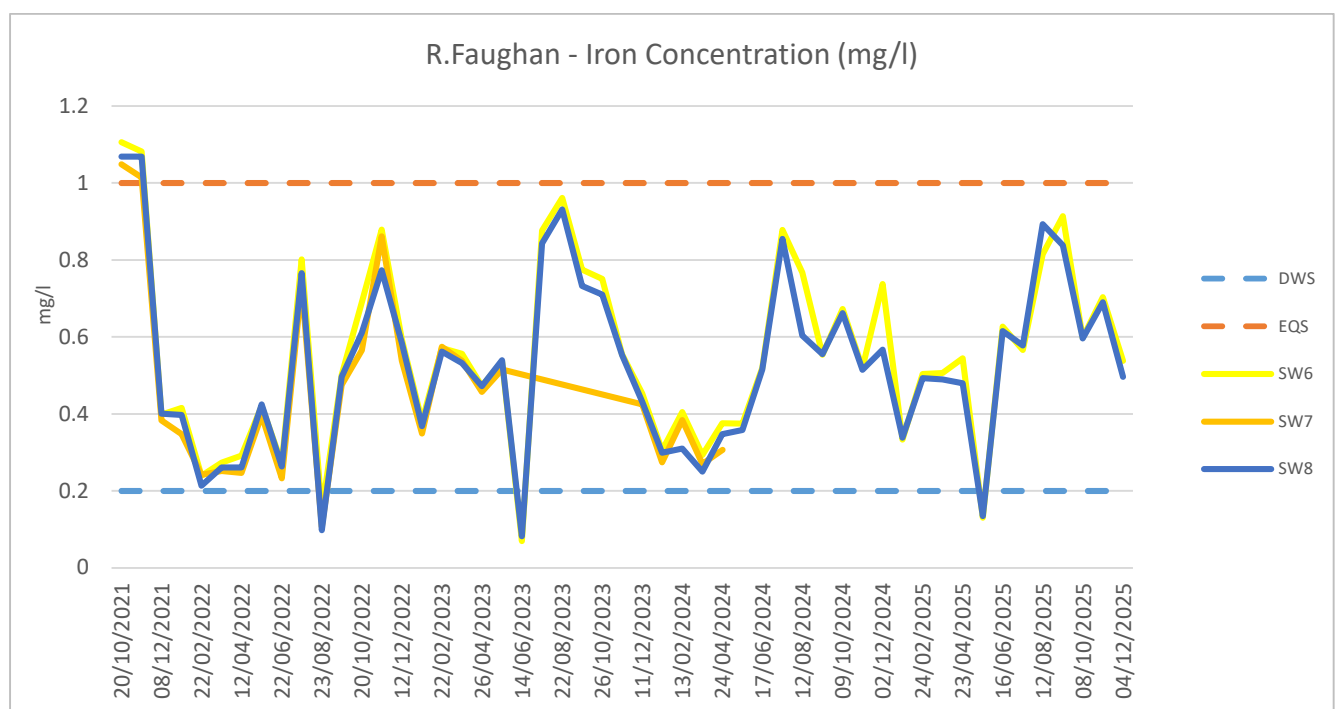
It should be noted that samples taken at SW6 and SW8 are reflective of the 'Raw' water quality in the river. Water abstracted by NI Water at Cloghroe goes through a full treatment process at the Carmoney Treatment works, in line with the requirements of the Drinking Water Regulations, before going into the drinking water supply network.

## 6.2 Surface Water Monitoring Trends Analysis for Q4 2025

### 6.2.1 Iron Trends in Surface Waters

Concentrations of Iron detected at SW6 (u/s - upstream of the site) & SW8 (d/s - downstream of the site) were above the DWS (0.2mg/l) but below the EQS (1.0mg/l) in October, November & December 2025. Monitoring data does not indicate an increasing trend at SW8, and concentrations observed are comparable between the upstream and downstream monitoring locations. Iron is generally high in the catchment and a seasonal trend can be observed in the data.

Figure 5 – Iron (dissolved) concentrations in the River Faughan - SW6 & SW8



Notes: Screening values; DWS - 0.2mg/l (Water Supply Regs 2017); EQS – 1.0mg/l (WFD Regs 2015)

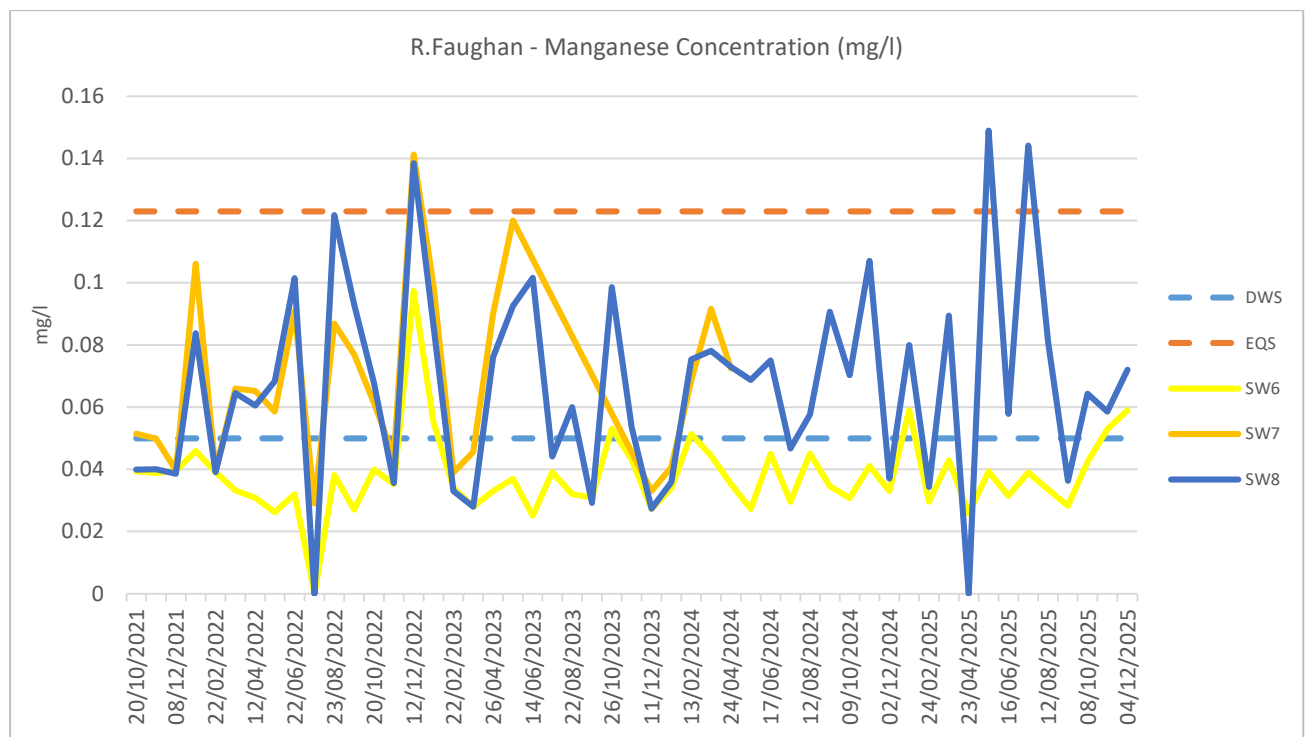
SW7: no sample collected June – December 2023, or May 2024 – present (no access to sampling point).

## 6.2.2 Manganese Trends in Surface Waters

In Q4 2025, Manganese concentrations detected at SW6 (upstream of site) are below the DWS (0.05mg/l) and EQS (0.123mg/l 'Bioavailable') in October, and below the EQS but above the DWS in November and December. Manganese concentrations detected at SW8 (downstream of the site) exceeded the DWS (0.05mg/l) but were below the EQS (0.123mg/l 'bioavailable') in October, November and December.

Monitoring data does not indicate an increasing trend at SW8 and detections are within the historical range. Concentrations observed are comparable between the upstream (SW6) and downstream (SW8) monitoring locations.

Figure 6 – Manganese (dissolved) concentrations in the River Faughan - SW6 & SW8



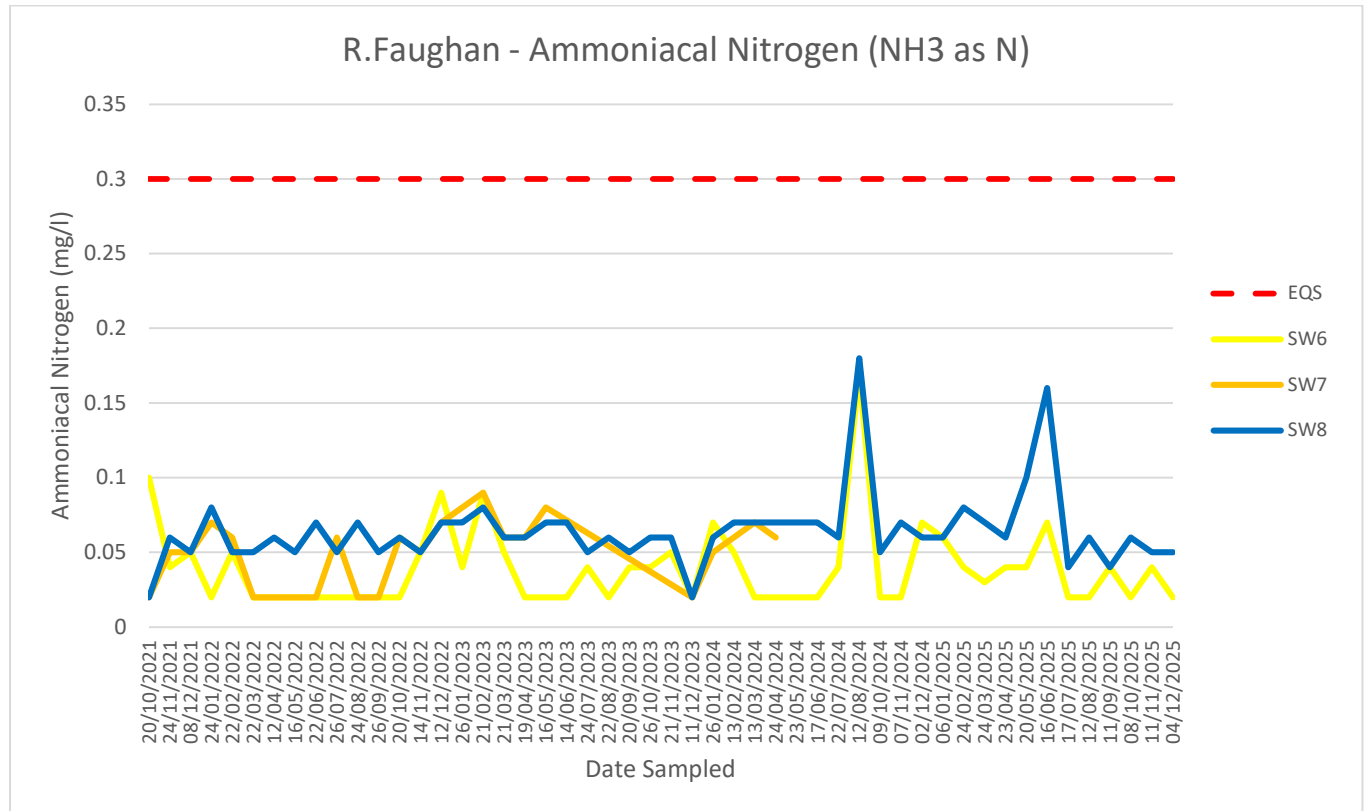
Notes: Screening values; DWS – 0.05mg/l (Water Supply Regs 2017); EQS – 0.123mg/l 'Bioavailable' (WFD Regs 2015)

SW7: no sample collected June – December 2023, or May 2024 – present (no access to sampling point).

### 6.2.3 Ammoniacal Nitrogen Trends in Surface Water

Ammoniacal Nitrogen results for Q4 2025 (October – December) indicate no detections above the EQS (0.3mg/l, 'High' status) at SW6 (upstream of the site) or SW8 (downstream of the site). Monitoring data does not indicate an increasing trend at SW8, and concentrations observed are comparable between the upstream (SW6) and downstream (SW8) monitoring locations.

Figure 7 – Ammoniacal Nitrogen concentrations in the River Faughan - SW6 & SW8



Notes: Screening values NH3 as N; EQS – 0.3mg/l (WFD Regulations, 2015); DWS – 1.0mg/l (Protection of Surface Waters Intended for the Abstraction of Drinking Water).

SW7: no sample collected June – December 2023, or May 2024 – present (no access to sampling point).

## 6.2.4 Potential Contaminants of Concern – Trends in Surface Water

Table 6 – Surface Water Trends - Contaminants of Potential Concern from DQRA

Source Zone	Parameters with Moderate Risk	Trends	Comments
Surface Waters	Ammonia	No detections above the EQS 'High' status (0.3mg/l) at SW6 (upstream) or SW8 (downstream) in 2025. Analysis of monitoring data gives no indication of a trend in Ammonia concentrations in R.Faughan.	Ammonia concentrations are comparable between SW6 & SW8 monitoring locations.  <b>No impact.</b>
Surface Waters	Chloride	No detections above the DWS (250mg/l) at SW6 (upstream) or SW8 (downstream) in 2025. Analysis of monitoring data gives no indication of a trend in Chloride concentrations in R.Faughan.	Chloride concentrations are comparable between SW6 & SW8 monitoring locations.  <b>No impact.</b>
Surface Waters	Cadmium	No detections above the EQS (0.09ug/l) at SW6 (upstream) or SW8 (downstream) in 2025. Analysis of monitoring data gives no indication of a trend in Cadmium concentrations in R.Faughan.	Cadmium concentrations are comparable between SW6 & SW8 monitoring locations.  <b>No impact.</b>
Surface Waters	Zinc	No detections above the EQS (10.9ug/l 'Bioavailable' + ABC) at SW6 (upstream) or SW8 (downstream) in 2025. Analysis of monitoring data gives no indication of a trend in Zinc concentrations in R.Faughan.	Zinc concentrations are comparable between SW6 & SW8 monitoring locations.  <b>No impact.</b>
Surface Waters	Nickel	No detections above the EQS (4ug/l 'Bioavailable') at SW6 (upstream) or SW8 (downstream) in 2025. Analysis of monitoring data indicates a downward trend	Nickel concentrations are comparable between SW6 & SW8 monitoring locations.  <b>No impact.</b>

		at SW8 (d/s) in the R.Faughan.	
<b>Surface Waters</b>	Naphthalene	No detections above the EQS (2ug/l) at SW6 & SW8 in 2025. Statistical analysis of monitoring data indicates an upward trend in Naphthalene concentrations at SW8 (d/s) while no trend is identified at SW6 (u/s) in the R.Faughan.	Naphthalene concentrations at SW6 & SW8 in 2025 are comparable and remain below the EQS (2ug/l). The concentrations detected during 2025 are in the parts-per-trillion range, which is considered low level at which Naphthalene is commonly present in the environment. At such low concentrations, year to year variability is expected, and fluctuations may result in apparent upward trends without indicating a substantive change in environmental conditions.  <b>No impact.</b>
<b>Surface Waters</b>	Fluoranthene	Monitoring data indicates that 4No. detections exceeded the EQS (0.0063ug/l) at SW6 (u/s) & SW8 (d/s) during 2025 - 3No. detections at SW6 and 1No. detections at SW8. The EQS for Fluoranthene is based on an 'Annual Average' concentration. When the 2025 'Annual Average' is calculated, Fluoranthene concentrations are below the EQS at both SW6 (u/s) and SW8 (d/s) monitoring locations in the R.Faughan. Analysis of monitoring data gives no indication of a trend in Fluoranthene concentrations in R.Faughan.	Fluoranthene concentrations are comparable between SW6 & SW8 monitoring locations. The 'Annual Average' for Fluoranthene is below the EQS at SW6 & SW8. Naphthalene detections in 2025 at SW6 & SW8 are below the 'Maximum Allowable Concentration' EQS (MAC-EQS) – 0.12ug/l. The 'MAC-EQS' is a limit derived to protect the environment against short term effects.  <b>No impact.</b>
<b>Surface Waters</b>	Anthracene	No detections above the EQS (0.1ug/l) at SW6 & SW8 in 2025. Analysis of monitoring data gives no indication of a	Anthracene concentrations are comparable between SW6 & SW8 monitoring locations.

		trend in Anthracene concentrations in R.Faughan.	<b>No impact.</b>
<b>Surface Waters</b>	Benzene	No detections above the laboratory 'Limit of Quantification' (LOQ) at SW6 & SW8 in 2025. To date there have been no detections of Benzene at SW6 or SW8 above the EQS (10ug/l).	<b>No impact.</b>
<b>Surface Waters</b>	Toluene	No detections above the laboratory 'Limit of Quantification' (LOQ) at SW6 & SW8 in 2025. To date there have been no detections of Toluene at SW6 or SW8 above the EQS (74ug/l).	<b>No impact.</b>
<b>Surface Waters</b>	Ethylbenzene	No detections above the laboratory 'Limit of Quantification' (LOQ) at SW6 & SW8 in 2025. To date there have been no detections of Ethylbenzene at SW6 or SW8 above the WHO guideline (300ug/l).	<b>No impact.</b>

For further information, graphs displaying monitoring data & statistical analysis of parameters listed in Table 6 are presented in Appendix A.

### 6.3 Surface Water Monitoring Results – PFAS (Per- & Polyfluoroalkyl substances)

PFAS stands for per- and polyfluoroalkyl substances, an umbrella term for a large group of synthetic organofluorine chemicals that have been widely used since the 1940s. PFAS compounds are widely used in industry and manufacturing applications such as non-stick cookware, stain repellent clothing, food packaging, cleaning products and firefighting foams. With such a wide range of uses, PFAS can readily enter the environment during manufacture or formulation, use of the substances themselves and through disposal.

In 2025, there were 3No. monitoring rounds for PFAS substances through the Mobuoy EMP. Monitoring rounds consisted of the collection of groundwaters (within the Mobuoy site) and surface waters (River Faughan upstream & downstream of the Mobuoy site). Results from groundwater

monitoring are presented in section 8.3 of the report. Table 7 below presents a summary of PFAS substances detected during surface water monitoring in 2025, results in full are presented in Appendix B.

Table 7 – Summary of PFAS parameters detected through Surface Water monitoring programme - 2025

Parameter	February 2025			August 2025		October 2025	
	SW6	SW8	Cloghole	SW6	SW8	SW6	SW8
PFHxA	0.001	NDP	-	-	-	-	-
PFOA	0.0014	NDP	0.001	-	0.0013	0.0008	-
PFHxS	0.004	NDP	-	-	-	-	-
PFHpS	0.001	NDP	-	-	-	-	-
PFOS	0.0461	NDP	0.0013	-	0.0009	-	-
6:2 FTS	0.011	NDP	-	-	-	-	-

\*Results reported in ug/l

NDP – No Determination Possible

\*Where (-) is denoted in table, the result is below the laboratory 'Limit of Quantification'.

With the exception of PFOS, there is currently no explicit regulatory limit for PFAS substances under the 'Water Framework Directive'. PFOS is a priority hazardous substance within the 'Water Framework Directive (Classification, Priority Substances and Shellfish Waters) Regulations (NI) 2015'. An annual average EQS (AA) for freshwaters is derived for PFOS (0.00065ug/l).

PFOS detections above the EQS were recorded during the February and August sampling rounds at monitoring locations SW6 (u/s), SW8 (d/s) and Cloghole (d/s) in the R.Faughan. No exceedances were observed during the October sampling round. The EQS for PFOS is based on an 'Annual Average' concentration and when the 2025 'Annual Average' is calculated, PFOS concentrations exceed the EQS at SW6 (u/s) and Cloghole (d/s).

Notably, the PFOS concentration measured at SW6 (u/s) in February was two orders of magnitude higher than that detected at Cloghole (d/s), indicating the presence of a PFOS source upstream of the Mobuoy site. Additionally, a greater number of PFAS parameters were detected at SW6 (u/s) in 2025 compared with downstream locations, further supporting the likelihood of an upstream source. However, an exceedance of the EQS (AA) at Cloghole should be interpreted with caution, as it is based on a limited dataset (1 data point), which may not fully represent longer term conditions at this location.

PFAS monitoring is also undertaken by NI Water downstream of the Mobuoy site at the Carmoney Water Treatment Works. There is currently no specific standard for PFAS compounds listed in the drinking water regulations in Northern Ireland [Water Quality (Water Supply) Regulations (NI) 2017]. NI Water has undertaken monitoring for PFAS compounds in both the raw water and treated drinking water. Samples for PFAS compounds have been taken for Carmoney WTW raw water and Carmoney WTW treated final water since 2020. All PFAS sample results for both the raw water abstracted from the River Faughan and the final treated drinking water supply from the WTW show that all results are below 0.01 µg/l, with the majority of results reported at below the level of quantification (LOQ) for the range of PFAS compounds tested. The water abstracted by NI Water is fully treated at the water treatment works, in line with the requirements of the Drinking Water Regulations, before going into the drinking water supply network.

## 7.0 Qualitative Organics Screening Data

### 7.1 What is Organics Screening?

Organics screening is a rapid assessment tool designed by specialists in water quality for the protection of water quality. The screen provides an early warning of any changing risk from organics parameters to the raw water quality in the River Faughan at the point at which NI Water abstracts to the works for treatment. The screen can detect if organic parameters are present at extremely low levels and provides rapid results compared to traditional analytical techniques.

### 7.2 Benefits of screening over Quantitative Analysis

Organics Screening can return results within 48hrs, whereas traditional quantitative analysis results can take up to two weeks to return. The screen is referred to as 'non-targeted' analysis and can detect a very broad range of organics, whereas traditional quantitative analysis is tied to a specific suite of parameters. The screen will pick up parameters at very low concentrations, whereas traditional quantitative analysis will only pick up parameters that are higher than a 'limit of detection'. Therefore, **the screen is a sensitive, rapid, non-targeted technique** compared to traditional quantitative analysis.

### 7.3 Limitations of the screen

The screen cannot fully quantify the amount of an organic parameter but can provide a notional concentration which it categorises as a 'small', 'medium' or 'large' peak. It should be noted that a 'large' peak relates to a notional concentration >250ng/l which in most cases is well below any environmental or human health standards. If a large peak is detected then it is possible for expert geochemists to further infer a maximum notional concentration which can be compared to relevant human health or environmental standards.

### 7.4 How do we use the screen to manage risk from the Mobuoy site?

Groundwaters and surface waters on the Mobuoy site have been screened to provide a 'fingerprint' of parameters typical of the site. NIEA Geochemists provide expert interpretation in the form of a daily report which tells us if any organics parameters have been detected at significant concentrations which are likely to have originated from the Mobuoy Site.

Screening reports are returned on a daily basis for the abstraction point at Cloghole (Raw) and for the treated water at Carmoney Water Treatment Works (Final).

Criteria for significance of organics parameters are:

- Repeated detections of medium or large peaks that have been identified in screens of the Mobuoy site.
- Increasing numbers of parameters detected in screens of the Mobuoy site.

To date there have been no detections of significance.

Table 8 provides a summary of the medium and large peaks detected in Q4 2025 for substances that have the potential to be related to the Mobuoy site.

Table 9 provides a summary of parameters detected as medium and large peaks.

Table 8 – Summary of Organics ‘Peaks’ in Q4 2025 – Cloghole Abstraction & Carmoney Water Treatment Works

Location Name	Large	Medium	Total
<i>Carmoney WTW (Final)</i>	0	0	0
<i>Cloghole Abstraction (Raw)</i>	0	0	0

Table 9 – Medium and Large Peaks – Q4 2025

Parameter	Carmoney WTW (Final)		Cloghole Abstraction (Raw)		Grand Total
	Large	Medium	Large	Medium	
	-	-	-	-	-
Grand Total	-	-	-	-	-

**Key**

<i>Substances Routinely Monitored on the Mobuoy Site</i>
<i>Substances Identified in Screens of Surface Waters on the Mobuoy Site</i>

In Q4 2025 there were no ‘Medium’ or ‘Large’ peak detections of parameters classed as either ‘Substances Routinely Monitored on the Mobuoy Site’ or ‘Substances Identified in Screens of Surface Waters on the Mobuoy Site’. There were no detections of significance in Q4 2025.

## 8.0 Groundwater Monitoring Results

The groundwater at the Mobuoy site is known to be impacted by leachate generated by waste deposited on the site. Section 8.1 summarises the groundwater monitoring results and exceedances over a screening standard in Q4 2025.

### 8.1 Groundwater Monitoring Results Summary for Q4 2025

Groundwater monitoring results have been screened against relevant Environmental Quality Standards (EQS) and the number of detections above a standard are reported below. Where there is no available EQS then the Drinking Water Standard (DWS) or Suggested No Adverse Response Level (SNARL) have been used for comparison.

Table 10 - Summary of Dissolved Metallic Groundwater Parameters Exceeding a Standard in Q4 2025 October – December.

Parameter	Screening Value (EQS / DWS) (µg/l)	No. of detections above a standard	Average concentration (µg/l)	Max concentration (µg/l)	Min concentration (µg/l)
<b>Cadmium</b>	0.09 (1)	6	0.06	0.46	0.03 <sup>a</sup>
<b>Chromium III</b>	4.7 (1)	2	1.32	24.38	0.13 <sup>a</sup>
<b>Iron</b>	1000 (1)	44	17,690	129,850	10.00 <sup>a</sup>
<b>Manganese</b>	123 (Bioavailable) (1)	62	7,830*	48,080*	10.00*
<b>Nickel</b>	4 (Bioavailable) (1)	16	24.43*	341.00*	0.52*
<b>Sodium</b>	200,000 (2)	6	113,070	971,000	8,240

(1) EQS (The Water Framework Directive (Priority Substances and Classification) Regulations (NI) 2015)

(2) DWS (The Water Supply (Water Quality) Regulations (NI) 2017)

<sup>a</sup> Where monitoring data received is below the laboratory 'Limit of Quantification' (LOQ), half the LOQ value is reported.

\* Dissolved concentration.

A review of Trace Metal groundwater monitoring data in Q4 2025 identified the following:

- Elevated concentrations of Cadmium were detected at monitoring locations within Waste Zones 5, 6, 7 & 8.
- Elevated concentrations of Chromium (III) were detected at monitoring locations within Waste Zones 1 & 3.
- Elevated concentrations of Iron and Manganese were detected in waste zones throughout the site.
- Elevated concentrations of Nickel were detected at monitoring locations in Waste Zones 1, 5, 6 & 8.
- Elevated concentrations of Sodium were detected at monitoring locations within Waste Zones 1, 3 & 8.

Other metal parameters analysed such as Arsenic, Aluminium, Calcium, Chromium, Chromium VI, Copper, Potassium, Magnesium, Mercury, Lead, Vanadium, Selenium, Sulphur, Sulphate, Sulphide and Zinc did not exceed the relevant screening values, where applicable, in Q4 2025.

Table 11 – Summary of Inorganic Groundwater Parameters Exceeding a Standard in Q4 2025 October – December.

Parameter	Screening Value (EQS / DWS) (mg/l)	No. of detections above a standard	Average concentration (mg/l)	Max concentration (mg/l)	Min concentration (mg/l)
<b>Ammoniacal Nitrogen</b>	0.3 (1)	31	57.04	1001.00	0.03 <sup>a</sup>
<b>Chloride</b>	250 (2)	6	180.30	1398.30	15.10
<b>Conductivity</b>	2500 (2)	7	2175	14420	360
<b>Nitrite</b>	0.1 (2)	1	0.02	0.14	0.01 <sup>a</sup>

(1) EQS (The Water Framework Directive (Priority Substances and Classification) Regulations (NI) 2015)

(2) DWS (The Water Supply (Water Quality) Regulations (NI) 2017)

<sup>a</sup> Where monitoring data received is below the laboratory 'Limit of Quantification' (LOQ), half the LOQ value is reported.

A review of Inorganic groundwater monitoring data in Q4 2025 identified the following:

- Elevated concentrations of Ammoniacal Nitrogen were detected at monitoring locations throughout the site.
- Elevated concentrations of Chloride were detected at monitoring locations within Waste Zones 1, 3 & 8.
- Elevated Conductivity was detected at monitoring locations within Waste Zones 1, 3, 6 & 8.
- An elevated concentration of Nitrite was detected at a monitoring location within Waste Zone 8.

Other inorganic parameters analysed such as Alkalinity, Nitrate, Biochemical Oxygen Demand, Chemical Oxygen Demand, Dissolved Organic Carbon, pH, Total Oxidised Nitrogen and Total Phosphorus did not exceed the relevant screening values, where applicable, in Q4 2025.

Table 12 – Summary of Organic Groundwater Parameters Exceeding a Standard in Q4 2025 October – December.

Substance Name	Screening Value (EQS / DWS) (µg/l)	No. of detections above a standard	Average concentration (µg/l)	Max concentration (µg/l)	Min concentration (µg/l)
<b>Benzene</b>	10 (1)	13	382.95	4738.00	0.50 <sup>a</sup>
<b>Toluene</b>	74 (1)	3	23.47	529.00	0.50 <sup>a</sup>
<b>Ethylbenzene</b>	300 (4)	1	21.61	539.00	0.50 <sup>a</sup>
<b>Naphthalene</b>	2 (1)	21	156.08	2841.00	0.05 <sup>a</sup>

<b>Acenaphthylene</b>	10 (3)	4	67.40	1437.61	0.003 <sup>a</sup>
<b>Fluorene</b>	10 (3)	3	6.06	60.86	0.01
<b>Anthracene</b>	0.1 (1)	12	0.78	7.21	0.003 <sup>a</sup>
<b>Fluoranthene</b>	0.0063 (1)	24	0.65	5.96	0.003 <sup>a</sup>
<b>Benzo(b)fluoranthene</b>	0.017 (1)	13	0.37	8.00	0.001
<b>Benzo(k)fluoranthene</b>	0.017 (1)	8	0.34	8.00	0.001
<b>Benzo(a)pyrene</b>	0.00017 (1)	25	0.28	5.00	0.001
<b>Indeno(1,2,3-cd)pyrene</b>	0.1 (2)	3	0.27	5.0	0.001
<b>Benzo(g,h,i)perylene</b>	0.0082 (1)	18	0.30	5.00	0.002
<b>Phenanthrene</b>	10 (3)	3	4.60	50.58	0.003 <sup>a</sup>

(1) EQS (The Water Framework Directive (Priority Substances and Classification) Regulations (NI) 2015)

(2) DWS (The Water Supply (Water Quality) Regulations (NI) 2017)

(3) Operational SNARL (Suggested No Adverse Response Level)

(4) World Health Organization – Guidelines for drinking-water quality (2022)

<sup>a</sup> Where monitoring data received is below the laboratory ‘Limit of Quantification’ (LOQ), half the LOQ value is reported.

A review of Organic groundwater monitoring data in Q4 2025 identified the following:

- Elevated concentrations of Benzene were detected at monitoring locations within Waste Zones 5 & 8.
- Elevated concentrations of Toluene were detected at monitoring locations within Waste Zone 8.
- An elevated concentration of Ethylbenzene was detected at a monitoring location in Waste Zone 5.
- Elevated concentrations of ‘PAH’ parameters were detected predominantly in Waste Zones 5 and 8, with additional detections observed in Waste Zones 1, 3 & 9.

## 8.2 Groundwater Monitoring Results – Trend Analysis 2025

In order to assess any changing risk at the site, trends in the data are examined both spatially and temporally. If an increasing trend or a change in spatial extent of a parameter is observed this would mean a potential changing risk at the site that would trigger further investigation.

The Updated DQRA (Tetrattech, October 2022) divides the site into ten ‘waste zones’ as presented in Figure 2 of this report. The DQRA presents a summary of potential contaminants of concern (PCOCs) by waste zone (Figure 3) with an assigned risk rating ranging from negligible to moderate depending on the degree to which modelling predicts these contaminants exceed their respective screening criteria at the site boundary. Modelling within the DQRA is based on monitoring data up to May 2022

and the modelled travel times of contaminants of concern to the River Faughan based on their spatial impact up to that time. Therefore, considering both concentration and spatial extent of impact is important to assess a change in risk.

It is of note that this is the risk rating at the boundary condition of the site but when dilution from the River Faughan is taken into account the DQRA concludes that impact to the River Faughan is not likely. Parameters with a predicted moderate impact at the boundary conditions of the site are considered below (Table 13). Each waste zone is taken in turn.

Table 13 – Groundwater Trends (Jan – Dec 2025) assessed by Source Zone and associated Contaminants of Potential Concern from DQRA

Source Zone	Parameters with Moderate Risk	Trends	Comments
1,2&3	Naphthalene	Concentrations of Naphthalene were found to range from 0.05ug/l to 35.4ug/l in 2025, with detections above the EQS (2ug/l) at multiple locations (BH646, BH659 & BH666). Naphthalene concentrations were found to be highest at BH659 (Waste Zone 3) in 2025. An analysis of monitoring data indicates no trends at monitoring locations.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
1,2&3	Ammonia	Concentrations of Ammonia were found to range from 0.63mg/l to 1001mg/l in 2025, with detections above the EQS (0.3mg/l) at multiple locations in Waste Zones 1 & 3. Ammonia concentrations were found to be highest at BH610D (Waste Zone 1) in 2025. An upward trend is indicated at BH407 (Waste Zone 1).	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
1,2&3	Free Cyanide	Concentrations of Free Cyanide are found to be below the EQS (1ug/l) within Waste Zones 1, 2 & 3 in 2025 with no detections above the laboratory 'Limit of Quantification'. Analysis of monitoring data indicates no trends at monitoring locations with concentrations appearing to be stable.	No change in spatial impact or concentration over time.  <b>No change in risk.</b>
3 & 8	Zinc	Concentrations of Zinc are below the EQS (10.9ug/l 'Bioavailable' + ABC) at monitoring locations within Waste Zones 3 & 8 in 2025. Zinc	No change in spatial impact or concentration over time.

		concentrations in groundwater appear stable with a downward trend indicated at multiple monitoring locations within Waste Zone 8.	<b>No change in risk.</b>
<b>3 &amp; 8</b>	Nickel	Concentrations of Nickel are found to range from 1.2 ug/l to 56.1ug/l in 2025, with detections above the EQS (4ug/l 'Bioavailable') detected at multiple locations. Within Waste Zone 8, an upward trend is indicated at BH107, while downward trends are indicated at several locations.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
<b>3 &amp; 8</b>	Naphthalene	Concentrations of Naphthalene are found to range from 0.03ug/l to 4182ug/l in 2025, with detections above the EQS (2ug/l) at multiple locations in Waste Zones 3 & 8. An analysis of monitoring data in 2025 indicates an upward trend at BH06, BH106, BH107 & BH634 while downward trends are indicated at BH206 & BH410. There are no upward trends indicated at monitoring locations where Naphthalene concentrations are highest (hotspots).	Overall, concentrations appear to remain stable. No change in spatial impact. Upward & downward trends at select monitoring locations are attributed to either the movement of contaminants in groundwater and/or geochemical processes and are not considered to be an increased risk to the River Faughan.  <b>No change in risk.</b>
<b>3 &amp; 8</b>	Fluoranthene	Concentrations of Fluoranthene are found to range from 0.003ug/l to 9.7ug/l in 2025, with detections above the EQS (0.0063ug/l) at multiple locations in Waste Zones 3 & 8. An analysis of monitoring data indicates upward trends at BH06, BH107, BH403 & BH404. There are no upward trends indicated at monitoring locations where Fluoranthene concentrations are highest (hotspots).	Overall, concentrations appear to remain stable. No change in spatial impact. Upward & downward trends at select monitoring locations are attributed to either the movement of contaminants in groundwater and/or geochemical processes and are not considered to be an increased risk to the River Faughan.  <b>No change in risk.</b>
<b>3 &amp; 8</b>	Anthracene	Concentrations of Anthracene are found to range from 0.003ug/l to 7.2ug/l in 2025, with detections above the EQS (0.1ug/l) at multiple locations	Overall, concentrations appear to remain stable. No change in spatial impact.

		in Waste Zones 3 & 8. An analysis of monitoring data indicates an upward trend at BH06 & BH107. There are no upward trends indicated at monitoring locations where Anthracene concentrations are highest (hotspots).	<b>No change risk.</b>
<b>3 &amp; 8</b>	Benzene	Concentrations of Benzene were found to range from 0.5ug/l to 6986ug/l with detections above the EQS (10ug/l) at multiple locations in 2025. Benzene concentrations were found to be highest at BH402 (Waste Zone 8). An analysis of monitoring data indicates upward trends at BH06, 106, 107, 405 & 679 while a downward trend is indicated at BH206. There are no upward trends indicated at monitoring locations where Benzene concentrations are highest (hotspots).	Overall, concentrations appear to remain stable. No change in spatial impact.  Upward & downward trends at select monitoring locations are attributed to either the movement of contaminants in groundwater and/or geochemical processes and are not considered to be an increased risk to the River Faughan.  <b>No change in risk.</b>
<b>3 &amp; 8</b>	Toluene	Concentrations of Toluene were found to range from 0.5ug/l to 1017ug/l with detections above the EQS (74ug/l) at BH402 & BH404 in 2025. Toluene concentrations were found to be highest at BH402 (Waste Zone 8). An analysis of monitoring data indicates a downward trend at BH206 & BH404.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
<b>3 &amp; 8</b>	Ethylbenzene	Concentrations of Ethylbenzene were found to range from 0.5ug/l to 1014ug/l with detections above the WHO guideline (300ug/l) at BH402 & BH404 in 2025. Ethylbenzene concentrations were found to be highest at BH404 (Waste Zone 8). An analysis of monitoring data indicates an upward trend at BH107 and a downward trend at BH410.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
<b>5</b>	Cadmium	Concentrations of Cadmium were found to range from 0.03ug/l to 0.25ug/l in 2025, with 1No. detection above the EQS (0.09ug/l) at BH631. An analysis of monitoring data indicates no trends at monitoring locations.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>

5	Zinc	Concentrations of Zinc were found to range from 0.5ug/l to 3.38ug/l with no detections above the EQS (10.9ug/l 'Bioavailable' + ABC) in 2025. An analysis of monitoring data indicates no trends at monitoring locations.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
5	Naphthalene	Concentrations of Naphthalene are found to range from 0.004ug/l to 108ug/l in 2025, with detections above the EQS (2ug/l) at multiple locations. Naphthalene concentrations were found to be highest at BH629. An analysis of monitoring data indicates upward trends at BH628 & BH630 with a downward trend at BH629. There are no upward trends indicated at monitoring locations where Naphthalene concentrations are highest (hotspots).	Overall, concentrations appear to remain stable. No change in spatial impact.  Upward & downward trends at select monitoring locations are attributed to either the movement of contaminants in groundwater and/or geochemical processes and are not considered to be an increased risk to the River Faughan.  <b>No change in risk.</b>
5	Fluoranthene	Concentrations of Fluoranthene are found to range from 0.003ug/l to 9.4ug/l in 2025, with detections above the EQS at multiple locations in Waste Zone 5. Fluoranthene concentrations were found to be highest at BH629. An analysis of monitoring data indicates an upward trend at BH627.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
5	Anthracene	Concentrations of Anthracene are found to range from 0.003ug/l to 4.5ug/l in 2025, with detections above the EQS (0.1ug/l) at multiple locations. Anthracene concentrations were found to be highest at BH629. An analysis of monitoring data indicates an upward trend at BH627.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
5	Benzene	Concentrations of Benzene are found to range from 0.5ug/l to 4221ug/l in 2025, with detections above the EQS (10ug/l) at multiple locations. Benzene concentrations were found to be highest at BH629. An analysis of	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>

		monitoring data indicates an upward trend at BH628.	
5	Ethylbenzene	Concentrations of Ethylbenzene are found to range from 0.5ug/l to 539ug/l, with one detection above the WHO guideline (300ug/l) at BH629. Ethylbenzene concentrations were found to be highest at BH629. An analysis of monitoring data indicates an upward trend at BH628 & BH630.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
6	Cadmium	Concentrations of Cadmium range from 0.03ug/l to 0.17ug/l with detections found to exceed the EQS (0.09ug/l) at BH101 and BH201 in 2025. An analysis of monitoring data indicates downward trends at BH101 and BH119. No upward trends identified.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
6	Naphthalene	Concentrations of Naphthalene range from 0.05ug/l to 6.1ug/l with detections found to exceed the EQS (2ug/l) at multiple locations in 2025. Naphthalene concentrations were found to be highest at BH653. An analysis of monitoring data indicates an upward trend at BH623.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
6	Ammonia	Concentrations of Ammonia are found to range from 0.2mg/l to 114mg/l in 2025, with detections above the EQS (0.3mg/l) at multiple locations. Ammonia concentrations are found to be highest at BH201 in 2025. Analysis of monitoring data indicates upward trends at BH101, BH201 and BH653 while a downward trend is indicated at BH119.	Overall, concentrations appear to remain stable. No change in spatial impact.  Upward & downward trends at select monitoring locations are attributed to either the movement of contaminants in groundwater and/or geochemical processes and are not considered to be an increased risk to the River Faughan.  <b>No change in risk.</b>
6	Free Cyanide	Concentrations of Free Cyanide are found to be below the EQS (1ug/l) within Waste Zone 6 in 2025 with no detections above the laboratory 'Limit	Overall, concentrations appear to remain stable. No change in spatial impact.

		of Quantification'. No trends identified at monitoring locations.	<b>No change in risk.</b>
<b>7</b>	Cadmium	Concentrations of Cadmium are found to range from 0.03ug/l to 0.25 ug/l in 2025, with detections above the EQS (0.09ug/l) at BH221 & BH618D. An analysis of monitoring data indicates no trends at monitoring locations.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
<b>7</b>	Zinc	Concentrations of Zinc were found to range from 0.5ug/l to 1.5ug/l in 2025, with detections all below the EQS (10.9ug/l 'Bioavailable' + ABC). An analysis of monitoring data indicates no trends at monitoring locations.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
<b>8</b>	Cadmium	Concentrations of Cadmium are found to range from 0.03ug/l to 0.46 ug/l in 2025, with detections above the EQS (0.09ug/l) at BH409, BH410, BH411 & BH633. Cadmium concentrations were found to be highest at BH633 in 2025. An analysis of monitoring data indicates downward trends at multiple monitoring locations.	Overall, concentrations appear to remain stable. No change in spatial impact.  <b>No change in risk.</b>
<b>8</b>	Nickel	Concentrations of Nickel are found to range from 1.19ug/l to 56.1ug/l in 2025, with detections above the EQS (4ug/l 'Bioavailable') detected at multiple locations. An analysis of monitoring data indicates an upward trend at BH107 with downward trends at BH06, BH106, BH401, BH402, BH403 & BH404.	Overall, concentrations appear to remain stable. No change in spatial impact.  Upward & downward trends at select monitoring locations are attributed to either the movement of contaminants in groundwater and/or geochemical processes and are not considered to be an increased risk to the River Faughan.  <b>No change in risk</b>
<b>8</b>	Ammonia	Concentrations of Ammonia are found to exceed the EQS (0.3mg/l) at multiple locations in Waste Zone 8 with concentrations ranging from 0.2mg/l to 259mg/l. An analysis of monitoring data indicates no upward	Monitoring data indicates multiple upward trends at monitoring locations in 2025 although it should be noted that during this time, Ammonia concentrations in the River Faughan remain

		<p>trends at locations where ammonia is highest (hot spots). Upward trends at select locations (BH06, BH107, BH206, BH402, BH410 &amp; BH634) are reflective of either groundwater movement from upgradient source zones and/or geochemical processes as predicted in the DQRA. Travel time for Ammonia is calculated as less than 1 year and upward trends downgradient are predicted. These are not considered to be an increased risk to the River Faughan.</p>	<p>comparable between upstream (SW6) and downstream (SW8) monitoring locations.</p> <p>Upward trends at select monitoring locations are attributed to either the movement of contaminants in groundwater and/or geochemical processes and are not considered to be an increased risk to the River Faughan.</p> <p><b>No change in risk.</b></p>
8	Chloride	<p>Concentrations of Chloride are found to range from 27.9mg/l to 1551mg/l in 2025. Detections are found to exceed the DWS (250mg/l) at BH06, BH107 &amp; BH206. An analysis of monitoring data indicates upward trends in Chloride at BH106, BH107, BH409 &amp; BH410 while downward trends are indicated at BH06, BH401 &amp; BH634.</p>	<p>Overall, concentrations appear to remain stable. No change in spatial impact.</p> <p>Upward &amp; downward trends at select monitoring locations are attributed to either the movement of contaminants in groundwater and/or geochemical processes and are not considered to be an increased risk to the River Faughan.</p> <p><b>No change in risk.</b></p>
9	Free Cyanide	<p>Concentrations of Free Cyanide are found to be below the EQS (1ug/l) within Waste Zone 9 in 2025 with no detections above the laboratory 'Limit of Quantification'. An analysis of monitoring data indicates no trends at monitoring locations.</p>	<p>Overall, concentrations appear to remain stable. No change in spatial impact.</p> <p><b>No change in risk.</b></p>

For further information, where an upward or downward trend is identified, graphs displaying the statistical trend analysis ('Mann Kendall' test) are presented in Appendix C.

### 8.3 Groundwater Monitoring Results – PFAS (Per- & Polyfluoroalkyl substances)

As per Section 6.3, the following section provides a summary of PFAS monitoring for groundwater samples collected in 2025. Tables 14 - 16 below present a summary of PFAS substances detected during groundwater monitoring in 2025, results in full are presented in Appendix B.

Table 14 – Summary of PFAS parameters detected through Groundwater monitoring programme – Feb 2025

	BH06	BH107	BH206	BH207	BH213	BH215	BHW1	BH403	BH411	BH637
PFBA	0.07	0.11	-	0.016	-	-	-	-	0.001	0.007
PFHxA	0.09	0.13	-	0.034	0.12	0.07	0.07	0.1	0.002	0.012
PFHpA	-	-	-	0.013	-	-	-	-	-	0.007
PFOA	0.08	0.05	0.07	0.0644	0.13	0.14	0.11	0.15	0.0024	0.0109
PFNA	-	-	-	0.008	-	-	-	-	-	0.001
PFDA	-	-	-	0.002	-	-	-	-	-	-
PFBS	0.1	-	-	0.006	-	-	-	-	0.002	0.003
PFHxS	-	-	0.06	0.014	-	-	-	0.06	0.001	0.003
PFHpS	-	-	-	0.002	-	-	-	-	-	-
PFOS	-	-	-	0.0212	0.09	-	-	-	0.0093	0.0209
5:3 FTCA	-	-	-	-	-	-	-	0.6	-	-
PFECHS	-	-	-	0.003	-	-	-	-	-	-
6:2 FTS	-	-	-	0.138	-	-	-	-	-	0.006
8:2 FTS	-	-	-	0.016	-	-	-	-	-	-
PFPeA	-	-	-	0.009	-	-	0.06	-	0.001	0.011
PFPeS	-	-	-	0.002	-	-	-	-	-	-

\*Results reported in ug/l

\*Where (-) is denoted in table, the result is below the laboratory 'Limit of Quantification'.

Table 15 – Summary of PFAS parameters detected through Groundwater monitoring programme – Aug 2025

	BH06	BH411	BH637
PFBA	0.121	0.014	-
PFPeA	-	0.015	0.004
PFHxA	0.119	0.022	0.006
PFHpA	0.033	0.008	0.002
PFOA	0.0714	0.0158	0.0067
PFBS	0.11	0.01	0.003
PFPeS	0.011	0.002	-
PFHxS	0.022	0.007	0.002
PFOS (Linear)	-	0.0089	0.0026
PFOS (Branched)	-	0.0107	0.0015
PFOS (Total)	-	0.0196	0.0041
PFDoDS	-	0.002	-
PFTTrDS	-	0.003	-
6:2 FTS	0.027	-	-

\*Results reported in ug/l

\*Where (-) is denoted in table, the result is below the laboratory 'Limit of Quantification'.

Table 16 – Summary of PFAS parameters detected through Groundwater monitoring programme – Oct 2025

	BH06	BH411	BH637
<b>PFBA</b>	0.023	0.012	-
<b>PFPeA</b>	0.022	0.015	-
<b>PFHxA</b>	0.086	0.019	-
<b>PFHpA</b>	0.03	0.007	-
<b>PFOA</b>	0.066	0.0184	-
<b>PFNA</b>	-	0.001	-
<b>PFBS</b>	0.108	0.011	-
<b>PFPeS</b>	-	0.001	-
<b>PFHxS</b>	0.023	0.007	-
<b>PFOS (Linear)</b>	-	0.0141	-
<b>PFOS (Branched)</b>	-	0.0117	-
<b>PFOS (Total)</b>	-	0.0258	-
<b>6:2 FTS</b>	0.028	0.014	0.2

\*Results reported in ug/l

\*Where (-) is denoted in table, the result is below the laboratory 'Limit of Quantification'

With the exception of PFOS, there is no explicit regulatory limit for PFAS substances in the 'Water Framework Directive'. PFOS is a priority hazardous substance under the 'Water Framework Directive (Classification, Priority Substances and Shellfish Waters) Regulations (NI) 2015'. An annual average (AA) EQS for freshwaters is derived for PFOS (0.00065ug/l). Groundwater samples collected in 2025 detected exceedances of the EQS at BH207, BH213, BH411 & BH637 across the February, August & October monitoring rounds. It should be noted that the EQS for PFOS is intended for surface water and not groundwaters.

PFAS substances have been detected at multiple groundwater monitoring locations in 2025. Considering the prevalence and use of PFAS-containing products, waste sites are identified as potential high risk source sites for PFAS. Given the nature of waste found at the Mobuoy site, detections of PFAS are likely to be found in groundwater at site. No impact to the River Faughan from PFAS substances within the groundwater at the Mobuoy site has been identified in 2025.

## 9.0 Summary and Conclusions

Surface water monitoring was completed as per the monitoring schedule in Q4 2025. Iron concentrations were detected in excess of the Drinking Water Standard (DWS) but below the Environmental Quality Standard (EQS) at multiple locations in the River Faughan in Q4 2025. Manganese concentrations detected at SW6 (upstream of the site) were below the DWS and EQS in October 2025, and below the EQS in November and December. Manganese concentrations detected at SW8 (downstream of the site) exceeded the DWS but were below the EQS in October, November and December 2025. Iron and Manganese are known to be high in the Faughan catchment with elevated detections found historically upstream of the site at SW6. Concentrations detected are comparable between upstream (SW6) and downstream (SW8) monitoring locations in the River Faughan. A review of monitoring data from 2015 to present confirms that Iron concentrations remain stable. At both SW6 (u/s) & SW8 (d/s) on the River Faughan, Manganese concentrations indicate a

downward trend over this period. Additionally, analysis of monitoring data also indicates a downward trend in Nickel concentrations at SW8 (d/s).

Benzo(a)pyrene was detected above the EQS in Q4 at SW6 (u/s) and SW8 (d/s). Benzo(a)pyrene concentrations were below the DWS and World Health Organisation (WHO) guideline for drinking water quality at SW6 (u/s) and SW8 (d/s) in Q4 2025. Detections of 'Polycyclic Aromatic Hydrocarbons' (PAHs) are low level and present in the upstream monitoring location (SW6) as well as the downstream monitoring location (SW8) indicating a source upstream of the Mobuoy site. The EQS for PAHs, such as Benzo(a)pyrene, are highly conservative compared to human health standards for these substances. All other surface water monitoring parameters were found to be below their applicable standards in Q4 2025.

With regards to parameters classed as 'Potential Contaminants of Concern' (PCOC) from the DQRA, trend assessment ('Mann Kendall' test) of surface water monitoring data in 2025 has identified an upward trend for Naphthalene at SW8 (d/s). Currently, the upward trend is not considered to be significant as Naphthalene concentrations at SW6 & SW8 in 2025 are comparable and remain below the EQS (2ug/l). The concentrations detected during 2025 are in the parts-per-trillion range, which is considered low level at which Naphthalene is commonly present in the environment. At such low concentrations, year to year variability is expected, and fluctuations may result in apparent upward trends without indicating a substantive change in environmental conditions. Naphthalene is a ubiquitous environmental pollutant and is detected in rivers throughout Northern Ireland. For other parameters classed as PCOC from the DQRA, no trends were identified in the River Faughan & site tributaries in 2025.

PFAS monitoring in 2025 has detected several PFAS parameters in surface water monitoring rounds in February, August & October 2025. PFOS levels exceeded the Environmental Quality Standard (EQS) during the February and August sampling rounds at SW6 (u/s), SW8 (d/s), and Cloghole (d/s) on the River Faughan, with no exceedances recorded in October 2025. When the 2025 annual average is calculated, PFOS concentrations exceed the EQS at SW6 and Cloghole. The elevated PFOS concentration at SW6 in February—two orders of magnitude greater than at Cloghole - strongly suggests a PFOS source upstream of the Mobuoy site. This is further supported by a wider range of PFAS parameters detected at SW6 compared with downstream sites. However, the exceedance at Cloghole should be interpreted cautiously as it is based on only a single data point and may not reflect long-term conditions. Concentrations of PFAS parameters detected are comparable between SW6 (u/s) and SW8 (d/s) which would indicate a source upstream of the Mobuoy site.

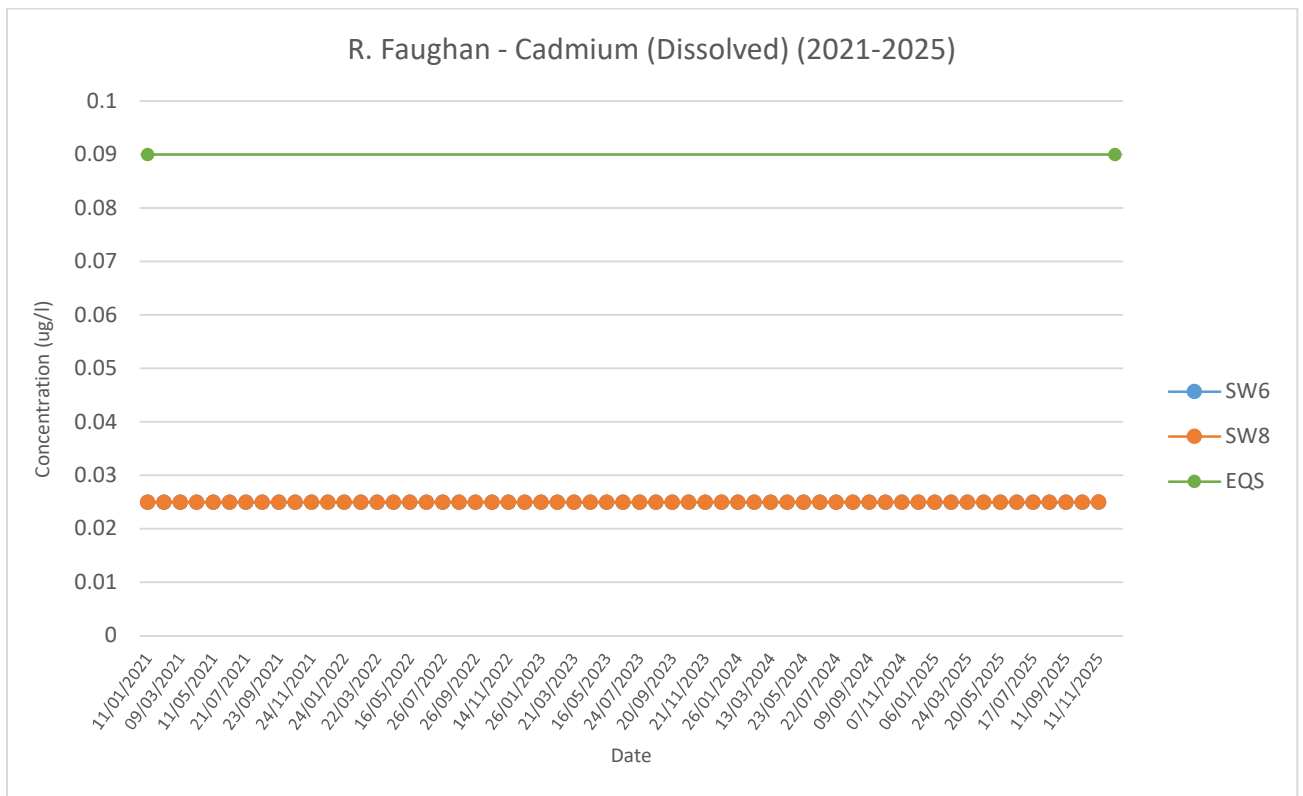
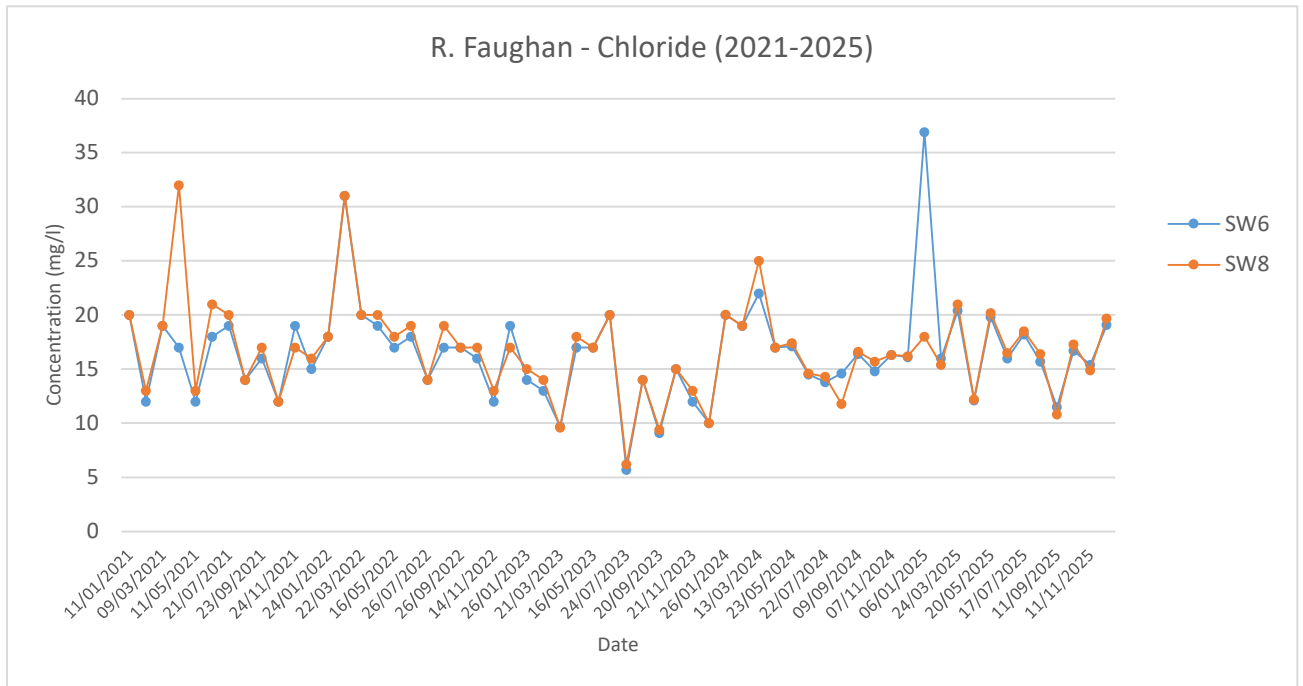
Results from the daily organics screen at Cloghole abstraction point and Carmoney Water Treatment Works final water found no detections of significance in Q4 2025. Overall, water quality is comparable between SW6 (u/s) and SW8 (d/s), no adverse impacts on water quality in the River Faughan attributable to the Mobuoy site were observed.

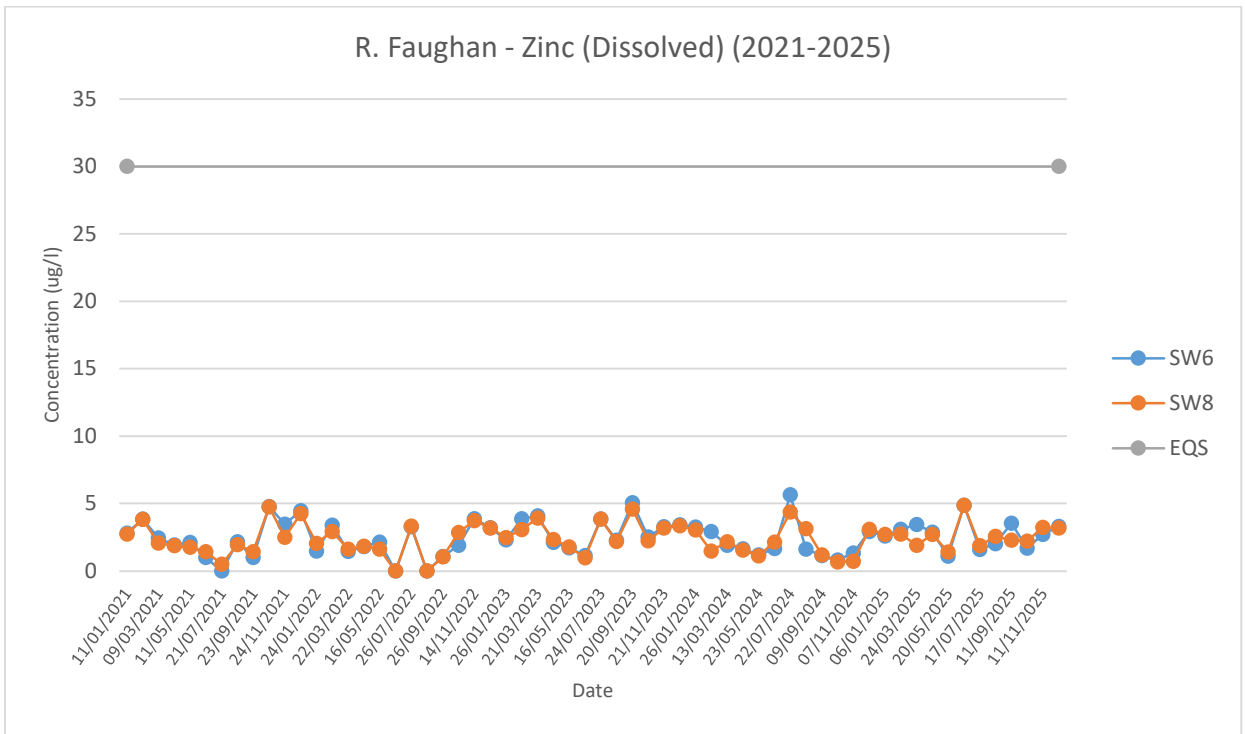
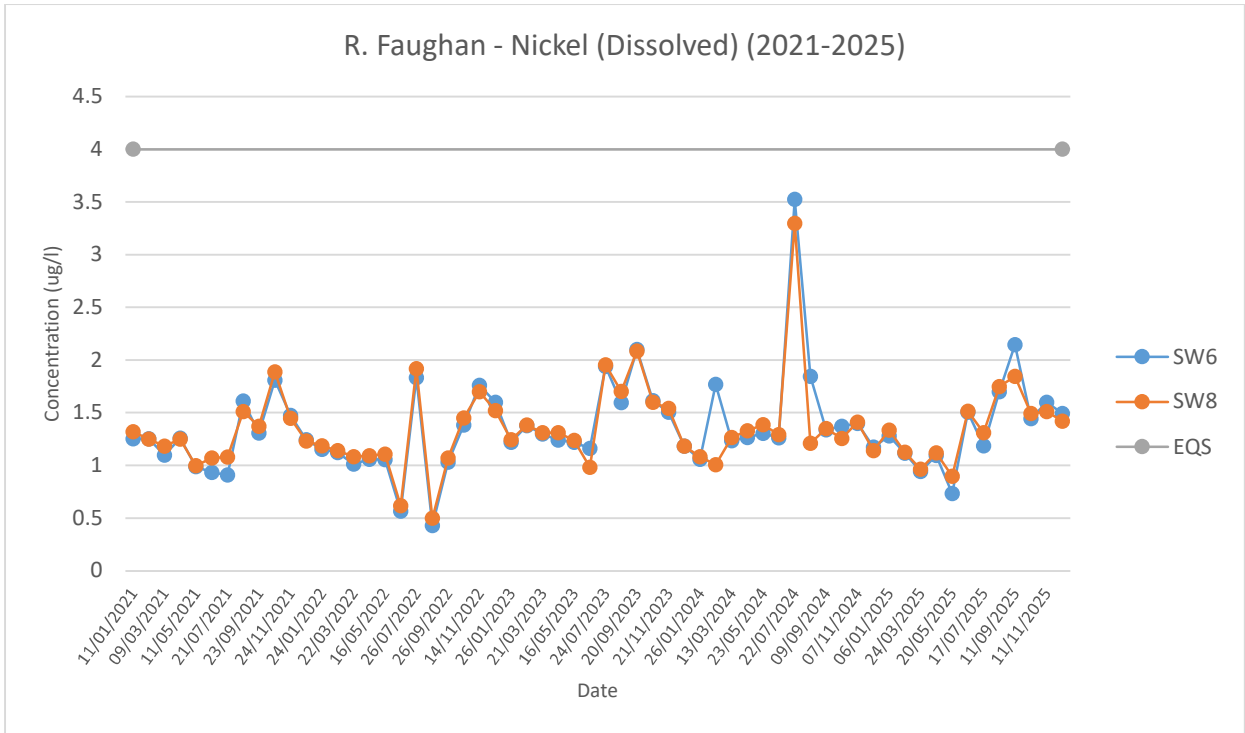
Groundwater monitoring was completed as per the schedule in Q4 2025. Results from groundwater monitoring found multiple detections above the relevant standard (Environmental Quality Standards & Drinking Water Standards) in Q4 2025.

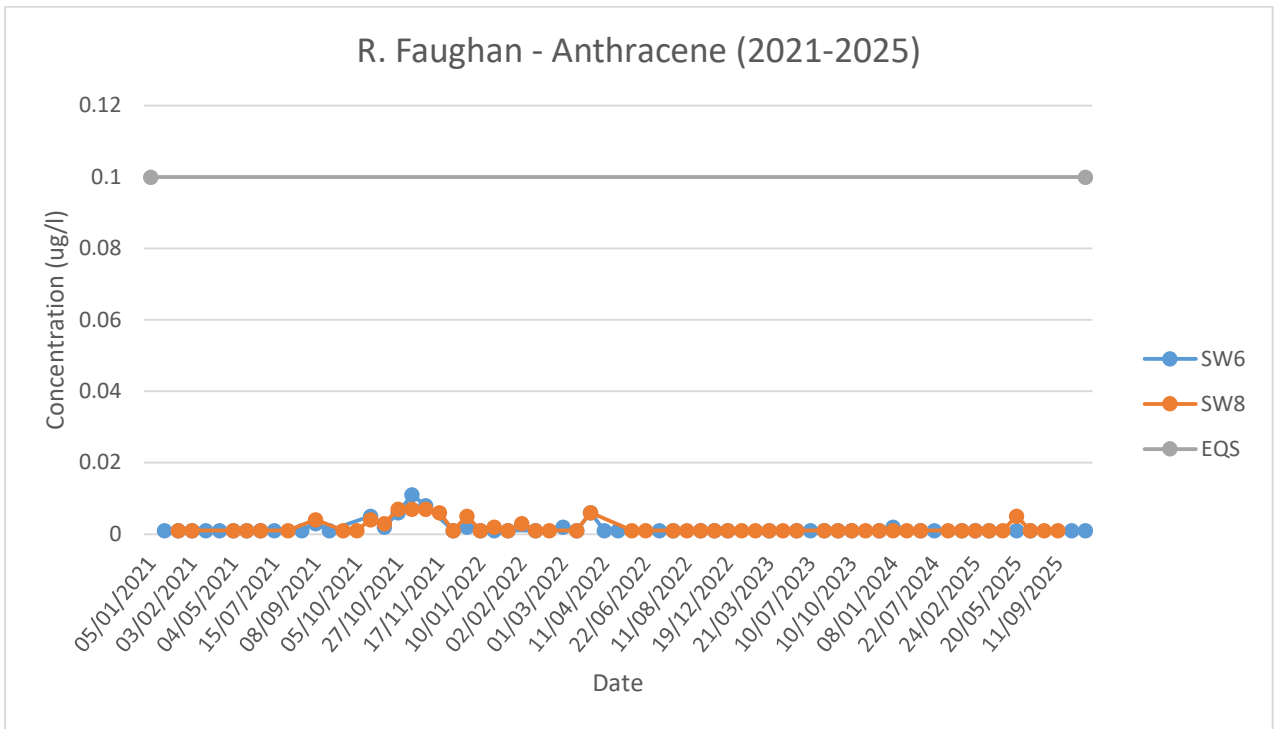
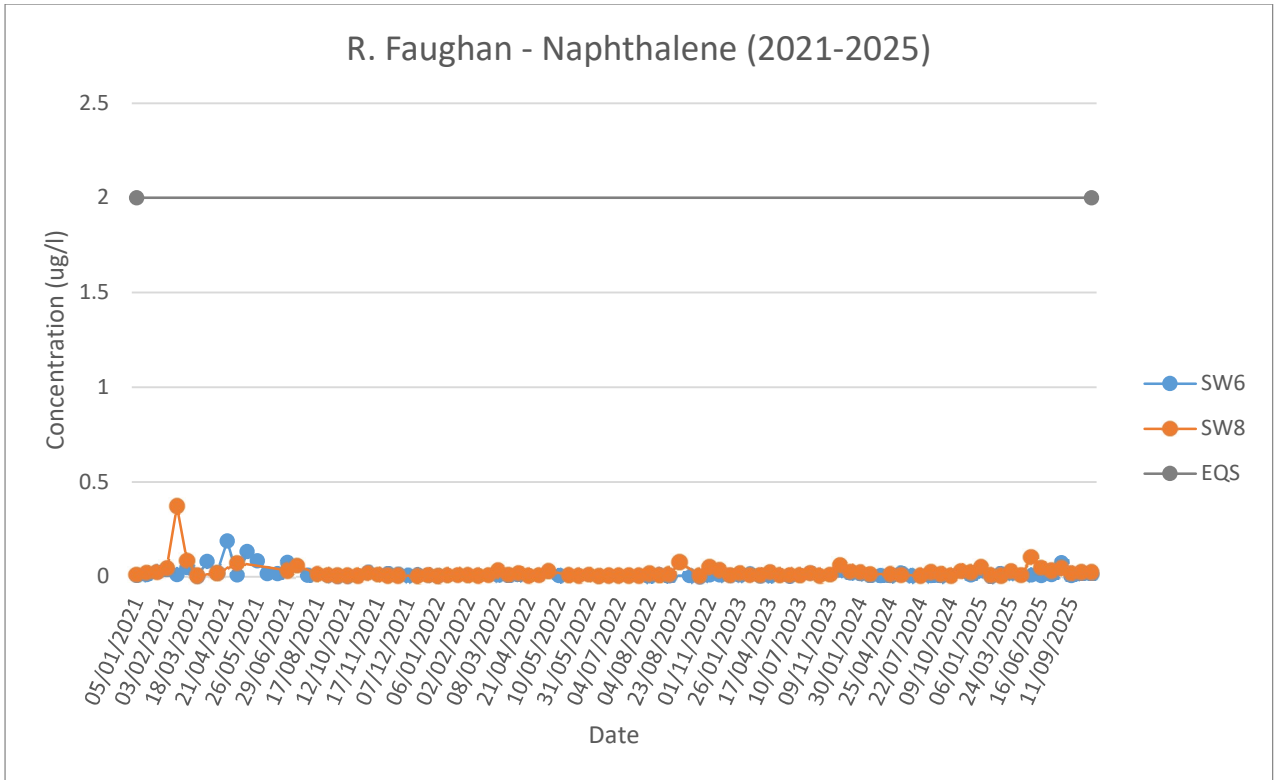
Groundwater monitoring results have been broken down by waste zone as defined in the updated DQRA (October 2022). Groundwater is known to be impacted by leachate generated from waste on the site. Trends are monitored on an on-going basis to assess any changes in the risk. The data has been examined for trends both spatially and temporally. In 2025, trends for parameters classed as 'Potential Contaminants of Concern' from the DQRA have been identified at multiple monitoring

locations, predominantly in Waste Zone 8. Upward and downward trends at monitoring locations are attributed to either the movement of contaminants in groundwater and/or geochemical processes. It is important to mention that no trends have been identified in the 2025 period that would indicate that the risk to the surface water or the drinking water supply has increased.

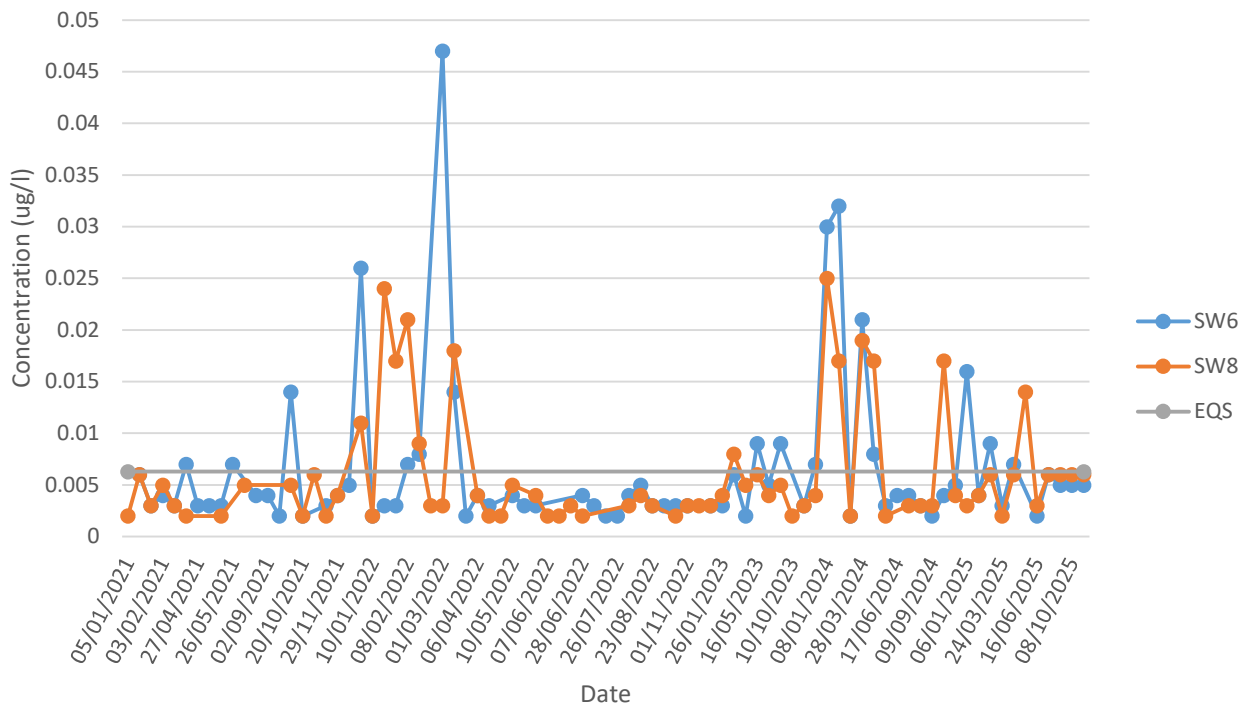
**Appendix A - Potential Contaminants of Concern – Trends in Surface Water**



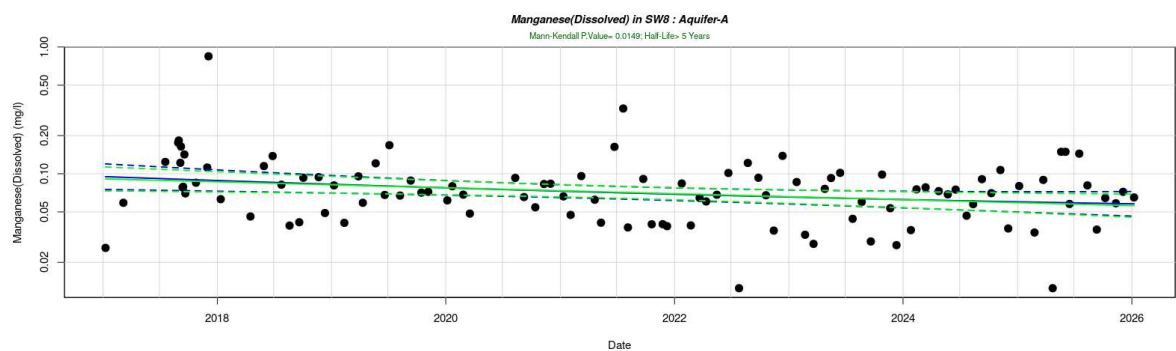
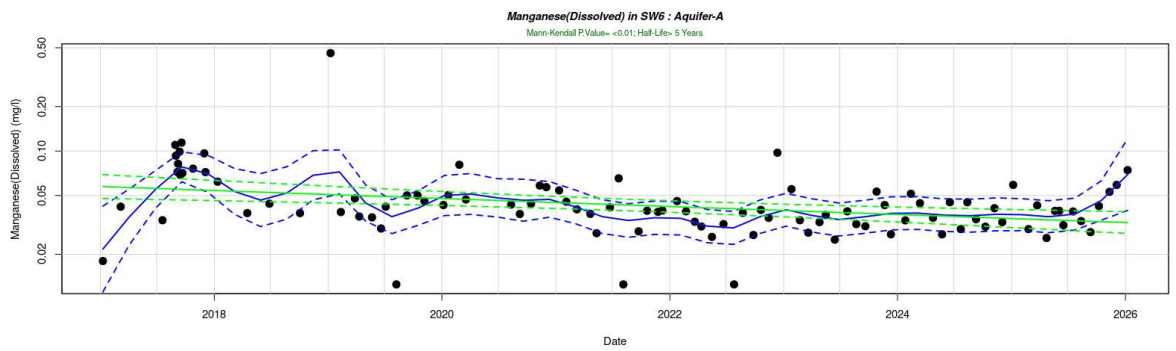
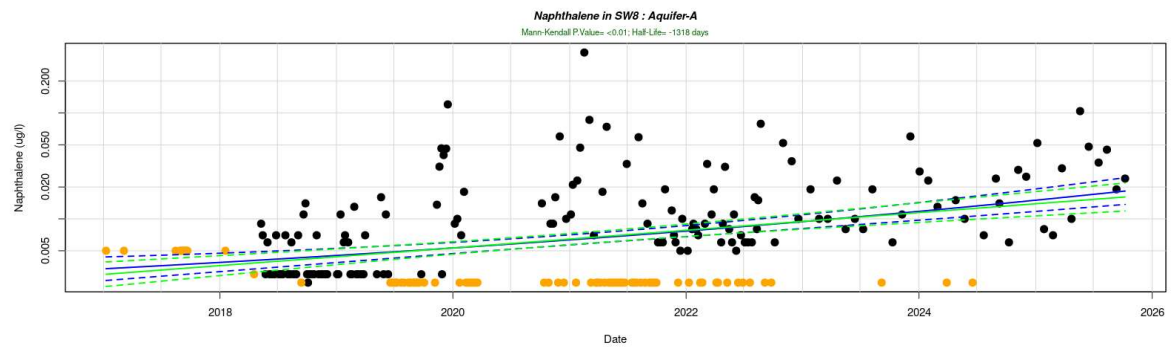
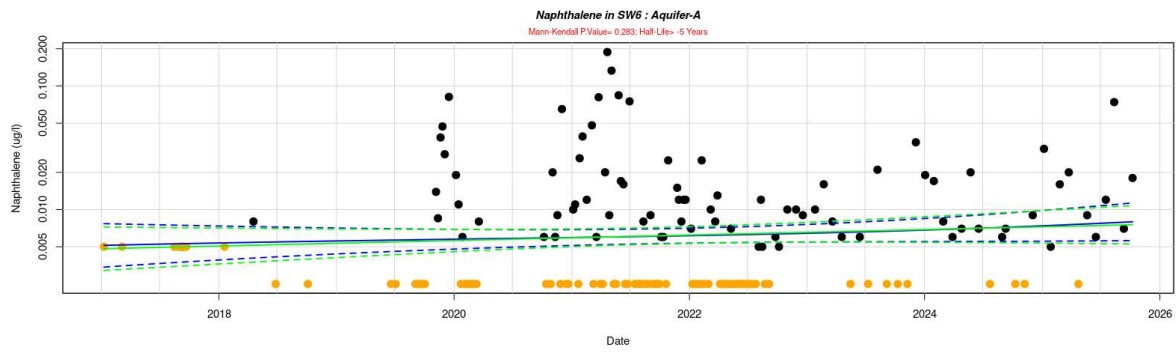


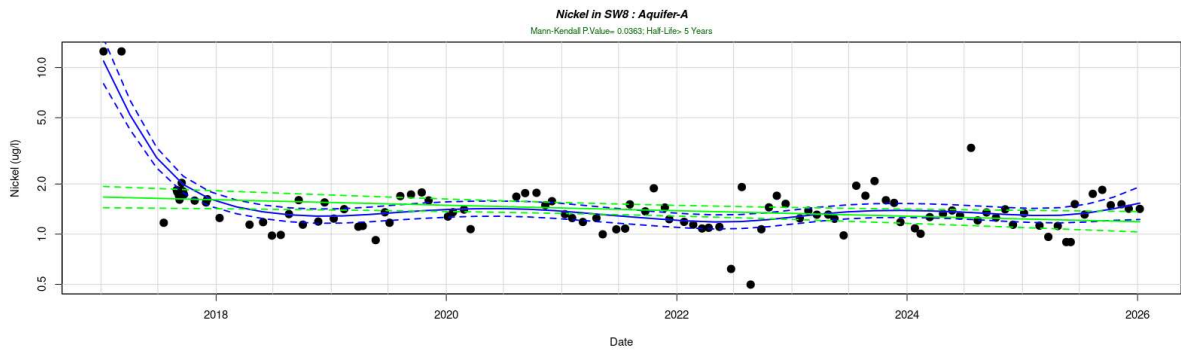
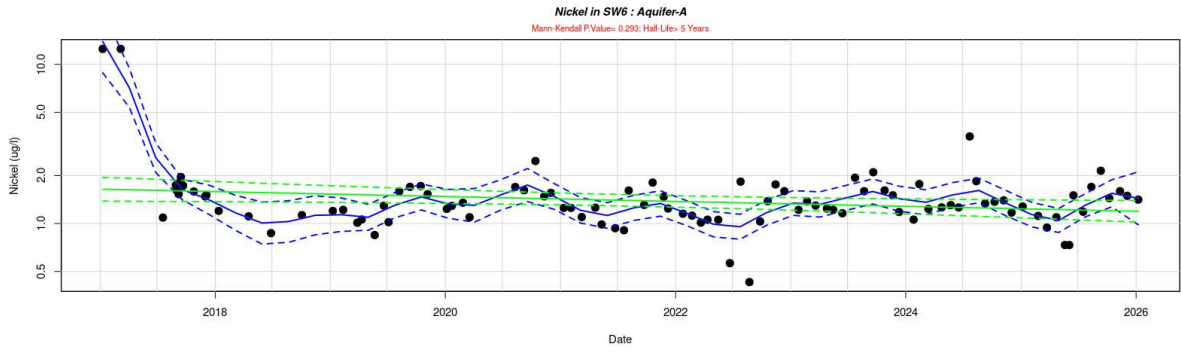


R. Faughan - Fluoranthene (2021-2025)



# Statistical Analysis – Mann Kendall Test – Naphthalene, Manganese & Nickel at SW6 & SW8





## Appendix B – PFAS Monitoring results (Surface Water & Groundwater)

### February 2025 Results (Annual Round)

#### Element Materials Technology

Client Name: [REDACTED]

Report : Liquid

Reference: [REDACTED]

Location: Mobuoy PFAS Sampling February 2025

Contact: [REDACTED]

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle

EMT Job No: [REDACTED]

H=H<sub>2</sub>SO<sub>4</sub>, Z=ZnAc, N=NaOH, HN=HNO<sub>3</sub>

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20			
Sample ID	BH637	BH207	BH107	BH411	BH403	BH206	BH06	BW1	BH213	BH215			
Depth													
COC No / misc													
Containers	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF			
Sample Date	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	LOD/LOR	Units	Method No.
PFAAS													
PFBA	-	<0.05	0.11	-	<0.10 <sup>AA</sup>	<0.05	0.07	<0.05	<0.10 <sup>AA</sup>	<0.05	<0.05	ug/l	TM135/PM121
PFPeA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFHxA	-	<0.05	0.13	-	0.10	<0.05	0.09	0.07	0.12	0.07	<0.05	ug/l	TM135/PM121
PFHpA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFOA	-	0.05	0.05	-	0.15	0.07	0.08	0.11	0.13	0.14	<0.05	ug/l	TM135/PM121
PFNA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFDA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFUnA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFDoA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFTrDA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFTeDA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFHxDA	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ug/l	TM135/PM121
PFODA	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ug/l	TM135/PM121
PFBS	-	<0.05	<0.05	-	<0.05	<0.05	0.10	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFPeS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFHxS	-	<0.05	<0.05	-	0.06	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFHpS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFOS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	ug/l	TM135/PM121
PFNS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFDS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFUnDS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFTrDS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
HFPO-DA (Gen X)	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
HFPO-TA	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	ug/l	TM135/PM121
DONA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFMOPrA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
NFDHA	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ug/l	TM135/PM121
PFMOBA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
PFECHS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
3.3 FTCA	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ug/l	TM135/PM121
5.3 FTCA	-	<0.5	<0.5	-	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	TM135/PM121
7.3 FTCA	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ug/l	TM135/PM121
PFEESA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
9CI-PF3ONS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
11CI-PF3OUdS	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
4.2 FTS	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	ug/l	TM135/PM121
6.2 FTS	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	ug/l	TM135/PM121
8.2 FTS	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	ug/l	TM135/PM121
FBSA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
FHxSA	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ug/l	TM135/PM121
FOSA	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	ug/l	TM135/PM121
N-MeFOSA	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	ug/l	TM135/PM121
N-EFOSA	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	ug/l	TM135/PM121

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: [REDACTED]  
 Reference: [REDACTED]  
 Location: Mobyu PFAS Sampling February 2025  
 Contact: [REDACTED]  
 EMT Job No: [REDACTED]

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle  
 H=H<sub>2</sub>SO<sub>4</sub>, Z=ZnAc, N=NaOH, HN=HNO<sub>3</sub>

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	Please see attached notes for all abbreviations and acronyms		
Sample ID	BH637	BH207	BH107	BH411	BH403	BH206	BH06	BW1	BH213	BH215			
Depth													
COC No / misc													
Containers	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF			
Sample Date	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	LOD/LOR	Units	Method No.
PFAAS Continued													
Me-FOSE	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ug/l	TM135/PM121
EI-FOSE	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ug/l	TM135/PM121
N-MeFOSAA	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	ug/l	TM135/PM121
N-EtFOSAA	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	ug/l	TM135/PM121
8:2diPAP	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	ug/l	TM135/PM121
FOUEA	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	ug/l	TM135/PM121
6:2 FTAB (Capstone B)	-	<4	<4	-	<4	<4	<4	<4	<4	<4	<4	ug/l	TM135/PM121
EEA-NH4	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	TM135/PM121
PFBA <sup>#</sup>	0.007 <sup>AB</sup>	0.016 <sup>AC</sup>	NDP	0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFPeA <sup>#</sup>	0.011	0.009 <sup>AB</sup>	NDP	0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFHxA <sup>#</sup>	0.012	0.034 <sup>AB</sup>	NDP	0.002	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFHpA <sup>#</sup>	0.007	0.013 <sup>AB</sup>	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFOA <sup>#</sup>	0.01090	0.06440 <sup>AB</sup>	NDP	0.00240	NDP	NDP	NDP	NDP	NDP	NDP	<0.00065	ug/l	TM135/PM122
PFNA <sup>#</sup>	0.001	0.008	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFDA <sup>#</sup>	<0.001	0.002	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFUnA <sup>#</sup>	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFDoA <sup>#</sup>	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFTrDA	<0.006	<0.006	NDP	<0.006	NDP	NDP	NDP	NDP	NDP	NDP	<0.006	ug/l	TM135/PM122
PFTeDA	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFHxDA	<0.01	<0.01	NDP	<0.01	NDP	NDP	NDP	NDP	NDP	NDP	<0.01	ug/l	TM135/PM122
PFODA	<0.025	<0.025	NDP	<0.025	NDP	NDP	NDP	NDP	NDP	NDP	<0.025	ug/l	TM135/PM122
PFBS <sup>#</sup>	0.003	0.006	NDP	0.002	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFPeS <sup>#</sup>	<0.001	0.002	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFHxS <sup>#</sup>	0.003	0.014	NDP	0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFHpS <sup>#</sup>	<0.001	0.002	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFOS <sup>#</sup>	0.02090	0.02120	NDP	0.00930	NDP	NDP	NDP	NDP	NDP	NDP	<0.00065	ug/l	TM135/PM122
PFNS	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFDS	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFUnDS	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFDoDS	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFTrDS	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
HFPO-DA (Gen X)	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
HFPO-TA	<0.02	<0.02	NDP	<0.02	NDP	NDP	NDP	NDP	NDP	NDP	<0.02	ug/l	TM135/PM122
DONA <sup>#</sup>	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFMOPrA	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
NFDHA	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFMOBA	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
PFECHS	<0.001	0.003	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
3:3 FTCA	<0.02	<0.02	NDP	<0.02	NDP	NDP	NDP	NDP	NDP	NDP	<0.02	ug/l	TM135/PM122
5:3 FTCA	<0.01	<0.05 <sup>AB</sup>	NDP	<0.01	NDP	NDP	NDP	NDP	NDP	NDP	<0.01	ug/l	TM135/PM122
7:3 FTCA	<0.02	<0.02	NDP	<0.02	NDP	NDP	NDP	NDP	NDP	NDP	<0.02	ug/l	TM135/PM122
PFEESA	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
9Cl-PF3ONS <sup>#</sup>	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122

**Element Materials Technology**

Client Name: [REDACTED]  
 Reference: [REDACTED]  
 Location: Mobuoy PFAS Sampling February 2025  
 Contact: [REDACTED]  
 EMT Job No: [REDACTED]

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle  
 H=H<sub>2</sub>SO<sub>4</sub>, Z=ZnAc, N=NaOH, HN=HNO<sub>3</sub>

EMT Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	Please see attached notes for all abbreviations and acronyms		
Sample ID	BH637	BH207	BH107	BH411	BH403	BH206	BH06	BW1	BH213	BH215			
Depth													
COC No / misc													
Containers	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF			
Sample Date	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025	10/02/2025			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	11/02/2025	LOD/LOR	Units	Method No.
PFAAS Continued													
11Cl-PF3OUdS	<0.001	<0.001	NDP	<0.001	NDP	NDP	NDP	NDP	NDP	NDP	<0.001	ug/l	TM135/PM122
4:2 FTS	<0.005	<0.005	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
6:2 FTS	0.006	0.138 <sup>AB</sup>	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
8:2 FTS	<0.005	0.016	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
FBSA	<0.02	<0.02	NDP	<0.02	NDP	NDP	NDP	NDP	NDP	NDP	<0.02	ug/l	TM135/PM122
FHxSA	<0.02	<0.02	NDP	<0.02	NDP	NDP	NDP	NDP	NDP	NDP	<0.02	ug/l	TM135/PM122
FOSA	<0.005	<0.005	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
N-MeFOSA	<0.005	<0.005	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
N-EiFOSA	<0.005	<0.005	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
Me-FOSE	<0.02	<0.02	NDP	<0.02	NDP	NDP	NDP	NDP	NDP	NDP	<0.02	ug/l	TM135/PM122
Ei-FOSE	<0.02	<0.02	NDP	<0.02	NDP	NDP	NDP	NDP	NDP	NDP	<0.02	ug/l	TM135/PM122
N-MeFOSAA	<0.005	<0.005	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
N-EiFOSAA	<0.005	<0.005	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
8:2diPAP	<0.005	<0.005	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
FOUEA	<0.005	<0.005	NDP	<0.005	NDP	NDP	NDP	NDP	NDP	NDP	<0.005	ug/l	TM135/PM122
6:2 FTAB (Capstone B)	<0.08	<0.08	NDP	<0.08	NDP	NDP	NDP	NDP	NDP	NDP	<0.08	ug/l	TM135/PM122
EEA-NH4	<0.008	<0.008	NDP	<0.008	NDP	NDP	NDP	NDP	NDP	NDP	<0.008	ug/l	TM135/PM122



**Element Materials Technology**

**Client Name:** [REDACTED]  
**Reference:** [REDACTED]  
**Location:** Mobuoy PFAS Sampling February 2025  
**Contact:** [REDACTED]  
**EMT Job No:** [REDACTED]

**Report : Liquid**

**Liquids/products:** V=40ml vial, G=glass bottle, P=plastic bottle  
H=H<sub>2</sub>SO<sub>4</sub>, Z=ZnAc, N=NaOH, HN=HNO<sub>3</sub>

EMT Sample No.	21-22	23-24	25-26									
<b>Sample ID</b>	SW8	SW8	Cloghole									
<b>Depth</b>												
<b>COC No / misc</b>												
<b>Containers</b>	PF	PF	PF									
<b>Sample Date</b>	10/02/2025	10/02/2025	10/02/2025									
<b>Sample Type</b>	Surface Water	Surface Water	Surface Water									
<b>Batch Number</b>	1	1	1									
<b>Date of Receipt</b>	11/02/2025	11/02/2025	11/02/2025									
										LOD/LOR	Units	Method No.
PFAAS Continued												
Me-FOSE	-	-	-							<0.1	ug/l	TM135/PM121
EI-FOSE	-	-	-							<0.1	ug/l	TM135/PM121
N-MeFOSAA	-	-	-							<1	ug/l	TM135/PM121
N-EiFOSAA	-	-	-							<1	ug/l	TM135/PM121
8:2diPAP	NDP	NDP	-							<0.2	ug/l	TM135/PM121
FOUEA	-	-	-							<1	ug/l	TM135/PM121
6:2 FTAB (Capstone B)	NDP	NDP	-							<4	ug/l	TM135/PM121
EEA-NH4	NDP	NDP	-							<0.5	ug/l	TM135/PM121
PFBA <sup>#</sup>	NDP	<0.005 <sub>AB</sub>	<0.005 <sub>AB</sub>							<0.001	ug/l	TM135/PM122
PFPeA <sup>#</sup>	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFHxA <sup>#</sup>	NDP	0.001	<0.001							<0.001	ug/l	TM135/PM122
PFHpA <sup>#</sup>	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFOA <sup>#</sup>	NDP	0.00140	0.00100							<0.00065	ug/l	TM135/PM122
PFNA <sup>#</sup>	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFDA <sup>#</sup>	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFUnA <sup>#</sup>	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFDoA	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFTrDA	NDP	<0.006	<0.006							<0.006	ug/l	TM135/PM122
PFTeDA	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFHxDA	NDP	<0.01	<0.01							<0.01	ug/l	TM135/PM122
PFODA	NDP	<0.025	<0.025							<0.025	ug/l	TM135/PM122
PFBS <sup>#</sup>	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFPeS <sup>#</sup>	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFHxS <sup>#</sup>	NDP	0.004	<0.001							<0.001	ug/l	TM135/PM122
PFHpS <sup>#</sup>	NDP	0.001	<0.001							<0.001	ug/l	TM135/PM122
PFOS <sup>#</sup>	NDP	0.04610 <sub>AB</sub>	0.00130							<0.00065	ug/l	TM135/PM122
PFNS	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFDS	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFUnDS	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFDoDS	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFTrDS	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
HFPO-DA (Gen X)	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
HFPO-TA	NDP	<0.02	<0.02							<0.02	ug/l	TM135/PM122
DONA <sup>#</sup>	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFMOPrA	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
NFDHA	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFMOBA	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
PFECHS	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
3:3 FTCA	NDP	<0.02	<0.02							<0.02	ug/l	TM135/PM122
5:3 FTCA	NDP	<0.01	<0.01							<0.01	ug/l	TM135/PM122
7:3 FTCA	NDP	<0.02	<0.02							<0.02	ug/l	TM135/PM122
PFEESA	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122
9Cl-PF3ONS <sup>#</sup>	NDP	<0.001	<0.001							<0.001	ug/l	TM135/PM122

Please see attached notes for all abbreviations and acronyms







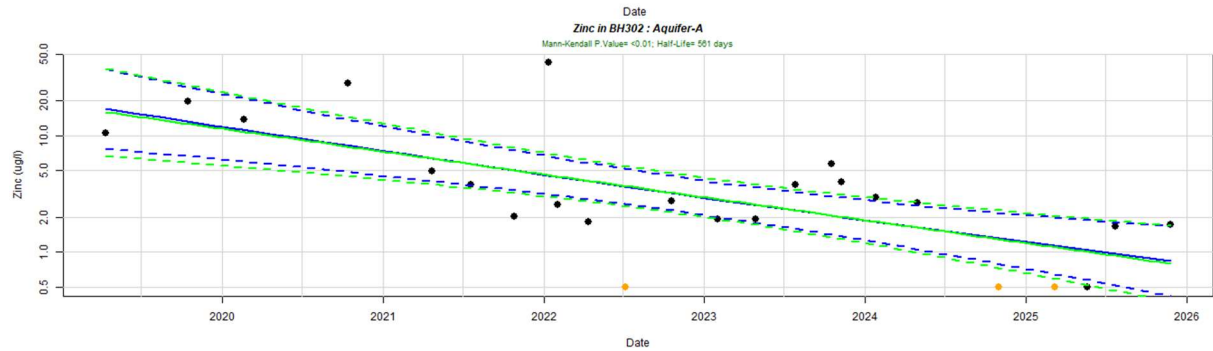
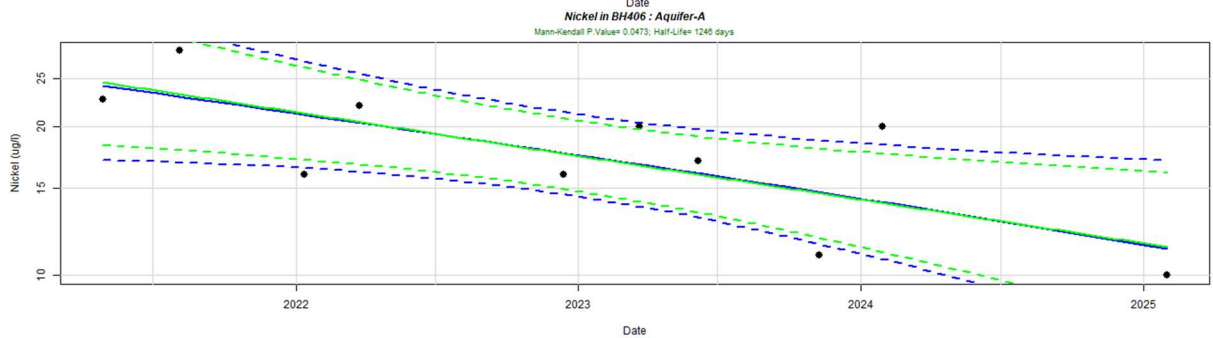
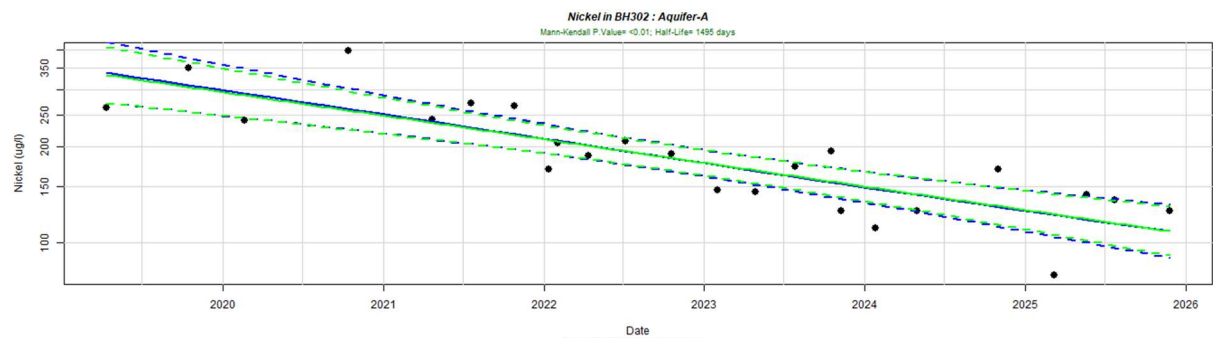
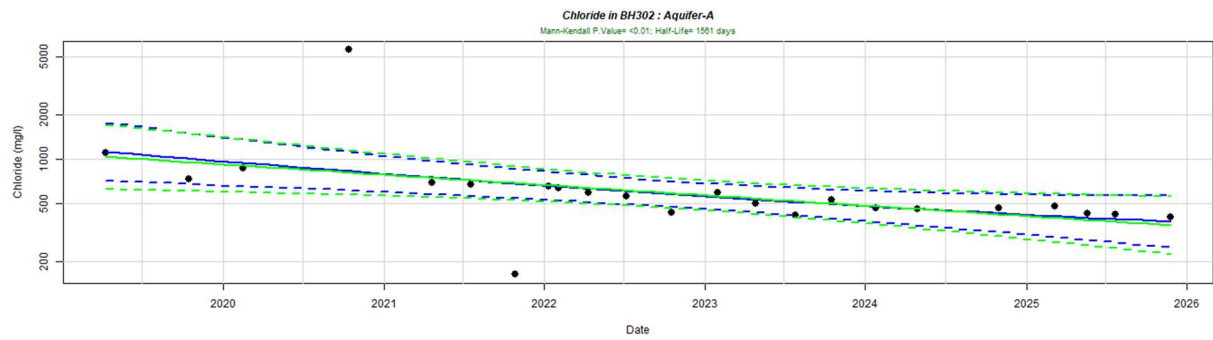
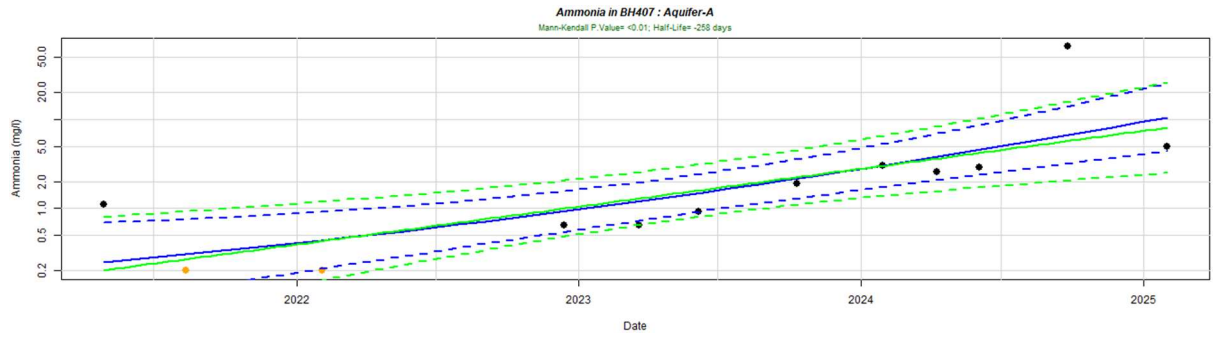


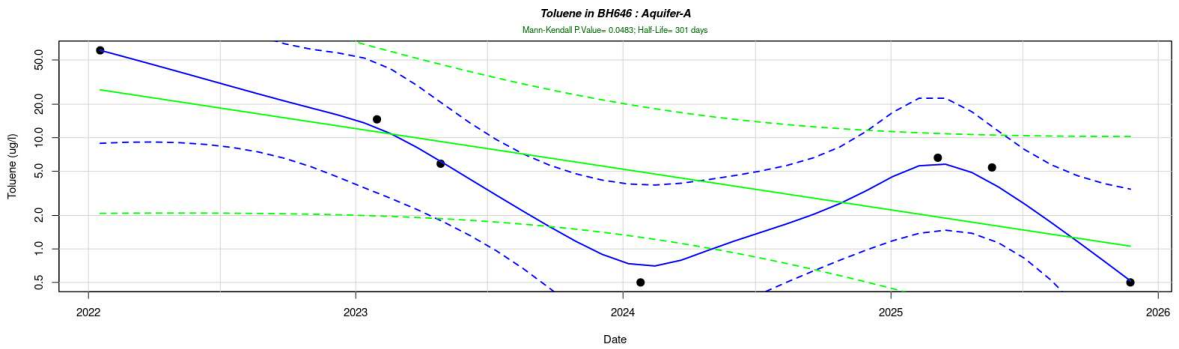
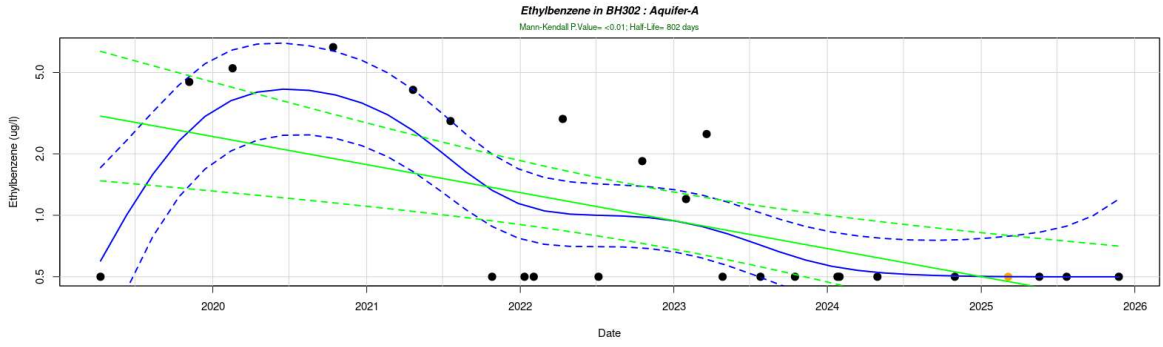




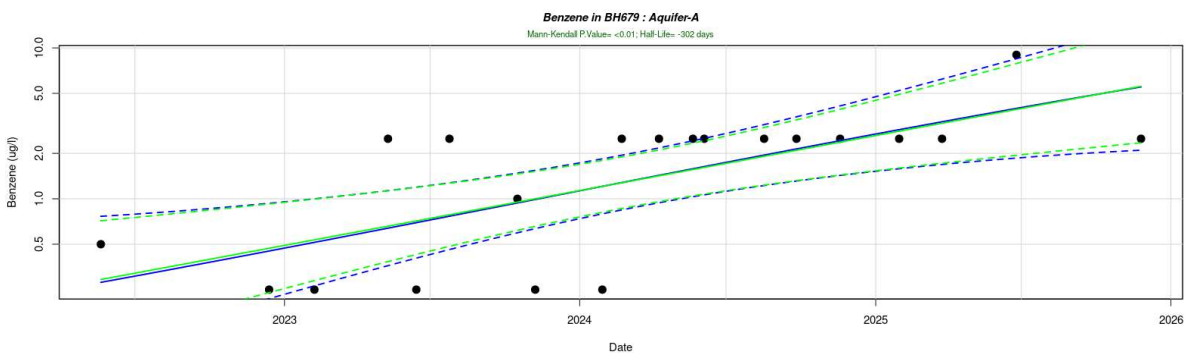
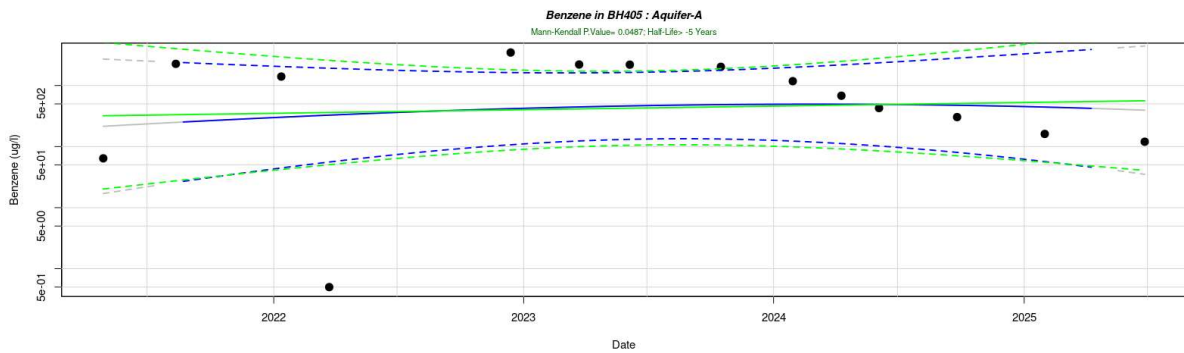
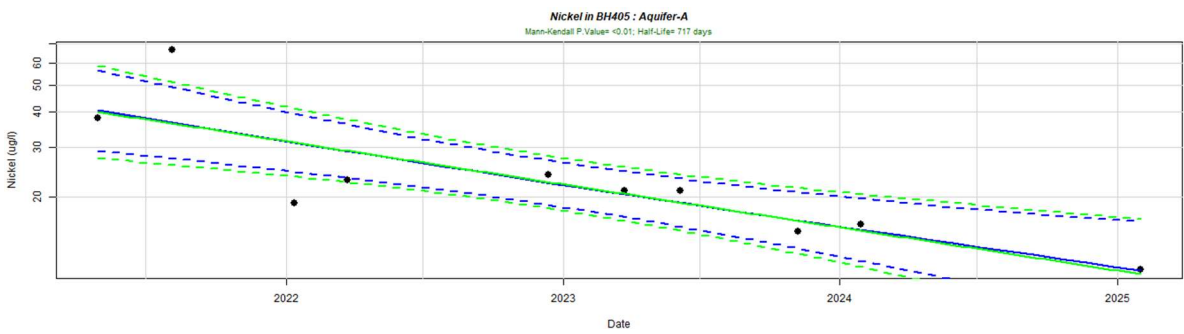
# Appendix C – Groundwater Trend Analysis – Mann Kendall Test

## Waste Zone 1

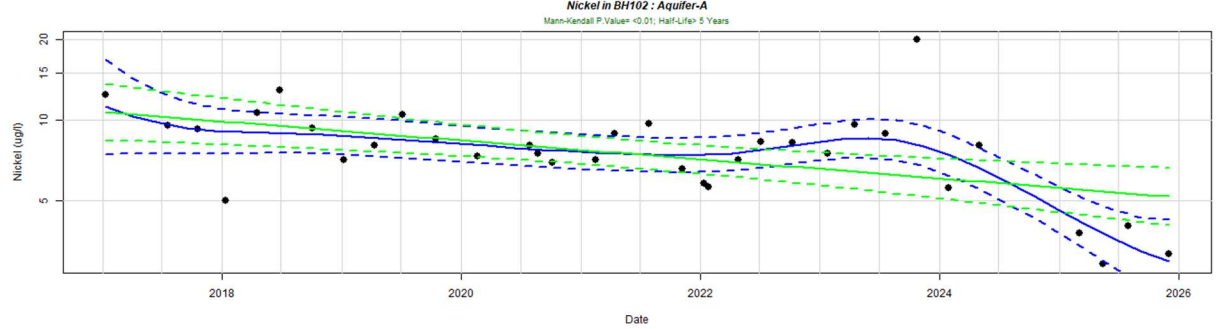
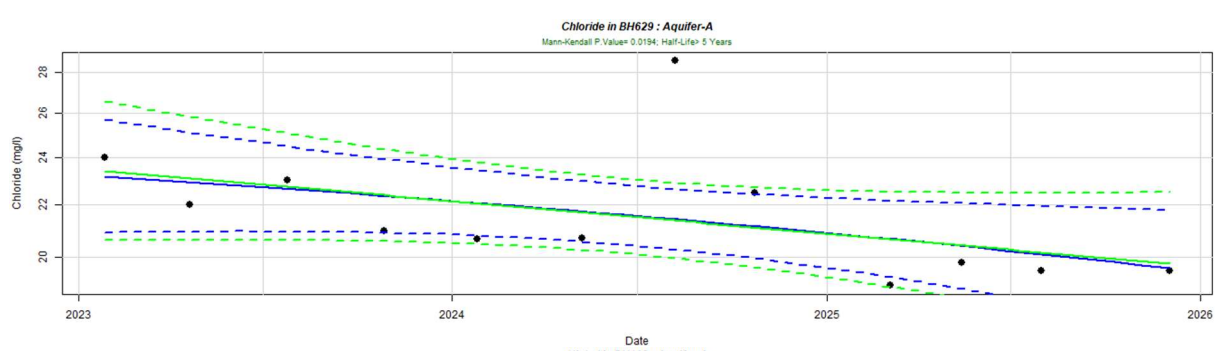
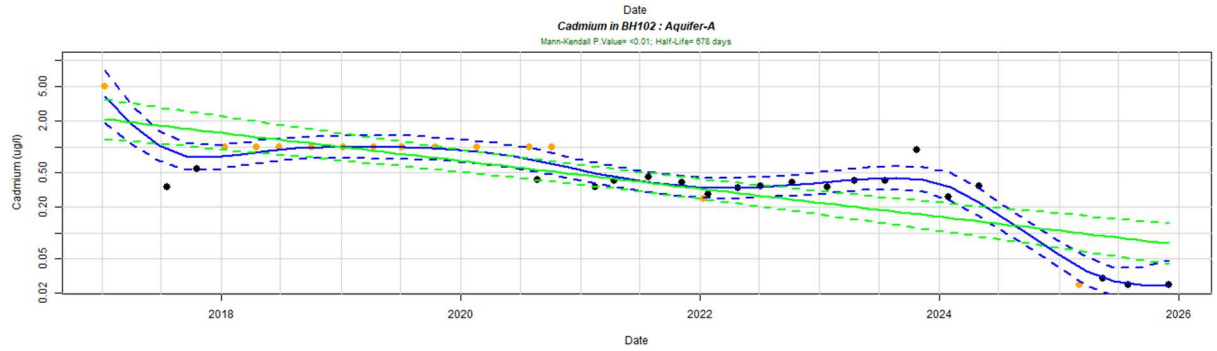
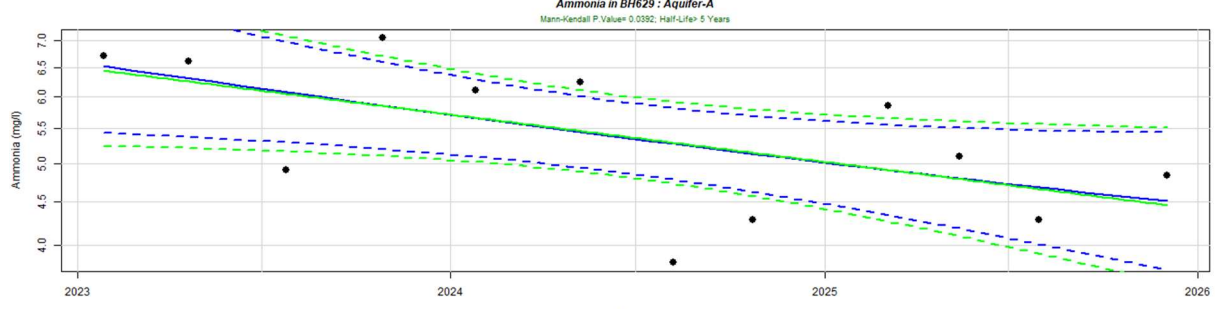
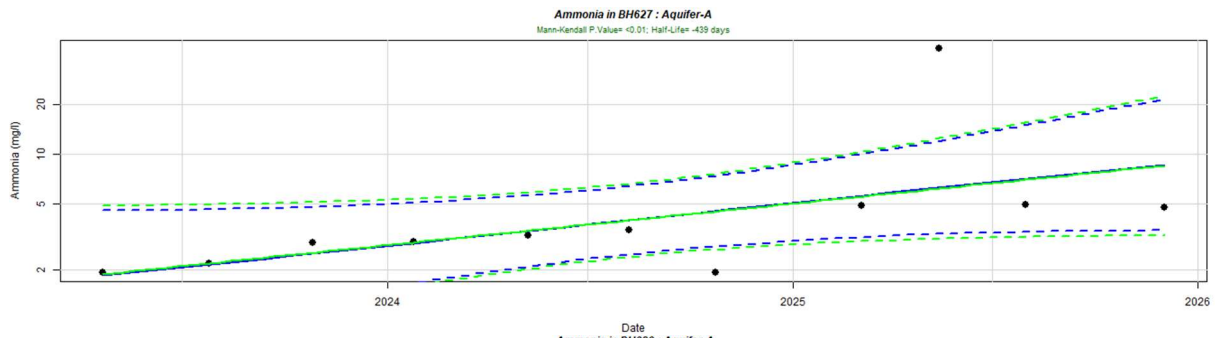


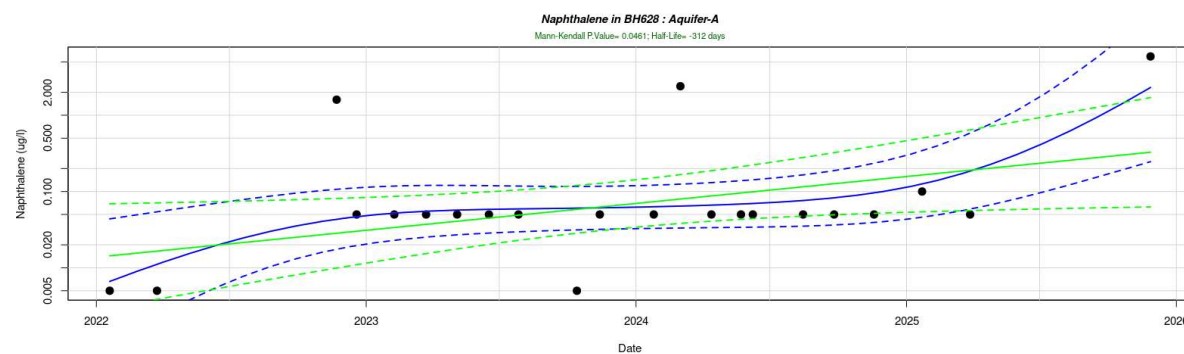
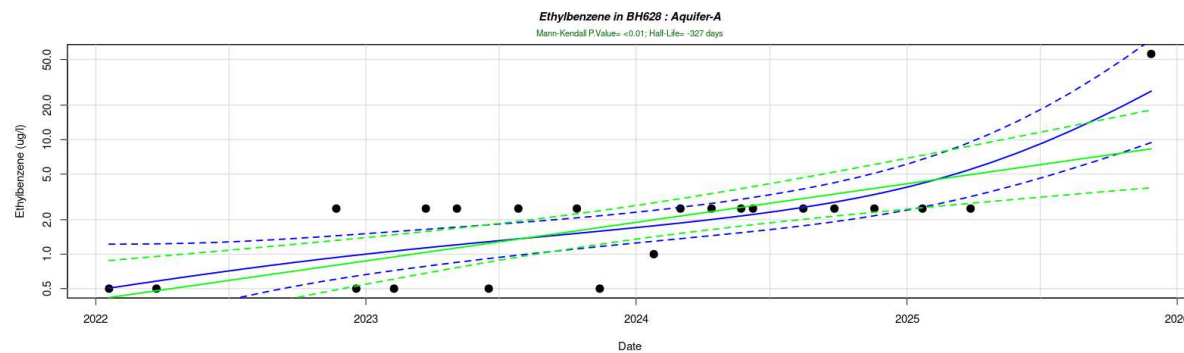
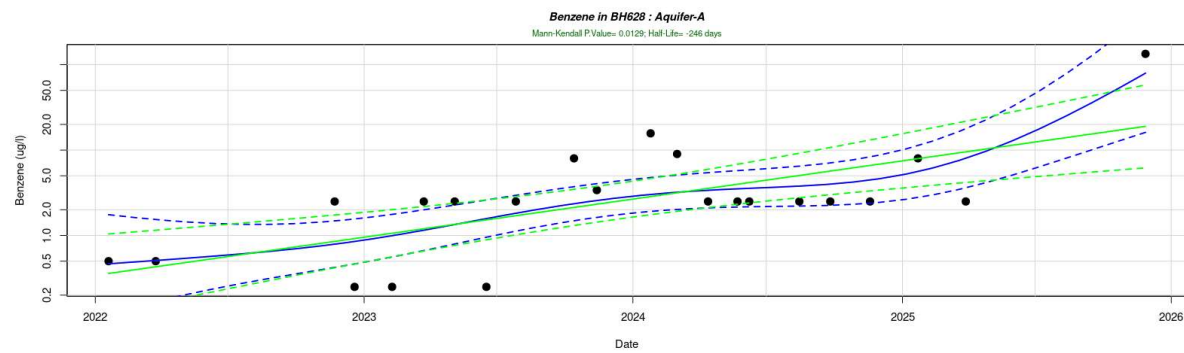
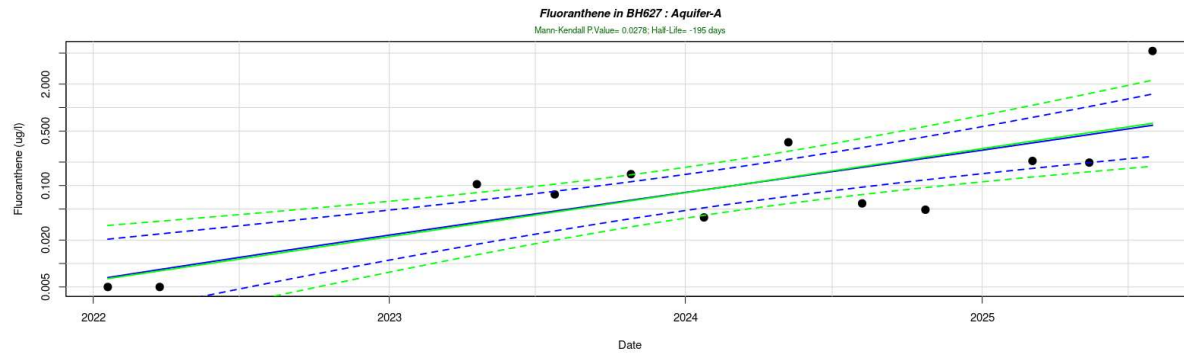
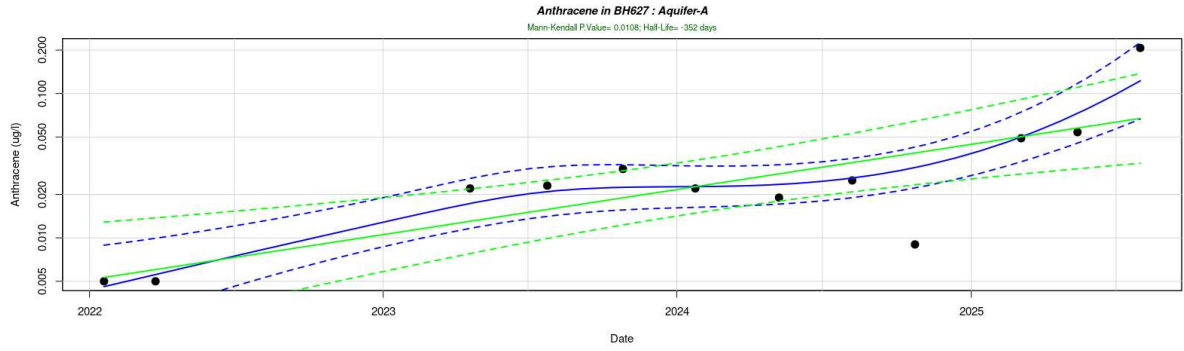


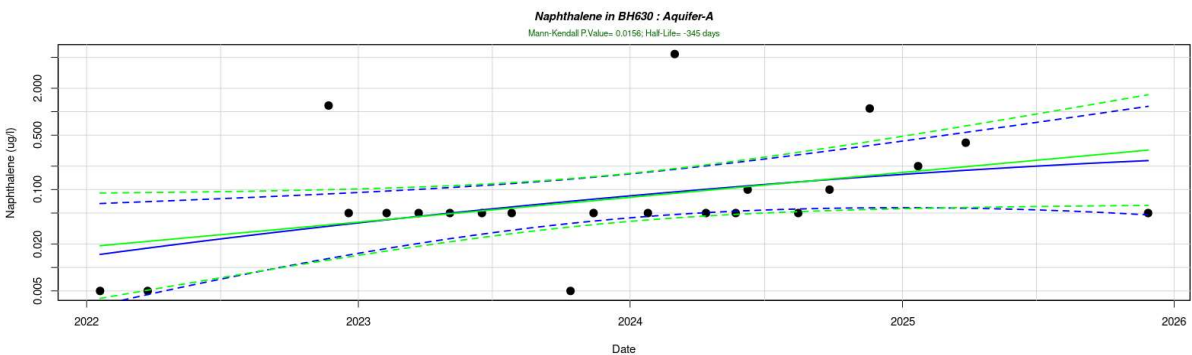
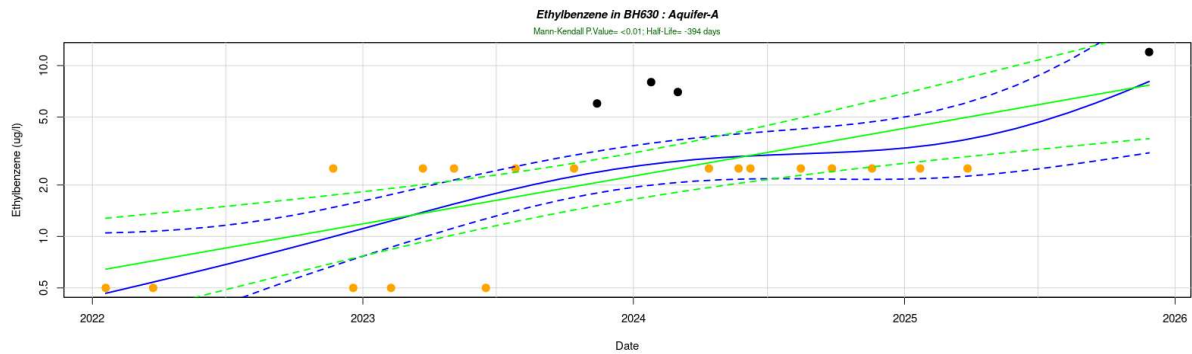
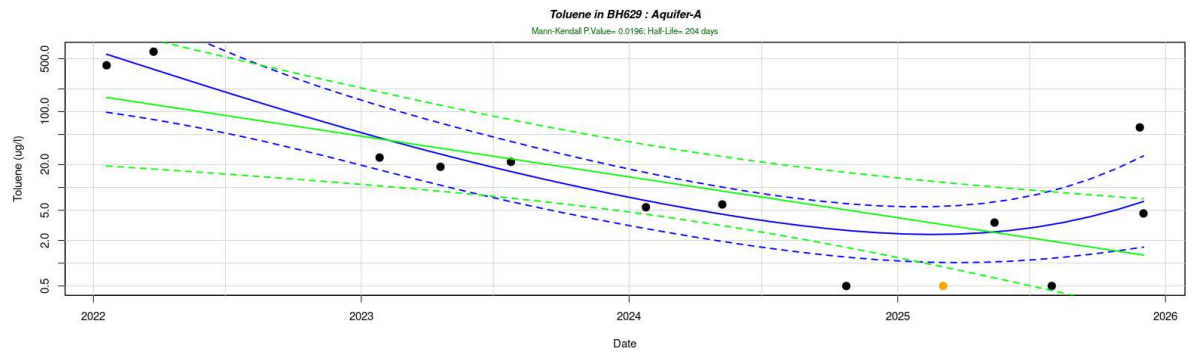
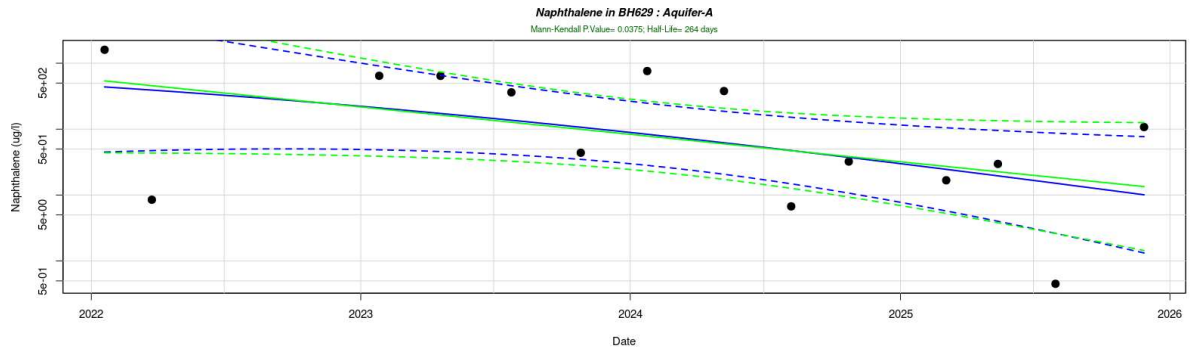
### Waste Zone 3



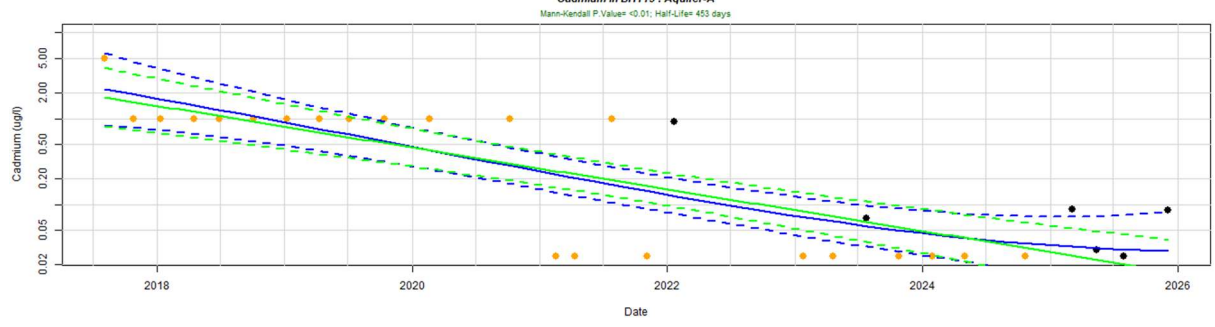
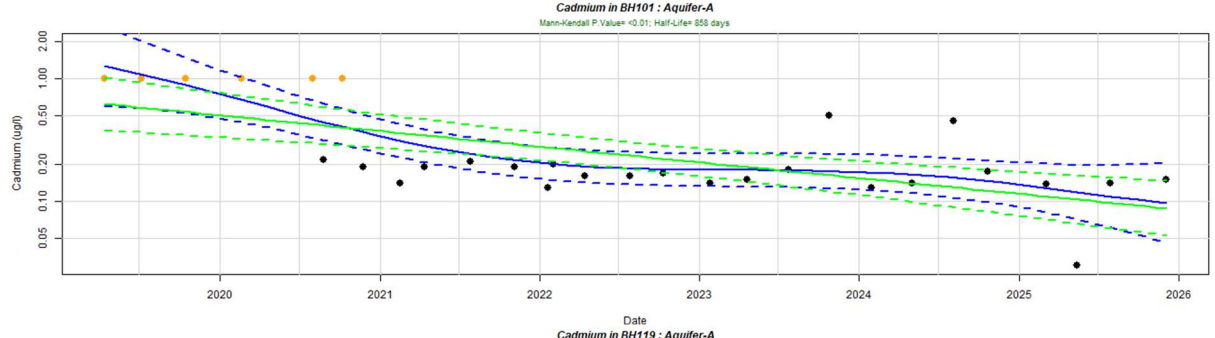
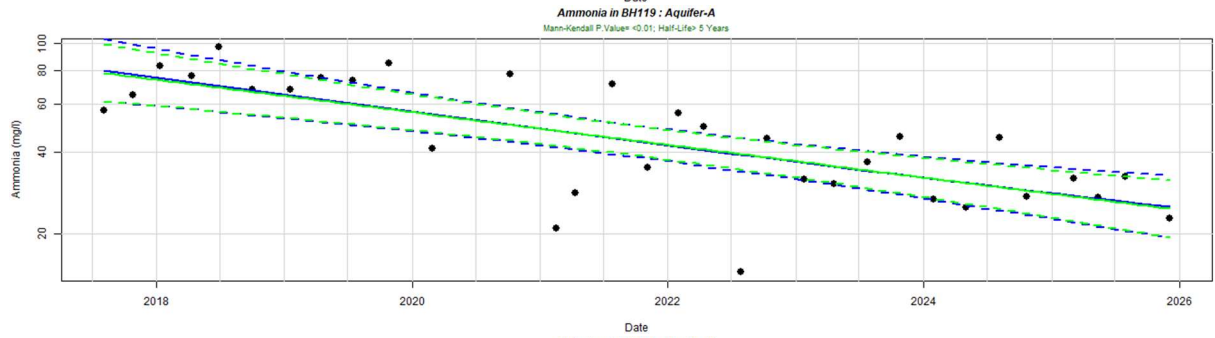
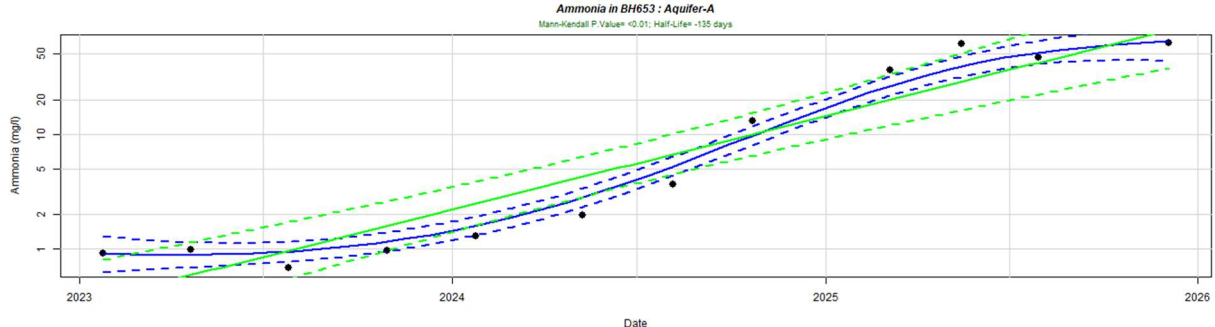
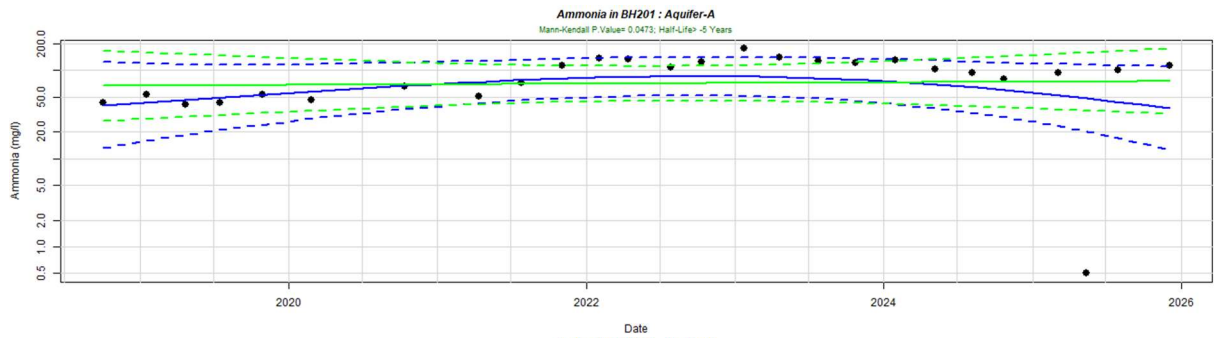
# Waste Zone 5

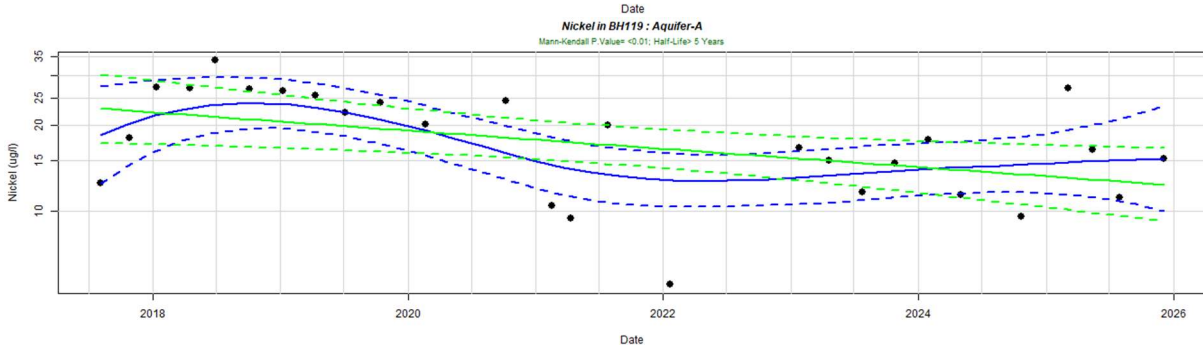
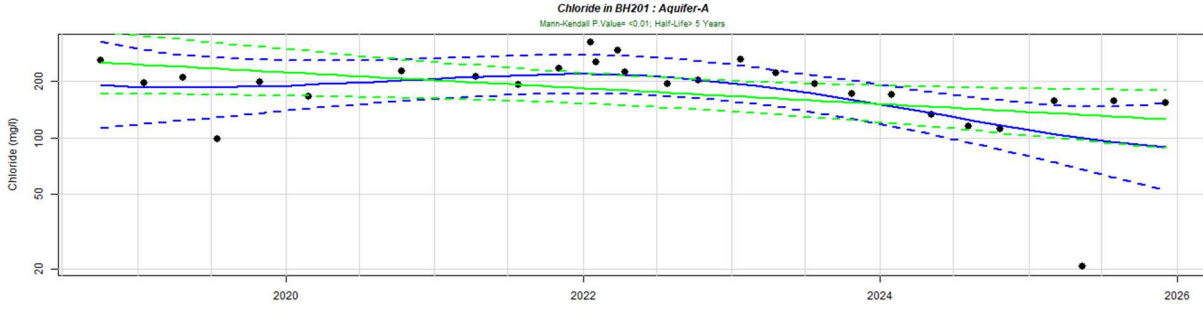
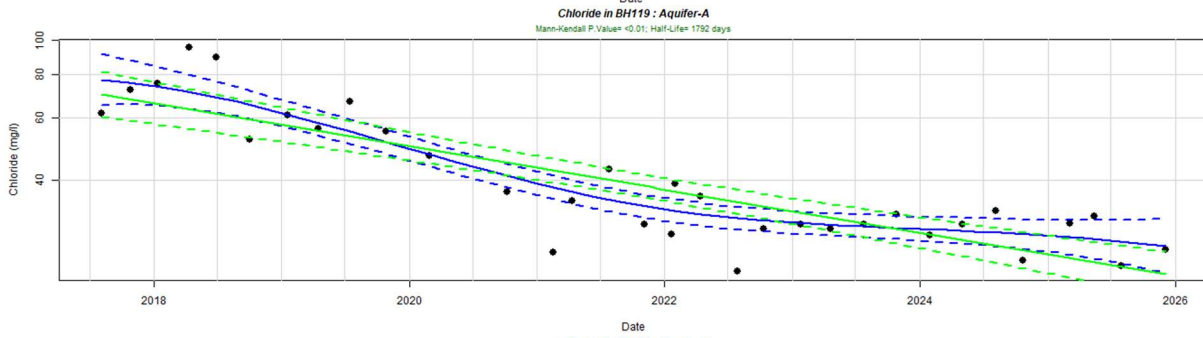
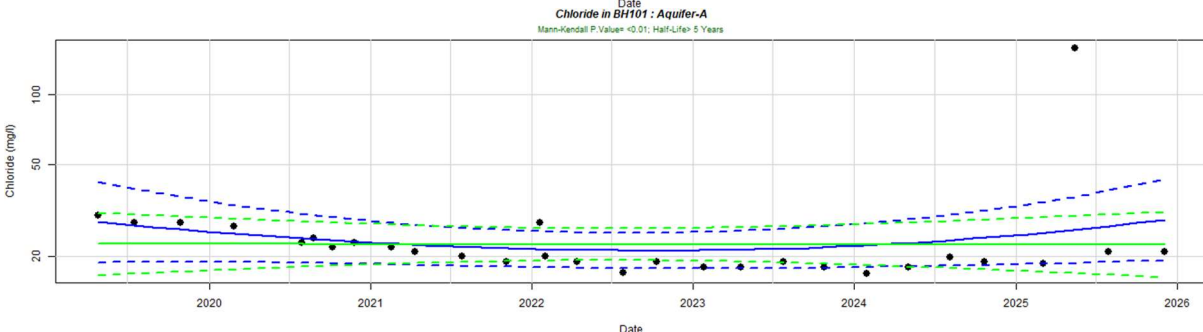
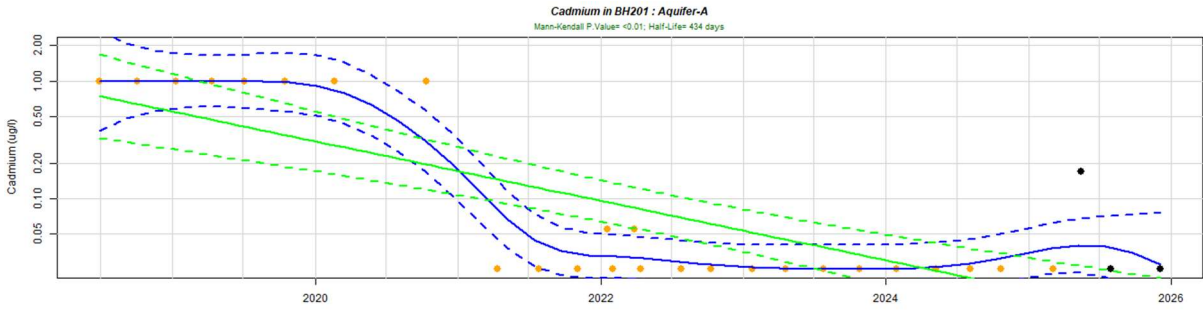


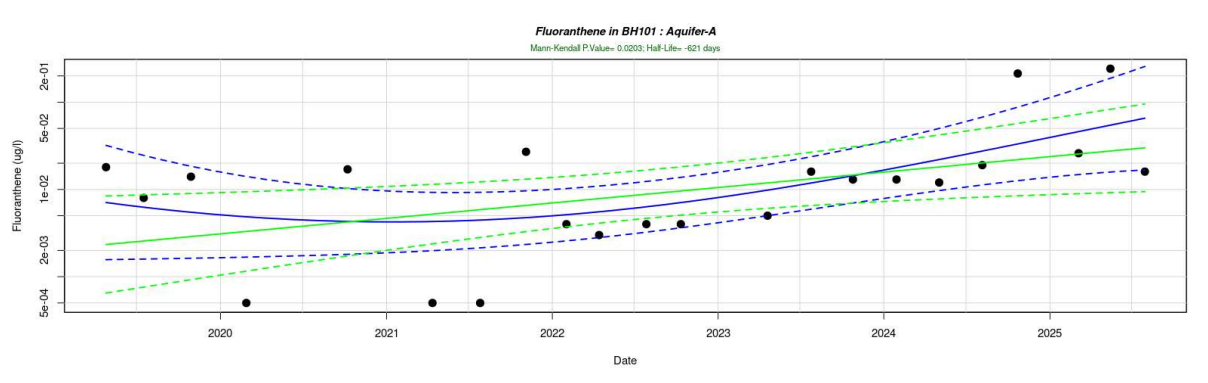
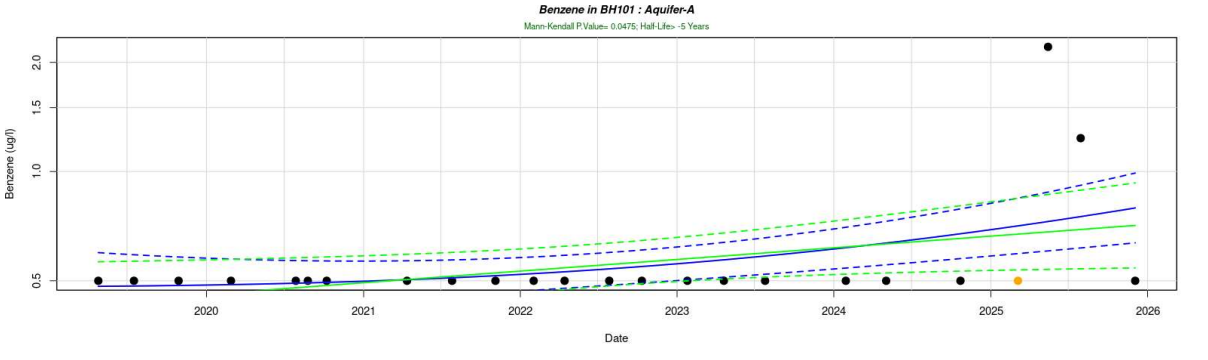
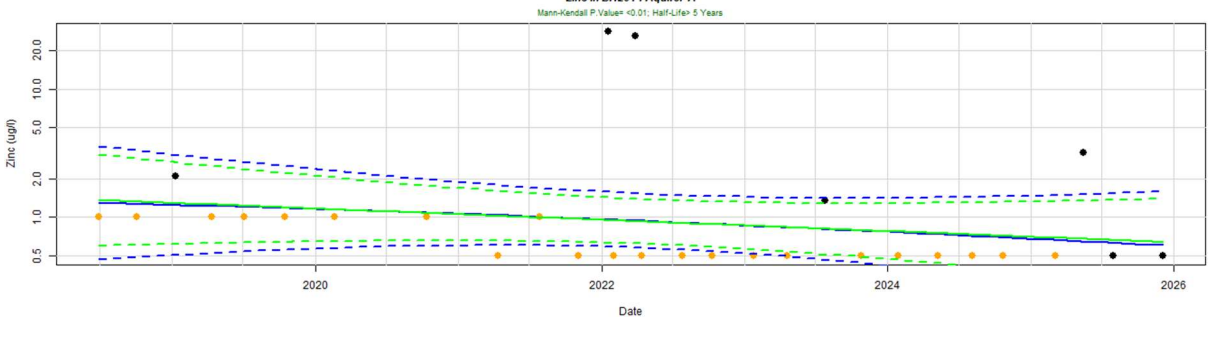
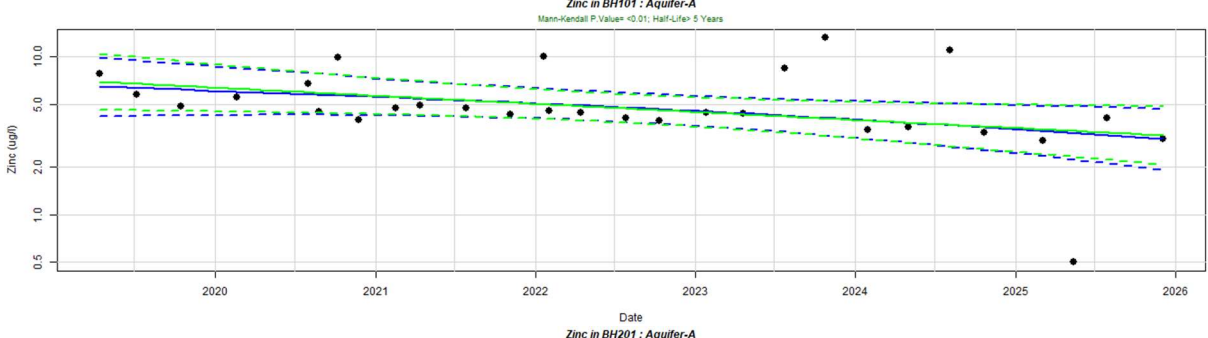
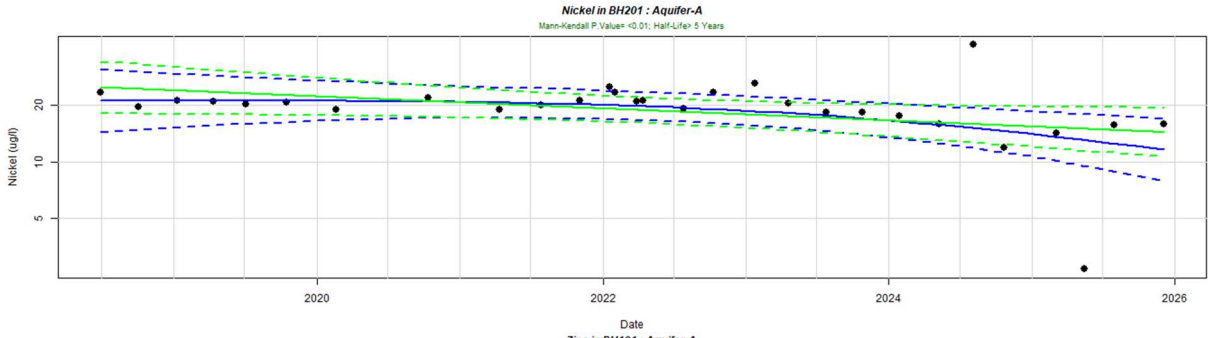


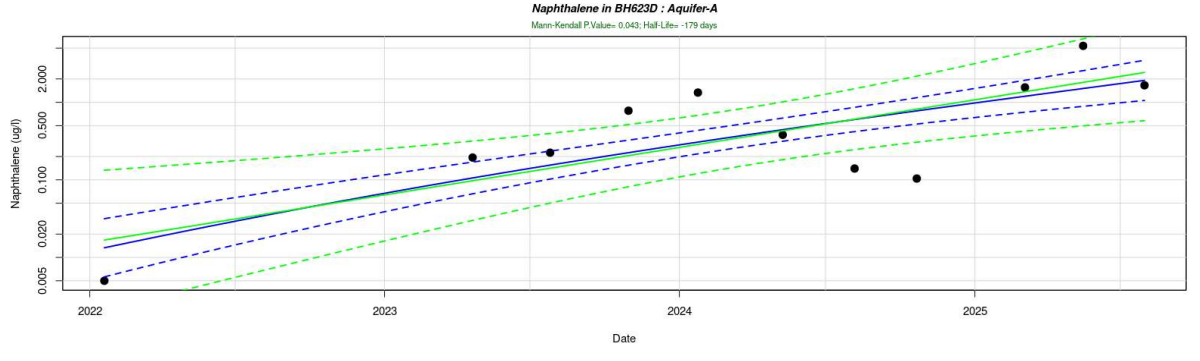
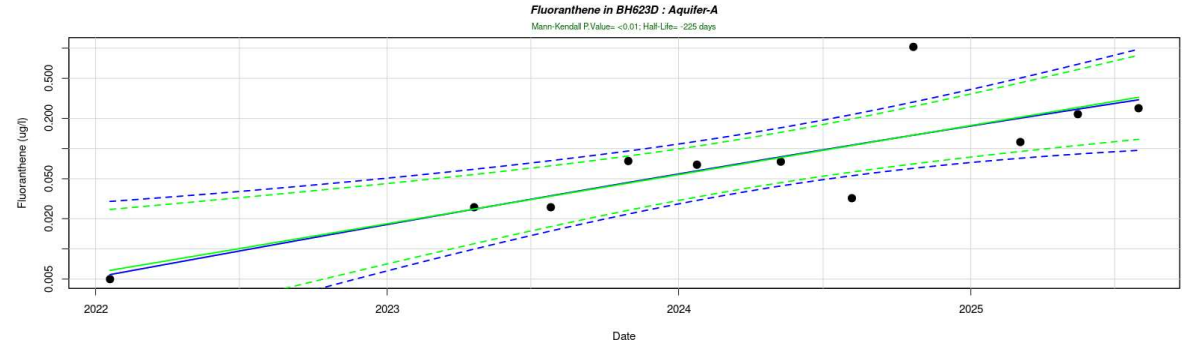
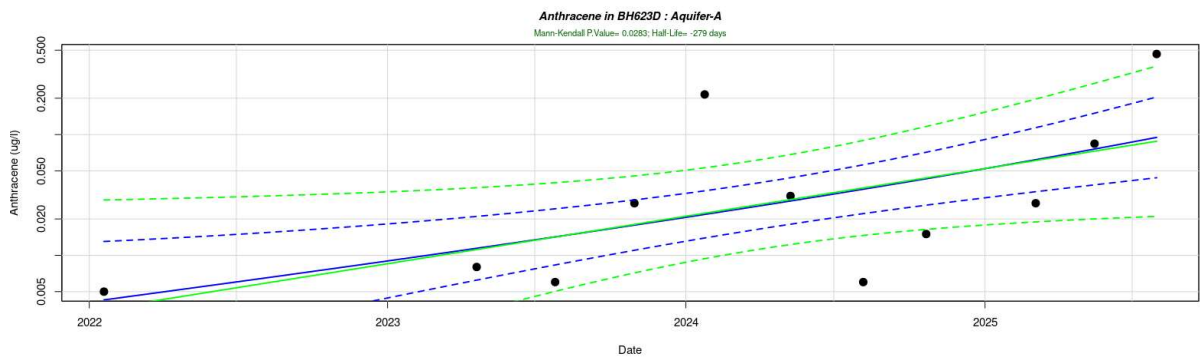
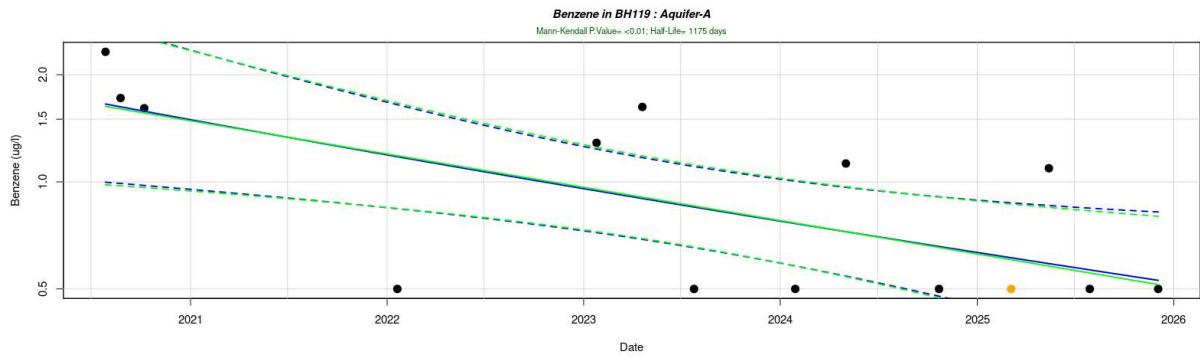


# Waste Zone 6

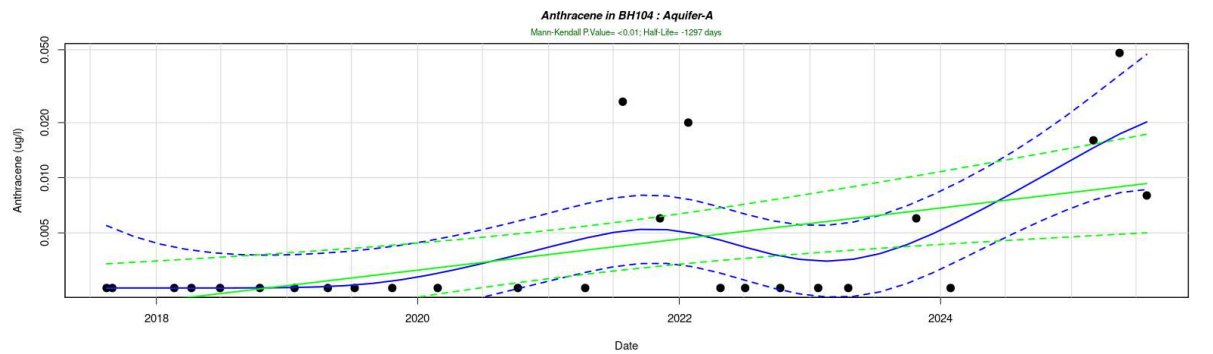
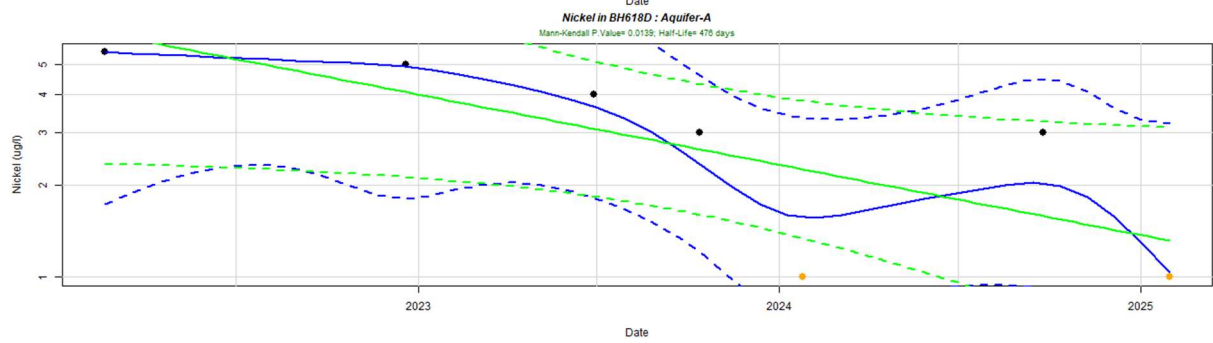
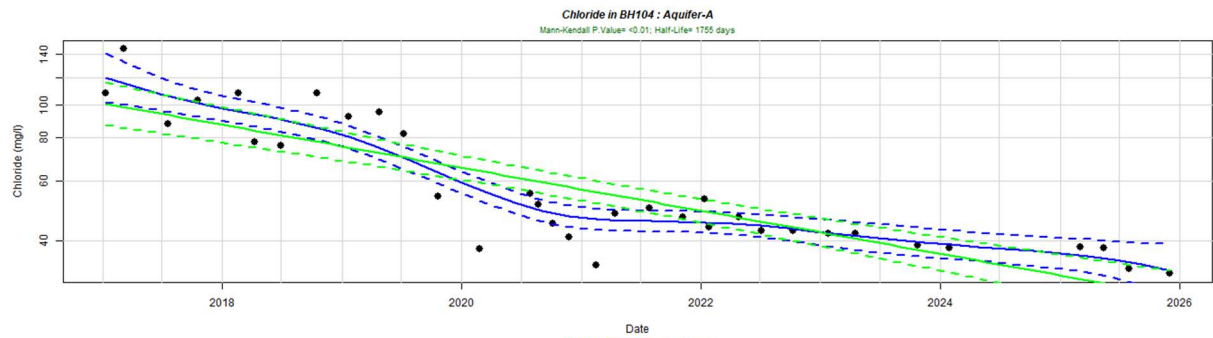
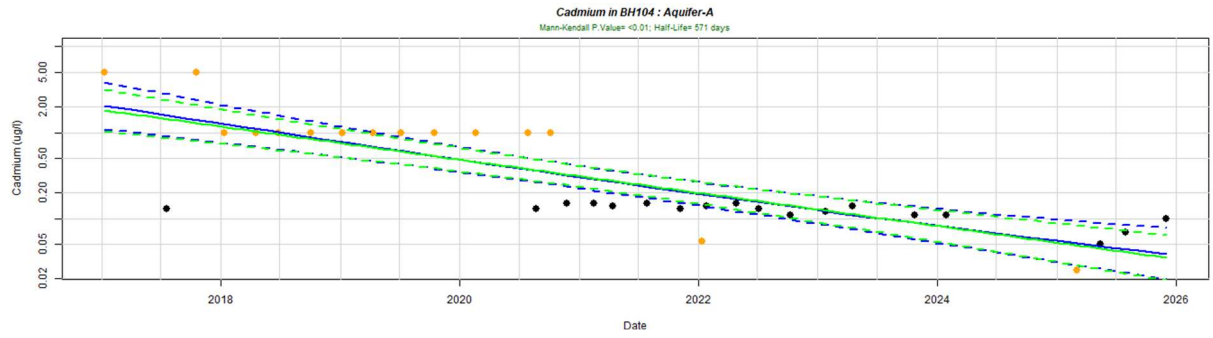
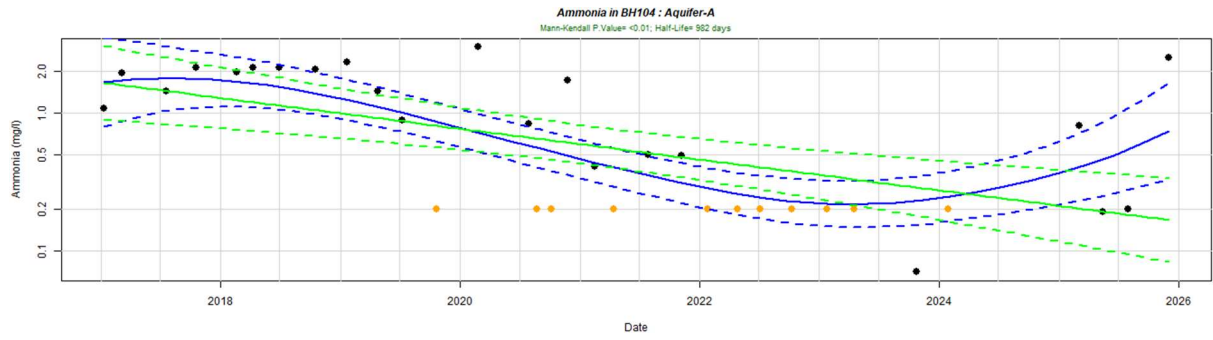






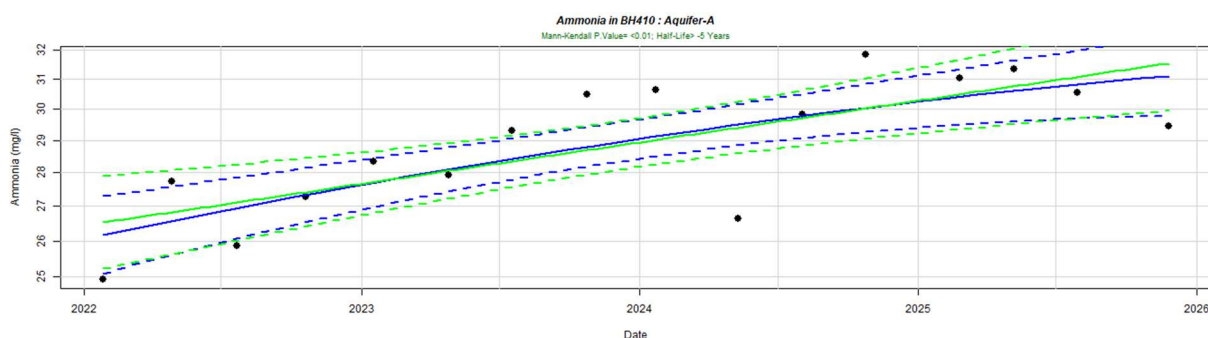
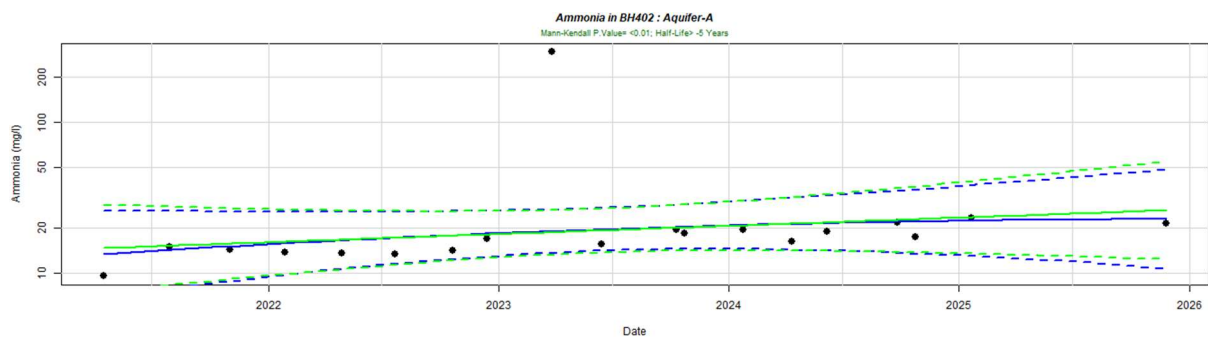
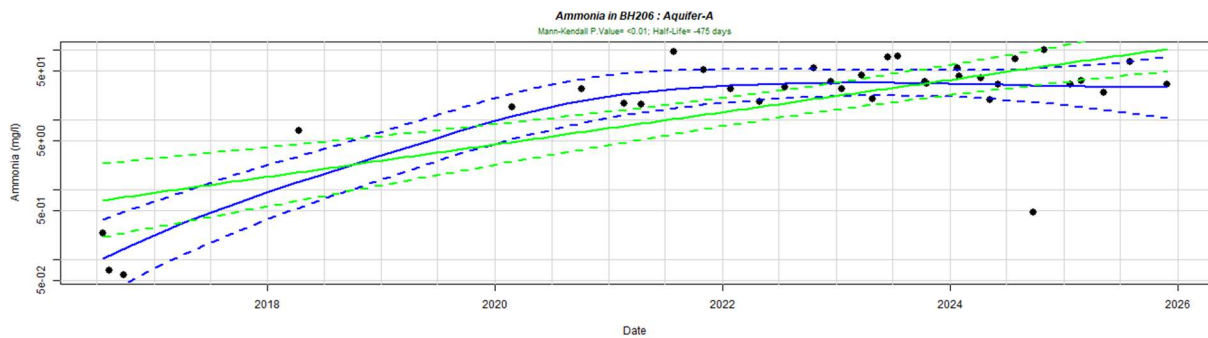
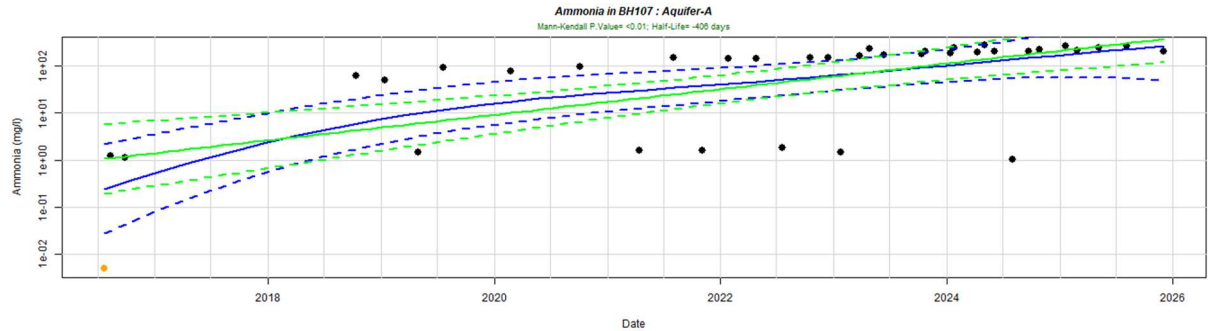
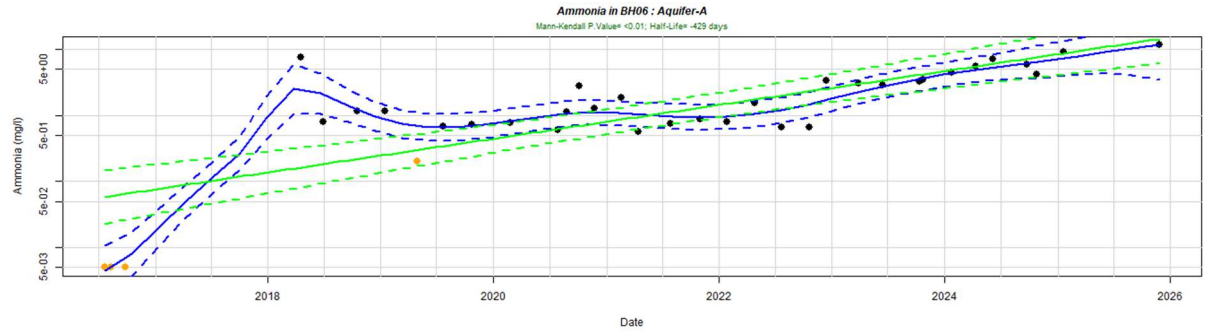


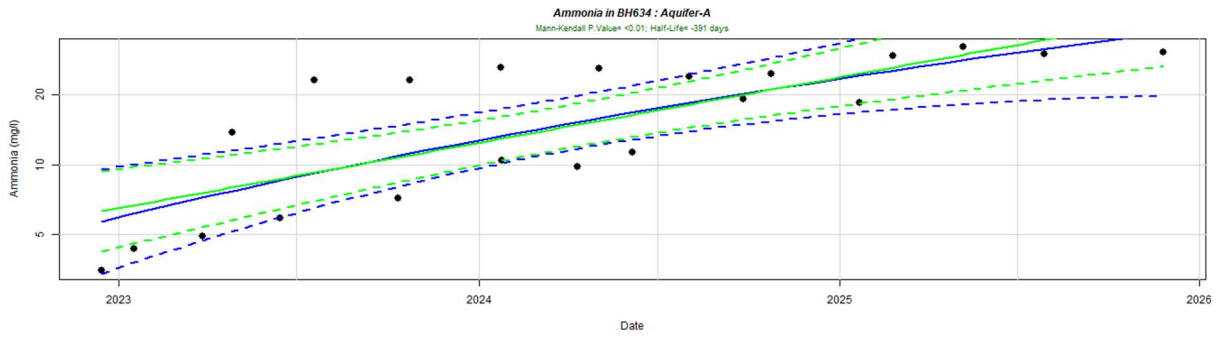
# Waste Zone 7



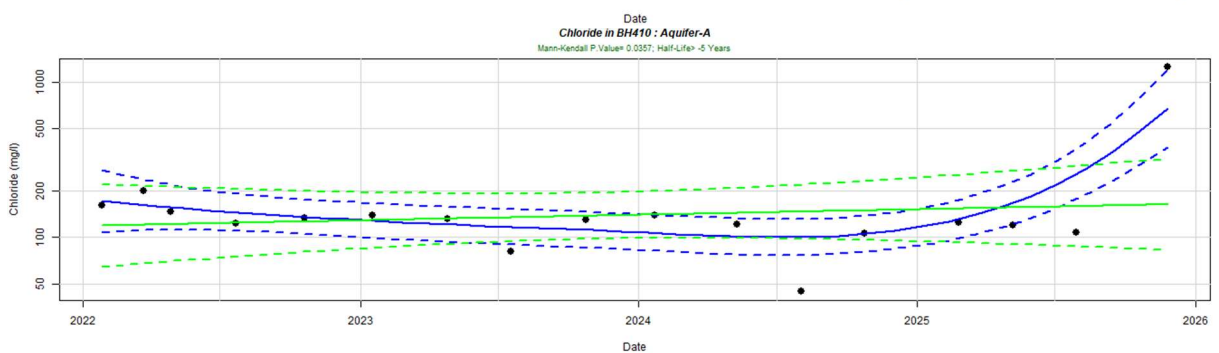
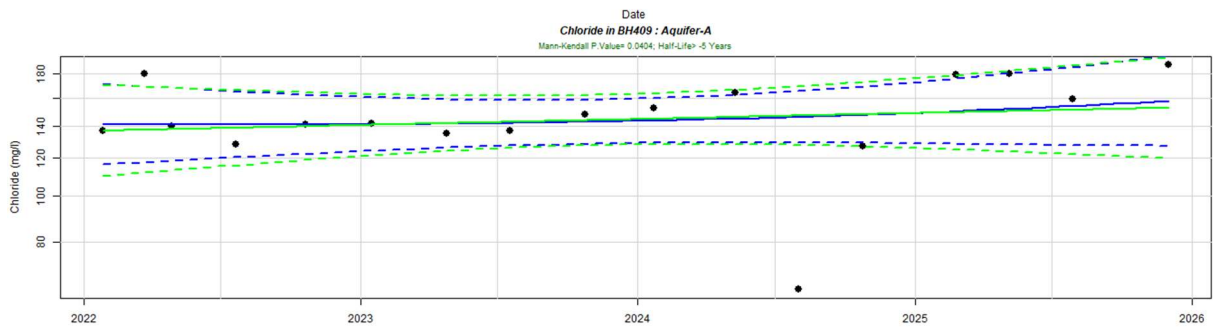
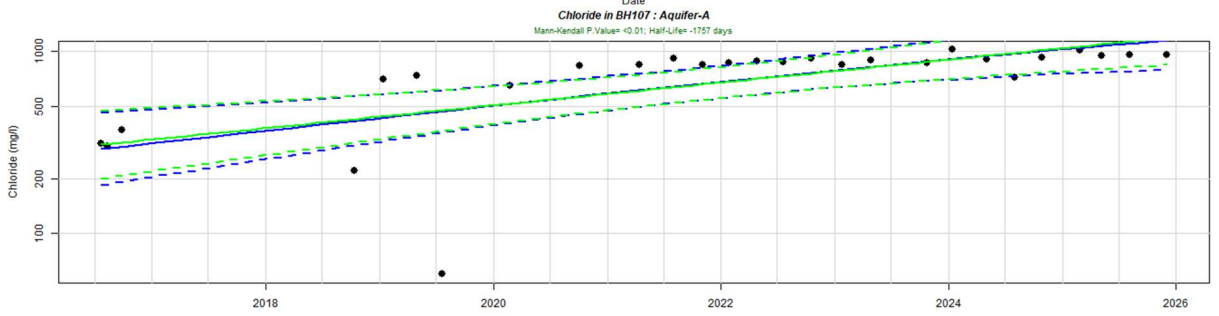
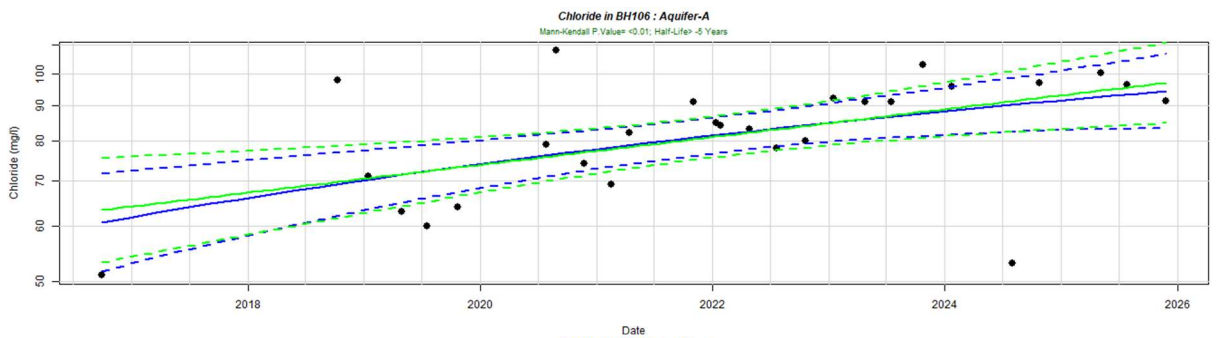
# Waste Zone 8 – Upward trends

## Ammonia

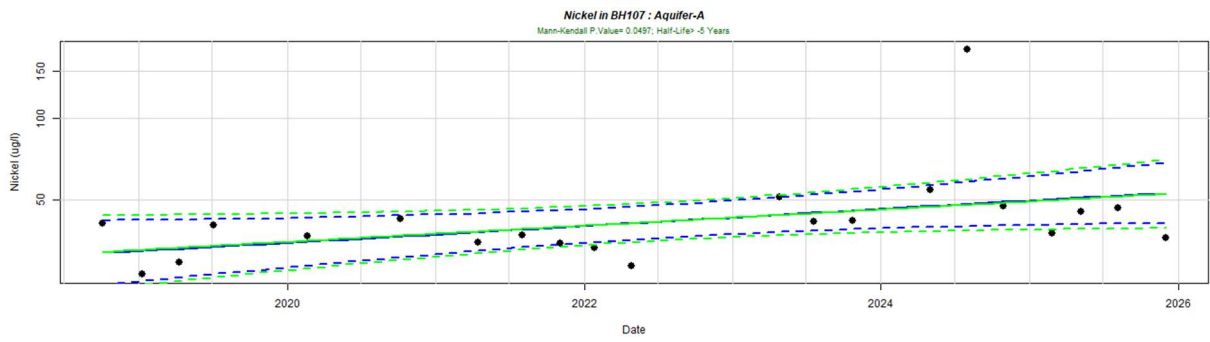




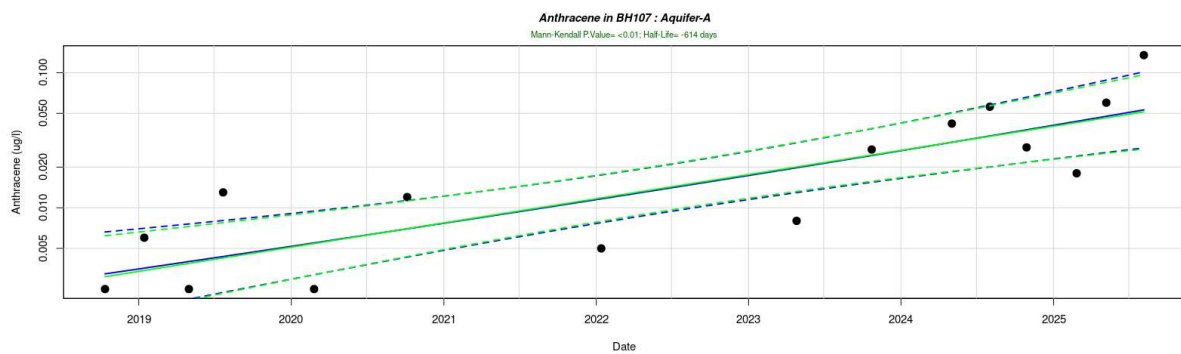
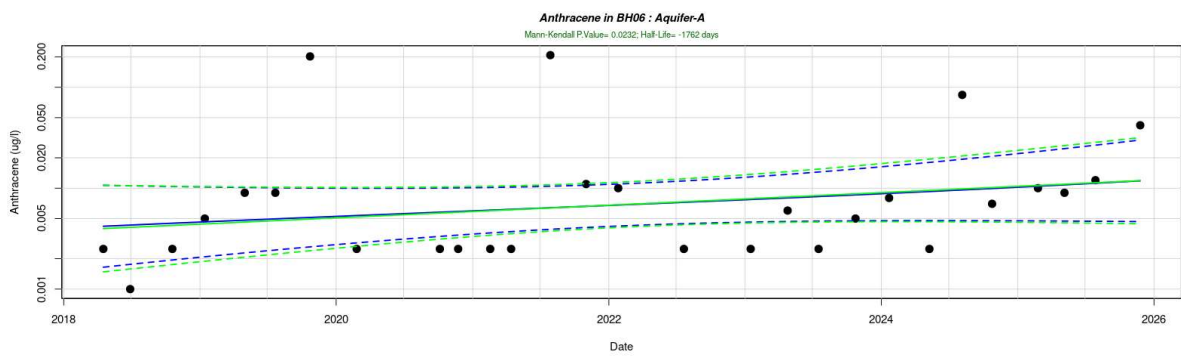
## Chloride



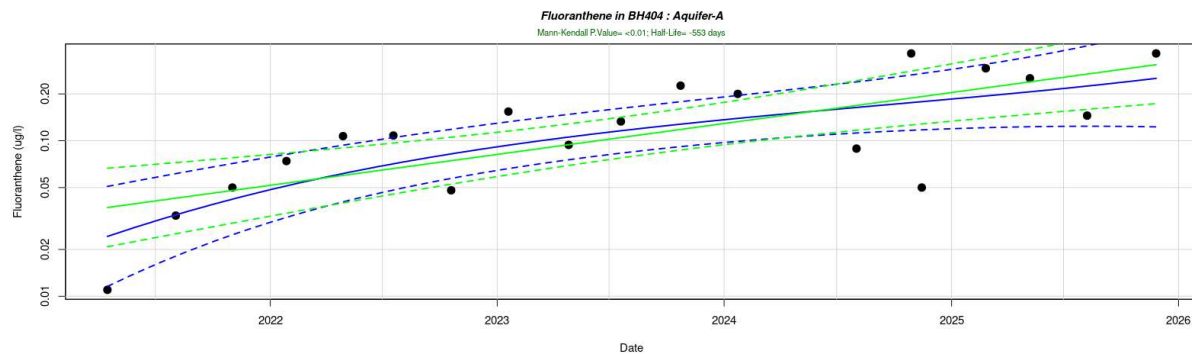
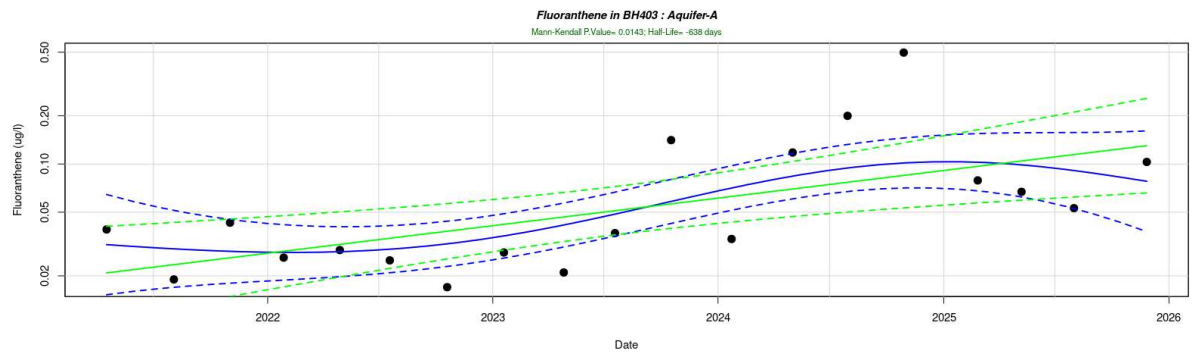
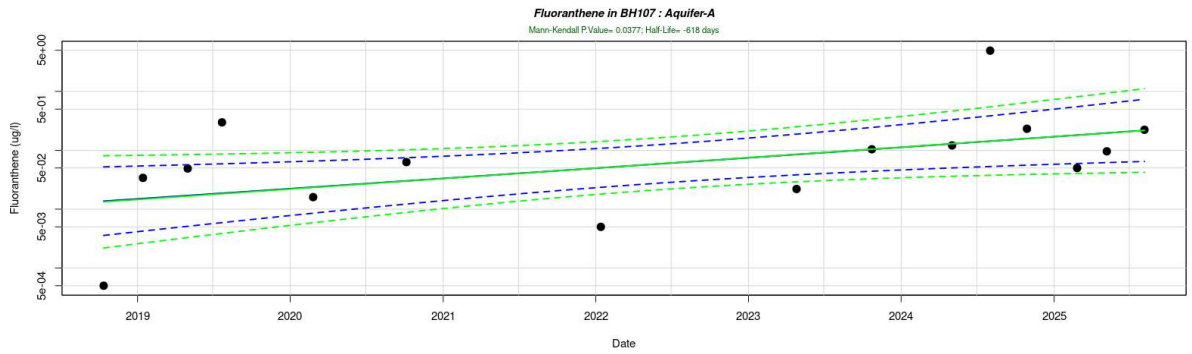
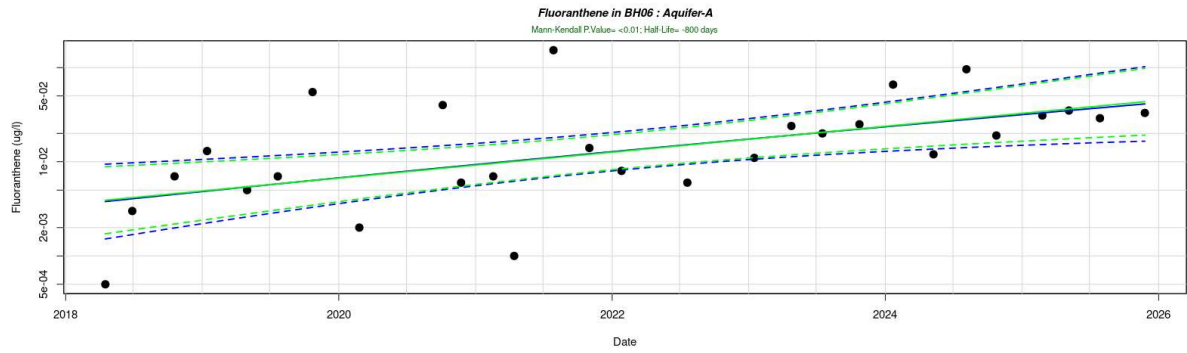
# Nickel



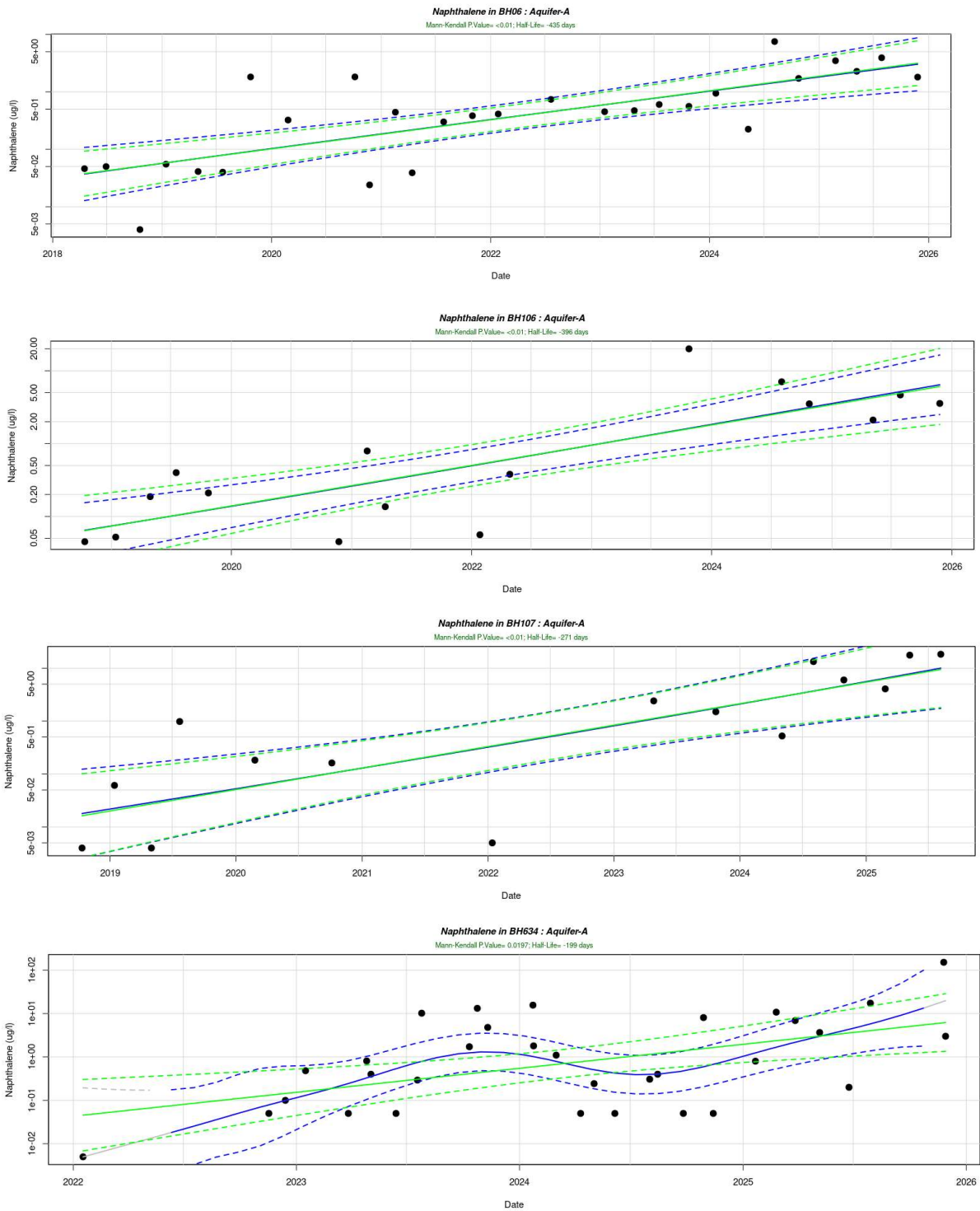
# Anthracene



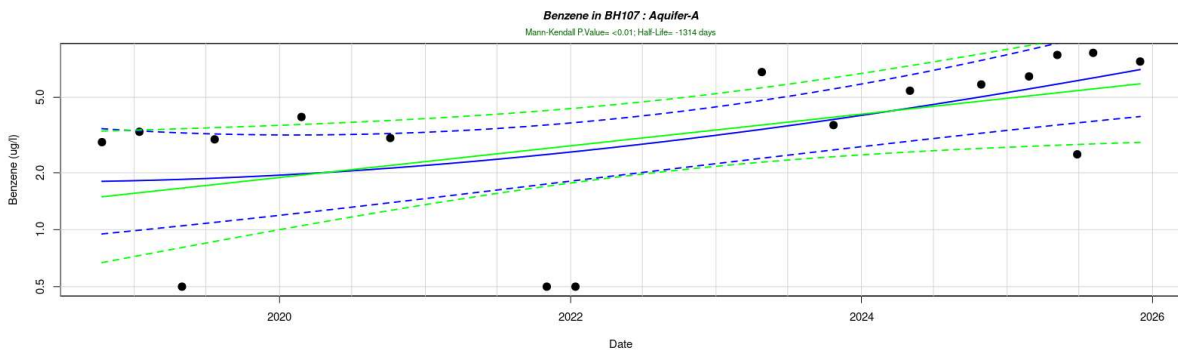
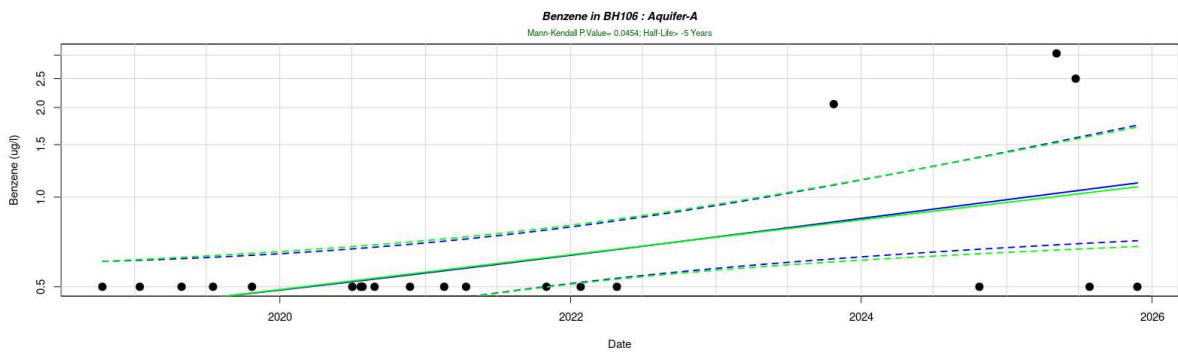
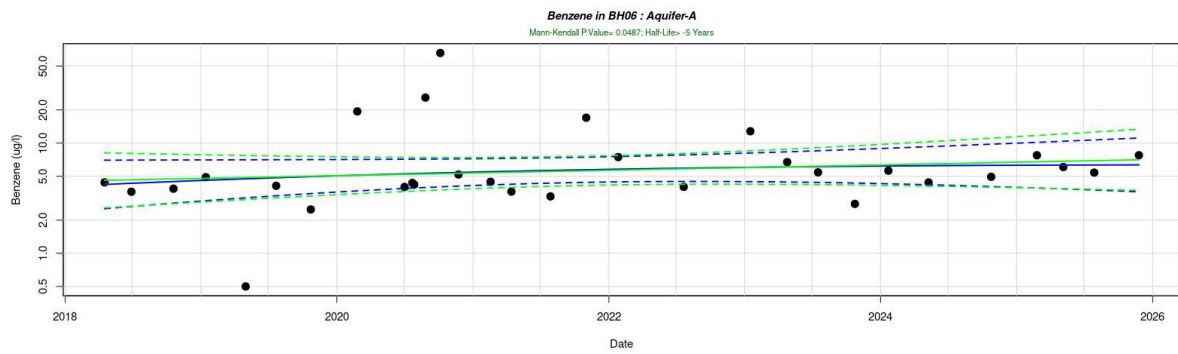
# Fluoranthene



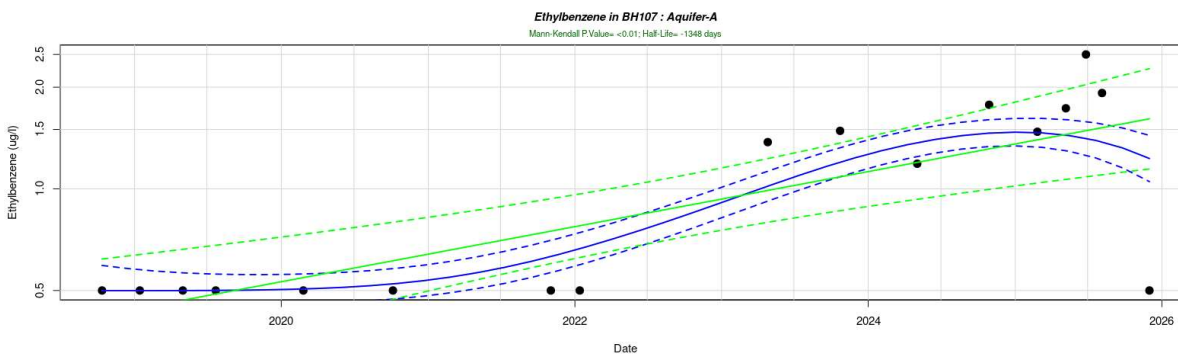
# Naphthalene



# Benzene

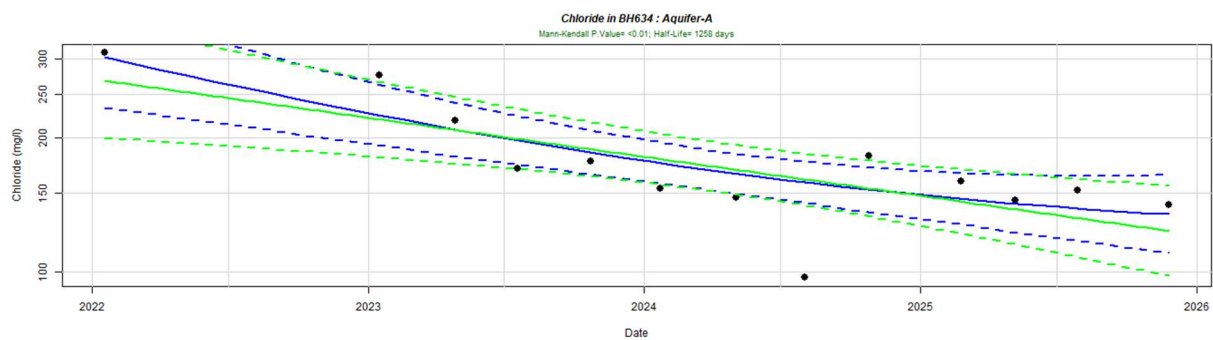
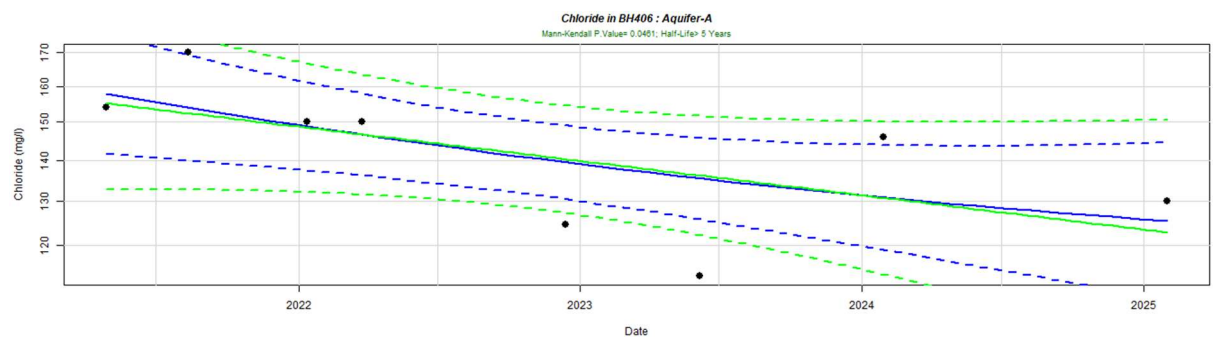
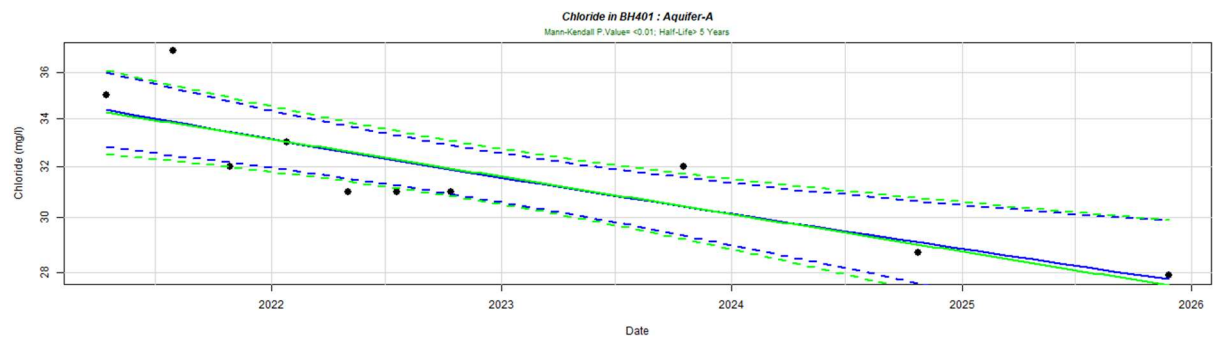
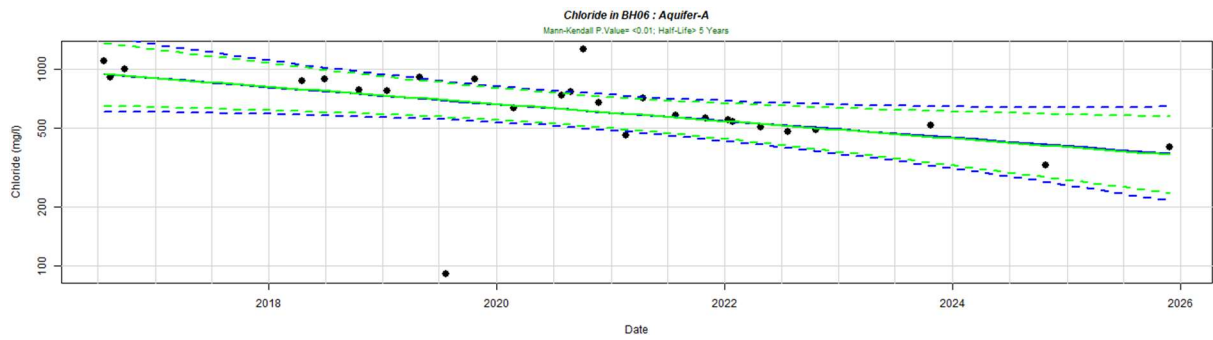


# Ethylbenzene

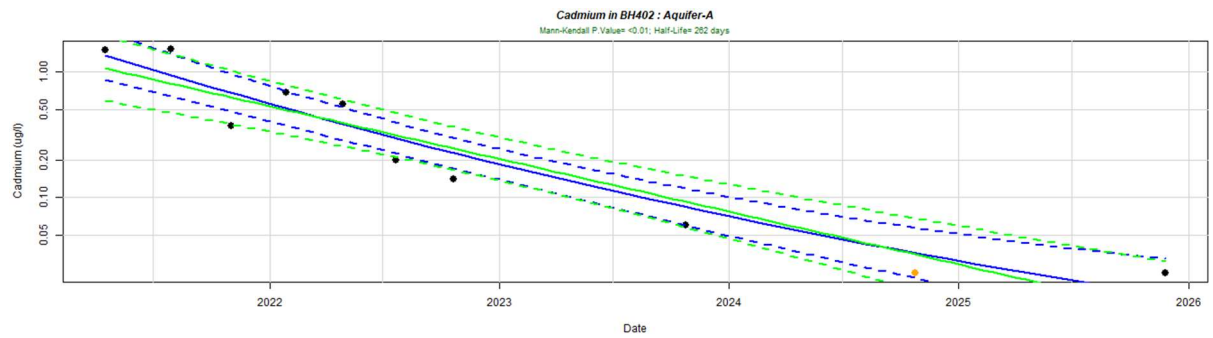
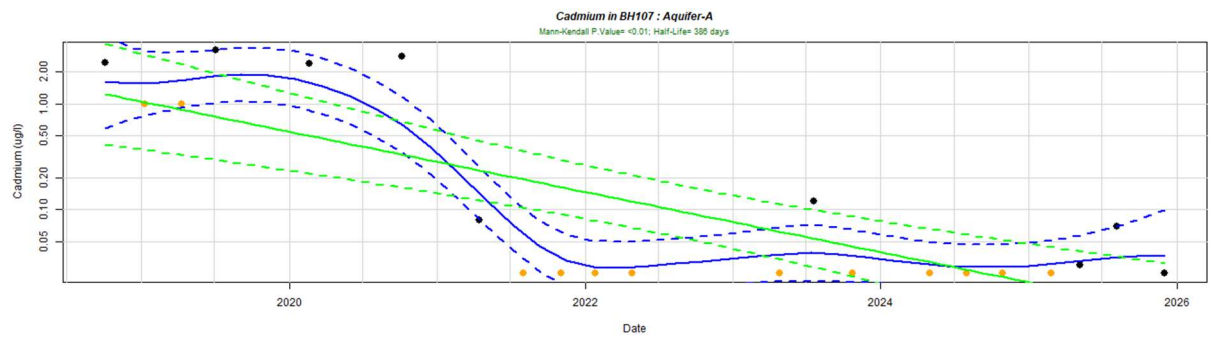
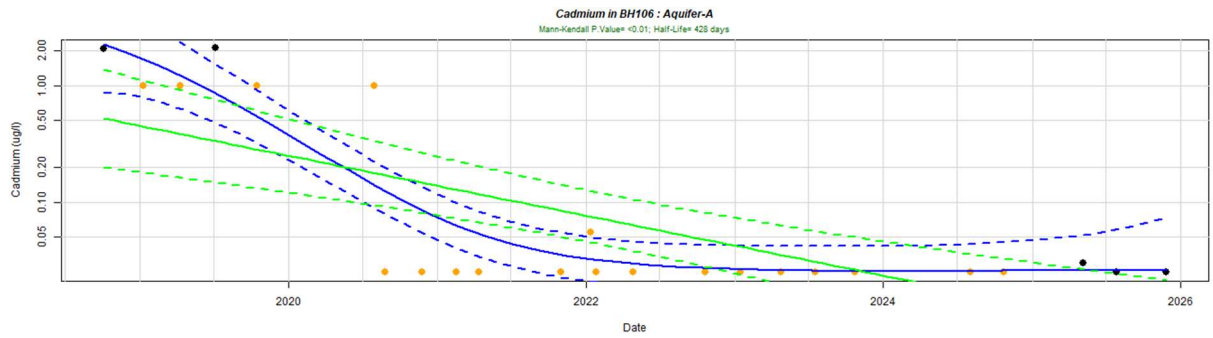
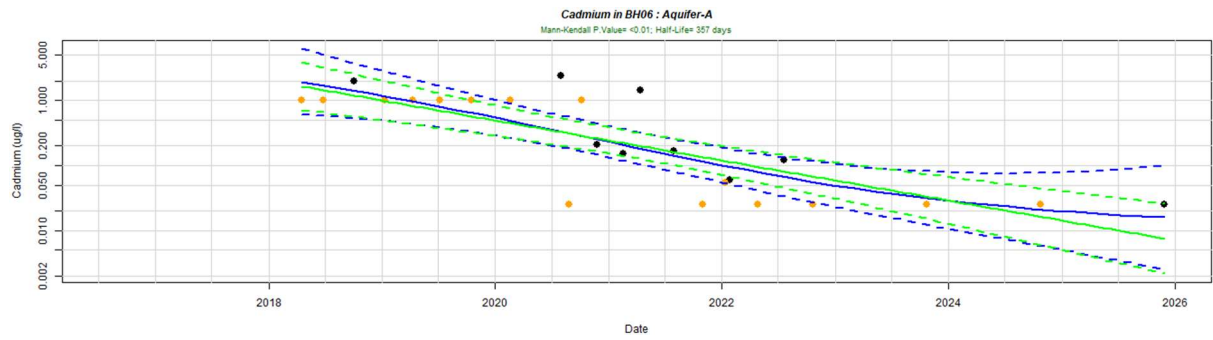


# Waste Zone 8 – Downward trends

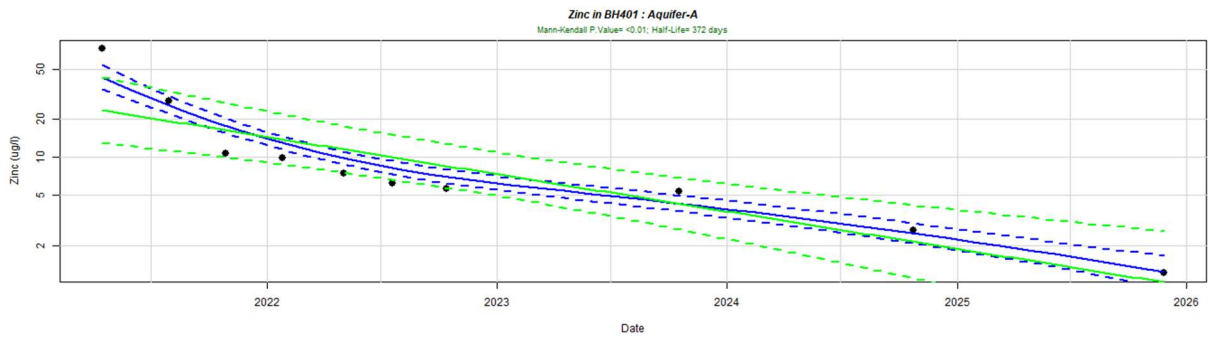
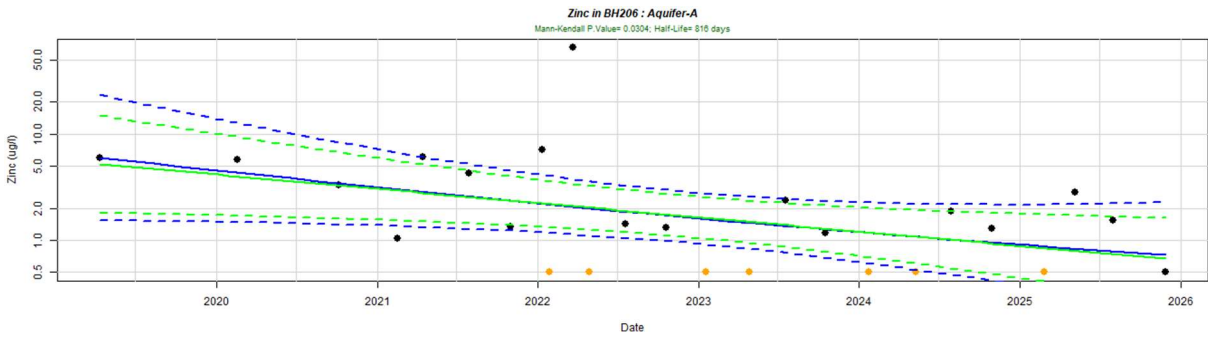
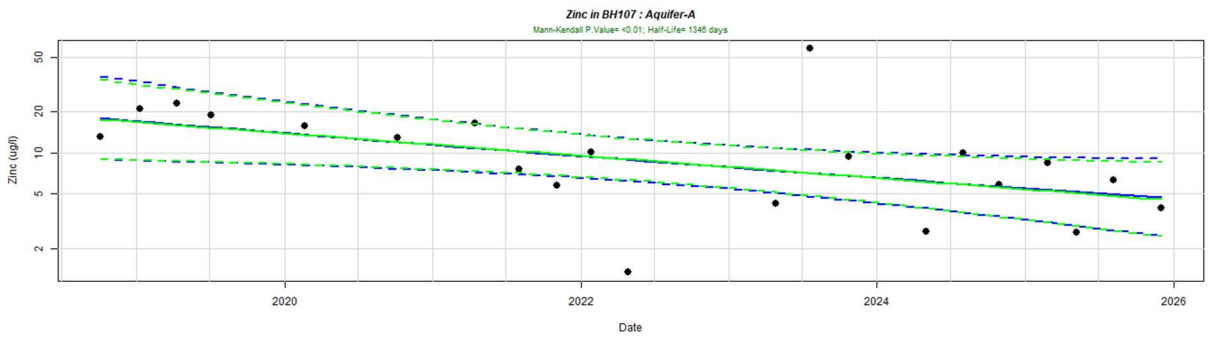
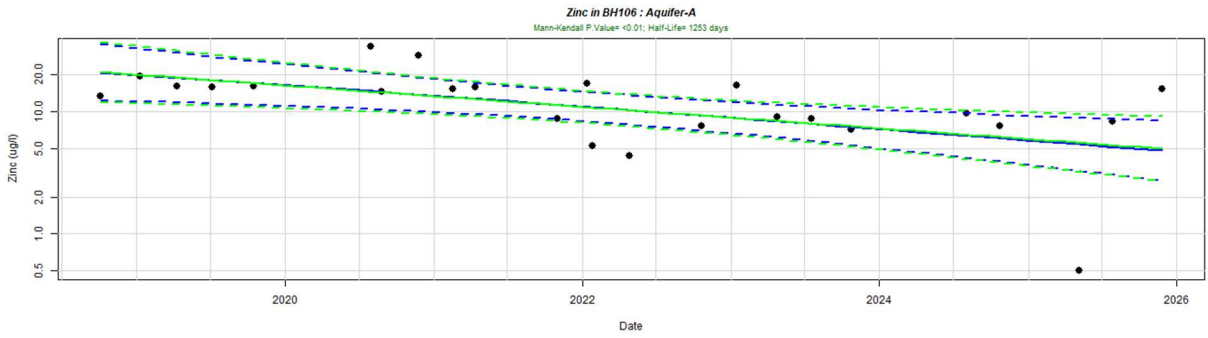
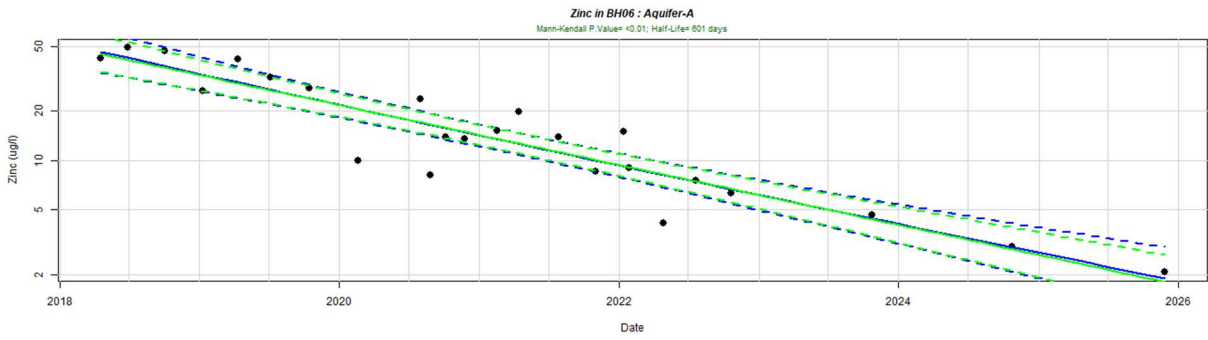
## Chloride

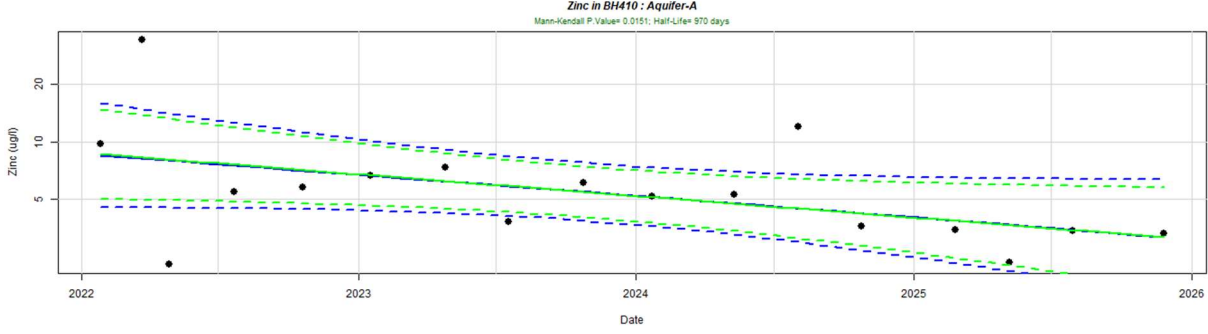
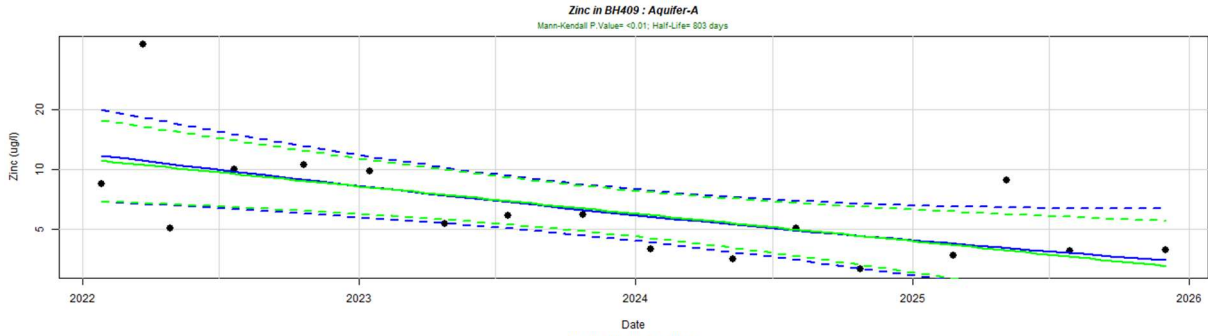
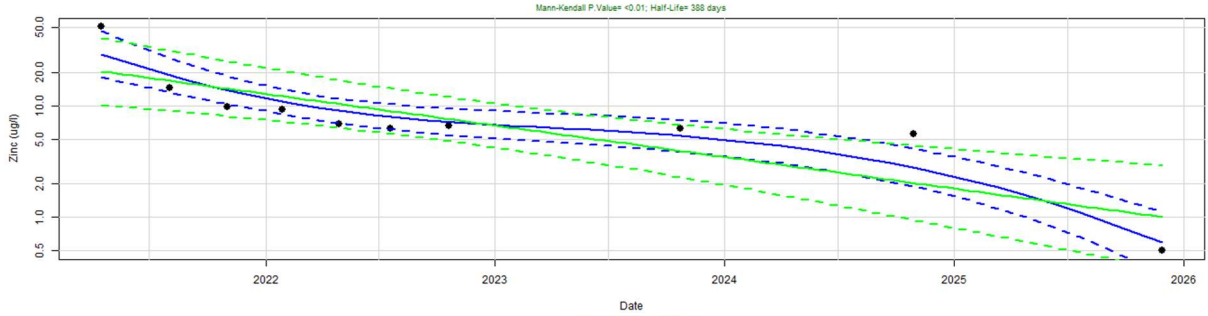
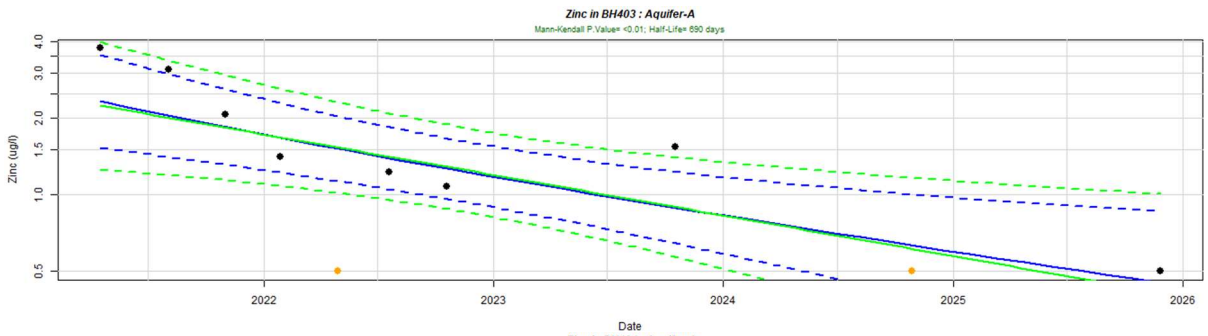
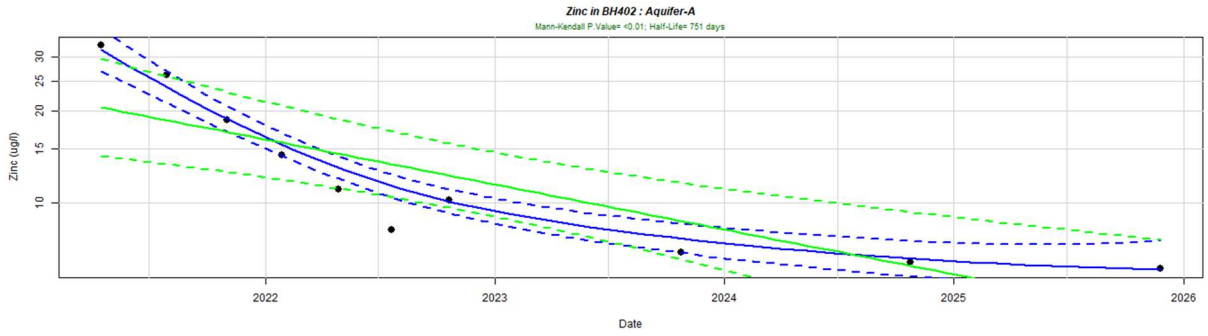


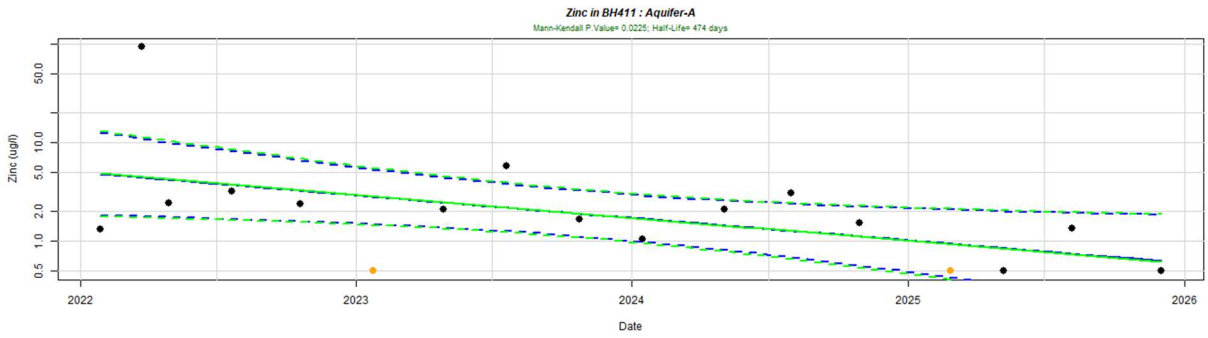
# Cadmium



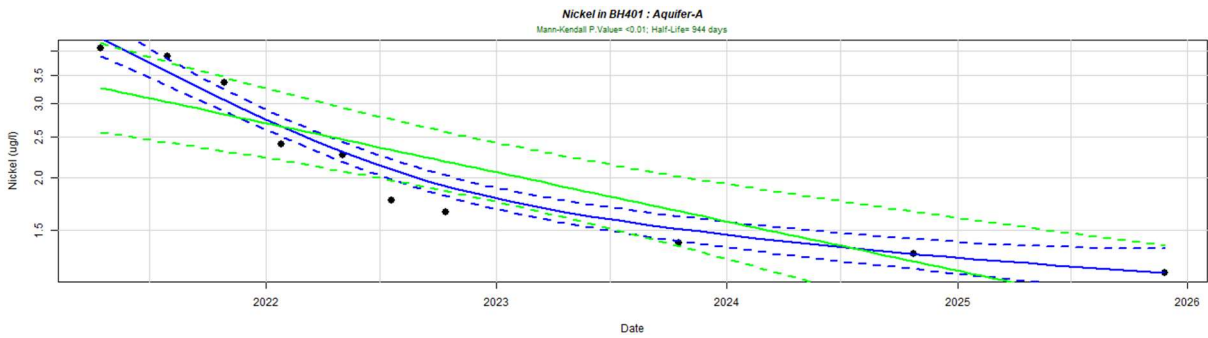
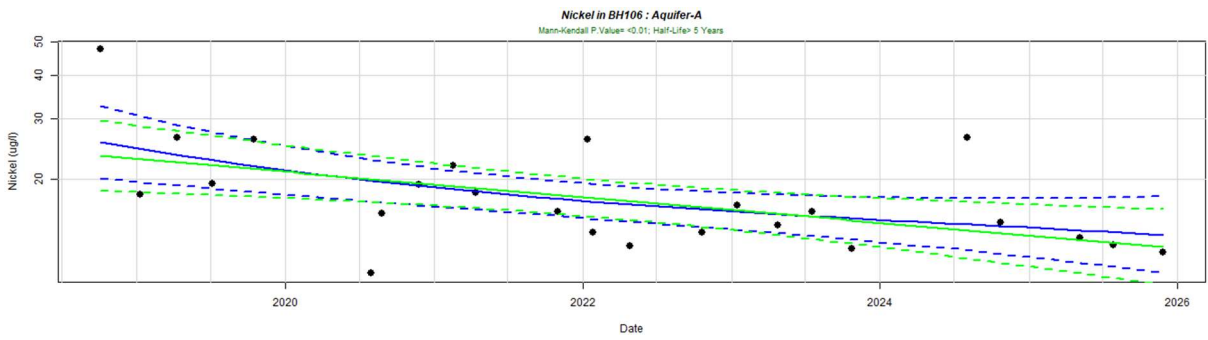
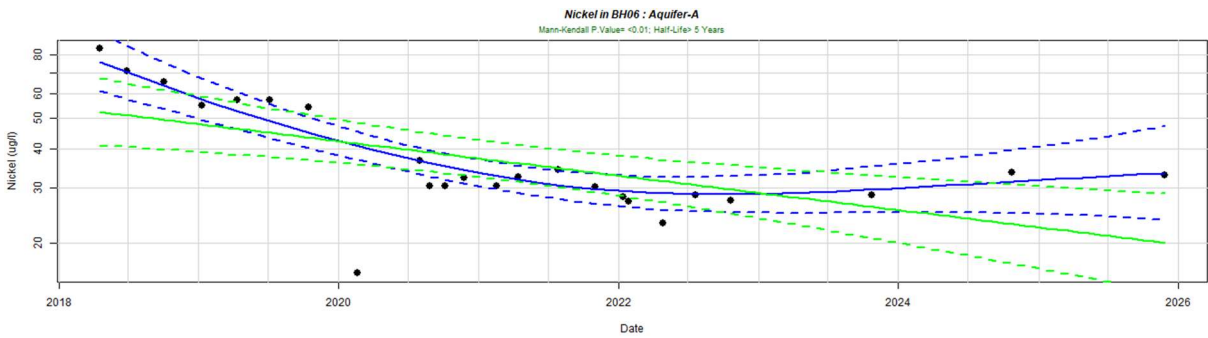
# Zinc

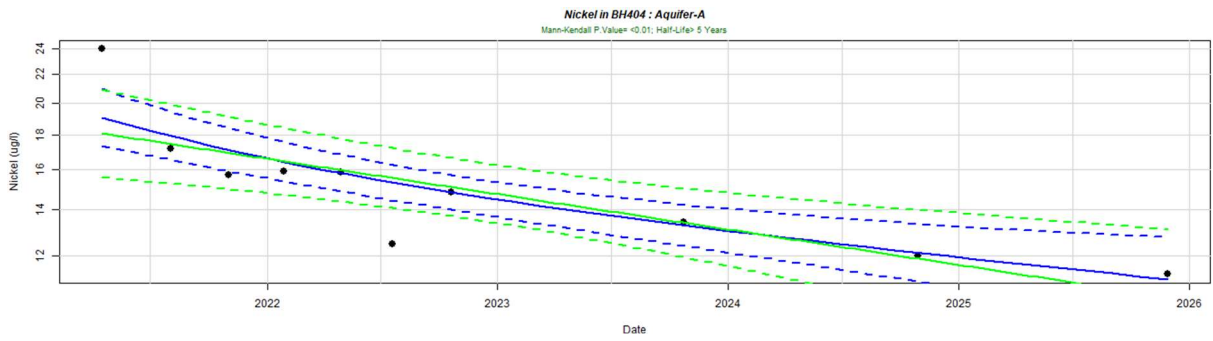
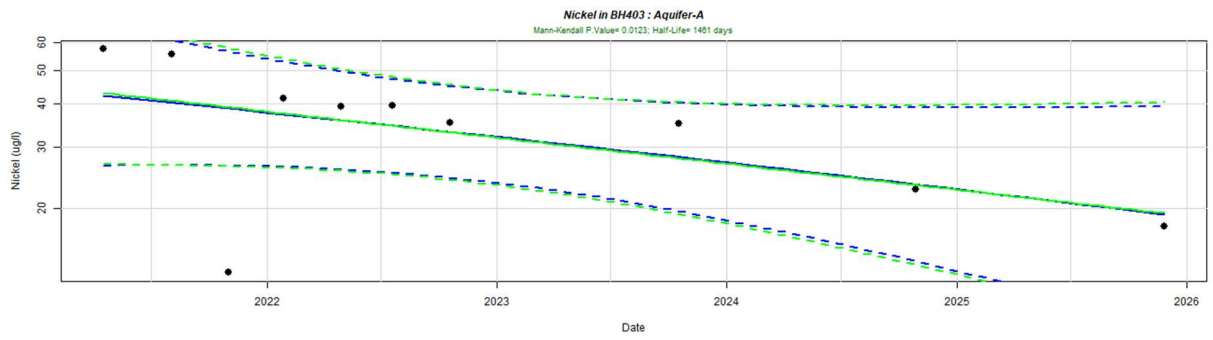
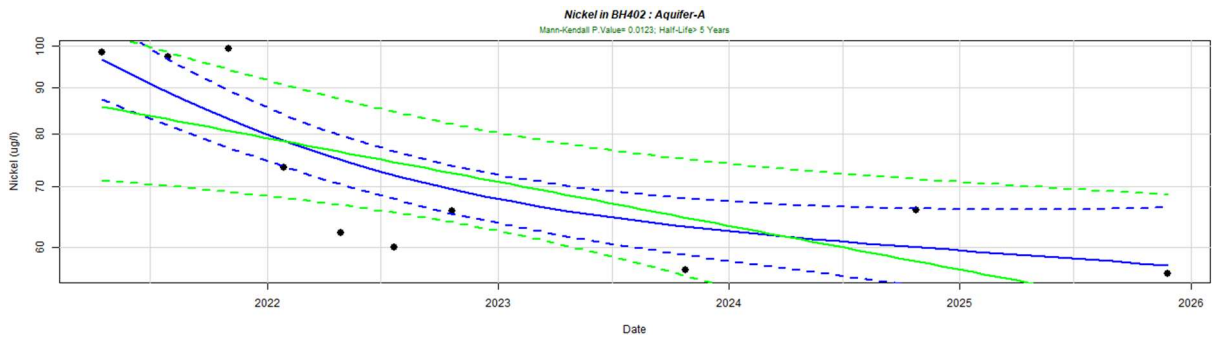




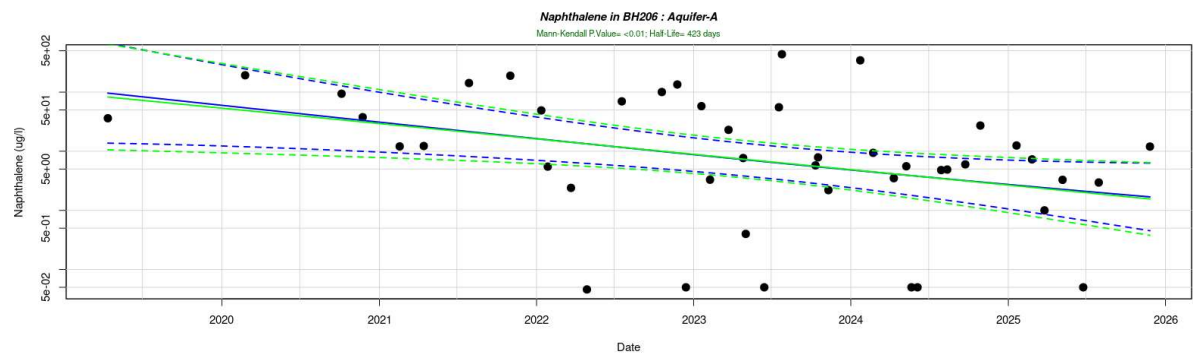


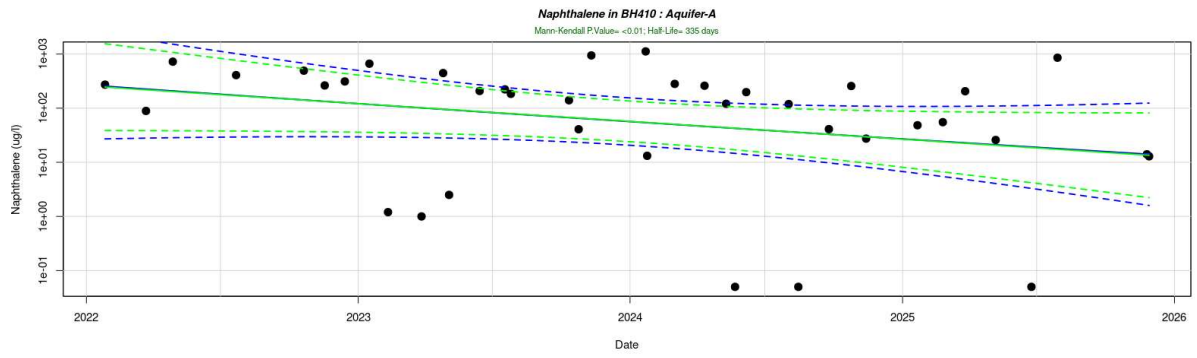
## Nickel



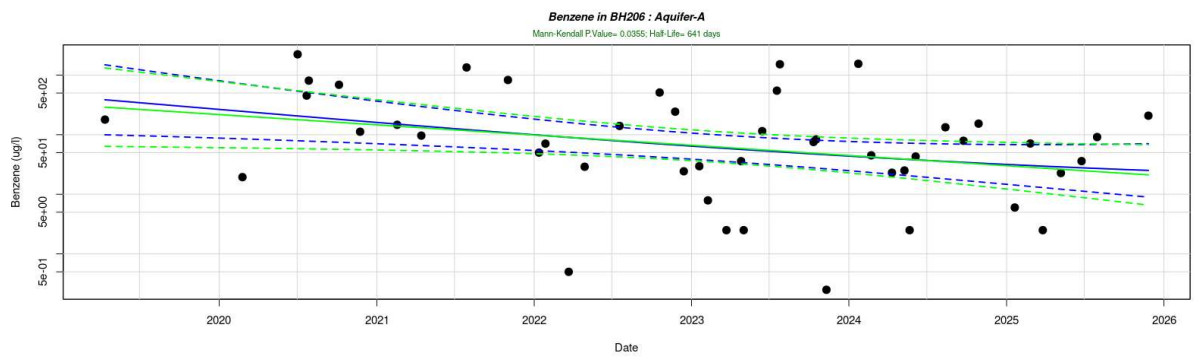


## Naphthalene

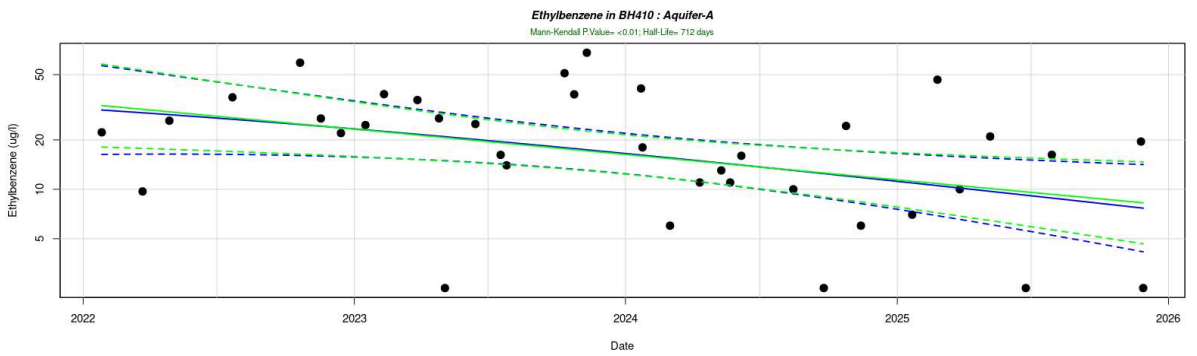




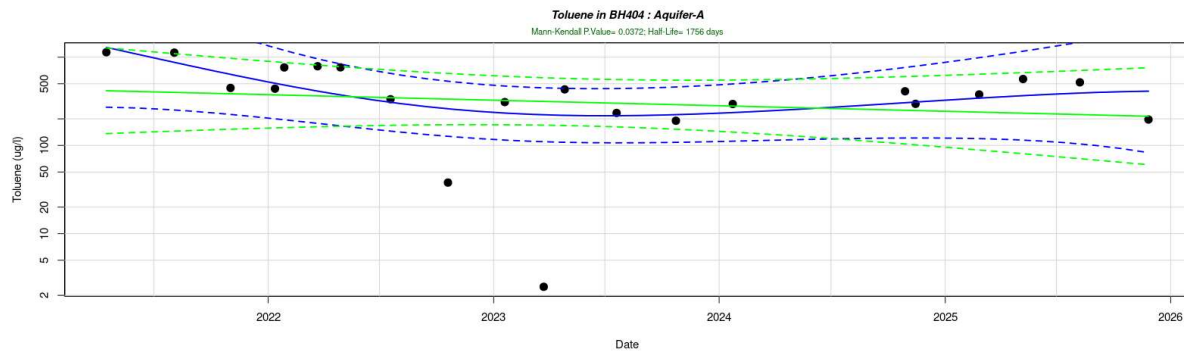
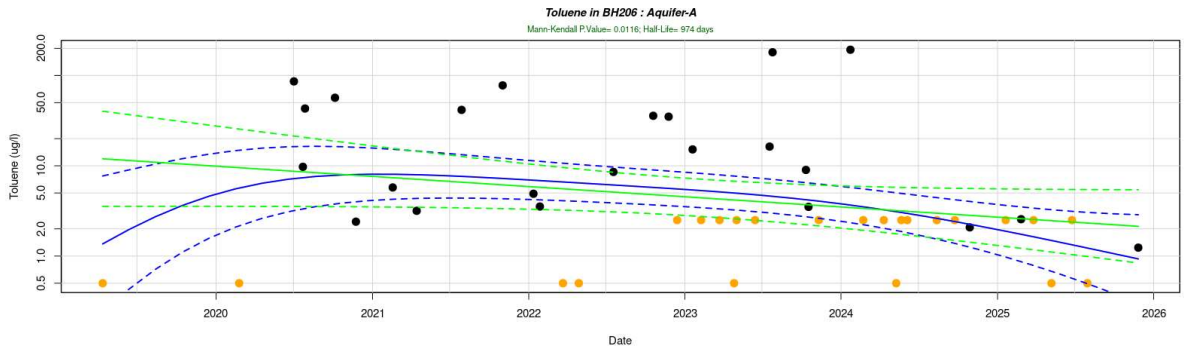
## Benzene



## Ethylbenzene



# Toluene



# Waste Zone 9

