



Vickery Extension Project Groundwater Monitoring Report

Quarterly Review May 2025 – July 2025

Whitehaven Coal Ltd

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1.0	25 September 2025	Joy Xie	Sharon Hulbert	Sharon Hulbert
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Basis of Report

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Acronyms and Abbreviations

CMA	Corrective Management Actions
EC	Electronic Conductivities
EP&A Act	Environmental Planning and Assessment Act, 1979
GWMP	Groundwater Management Plan
mbgl	meter below ground level
mbtoc	meters below top of casing
pH	potential of Hydrogen
TARP	Trigger Action Response Plan
VCPL	Vickery Coal Pty Ltd
VEP	Vickery Extension Project
WMP	Water Management Plan



1.0 Introduction

1.1 Background

SLR Consulting Australia Pty Ltd (SLR) was engaged by Whitehaven Coal Pty Ltd (Whitehaven) to undertake a review of groundwater data for the Vickery Extension Project (VEP) between 1st May 2025 through 31st July 2025.

The VEP Development Consent (SSD-7480) was granted to Vickery Coal Pty Ltd. (VCPL) on 12 August 2020 by the NSW Independent Planning Commission as a delegate of the NSW Minister for Planning under Section 75J of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act). Approval EPBC 2016/7649 under the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) was granted on 15 September 2021.

Pertinent to the groundwater monitoring and subsequent reporting, is Condition 8 of EPBC 2016/7649, that states:

8. In Addition to the Groundwater Management Plan monitoring requirements specified in condition B53 of the State Development Consent, the approval holder must:

- a. Establish and maintain a network of groundwater monitoring bores designed to detect changes in groundwater levels and include bores that are co-located or paired with surface water monitoring sites to allow monitoring and analysis of groundwater – surface water interactions. These monitoring bores must be installed prior to the commencement of mining operations.*
- b. Monitor groundwater levels in each bore (required under condition 8.a) at least once every 3 months, starting within one week of the commencement of mining operations for the life of this approval.*
- c. Publish on the website all groundwater monitoring data from the bore network, updated at least once every three months to include the most recent readings available and to maintain the data on the website for the life of this approval. The monitoring data must include hydrographs for the bore network and explain what the data means in relation to the groundwater performance measures specified in the State Development Consent.*

This quarterly report has been compiled for Vickery Coal Mine (VCM) to comply with Condition 8(c) of EPBC 2016/7649. Groundwater monitoring commenced in October 2023 aligning with the commencement of mining in October 2023 and in accordance with Condition 8(b). Reporting to date includes:

- 1 Initial Quarterly Report (August 2023 through October 2023), published January 2024.
- 2 2023 Annual Review (1st January 2023 through 31st December 2023), to be published on the website following approval from NSW Department of Planning, Housing and Infrastructure (DPHI).
- 3 Second Quarterly Report (November 2023 through January 2024), published April 2024.
- 4 Third Quarterly Report (February 2024 through April 2024), published July 2024.
- 5 Forth Quarterly Report (May 2024 through July 2024), published October 2024.
- 6 Fifth Quarterly Report (August 2024 through October 2024), published January 2025.
- 7 Sixth Quarterly Report (November 2024 through January 2025), published March 2025.



8 Seventh Quarterly Report (February 2025 through April 2025), published June 2025.

Mining operations continue on site, with coal extraction occurring. Within the reporting period, Whitehaven Coal continued the use of Mine Water Dam 2 (MWD2) and are continuing extraction in the main box cut pit. As production zones gets deeper, there is increased in-pit water, which is a combination of groundwater seepage, direct rainfall collection, water runoff from on-site activities (i.e. dust suppression) and surface runoff. In-pit water is being managed via extraction through sump pumps into water carts for dust suppression and pumping excess water into MWD2. A water fill point is also operational at MWD2 allowing for efficient circulation of water carts for dust suppression.

1.2 Trigger Action Response Plan

A Trigger Action Response Plan (TARP) was established in the Groundwater Management Plan (GWMP), as a means of providing specific suitable action where exceedances of the groundwater performance criteria are observed. The aim of the TARPs is to evaluate potential adverse changes to existing groundwater sources, confirm if they are due to the development, and provide a means to repair, mitigate and/or offset any adverse groundwater impacts (Whitehaven 2023). The groundwater level and quality TARP for the open cut activities at VEP is shown in **Appendix A**.

The GWMP states the procedure for the review, as follows. The confirmed exceedances will prompt an investigation, carried out by suitably qualified personnel, to assess the reasons for trigger exceedance, which could include but not be limited to climatic conditions, agriculture abstraction, and or mining activities. In the case exceedances are attributed to mining activities, the changes in groundwater conditions, such as a decrease in water level or changes in groundwater quality, will be compared to performance measures (discussed in Section 8.1 of GWMP) to evaluate the significance of any impacts manifested on the groundwater systems.

The results of the trigger investigations will be reported in each annual review. WHC will use the annual review following each reporting period to analyse the data and revise the trigger thresholds in response to additional baseline data as it becomes available. When this occurs the GWMP will be updated.

1.3 Report Objective

This report assesses the VEP groundwater monitoring data against the trigger levels for all required parameters (as per the TARP in the site GWMP) for the reporting period from 1st May 2025 through 31st July 2025.

This report includes:

- A summary of TARP exceedances, if any, during the reporting period;
- A summary of trigger exceedances, if any, over time including the identification of breaches of triggers that remain within normal condition in this reporting period;
- A high-level outline of potential influence factors for exceedances (a detailed analysis of exceedances is not discussed in this report) during the reporting period; and
- Recommendation of relevant actions and responses to be undertaken, in alignment with the TARPs.

The information in this monitoring report will be included in the ongoing quarterly monitoring reports for VEP and summarised in the 2025 Annual Review.



2.0 Monitoring Results

This section summarises the climate information, groundwater monitoring network, and monitoring results available to the conclusion of the reporting period.

2.1 Climate Data

Local climate data was obtained from the Vickery Coal Mine (VCM) (MET2) station, which commenced monitoring in September 2023. To understand long-term rainfall trends, the SILO climate record for the location 0.05° x 0.05° tile centred on a location within proximity of VEP (latitude: -30.75, longitude: 150.15) has been utilised (Queensland Government 2024). Comparison of the data sets show analogous trends, indicating the SILO data is a suitable representation of long-term trends.

Rainfall over the past 12 months, in comparison to the long-term average (i.e., January 1900 – present) is shown in **Table 1** and on **Figure 1**. Within the reporting period, MET2 showed above long-term average rainfall in May and slightly above in July. Notably lower rainfall compared to the long-term average rainfall was observed from MET2 in June 2025.

Table 1: Monthly rainfall vs long-term average rainfall

Year	2024						2025						
Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Apr	May	Jun	Jul
SILO 2024-2025 monthly rainfall (mm)	51.1	56.9	42.1	33.6	54.2	58.3	35.8	39.0	179.0	62.8	49.5	22.7	55.3
SILO Long-term average rainfall (mm)	38.6	35.2	37.3	49.0	58.0	60.9	69.4	57.6	47.0	33.5	39.3	40.4	38.7
On-site Rainfall (mm)	43.0	68.2	16.0	54.6	53.1	60.7	12.9	22.0	217.6	44.6	60	15.4	43.8

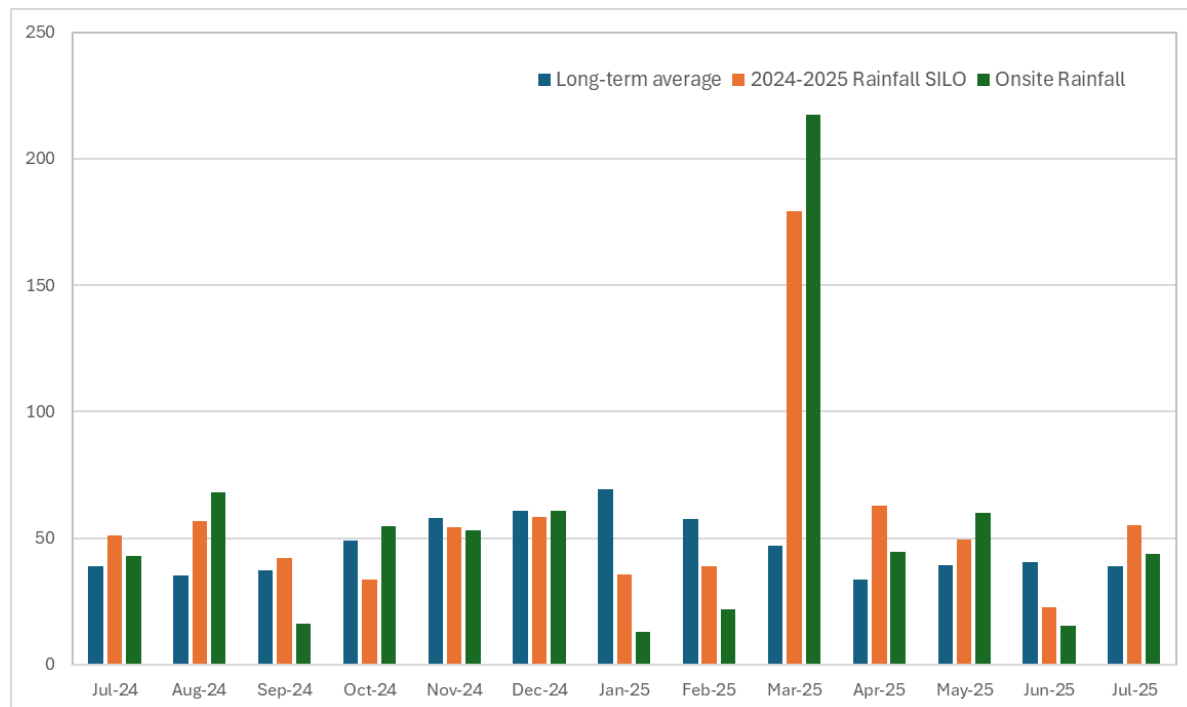


Figure 1 On-site monthly rainfall vs long-term average monthly rainfall



2.2 Groundwater Monitoring Network

Based on the GWMP, the existing groundwater monitoring network consists of 65 monitoring sites, including

- 32 monitoring locations in Alluvial aquifer; and
- 29 monitoring locations in Permian aquifer.
- Two sites (WR1 and WR2) positioned to monitor the potential for seepage from the spoil dump (installed January 2024).
- Two water supply bores (GW971400 and GW971614).

The groundwater network is presented on **Figure 2** and full details provided in the GWMP (Whitehaven, 2023).





2.3 Data Availability

In line with the VCM GWMP, the full suite of bores available was monitored during the reporting period.

2.4 Groundwater Levels

Groundwater levels are measured via both manual dip and continuous loggers. The data available since April 2022 is presented in this section, and shown in **Appendix B**.

2.4.1 Groundwater Level Data Summary

A summary of the groundwater level data available to date is presented below.

2.4.1.1 Alluvial Groundwater Bores

The groundwater levels in the alluvial monitoring bores are summarised in **Table 2** and presented in **Figure 3**.

Table 2: Groundwater levels in alluvial aquifer

Sample Location	Depth to Water (mbgl*)										
	Apr-22	Dec-22	May-23	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
GW01	9.1	8.2	8.4	8.5	9.2	9.5	8.8	9.3	9.0	9.2	9.6
GW02	-	7.5	8.3	8.5	8.8	9.0	8.8	8.7	8.6	8.7	8.5
GW-11	-	-	-	16.7	16.6	16.6	14.2	16.6	16.5	16.5	16.2
GW-14	-	-	-	-	-	-	-	10.9	10.7	10.5	10.7
GW-15	-	-	-	-	-	-	-	12.7	13.3	13.2	13.2
GW-2	-	-	-	-	-	19.6	-	18.4	20.5	18.5	18.3
GW-9	-	-	-	17.8	18.4	17.8	17.8	17.7	17.6	17.6	17.5
SB01	7.3	6.4	7.2	7.2	7.4	7.9	7.7	7.6	7.3	7.7	7.5
SB02	10.3	9.8	9.7	9.5	9.7	10.0	9.8	1.4^	9.9	10.0	10.0
SB04	7.5	6.3	7.6	7.3	7.6	8.2	8.1	7.9	7.9	7.9	7.8
SB05	8.3	7.1	7.9	7.7	8.1	8.6	8.4	8.2	8.4	8.4	8.3
SB06	9.8	8.4	8.8	8.9	9.0	9.4	9.2	9.1	9.2	9.3	9.3
SB07		8.0	8.9	8.8	8.8	9.5	9.5	9.2	9.4	9.2	9.0
SB08	7.8	6.7	7.6	7.7	7.6	8.1	8.0	7.8	7.8	7.9	7.7
SB09	7.9	6.4	7.3	7.2	7.5	8.0	7.8	7.7	7.7	7.8	7.7
SB10	8.1	7.5	8.0	8.2	8.2	8.6	8.5	8.3	8.4	8.5	8.4
SB11	9.8	8.1	8.7	8.6	9.2	9.5	9.1	9.2	9.4	9.4	9.5
SB15	9.3	8.2	8.8	9.1	9.6	9.8	9.1	9.5	9.4	9.6	10.0
VNW223	-	-	-	22.0	21.9	22.1	-	21.5	21.2	21.4	21.8
VNW394	-	6.7	6.8	6.5	6.5	6.5	6.7	6.9	7.1	7.0	6.7
VNW395	-	7.4	7.3	7.3	7.3	7.5	6.5	7.6	7.6	7.6	7.5



Sample Location	Depth to Water (mbgl*)										
	Apr-22	Dec-22	May-23	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
WR1	-	-	-	-	-	14.6	14.5	14.4	12.0	14.4	14.4
WR2	-	-	-	-	-	12.1	12.4	12.4	12.0	12.6	12.2

* mbgl = metres below ground level.

^Reading considered outlier/error.

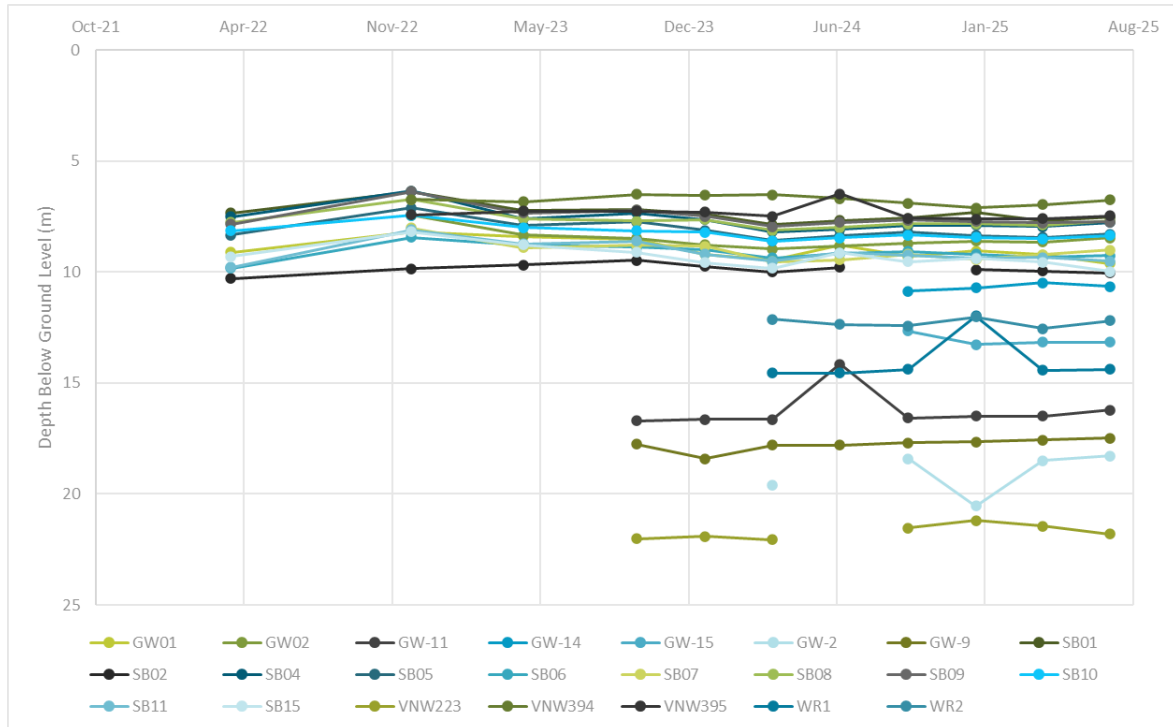


Figure 3: Alluvial bores hydrograph (manual dips, below ground level)

The groundwater contour map, based on the results from July 2025 monitoring round, is presented in **Figure 4**. These maps will be prepared for all future quarterly reports for ongoing comparison.



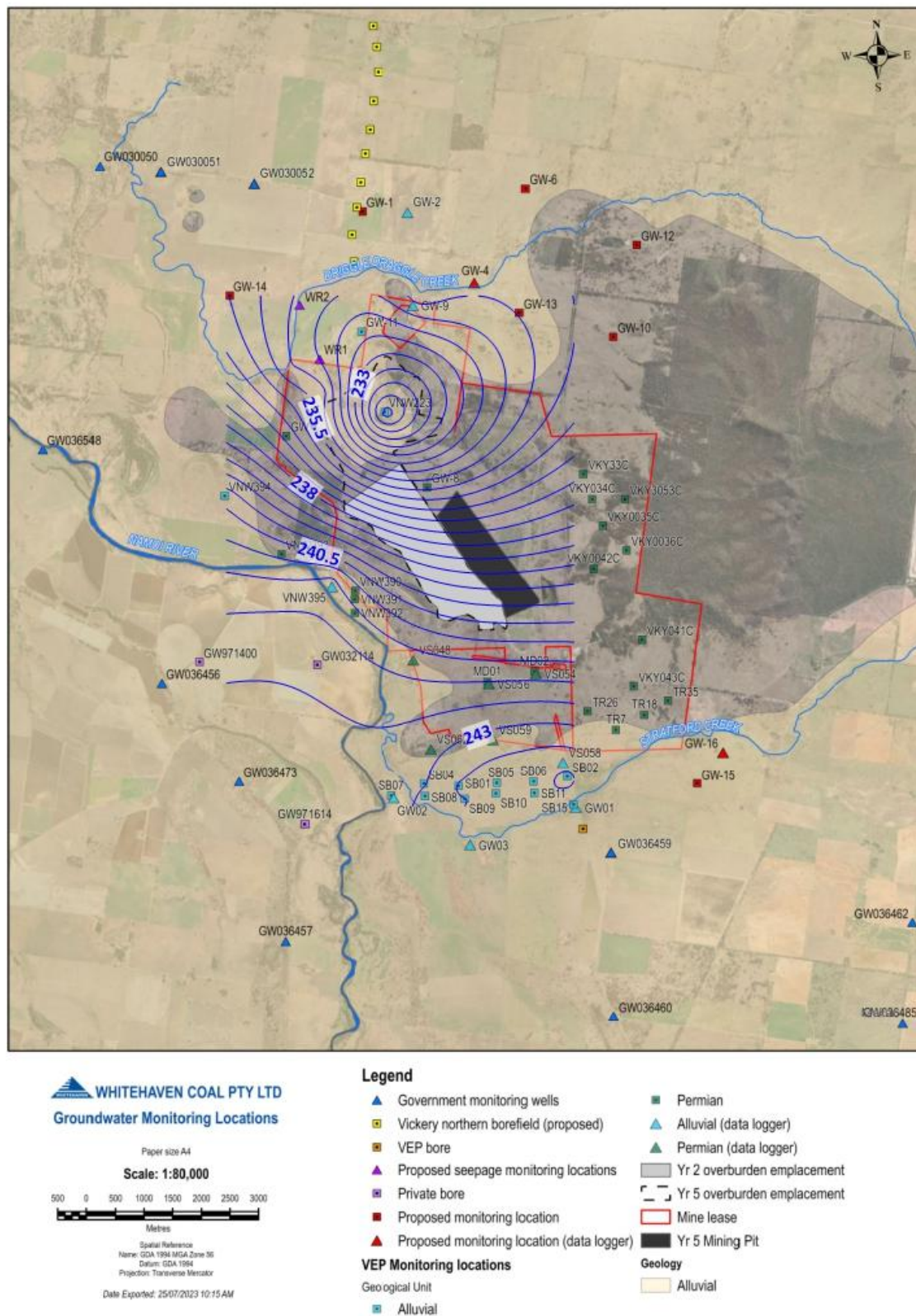


Figure 4 Alluvial groundwater contour map (July 2025)



2.4.1.2 Permian Groundwater Bores

The groundwater levels in the Permian monitoring bores are summarised in **Table 3**, and presented in **Figure 5**.

Table 3: Groundwater levels in Permian aquifer

Sample Location	Depth to Water (mbgl*)										
	Apr-22	Dec-22	May-23	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
GW03	-	6.1	6.9	7.2	7.3	7.1	7.5	7.2	6.9	7.0	7.1
GW-4	-	-	-	-	-	-	-	19.3	19.1	19.3	19.2
GW-6	-	-	-	-	-	-	-	23.3	23.1	23.0	23.0
GW-7	-	-	-	27.9	27.8	27.9	28.0	27.8	27.7	27.3	27.8
GW-8	-	-	-	21.7	21.7	21.6	21.6	21.8	22.1	13.3	22.0
GW-10	-	-	-	-	-	-	-	17.9	18.6	14.5	18.4
GW-13	-	-	-	-	-	-	-	23.2	20.1	13.2	23.3
MD01	-	28.0	27.6	27.7	27.6	28.0	27.6	28.8	29.6	30.1	28.9
MD02	-	41.0	40.6	40.3	40.0	39.9	39.8	40.6	41.3	42.2	42.7
TR18	-	13.0	13.4	12.9	13.2	13.3	13.4	13.3	13.1	13.2	13.2
TR26	-	12.4	12.4	12.2	12.2	12.3	12.4	12.3	12.3	12.3	12.2
TR35	-	18.2	18.2	18.0	11.2	18.4	18.5	18.4	18.3	18.5	18.4
TR7	-	9.9	9.9	9.8	9.7	9.8	11.0	9.8	9.7	9.8	9.7
VKY034C	-	39.8	40.0	39.6	40.3	39.4	40.1	40.3	30.1	42.4	43.1
VKY035C	-	42.4	42.0	42.0	42.0	41.9	42.6	42.1	42.1	42.8	43.5
VKY036C	-	49.2	47.2	49.2	49.9	49.5	49.8	49.9	50.3	-	52.5
VKY042C	-	42.7	42.4	42.6	42.8	42.5	42.7	42.8	43.0	33.3	44.0
VKY043C	-	16.4	15.6	15.7	15.8	15.2	15.7	15.4	16.0	16.3	16.4
VNW390	-	9.4	9.3	9.4	9.4	9.5	9.5	9.6	9.6	9.6	9.6
VNW391	-	7.8	7.8	7.8	7.8	7.9	8.0	7.9	8.0	8.0	8.0
VNW392	-	6.3	6.1	6.2	6.2	6.4	6.5	6.4	6.5	6.5	6.4
VNW393	-	10.6	10.5	10.5	10.6	10.6	10.7	10.7	10.8	10.8	10.6

* Metres below ground level



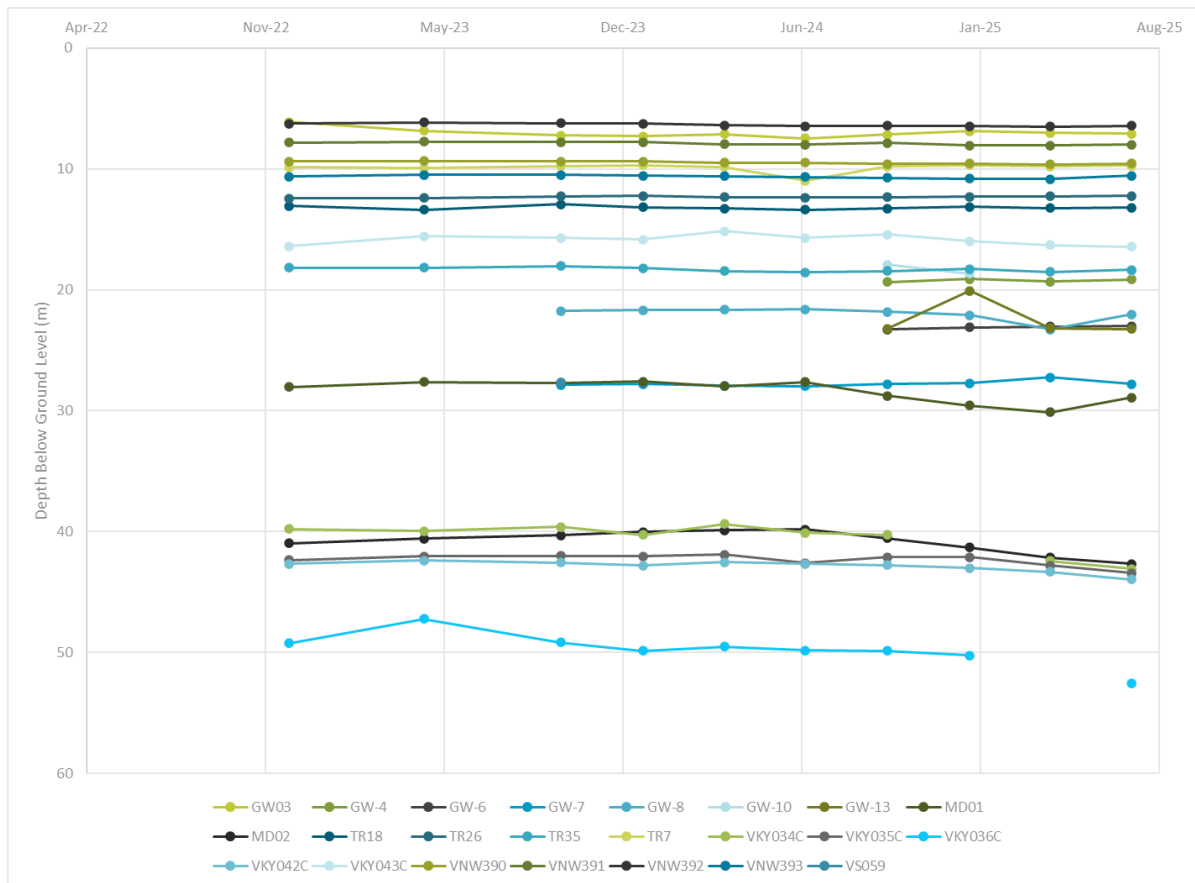


Figure 5: Permian bores hydrograph (manual dips, erroneous data removed)

The groundwater contour map, based on the results of July 2025 monitoring round, is presented in **Figure 6**. These maps will be prepared for all future quarterly reports for ongoing comparison.



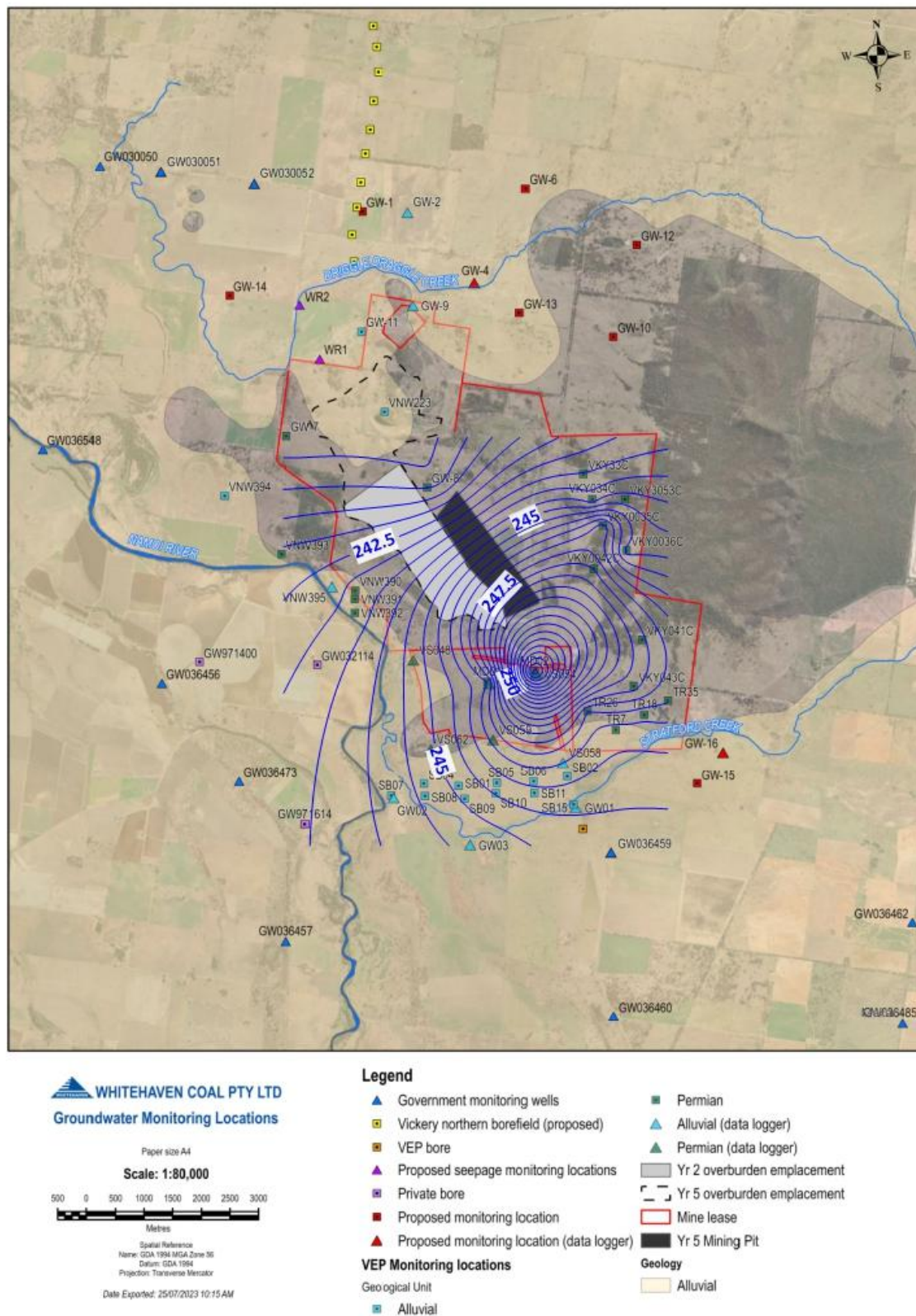


Figure 6 Permian aquifer groundwater level contour map (July 2025)



2.4.1.3 Data Loggers

A summary of the available logger data is presented in **Table 4**. An example of a logger plot is provided in **Figure 7**, with all plots provided in **Appendix B**.

Table 4: Summary of logger data availability

Bore ID	Logger Type	Recording Period	Number of Data Points	Comments
GW01	VWP	10/10/2023 – 17/07/2025	-	Data were not adopted due to significant drifting in logger readings, with generally unrealistic water levels results (i.e., above ground level). Sensor is considered malfunctioned; further investigation required.
GW02	VWP	15/11/2023 – 02/07/2025	-	Data were not adopted due to significant drifting in logger readings, with generally unrealistic water levels results (i.e., above ground level). Sensor is considered malfunctioned; further investigation required.
GW03 (30m)	VWP (01-10-6743)	17/01/2024 – 18/08/2024; 05/12/2024 – 06/06/2025	4,122	Notable disparity between manual dip and logger, review next month as potentially just a recording error.
GW-9	Logger (Rugged TROLL 100)	24/04/2020 – 09/07/2025	2,036	Logger seems to have been installed deeper after the previous January 2025 monitoring round. Data indicates a ~1.8m decrease in water levels immediately after the January 2025 sampling event. Furthermore, a spike in water level was observed between 29 March 2025 and 01 April 2025, after which readings returned to normal trend levels. Within this reporting period a similar 1.8 metre drop was observed, not reflected in the manual data. This fluctuation may be associated with logger installation. To be reviewed in next sampling round.
VNW395	Logger (Rugged TROLL 100)	17/01/2024 – 17/04/2024	272	Logger data was not downloaded since the July 2024 monitoring round. A temporary logger has been deployed while searching for a replacement.
TR7	Logger (Rugged TROLL 100)	17/03/2012 – 19/03/2014;	2,156	Logger data was not available for the July 2024 monitoring



Bore ID	Logger Type	Recording Period	Number of Data Points	Comments
		03/06/2020 – 17/04/2024; 25/07/2024 – 02/07/2025		round. In the January 2025 monitoring round, the logger file was named SB07, which is considered to be a typo. The file was named TR7 for the April 2025 monitoring round. Logger appears operational and data included for this reporting period.
TR18	Logger (Rugged TROLL 100)	16/04/2020 – 04/07/2024	1,939	Logger data was not available since mid-2024.
VKY034C	Logger (Rugged TROLL 100)	07/01/2020 – 08/07/2025	7,983	-
VKY035C	Logger (Rugged TROLL 100)	04/11/2020 – 08/07/2025	6,664	-
VKY036C	Logger (Rugged TROLL 100)	07/01/2020 – 08/07/2025	8,322	-
VKY041C (38, 51, 70, 95, 115 m)	VWP (DT2055-02027)	11/03/2015 – 13/01/2025	-	Calibration factors and sensor depths to be confirmed.
VKY041C (140, 170, 199 m)	VWP (DT2055-02023)	11/03/2015 – 13/01/2025	-	Calibration factors and sensor depths to be confirmed.
VKY042C	Logger (Rugged TROLL 100)	04/11/2020 – 08/07/2025	6,714	-
VKY043C	Logger (Rugged TROLL 100)	07/01/2020 – 13/07/2023	5,135	Logger stopped reading in July 23. Manual dips available.
VKY3053C	VWP	04/03/2020 – 17/01/2024		No data in July 2025. Calibration factors and sensor depths to be confirmed.
VKY33C (38, 51, 70, 95, 115m)	VWP (DT2055-02087)	11/03/2015 – 14/01/2025	-	Calibration factors and sensor depths to be confirmed.
VKY33C (140, 170, 190m)	VWP (DT2055-02029)	11/03/2015 – 14/01/2025	-	Calibration factors and sensor depths to be confirmed.
VS048 (30m)	VWP	17/06/2011 – 15/06/2012; and 04/03/2020 – 04/07/2025	7,522	-
VS054 (23, 96, 120, 167m)	VWP (SN11-1769/1776/1770/1772)	17/06/2012 – 15/06/2012; and 16/11/2023 – 04/07/2025	~8,087/sensor	-
VS056 (25, 100m)	VWP (SN11-1765/1771)	04/03/2020 – 15/04/2025	VS056-25m: 7,951;	No data provided during July 2025 monitoring round.



Bore ID	Logger Type	Recording Period	Number of Data Points	Comments
			VS056-100m: 1,569	
VS058 (18, 88, 159m)	VWP (SN11-1768)	16/04/2020 – 17/07/2025	~7,669/sensor	-
VS062	VWP	12/02/2021 – 02/07/2025	10,588	-
VS059 (30, 65, 113m)	VWP	16/04/2020 – 03/07/2025	~7,616/sensor	-
WR-1	Logger (Rugged TROLL 100)	30/04/2024 - 17/07/2025	1,773	Potential logger install error, will over 1 metres instantaneous jump and then maintaining same trends. To be reviewed.
WR-2	Logger (Rugged TROLL 100)	30/04/2024 - 17/07/2025	1,773	-

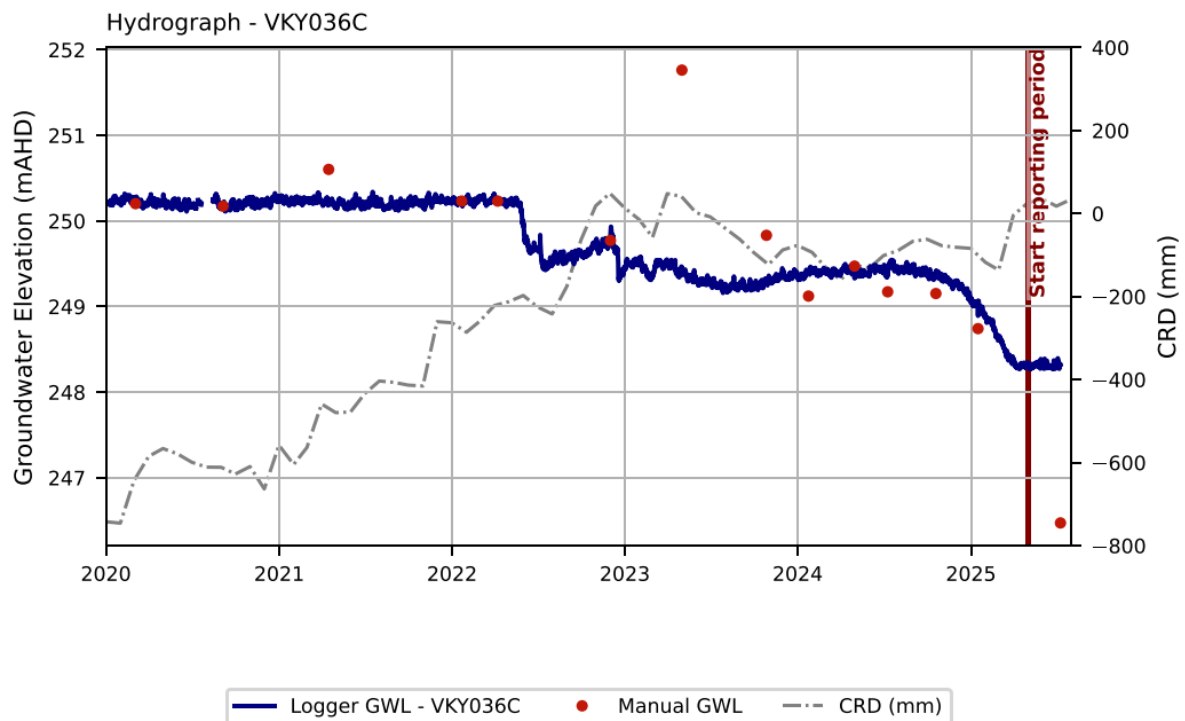


Figure 7: Logger hydrograph – VKY034C

2.4.2 TARP Trigger Level Summary

2.4.2.1 Alluvial aquifer

Groundwater levels in the Alluvial bores have shown minor variation in water levels between October 2024 and July 2025 monitoring rounds.



Review of the manual dips, showed the greatest variations in water level were 0.44 m and 0.40 m, observed at SB15 and GW01. These water levels are within the realms of historical readings, although are the lowest water levels recorded to date.

There are no trigger level exceedances in the Alluvial aquifer bores.

2.4.2.2 Permian aquifer

Groundwater levels in the Permian aquifer during the July 2025 monitoring round displayed a combination of expected seasonal fluctuations and several notable anomalies. While the majority of bores remain within their historical ranges, a few locations recorded relatively large changes compared to historical trends.

Two bores, GW-8 and MD01, recorded increases in standing water levels. GW8 rose by approximately 1.3 metres, from 23.3 mbgl in April 2025 to 22.0 mbgl in April 2025. Similarly, MD01 recorded a 1.2 metre rise in water level, from 30.1 mbgl to 28.9 mbgl over the same period. These readings remain within the historical range.

The previous anomaly observed at VKY042C in April 2025, where the manual measurement recorded a significant and uncharacteristic rise to 33.34 mbgl, has now been resolved. The July 2025 reading of 43.96 mbgl is consistent with the historical range and aligns with the trend captured by the continuous logger, which shows a gradual decline. This confirms the April 2025 measurement was likely an outlier.

Majority of the bores, including TR26, TR35, TR7, and the VNM series, displayed fluctuations of less than 0.5 metres, typical of seasonal variation and within expected limits. No observable trend is presented on the hydrographs.

The bores representative of the deepest water levels, MD02, VKY034C, VKY035C, VKY036C and VKY042C, continued their gradual downward trends, reflecting a longer-term decline possibly associated with broader aquifer behaviour or regional abstraction.

2.4.2.3 Discussion

It was noted mining continues to intersect groundwater during this reporting period, as observed by increased in-pit water. The recent monitoring round coincided with a period of reasonably average climatic conditions (not significantly above or below long-term average rainfalls). Historically, groundwater levels have typically shown a strong correlation to rainfall trends and any review of trends will need to consider mining operations and climatic conditions.

Within the area of approved drawdown (i.e. encompassing bores with approved levels of drawdown and consequently no trigger values assigned) there is an apparent commencement of drawdown (groundwater levels trending down) which may be resultant from mining operations within this reporting period.

Review of trigger levels as per the WMP against groundwater level observations does not indicate any breach in trigger levels. Therefore, the groundwater levels do not result in the enactment of the TARPs.

2.5 Groundwater Quality and Exceedance Summary

Routine groundwater monitoring commenced in October 2023 and continues quarterly. The full July 2025 field and laboratory suite results are summarised in **Appendix C**.

The TARP enacted, as set out in Table 8-3 of the GWMP, during the reporting period are summarised in **Table 5. Appendix D** provides a summary of all monitoring rounds to date compared to the interim trigger values or ANZECC default guideline values for slightly to moderately disturbed ecosystems.



Except for the pH result in TR7 and the EC levels in TR7 and GW03, all triggers identified during this reporting period are based on either interim trigger levels or ANZECC default guideline values. These trigger levels were defined using standard guideline values and, consequently, do not necessarily reflect local natural conditions. As per the GWMP, these trigger values will be updated once sufficient baseline data is acquired.

Given TR7 was based on more site-specific data (regional data for this aquifer), further review was undertaken, with the temporal plot provided in **Figure 8**. There are no trends indicative of a shift in groundwater quality. These trigger levels require refinement, along with the guideline value based triggers.

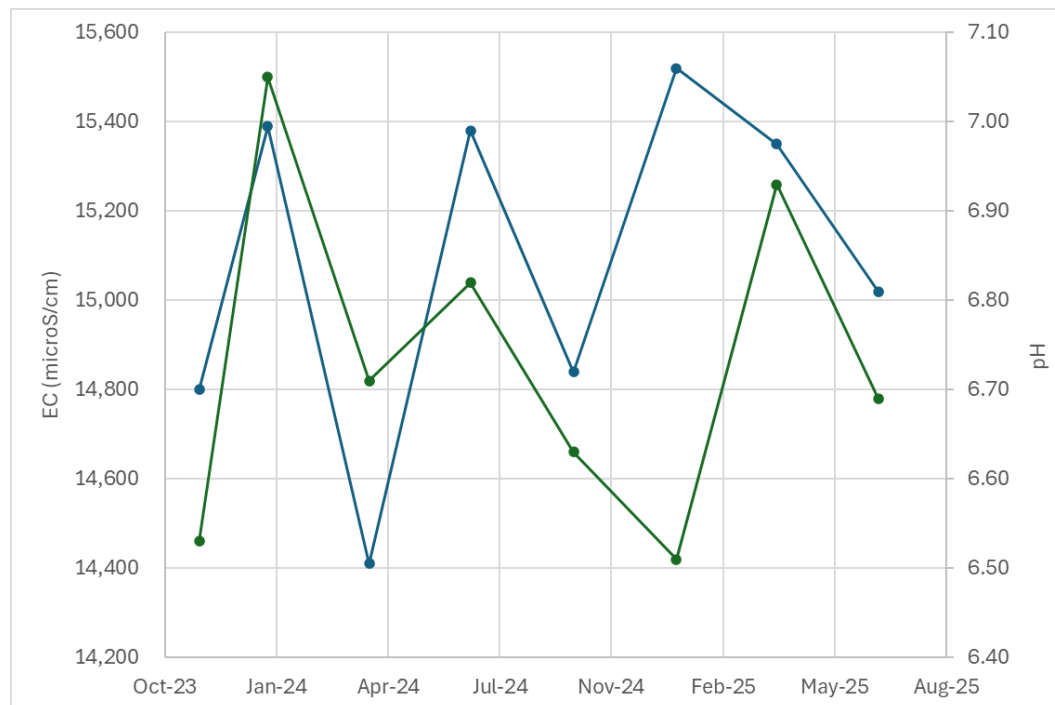


Figure 8 Temporal plot for EC and pH for TR7

In addition, piper diagrams are used to present the geochemical signature of groundwater. Piper plots will continue to be prepared for both the alluvial and Permian aquifers to compare the geochemical signature over time.

Figure 9 and **Figure 10** show the piper diagrams for the alluvial and Permian groundwater respectively. Where data was available, the July 2024 and July 2025 data has been presented for analysis of trending change in geochemistry across the suite of bores. The piper plots show no trending variation between historical and current geochemical signature.

Although, as per the GWMP trigger level, exceedances are identified. These are not considered reflective of actual changes in groundwater conditions. This is supported by review of the individual temporal plots that do not indicate consistent increasing or decreasing trends over time, or across multiple locations. Additionally, there is no correlation with groundwater level trends (as groundwater is typically stable). The piper plots also support no notable shift in groundwater quality. The trigger 'exceedances' are reflective of trigger levels inappropriate for the local groundwater, rather than reflecting potential impacts from mining activities or showing changes in water quality.

Consequently, the groundwater quality results indicate a 'normal condition' TARP response.



Table 5: Summary of TARP triggers

Bore	Para.	Unit	Trigger Level	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
TR7	pH	pH unit	7.4-7.8	6.53	7.05	6.71	6.82	6.63	6.51	6.93	6.69
GW03	EC	µS/cm	811	862	888	862	947	1,004	983	872	909
TR18			12,315*	13,400	13,640	12,730	15,350	13,820	13,810	13,620	14,060
TR35			12,315*	15,300	17,330	16,740	17,260	16,690	18,320	16,180	17,160
TR7			12,970	14,800	15,390	14,410	15,380	14,840	15,520	15,350	15,020
GW-7	SO ₄ ²⁻	mg/L	86*	364	385	399	380	396	414	354	362
SB02			365*	1,120	-	1,160	741	1,110	1,280	1,110	1,080
SB05			365*	735	551	520	595	496	447	380	400
TR18			86*	702	620	592	622	626	630	552	644
TR26			86*	194	230	180	198	195	229	217	211
TR35			86*	660	651	622	624	624	526	562	631
TR7			365*	508	714	501	518	563	458	507	702
VKY034C			86*	123	185	116	98	90	115	117	138
VKY036C			86*	244	294	281	100	174	190	174	149
VKY042C			86*	302	309	312	283	326	307	316	314
VNW392			86*	-	284	296	263	314	300	266	313
VNW393			86*	179	185	200	165	202	205	212	197
VNW394			365*	-	551	560	574	591	498	535	573
WR1			365*	-	-	1,320	901	1,280	1,490	1120	1,250
WR2			365*	-	-	1,540	1,120	1,670	1,790	1250	1,480
TR35	Cobalt	mg/L	0.0014	-	0.007	0.01	0.011	0.01	0.008	0.006	0.002
TR7				-	0.008	0.004	0.008	0.004	0.005	0.003	0.003



Bore	Para.	Unit	Trigger Level	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
VNW392				-	0.003	0.003	0.003	0.003	0.002	0.003	0.003
VNW394				-	0.011	0.002	0.002	0.002	0.002	0.002	0.002
WR2				-	-	<0.001	0.008	0.018	0.014	0.01	0.015
TR7	Nickel	mg/L	0.011	-	0.39	0.118	0.272	0.045	0.024	0.053	0.025
VNW390				-	0.002	0.002	0.036	0.016	0.024	0.026	0.017
WR1				-	-	0.004	0.037	0.024	0.024	0.094	0.03
WR2				-	-	0.004	0.118	0.087	0.158	0.22	0.025
GW-11	Zinc	mg/L	0.008	-	0.0075	0.012	0.043	0.043	0.034	0.059	0.041
MD01				-	0.31	0.213	0.106	0.049	0.014	0.034	0.012
TR35				-	0.015	0.030	0.02	0.017	0.009	0.011	0.01

*Interim water level triggers adopted (as insufficient data has been recorded) based on all data for that geology.

Red text shows exceedance of trigger level. Highlighted cell shows trigger level 1 as defined by TARP in the GWMP (Appendix A).



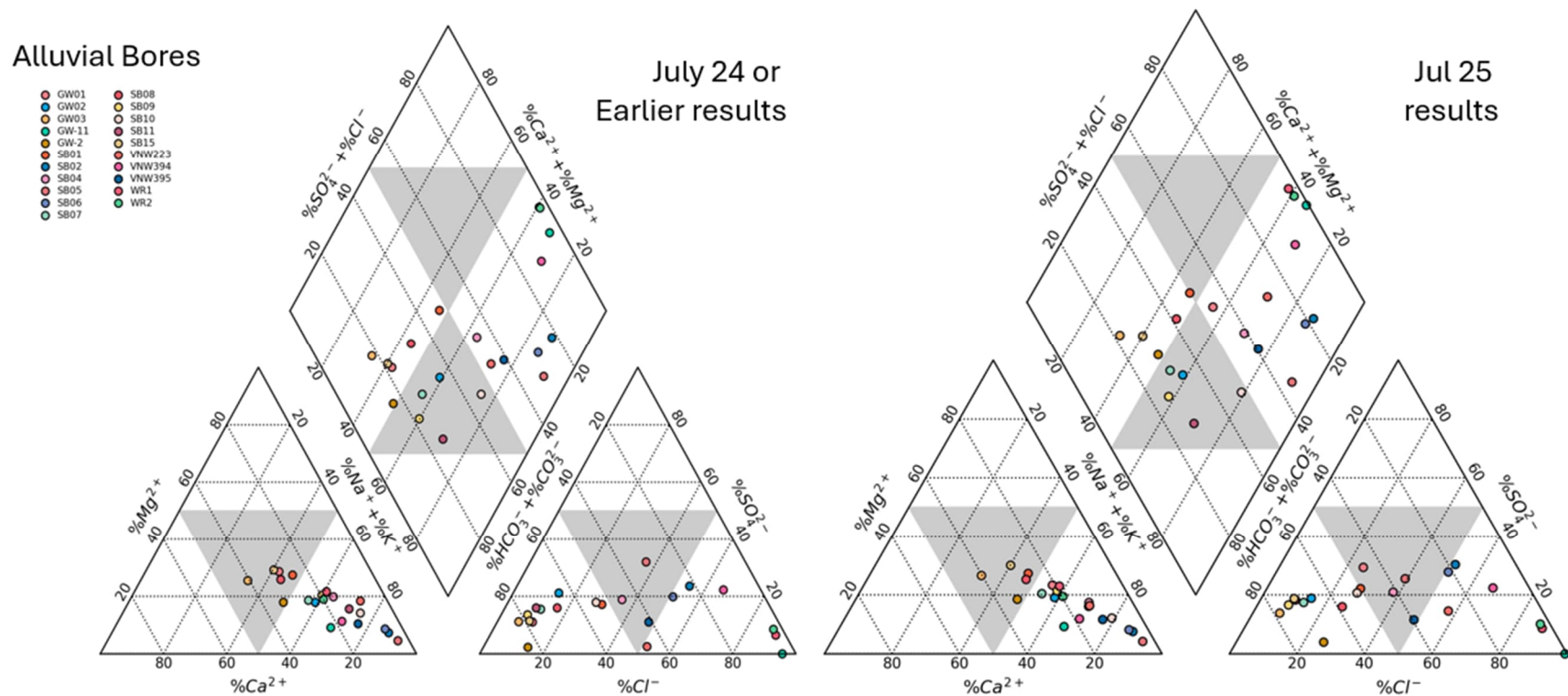


Figure 9 Alluvial groundwater piper plots

* Note: GW-2 water chemistry data are from April 24 and VNW223 from Oct 23



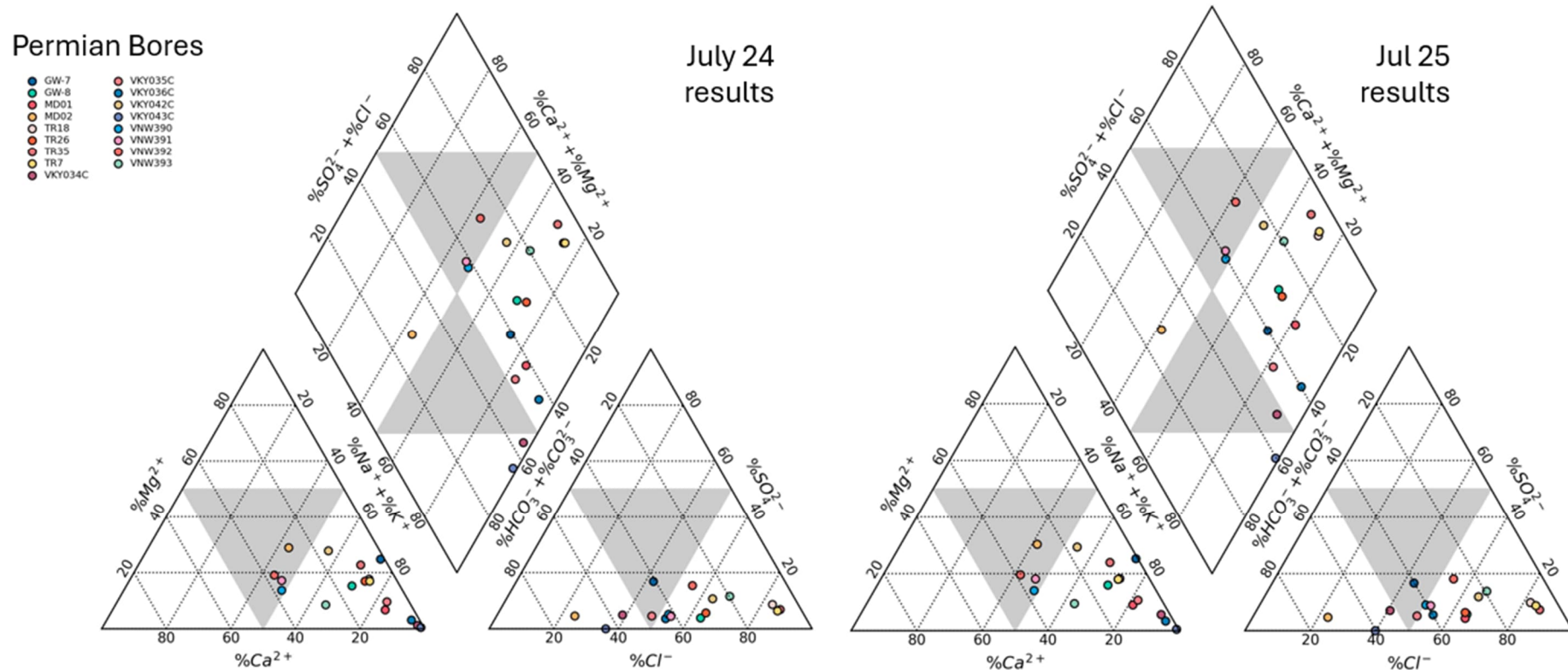


Figure 10 Permian groundwater piper plots



3.0 Action and Response

Based on the results summary presented in **Section 2.0**, the fact that both groundwater level and groundwater quality are considered “Normal Conditions”, there are no specific action and responses required.

4.0 Recommendations

Table 6 provides a summary of the historical recommendations, from Annual and prior quarterly reporting, with a comment on their current status.

Table 6: Summary and status of recommendations to date

Recommendation	Cited	Status
Continue the monitoring program and the quarterly reporting on groundwater levels and quality as outlined in the GWMP.	2023 Annual Review	ONGOING: ongoing monitoring and reporting established.
Review logger data from TR7 and GW01, as appears erroneous, and replace as necessary.	April 2024 Quarterly	COMPLETE: Logger data for TR7 has been restored. ONGOING: Loggers review underway.
Verify sensor depths for all VWP's in the network to assist with groundwater level calculation (calibration certificates in hand for review and update of database). Revise trigger levels based on updated sensor depth and calibration data. If this calibration data is unavailable, the overall usefulness of these bores to the network will be reviewed as part of the 2024 annual review.	April 2024 Quarterly	ONGOING: Verify sensor depths for VKY033C (or VKY3033C) and VKY041C to assist with groundwater level calculation. COMPLETE: Sensor depths have been verified for all standpipe loggers and VWP's, except for abovementioned VKY033C and VKY041C.
When adequate baseline data becomes available, review and update the quality trigger values.	October 2024	ONGOING: Trigger level review underway.
The data from July 2025 monitoring round for GW-9 should be used to verify if groundwater levels have returned to baseline trend before 16 January 2025 or not, and if any further anomalous spikes were detected in the recorded data.	April 2025	COMPLETE: Manual measurements at GW-9 indicated a stable water level. Therefore, variations in the logger data are considered attributed to changes in string length rather than actual water level fluctuations.

The following recommendations are made from the current monitoring period:

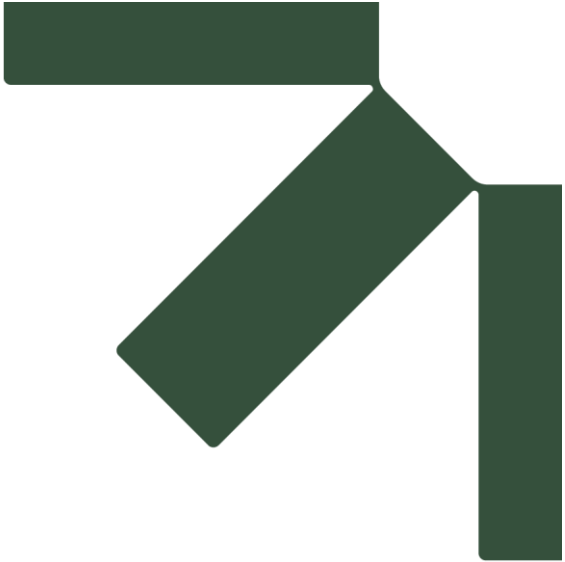
- Notable disparity between manual dips and logger readings for bore GW03. It is recommended that the VWP logger be reviewed and calibrated as necessary to ensure data accuracy.
- Continuous water level data are missing for bores VS056 (since April 2025) and VNW395 (since April 2024). It is recommended that logger data for both sites be reviewed to restore a complete water level record, in line with GWMP requirements.



5.0 References

- Hydrosimulations. 2018. "Vickery Extension Project: Groundwater Assessment. Report ."
- Queensland Government. 2024. *SILLO Long Paddock*. <https://www.longpaddock.qld.gov.au/>.
- Whitehaven. 2023. "Vickery Coal Mine Water Management Plan Appendic C Groundwater Management Plan."





Appendix A Trigger Action Response Plan

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review May 2025 – July 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

25 September 2025

Table A-1: Tigger Action Response Plan

PERFORMANCE MEASURE AND INDICATOR, TARP OBJECTIVE AND ASSESSMENT CRITERIA	MONITORING PROGRAM	MANAGEMENT		
		TRIGGER	ACTION	RESPONSE
<u>Performance Measure Feature</u> Negligible groundwater level impact on the Namoi Alluvium aquifer and associated surface watercourses, groundwater dependent ecosystems, and private landowner bores. Negligible groundwater level impact on the Permian bedrock and associated private landowner bores, outside that predicted by the approved groundwater impacts (Hydrosimulations 2018). <u>TARP Objective</u> This TARP defines levels of deviation in groundwater level from 'normal' conditions and the actions to be implemented in response to each level deviation as a result of open cut mining. <u>Assessment Criteria</u> Bore specific trigger values are based on the water levels across the entire history of monitoring in each individual bore and the predicted impacts from the Hydrosimulations (2018) numerical groundwater model.	<u>Locations</u> Open standpipes and VWPs All monitoring locations as set out in Table 4-1 of the Groundwater Management Plan (GWMP). All monitoring locations are shown in Figure 4-1 of the GWMP. <u>Monitoring Frequency</u> During mining Quarterly manual measurements of water level. Continuous monitoring in bores installed with Vibrating Wire Piezometers (VWPs). <u>Post-mining</u> TBC	Normal Condition		
		Groundwater level remains above the respective trigger limits (defined as the 95th percentile over the baseline period and detailed in Table 8-2 of the GWMP) for each individual groundwater bore.	Continue monitoring and review of data as per monitoring program.	No response required.
		Level 1		
		One quarterly monitoring result shows an exceedance of the trigger limit as detailed in Table 8-2 of the GWMP.	- Actions as required for Normal Condition. - Re-sample of groundwater level within seven days.	Report declines and climate investigation outcomes in Annual Review.
		Level 2		
		- Groundwater level in a groundwater bore exceeds the respective trigger limit during three consecutive quarterly monitoring rounds. OR - Complaint received by landowners of private bores regarding groundwater level declines.	- Actions as stated in Level 1. For Open Standpipe Monitoring Bores, VWPs, and Private Bores: - Undertake a preliminary hydrogeological investigation as efficiently as practicable to check and validate the data and assess cause of trigger exceedances to determine if mining related as per the requirements set out in Section 8.3 of the GWMP. Review of groundwater levels to be carried out by qualified personnel. - Increase monitoring and review of data frequency for sites where Level 2 has been reached, subject to land access. For Private Bores: - Undertake investigation to demonstrate if the decline will impact the long-term viability of the affected water supply works. - Commence level monitoring of said private bore in quarterly monitoring rounds, subject to negotiation and land access restrictions. The investigation will be commenced/ completed as efficiently as practicable.	- Responses as stated in Level 1. - Include outcomes from the preliminary investigation report in Annual Review.
		Level 3		

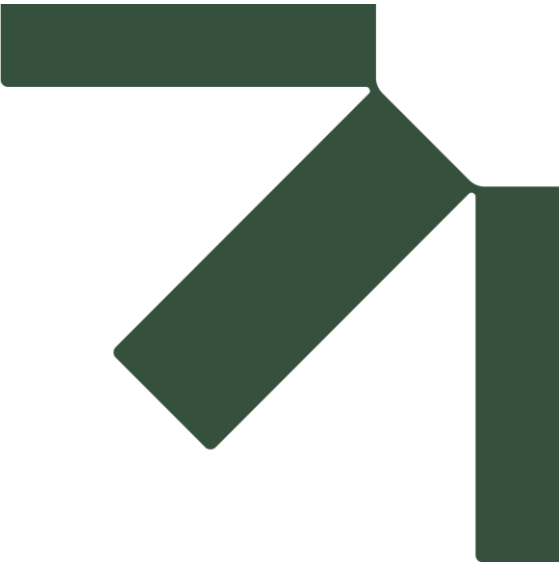


PERFORMANCE MEASURE AND INDICATOR, TARP OBJECTIVE AND ASSESSMENT CRITERIA	MONITORING PROGRAM	MANAGEMENT		
		TRIGGER	ACTION	RESPONSE
		- The reduction in water level is determined in the Level 2 preliminary investigation not to be controlled by climatic or external anthropogenic factors. OR - Groundwater level in a groundwater bore continues to exceed the respective trigger limit during six consecutive monitoring rounds.	- Actions as stated in Level 2. For Open Standpipe Monitoring Bores, VWPs, and Private Bores: - Undertake a detailed investigation to assess if the change in behaviour is related to mining effects (e.g., catchment changes, another effect unrelated to mining). - Review groundwater model. For Private Bores: - Review corrective management actions (CMAs) as specified in Section 8.3 of the GWMP considering findings from further investigations and consider additional reasonable and feasible options.	- Responses as stated in Level 2. - Report trigger exceedance to DPE and key stakeholders. Provide the detailed investigation report to relevant agencies within a reasonable timeframe of identifying the non-compliance. - Report trigger exceedance and investigation outcomes in Annual Review. - Develop/design contingency and remedial measures based on the results of the above investigations. Contingency and remedial measures considered practical for implementation may include: - Undertake landholder and government consultation; - Offset groundwater leakage from the Namoi Alluvium aquifer; - Review and refine the GWMP including undertaking additional - specific monitoring of private landholder bores; - Review Site Water Balance and predictive groundwater model; and - Review mine plan impacts on alluvial groundwater source. For Private Bores: - Provide DPE and key stakeholders with proposed corrective management actions (CMAs) for consultation (e.g., extending the depth of the bore, establishment of additional bores, compensation to affected landowners as per Section 8.3 of the GWMP). - Implement CMAs, subject to land access (finalise negotiations and implement the agreed "make-good" arrangements). - Monitor and report on success of CMAs in Annual Review.
Performance Measure Feature Negligible quality impact on the Namoi Alluvium aquifer and associated surface watercourses and private landholder bores. Negligible quality impact on the Permian bedrock and associated private landowner bores, outside that predicted by the approved groundwater (Hydrosimulations 2018). TARP Objective This TARP defines levels of deviation in groundwater quality from baseline conditions and the actions to be implemented in response to each level deviation. Assessment Criteria Quality in each monitoring bore remains within the 5th and 95th percentile of the baseline conditions set out in Table 8-4 of the GWMP for the following parameters: - Electrical Conductivity; - pH; and - Sulfate. Other major and metal ions will be assessed against the relevant ANZECC guidelines.	Locations Open standpipes All open standpipe monitoring locations as set out in Table 4-2 of the GWMP. Monitoring Frequency During mining Six-monthly measurements of pH and electrical conductivity parameters. Other parameters (detailed in Table 4-2 of the GWMP) to be measured on an annual basis. Post-mining TBC	Normal Condition		
		- Groundwater pH remains within the baseline 5th and 95th percentile range, as specified in the GWMP. - Other groundwater quality parameters remain below the baseline 95th percentile, as specified in the GWMP.	Continue monitoring and review of data as per monitoring program.	No response required.
		Level 1		
		Two six-monthly exceedances or one annual quality exceedances outside of the specified baseline range (pH) or above 95th percentile baseline (other quality parameters).	- Actions as required for Normal Condition. - Re-sample of groundwater quality within seven days	Report declines and climate investigation outcomes in Annual Review.
		Level 2		
		- Three consecutive six-monthly exceedances or two annual quality exceedances (including re-samples from Level 1) outside of the specified baseline range (pH) or above 95th percentile baseline (other quality parameters). OR - Complaint received by landowners of private bores regarding groundwater quality declines.	- Actions as stated in Level 1. For Open Standpipe Monitoring Bores: - Undertake a preliminary hydrogeological investigation as efficiently as practicable to assess cause of quality exceedances and determine if mining related as per the requirements set out in Section 8.3 of the GWMP. Review of groundwater quality to be carried out by qualified personnel. Increase monitoring and review of data frequency for sites where Level 2 has been reached, subject to land access. For Private Bores: - Collect quality sample from said private bore for comparison with wider aquifer data, subject to negotiation and land access restrictions. - Undertake investigation to demonstrate if quality will impact the long-term viability of the affected water supply works. The investigation will be commenced/ completed as efficiently as practicable.	- Responses as stated in Level 1. - Include outcomes from the preliminary investigation report in Annual Review.



PERFORMANCE MEASURE AND INDICATOR, TARP OBJECTIVE AND ASSESSMENT CRITERIA	MONITORING PROGRAM	MANAGEMENT		
		TRIGGER	ACTION	RESPONSE
		Level 3		
		- The water quality changes are determined from Level 2 preliminary investigation to not be controlled by climatic, local land uses, or other external anthropogenic factors. OR - Groundwater quality continues to decline with six consecutive six-monthly exceedances or three annual quality exceedances outside of the specified baseline range (pH) or above 95th percentile baseline (other quality parameters). AND - Quality exceedances are widespread (three or more bores in an aquifer show water quality exceedances) across the aquifers being monitored.	- Actions as stated in Level 2. For Private Bores and Open Standpipe Monitoring Bores - Increase monitoring to at least quarterly measurements for sites where Level 3 has been reached, subject to land access. - Undertake a detailed investigation to assess if the change in behaviour is related to mining effects (e.g., catchment changes, another effect unrelated to mining). - Review corrective management actions (CMAs) as specified in Section 8.3 of the WMP considering findings from further investigations and consider additional reasonable and feasible options.	- Responses as stated in Level 2. For Private Bores and Open Standpipe Monitoring Bores: - Report trigger exceedance to DPE and key stakeholders. - Report trigger exceedance and investigation outcomes in Annual Review. For Private Bores, if the changes have been confirmed to be related to mining effects: - Initiate negotiations with impacts landowners as soon as practicable. Consider all reasonable and feasible options for remediation as relevant (e.g., isolation, remediation, etc.). - Provide DPE and key stakeholders with proposed corrective management actions (CMAs) for consultation (e.g., extending the depth of the bore, establishment of additional bores, compensation to affected landowners as per Section 10.2.2 of the WMP). - Implement CMAs, subject to land access (finalise negotiations and implement the agreed “make-good” arrangements). - Monitor and report on success of CMAs in Annual Review.





Appendix B Groundwater Level Results

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review May 2025 – July 2025

Whitehaven Coal Ltd

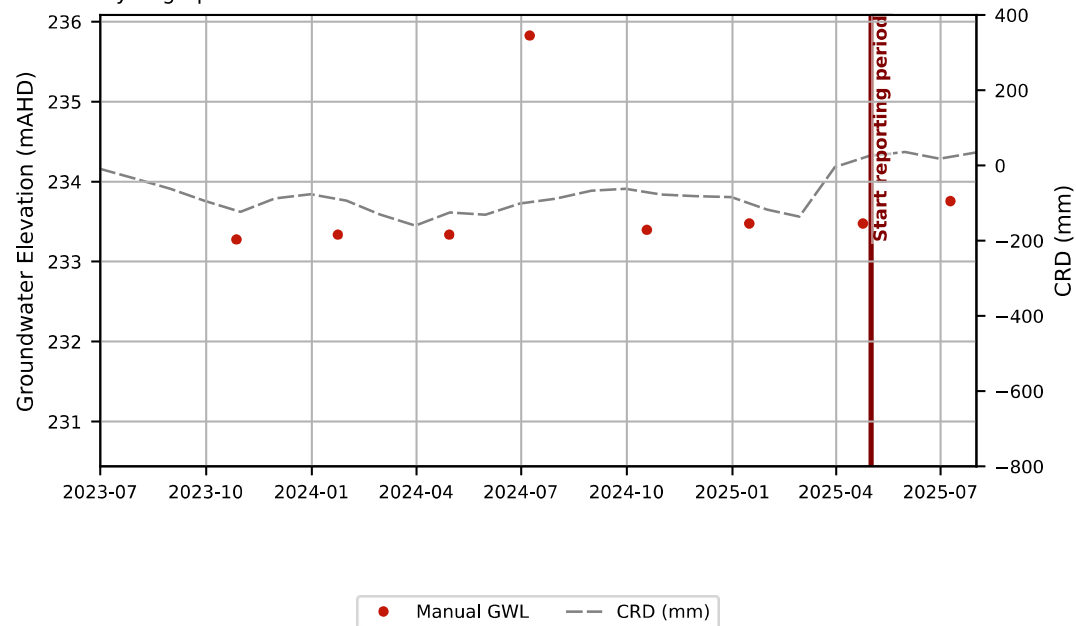
SLR Project No.: 640.031099.00001

25 September 2025

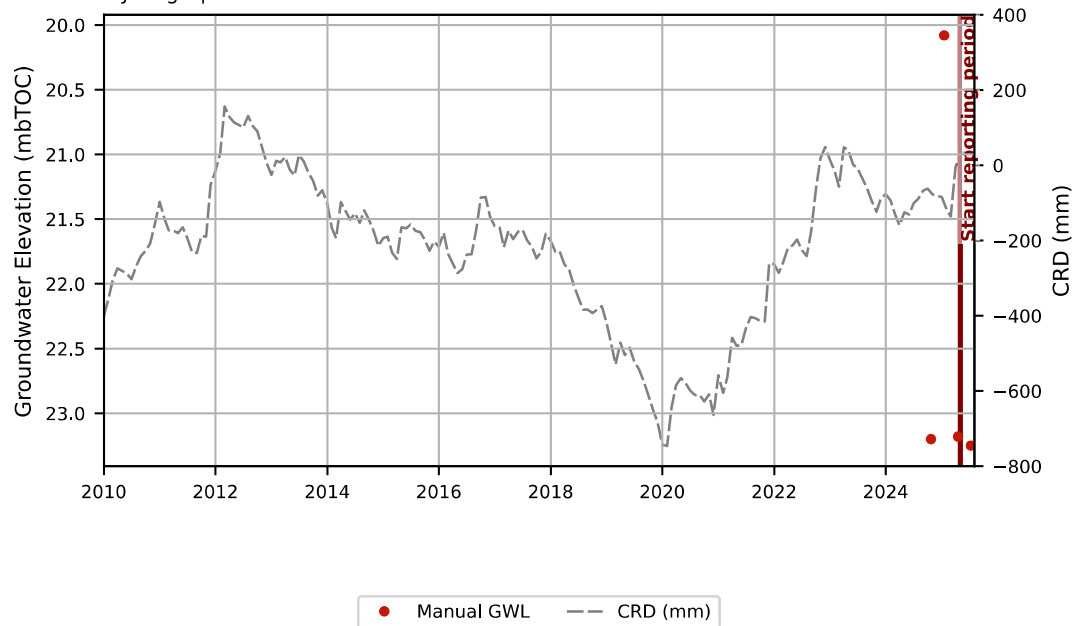
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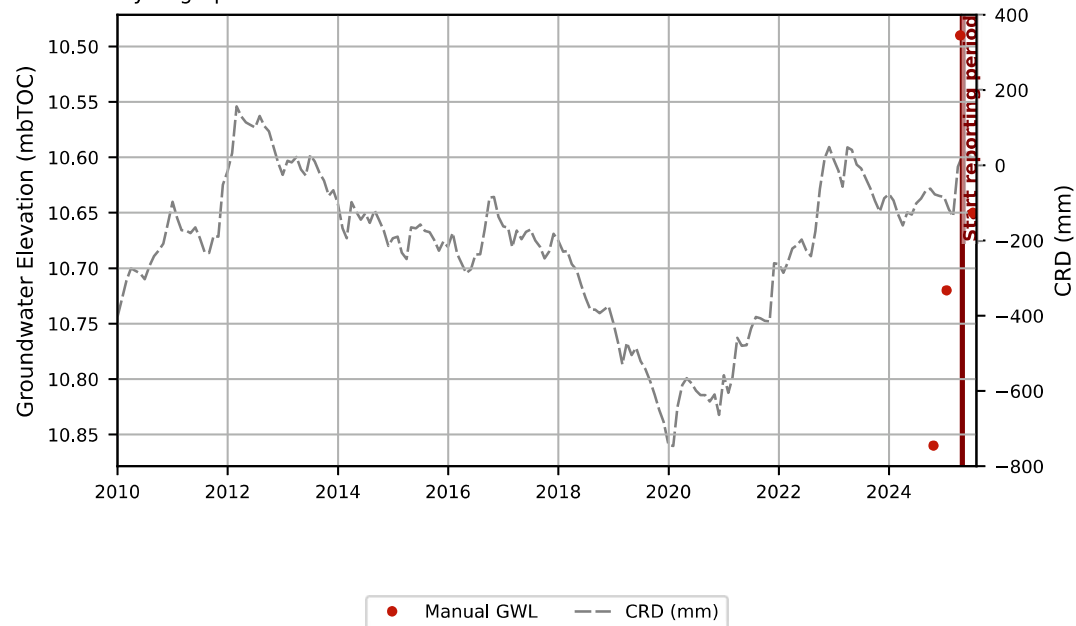
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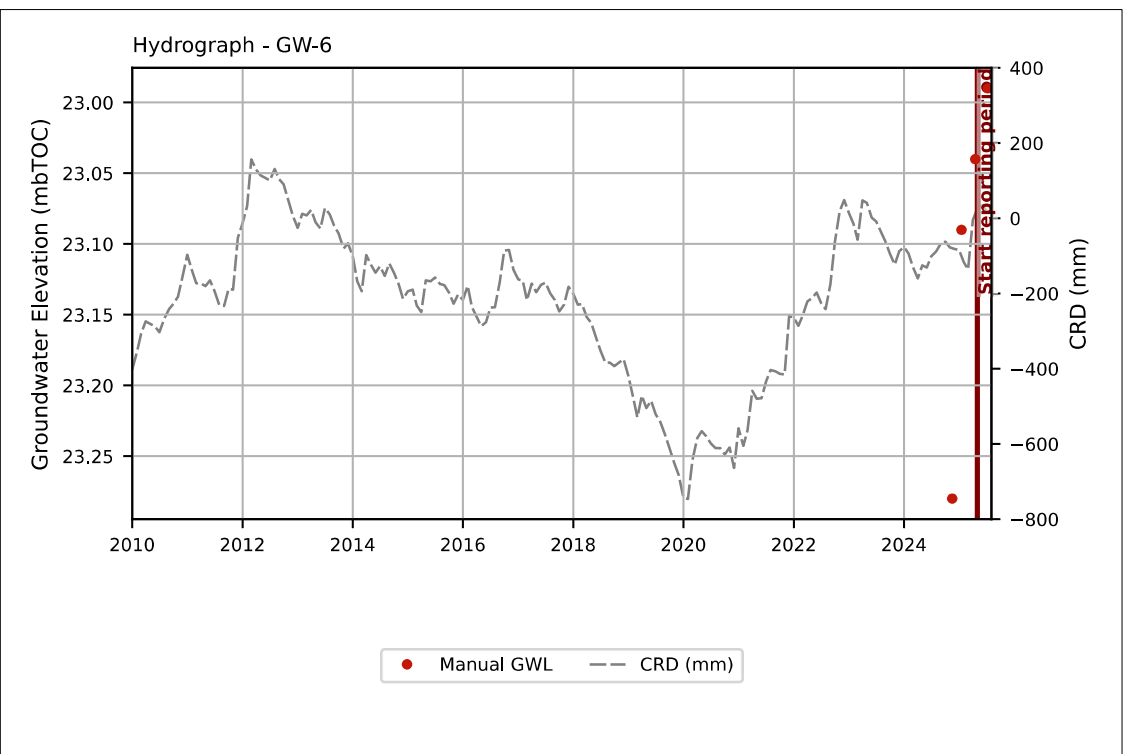
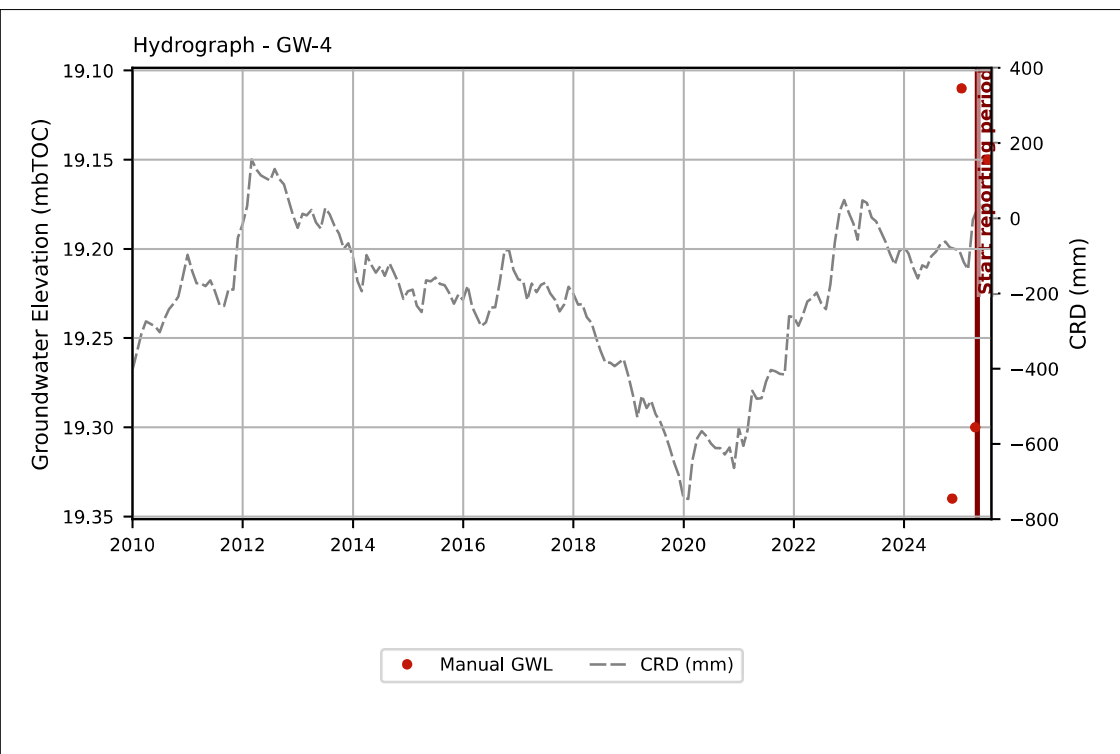
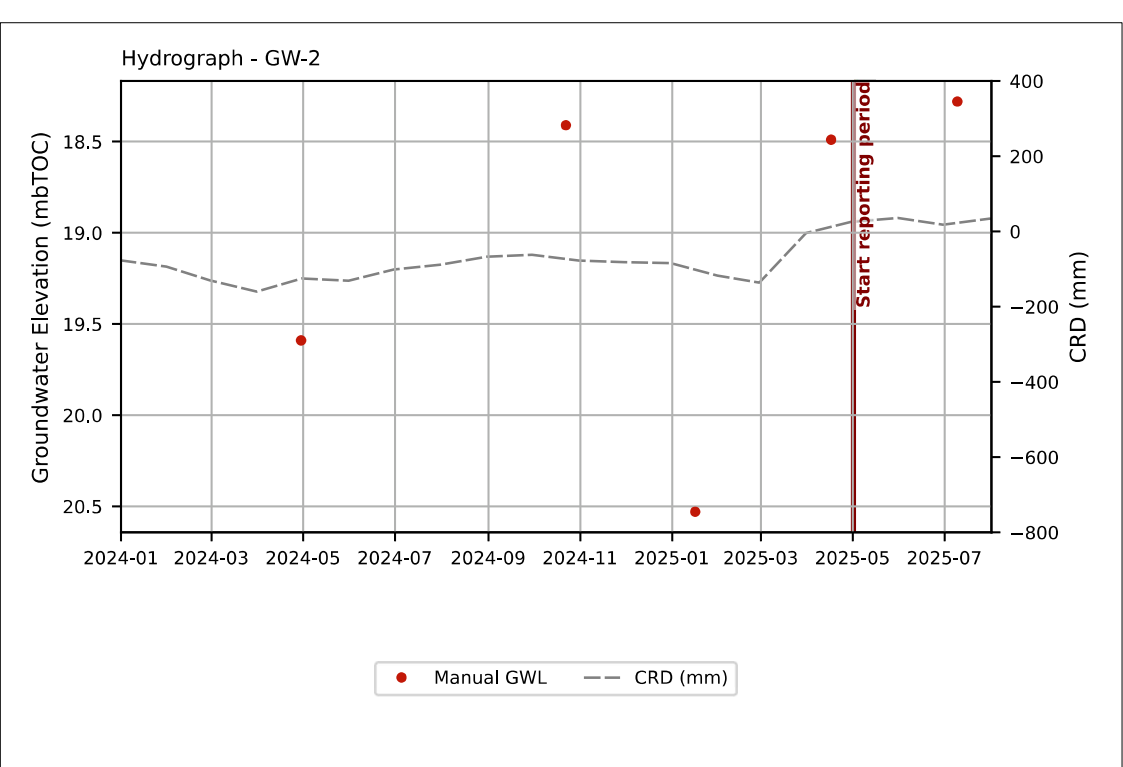
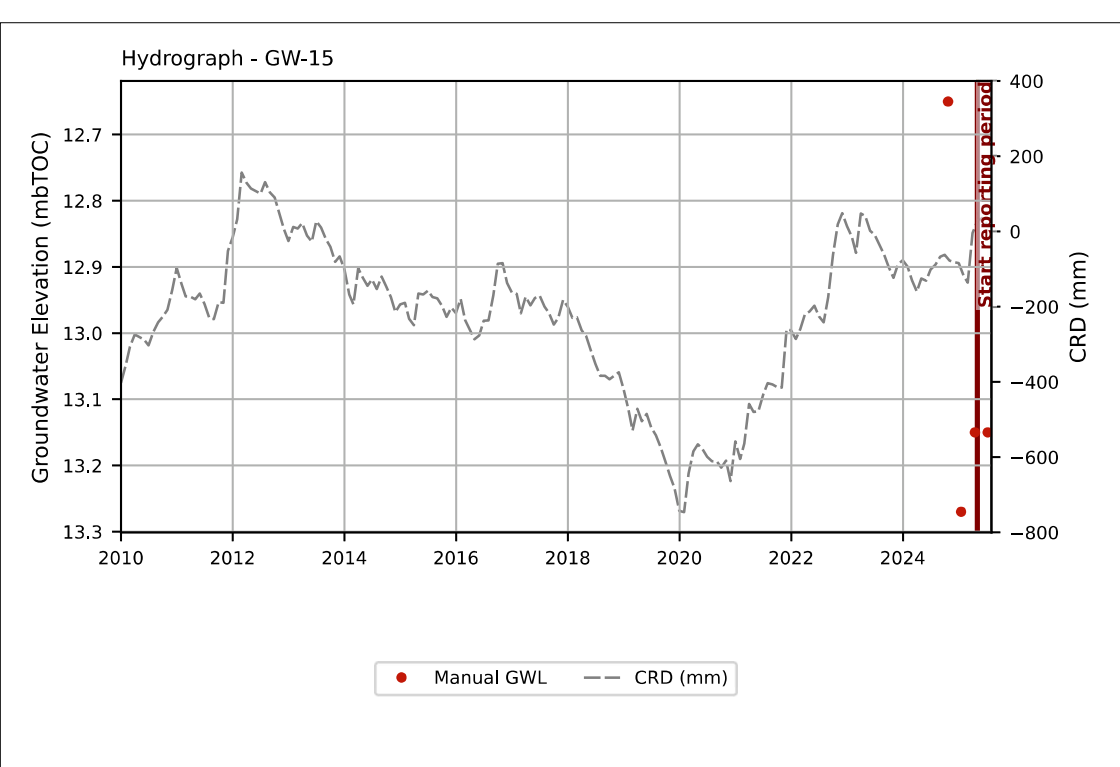


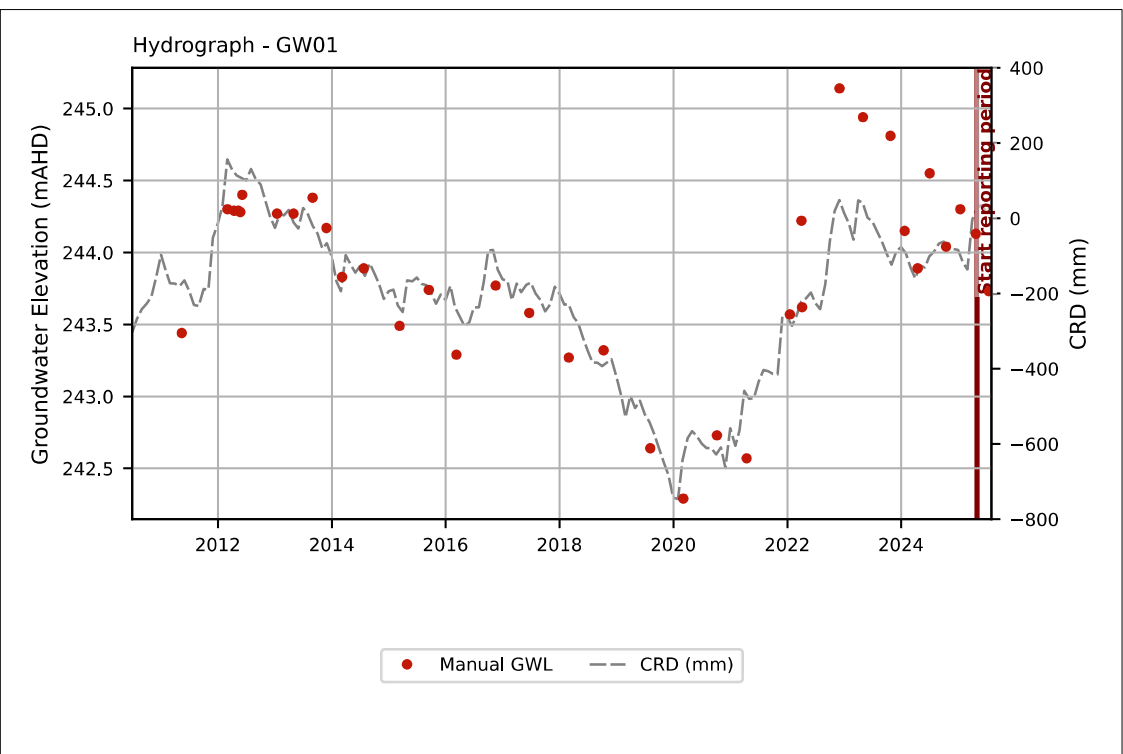
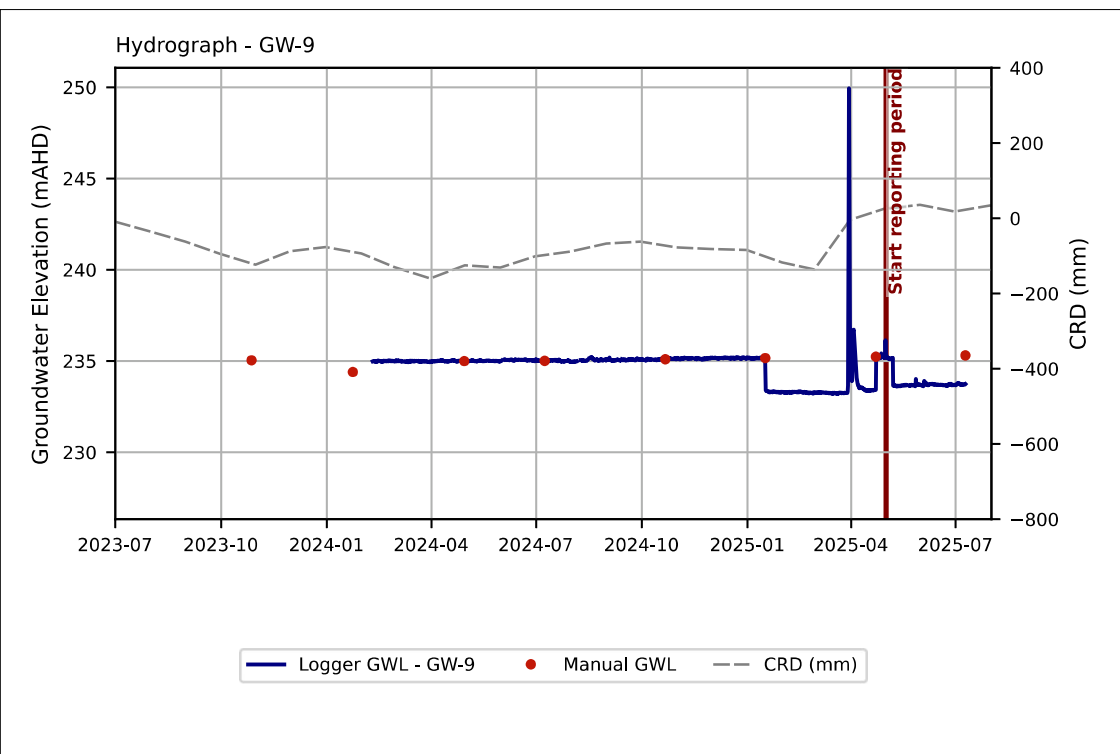
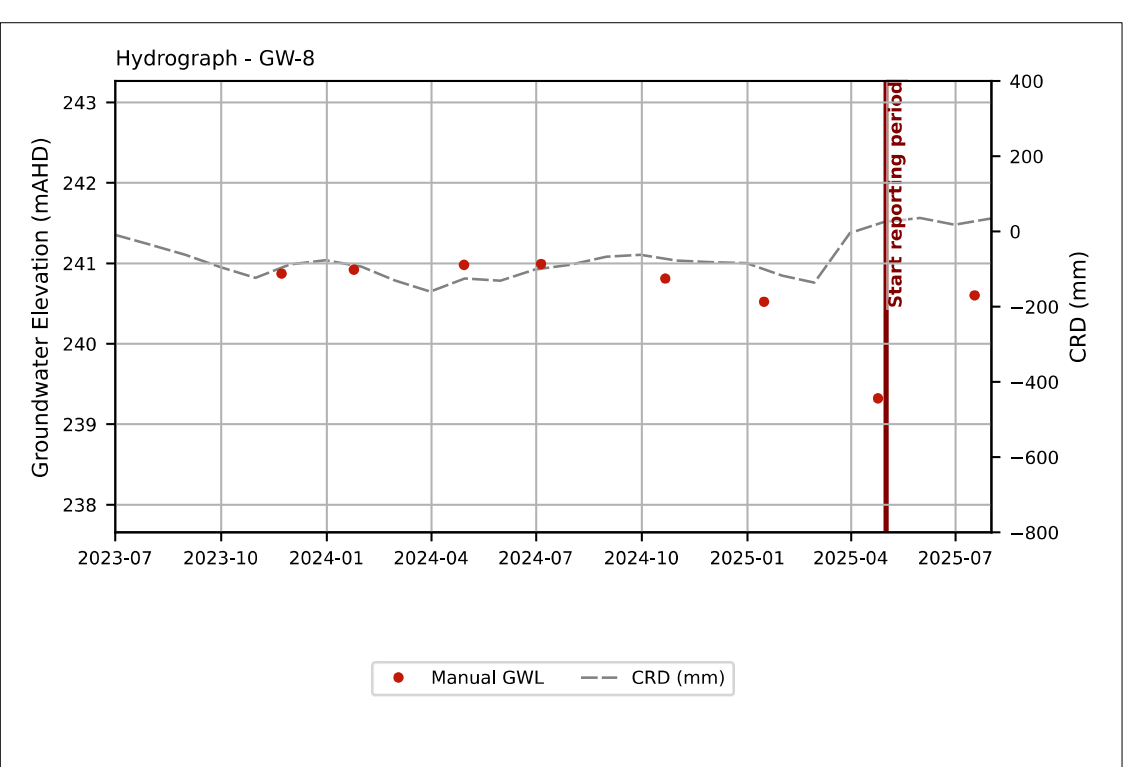
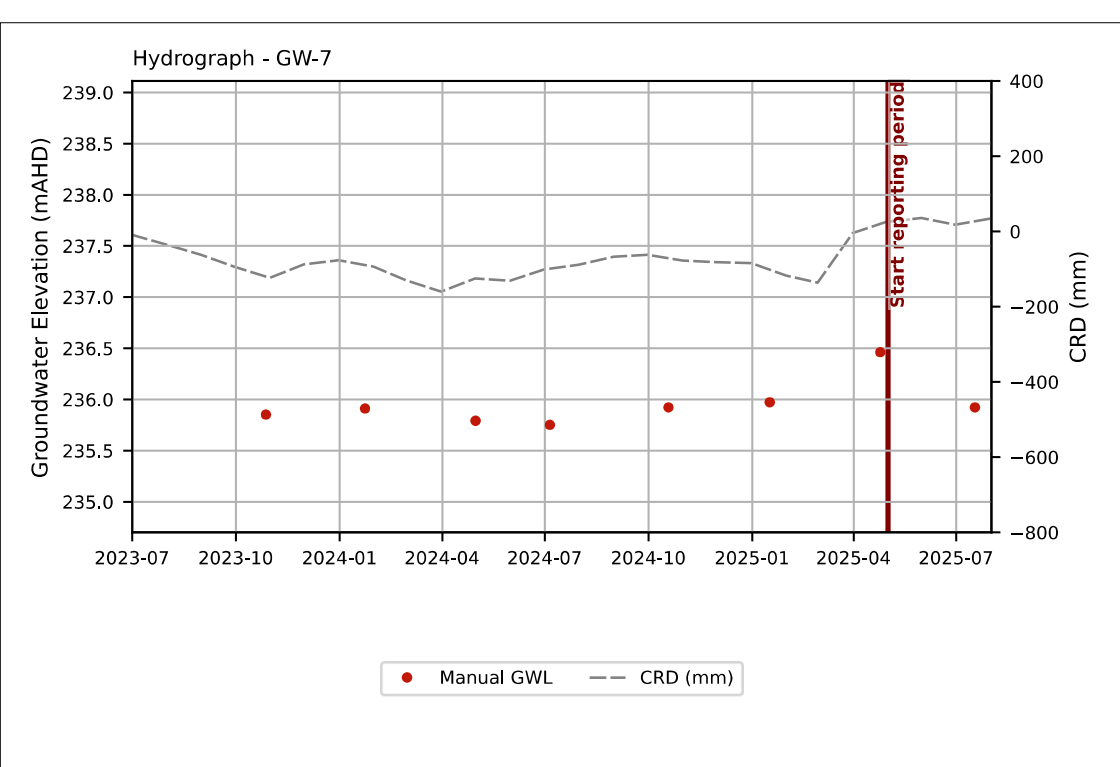
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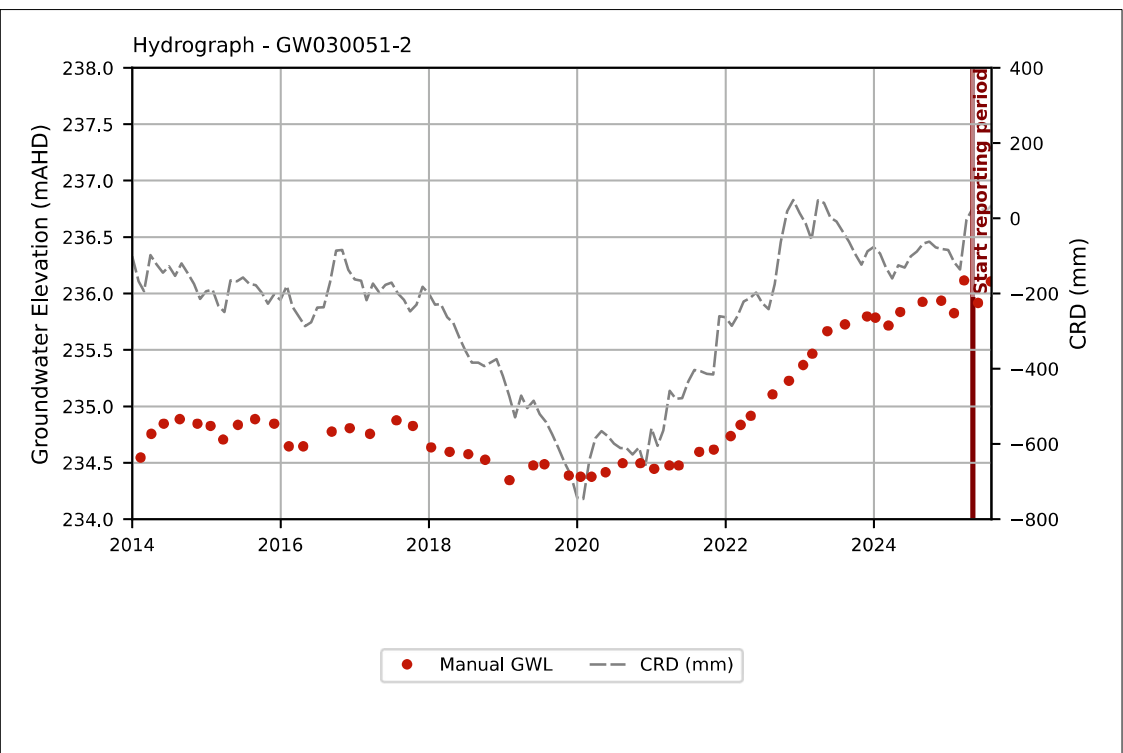
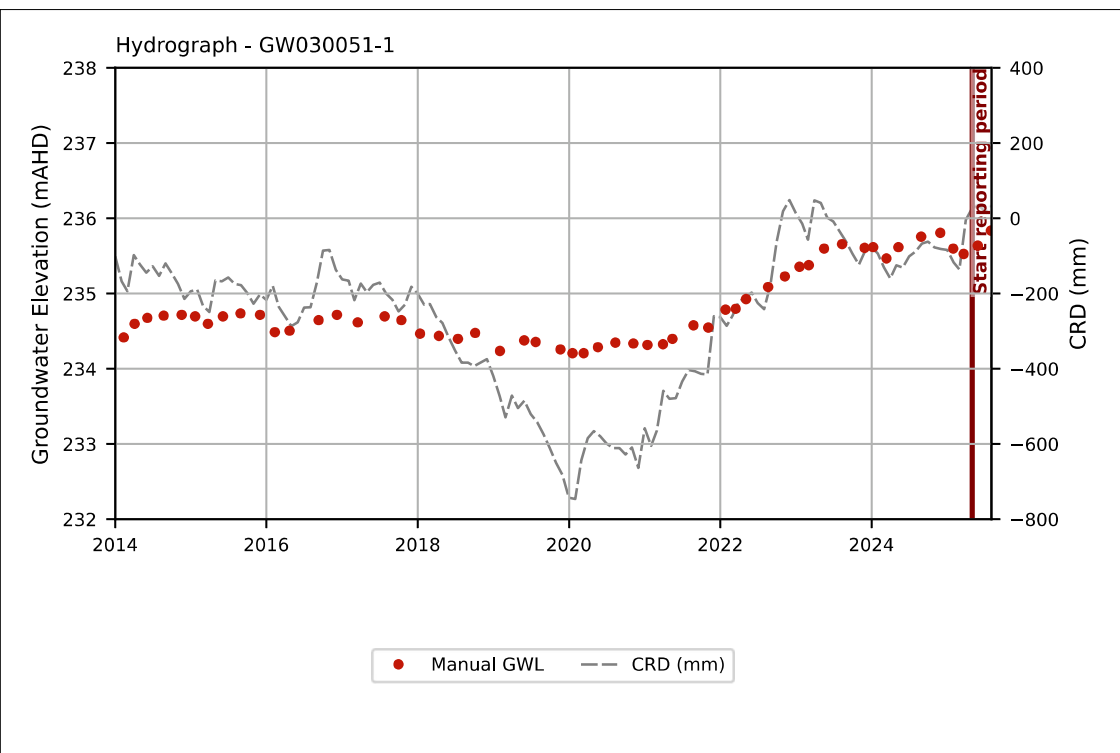
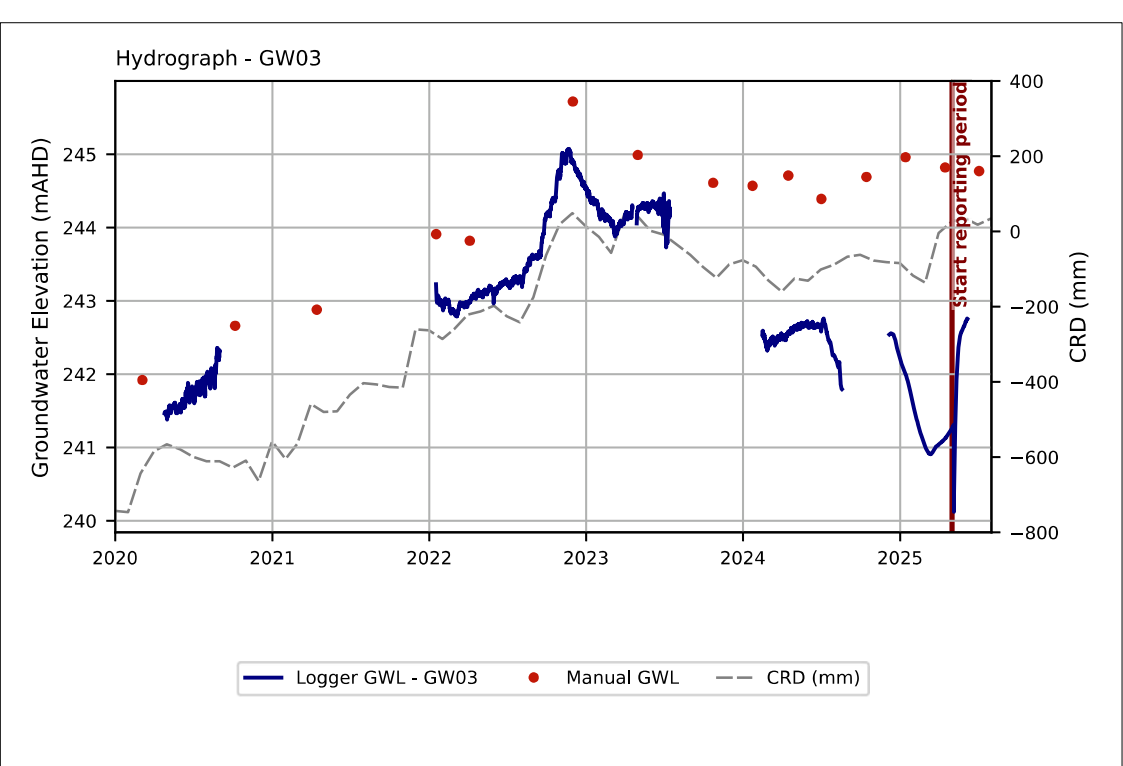
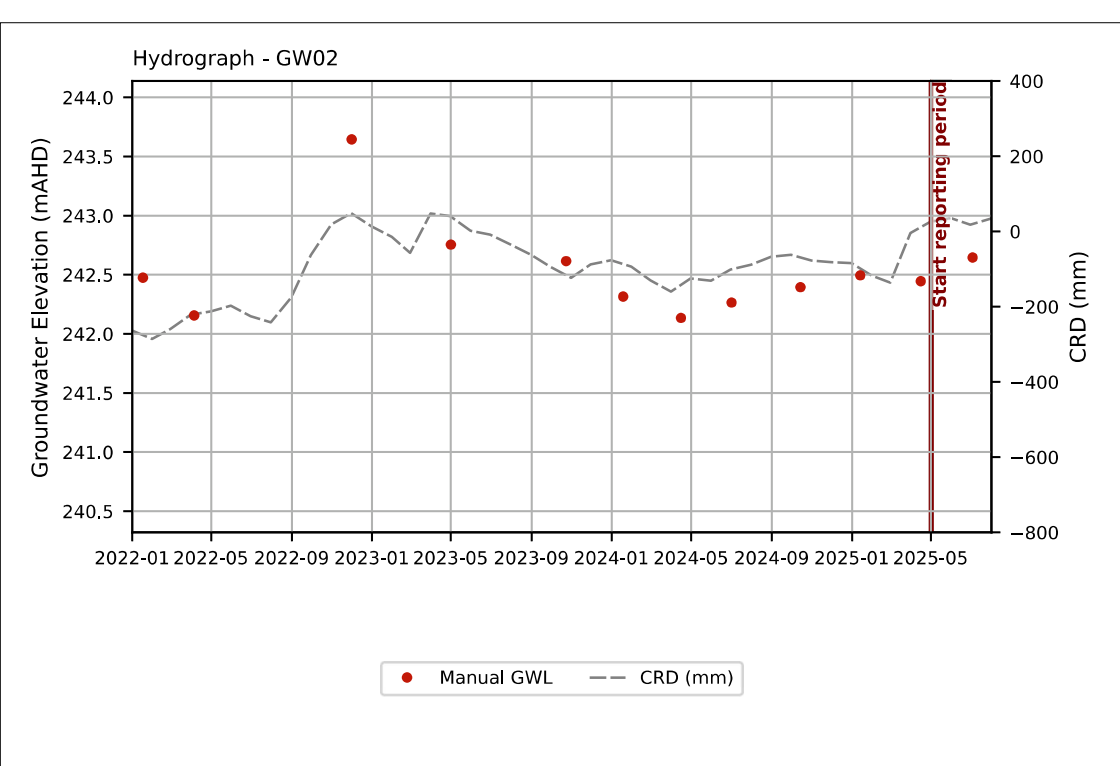


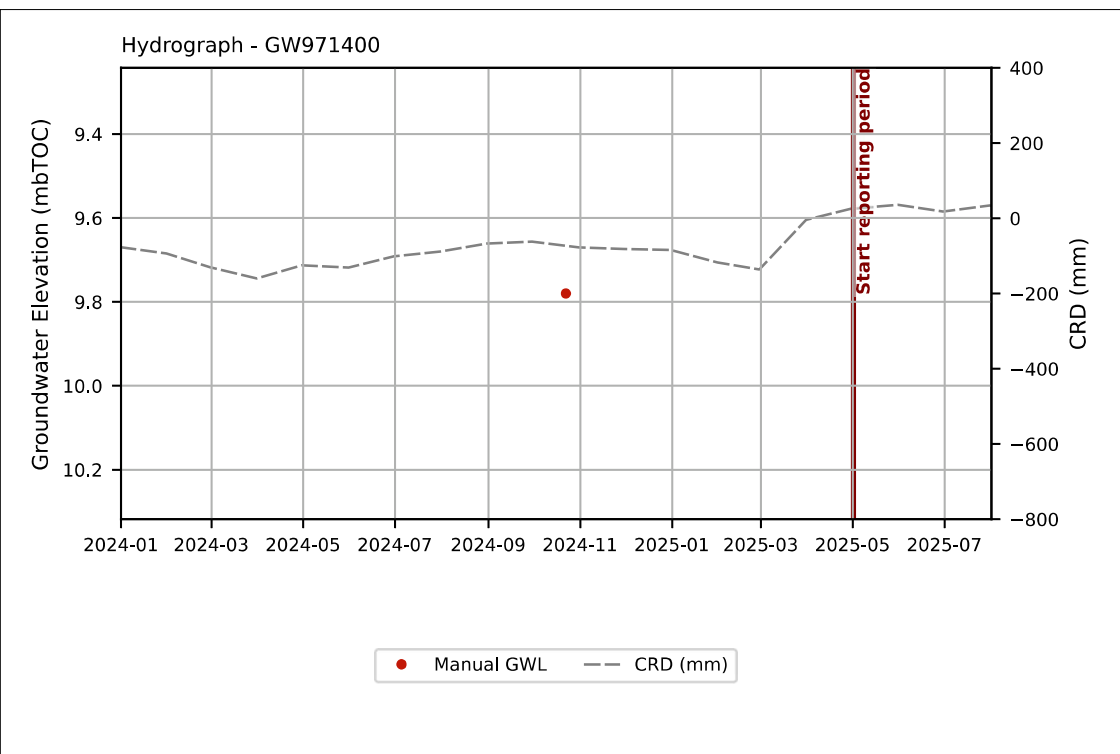
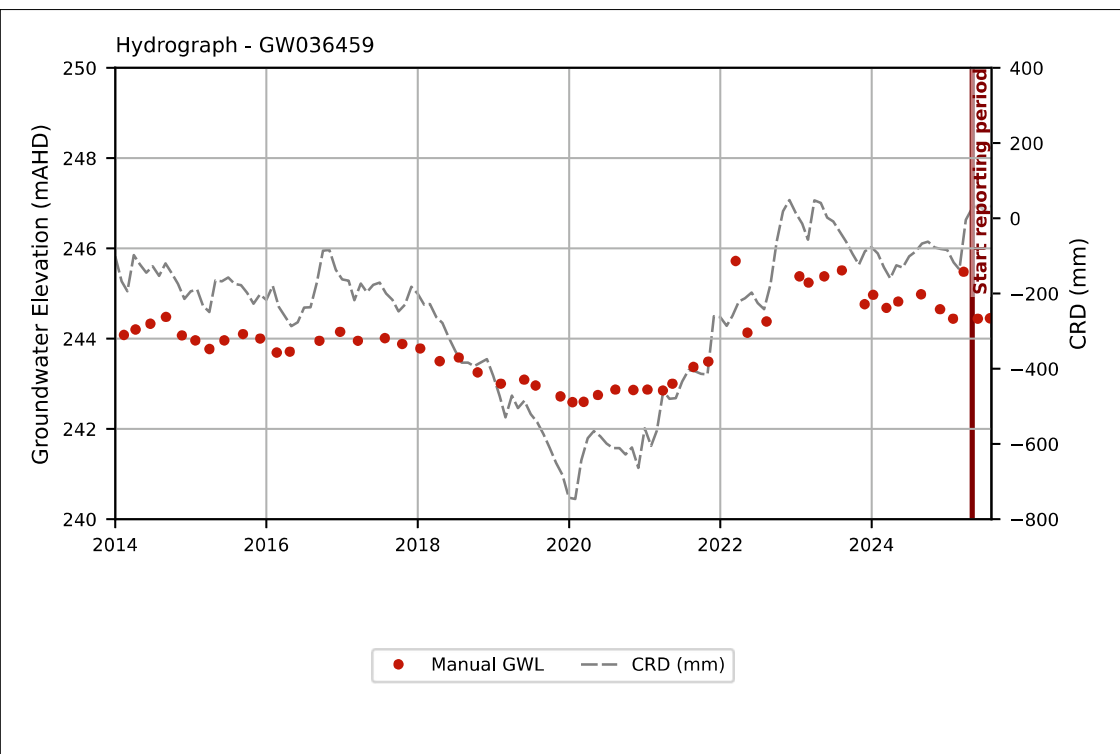
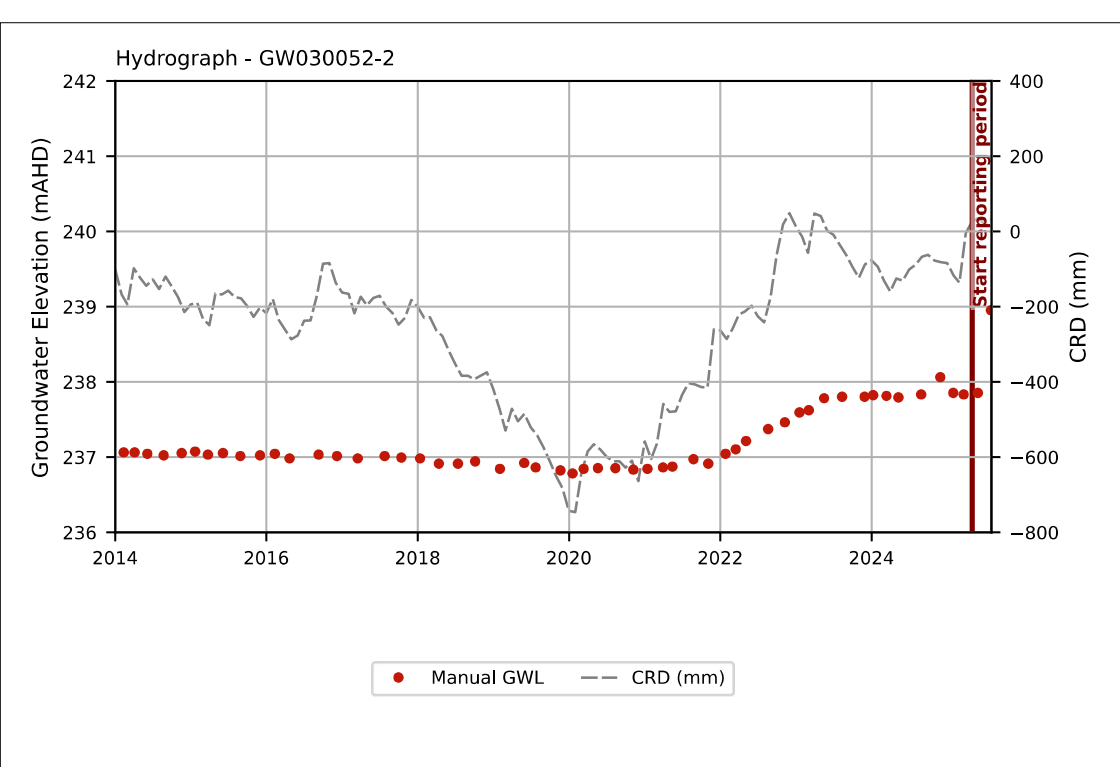
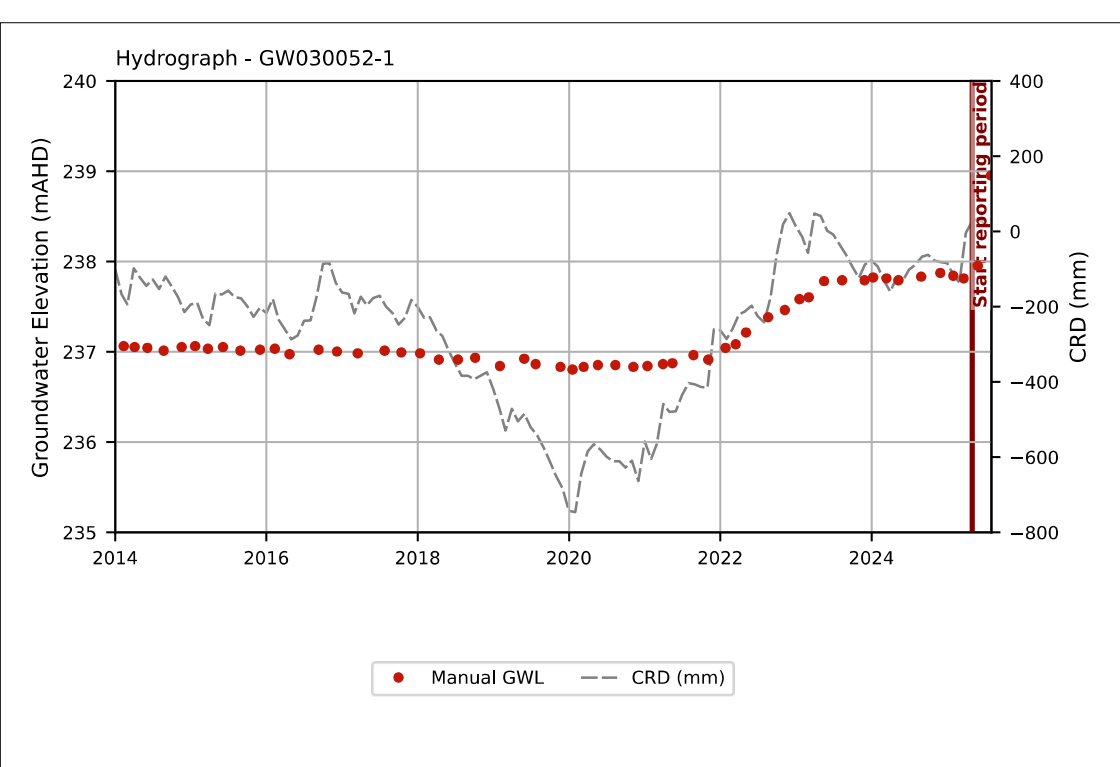
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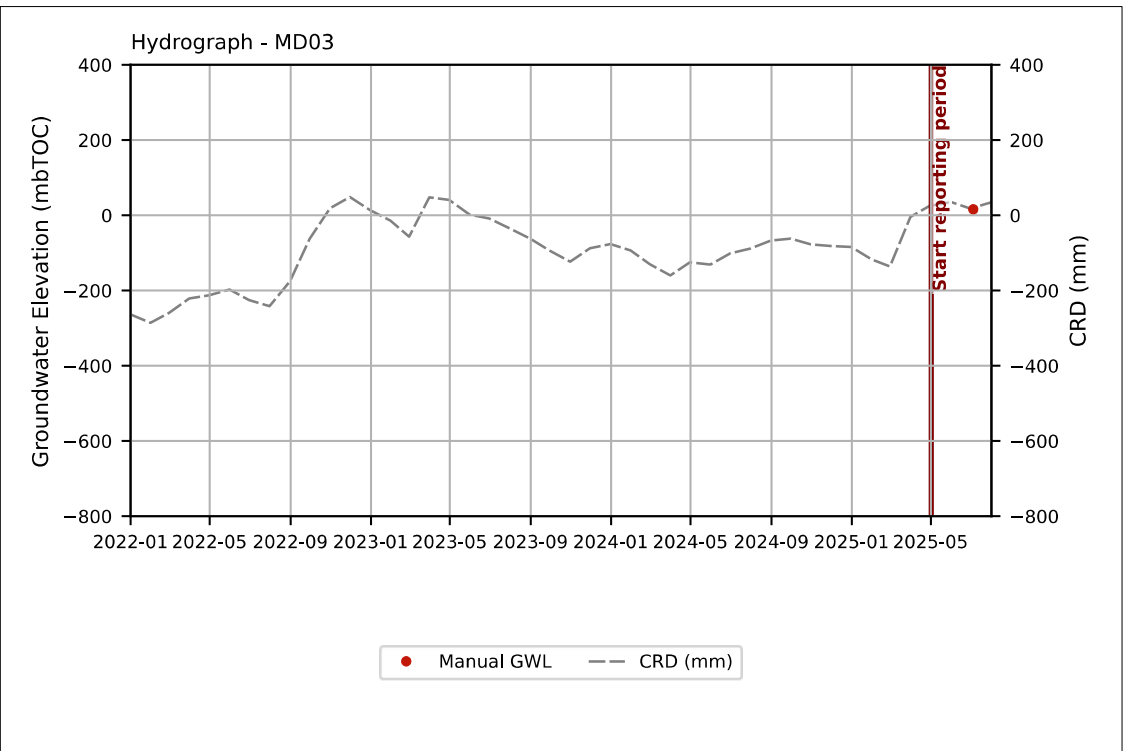
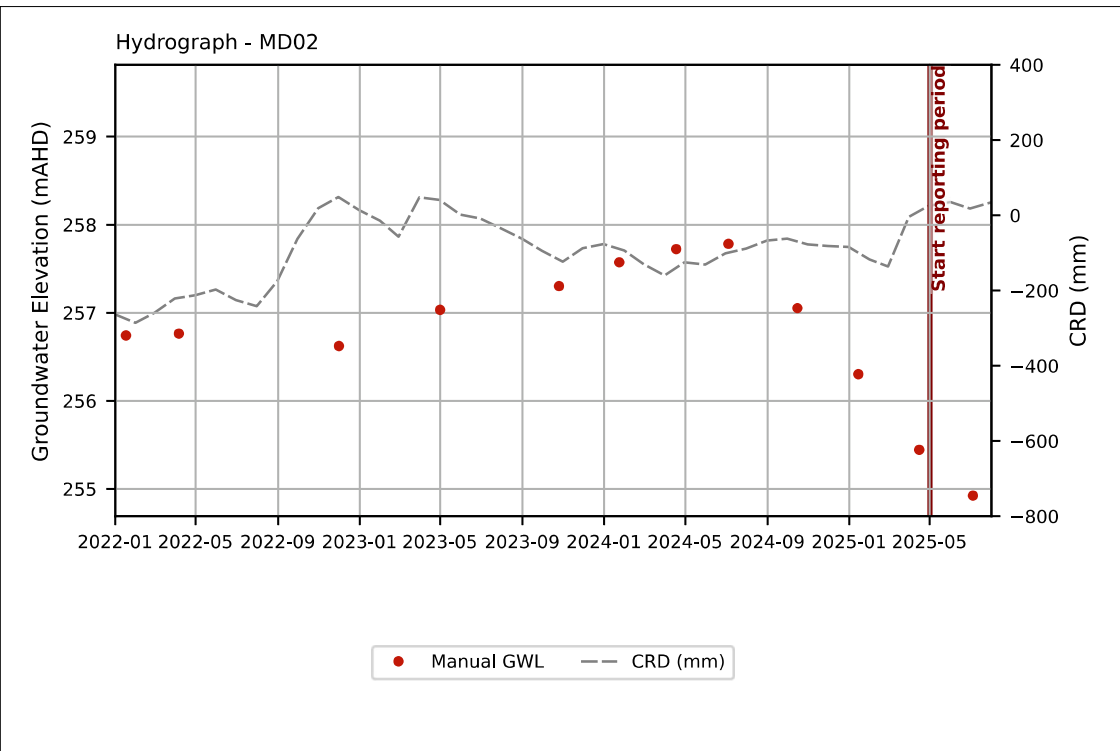
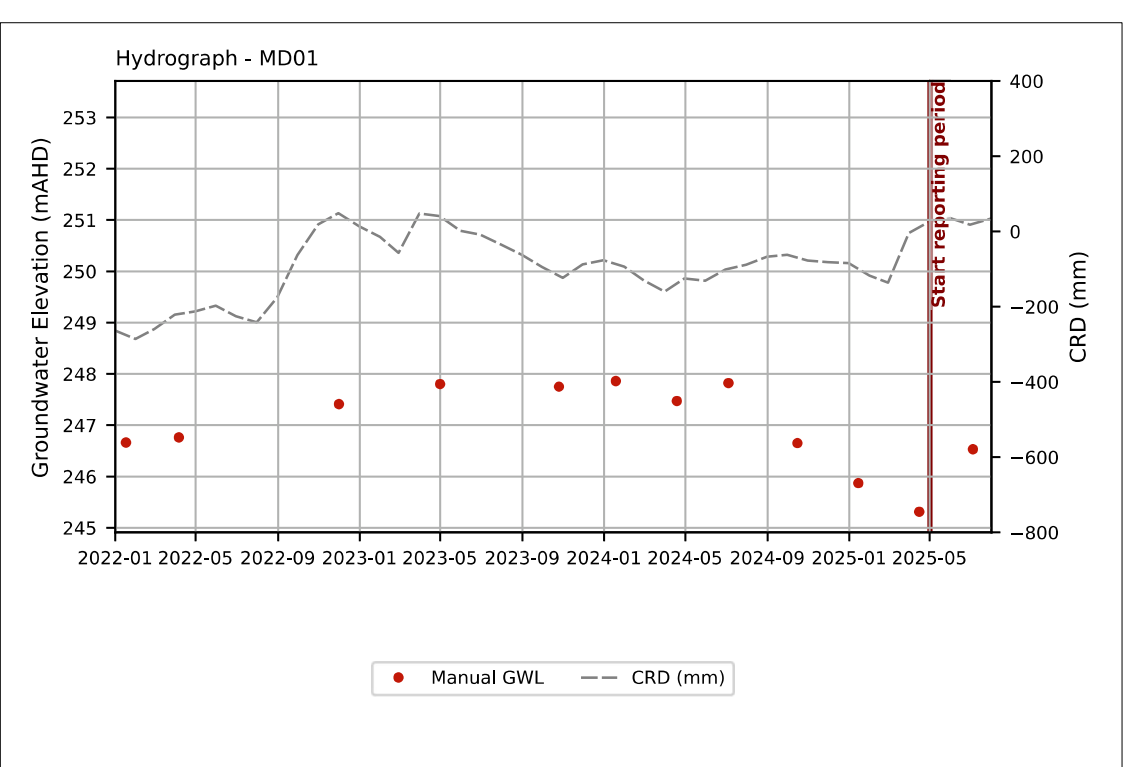
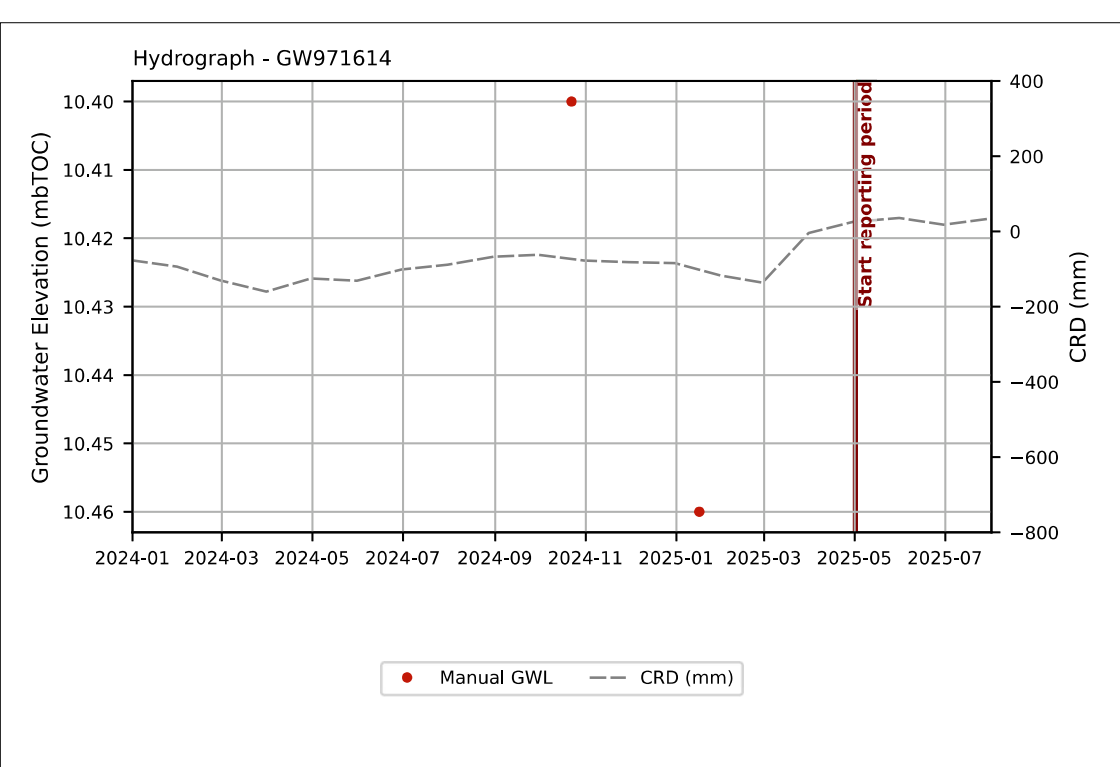




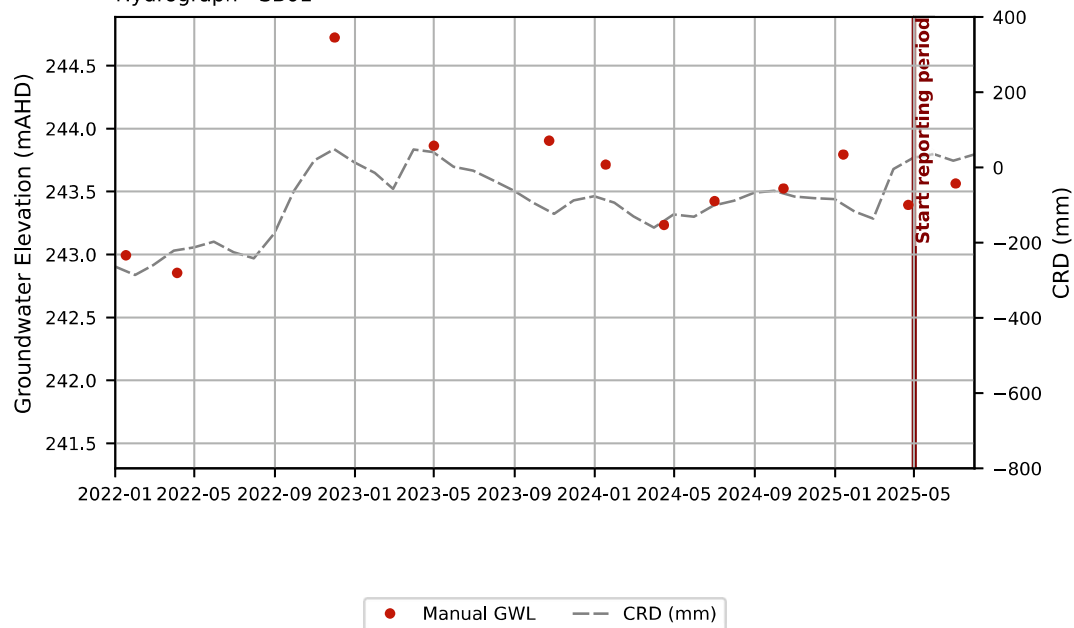




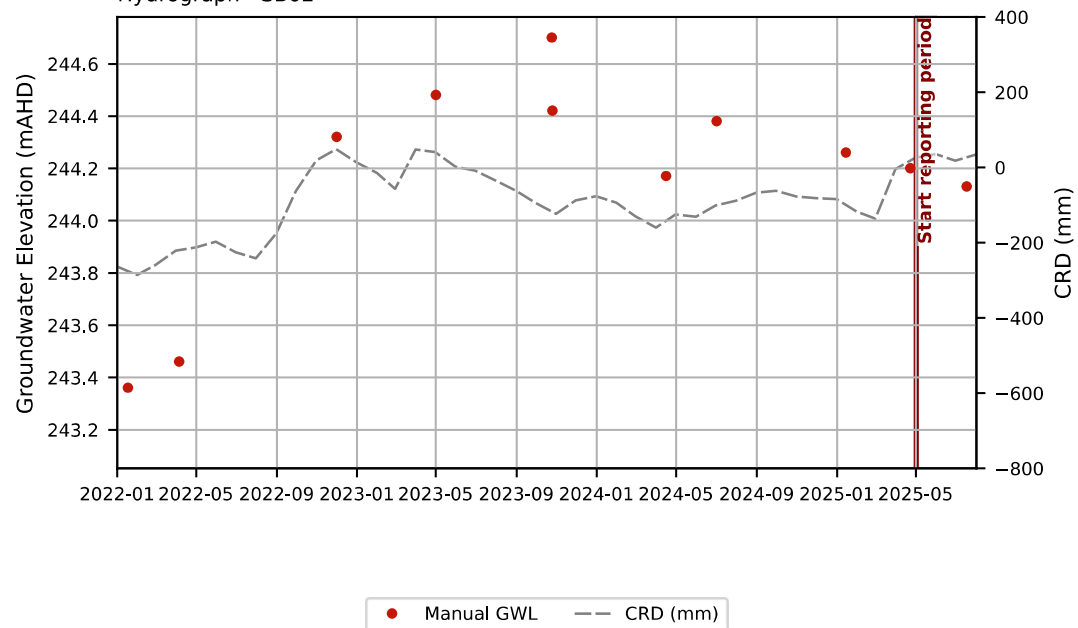




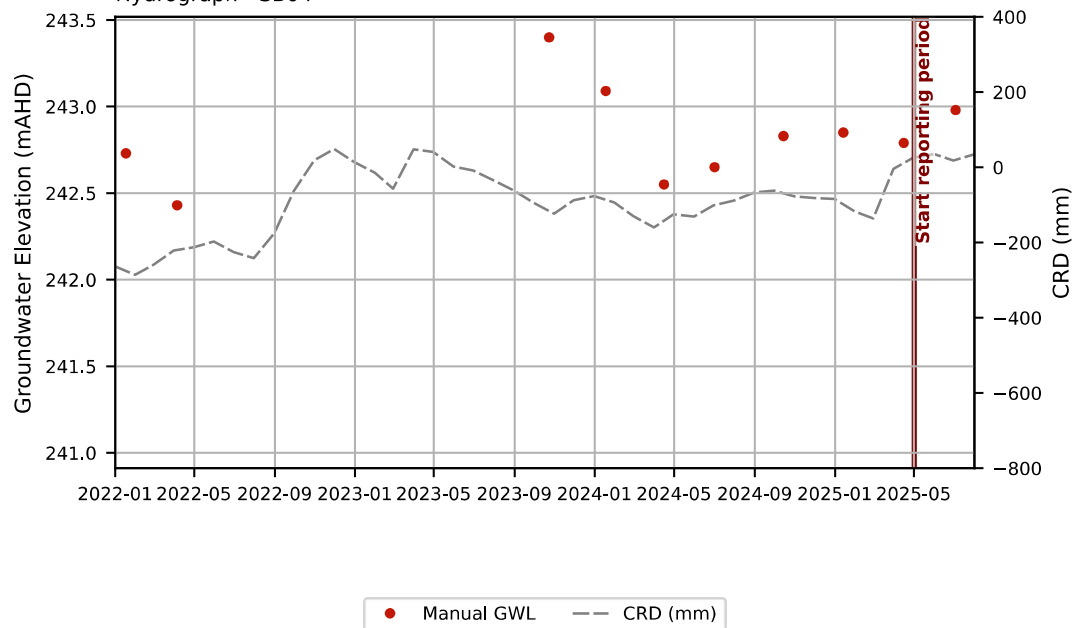
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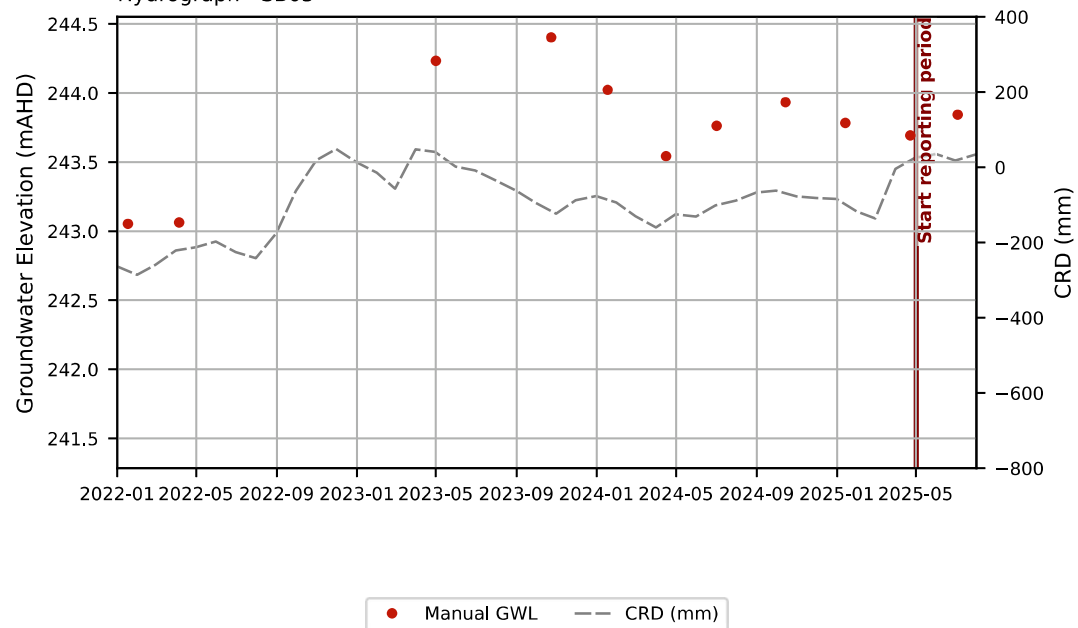
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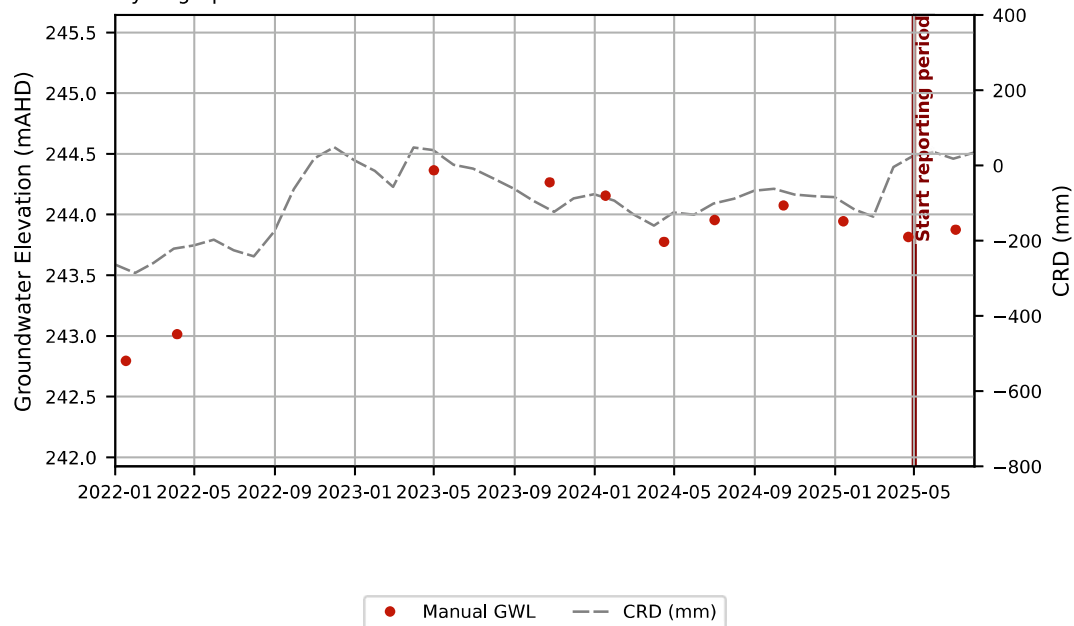
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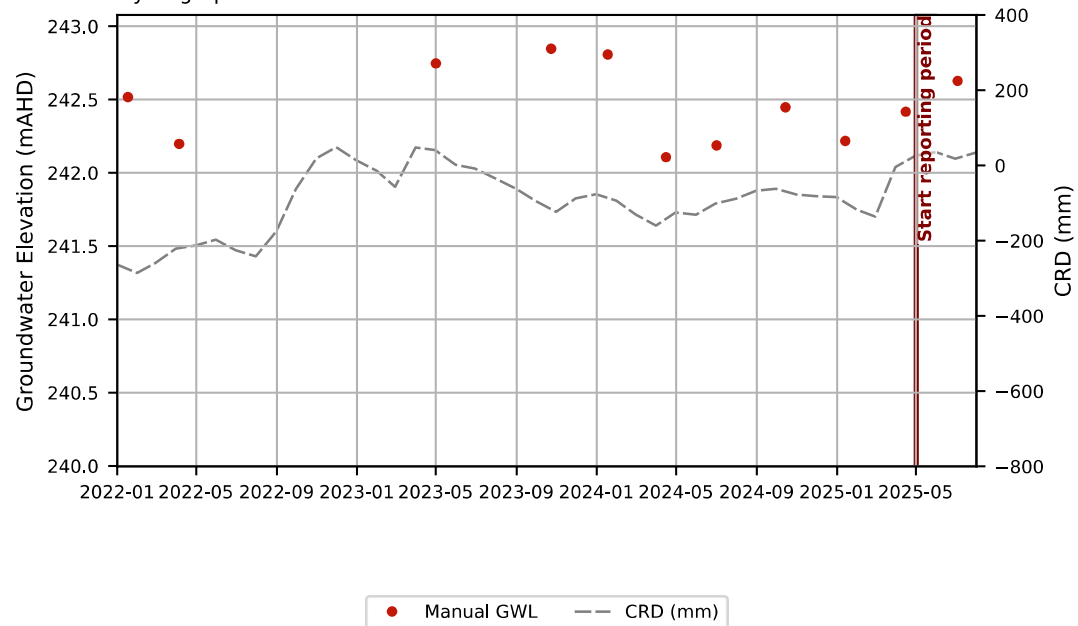
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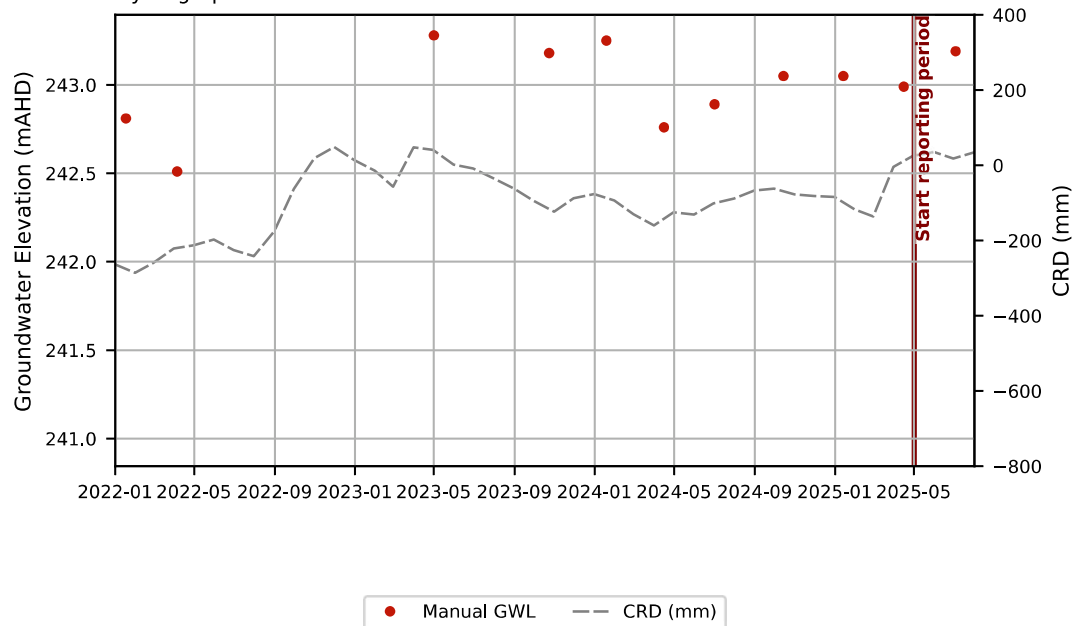
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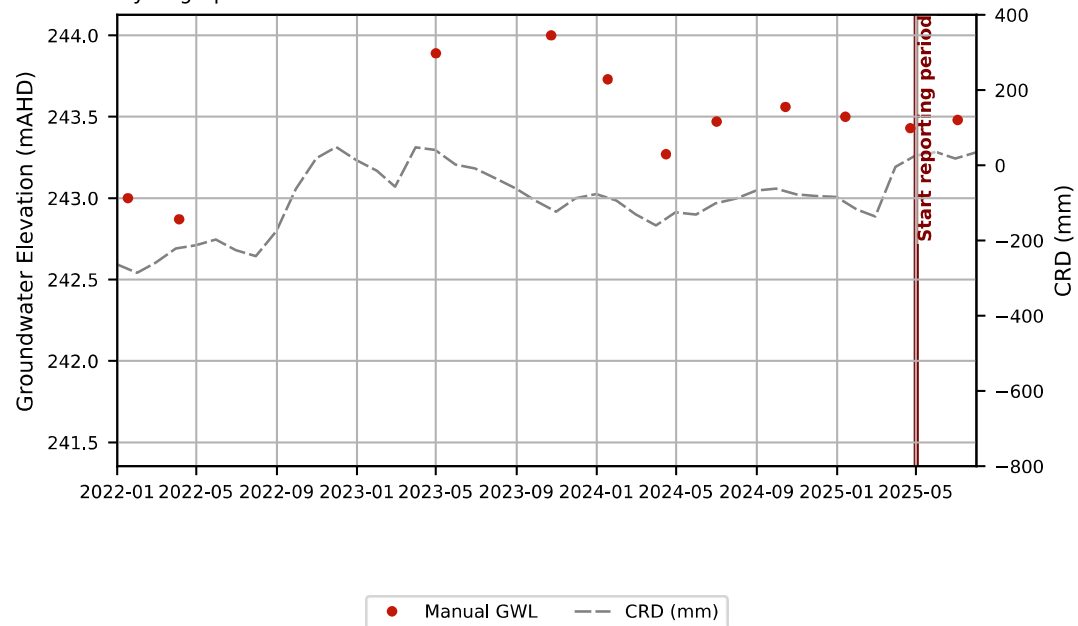
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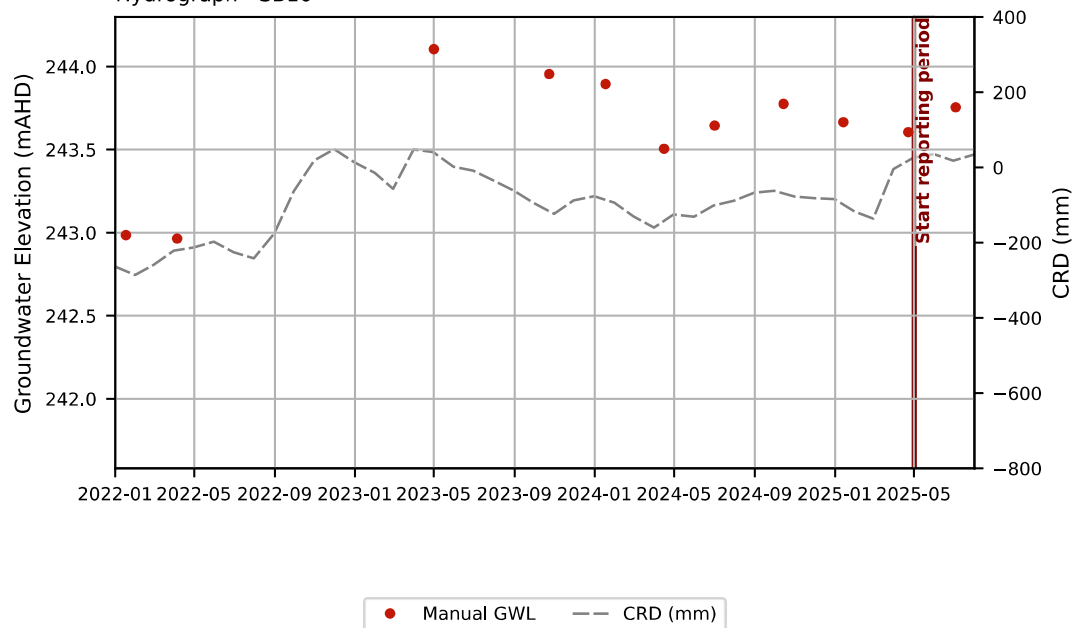
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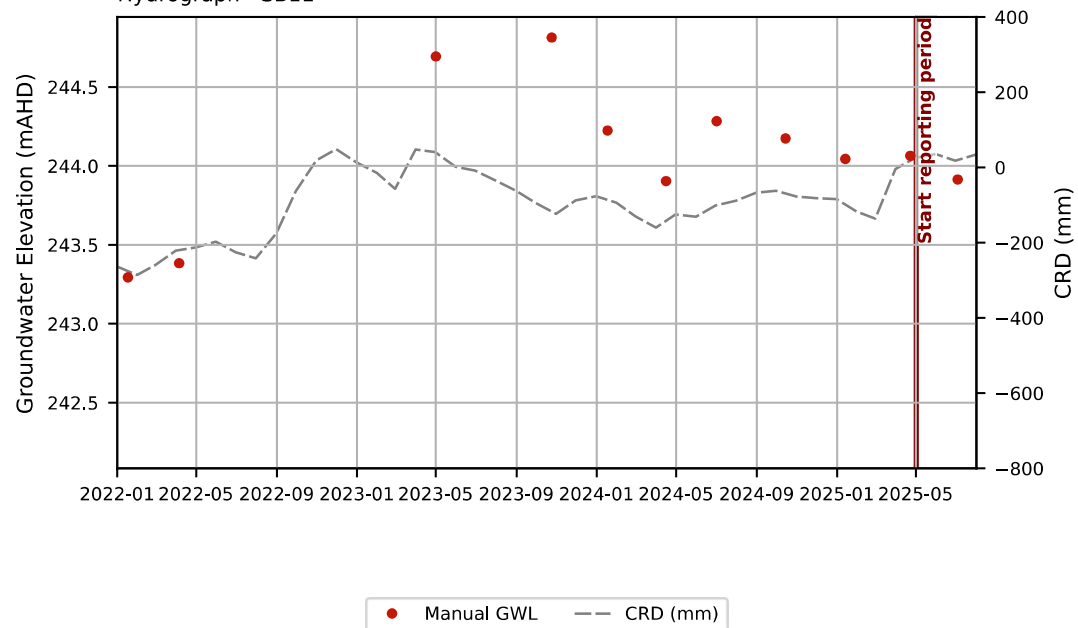
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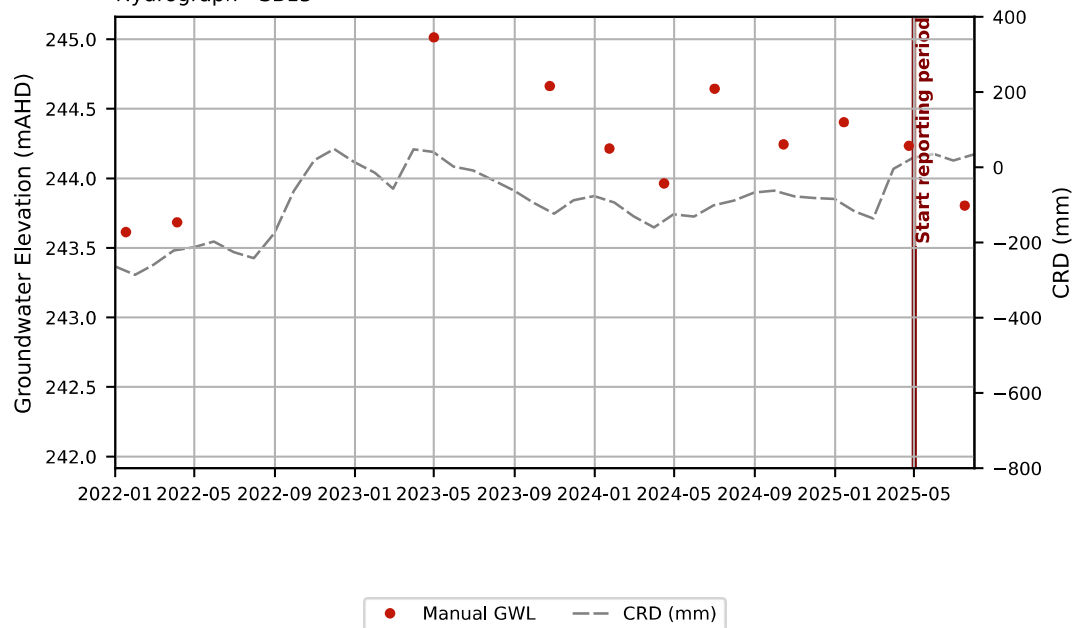
Hydrograph - SB10



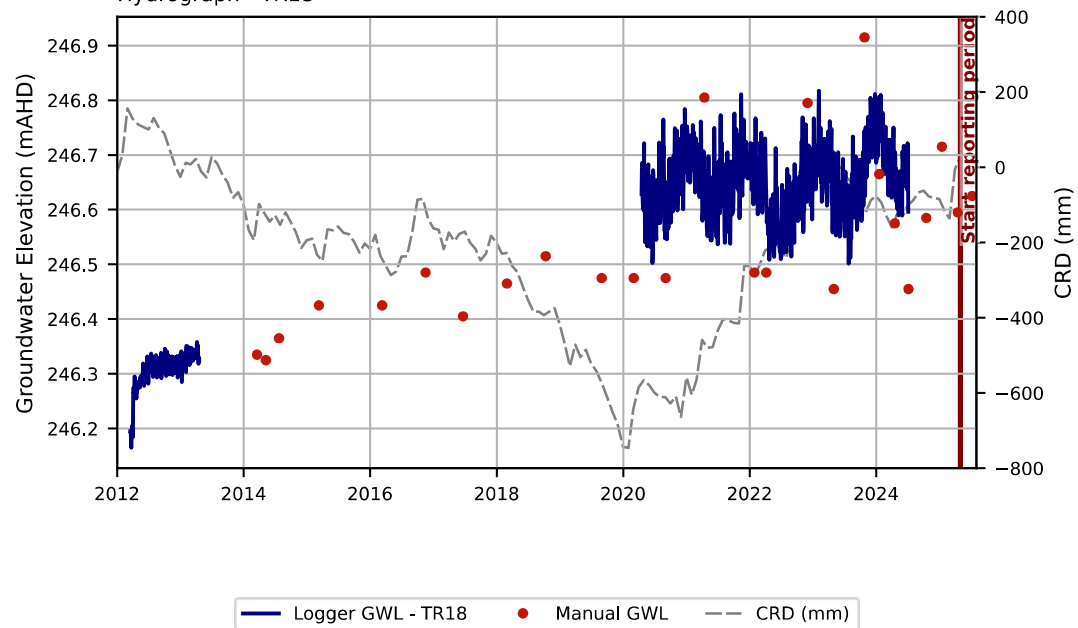
Hydrograph - SB11

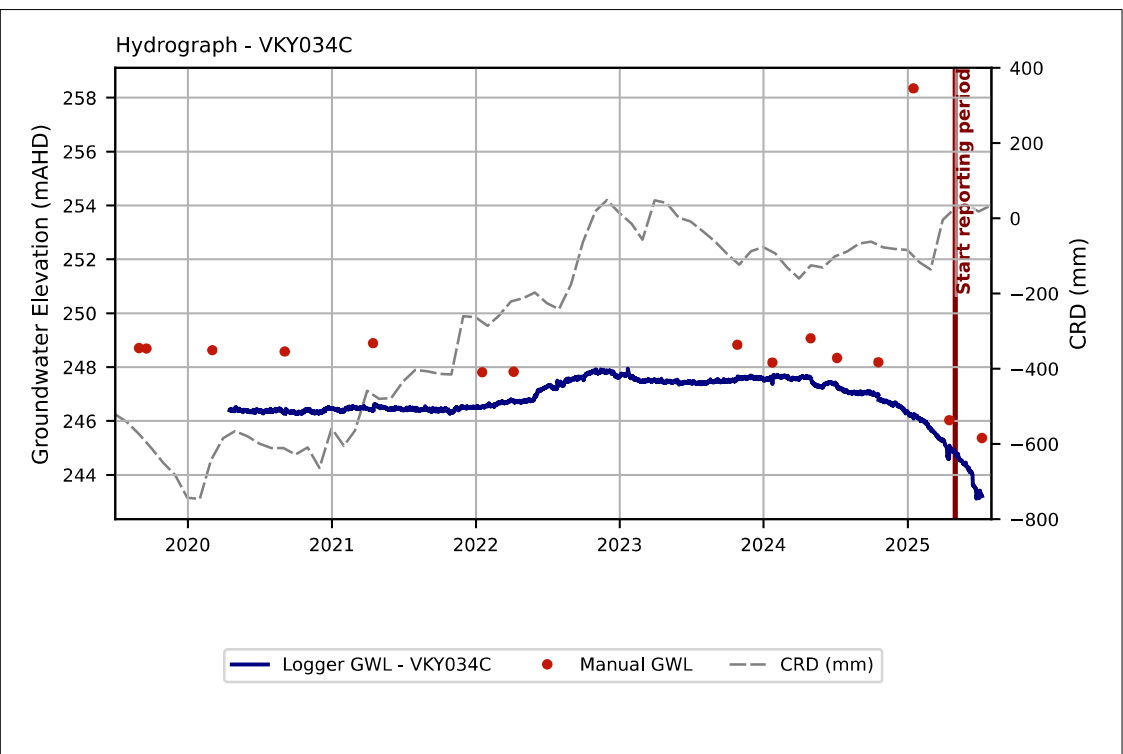
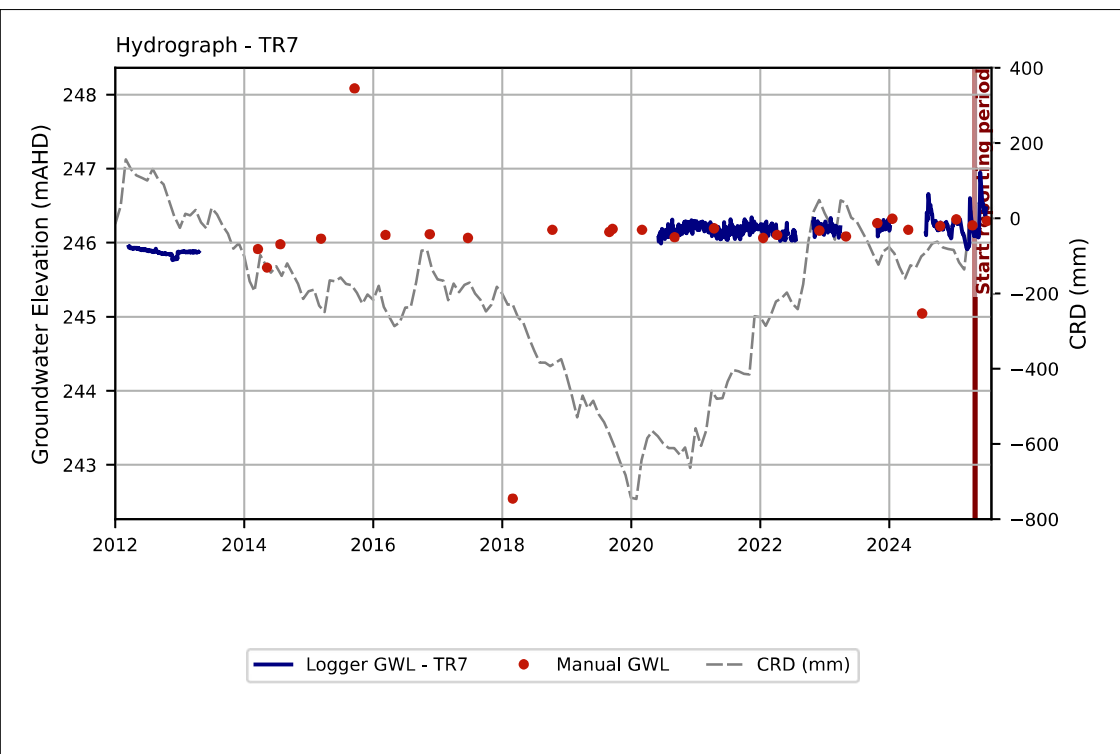
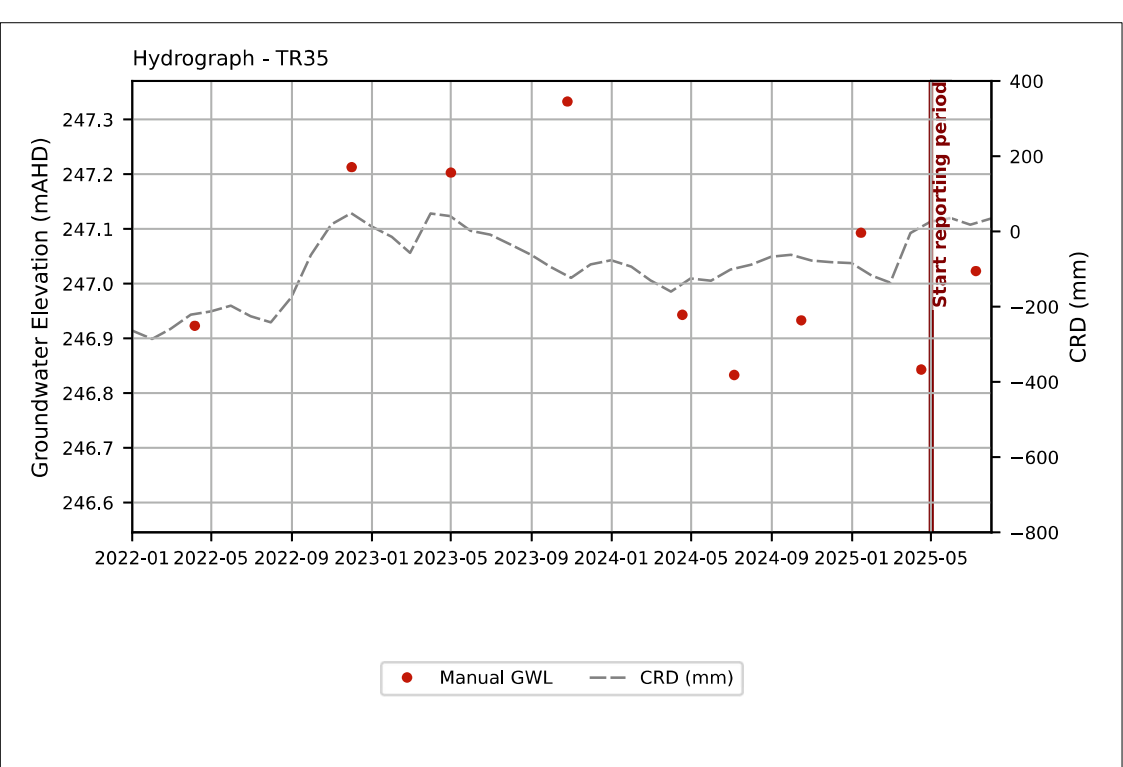
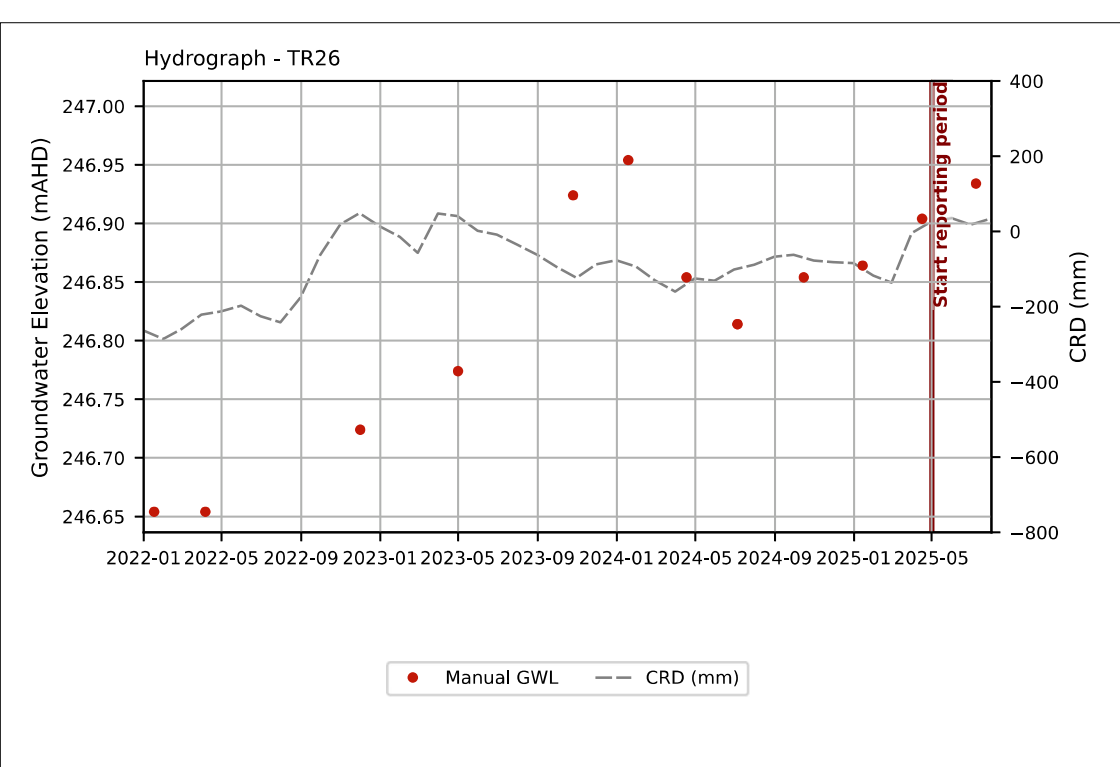


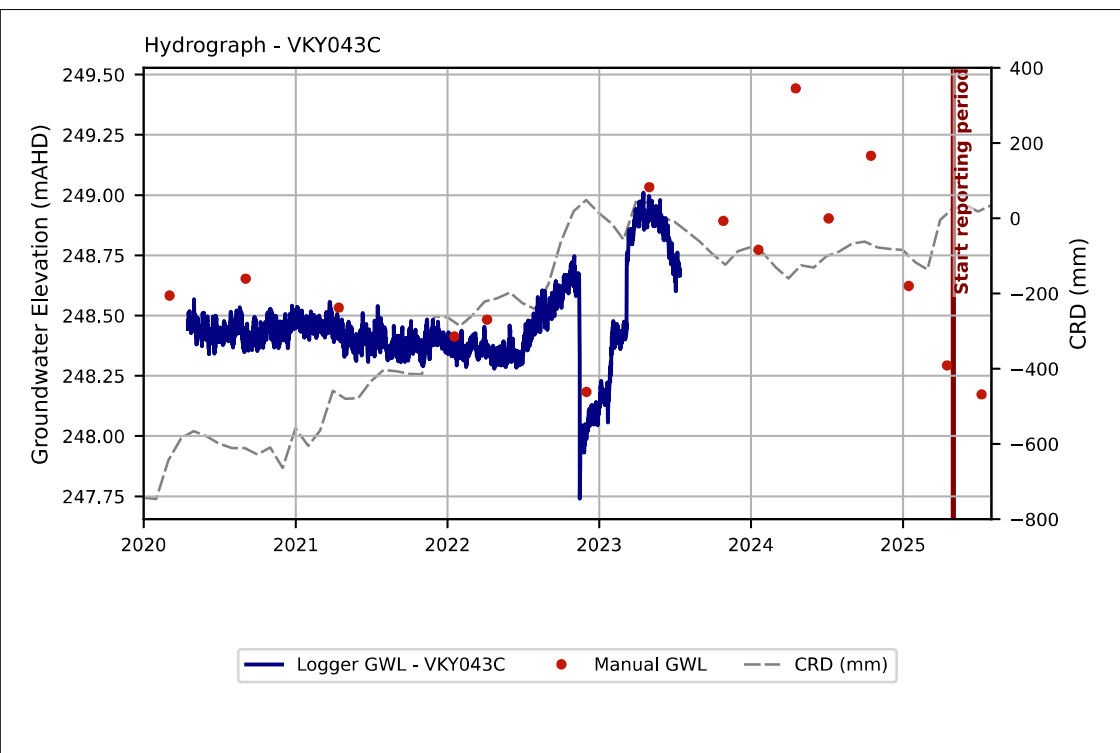
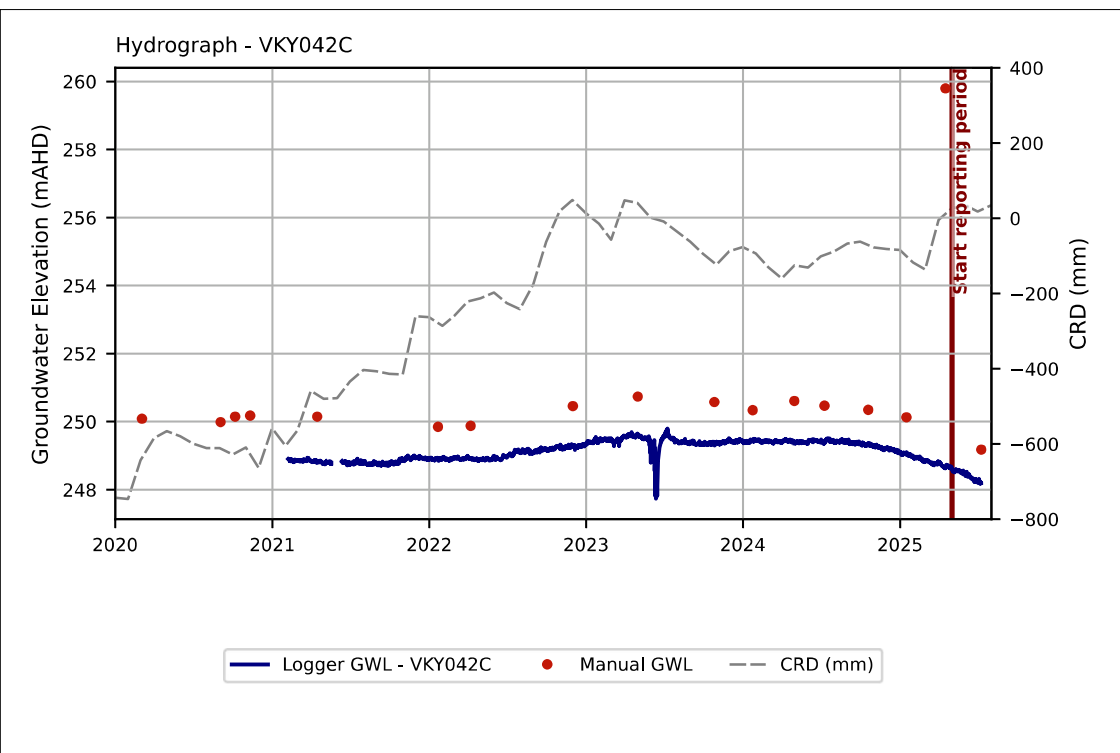
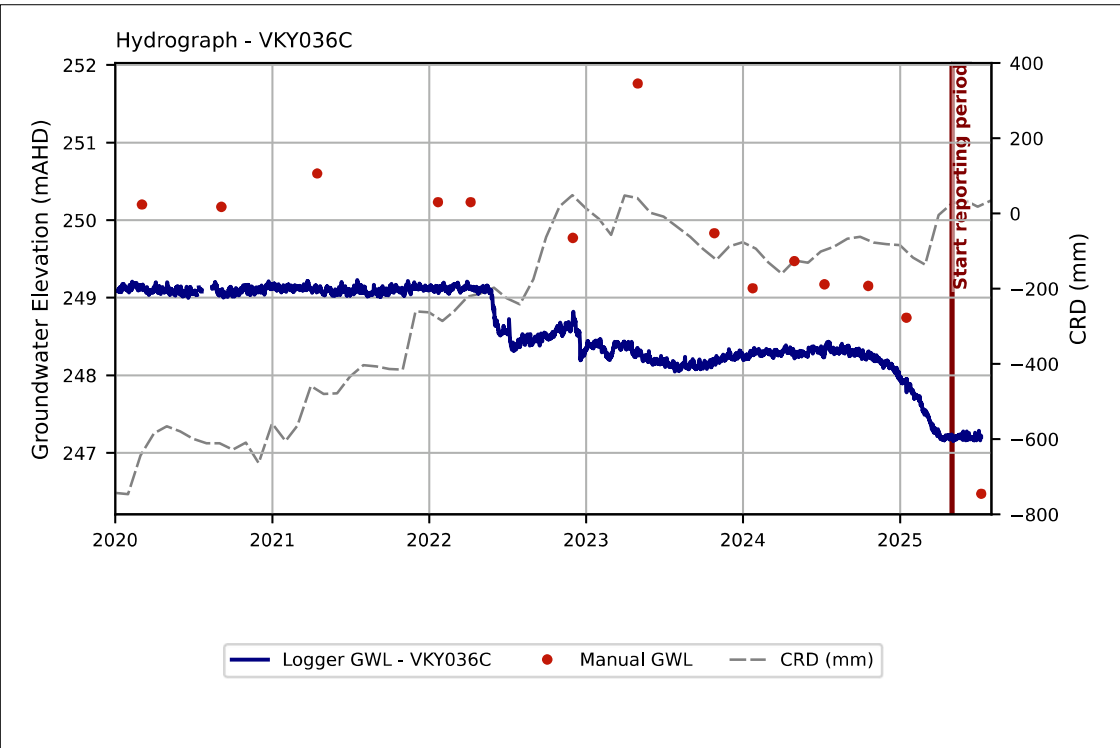
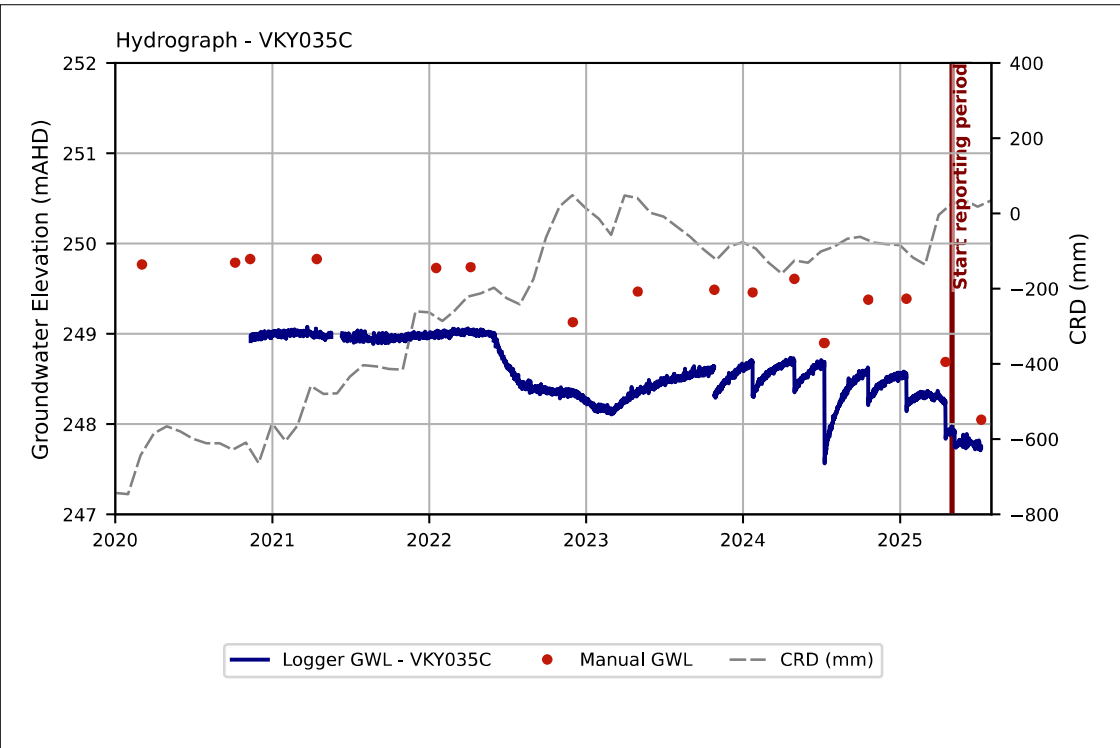
Hydrograph - SB15

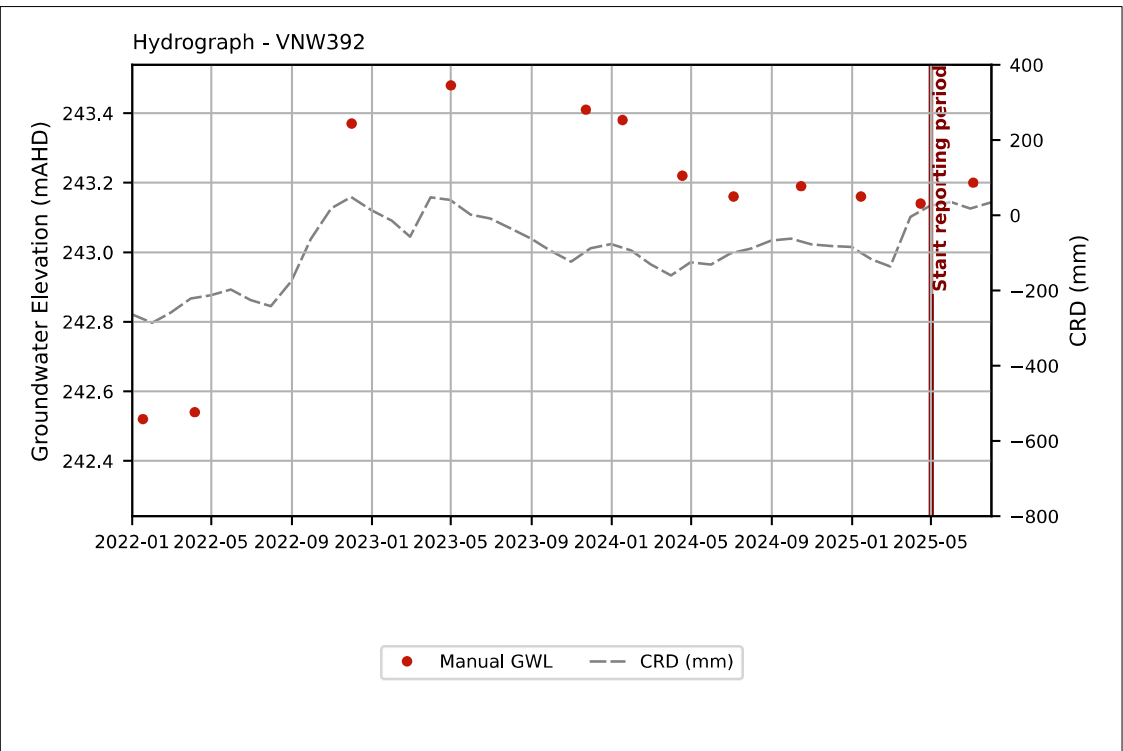
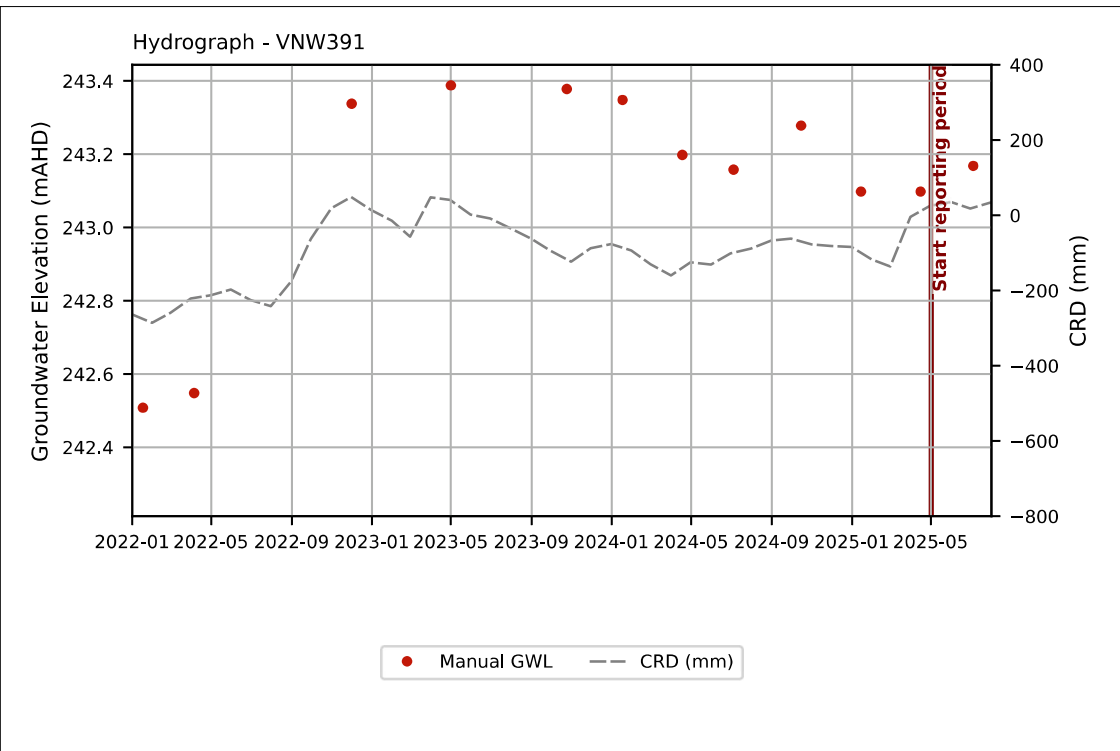
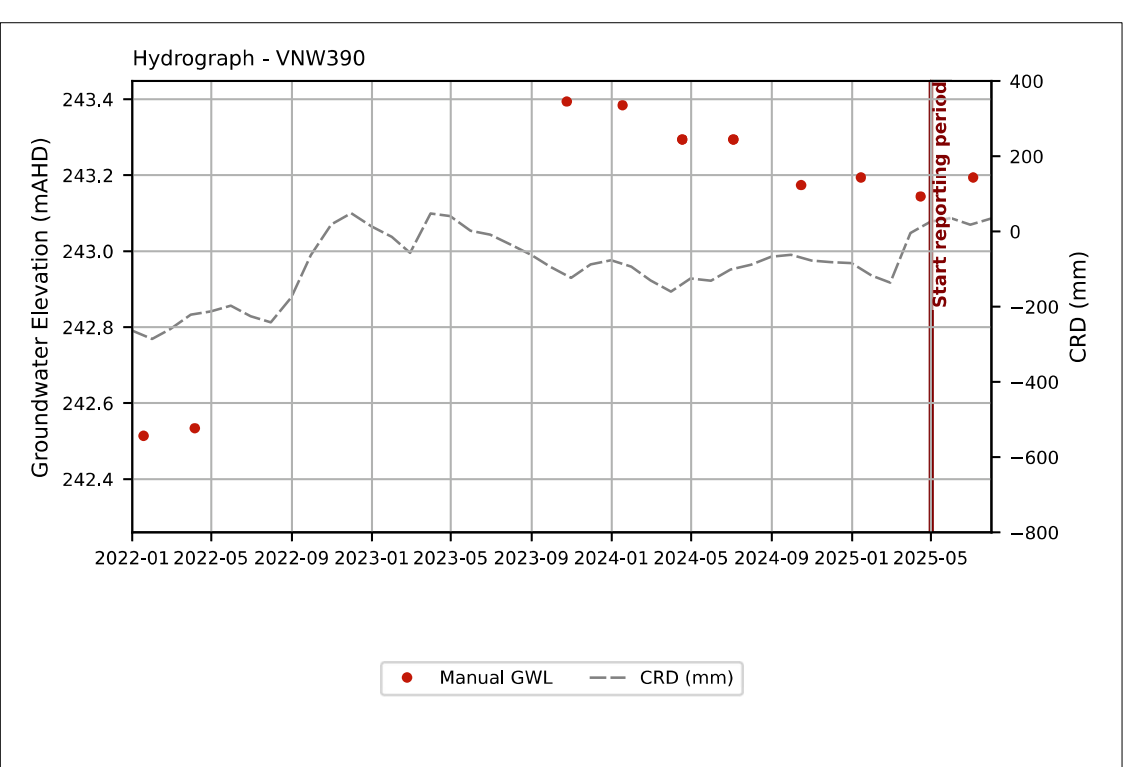
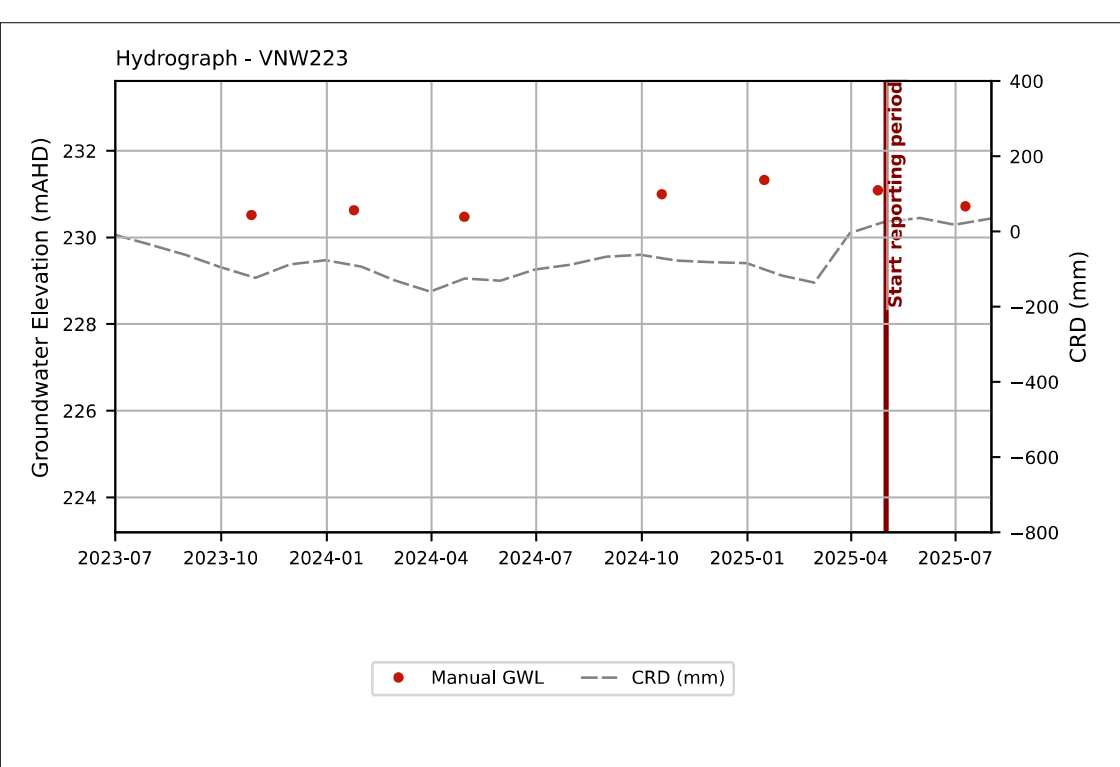


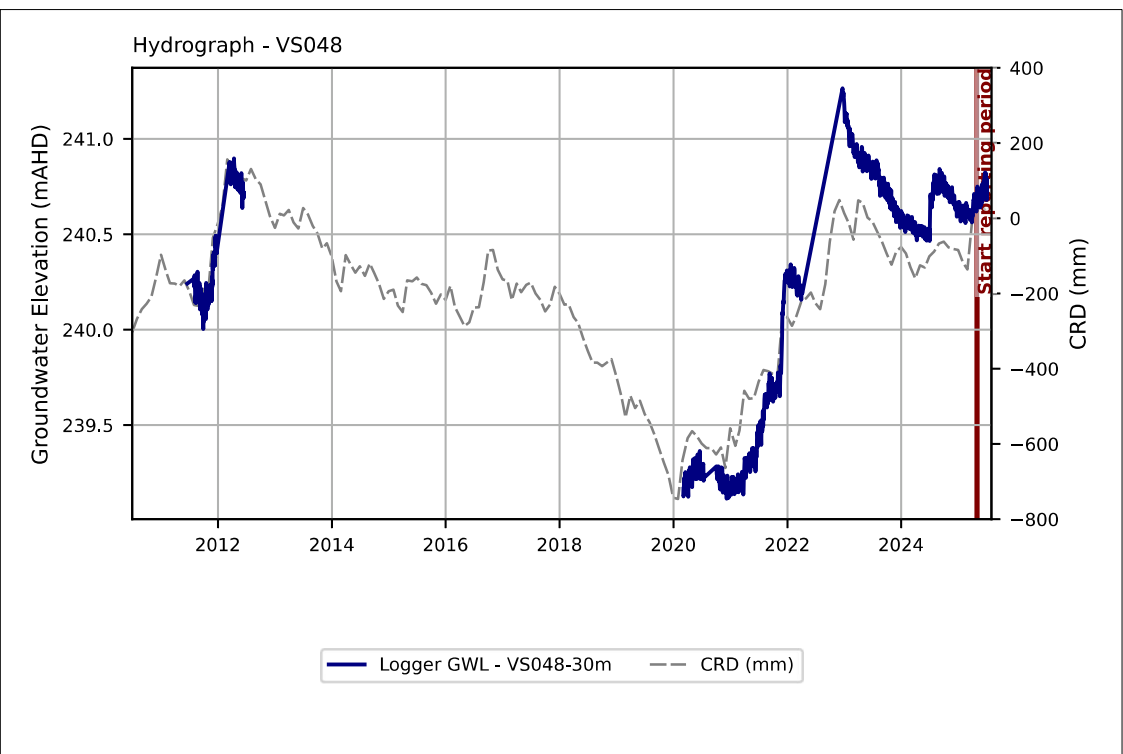
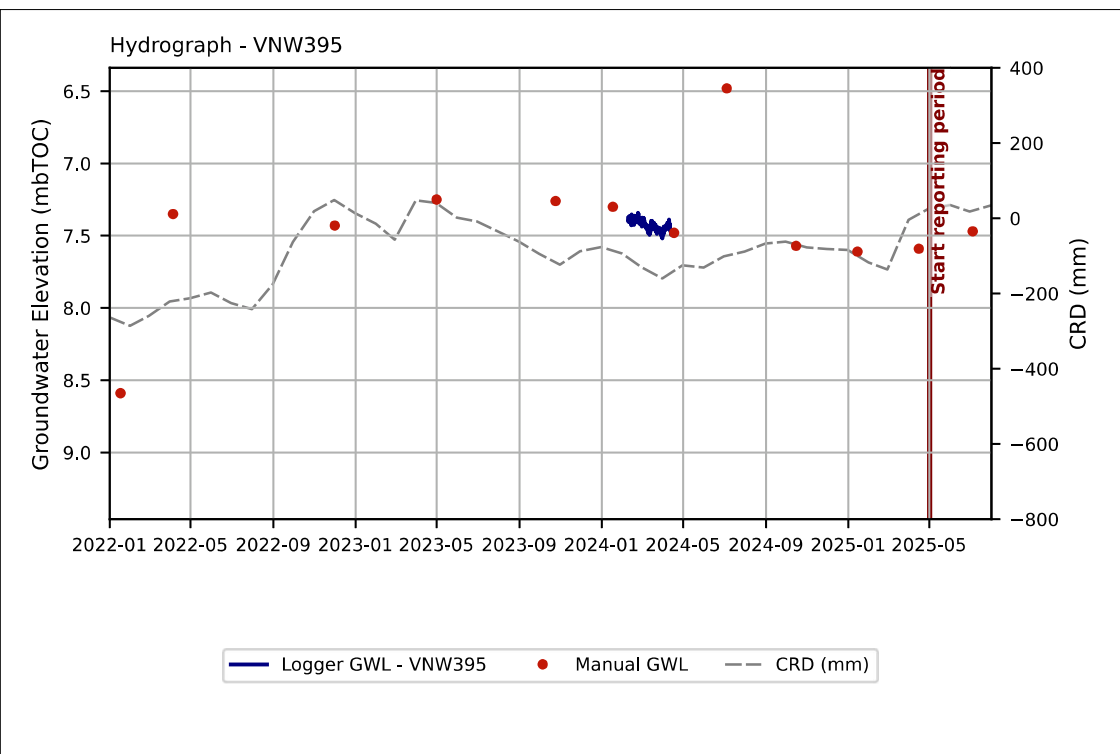
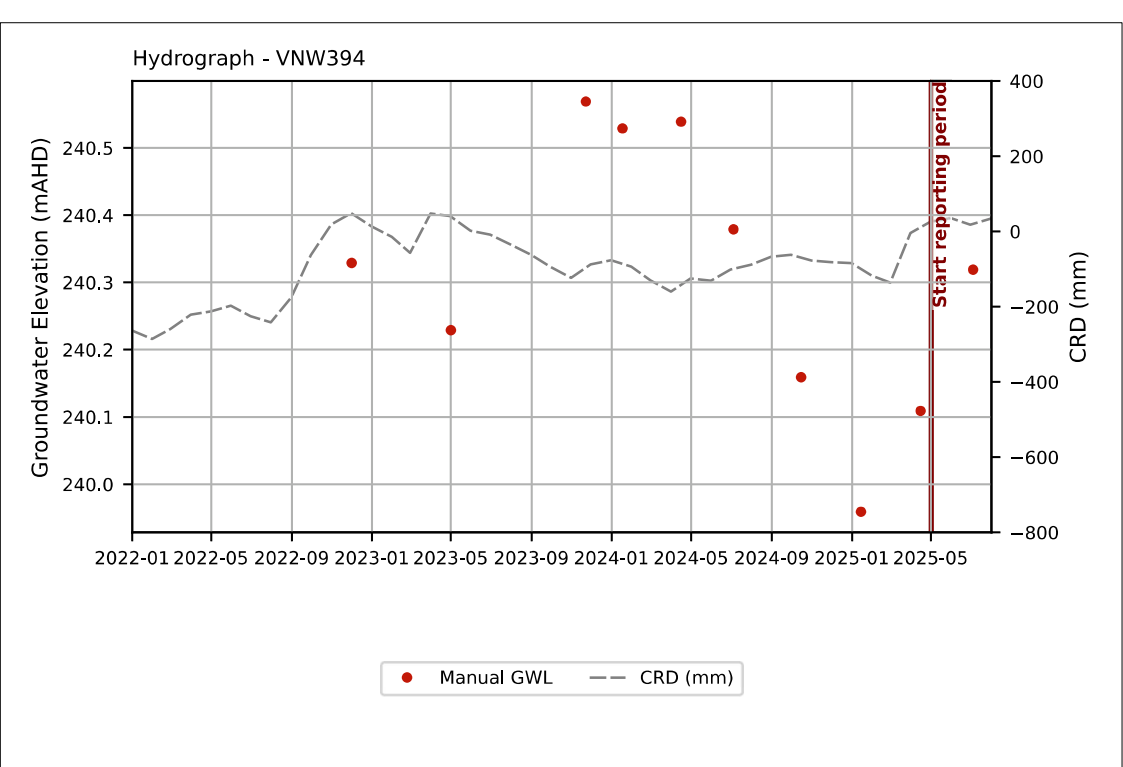
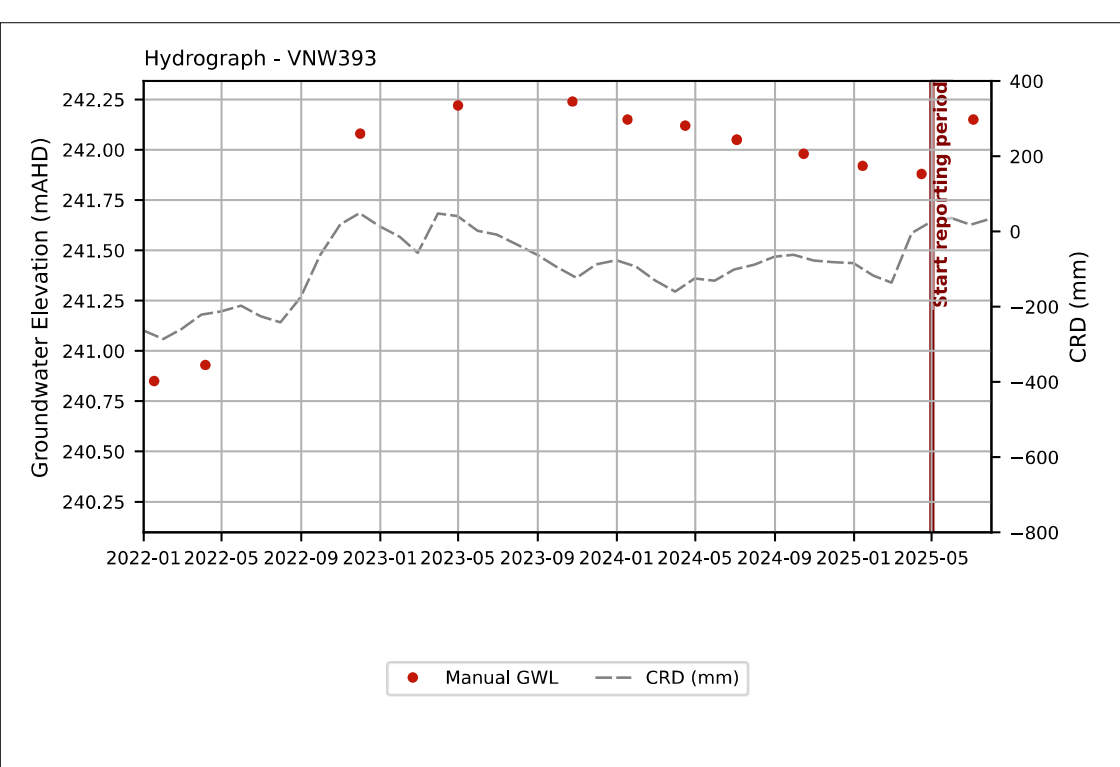
Hydrograph - TR18



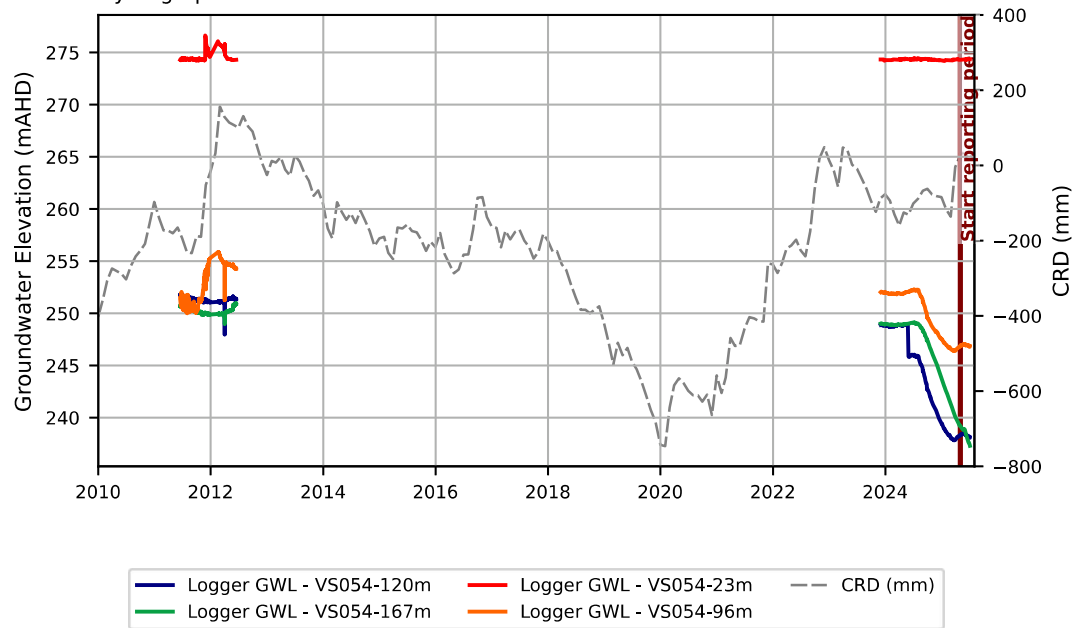




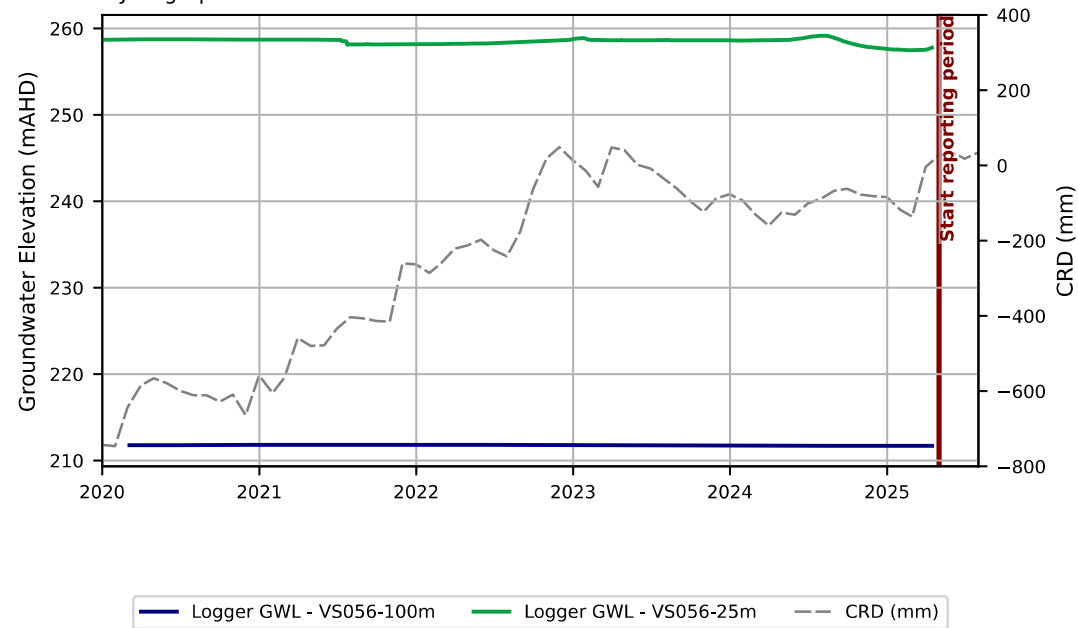




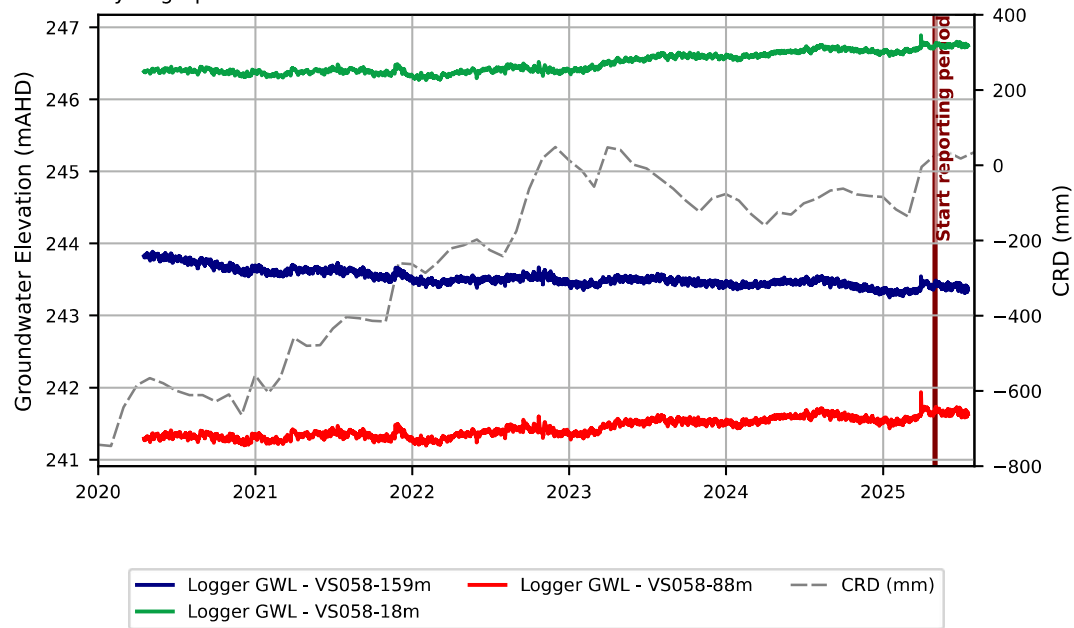
Hydrograph - VS054



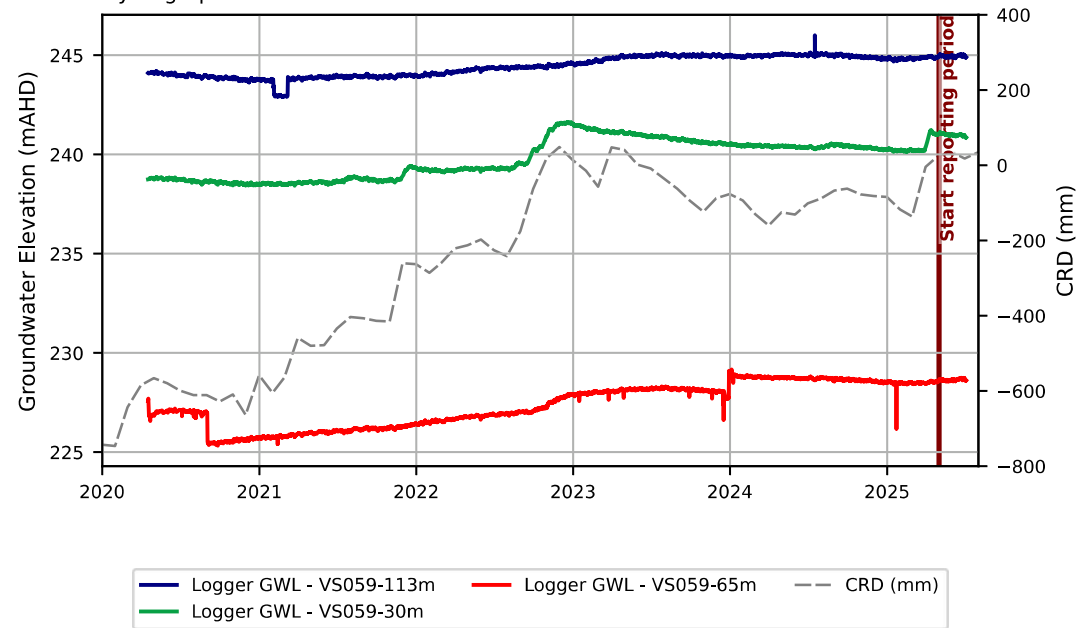
Hydrograph - VS056

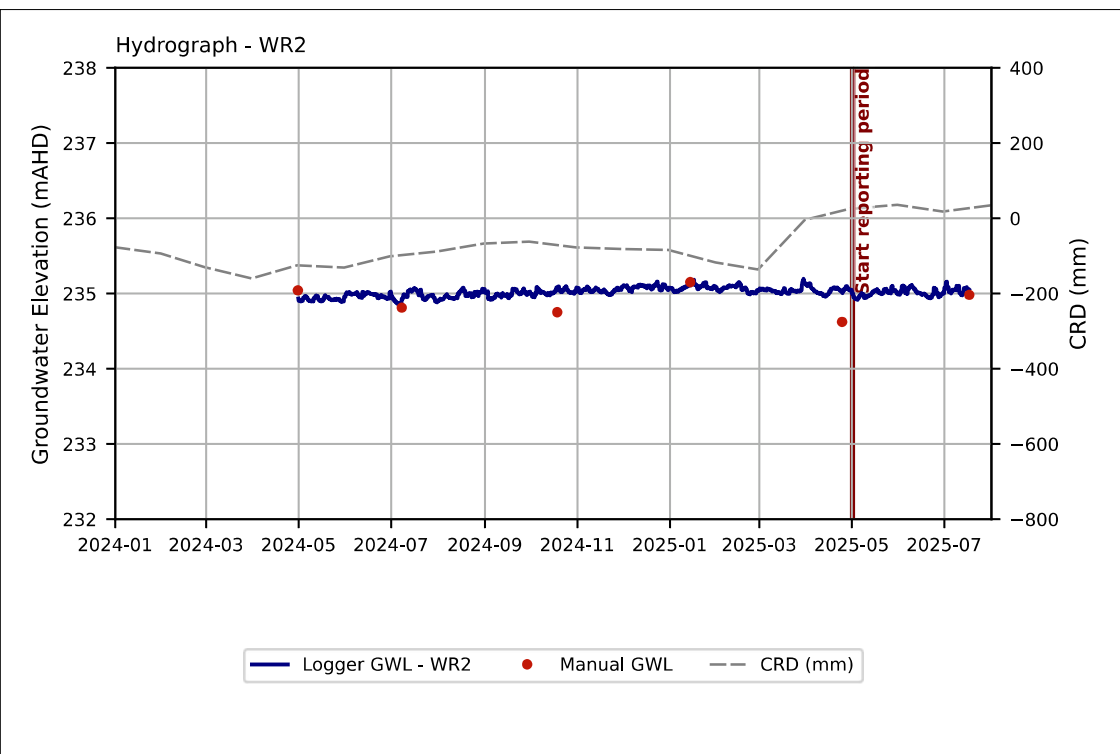
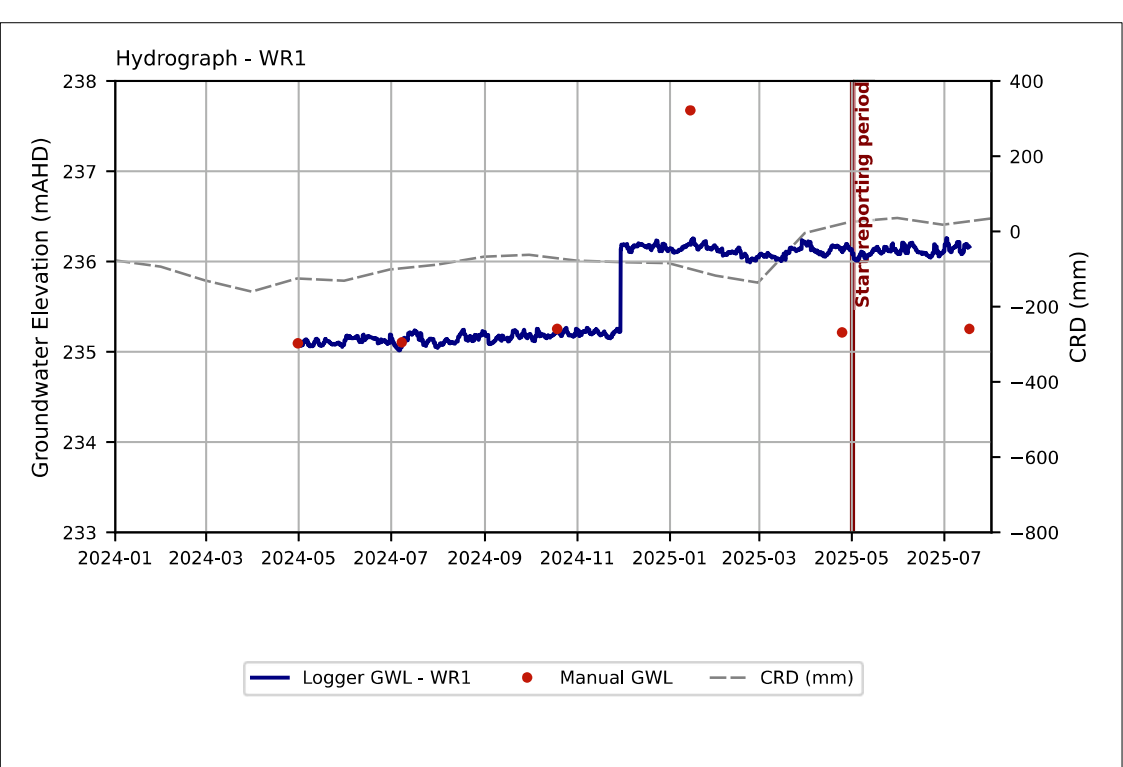
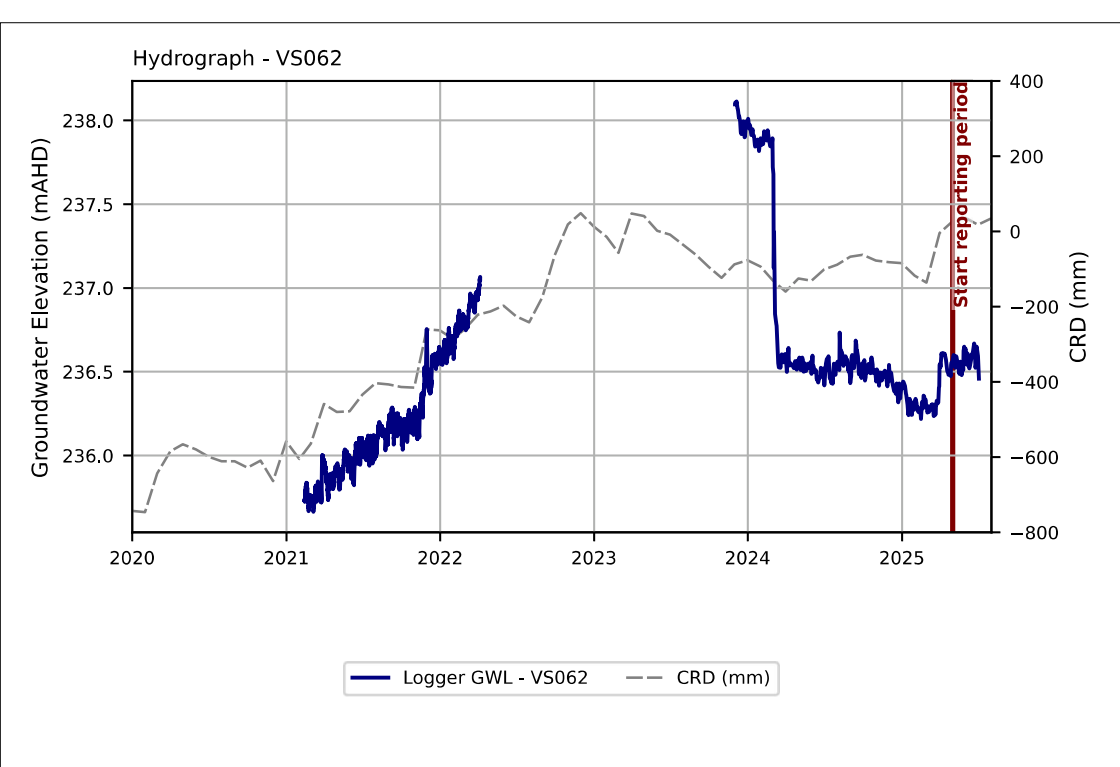


Hydrograph - VS058



Hydrograph - VS059







Appendix C Groundwater Quality Results

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review May 2025 – July 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

25 September 2025

Table C-1: Field GW Monitoring Data

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
SB02	24-10-2023 10:40	7.21	7250	24.1	44	Nil	Slightly turbid	Orange	Quarterly sampling
GW01	24-10-2023 9:36	7.33	1042	22.4	79	Nil	Clear	Colourless	Quarterly sampling
SB15	24-10-2023 10:10	7.29	1019	22.6	59	Nil	Clear	Colourless	Quarterly sampling
SB06	24-10-2023 7:35	7.35	3280	20.6	41	Nil	Clear	Colourless	Quarterly sampling
SB11	24-10-2023 8:25	7.26	1080	22.6	46	Nil	Clear	Colourless	Quarterly sampling
SB10	23-10-2023 15:55	7.43	1880	24.3	34	Nil	Clear	Colourless	Quarterly sampling; small amount of sediment in water
SB05	23-10-2023 16:20	2.09	3740	25	43	Nil	Clear	Colourless	Quarterly sampling
SB09	23-10-2023 15:20	3.32	949	27.3	28	Nil	Slightly turbid	Orange/brown	Quarterly sampling; a lot of sediment in water, possible rust particles
SB01	23-10-2023 15:00	7.44	1541	26.5	36	Nil	Clear	Colourless	Quarterly sampling
SB04	23-10-2023 13:19	7.29	2680	28.2	47	Slight	Slightly turbid	Grey	Quarterly sampling; bailed due to depth; Standpipe extremely unstable; too shallow to hydrasleeve so bailed to test.
SB08	23-10-2023 13:35	7.24	983	26.3	41	Nil	Clear	Colourless	Quarterly sampling
SB07	23-10-2023 11:47	7.35	770	23.2	46	Nil	Clear	Colourless	Quarterly sampling
GW02	23-10-2023 10:51	7.59	731	25.2	25	Nil	Clear	Colourless	Quarterly sampling
MD01	25-10-2023 9:50	11.58	1799	25.6	-91	Slight	Clear	Colourless	Quarterly sampling; Slight unknown odour. No cap on bore;
MD02	25-10-2023 11:10	6.84	1195	27.4	-69	Nil	Clear	Colourless	Quarterly sampling
GW03	23-10-2023 14:14	7.19	862	25.9	21	Nil	Clear	Colourless	Quarterly sampling; fence panels down and logger missing (assume down the bore).
TR26	25-10-2023 12:00	7.06	6290	26.3	52	Nil	Clear	Colourless	Quarterly sampling
TR7	25-10-2023 12:25	6.53	####	26.4	61	Nil	Clear	Colourless	Quarterly sampling
TR18	25-10-2023 13:30	6.58	####	27.8	99	Nil	Clear	Colourless	Quarterly sampling
TR35	25-10-2023 14:10	6.66	####	25.5	-55	Slight	Clear	Colourless	Quarterly sampling
VKY043C	26-10-2023 8:25	7.72	2990	20	-32	Nil	Clear	Colourless	Quarterly sampling
VKY042C	26-10-2023 11:45	6.75	5420	28.1	-28	Nil	Clear	Colourless	Quarterly sampling; Unable to determine total bore depth as it was greater than 150m (length of the dip tape)
VKY035C	26-10-2023 10:40	7.1	3110	25.5	-26	Nil	Clear	Colourless	Quarterly sampling
VKY034C	26-10-2023 9:15	7.3	3590	23.4	70	Nil	Clear	Colourless	Quarterly sampling
VKY036C	26-10-2023 12:40	7.08	5600	25.1	-39	Nil	Clear	Colourless	Quarterly sampling
VNW390	24-10-2023 12:35	6.92	2300	22.6	-96	Moderate	Clear	Colourless	Quarterly sampling; Sulphur odour
VNW391	24-10-2023 14:20	7.04	2530	23.9	-60	Nil	Clear	Colourless	Quarterly sampling
VNW392	22-11-2023 13:58	6.74	3690	20.8	-96	Slight	Clear	Colourless	Quarterly sampling; No access - locked out on 24/10/2023; Sampled 22/11/2023; Slight H2S odour
VNW393	24-10-2023 13:05	7.36	2740	22.1	26	Slight	Clear	Colourless	Quarterly sampling; Slight sulphur odour
VNW394	22-11-2023 13:12	7.13	5520	12.8	-70	Nil	Slight	Grey	Quarterly sampling;
VNW395	24-10-2023 13:41	7.47	463	20.9	57	Slight	Clear	Colourless	Quarterly sampling; no logger
GW-8	22-11-2023 15:47	7.11	4290	22.5	-176	Nil	Slight	Brown	Quarterly sampling; Unable to locate on 27/10/2023; Sampled 22/11/2023
GW-7	27-10-2023 11:50	8.89	4300	22.7	60	Nil	Clear	Colourless	Quarterly sampling; Suspended matter in water
VNW223	27-10-2023 10:10	7.25	5940	19.9	49	Nil	Clear	Colourless	
GW-11	27-10-2023 9:40	7.36	4360	21.5	-111	Nil	Clear	Colourless	Quarterly sampling; old windmill overhead
GW-9	27-10-2023 12:55	7.94	6110	22.6	-87	Nil	Clear	Brown	Quarterly sampling; old windmill overhead
VKY GW Duplicate 1	24-10-2023 8:25	7.26	1081	22.6	46	Nil	Clear	Colourless	Quarterly sampling; site duplicate taken from SB11
VKY GW Duplicate 2	26-10-2023 8:25	7.71	2990	20.1	-32	Nil	Clear	Colourless	Quarterly sampling; site duplicate taken from VKY0043C
VKY GW Lab Split Dup 1	24-10-2023 8:25	7.27	1080	22.7	47	Nil	Clear	Colourless	Quarterly sampling; site split duplicate taken from SB11
VKY GW Lab Split Dup 2	26-10-2023 8:25	7.71	2990	20	-33	Nil	Clear	Colourless	Quarterly sampling; site split duplicate taken from VKY0043C

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
VKY GW Blank	24-10-2023 7:35	8.77	13	15.4	70	Nil	Clear	Colourless	Quarterly sampling; blank
SB02	25-10-2023 12:25	7.28	7330	22.5	Clear	Nil	Slightly turbid	Orange	-
GW01	23-01-2024 7:39	7.2	1265	19.6	-15.7	Nil	Clear	Colourless	-
SB15	23-01-2024 8:05	7.23	1070	21.1	-88	Nil	Clear	Colourless	-
SB06	17-01-2024 12:55	7.61	3460	26.5	-84	Nil	Turbid	Brown	-
SB11	17-01-2024 13:26	7.7	1021	26.4	-62	Nil	Clear	Colourless	-
SB10	17-01-2024 13:49	7.47	1972	29.7	-69	Nil	Clear	Colourless	-
SB05	17-01-2024 14:31	7.73	3690	28	-131	Nil	Clear	Colourless	-
SB09	17-01-2024 15:18	7.56	1014	26.1	-70	Nil	Slightly turbid	Black	-
SB01	17-01-2024 14:58	7.31	1716	28.3	-70	Nil	Clear	Colourless	-
SB04	17-01-2024 15:51	7.43	3360	24.6	-188	Slightly	Clear	Colourless	Slight H2S odour
SB08	18-01-2024 16:09	7.39	1115	23.4	-119	Nil	Clear	Colourless	-
SB07	17-01-2024 16:32	7.47	919	24.5	-87	Nil	Clear	Colourless	-
GW02	18-01-2024 10:54	7.79	971	23.9	-74	Nil	Clear	Colourless	-
MD01	18-01-2024 9:10	11.69	1786	22.9	-135	Nil	Slightly turbid	Brown	-
MD02	23-01-2024 10:29	6.78	1306	24.3	-140	Nil	Clear	Colourless	-
GW03	23-01-2024 6:59	7.16	888	19.6	66	Nil	Clear	Colourless	-
TR26	18-01-2024 13:35	7.16	8380	24.8	-62	Nil	Slightly turbid	Brown	-
TR7	18-01-2024 13:55	7.05	1539	25.2	-30	Nil	Slightly turbid	Brown	-
TR18	18-01-2024 14:28	6.85	1364	24.5	-21	Nil	Slightly turbid	Brown	-
TR35	18-01-2024 15:25	6.75	1733	24	-63	Nil	Clear	Colourless	-
VKY043C	18-01-2024 14:58	7.8	3410	24.1	-74	Nil	Clear	Colourless	-
VKY042C	23-01-2024 12:58	6.72	5430	31	-119	Nil	Clear	Colourless	-
VKY035C	23-01-2024 12:14	7.01	3340	27.2	-170	Nil	Clear	Colourless	-
VKY034C	23-01-2024 11:05	6.94	3850	29.4	-149	Nil	Slightly turbid	Brown	-
VKY036C	23-01-2024 11:35	6.79	5810	28.7	-139	Nil	Clear	Colourless	-
VNW390	17-01-2024 11:23	7.13	2376	24.3	-69	Nil	Clear	Colourless	-
VNW391	17-01-2024 11:52	7.31	2471	23.1	-109	Nil	Clear	Colourless	-
VNW392	17-01-2024 12:22	6.74	3310	26.1	-149	Nil	Clear	Grey	-
VNW393	17-01-2024 10:51	7.56	2830	29.5	-90	Slightly	Clear	Colourless	Very slight H2S odour
VNW394	17-01-2024 9:30	6.92	5410	23.9	-104	Nil	Slightly turbid	Grey	-
VNW395	17-01-2024 11:39	7.77	1395	27	-168	Nil	Clear	Grey	-
GW-8	24-01-2024 13:55	7.03	3950	26.5	-208	Nil	Clear	Black	-
GW-7	23-01-2024 9:12	8.82	4490	23	-64	Nil	Clear	Colourless	Site overgrown and dangerous - Need cleaning up
VNW223	24-01-2024	-	-	-	-	-	-	-	Blocked at 1.3 mbtoc
GW-11	23-01-2024 14:26	6.93	4340	30.6	-192	Nil	Slightly turbid	Orange	-
GW-9	23-01-2024 13:49	6.68	3320	24.2	-196	Nil	Slightly turbid	Brown	No logger
GW030051	-	-	-	-	-	-	-	-	No access - NSWWater locked bore
GW030052	-	-	-	-	-	-	-	-	No access - NSWWater locked bore
GW-2	-	-	-	-	-	-	-	-	Unable to locate
VKY GW Duplicate 1 - MD01	18-01-2024 9:38	11.54	1848	22.9	-147	Nil	Slightly turbid	Brown	-

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
VKY GW Duplicate 2 - GW-11	23-01-2024 14:26	-	-	-	-	-	-	-	-
VKY GW Lab Split Dup 1 - MD01	18-01-2024 9:42	11.73	1872	22.9	-149	Nil	Slightly turbid	Brown	-
VKY GW Lab Split Dup 2 -	23-01-2024 13:53	6.65	3490	24.8	-193	Nil	Slightly turbid	Brown	-
VKY GW Blank	17-01-2024 9:35	8.94	3.1	22.8	100	Nil	Clear	Colourless	-
VS058	15-04-2024 13:49	-	-	-	-	-	-	-	Li Battery 3.67V
SB02	15-04-2024 13:36	7.14	7210	24.7	-128	Nil	Slightly Turbid	Orange	
GW01	15-04-2024 13:12	7.14	1384	26.5	-127	Nil	Slightly Turbid	Black	Suspended solids minor
SB15	15-04-2024 12:56	7.17	972	27	43	Nil	Clear	Clear	Suspended solids minor
SB06	15-04-2024 12:21	7.42	3410	26.1	-70	Nil	Turbid	Black	-
SB11	15-04-2024 12:37	7.45	1048	24.3	69	Nil	Clear	Clear	-
SB10	15-04-2024 11:11	7.28	1859	24	-5	Nil	Slightly Turbid	Black	Suspended solids minor
SB05	15-04-2024 11:31	7.63	3680	22.9	-113	Nil	Slightly Turbid	Black	Suspended solids moderate
SB09	15-04-2024 10:52	7.27	973	21.7	-61	Nil	Turbid	Black	Suspended solids minor
SB01	15-04-2024 10:34	7.2	1698	24.1	-91	Nil	Clear	Grey	Suspended solids minor
SB04	15-04-2024 9:21	7.27	1868	24.1	-214	Yes	Turbid	Black	Sufer odour, suspended solids
SB08	15-04-2024 9:31	7.17	1039	21.2	-55	Nil	Clear	Clear	-
SB07	15-04-2024 8:48	7.28	934	21	57	Nil	Clear	Clear	Suspended solids minor
GW02	15-04-2024 8:16	7.14	926	24.3	8	Nil	Clear	Clear	Suspended solids moderate
VS062	15-04-2024 9:04	-	-	-	-	-	-	-	Li Battery 3.64V
VS059	15-04-2024 12:05	-	-	-	-	-	-	-	Li Battery 3.64V
VS056	17-04-2024 11:23	-	-	-	-	-	-	-	-
VS056	17-04-2024 11:26	-	-	-	-	-	-	-	-
MD01	18-04-2024 10:23	10.73	1283	24.2	-286	Strong	Slightly Turbid	Grey	Strong fecal odour
VS048	17-04-2024 10:59	-	-	-	-	-	-	-	-
VS054	17-04-2024 11:50	-	-	-	-	-	-	-	Li Battery 3.65V
MD02	17-04-2024 11:38	6.59	1210	31.1	-114	Slight	Clear	Clear	Suspended solids moderate
GW03	15-04-2024 9:56	7.05	862	24	-26	Nil	Clear	Grey	Suspended solids minor
TR26	17-04-2024 12:31	7.11	5180	29.4	60	Nil	Clear	Clear	
TR7	17-04-2024 12:49	6.71	14410	27.4	157	Nil	Clear	Orange	Logger length recorded
TR18	17-04-2024 13:26	6.69	12730	27.8	57	Nil	Slightly Turbid	Orange	Logger length recorded
TR35	17-04-2024 14:20	6.72	16740	22.8	48	Nil	Clear	Clear	
VKY43C	17-04-2024 14:06	7.65	3410	23.6	-47	Nil	Slightly Turbid	Orange	Logger was not working, removed at client request, not being replaced
VKY041C	17-04-2024 12:14								51.7% (should be battery)
	17-04-2024 12:17								35.2% (battery?)
VKY042C	29-04-2024 10:32	6.61	5480	24.3	-36	Nil	Clear	Clear	last 8m of logger cable rusty
VKY33C	18-04-2024 11:03	-	-	-	-	-	-	-	-
	18-04-2024 11:04	-	-	-	-	-	-	-	-
VKY035C	29-04-2024 14:41	6.88	3230	25	-120	Nil	Clear	Clear	
VKY034C	29-04-2024 9:58	7.05	4030	23.4	-80	Nil	Clear	Grey	
VKY036C	29-04-2024 14:10	6.8	5780	24.6	-93	Nil	Clear	Clear	
VKY3053C	29-04-2024 8:41	-	-	-	-	-	-	-	In forest? Incline to east VKY034C; Battery = 34.9%
VNW390	17-04-2024 8:30	6.59	2291	23.9	-98	Yes	Clear	Clear	Very slight sulfur odour

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
VNW391	17-04-2024 10:11	7.06	2352	24.3	-107	Nil	Clear	Clear	
VNW392	17-04-2024 10:25	6.66	3480	21.9	-90	Nil	Clear	Grey	Suspended solids minor
VNW393	15-04-2024 14:40	7.2	2840	26.9	-103	Nil	Clear	Grey	
VNW394	15-04-2024 14:16	6.94	5400	25.7	-104	Nil	Turbid	Black	
VNW395	17-04-2024 9:28	7.77	1681	27.1	41	Nil	Clear	Clear	Logger length recorded
GW036459	-	-	-	-	-	-	-	-	-
GW-8	29-04-2024 8:28	6.95	4000	19.7	-151	Nil	Clear	Grey	
GW-7	30-04-2024 11:31	8.79	4560	21.9	97	Nil	Clear	Clear	
VWN223	29-04-2024 13:42	-	-	-	-	-	-	-	Blocked at 1.3m
GW-11	29-04-2024 12:59	6.59	4550	25.1	-123	Nil	Clear	Orange	
GW-9	29-04-2024 12:10	6.81	5630	22.2	-125	Nil	Slightly Turbid	Orange	
GW030051	-	-	-	-	-	-	-	-	No access, NSW Water locked bore
GW030052	-	-	-	-	-	-	-	-	No access, NSW Water locked bore
GW-2	29-04-2024 11:30	6.85	1218	25.3	70	Nil	Clear	Clear	Located, NotE?
WR-1	30-04-2024 10:15	6.7	#####	22.7	217	Nil	Clear	Grey	Logger + HS installed
WR-2	30-04-2024 11:50	6.57	#####	22.5	155	Nil	Slightly Turbid	Orange	Logger + HS installed
VKY GW Duplicate 1 - VWN390	17-04-2024 9:07	6.72	2320	22.4	-96	Nil	Clear	Clear	
VKY GW Duplicate 2 - GW-9	29-04-2024 12:33	6.72	5650	22.4	-155	Nil	Clear	Orange	
VKY GW Blank	17-04-2024 8:25	7.56	3.7	18.1	141	Nil	Clear	Clear	
VKY GW Lab Split Dup 1 - TR18	17-04-2024 13:52	6.77	#####	25.2	139	Nil	Slightly Turbid	Orange	
VKY GW Lab Split Dup 2 - GW-11	29-04-2024 13:20	6.55	4520	25.1	-121	Nil	Clear	Orange	
VS058	01-07-2024 14:28	-	-	-	-	-	-	-	-
SB02	01-07-2024 14:04	7.2	6860	20.3	-109	Nil	Slightly Turbid	Brown	-
GW01	01-07-2024 13:42	7.2	1052	19.1	-32	Nil	Clear	Clear	-
SB15	01-07-2024 13:25	7.3	1049	19.6	8	Nil	Clear	Clear	-
SB06	01-07-2024 12:36	7.56	3440	18.6	-56	Nil	Turbid	Brown	Turbid brown
SB11	01-07-2024 13:05	7.77	461	17.9	-11	Nil	Clear	Clear	-
SB10	01-07-2024 12:01	7.5	1928	18	-23	Nil	Clear	Clear	Black particulate
SB05	01-07-2024 12:18	7.58	3490	18.6	-126	Nil	Clear	Clear	-
SB09	01-07-2024 11:40	7.52	1013	18.4	-84	Nil	Clear	Clear	Black particulate
SB01	01-07-2024 11:15	7.21	1756	17.6	-134	Nil	Clear	Clear	Black particulate
SB04	01-07-2024 10:07	7.12	2390	15.5	-204	H2S	Clear	Clear	H ₂ S
SB08	01-07-2024 10:16	7.29	1088	16.9	-132	Nil	Clear	Clear	-
SB07	01-07-2024 9:51	7.22	978	15.8	28	Nil	Clear	Clear	-
GW02	01-07-2024 9:00	7.23	1065	14.4	151	Nil	Clear	Clear	-
VS062	01-07-2024 8:44	-	-	-	-	-	-	-	-
VS059	01-07-2024 13:25	-	-	-	-	-	-	-	-
VS056	04-07-2024 12:50	-	-	-	-	-	-	-	-
VS056	04-07-2024 12:55	-	-	-	-	-	-	-	-
MD01	04-07-2024 12:45	9.59	1505	19.6	-244	-	Slightly Turbid	Brown	H ₂ S; Vegetable matter
VS048	04-07-2024 11:55	-	-	-	-	-	-	-	-
VS054	04-07-2024 12:15	-	-	-	-	-	-	-	Comm Port 25 (V3.66)

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
MD02	04-07-2024 12:24	6.57	1224	19.9	-117	-	Clear	Clear	Black particulate; vegetable matter
GW03	01-07-2024 10:45	7.36	947	15.7	-143	-	Clear	Clear	Slight H2S
TR26	05-07-2024 9:37	6.69	7330	20.4	-	-	Slightly Turbid	Brown	
TR7	05-07-2024 10:27	6.82	#####	17.9	-	-	Clear	Clear	
TR18	05-07-2024 10:53	6.64	#####	17.2	-	-	Slightly Turbid	Brown	
TR35	05-07-2024 12:02	6.75	#####	18.7	-	-	Clear	Clear	
VKY43C	05-07-2024 11:38	7.85	3290	7.2	-	-	Clear	Clear	
VKY041C	04-07-2024 13:45	-	-	-	-	-	-	-	Battery 53%
VKY041C	04-07-2024 13:45	-	-	-	-	-	-	-	Battery 34%
VKY042C	08-07-2024 15:02	6.65	5990	19.5	-13	-	Clear	Clear	
VKY33C	05-07-2024 12:32	-	-	-	-	-	-	-	Lithium 34%
VKY33C	05-07-2024 12:32	-	-	-	-	-	-	-	Lithium 37.1%
VKY035C	08-07-2024 13:25	6.9	3290	20.6	-88	-	Clear	Clear	-
VKY034C	05-07-2024 12:40	7.25	4170	19.3	-	-	Slightly Turbid	Grey	Slightly turbid; too turbid to filter, lab to filter; Grey
VKY036C	08-07-2024 14:27	7.19	5830	20.5	-111	-	Clear	Clear	-
VKY3053C	05-07-2024 8:31	-	-	-	-	-	-	-	Lithium
VNW390	04-07-2024 9:45	6.84	2473	17.7	-117	-	Clear	Clear	-
VNW391	04-07-2024 11:03	6.81	2458	19.2	-134	-	Clear	Clear	-
VNW392	04-07-2024 11:24	6.51	3510	19.6	-78	-	Clear	Clear	Slight H2S odor, black particulate
VNW393	04-07-2024 8:45	7.13	3090	18.4	104	-	Clear	Clear	-
VNW394	04-07-2024 8:28	6.62	5620	18.2	227	-	Slightly Turbid	Grey	-
VNW395	04-07-2024 10:27	7.61	1832	18.5	-4	-	Clear	Clear	Logger not responding
GW036459	-	-	-	-	-	-	-	-	No access - WaterNSW locked bore
GW-8	05-07-2024 8:00	6.49	4100	12.5	-	-	Slightly Turbid	Brown	-
GW-7	05-07-2024 10:39	8.67	4710	18.1	135	-	Clear	Clear	-
VWN223	05-07-2024 12:58	-	-	-	-	-	-	-	Blocked at 1.38mboc
GW-11	08-07-2024 12:20	6.09	4760	18.8	-54		Slightly Turbid	Brown	-
GW-9	08-07-2024 11:50	6.76	1591	19.3	-130		Slightly Turbid	Green	Slightly turbid; green
GW030051	-	-	-	-	-	-	-	-	No access - WaterNSW locked bore
GW030052	-	-	-	-	-	-	-	-	No access - WaterNSW locked bore
GW-2	-	-	-	-	-	-	-	-	Unable to locate
WR-1	08-07-2024 0:00	6.47	26800	18.2	254	-	Slightly Turbid	Brown	-
WR-2	08-07-2024 0:00	6.52	26600	17	10	-	Slightly Turbid	Brown	-
VKY GW Duplicate 1 - VNW390	04-07-2024 0:00	6.69	2366	19	-111	-	Clear	Clear	-
VKY GW Duplicate 2 - TR26	05-07-2024 0:00	7.03	7330	20.4	-	-	Slightly Turbid	Brown	-
VKY GW Blank	01-07-2024 0:00	7.1	2315	14.4	-124	-	Clear	Clear	-
VKY GW Lab Split Dup 1 - VNW393	04-07-2024 0:00	6.97	3270	20.5	-85	-	Clear	Clear	-
VKY GW Lab Split Dup 2 - VKY035C	08-07-2024 0:00	8	1.6	11	92	-	Clear	Clear	-
GW-11	18-10-2024 9:25	7.17	4760	22.6	-94	NIL	Clear	Brown	Overgrown
GW-13	21-10-2024 12:48	7.35	1647	23.5	-158	NIL	Clear	Black	C?
GW-14	21-10-2024 10:33	6.95	3840	23.4	22	NIL	Clear	Colourless	Overgrown
GW-2	22-10-2024 10:58	6.84	1226	21	100	NIL	Clear	Colourless	-

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
GW-6	15-11-2024 9:11	7.73	1459	27.3	-142	NIL	Slightly Turbid	Black	No access to bore on 21-10-24; uncovered on 15-11-24
GW-7	18-10-2024 13:30	8.3	4470	24.5	55	NIL	Clear	Colourless	Overgrown
GW-8	21-10-2024 8:40	7	3930	16.1	-210	NIL	Slightly Turbid	Brown	-
GW-9	21-10-2024 9:40	6.68	1099	20.7	-188	NIL	Slightly Turbid	Orange	-
GW01	14-10-2024 13:47	7.16	738	19.8	-84	S	Clear	Colourless	Slight H2S odour. Ant bait changed.
GW02	14-10-2024 8:50	7.42	1016	18.7	196	NIL	Clear	Colourless	Comport 1?. Ant bait changed.
GW03	14-10-2024 11:10	7.22	1004	19	-39	NIL	Clear	Colourless	Ant bait changed.
MD01	15-10-2024 12:16	8.33	1787	25	-280	Decomposing odour (organic matter?)	Slightly Turbid	Grey	Decomposing odour (organic matter?)
MD02	15-10-2024 12:03	6.72	1279	25	-71	NIL	Clear	Colourless	-
SB01	14-10-2024 11:31	7.23	1869	20.7	-60	NIL	Clear	Colourless	-
SB02	14-10-2024 14:06	7.23	7250	19.9	-113	NIL	Slightly Turbid	Brown	-
SB04	14-10-2024 10:22	7.21	2289	19.4	-178	Mild H2S	Clear	Colourless	Mild H2S
SB05	14-10-2024 12:27	7.71	3790	19.5	-45	NIL	Clear	Colourless	-
SB06	14-10-2024 12:48	7.7	2790	19.5	-113	NIL	Slightly Turbid	Grey	-
SB07	14-10-2024 9:42	7.58	1042	18.4	98	NIL	Clear	Colourless	-
SB08	14-10-2024 10:35	7.27	388	19.3	-57	Mild H2S	Clear	Colourless	Mild H2S
SB09	14-10-2024 11:58	7.44	1130	20.6	7	NIL	Clear	Colourless	-
SB10	14-10-2024 12:09	7.38	2200	20.4	32	NIL	Clear	Grey	-
SB11	14-10-2024 13:07	7.51	1266	19.8	-9	NIL	Clear	Colourless	-
SB15	14-10-2024 13:30	7.24	1143	19.8	44	NIL	Clear	Colourless	-
TR18	15-10-2024 14:05	6.79	13820	21.3	100	NIL	Slightly Turbid	Brown	Logger removed
TR26	15-10-2024 13:30	6.93	6090	28.5	-31	NIL	Clear	Colourless	-
TR35	15-10-2024 14:34	6.73	16690	23	92	NIL	Clear	Colourless	-
TR7	15-10-2024 13:45	6.63	1484	26.2	80	NIL	Clear	Colourless	-
VKY035C	18-10-2024 11:15	7.09	3330	28.4	-48	NIL	Clear	Colourless	-
VKY036C	18-10-2024 10:24	7.21	6020	24.7	-71	NIL	Clear	Grey	-
VKY042C	18-10-2024 10:54	6.72	5850	23.9	-18	NIL	Clear	Colourless	-
VKY034C	18-10-2024 12:02	7.25	3970	26.4	29	NIL	Turbid	Grey	Too turbid, send lab to filter
VKY041C	15-10-2024 13:09	-	-	-	-	-	-	-	Not sure which is which as no machine serial numbers on loggers. Change battery in 02027. Ant bait changed.
VKY041C	15-10-2024 13:09	-	-	-	-	-	-	-	Ant bait changed
VKY043C	15-10-2024 14:20	7.7	3050	22.7	30	NIL	Clear	Colourless	
VKY33C	18-10-2024 12:44	-	-	-	-	-	-	-	Ant bait changed
VKY33C	18-10-2024 12:46	-	-	-	-	-	-	-	Ant bait changed
VKY3053C	21-10-2024 8:46	-	-	-	-	-	-	-	Ant bait changed
VNW223	18-10-2024 8:32	7.17	5360	22.2	129	NIL	Clear	Colourless	
VNW390	15-10-2024 10:09	6.81	2431	21.6	-103	NIL	Clear	Colourless	
VNW394	15-10-2024 9:10	7.07	5420	19.8	-98	NIL	Clear	Colourless	
VNW392	15-10-2024 11:04	6.74	3410	23.3	-60	NIL	Clear	Colourless	
VNW393	15-10-2024 9:45	7.16	3140	23.7	-117	NIL	Clear	Colourless	
VNW391	15-10-2024 10:45	7.1	2424	22.4	-104	NIL	Clear	Colourless	

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
VNW395	15-10-2024 10:30	7.56	1834	21.7	40	NIL	Clear	Colourless	No logger; Ant bait changed
VS048	15-10-2024 11:35	-	-	-	-	-	-	-	Ant bait changed
VS054	15-10-2024 11:51	-	-	-	-	-	-	-	Comport 25; Ant bait changed
VS056	15-10-2024 12:24	-	-	-	-	-	-	-	Ant bait changed
VS056	15-10-2024 12:24	-	-	-	-	-	-	-	Ant bait changed
VS058	14-10-2024 14:20	-	-	-	-	-	-	-	Ant bait changed
VS059	14-10-2024 8:30	-	-	-	-	-	-	-	Ant bait changed
VS062	14-10-2024 10:00	-	-	-	-	-	-	-	Ant bait changed
WR-1	18-10-2024 13:58	6.5	2680	23.5	150	NIL	Clear	Grey	Comport 8
WR-2	18-10-2024 14:40	6.36	2660	24.2	-37	NIL	Slightly Turbid	Grey	
GW036459	-	-	-	-	-	-	-	-	No access - NSW Water locked bore
GW030051	-	-	-	-	-	-	-	-	No access - NSW Water locked bore
GW030052	-	-	-	-	-	-	-	-	No access - NSW Water locked bore
GW-4	15-11-2024 8:50	7.92	2980	21.8	177	NIL	Slightly Turbid	Colourless	No access for sampling on 22 Oct 2024, bore uncovered on 15 Nov 2024
GW-10	22-10-2024 11:45	7.57	1438	23.8	93	NIL	Clear	Orange	-
GW-15	22-10-2024 13:30	8.97	638	23.6	12	NIL	Clear	Colourless	See photos
GW971614	22-10-2024 9:40	6.65	651	19	219	NIL	Clear	Colourless	Sampled from tank outflow?
GW971400	22-10-2024 10:15	6.8	2458	20.2	76	NIL	Clear	Colourless	Sampled from outflow
GW4	22-10-2024 11:30	-	-	-	-	-	-	-	No access
VKY GW Duplicate 1 - GW-9	21-10-2024 9:40	6.66	1076	20.3	779	NIL	Slightly Turbid	Orange	-
VKY GW Duplicate 2 - GW-10	22-10-2024 11:45	7.54	1478	23.7	77	NIL	Clear	Colourless	-
VKY GW Blank	21-10-2024 7:30	7.5	3.2	19.7	-83	NIL	Clear	Colourless	-
VKY GW Lab Split Dup 1 - GW-14	21-10-2024 10:33	6.91	3830	21.6	10	NIL	Clear	Colourless	-
VKY GW Lab Split Dup 2 - GW-10	22-10-2024 11:45	7.6	1477	22.8	110	NIL	Clear	Colourless	-
GW-11	15-01-2025 12:25	7.03	4310	33.5	-142	NIL	Slightly Turbid	Grey	-
GW-13	15-01-2025 13:30	7.3	1570	32.7	55	NIL	Clear	Green/Grey	-
GW-14	16-01-2025 8:30	6.53	4260	21.8	-215	NIL	Clear	Colourless	
GW-2	16-01-2025 7:50	6.45	1339	20.6	-210	NIL	Clear	Colourless	
GW-6	15-01-2025 13:45	7.52	1256	31.5	-142	NIL	Slightly Turbid	Green	
GW-7	16-01-2025 9:30	7.76	4690	25.5	-192	NIL	Clear	Colourless	
GW-8	15-01-2025 7:45	6.62	4350	28.9	-119	NIL	Slightly Turbid	Brown	
GW-9	16-01-2025 7:40	5.4	1544	21.6	-147	NIL	Slightly Turbid	Brown	
GW01	14-01-2025 8:08	7.1	1244	23.6	-164	NIL	Clear	Colourless	
GW02	13-01-2025 8:45	6.63	992	22	69	NIL	Clear	Colourless	D/cell
GW03	13-01-2025 12:42	7.08	983	26.2	-143	NIL	Clear	Grey	
MD01	14-01-2025 10:11	8.84	1519	28.1	-323	NIL	Clear	Colourless	Mild H2S Odour
MD02	14-01-2025 9:37	6.81	1381	28.9	-158	NIL	Clear	Colourless	-
SB01	13-01-2025 13:12	7.12	1851	26.7	-114	NIL	Clear	Grey	-
SB02	14-01-2025 8:32	7.22	6990	28.4	-126	NIL	Clear	Colourless	-
SB04	13-01-2025 11:52	7.04	3420	25.3	-171	S	Slightly Turbid	Grey	H2S ODOR
SB05	13-01-2025 14:30	7.52	3660	25.2	-128	NIL	Slightly Turbid	Grey	-
SB06	13-01-2025 15:04	7.42	3160	29.3	-127	NIL	Clear	Grey	-

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
SB07	13-01-2025 9:32	7.29	1009	22.7	-53	NIL	Clear	Colourless	TR7 Logger
SB08	13-01-2025 12:04	7.27	1154	24.7	-68	NIL	Clear	Colourless	-
SB09	13-01-2025 13:40	7.4	1045	28.4	-78	NIL	Clear	Colourless	-
SB10	13-01-2025 14:06	7.25	2086	28.4	22	NIL	Clear	Colourless	-
SB11	13-01-2025 15:19	7.39	1209	27.8	-27	NIL	Clear	Colourless	-
SB15	14-01-2025 7:42	7.41	1163	23	61	NIL	Clear	Colourless	-
TR18	14-01-2025 13:10	6.68	13810	27.3	12	NIL	Slightly Turbid	Grey	-
TR26	14-01-2025 12:40	6.85	6170	35.3	-47	NIL	Slightly Turbid	Grey	-
TR35	14-01-2025 13:40	6.54	18320	26	122	NIL	Clear	Colourless	-
TR7	14-01-2025 12:55	6.51	1552	26.8	76	NIL	Slightly Turbid	Grey	-
VKY035C	15-01-2025 10:10	6.93	3220	30.2	-86	NIL	Clear	Colourless	-
VKY036C	15-01-2025 10:45	7.06	2980	30.6	-110	NIL	Slightly Turbid	Grey	-
VKY042C	15-01-2025 11:15	6.64	5590	30.4	-54	NIL	Clear	Colourless	-
VKY034C	15-01-2025 9:45	7.16	3910	28.9	18	NIL	Grey	Grey	Too turbid to field filter
VKY041C	15-01-2025 12:10	-	-	-	-	-	-	-	Batt. 48.7%
VKY041C	15-01-2025 12:18	-	-	-	-	-	-	-	Batt. 31.2%
VKY043C	14-01-2025 13:25	7.5	3240	31	-42	NIL	Clear	Colourless	-
VKY33C	15-01-2025 9:35	-	-	-	-	-	-	-	Batt. 34.5%
VKY33C	15-01-2025 9:35	-	-	-	-	-	-	-	-
VKY3053C	15-01-2025 8:00	-	-	-	-	-	-	-	-
VNW223	15-01-2025 11:45	7.07	4390	32.5	88	NIL	Clear	Colourless	
VNW390	14-01-2025 10:15	6.96	2629	28.4	-10	NIL	Clear	Colourless	
VNW391	14-01-2025 11:40	7.02	2550	24.7	-129	NIL	Clear	Green	
VNW392	14-01-2025 12:10	6.47	3480	31.3	-467	NIL	Clear	Colourless	
VNW393	14-01-2025 11:30	6.94	3210	29.8	-70	NIL	Clear	Grey	
VNW394	14-01-2025 11:00	6.87	5480	29.5	-46	NIL	Slightly Turbid	Grey	
VNW395	14-01-2025 11:17	7.58	2153	23.1	-229	S	Clear	Green	Slight Unknown
VS048	14-01-2025 10:55	-	-	-	-	-	-	-	D-cell
VS054	14-01-2025 9:55	-	-	-	-	-	-	-	Lithium Dk
VS056	14-01-2025 10:32	-	-	-	-	-	-	-	D-cell
VS056	14-01-2025 10:38	-	-	-	-	-	-	-	D-cell
VS058	14-01-2025 8:57	-	-	-	-	-	-	-	Lithium Dk
VS059	13-01-2025 8:15	-	-	-	-	-	-	-	Indicated low battery-changed
VS062	13-01-2025 11:25	-	-	-	-	-	-	-	D-cell
WR-1	14-01-2025 9:30	6.95	25400	27.8	93	NIL	Clear	Colourless	
WR-2	14-01-2025 7:50	6.41	27900	23.8	29	NIL	Slightly Turbid	Colourless	
GW-4	16-01-2025 8:25	7.84	2970	21	-258	NIL	Clear	Colourless	
GW-10	15-01-2025 13:00	7.36	1423	-	67	NIL	Clear	Green	
GW-15	15-01-2025 8:43	8.85	644	30.8	-224	NIL	Clear	Colourless	
GW971614	16-01-2025 12:00	7.08	608	26.7	-106	NIL	Clear	Colourless	
Landreef Tap	16-01-2025 11:30	6.96	841	27.6	-103	NIL	Clear	Colourless	
VKY GW Duplicate 1 - GW-15	15-01-2025 8:45	8.91	684	26.4	-200	NIL	Clear	Colourless	

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
VKY GW Duplicate 2 - GW-11	15-01-2025 12:25	6.92	4650	30	-124	NIL	Clear	Colourless	
VKY GW Blank	16-01-2025 8:40	4.83	-5.8	22.7	286	NIL	Clear	Colourless	
VKY GW Lab Split Dup 1 - GW-15	15-01-2025 8:45	8.94	716	24.4	-187	NIL	Clear	Colourless	
VKY GW Lab Split Dup 2 - GW-11	15-01-2025 12:25	8.67	4840	27.2	-118	NIL	Clear	Colourless	
GW-13	16-04-2025 12:01	7.24	822	22.8	66	NIL	Clear	Colourless	
GW-14	16-04-2025 14:38	6.94	3360	21.2	74	NIL	Clear	Colourless	
GW-2	16-04-2025 13:58	6.86	1191	21.1	119	NIL	Clear	Colourless	
GW-6	16-04-2025 12:28	7.60	1388	23.5	-168	S	Slightly Turbid	Brown	Slight hydrocarbon odour
GW02	15-04-2025 11:53	7.74	872	24.4	26	NIL	Clear	Colourless	
GW03	15-04-2025 13:29	7.17	8720	23.4	-85	VS	Clear	Grey	Very slight H ₂ S Odour
MD01	15-04-2025 11:21	8.67	1438	23.9	-244	STG	Clear	Colourless	Strong Unknown Odour
MD02	15-04-2025 10:55	6.80	1232	25.1	-61	NIL	Clear	Colourless	
SB04	15-04-2025 12:49	7.15	2184	22.5	-171	S	Turbid	Grey	Slight H ₂ S Odour
SB07	15-04-2025 11:53	7.32	908	22.0	63	NIL	Clear	Colourless	
SB08	15-04-2025 13:05	7.22	1035	21.4	-95	S	Clear	Colourless	
TR18	16-04-2025 08:20	6.93	1362	17.5	131	NIL	Slight Turbid	Grey	
TR26	16-04-2025 07:50	7.09	7290	19.0	117	NIL	Slight Turbid	Brown	
TR35	16-04-2025 08:53	6.96	1618	18.9	163	NIL	Clear	Colourless	
TR7	16-04-2025 08:05	6.93	1535	17.0	113	NIL	Clear	Colourless	
VKY035C	16-04-2025 10:05	7.01	3170	22.2	-17	S	Clear	Colourless	Slight Unknown Odour
VKY036C	16-04-2025 10:23	7.30	5720	22.0	-89	NIL	Clear	Colourless	
VKY042C	16-04-2025 10:57	6.71	5510	22.3	-3	NIL	Clear	Colourless	
VKY034C	16-04-2025 09:36	7.21	3840	22.2	53	NIL	Slight Turbid	Grey	Too turbid to filter – Lab to filter
VKY043C	16-04-2025 08:36	7.87	3510	16.8	30	NIL	Clear	Colourless	
VNW390	15-04-2025 09:03	6.84	2350	21.3	-154	S	Clear	Colourless	Very slight H ₂ S
VNW391	15-04-2025 09:43	7.03	2308	21.9	-193	NIL	Clear	Colourless	
VNW392	15-04-2025 09:56	6.67	3340	20.9	-132	NIL	Clear	Colourless	
VNW393	15-04-2025 08:39	7.11	3100	21.3	-111	NIL	Clear	Colourless	
VNW394	15-04-2025 08:04	6.84	5520	20.6	-199	S	Slight Turbid	Black	Slight H ₂ S
VNW395	15-04-2025 09:30	7.31	2280	20.0	-272	M	Clear	Colourless	No logger – faulty and removed previously
GW-4	16-04-2025 13:29	8.11	2990	22.6	57	NIL	Clear	Colourless	
GW-10	16-04-2025 11:37	7.92	1808	23.0	37	NIL	Clear	Brown	
GW-15	15-04-2025 14:50	8.96	680	21.9	-18	NIL	Clear	Colourless	
GW-11	09-07-2025 11:57	6.62	4570	21.2	90	NIL	Clear	Colourless	
GW-13	09-07-2025 9:20	7.27	1009	19.3	-97	NIL	Clear	Colourless	
GW-14	09-07-2025 13:39	6.99	3710	21.6	68	NIL	Clear	Colourless	
GW-2	09-07-2025 10:58	6.87	1254	19.5	91	NIL	Clear	Colourless	
GW-6	09-07-2025 9:58	7.60	1453	20.8	-138	NIL	Clear	Colourless	
GW-7	17-07-2025 12:02	8.25	4410	17	113	NIL	Clear	Colourless	
GW-8	17-07-2025 12:56	7.14	4690	15.8	-107	NIL	Clear	Colourless	
GW-9	09-07-2025 11:24	7.07	714	19.5	-130	NIL	Turbid	Brown	
GW01	17-07-2025 10:08	7.00	1388	18.1	-2	NIL	Clear	Colourless	

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
GW02	03-07-2025 10:53	7.17	936	16.6	204	NIL	Clear	Colourless	
GW03	03-07-2025 12:52	7.17	909	17.1	68	NIL	Clear	Colourless	
MD01	04-07-2025 11:34	8.22	1969	19.5	-227	NIL	Clear	Colourless	Slight unkwon?
MD02	04-07-2025 12:11	6.71	1250	20.9	-46	NIL	Clear	Colourless	
SB01	03-07-2025 13:44	7.19	1729	18.3	-19	NIL	Clear	Colourless	
SB02	17-07-2025 9:30	7.08	7120	18.4	-33	NIL	Clear	Colourless	
SB04	03-07-2025 12:12	7.11	2790	18.1	-112	NIL	Clear	Colourless	Slight Medium H2S
SB05	03-07-2025 14:35	7.64	3500	18.1	-68	NIL	Clear	Colourless	
SB06	03-07-2025 14:54	7.63	3240	17.6	-102	NIL	Clear	Colourless	
SB07	03-07-2025 11:25	7.18	925	17.6	191	NIL	Clear	Colourless	
SB08	03-07-2025 12:18	7.39	1153	16.9	17	NIL	Clear	Colourless	
SB09	03-07-2025 14:03	7.47	1027	17.3	-28	NIL	Clear	Colourless	
SB10	03-07-2025 14:18	7.37	2066	18.4	42	NIL	Clear	Colourless	
SB11	03-07-2025 15:12	7.46	1172	17.7	-8	NIL	Clear	Colourless	
SB15	17-07-2025 10:42	6.99	962	19.2	41	NIL	Clear	Colourless	
TR18	08-07-2025 10:45	6.74	14060	19.1	101	NIL	Slightly Turbid	Grey	
TR26	08-07-2025 9:56	7.03	7010	17.9	15	NIL	Clear	Colourless	Lab to filter
TR35	08-07-2025 11:26	6.72	17160	18.4	112	NIL	Clear	Colourless	
TR7	08-07-2025 10:22	6.69	15020	18.9	111	NIL	Clear	Colourless	
VKY035C	08-07-2025 12:45	6.96	3300	20.2	-23	NIL	Clear	Colourless	
VKY036C	08-07-2025 13:26	7.12	5810	20.6	-96	NIL	Slightly Turbid	Colourless	Lab to filter
VKY042C	08-07-2025 14:03	6.70	5550	20.3	-6	NIL	Clear	Colourless	
VKY034C	08-07-2025 12:07	7.06	3950	18.2	-1	NIL	Slightly Turbid	-	Lab to filter
VKY043C	08-07-2025 11:05	7.76	3050	11.8	160	NIL	Clear	Colourless	
VNW223	09-07-2025 12:17	7.00	4060	22.4	61	NIL	Clear	Colourless	
VNW390	04-07-2025 9:17	6.84	2460	17.6	-59	NIL	Clear	Colourless	9.56, slight H2S
VNW391	04-07-2025 10:24	6.96	2420	18.3	107	NIL	Clear	Colourless	
VNW392	04-07-2025 10:40	6.71	3480	18	-30	NIL	Clear	Colourless	
VNW393	04-07-2025 8:45	7.17	3190	16.6	-62	NIL	Clear	Colourless	
VNW394	04-07-2025 8:20	6.76	5440	17.1	-61	NIL	Clear	Colourless	Very slight H2S
VNW395	04-07-2025 9:47	7.30	2440	17.2	-217	NIL	Clear	Colourless	Mild H2S
WR1	17-07-2025 12:18	6.63	25580	17.4	190	NIL	Clear	Colourless	
WR2	17-07-2025 11:54	6.39	26800	19.5	-62	NIL	Clear	Colourless	
GW-4	09-07-2025 10:32	7.83	2920	20.3	3	NIL	Clear	Colourless	
GW-10	09-07-2025 8:35	7.71	1806	17.5	173	NIL	Clear	Colourless	
GW-15	08-07-2025 8:31	8.88	740	15.6	111	NIL	Clear	Colourless	
MD03	04-07-2025 12:43	7.17	4880	18.4	20	NIL	Clear	Colourless	TBD 56.0 42.98/55.49
GW971614	17-07-2025 14:49	6.99	769	15.3	-6	NIL	Clear	Colourless	

Table C-2: Laboratory GW Monitoring Data (as COA provided by ALS and Eurofin)

CHAIN OF CUSTODY GTEZB4YY	HANDED OVER BY Cbased Environmental	HANDOVER DATE/TIME 2025-07-10 11:24	REQUIRED TURNAROUND 5 Working Days	RETURN EQUIPMENT No	EDD FORMAT INX	PAGE 1 OF 6
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LAB USE ONLY	RECEIVED(DATE/TIME): 10.7.25 16:15	APPROPRIATELY SEALED?: YES NO	TEMPERATURE: 4.7 ice	JOB #:	SIGNED: IR
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LABORATORY	ALS Newcastle 5/585 Maitland Road Mayfield West 2304 NSW
SAMPLERS	CBased Environmental
QUOTE #	SYBQ-403-21v5
PO #	

SITE	Vickery
PROJECT	Vickery Quarterly Groundwaters
PROJECT MANAGER	
COMPANY	CBased Environmental Pty Ltd PO Box 245 Cessnock NSW 2325
CONTACT PERSON	Marnie Blake
CONTACT NUMBER	
CONTACT FAX	
CONTACT EMAILS	monitoringresults@cbased.com.au
INVOICING EMAILS	accounts@cbased.com.au
RESULT EMAILS	monitoringresults@cbased.com.au, inxpreservemail@whitehavencoal.com.au, vickeryenvironment@whitehavencoal.com.au

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
A. Ammonia as N B. Bicarbonate Alkalinity as CaCO3 C. Calcium (dissolved) D. Carbonate Alkalinity as CaCO3 E. DO F. EC G. Hydroxide Alkalinity as CaCO3 H. Ionic balance I. Nitrate as N J. Nitrite + Nitrate as N K. Nitrite as N L. Oil and Grease M. pH N. Sodium (Dissolved) O. TDS	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	SAMPLE INSTRUCTIONS
1	GW-11	2025-07-09 11:57	6XT33ZTB-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	GW-13	2025-07-09 09:20	6XT33ZTB-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	GW-14	2025-07-09 13:39	6XT33ZTB-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	GW-2	2025-07-09 10:58	6XT33ZTB-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	GW-6	2025-07-09 09:58	6XT33ZTB-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	GW-9	2025-07-09 11:24	6XT33ZTB-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	GW02	2025-07-03 10:53	6XT33ZTB-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	GW03	2025-07-03 12:52	6XT33ZTB-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	MD01	2025-07-04 11:34	6XT33ZTB-9	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
10	MD02	2025-07-04 12:11	6XT33ZTB-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	SB01	2025-07-03 13:44	6XT33ZTB-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
12	SB04	2025-07-03 12:12	6XT33ZTB-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	SB05	2025-07-03 14:35	6XT33ZTB-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
14	SB06	2025-07-03 14:54	6XT33ZTB-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Environmental Division
Sydney
Work Order Reference
ES2521085



Telephone : + 61-2-8784 8555

Rel: IR of ALS
10.7.25 @ 17:00

ALS PLU
Rec: 505/16 10/7/25
1940

E-MAILED
LAB OF ORIGIN:
NEWCASTLE

[illegible]

CHAIN OF CUSTODY	HANDLED OVER BY	Observed	HANDOVER DATE/TIME	2025-07-15	REQUIRED TURNAROUND	6 Working	RETURN EQUIPMENT	EDD FORMAT	PAGE 2 OF
GTEZB4YY	Environmental		11:24		Days		No	INX	6

ANALYSIS REQUIRED	GENERAL INSTRUCTION
A. Ammonia as N	
B. Bicarbonate Alkalinity as CaCO_3	
C. Calcium (dissolved)	
D. Carbonate Alkalinity as CaCO_3	
E. DO	
F. EC	
G. Hydroxide Alkalinity as CaCO_3	
H. Ionic balance	
I. Nitrate as N	
J. Nitrite + Nitrate as N	
K. Nitrite as N	
L. Oil and Grease	
M. pH	
N. Sodium (Dissolved)	
O. TDS	

[illegible]

[illegible]

[illegible]

CHAIN OF CUSTODY	HANDOVER BY	Classed	HANDOVER DATE/TIME	2025-07-10	REQUIRED TURNAROUND	5 Working	RETURN EQUIPMENT	EDD FORMAT	PAGE 4 OF
@TEZBAYY	Environmental		11:24		Days		Nb	INX	6

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO_3	
Q. Total anions	
R. Total Cations	
S. Total Phosphorus as P	
T. Alkalinity (total)	
U. Aluminum (dissolved)	
V. Antimony (dissolved)	
W. Arsenic (dissolved)	
X. Barium (dissolved)	
Y. Boron (dissolved)	
Z. Cadmium (dissolved)	
AA. Chloride	
AB. Chromium (dissolved)	
AC. Cobalt (dissolved)	
AD. Copper (dissolved)	

[illegible]

[illegible]

CHAIN OF CUSTODY	HANDOVER BY	Observed	HANDOVER DATE/TIME	2025-07-10	REQUIRED TURNAROUND	5 Working	RETURN EQUIPMENT	EDD FORMAT	PAGE 5 OF
GTEZB44Y	Environmental		11:24		Days		No	INX	6

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
AE. Iron (dissolved)	
AF. Lead (dissolved)	
AG. Magnesium (dissolved)	
AH. Manganese (dissolved)	
AI. Mercury (dissolved)	
AJ. Molybdenum (dissolved)	
AK. Nickel (dissolved)	
AL. Phosphorus (dissolved)	
AM. Potassium (dissolved)	
AN. Selenium (dissolved)	
AO. Silver (dissolved)	
AP. Strontium (dissolved)	
AQ. Sulfate as SO_4 - Turbidimetric (dissolved)	
AR. Tin (dissolved)	
AS. Zinc (dissolved)	

[illegible]

[illegible]

[illegible]



CERTIFICATE OF ANALYSIS

Work Order : **ES2524176**
Client : **CBASED ENVIRONMENTAL PTY LTD**
Contact : Ms Marni Blake
Address : Unit 3 2 Enterprise Cres
Singleton NSW 2330
Telephone : 02 6571 3334
Project : Vickery Quarterly Groundwaters
Order number : ----
C-O-C number : HE3K6JV9
Sampler : ----
Site : Vickery
Quote number : SYBQ/403/21v5 and PLANNED EVENTS
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 5
Laboratory : Environmental Division Sydney
Contact : Jessica Chen
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 07-Aug-2025 17:00
Date Analysis Commenced : 08-Aug-2025
Issue Date : 15-Aug-2025 17:29



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H⁺ to the Cations and Nitrate, SiO₂ and Fluoride to the Anions.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				SB15	----	----	----	----
				5Y2UH8CZ-1	----	----	----	----
Sampling date / time				01-Aug-2025 10:21	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2524176-001	-----	-----	-----	-----
Result					----	----	----	----
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	7.78	----	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	988	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	648	----	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	456	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	456	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	95	----	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	36	----	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	72	----	----	----	----
Magnesium	7439-95-4	1	mg/L	44	----	----	----	----
Sodium	7440-23-5	1	mg/L	110	----	----	----	----
Potassium	7440-09-7	1	mg/L	<1	----	----	----	----
ED093T: Total Major Cations								
Calcium	7440-70-2	1	mg/L	80	----	----	----	----
Magnesium	7439-95-4	1	mg/L	44	----	----	----	----
Sodium	7440-23-5	1	mg/L	111	----	----	----	----
Potassium	7440-09-7	1	mg/L	1	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	<0.01	----	----	----	----
Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				SB15	----	----	----	----
				5Y2UH8CZ-1	----	----	----	----
Sampling date / time				01-Aug-2025 10:21	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2524176-001	-----	-----	-----	-----
				Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS - Continued								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Barium	7440-39-3	0.001	mg/L	0.072	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	----	----	----	----
Manganese	7439-96-5	0.001	mg/L	0.006	----	----	----	----
Molybdenum	7439-98-7	0.001	mg/L	<0.001	----	----	----	----
Selenium	7782-49-2	0.01	mg/L	<0.01	----	----	----	----
Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
Strontium	7440-24-6	0.001	mg/L	1.49	----	----	----	----
Tin	7440-31-5	0.001	mg/L	<0.001	----	----	----	----
Boron	7440-42-8	0.05	mg/L	0.06	----	----	----	----
Iron	7439-89-6	0.05	mg/L	<0.05	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	0.03	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	0.16	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.16	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SB15 5Y2UH8CZ-1	----	----	----	----
Sampling date / time					01-Aug-2025 10:21	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2524176-001	-----	-----	-----	-----
Result						----	----	----	----
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		0.03	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		0.06	----	----	----	----
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L		12.1	----	----	----	----
∅ Total Cations	----	0.01	meq/L		12.0	----	----	----	----
∅ Ionic Balance	----	0.01	%		0.44	----	----	----	----
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	----	----	----	----
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		7.6	----	----	----	----



CERTIFICATE OF ANALYSIS

Work Order : **ES2525630**
Client : **CBASED ENVIRONMENTAL PTY LTD**
Contact : All Deliverables
Address : Unit 3 2 Enterprise Cres
Singleton NSW 2330
Telephone : +61 02 6571 3334
Project : Vickery Quarterly Groundwaters
Order number : ----
C-O-C number : ----
Sampler : ----
Site : Vickery
Quote number : SYBQ/403/21v5 and PLANNED EVENTS
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 4
Laboratory : Environmental Division Sydney
Contact : Jessica Chen
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 19-Aug-2025 13:55
Date Analysis Commenced : 19-Aug-2025
Issue Date : 25-Aug-2025 10:38



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

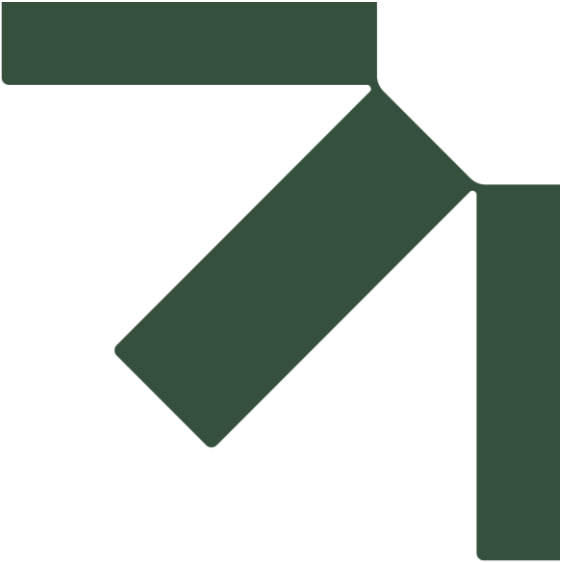
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW971400	----	----	----	----
Sampling date / time				15-Aug-2025 13:20	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2525630-001	-----	-----	-----	-----	
				Result	----	----	----	----	
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	7.89	----	----	----	----	
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm	1770	----	----	----	----	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	1140	----	----	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	----	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	----	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	394	----	----	----	----	
Total Alkalinity as CaCO3	----	1	mg/L	394	----	----	----	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	146	----	----	----	----	
Sodium	7440-23-5	1	mg/L	197	----	----	----	----	
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L	0.01	----	----	----	----	
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	----	----	----	----	
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	1.29	----	----	----	----	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	1.29	----	----	----	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	22.8	----	----	----	----	
∅ Total Cations	----	0.01	meq/L	20.3	----	----	----	----	
∅ Ionic Balance	----	0.01	%	5.59	----	----	----	----	
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L	<5	----	----	----	----	
EP025: Oxygen - Dissolved (DO)									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW971400	----	----	----	----
				Sampling date / time	15-Aug-2025 13:20	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2525630-001	-----	-----	-----	-----
					Result	----	----	----	----
EP025: Oxygen - Dissolved (DO) - Continued									
Dissolved Oxygen	----	0.1	mg/L		9.2	---	----	---	---



Appendix D Quality Trigger Level Anlaysis

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review May 2025 – July 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

25 September 2025

Table D-1: pH (Field) Trigger Level Review

Bore	Trigger Level		Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
GW01	6.90	8.30	7.33	7.20	7.14	7.2	7.16	7.10	7.33	7.00
GW02	7.20	8.60	7.59	7.79	7.14	7.23	7.42	6.63	7.74	7.17
GW03	6.10	8.10	7.19	7.16	7.05	7.36	7.22	7.08	7.17	7.17
GW-10	6.70	8.40	no data	no data	no data	no data	7.57	7.36	7.92	7.71
GW-11	7.00	9.30	7.36	6.93	6.55	6.09	7.17	7.03	7.15	6.62
GW-13	6.70	8.40	no data	no data	no data	no data	7.35	7.30	7.24	7.27
GW-14	6.90	8.30	no data	no data	no data	no data	6.95	6.53	6.94	6.99
GW-15	6.90	8.30	no data	no data	no data	no data	8.97	8.85	8.96	8.88
GW-2	6.90	8.30	no data	no data	6.85	no data	6.84	6.45	6.86	6.87
GW-4	6.70	8.40	no data	no data	no data	no data	7.92	7.84	8.11	7.83
GW-6	6.70	8.40	no data	no data	no data	no data	7.73	7.52	7.60	7.60
GW-7	7.70	8.50	8.89	8.82	8.79	8.67	8.3	7.76	8.91	8.25
GW-8	6.70	8.40	7.11	7.03	6.95	6.49	7.0	6.62	5.28	7.14
GW-9	6.60	8.20	7.94	6.68	6.81	6.76	6.68	5.40	7.52	7.07
GW971400	6.90	8.30	no data	no data	no data	no data	6.8	7.08*	6.25	no data
GW971614	6.90	8.30	no data	no data	no data	no data	6.65	7.08	7.42	6.99
MD01	6.70	8.40	11.58	11.69	10.73	9.59	8.33	8.84	8.67	8.22
MD02	6.70	8.40	6.84	6.78	6.59	6.57	6.72	6.81	6.80	6.71
SB01	6.90	8.30	7.44	7.31	7.20	7.21	7.23	7.12	7.30	7.19
SB02	6.90	8.30	7.28	7.28	7.14	7.2	7.23	7.22	7.48	7.08
SB04	6.90	8.30	7.29	7.43	7.27	7.12	7.21	7.04	7.15	7.11
SB05	6.90	8.30	2.09	7.73	7.63	7.58	7.71	7.52	7.70	7.64
SB06	6.90	8.30	7.35	7.61	7.42	7.56	7.7	7.42	8.12	7.63
SB07	6.90	8.30	7.35	7.47	7.28	7.22	7.58	7.29	7.32	7.18
SB08	6.90	8.30	7.24	7.39	7.17	7.29	7.27	7.27	7.22	7.39
SB09	6.90	8.30	3.32	7.56	7.27	7.52	7.44	7.40	7.55	7.47
SB10	6.90	8.30	7.43	7.47	7.28	7.5	7.38	7.25	7.49	7.37
SB11	6.90	8.30	7.26	7.70	7.45	7.77	7.51	7.39	7.61	7.46
SB15	6.90	8.30	7.29	7.23	7.17	7.3	7.24	7.41	6.84	6.99
TR18	6.70	8.40	6.58	6.85	6.69	6.64	6.79	6.68	6.93	6.74
TR26	6.70	8.40	7.06	7.16	7.11	6.69	6.93	6.85	7.09	7.03
TR35	6.70	8.40	6.66	6.75	6.72	6.75	6.73	6.54	6.96	6.72

Bore	Trigger Level		Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
TR7	7.40	7.80	6.53	7.05	6.71	6.82	6.63	6.51	6.93	6.69
VKY034C	6.70	8.40	7.30	6.94	7.05	7.25	7.25	7.16	7.21	7.06
VKY035C	6.70	8.40	7.10	7.01	6.88	6.9	7.09	6.93	7.01	6.96
VKY036C	6.70	8.40	7.08	6.79	6.80	7.19	7.21	7.06	7.30	7.12
VKY042C	6.70	8.40	6.75	6.72	6.61	6.65	6.72	6.64	6.71	6.70
VKY043C	6.70	8.40	7.72	7.80	7.65	7.85	7.7	7.50	7.84	7.76
VNW223	6.90	7.40	7.25	no data	no data	no data	7.17	7.07	7.14	7.00
VNW390	6.70	8.40	6.92	7.13	6.59	6.84	6.81	6.96	6.84	6.84
VNW391	6.70	8.40	7.04	7.31	7.06	6.81	7.1	7.02	7.03	6.96
VNW392	6.70	8.40	6.74	6.74	6.66	6.51	6.74	6.47	6.67	6.71
VNW393	6.70	8.40	7.36	7.56	7.20	7.13	7.16	6.94	7.11	7.17
VNW394	6.90	8.30	7.13	6.92	6.94	6.62	7.07	6.87	6.84	6.76
VNW395	6.90	8.30	7.47	7.77	7.77	7.61	7.56	7.58	7.31	7.30
WR1	6.90	8.30	no data	no data	6.70	6.47	6.5	6.95	6.96	6.63
WR2	6.90	8.30	no data	no data	6.57	6.52	6.36	6.41	6.99	6.39

Note: Reported as field pH value. Values marked with an asterisk (*) are reported as Laboratory pH value. Red text shows exceedance of trigger level. Highlighted cell shows trigger level 1 as defined by TARP in the GWMP (Appendix A).

Table D-2: EC Trigger Level Review

Bore	Trigger Level	Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
GW01	10,083	1,042	1,265	1,384	1,052	738	1,244	244	1,388
GW02	969	731	971	926	1,065	1,016	992	872	936
GW03	811	862	888	862	947	1,004	983	872	909
GW-10	12,315	no data	no data	no data	no data	1,438	1,423	1,808	1,806
GW-11	4,912	4,360	4,340	4,520	4,760	4,760	4,310	4,750	4,570
GW-13	12,315	no data	no data	no data	no data	1,647	1,570	822	1,009
GW-14	10,083	no data	no data	no data	no data	3,840	4,260	3,360	3,710
GW-15	10,083	no data	no data	no data	no data	638	644	680	740
GW-2	10,083	no data	no data	1,218	no data	1,226	1,339	1,191	1,254
GW-4	12,315	no data	no data	no data	no data	2,980	2,970	2,990	2,920
GW-6	12,315	no data	no data	no data	no data	1,459	1,256	1,388	1,453
GW-7	5,378	4,300	4,490	4,560	4,710	4,470	4,690	4,470	4,410
GW-8	12,315	4,290	3,950	4,000	4,100	3,930	4,350	4,200	4,690
GW-9	12,740	6,110	3,320	5,630	1,591	1,099	1,544	487	714
GW971400	10,083	no data	no data	no data	no data	2,458	2,810*	2,159	no data
GW971614	10,083	no data	no data	no data	no data	651	608	681	769
MD01	12,315	1,799	1,786	1,283	1,505	1,787	1,519	1,438	1,969
MD02	12,315	1,195	1,306	1,210	1,224	1,279	1,381	1,232	1,250
SB01	10,083	1,541	1,716	1,698	1,756	1,869	1,851	1,788	1,729
SB02	10,083	7,330	7,330	7,210	6,860	7,250	6,990	6,870	7,120
SB04	10,083	2,680	3,360	1,868	2,390	2,289	3,420	2,184	2,790
SB05	10,083	3,740	3,690	3,680	3,490	3,790	3,660	3,300	3,500
SB06	10,083	3,280	3,460	3,410	3,440	2,790	3,160	2,930	3,240
SB07	10,083	770	919	934	978	1,042	1,009	908	925
SB08	10,083	983	1,115	1,039	1,088	388	1,154	1,035	1,153
SB09	10,083	949	1,014	973	1,013	1,130	1,045	1,054	1,027
SB10	10,083	1,880	1,972	1,859	1,928	2,200	2,086	1,839	2,066
SB11	10,083	1,080	1,021	1,048	461	1,266	1,209	1,144	1,172
SB15	10,083	1,019	1,070	972	1,049	1,143	1,163	1,052	962
TR18	12,315	13,400	13,640	12,730	15,350	13,820	13,810	13,620	14,060
TR26	12,315	6,290	8,380	5,180	7,330	6,090	6,170	7,290	7,010

Bore	Trigger Level	Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
TR35	12,315	15,300	17,330	16,740	17,260	16,690	18,320	16,180	17,160
TR7	12,970	14,800	15,390	14,410	15,380	14,840^	15,520	15,350	15,020
VKY034C	12,315	3,590	3,850	4,030	4,170	3,970	3,910	3,840	3,950
VKY035C	12,315	3,110	3,340	3,230	3,290	3,330	3,220	3,170	3,300
VKY036C	12,315	5,600	5,810	5,780	5,830	6,020	2,980	5,720	5,810
VKY042C	12,315	5,420	5,430	5,480	5,990	5,850	5,590	5,510	5,550
VKY043C	12,315	2,990	3,410	3,410	3,290	3,050	3,240	3,510	3,050
VNW223	10,120	5,940	no data	no data	no data	5,360	4,390	4,570	4,060
VNW390	12,315	2,300	2,376	2,291	2,473	2,431	2,629	2,330	2,460
VNW391	12,315	2,530	2,471	2,352	2,458	2,424	2,550	2,308	2,420
VNW392	12,315	3,690	3,310	3,480	3,510	3,410	3,480	3,340	3,480
VNW393	12,315	2,740	2,830	2,840	3,090	3,140	3,210	3,100	3,190
VNW394	10,083	5,520	5,410	5,400	5,620	5,420	5,480	5,520	5,440
VNW395	10,083	463	1,395	1,681	1,832	1,834	2,153	2,280	2,440
WR1	10,083	no data	no data	26,500	26,800	26,800	25,400	27,300	25,580
WR2	10,083	no data	no data	25,340	26,600	26,600	27,900	26,100	26,800

Note: Reported as field EC value in $\mu\text{S}/\text{cm}$. Values marked with an asterisk (*) are reported as Laboratory EC value. Red text shows exceedance of trigger level. Highlighted cell shows trigger level 1 as defined by TARP in the GWMP (Appendix A).

^Compared to the lab result, the field EC result at TR7 in the October 2024 monitoring round was updated from 1,484 $\mu\text{S}/\text{cm}$ to 14,840 $\mu\text{S}/\text{cm}$ due to a typo in the October 2024 field note. The EC values at TR7 have been a level 1 trigger since October 2024, as defined by the TARP.

Table D-3: Sulfate trigger level review

Bore	Trigger Level	Oct/No v-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
GW01	365	96	171	132	54	111	132	28	210
GW02	365	77	74	81	102	79	91	89	80
GW03	365	52	56	58	46	54	53	62	55
GW-10	86	no data	no data	no data	no data	7	21	<10	41
GW-11	365	<1	1	<1	1	<1	3	<1	<1
GW-13	86	no data	no data	no data	no data	24	26	<10	15
GW-14	365	no data	no data	no data	no data	435	462	483	383
GW-15	365	no data	no data	no data	no data	28	28	34	34
GW-2	365	no data	no data	23	no data	26	23	22	22
GW-4	86	no data	no data	no data	no data	15	<1	<1	1
GW-6	86	no data	no data	no data	no data	<1	<1	<1	<1
GW-7	86	364	385	399	380	396	414	354	362
GW-8	86	no data	100	109	72	82	109	77	112
GW-9	86	102	128	51	25	28	<1	40	59
GW971400	365	no data	no data	no data	no data	425	477	355	no data
GW971614	365	no data	no data	no data	no data	32	30	31	31
MD01	86	22	23	26	36	14	33	32	37
MD02	86	28	29	28	29	29	28	33	27
SB01	365	182	183	190	148	193	216	180	182
SB02	365	1,120	no data	1,160	741	1,110	1,280	1,110	1,080
SB04	365	284	394	220	195	208	413	269	263
SB05	365	735	551	520	595	496	447	380	400
SB06	365	372	362	362	324	307	366	359	414
SB07	365	74	74	78	66	71	89	85	72
SB08	365	86	87	88	79	74	97	77	80
SB09	365	71	63	70	62	67	78	59	74
SB10	365	190	188	196	168	198	238	172	197
SB11	365	85	72	93	80	85	106	76	89
SB15	365	90	79	95	53	98	119	84	95
TR18	86	702	620	592	622	626	630	552	644
TR26	86	194	230	180	198	195	229	217	211
TR35	86	660	651	622	624	624	526	562	631
TR7	365	508	714	501	518	563	458	507	702

Bore	Trigger Level	Oct/No v-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25
VKY034C	86	123	185	116	98	90	115	117	138
VKY035C	86	87	77	88	73	68	83	77	80
VKY036C	86	244	294	281	100	174	190	174	149
VKY042C	86	302	309	312	283	326	307	316	314
VKY043C	86	<1	<1	<1	<1	<1	<1	<1	<1
VNW223	365	97	no data	no data	no data	164	91	266	308
VNW390	86	95	95	106	55	104	107	106	102
VNW391	86	88	88	96	52	86	101	97	101
VNW392	86	no data	284	296	263	314	300	266	313
VNW393	86	179	185	200	165	202	205	212	197
VNW394	365	no data	551	560	574	591	498	535	573
VNW395	365	14	61	143	91	131	147	151	128
WR1	365	no data	no data	1,320	901	1,280	1,490	1120	1,250
WR2	365	no data	no data	1,540	1,120	1,670	1,790	1250	1,480

Note: Sulfate as SO₄ in mg/L. Red text shows exceedance of trigger level. Highlight cell shows trigger level 1 as defined by TARP in the GWMP (**Appendix A**).

TableD-4: Metal trigger against ANZECC default guideline values

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DGV		0.055	0.009	0.013	0.94	0.0002	0.001	0.0014	0.0014	0.0034	1.9	0.0006	0.034	0.011	0.011	0.00005	0.008
GW01	Jan-24	<0.01	<0.001	<0.001	0.14	<0.0001	<0.001	<0.001	<0.001	<0.001	0.967	<0.0001	<0.001	0.013	<0.01	<0.001*	<0.005
GW01	Apr-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.063	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW01	Jul-24	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.126	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW01	Oct-24	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.155	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW01	Jan-25	<0.01	<0.001	<0.001	0.07	No data	<0.001	<0.001	No data	<0.001	0.24	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW01	Apr-25	0.01	<0.001	<0.001		<0.0001	<0.001	<0.001	0.002	<0.001	0.206	<0.0001	<0.001	0.006	<0.01	<0.001	<0.005
GW01	Jul-25	<0.01	<0.001	0.001	0.06	<0.0001	<0.001	<0.001	0.002	<0.001	0.282	<0.0001	<0.001	0.001	<0.01	<0.001	<0.005
GW02	Jan-24	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	<0.001	0.002	<0.001	0.021	<0.0001	<0.001	0.375	<0.01	<0.001*	0.013
GW02	Apr-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	0.007	<0.001	0.026	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW02	Jul-24	<0.01	0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.003	<0.001	0.018	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.006
GW02	Oct-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.014	<0.001	0.005	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW02	Jan-25	<0.01	<0.001	<0.001	0.06	No data	<0.001	<0.001	No data	<0.001	0.006	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.005
GW02	Apr-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.001	<0.001	0.005	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
GW02	Jul-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.009	<0.001	0.008	<0.0001	<0.001	<0.001	<0.01	<0.001	0.009
GW03	Jan-24	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.014	<0.0001	<0.001	0.971	<0.01	<0.001*	<0.005
GW03	Apr-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.01	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW03	Jul-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.012	<0.0001	<0.001	0.002	<0.01	<0.001*	0.006
GW03	Oct-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.043	<0.0001	<0.001	0.001	<0.01	<0.001*	<0.005
GW03	Jan-25	<0.01	<0.001	<0.001	<0.05	No data	<0.001	<0.001	No data	<0.001	0.089	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW03	Apr-25	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	No data	<0.001	<0.001	0.119	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
GW03	Jul-25	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	0.001	<0.001	0.01	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
GW-10	Oct-24	0.02	0.004	0.002	0.11	<0.0001	<0.001	<0.001	0.114	<0.001	0.033	<0.0001	0.002	0.005	<0.01	<0.001*	0.072
GW-10	Jan-25	<0.01	0.004	<0.001	0.14	No data	<0.001	<0.001	No data	<0.001	0.023	<0.0001	0.001	0.003	<0.01	<0.001*	0.116
GW-10	Apr-25	<0.01	0.011	0.006	0.17	<0.0001	<0.001	<0.001	0.141	<0.001	0.057	<0.0001	0.004	0.006	<0.01	<0.001	0.13
GW-10	Jul-25	<0.01	0.007	0.004	0.16	<0.0001	<0.001	<0.001	0.106	<0.001	0.036	<0.0001	0.004	0.006	<0.01	<0.001	0.115
GW-11	Jan-24	<0.01	<0.001	<0.001	0.13	<0.0001	<0.001	<0.001	<0.001	0.001	2.2	<0.0001	no data	0.00075	<0.01	<0.001*	0.0075
GW-11	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	no data	0.004	<0.01	<0.001*	0.012
GW-11	Jul-24	<0.01	<0.001	<0.001	0.13	0.0003	<0.001	<0.001	0.002	<0.001	1.06	<0.0001	<0.001	0.002	<0.01	<0.001*	0.043
GW-11	Oct-24	<0.01	<0.001	<0.001	0.14	<0.0001	<0.001	<0.001	0.019	<0.001	0.98	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.043
GW-11	Jan-25	<0.01	<0.001	<0.001	0.13	No data	<0.001	<0.001	No data	<0.001	1.04	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.034
GW-11	Apr-25	0.01	<0.001	<0.001	0.14	<0.0001	<0.001	<0.001	0.002	<0.001	1.06	<0.0001	<0.001	<0.001	<0.01	<0.001	0.059
GW-11	Jul-25	<0.01	<0.001	<0.001	0.12	<0.0001	<0.001	<0.001	<0.001	<0.001	0.807	<0.0001	<0.001	<0.001	<0.01	<0.001	0.041
GW-13	Oct-24	<0.01	0.001	0.001	0.08	<0.0001	<0.001	0.001	0.006	<0.001	0.161	<0.0001	<0.001	0.006	<0.01	<0.001*	0.019
GW-13	Jan-25	<0.01	<0.001	<0.001	0.08	No data	<0.001	<0.001	No data	<0.001	0.136	<0.0001	<0.001	0.005	<0.01	<0.001*	0.02
GW-13	Apr-25	0.02	0.005	<0.001	0.09	<0.0001	<0.001	0.002	0.035	<0.001	0.224	<0.0001	0.001	0.009	<0.01	<0.001	0.144
GW-13	Jul-25	0.05	<0.001	0.001	0.08	<0.0001	<0.001	0.002	0.005	<0.001	0.266	<0.0001	<0.001	0.006	<0.01	<0.001	0.049
GW-14	Oct-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.026	<0.0001	<0.001	0.004	<0.01	<0.001*	0.095
GW-14	Jan-25	<0.01	<0.001	<0.001	<0.05	No data	<0.001	<0.001	No data	<0.001	0.008	<0.0001	<0.001	0.001	<0.01	<0.001*	0.031
GW-14	Apr-25	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.004	<0.0001	<0.001	<0.001	<0.01	<0.001	0.077
GW-14	Jul-25	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.006	<0.0001	<0.001	<0.001	<0.01	<0.001	0.087
GW-15	Oct-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	0.002	<0.001	0.011	<0.0001	0.004	<0.001	<0.01	<0.001*	0.011
GW-15	Jan-25	<0.01	<0.001	0.002	<0.05	No data	<0.001	<0.001	No data	<0.001	0.01	<0.0001	0.003	<0.001	<0.01	<0.001*	<0.005
GW-15	Apr-25	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	0.002	<0.001	0.012	<0.0001	0.002	<0.001	<0.01	<0.001	<0.005
GW-15	Jul-25	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.008	<0.0001	0.002	<0.001	<0.01	<0.001	0.006



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
GW-2	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
GW-2	Oct-24	<0.01	<0.001	0.002	<0.05	<0.0001	0.003	<0.001	0.003	<0.001	0.005	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.006
GW-2	Jan-25	<0.01	<0.001	0.001	<0.05	No data	0.002	<0.001	No data	<0.001	0.009	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.016
GW-2	Apr-25	<0.01	<0.001	0.002	0.05	<0.0001	0.004	<0.001	<0.001	<0.001	0.006	<0.0001	0.001	<0.001	<0.01	<0.001	0.008
GW-2	Jul-25	<0.01	<0.001	0.002	<0.05	<0.0001	0.003	<0.001	0.002	<0.001	0.002	<0.0001	<0.001	<0.001	<0.01	<0.001	0.018
GW-4	Oct-24	<0.01	<0.001	0.002	0.12		<0.001	<0.001		<0.001	0.009	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.052
GW-4	Jan-25	<0.01	<0.001	0.002	0.14	No data	<0.001	<0.001	No data	<0.001	0.008	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.029
GW-4	Apr-25	<0.01	<0.001	0.004	0.14	<0.0001	<0.001	<0.001	<0.001	<0.001	0.007	<0.0001	<0.001	<0.001	<0.01	<0.001	0.012
GW-4	Jul-25	<0.01	<0.001	0.002	0.12	<0.0001	<0.001	<0.001	<0.001	<0.001	0.011	<0.0001	<0.001	<0.001	<0.01	<0.001	0.011
GW-6	Oct-24	<0.01	<0.001	<0.001	0.07		<0.001	<0.001		<0.001	0.017	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.01
GW-6	Jan-25	<0.01	<0.001	<0.001	0.08	No data	<0.001	<0.001	No data	<0.001	0.029	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW-6	Apr-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.034	<0.0001	<0.001	<0.001	<0.01	<0.001	0.018
GW-6	Jul-25	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.019	<0.0001	<0.001	<0.001	<0.01	<0.001	0.006
GW-7	Jan-24	<0.01	<0.001	<0.001	0.18	<0.0001	<0.001	<0.001	0.003	<0.001	0.011	<0.0001	0.002	0.002	<0.01	<0.001*	<0.005
GW-7	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
GW-7	Jul-24	<0.01	<0.001	<0.001	0.17	0.0002	<0.001	<0.001	0.016	0.002	0.024	<0.0001	0.001	0.005	<0.01	<0.001*	0.018
GW-7	Oct-24	<0.01	<0.001	<0.001	0.18	<0.0001	<0.001	<0.001	0.001	<0.001	0.03	<0.0001	<0.001	0.001	<0.01	<0.001*	<0.005
GW-7	Jan-25	<0.01	<0.001	<0.001	0.17	No data	<0.001	<0.001	No data	<0.001	0.04	<0.0001	<0.001	0.001	<0.01	<0.001*	<0.005
GW-7	Apr-25	<0.01	<0.001	<0.001	0.2	<0.0001	<0.001	<0.001	0.029	<0.001	0.021	<0.0001	<0.001	0.002	<0.01	<0.001*	<0.005
GW-7	Jul-25	<0.01	<0.001	<0.001	0.19	<0.0001	<0.001	<0.001	0.001	<0.001	0.031	<0.0001	0.001	0.002	<0.01	<0.001	<0.005
GW-8	Jan-24	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.092	<0.0001	<0.001	0.001	<0.01	<0.001*	0.012
GW-8	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
GW-8	Jul-24	<0.01	<0.001	0.002	0.07	0.0001	<0.001	<0.001	<0.001	<0.001	0.089	<0.0001	<0.001	0.003	<0.01	<0.001*	0.01
GW-8	Oct-24	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.176	<0.0001	<0.001	0.002	<0.01	<0.001*	<0.005



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
GW-8	Jan-25	<0.01	<0.001	<0.001	0.07	No data	<0.001	<0.001	No data	<0.001	0.132	<0.0001	<0.001	0.002	<0.01	<0.001*	<0.005
GW-8	Apr-25	<0.01	<0.001	0.002	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.104	<0.0001	<0.001	0.003	<0.01	<0.001	<0.005
GW-8	Jul-25	<0.01	<0.001	0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.113	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
GW-9	Jan-24	<0.01	<0.001	<0.001	0.05	0.0001	<0.001	0.00075	<0.001	<0.001	3.8	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.00825
GW-9	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
GW-9	Jul-24	<0.01	<0.001	<0.001	0.07	0.0001	<0.001	<0.001	<0.001	<0.001	1.71	<0.0001	<0.001	0.003	<0.01	<0.001*	0.008
GW-9	Oct-24	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	0.002	<0.001	2.12	<0.0001	<0.001	0.001	<0.01	<0.001*	<0.005
GW-9	Jan-25	<0.01	<0.001	<0.001	<0.05	No data	<0.001	<0.001	No data	<0.001	2.6	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.008
GW-9	Apr-25	0.01	<0.001	<0.001	0.11	<0.0001	<0.001	<0.001	0.002	<0.001	0.866	<0.0001	<0.001	0.002	<0.01	<0.001	<0.005
GW-9	Jul-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	1.53	<0.0001	<0.001	<0.001	<0.01	<0.001	0.007
GW971400	Oct-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	0.001	0.006	<0.001	0.024	<0.0001	<0.001	0.039	<0.01	<0.001*	<0.005
GW971400	Jan-25	<0.01	<0.001	<0.001	0.05	No data	<0.001	<0.001	No data	<0.001	0.024	<0.0001	<0.001	0.018	<0.01	<0.001*	<0.005
GW971614	Oct-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	0.001	<0.001	0.002	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW971614	Jan-25	<0.01	<0.001	<0.001	<0.05	No data	<0.001	<0.001	No data	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW971614	Apr-25	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	0.013	<0.001	0.002	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
GW971614	Jul-25	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.009	<0.0001	<0.001	<0.001	<0.01	<0.001	0.008
Landreef Tap	Jan-25	<0.01	<0.001	<0.001	<0.05	No data	<0.001	<0.001	No data	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
MD01	Jan-24	0.58	0.001	<0.001	0.04	<0.0001	<0.001	<0.001	0.020	0.001	0.004	<0.0001	0.018	0.005	<0.01	<0.001*	0.31
MD01	Apr-24	0.28	<0.001	0.002	<0.05	<0.0001	<0.001	<0.001	0.006	0.001	<0.001	<0.0001	0.019	0.006	<0.01	<0.001*	0.213
MD01	Jul-24	0.04	0.002	0.001	<0.05	<0.0001	<0.001	<0.001	0.002	0.003	0.013	<0.0001	0.007	0.006	<0.01	<0.001*	0.106
MD01	Oct-24	0.02	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.022	<0.0001	0.008	0.004	0.01	<0.001*	0.049
MD01	Jan-25	0.04	<0.001	<0.001	<0.05	No data	<0.001	<0.001	No data	<0.001	0.017	<0.0001	0.002	0.002	<0.01	<0.001*	0.014
MD01	Apr-25	0.02	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.007	<0.0001	0.011	0.004	<0.01	<0.001	0.034
MD01	Jul-25	0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.009	<0.0001	0.005	0.003	<0.01	<0.001	0.012



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
MD02	Jan-24	<0.01	<0.001	0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.039	<0.0001	0.001	0.036	<0.01	<0.001*	<0.005
MD02	Apr-24	<0.01	<0.001	0.003	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.051	<0.0001	0.003	0.019	<0.01	<0.001*	<0.005
MD02	Jul-24	<0.01	<0.001	0.002	0.05	<0.0001	<0.001	<0.001	<0.001	0.002	0.044	<0.0001	0.002	0.012	<0.01	<0.001*	0.009
MD02	Oct-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.044	<0.0001	0.001	0.011	<0.01	<0.001*	<0.005
MD02	Jan-25	<0.01	<0.001	<0.001	<0.05	No data	<0.001	<0.001	No data	<0.001	0.05	<0.0001	0.001	0.01	<0.01	<0.001*	0.006
MD02	Apr-25	<0.01	<0.001	0.001	<0.5	<0.0001	<0.001	<0.001	<0.001	<0.001	0.074	<0.0001	0.002	0.012	<0.01	<0.001*	<0.005
MD02	Jul-25	<0.01	<0.001	0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.052	<0.0001	0.001	0.012	<0.01	<0.001	<0.005
MD03	Jul-25	<0.01	<0.001	0.002	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.079	<0.0001	0.002	0.004	<0.01	<0.001	0.009
SB01	Jan-24	<0.01	<0.001	<0.001	0.11	<0.0001	<0.001	0.003	<0.001	<0.001	0.39	<0.0001	<0.001	0.032	<0.01	<0.001*	<0.005
SB01	Apr-24	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	0.005	<0.001	<0.001	0.73	<0.0001	0.005	0.027	<0.01	<0.001*	<0.005
SB01	Jul-24	0.11	<0.001	0.004	0.08	<0.0001	0.004	0.024	<0.001	<0.001	1.65	<0.0001	<0.001	0.011	<0.01	<0.001*	0.01
SB01	Oct-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.211	<0.0001	<0.001	0.002	<0.01	<0.001*	0.011
SB01	Jan-25	<0.01	<0.001	<0.001	0.08	No data	<0.001	<0.001	No data	<0.001	0.153	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB01	Apr-25	<0.01	<0.001	0.002	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.519	<0.0001	<0.001	0.002	<0.01	<0.001*	<0.005
SB01	Jul-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	0.003	<0.001	<0.001	0.483	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
SB02	Jan-24	<0.01	<0.001	0.003	0.21	<0.0001	0.003	0.002	<0.001	<0.001	0.735	<0.0001	0.003	0.012	<0.01	<0.001*	0.007
SB02	Apr-24	<0.01	<0.001	0.001	0.07	<0.0001	<0.001	0.003	<0.001	<0.001	0.315	<0.0001	0.002	0.014	<0.01	<0.001*	<0.005
SB02	Jul-24	<0.01	<0.001	0.004	0.14	<0.0001	<0.001	0.002	<0.001	<0.001	0.68	<0.0001	0.003	<0.001	<0.01	<0.001*	<0.005
SB02	Oct-24	<0.01	<0.001	0.004	0.14	<0.0001	<0.001	0.001	<0.001	<0.001	0.696	<0.0001	0.002	0.001	<0.01	<0.001*	<0.005
SB02	Jan-25	<0.01	<0.001	<0.001	0.14	No data	<0.001	0.002	No data	<0.001	0.692	<0.0001	0.002	0.001	<0.01	<0.001*	<0.005
SB02	Apr-25	0.01	<0.001	0.01	0.15	<0.0001	<0.001	<0.001	<0.001	<0.001	0.489	<0.0001	0.003	0.002	<0.01	<0.001*	<0.005
SB02	Jul-25	<0.01	<0.001	0.004	0.14	<0.0001	<0.001	0.002	0.002	<0.001	0.698	<0.0001	0.004	0.002	<0.01	<0.001	0.009
SB04	Jan-24	<0.01	<0.001	<0.001	0.16	<0.0001	<0.001	<0.001	<0.001	<0.001	0.38	<0.0001	0.001	<0.001	<0.01	<0.001*	<0.005
SB04	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.094	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
SB04	Jul-24	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.076	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB04	Oct-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.061	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB04	Jan-25	0.56	<0.001	<0.001	0.11	No data	0.001	<0.001	No data	0.001	0.307	<0.0001	<0.001	0.002	<0.01	<0.001*	0.056
SB04	Apr-25	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.136	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB04	Jul-25	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.139	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
SB05	Jan-24	<0.01	<0.001	0.004	0.21	<0.0001	<0.001	<0.001	<0.001	<0.001	0.233	<0.0001	0.004	0.002	<0.01	<0.001*	<0.005
SB05	Apr-24	<0.01	<0.001	0.004	0.13	<0.0001	<0.001	<0.001	<0.001	<0.001	0.405	<0.0001	0.005	0.002	<0.01	<0.001*	<0.005
SB05	Jul-24	<0.01	<0.001	0.008	0.15	<0.0001	<0.001	<0.001	<0.001	<0.001	0.516	<0.0001	0.003	<0.001	<0.01	<0.001*	<0.005
SB05	Oct-24	<0.01	<0.001	0.004	0.16	<0.0001	<0.001	<0.001	<0.001	<0.001	0.273	<0.0001	0.003	0.001	<0.01	<0.001*	<0.005
SB05	Jan-25	<0.01	<0.001	0.004	0.15	No data	<0.001	<0.001	No data	<0.001	0.703	<0.0001	0.002	<0.001	<0.01	<0.001*	<0.005
SB05	Apr-25	<0.01	<0.001	0.003	0.17	<0.0001	<0.001	<0.001	<0.001	<0.001	0.224	<0.0001	0.003	<0.001	<0.01	<0.001	<0.005
SB05	Jul-25	<0.01	<0.001	0.004	0.14	<0.0001	<0.001	<0.001	0.001	<0.001	0.228	<0.0001	0.003	<0.001	<0.01	<0.001	0.007
SB06	Jan-24	0.02	<0.001	0.003	0.19	<0.0001	<0.001	0.002	0.003	<0.001	1.18	<0.0001	0.002	0.002	<0.01	<0.001*	<0.005
SB06	Apr-24	<0.01	<0.001	0.003	0.12	<0.0001	<0.001	0.002	<0.001	<0.001	1.19	<0.0001	0.003	0.002	<0.01	<0.001*	<0.005
SB06	Jul-24	<0.01	<0.001	0.003	0.13	<0.0001	<0.001	0.001	<0.001	<0.001	0.771	<0.0001	0.002	<0.001	<0.01	<0.001*	0.006
SB06	Oct-24	0.01	<0.001	0.003	0.12	<0.0001	<0.001	0.002	<0.001	<0.001	0.493	<0.0001	0.003	0.003	<0.01	<0.001*	<0.005
SB06	Jan-25	<0.01	<0.001	0.002	0.13	No data	<0.001	<0.001	No data	<0.001	0.285	<0.0001	0.002	<0.001	<0.01	<0.001*	<0.005
SB06	Apr-25	<0.01	<0.001	0.004	0.14	<0.0001	<0.001	<0.001	0.006	<0.001	0.302	<0.0001	0.005	<0.001	<0.01	<0.001*	<0.005
SB06	Jul-25	<0.01	<0.001	0.004	0.12	<0.0001	<0.001	0.002	<0.001	<0.001	0.886	<0.0001	0.002	0.002	<0.01	<0.001	0.006
SB07	Jan-24	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	0.07	<0.01	<0.001*	<0.005
SB07	Apr-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB07	Jul-24	<0.01	<0.001	0.001	0.08	0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	0.001	<0.01	<0.001*	0.009
SB07	Oct-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.004	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB07	Jan-25	<0.01	<0.001	<0.001	0.06	No data	0.001	<0.001	No data	<0.001	0.002	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
SB07	Apr-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.002	<0.001	0.001	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
SB07	Jul-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.013	<0.001	0.001	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
SB08	Jan-24	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	<0.001	0.004	<0.001	0.002	<0.0001	<0.001	0.063	<0.01	<0.001*	<0.005
SB08	Apr-24	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	0.011	<0.001	0.001	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB08	Jul-24	<0.01	<0.001	0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB08	Oct-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB08	Jan-25	<0.01	<0.001	<0.001	0.06	No data	<0.001	<0.001	No data	<0.001	0.007	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB08	Apr-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.046	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB08	Jul-25	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
SB09	Jan-24	<0.01	<0.001	<0.001	0.11	<0.0001	<0.001	<0.001	<0.001	<0.001	0.335	<0.0001	0.001	0.015	<0.01	<0.001*	<0.005
SB09	Apr-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.306	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.013
SB09	Jul-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.466	<0.0001	0.001	<0.001	<0.01	<0.001*	<0.005
SB09	Oct-24	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.443	<0.0001	<0.001	0.001	<0.01	<0.001*	<0.005
SB09	Jan-25	<0.01	<0.001	<0.001	0.07	No data	<0.001	<0.001	No data	<0.001	0.615	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.013
SB09	Apr-25	<0.1	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.394	<0.0001	<0.001	0.001	<0.01	<0.001*	<0.005
SB09	Jul-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.672	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
SB10	Jan-24	<0.01	<0.001	0.001	0.16	<0.0001	<0.001	<0.001	<0.001	<0.001	0.074	<0.0001	0.002	<0.001	<0.01	<0.001*	<0.005
SB10	Apr-24	<0.01	<0.001	0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.146	<0.0001	0.002	<0.001	<0.01	<0.001*	<0.005
SB10	Jul-24	<0.01	<0.001	0.001	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.024	<0.0001	0.001	<0.001	<0.01	<0.001*	<0.005
SB10	Oct-24	<0.01	<0.001	0.001	0.11	<0.0001	<0.001	<0.001	<0.001	<0.001	0.104	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB10	Jan-25	<0.01	<0.001	<0.001	0.1	No data	<0.001	<0.001	No data	<0.001	0.011	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB10	Apr-25	<0.01	<0.001	0.001	0.11	<0.0001	<0.001	<0.001	<0.001	<0.001	0.136	<0.0001	0.001	<0.001	<0.01	<0.001*	<0.005
SB10	Jul-25	<0.01	<0.001	0.001	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.096	<0.0001	0.002	<0.001	<0.01	<0.001	<0.005
SB11	Jan-24	<0.01	<0.001	<0.001	0.13	<0.0001	<0.001	<0.001	0.01	<0.001	0.023	<0.0001	<0.001	0.057	<0.01	<0.001*	<0.005



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
SB11	Apr-24	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	0.021	<0.001	0.006	<0.0001	<0.001	0.002	<0.01	<0.001*	<0.005
SB11	Jul-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.003	<0.001	0.01	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB11	Oct-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.004	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB11	Jan-25	<0.01	<0.001	<0.001	0.08	No data	<0.001	<0.001	No data	<0.001	0.142	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB11	Apr-25	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.005	<0.001	0.047	<0.0001	<0.001	0.001	<0.01	<0.001*	0.005
SB11	Jul-25	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	0.003	<0.001	0.002	<0.0001	<0.001	<0.001	<0.01	<0.001	0.005
SB15	Jan-24	<0.01	<0.001	<0.001	0.12	<0.0001	<0.001	<0.001	0.001	<0.001	0.008	<0.0001	<0.001	0.032	<0.01	<0.001*	<0.005
SB15	Apr-24	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.004	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.018
SB15	Jul-24	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.02	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB15	Oct-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.008	<0.001	0.001	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB15	Jan-25	<0.01	<0.001	<0.001	0.06	No data	<0.001	<0.001	No data	<0.001	0.002	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB15	Apr-25	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	0.002	<0.001	0.006	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.011
SB15	Jul-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.006	<0.0001	<0.001	<0.001	<0.01	<0.001	<0.005
TR18	Jan-24	<0.01	<0.001	<0.001	0.11	<0.0001	<0.001	<0.001	0.07	<0.001	0.042	<0.0001	0.001	0.021	<0.01	<0.001*	<0.005
TR18	Apr-24	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	0.032	<0.001	0.023	<0.0001	0.002	0.020	<0.01	<0.001*	0.009
TR18	Jul-24	<0.01	<0.001	<0.001	0.08	0.0001	<0.001	<0.001	0.033	<0.001	0.094	<0.0001	0.002	0.019	<0.01	<0.001*	0.008
TR18	Oct-24	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	0.101	<0.001	0.043	<0.0001	0.001	0.013	<0.01	<0.001*	<0.005
TR18	Jan-25	0.03	<0.001	<0.001	0.07	No data	<0.001	<0.001	No data	<0.001	0.032	<0.0001	<0.001	0.011	<0.01	<0.001*	<0.005
TR18	Apr-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.873	<0.001	0.021	<0.0001	<0.001	0.013	<0.01	<0.001*	0.01
TR18	Jul-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.069	<0.001	0.017	<0.0001	<0.001	0.009	<0.01	<0.001	0.011
TR26	Jan-24	<0.01	<0.001	<0.001	0.14	<0.0001	<0.001	<0.001	0.01	<0.001	0.07	<0.0001	0.002	0.014	<0.01	<0.001*	<0.005
TR26	Apr-24	<0.01	<0.001	<0.001	0.07	<0.0001	0.002	<0.001	<0.001	<0.001	0.033	<0.0001	0.005	0.017	<0.01	<0.001*	0.012
TR26	Jul-24	<0.01	<0.001	<0.001	0.11	0.0001	<0.001	<0.001	<0.001	<0.001	0.053	<0.0001	0.002	0.004	<0.01	<0.001*	0.007
TR26	Oct-24	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.106	<0.0001	0.001	0.004	<0.01	<0.001*	<0.005



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
TR26	Jan-25	<0.01	<0.001	<0.001	0.09	No data	<0.001	<0.001	No data	<0.001	0.105	<0.0001	<0.001	0.006	<0.01	<0.001*	<0.005
TR26	Apr-25	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	<0.001	0.002	<0.001	0.042	<0.0001	0.002	0.004	<0.01	<0.001	0.013
TR26	Jul-25	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	<0.001	0.002	<0.001	<0.001	<0.0001	0.004	<0.001	<0.01	<0.001	<0.005
TR35	Jan-24	<0.01	<0.001	<0.001	0.12	0.0002	0.002	0.007	1.24	<0.001	1.72	<0.0001	0.011	0.713	<0.01	<0.001*	0.015
TR35	Apr-24	<0.01	<0.001	<0.001	0.06	0.0004	0.002	0.010	1.730	<0.001	1.76	<0.0001	0.017	0.558	<0.01	<0.001*	0.030
TR35	Jul-24	<0.01	<0.001	0.001	0.08	0.0003	<0.001	0.011	7.09	<0.001	1.51	<0.0001	0.009	0.435	<0.01	<0.001*	0.02
TR35	Oct-24	<0.01	<0.001	<0.001	0.09	0.0004	<0.001	0.01	8.23	<0.001	1.44	<0.0001	0.01	0.308	<0.01	<0.001*	0.017
TR35	Jan-25	<0.01	<0.001	<0.001	0.07	No data	<0.001	0.008	No data	<0.001	0.907	<0.0001	0.002	0.111	<0.01	<0.001*	0.009
TR35	Apr-25	<0.01	<0.001	<0.001	0.08	0.0002	<0.001	0.006	0.844	<0.001	0.789	<0.0001	0.004	0.067	<0.01	<0.001*	0.011
TR35	Jul-25	<0.01	<0.001	<0.001	0.07	0.0001	<0.001	0.002	1.17	<0.001	0.568	<0.0001	<0.001	0.011	<0.01	<0.001	0.01
TR7	Jan-24	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	0.008	0.863	<0.001	0.637	<0.0001	0.002	0.39	<0.01	<0.001*	0.006
TR7	Apr-24	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	0.004	0.346	<0.001	0.262	<0.0001	0.002	0.118	<0.01	<0.001*	0.006
TR7	Jul-24	<0.01	<0.001	<0.001	0.07	0.0001	<0.001	0.008	0.471	<0.001	0.526	<0.0001	0.003	0.272	<0.01	<0.001*	0.01
TR7	Oct-24	<0.01	<0.001	<0.001	0.07	0.0001	<0.001	0.004	1.59	<0.001	0.278	<0.0001	0.002	0.045	<0.01	<0.001*	<0.005
TR7	Jan-25	<0.01	<0.001	<0.001	0.07	No data	<0.001	0.005	No data	<0.001	0.381	<0.0001	<0.001	0.024	<0.01	<0.001*	0.006
TR7	Apr-25	<0.01	<0.001	<0.001	0.06	0.0002	<0.001	0.003	0.387	<0.001	0.193	<0.0001	0.001	0.053	<0.01	<0.001*	0.013
TR7	Jul-25	<0.01	<0.001	<0.001	0.06	0.0003	<0.001	0.003	1.44	<0.001	0.146	<0.0001	<0.001	0.025	<0.01	<0.001	0.014
VKY0034C	Jan-25	<0.01	<0.001	0.001	0.19	No data	<0.001	<0.001	No data	<0.001	0.008	<0.0001	0.003	0.003	<0.01	<0.001*	0.014
VKY0034C	Apr-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.002	<0.0001	0.003	0.004	<0.01	<0.001*	0.013
VKY0035C	Jan-25	<0.01	<0.001	0.001	<0.05	No data	0.001	<0.001	No data	<0.001	0.308	<0.0001	0.006	0.006	<0.01	<0.001*	<0.005
VKY0035C	Apr-25	<0.01	<0.001	0.003	<0.05	<0.0001	0.002	<0.001	0.001	<0.001	0.321	<0.0001	0.007	0.012	<0.01	<0.001	0.023
VKY0036C	Jan-25	<0.01	<0.001	0.006	0.09	No data	<0.001	<0.001	No data	<0.001	0.151	<0.0001	0.002	0.004	<0.01	<0.001*	<0.005
VKY0036C	Apr-25	<0.01	<0.001	0.01	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.185	<0.0001	0.004	0.002	<0.01	<0.001*	<0.005
VKY0042C	Jan-25	<0.01	<0.001	<0.001	0.06	No data	<0.001	<0.001	No data	<0.001	0.22	<0.0001	<0.001	0.003	<0.01	<0.001*	0.015



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
VKY0042C	Apr-25	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	0.003	<0.001	0.216	<0.0001	<0.001	0.002	<0.01	<0.001*	0.013
VKY0043C	Jan-25	<0.01	<0.001	<0.001	0.06	No data	<0.001	<0.001	No data	<0.001	0.005	<0.0001	<0.001	0.001	<0.01	<0.001*	<0.005
VKY0043C	Apr-25	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	0.001	<0.001	0.004	<0.0001	<0.001	<0.001	<0.01	<0.001	0.005
VKY034C	Jan-24	<0.01	<0.001	0.002	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.102	<0.0001	0.007	0.008	<0.01	<0.001*	<0.005
VKY034C	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
VKY034C	Jul-24	<0.01	<0.001	0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.003	<0.0001	<0.001	0.001	<0.01	<0.001*	0.005
VKY034C	Oct-24	<0.01	0.002	0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	0.005	0.006	<0.01	<0.001*	0.023
VKY034C	Jul-25	<0.01	<0.001	0.001	0.23	<0.0001	<0.001	<0.001	<0.001	<0.001	0.005	<0.0001	0.002	0.002	<0.01	<0.001	0.092
VKY035C	Jan-24	<0.01	<0.001	0.001	0.07	<0.0001	0.002	<0.001	<0.001	<0.001	0.329	<0.0001	0.007	0.006	<0.01	<0.001*	0.006
VKY035C	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
VKY035C	Jul-24	<0.01	<0.001	0.002	<0.05	<0.0001	0.002	<0.001	<0.001	0.001	0.32	<0.0001	0.008	0.005	<0.01	<0.001*	0.008
VKY035C	Oct-24	<0.01	<0.001	<0.001	<0.05	<0.0001	0.002	<0.001	<0.001	<0.001	0.32	<0.0001	0.007	0.003	<0.01	<0.001*	<0.005
VKY035C	Jul-25	<0.01	<0.001	0.002	<0.05	<0.0001	0.002	<0.001	<0.001	<0.001	0.299	<0.0001	0.004	0.008	<0.01	<0.001	0.005
VKY036C	Jan-24	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.013	<0.0001	0.001	0.013	<0.01	<0.001*	<0.005
VKY036C	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
VKY036C	Jul-24	<0.01	<0.001	0.008	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.153	<0.0001	0.004	0.005	<0.01	<0.001*	<0.005
VKY036C	Oct-24	<0.01	<0.001	0.007	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.157	<0.0001	0.003	0.004	<0.01	<0.001*	<0.005
VKY036C	Jul-25	<0.01	<0.001	0.008	0.09	<0.0001	0.005	<0.001	0.002	<0.001	0.042	<0.0001	0.006	0.001	<0.01	<0.001	<0.005
VKY042C	Jan-24	<0.01	<0.001	<0.001	0.1	0.0001	<0.001	<0.001	0.006	<0.001	0.223	<0.0001	0.002	0.015	<0.01	<0.001*	0.014
VKY042C	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
VKY042C	Jul-24	<0.01	0.002	<0.001	0.07	0.001	<0.001	0.004	0.008	<0.001	0.217	<0.0001	0.001	0.038	<0.01	<0.001*	0.033
VKY042C	Oct-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.001	<0.001	0.213	<0.0001	<0.001	0.003	<0.01	<0.001*	<0.005
VKY042C	Jul-25	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	0.002	<0.001	0.202	<0.0001	<0.001	0.001	<0.01	<0.001	0.006
VKY043C	Jan-24	<0.01	<0.001	<0.001	0.11	<0.0001	<0.001	<0.001	<0.001	<0.001	0.005	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
VKY043C	Apr-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.004	<0.0001	<0.001	0.002	<0.01	<0.001*	0.006
VKY043C	Jul-24	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	<0.001	0.002	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
VKY043C	Oct-24	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	0.002	<0.001	0.004	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.006
VKY043C	Jul-25	<0.01	0.002	<0.001	0.07	<0.0001	<0.001	<0.001	0.002	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.01	<0.001	0.007
VNW223	Oct-24	<0.01	0.001	<0.001	0.07	<0.0001	<0.001	<0.001	0.011	<0.001	0.013	<0.0001	<0.001	0.003	<0.01	<0.001*	0.023
VNW223	Jan-25	<0.01	<0.001	<0.001	0.08	No data	<0.001	<0.001	No data	<0.001	0.007	<0.0001	<0.001	0.002	<0.01	<0.001*	0.027
VNW223	Jul-25	<0.01	0.003	<0.001	0.06	<0.0001	<0.001	0.001	0.013	<0.001	0.126	<0.0001	<0.001	0.008	<0.01	<0.001	0.062
VNW390	Jan-24	<0.01	<0.001	<0.001	0.14	<0.0001	<0.001	<0.001	0.005	<0.001	0.003	<0.0001	<0.001	0.002	<0.01	<0.001*	0.026
VNW390	Apr-24	<0.01	<0.001	0.002	0.09	<0.0001	<0.001	0.002	<0.001	<0.001	0.239	<0.0001	<0.001	0.002	<0.01	<0.001*	0.007
VNW390	Jul-24	<0.01	<0.001	0.002	0.12	0.0001	<0.001	0.003	<0.001	<0.001	0.298	<0.0001	0.005	0.036	<0.01	<0.001*	<0.005
VNW390	Oct-24	<0.01	<0.001	0.003	0.12	<0.0001	<0.001	0.002	<0.001	<0.001	0.321	<0.0001	0.002	0.016	<0.01	<0.001*	0.008
VNW390	Jan-25	<0.01	<0.001	0.001	0.11	No data	<0.001	0.002	No data	<0.001	0.227	<0.0001	0.003	0.024	<0.01	<0.001*	0.005
VNW390	Apr-25	<0.01	<0.001	0.002	0.11	<0.0001	<0.001	0.002	<0.001	<0.001	0.362	<0.0001	0.004	0.026	<0.01	<0.001*	<0.005
VNW390	Jul-25	<0.01	<0.001	<0.001	0.1	<0.0001	0.001	0.001	<0.001	<0.001	0.23	<0.0001	0.003	0.017	<0.01	<0.001	<0.005
VNW391	Jan-24	<0.01	<0.001	<0.001	0.13	<0.0001	<0.001	<0.001	0.001	<0.001	0.006	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.006
VNW391	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.225	<0.0001	0.001	0.007	<0.01	<0.001*	0.013
VNW391	Jul-24	<0.01	0.002	<0.001	0.11	0.0003	<0.001	<0.001	<0.001	0.002	0.246	<0.0001	<0.001	0.006	<0.01	<0.001*	0.018
VNW391	Oct-24	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.266	<0.0001	<0.001	0.004	<0.01	<0.001*	<0.005
VNW391	Jan-25	<0.01	<0.001	<0.001	0.1	No data	<0.001	<0.001	No data	<0.001	0.233	<0.0001	<0.001	0.004	<0.01	<0.001*	0.019
VNW391	Apr-25	<0.01	<0.001	0.001	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.264	<0.0001	<0.001	0.002	<0.01	<0.001*	0.005
VNW391	Jul-25	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.25	<0.0001	<0.001	0.002	<0.01	<0.001	<0.005
VNW392	Jan-24	<0.01	<0.001	0.001	0.12	<0.0001	<0.001	0.003	<0.001	<0.001	0.333	<0.0001	0.002	0.02	<0.01	<0.001*	0.008
VNW392	Apr-24	<0.01	<0.001	0.001	0.07	<0.0001	<0.001	0.003	<0.001	<0.001	0.315	<0.0001	0.002	0.014	<0.01	<0.001*	<0.005
VNW392	Jul-24	<0.01	<0.001	0.002	0.1	<0.0001	<0.001	0.003	<0.001	<0.001	0.286	<0.0001	0.002	0.01	<0.01	<0.001*	0.007



Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
VNW392	Oct-24	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	0.003	<0.001	<0.001	0.275	<0.0001	0.002	0.008	<0.01	<0.001*	<0.005
VNW392	Jan-25	<0.01	<0.001	<0.001	0.09	No data	<0.001	0.002	No data	<0.001	0.22	<0.0001	0.004	0.026	<0.01	<0.001*	0.009
VNW392	Apr-25	<0.01	<0.001	0.003	0.08	<0.0001	<0.001	0.003	<0.001	<0.001	0.51	<0.0001	0.001	0.005	<0.01	<0.001*	<0.005
VNW392	Jul-25	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	0.003	<0.001	<0.001	0.269	<0.0001	0.001	0.008	<0.01	<0.001	<0.005
VNW393	Jan-24	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.092	<0.0001	0.003	<0.001	<0.01	<0.001*	<0.005
VNW393	Apr-24	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.15	<0.0001	0.005	0.005	<0.01	<0.001*	<0.005
VNW393	Jul-24	<0.01	<0.001	0.001	0.09	0.0001	<0.001	<0.001	<0.001	<0.001	0.181	<0.0001	0.004	0.006	<0.01	<0.001*	0.005
VNW393	Oct-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.193	<0.0001	0.005	0.01	<0.01	<0.001*	<0.005
VNW393	Jan-25	0.01	<0.001	<0.001	0.08	No data	<0.001	<0.001	No data	<0.001	0.176	<0.0001	0.005	0.013	<0.01	<0.001*	<0.005
VNW393	Apr-25	0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.195	<0.0001	0.004	0.006	<0.01	<0.001*	<0.005
VNW393	Jul-25	<0.01	<0.001	0.001	0.08	<0.0001	0.002	<0.001	<0.001	<0.001	0.179	<0.0001	0.003	0.003	<0.01	<0.001	<0.005
VNW394	Jan-24	<0.01	<0.001	0.007	0.1	<0.0001	<0.001	0.011	<0.001	<0.001	2.12	<0.0001	0.003	0.035	<0.01	<0.001*	0.007
VNW394	Apr-24	<0.01	<0.001	0.006	<0.05	<0.0001	<0.001	0.002	<0.001	<0.001	1.27	<0.0001	0.003	0.006	<0.01	<0.001*	<0.005
VNW394	Jul-24	<0.01	<0.001	0.005	0.07	<0.0001	<0.001	0.002	<0.001	<0.001	0.982	<0.0001	0.002	0.007	<0.01	<0.001*	0.013
VNW394	Oct-24	0.02	<0.001	0.005	0.07	<0.0001	<0.001	0.002	0.001	<0.001	0.332	<0.0001	0.002	0.014	<0.01	<0.001*	0.007
VNW394	Jan-25	<0.01	<0.001	0.004	0.06	No data	<0.001	0.002	No data	<0.001	0.283	<0.0001	0.001	0.006	<0.01	<0.001*	0.005
VNW394	Apr-25	<0.01	<0.001	0.004	0.06	<0.0001	<0.001	0.002	<0.001	<0.001	0.353	<0.0001	0.002	0.008	0.01	<0.001	<0.005
VNW394	Jul-25	<0.01	<0.001	0.004	0.07	<0.0001	<0.001	0.002	<0.001	<0.001	0.337	<0.0001	0.004	0.005	<0.01	<0.001	<0.005
VNW395	Jan-24	<0.01	<0.001	0.001	0.08	<0.0001	<0.001	<0.001	0.002	<0.001	0.032	<0.0001	<0.001	0.001	<0.01	<0.001*	<0.005
VNW395	Apr-24	<0.01	<0.001	0.001	0.0575	<0.0001	<0.001	0.00125	0.00625	<0.001	0.125	<0.0001	0.00575	0.2285	<0.01	<0.001*	0.007
VNW395	Jul-24	<0.01	<0.001	0.001	0.06	<0.0001	<0.001	0.001	0.007	0.002	0.071	<0.0001	0.008	0.371	<0.01	<0.001*	0.016
VNW395	Oct-24	<0.01	0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.009	<0.001	0.006	<0.0001	0.004	0.347	<0.01	<0.001*	0.012
VNW395	Jan-25	<0.01	<0.001	<0.001	0.05	No data	<0.001	<0.001	No data	<0.001	0.056	<0.0001	0.001	0.14	<0.01	<0.001*	<0.005
VNW395	Apr-25	0.1	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.122	<0.0001	<0.001	0.004	<0.01	<0.001*	<0.005



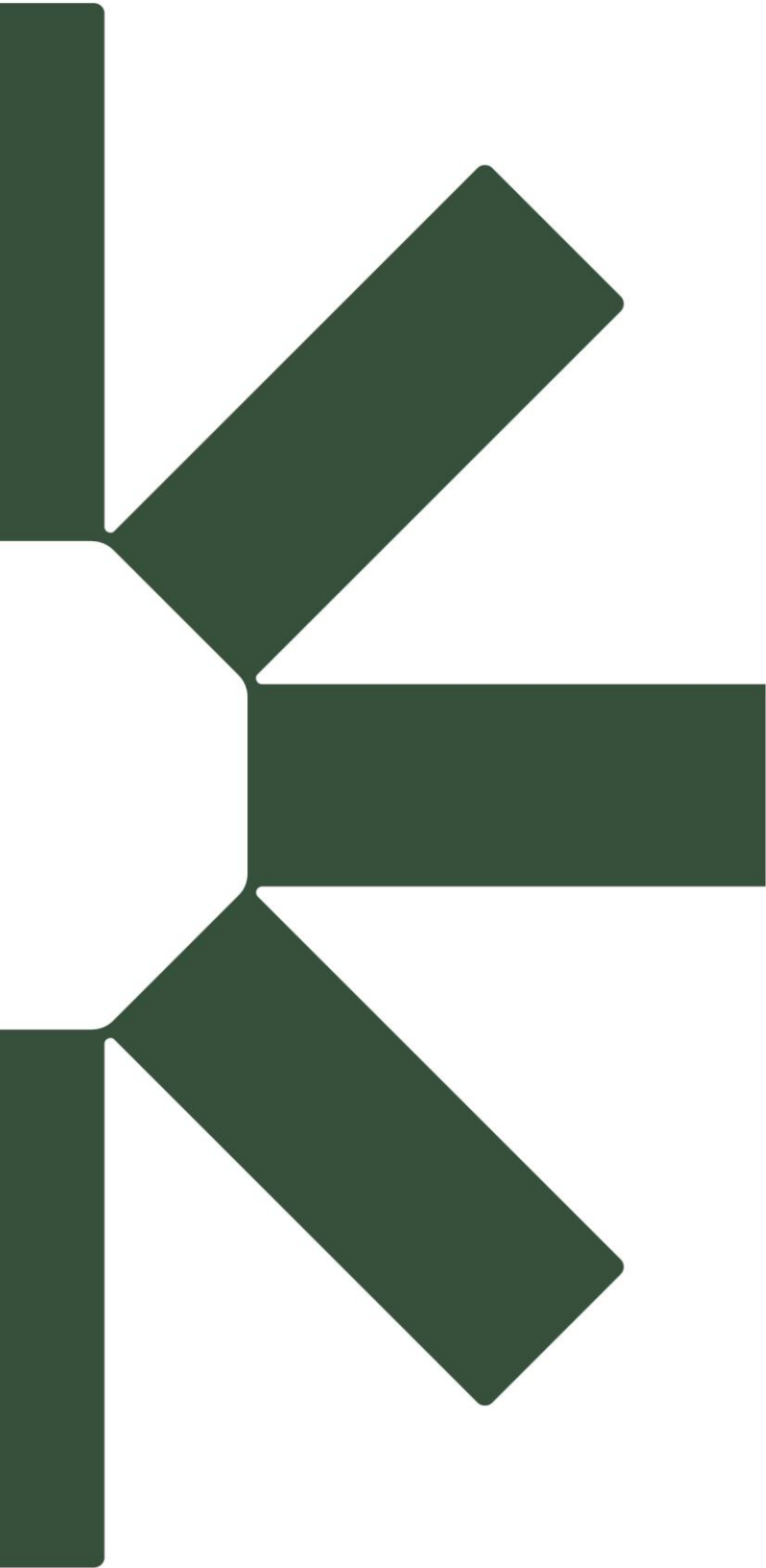
Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
VNW395	Jul-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.082	<0.0001	0.003	0.002	<0.01	<0.001	<0.005
WR1	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
WR1	Jul-24	<0.01	<0.001	0.001	0.15	0.0003	<0.001	<0.001	0.001	0.002	0.122	0.0017	0.002	0.037	<0.01	<0.001*	0.014
WR1	Oct-24	<0.01	<0.001	0.002	0.16	0.0002	<0.001	<0.001	0.005	<0.001	0.065	0.0046	0.002	0.024	<0.01	0.001	0.007
WR1	Jan-25	<0.01	<0.001	<0.001	0.17	No data	<0.001	<0.001	No data	<0.001	0.08	0.0003	<0.001	0.024	<0.01	<0.001*	0.007
WR1	Apr-25	<0.01	<0.001	<0.001	0.18	0.0002	<0.001	0.004	2.35	<0.001	0.248	0.0037	0.002	0.094	<0.01	0.002	0.018
WR1	Jul-25	<0.01	<0.001	0.001	0.16	0.0003	<0.001	0.005	0.619	0.001	0.285	0.0057	0.002	0.03	<0.01	0.001	0.013
WR2	Apr-24	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.001	<0.001	0.224	<0.0001	<0.001	0.004	<0.01	<0.001*	0.012
WR2	Jul-24	<0.01	<0.001	<0.001	0.09	0.0001	<0.001	0.008	<0.001	<0.001	0.724	<0.0001	0.022	0.118	<0.01	<0.001*	<0.005
WR2	Oct-24	<0.01	<0.001	0.001	0.11	<0.0001	0.001	0.018	<0.001	<0.001	1.73	<0.0001	0.008	0.087	<0.01	<0.001*	0.009
WR2	Jan-25	<0.01	<0.001	<0.001	0.12	No data	0.001	0.014	No data	<0.001	1.12	<0.0001	0.02	0.158	<0.01	<0.001*	0.011
WR2	Apr-25	<0.01	<0.001	<0.001	0.13	<0.0001	0.001	0.01	0.002	<0.001	0.478	<0.0001	0.045	0.22	<0.01	<0.001*	0.015
WR2	Jul-25	<0.01	<0.001	<0.001	0.12	<0.0001	<0.001	0.015	0.002	<0.001	1.65	<0.0001	0.001	0.025	<0.01	<0.001	0.014

*Limit of reporting value is higher than DGV value. Red text shows exceedance of ANZECC Default Guideline Values. Highlighted cell shows trigger level 1 as defined by TARP in the GWMP (Appendix A).

In the January 2025 monitoring round, the bore (or location) Landreef Tap was reported and included in this table. However, this bore is not listed in Table 4-1 and Table 4-2 of the management plan (Whitehaven, 2023).

In the January 2025 monitoring round, bore GW97164 was reported but is considered to be a typo in the Chain of Custody (Appendix C). Therefore, it has been reported as GW971614.





Making Sustainability Happen