Vickery Extension Project Groundwater Monitoring Report

Quarterly Review November 2024 – January 2025

Whitehaven Coal Ltd

Blue Vale Rd, Boggabri NSW 2382 Australia

Prepared by:

SLR Consulting Australia

SLR Project No.: 640.031099.00001

26 March 2025

Revision: 1.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	26 March 2025	Joy Xie	Sharon Hulbert	Brian Rask

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Whitehaven Coal Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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Acronyms and Abbreviations

CMAs	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 November 2024 through 31st January 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.

Mining operations continue on site, with coal extraction occurring. Within the reporting period, Whitehaven Coal completed construction 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 across the active haul roads.

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 November 2024 through 31st January 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. In order 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 slightly lower rainfall compared to long-term average rainfall in November and December 2024, and significantly lower rainfall in January 2025.

Table 1: Monthly rainfall vs long-term average rainfall

Year	2024												2025
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**
SILO 2024-2025 monthly rainfall (mm)	52.6	20.7	17.6	68.6	33.0	70.3	51.1	56.9	42.1	33.6	54.2	58.3	35.8
SILO Long-term average rainfall (mm)	69.4	57.7	46.0	33.2	39.2	40.5	38.6	35.2	37.3	49.0	58.0	60.9	69.4
On-site Rainfall (mm)	29.4	40.8	25.8	101.8	52.8	74.0	43.0	68.2	16.0	54.6	53.1	60.7	12.9

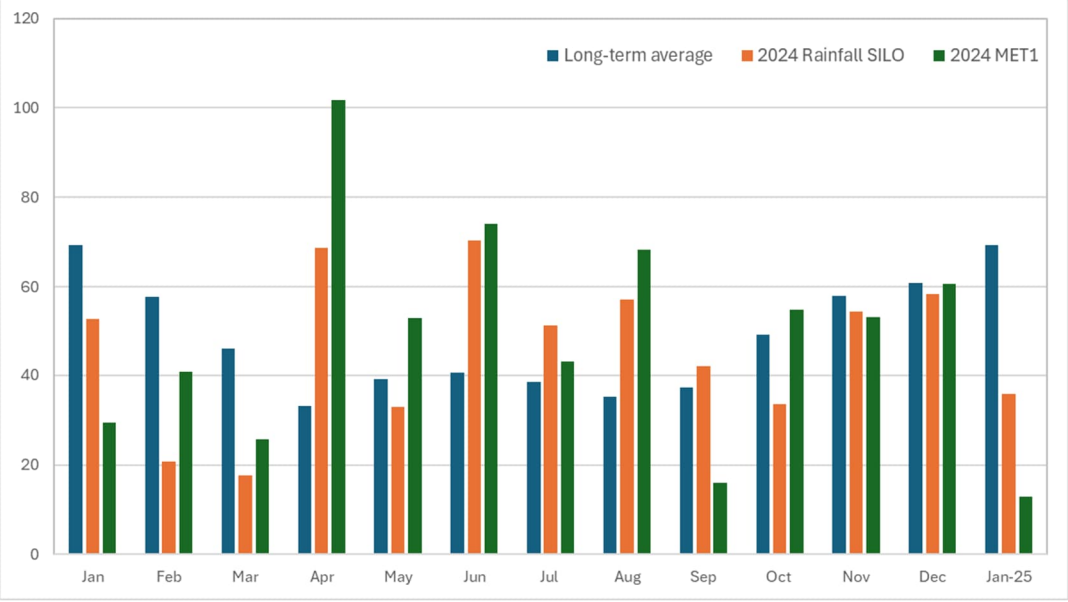


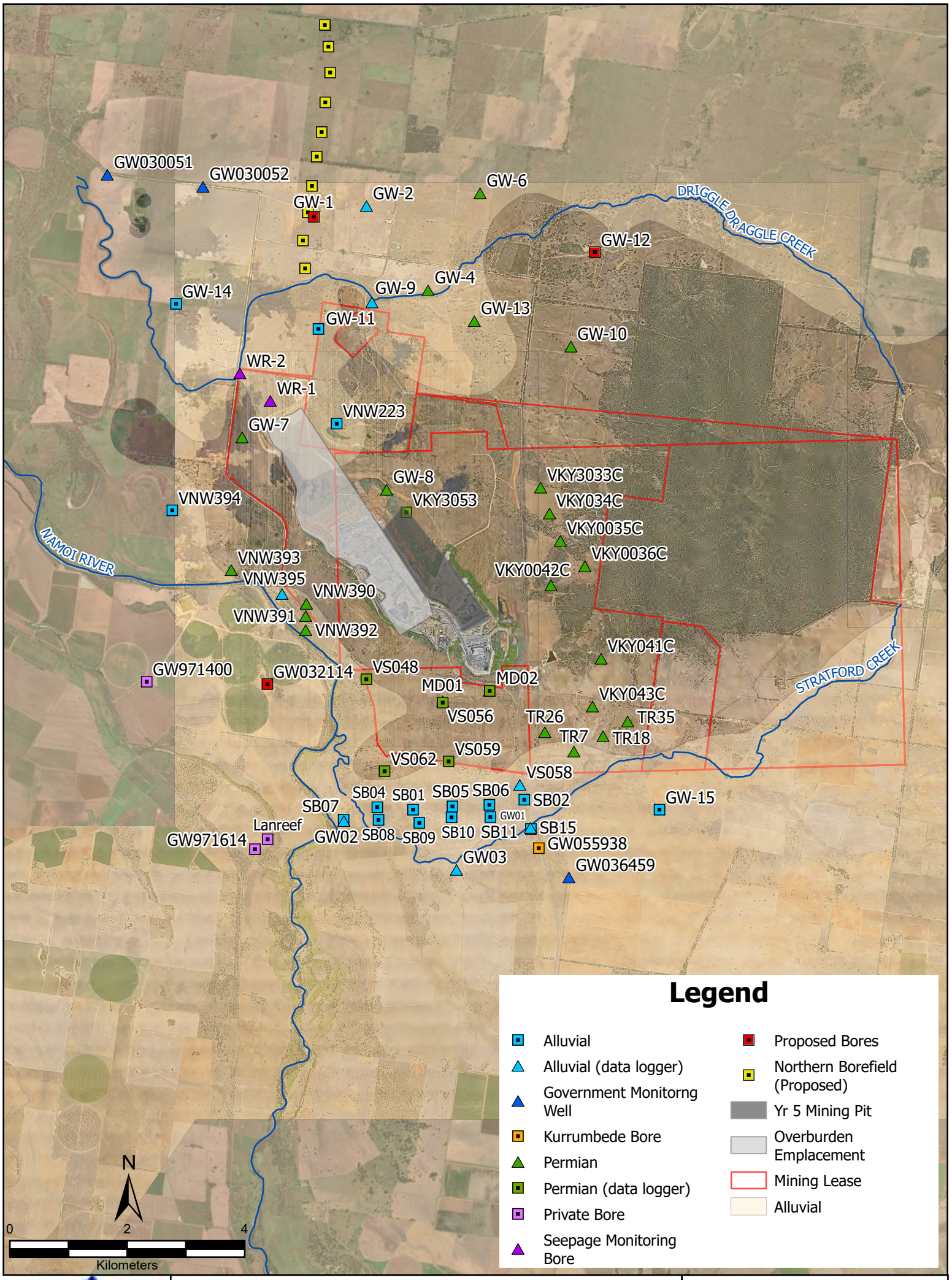
Figure 1 On-site monthly rainfall vs long-term average monthly rainfall

2.2 Groundwater Monitoring Network

Based on the GWMP, the existing groundwater monitoring network consists of 59 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).



WHITEHAVEN

Vickery Coal Mine
Groundwater Monitoring Locations

Date: Dec 2024
Scale: 1:79,000
Author: A. Quiroz

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
GW01	9.1	8.2	8.4	8.5	9.2	9.5	8.8	9.3	9.0
GW02	-	7.5	8.3	8.5	8.8	9.0	8.8	8.7	8.6
GW-11	-	-	-	16.7	16.6	16.6	14.2	16.6	16.5
GW-14	-	-	-	-	-	-	-	10.9	10.7
GW-15	-	-	-	-	-	-	-	12.7	13.3
GW-2	-	-	-	-	-	19.6	-	18.4	20.5
GW-9	-	-	-	17.8	18.4	17.8	17.8	17.7	17.6
SB01	7.3	6.4	7.2	7.2	7.4	7.9	7.7	7.6	7.3
SB02	10.3	9.8	9.7	9.5	9.7	10.0	9.8	1.4^	9.9
SB04	7.5	6.3	7.6	7.3	7.6	8.2	8.1	7.9	7.9
SB05	8.3	7.1	7.9	7.7	8.1	8.6	8.4	8.2	8.4
SB06	9.8	8.4	8.8	8.9	9.0	9.4	9.2	9.1	9.2
SB07		8.0	8.9	8.8	8.8	9.5	9.5	9.2	9.4
SB08	7.8	6.7	7.6	7.7	7.6	8.1	8.0	7.8	7.8
SB09	7.9	6.4	7.3	7.2	7.5	8.0	7.8	7.7	7.7
SB10	8.1	7.5	8.0	8.2	8.2	8.6	8.5	8.3	8.4
SB11	9.8	8.1	8.7	8.6	9.2	9.5	9.1	9.2	9.4
SB15	9.3	8.2	8.8	9.1	9.6	9.8	9.1	9.5	9.4
VNW223	-	-	-	22.0	21.9	22.1	-	21.5	21.2
VNW394	-	6.7	6.8	6.5	6.5	6.5	6.7	6.9	7.1
VNW395	-	7.4	7.3	7.3	7.3	7.5	6.5	7.6	7.6

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

* mbgl = metres below ground level. ^Reading considered outlier/error.

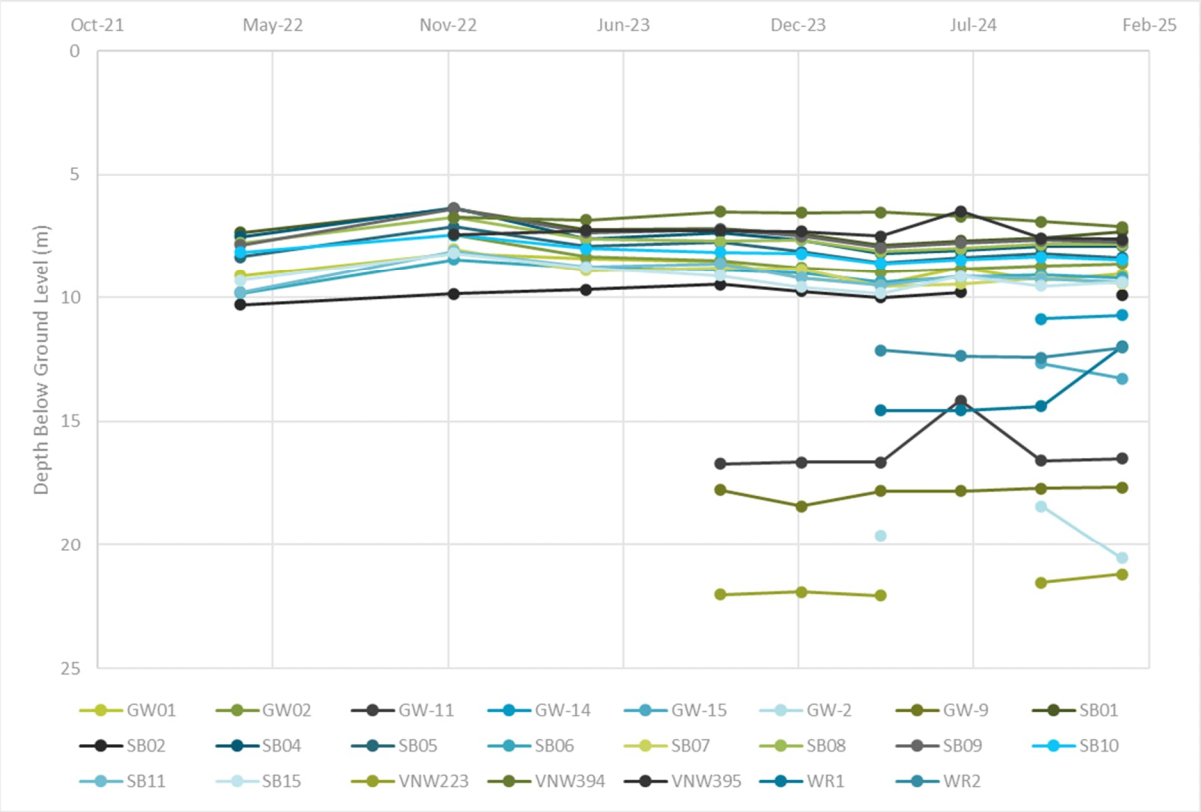


Figure 3: Alluvial bores hydrograph (manual dips, below ground level)

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

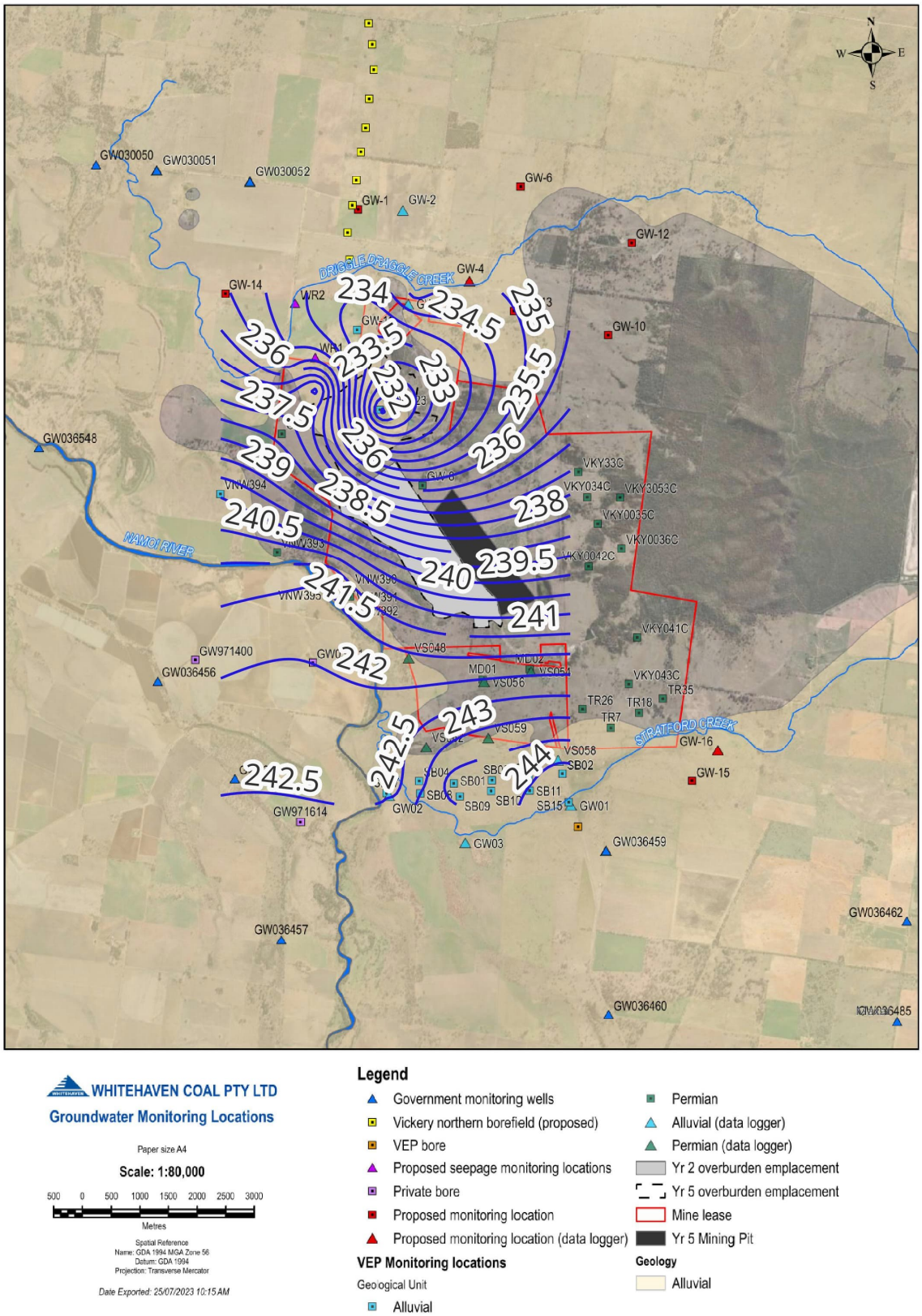


Figure 4 Alluvial groundwater contour map (January 2025)

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
GW03	-	6.1	6.9	7.2	7.3	7.1	7.5	7.2	6.9
GW-4	-	-	-	-	-	-	-	19.3	19.1
GW-6	-	-	-	-	-	-	-	23.3	23.1
GW-7	-	-	-	27.9	27.8	27.9	28.0	27.8	27.7
GW-8	-	-	-	21.7	21.7	21.6	21.6	21.8	22.1
GW-10	-	-	-	-	-	-	-	17.9	18.6
GW-13	-	-	-	-	-	-	-	23.2	20.1
MD01	-	28.0	27.6	27.7	27.6	28.0	27.6	28.8	29.6
MD02	-	41.0	40.6	40.3	40.0	39.9	39.8	40.6	41.3
TR18	-	13.0	13.4	12.9	13.2	13.3	13.4	13.3	13.1
TR26	-	12.4	12.4	12.2	12.2	12.3	12.4	12.3	12.3
TR35	-	18.2	18.2	18.0	11.2	18.4	18.5	18.4	18.3
TR7	-	9.9	9.9	9.8	9.7	9.8	11.0	9.8	9.7
VKY034C	-	39.8	40.0	39.6	40.3	39.4	40.1	40.3	30.1
VKY035C	-	42.4	42.0	42.0	42.0	41.9	42.6	42.1	42.1
VKY036C	-	49.2	47.2	49.2	49.9	49.5	49.8	49.9	50.3
VKY042C	-	42.7	42.4	42.6	42.8	42.5	42.7	42.8	43.0
VKY043C	-	16.4	15.6	15.7	15.8	15.2	15.7	15.4	16.0
VNW390	-	9.4	9.3	9.4	9.4	9.5	9.5	9.6	9.6
VNW391	-	7.8	7.8	7.8	7.8	7.9	8.0	7.9	8.0
VNW392	-	6.3	6.1	6.2	6.2	6.4	6.5	6.4	6.5
VNW393	-	10.6	10.5	10.5	10.6	10.6	10.7	10.7	10.8

* Metres below ground level

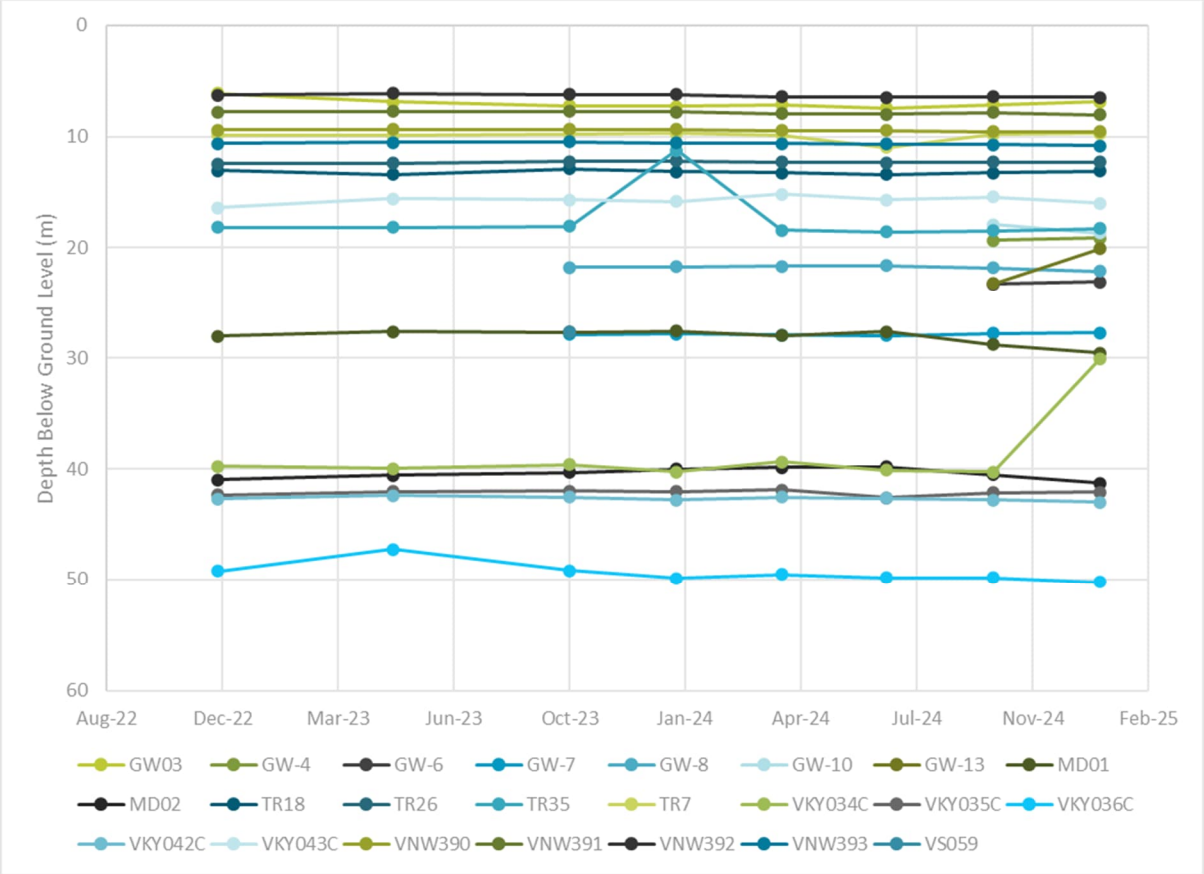
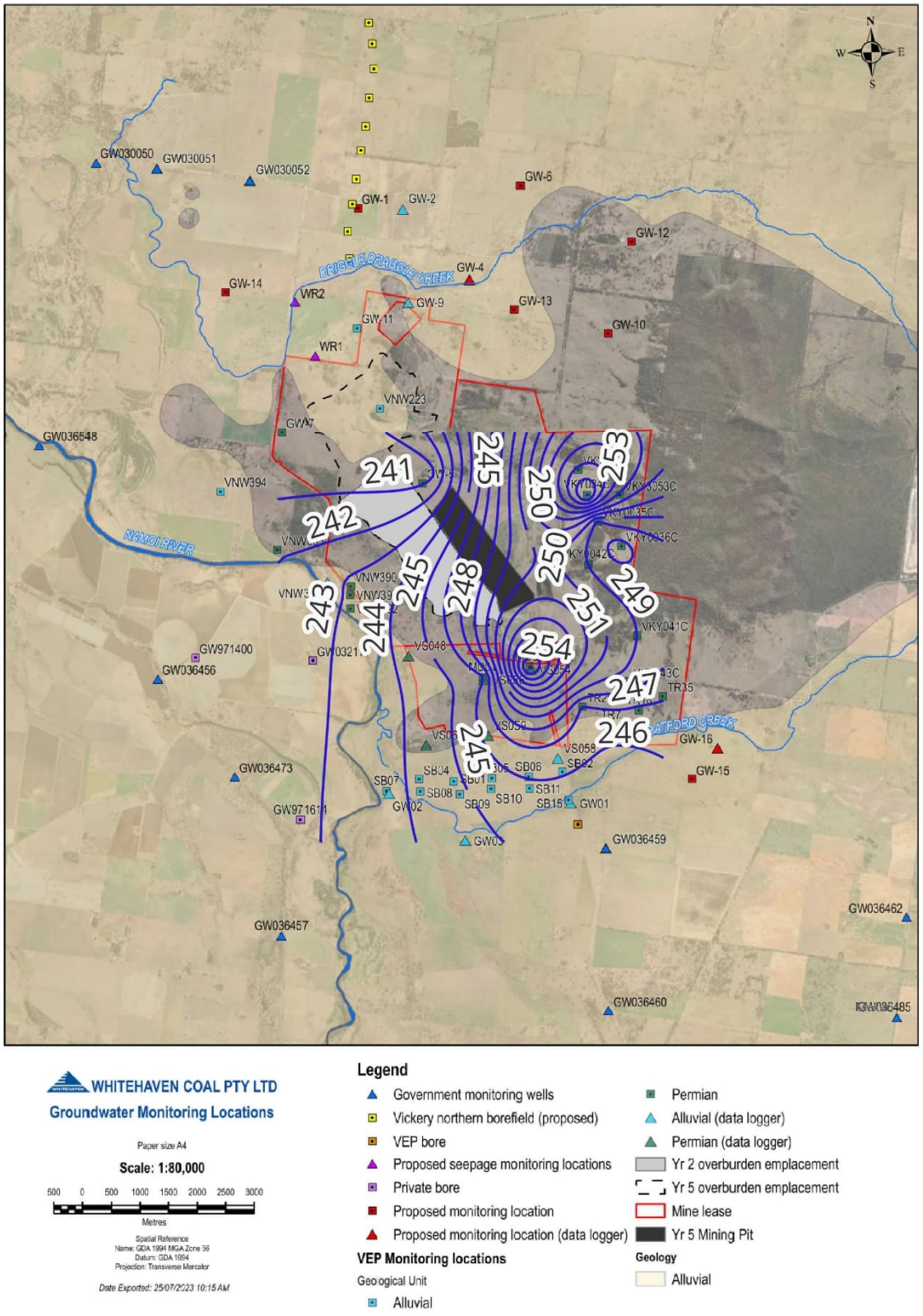


Figure 5: Permian bores hydrograph (manual dips)

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



WHITEHAVEN COAL PTY LTD
Groundwater Monitoring Locations

Paper size A4
Scale: 1:80,000
500 0 500 1000 1500 2000 2500 3000
Metres

Spatial Reference
Name: GDA 1994 MGA Zone 56
Datum: GDA 1994
Projection: Transverse Mercator

Date Exported: 25/07/2023 10:15 AM

Legend

- Government monitoring wells
- Vickery northern borefield (proposed)
- VEP bore
- Proposed seepage monitoring locations
- Private bore
- Proposed monitoring location
- Proposed monitoring location (data logger)
- Permian
- Alluvial (data logger)
- Permian (data logger)
- Yr 2 overburden emplacement
- Yr 5 overburden emplacement
- Mine lease
- Yr 5 Mining Pit

VEP Monitoring locations

Geological Unit
- Alluvial

Geology
- Alluvial

Figure 6 Permian aquifer groundwater level contour map (January 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 – 13/01/2025	-	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 – 12/01/2025	-	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	VWP (01-10-6743)	17/01/2024 – 18/08/2024; 05/12/2024 – 13/01/2025	3,547	-
GW-9	Logger (Rugged TROLL 100)	24/04/2020 – 16/01/2025	1,339	-
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; 03/06/2020 – 17/04/2024; 25/07/2024 – 12/01/2025	1,985	Logger data was not available for the July 2024 monitoring round. In the January 2025 monitoring round, the logger file was named SB07, which is considered to be a typo, as the historical record matches bore TR7. This needs to be confirmed.
TR18	Logger (Rugged TROLL 100)	16/04/2020 – 04/07/2024	1,939	Logger data was not available in the January 2025 monitoring round
VKY034C	Logger (Rugged TROLL 100)	07/01/2020 – 15/01/2025	6,931	-
VKY035C	Logger (Rugged TROLL 100)	04/11/2020 – 18/10/2024	5,611	Logger data was not available in the January 2025 monitoring round

Bore ID	Logger Type	Recording Period	Number of Data Points	Comments
VKY036C	Logger (Rugged TROLL 100)	07/01/2020 – 15/01/2025	7,625	-
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 – 15/01/2025	6,019	-
VKY043C	Logger (Rugged TROLL 100)	07/01/2020 – 13/07/2023	5,135	Logger stopped reading in July 23
VKY3053C	VWP	04/03/2020 – 17/01/2024		No data in April 2023. 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 – 13/01/2025	7,349	-
VS054 (23, 96, 120, 167m)	VWP (SN11-1769/1776/1770/1772)	"17/06/2012 – 15/06/2012; and		-
16/11/2023 – 14/01/2025"	~7,916/sensor			-
VS056 (25, 100m)	VWP (SN11-1765/1771)	04/03/2020 – 13/01/2025	VS056-25m: 7,951; VS056-100m: 1,569	
VS058 (18, 88, 159m)	VWP (SN11-1768)	16/04/2020 – 14/01/2025	~6,933/sensor	
VS062	VWP	12/02/2021 – 13/01/2025	10,416	
VS059 (30, 65, 113m)	VWP	16/04/2020 – 13/01/2025	~6,930/sensor	-
WR-1	Logger (Rugged TROLL 100)	30/04/2024 - 14/01/2025	1,035	-

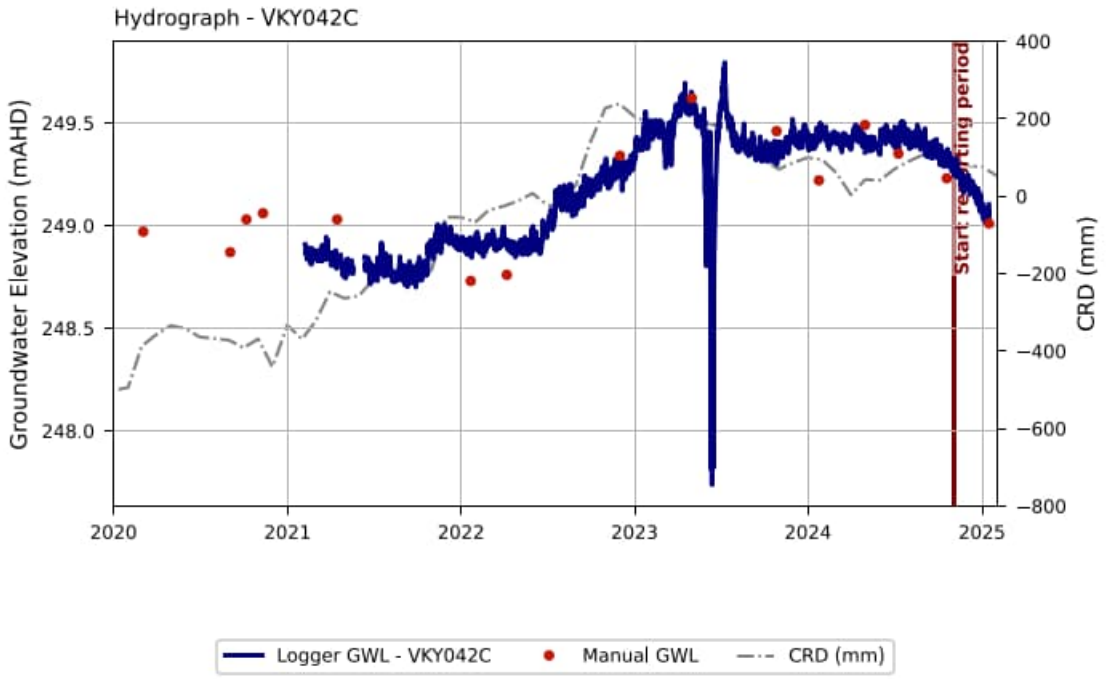


Figure 7: Logger hydrograph – VKY042C

2.4.2 TARP Trigger Level Summary

Groundwater levels in the Alluvial bores have shown minor variation in water levels between October 2024 and January 2025 monitoring rounds. For those bores with more than three water level readings, all are within historical fluctuations.

During the October 2024 monitoring round, SB02 had a groundwater level of 1.38 meters below ground level, representing an 8.4-meter increase from the July 2024 monitoring round. In the current reporting period, the water level measurement is 9.9 meters below ground level, returning to the historical level observed before October 2024. This confirms that the October 2024 result is considered an outlier.

Groundwater levels in the Permian have shown minor increase and decrease across the suite of bores. The water levels in all Permian bores are within the historical level, except for VKY034C. The water level in VKY034C was 30.1 m below ground level, which increased 10.2 m compared to the October 2024 monitoring round. Continuous logger data at VKY034C indicate a slightly decrease of water level during this reporting period, which indicates that the manual measurement at VKY034C in January 2025 monitoring round is an outlier. Ongoing monitoring and review will be undertaken to determine the nature of this increase.

It was noted mining has intersected groundwater during this reporting period, as observed by increased in-pit water. Additionally, a dry period has begun to be recorded. The variation in groundwater levels in both Alluvial and Permian bores does not indicate significant flux of water from the aquifer, resulting in groundwater drawdown. 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.

Given the early status of mining and the stable to increasing groundwater levels, the current groundwater levels are considered to be reflective of natural conditions and not impacted by extraction activities. Additionally, review against the newly derived triggers 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 January 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.

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 8 and **Figure 9** show the piper diagrams for the alluvial and Permian groundwater respectively. Where data was available, the July 2024 and January 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.

Review of the individual temporal plots 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). 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
TR7	pH	pH unit	7.4-7.8	6.53	7.05	6.71	6.82	6.63	6.51
GW03	EC	µS/cm	811	862	888	862	947	1,004	983
TR18			12,315*	13,400	13,640	12,730	15,350	13,820	13,810
TR35			12,315*	15,300	17,330	16,740	17,260	16,690	18,320
TR-7			12,970	14,800	15,390	14,410	15,380	14,840	15,520
GW-7	$SO4^{2-}$	mg/L	86*	364	385	399	380	396	414
SB05			365*	735	551	520	595	496	447
TR18			86*	702	620	592	622	626	630
TR26			86*	194	230	180	198	195	229
TR35			86*	660	651	622	624	624	526

Bore	Para.	Unit	Trigger Level	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25
TR7			365*	508	714	501	518	563	458
VKY034C			86*	123	185	116	98	90	115
VKY036C			86*	244	294	281	100	174	190
VKY042C			86*	302	309	312	283	326	307
VNW392			86*	-	284	296	263	314	300
VNW393			86*	179	185	200	165	202	205
VNW394			365*	-	551	560	574	591	498
TR35	Cobalt	mg/L	0.0014	-	0.007	0.01	0.011	0.01	0.008
TR7				-	0.008	0.004	0.008	0.004	0.005
VNW392				-	0.003	0.003	0.003	0.003	0.002
TR35	Nickel	mg/L	0.011	-	0.713	0.558	0.435	0.308	0.111
TR7				-	0.39	0.118	0.272	0.045	0.024
MD01	Zinc	mg/L	0.008	-	0.31	0.213	0.106	0.049	0.014
TR7				-	0.015	0.03	0.02	0.017	0.009

*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**).

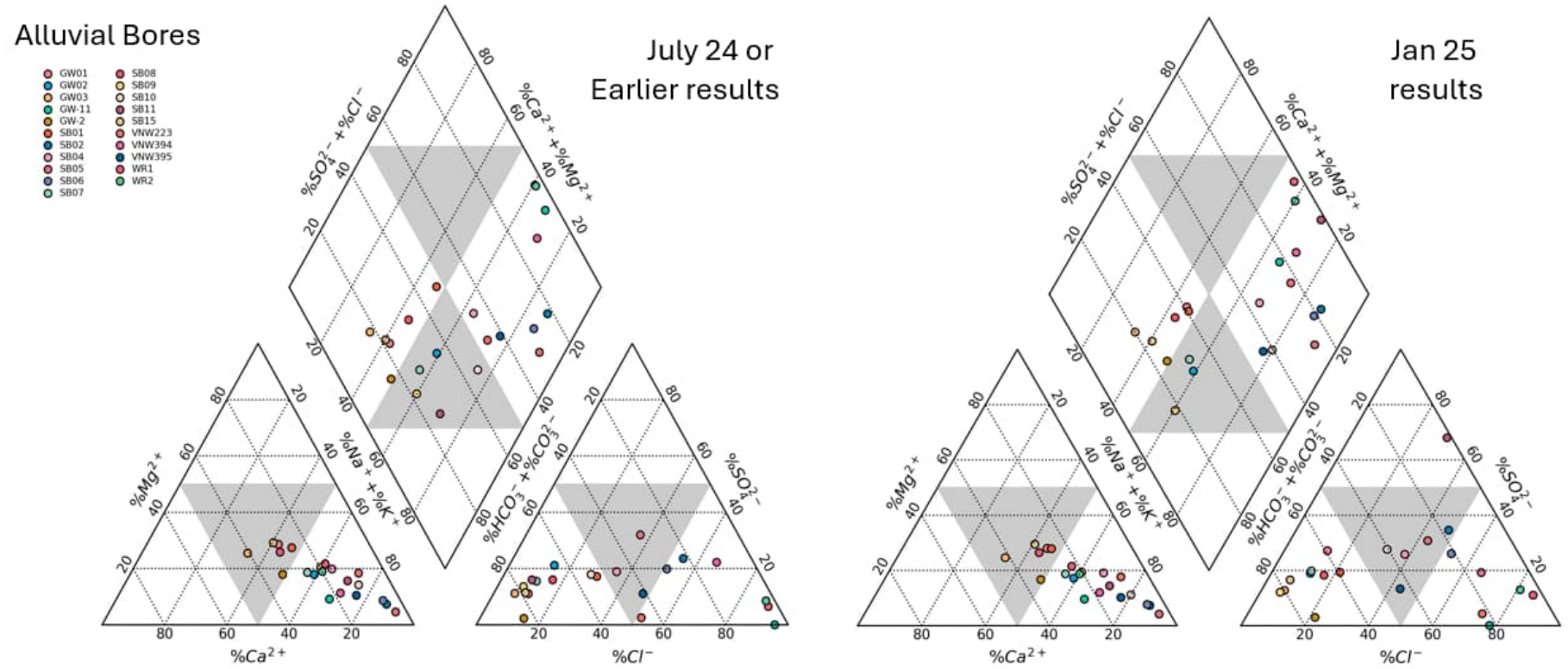


Figure 8 Alluvial groundwater piper plots

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

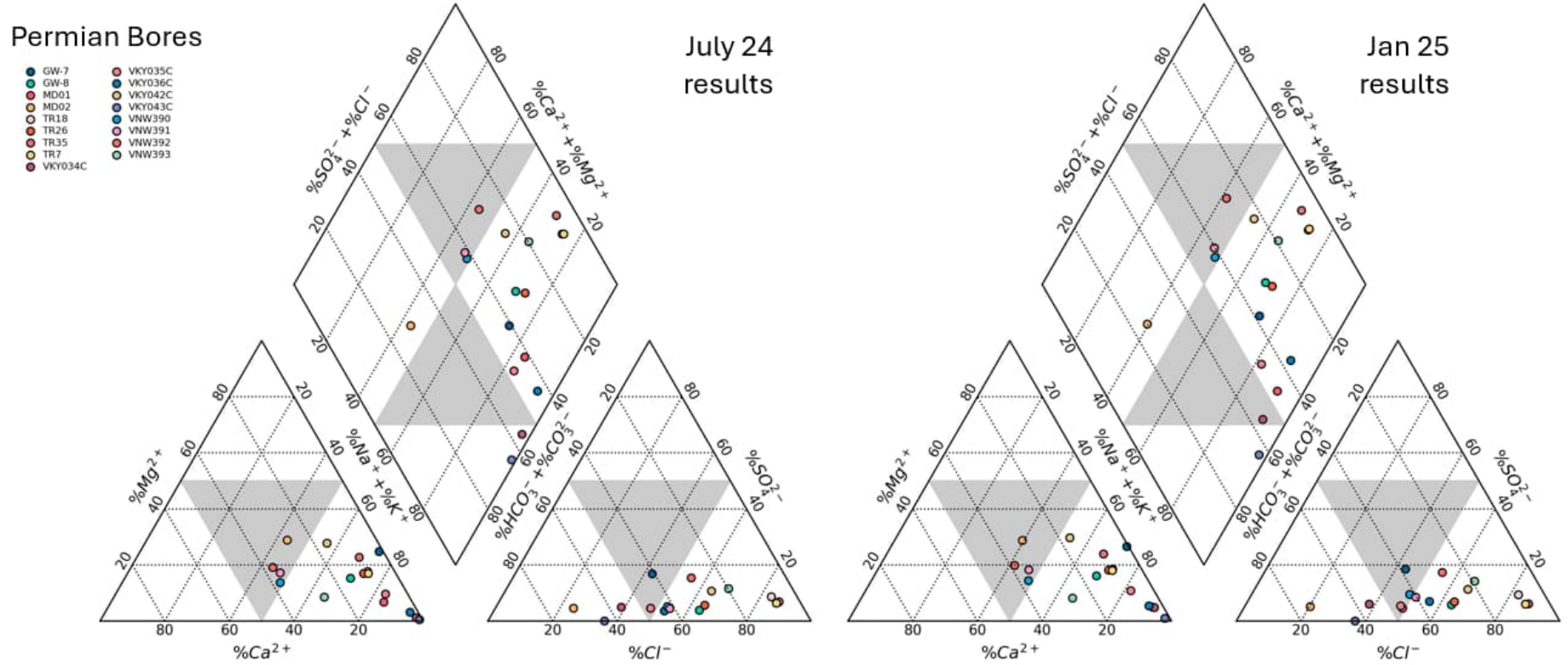


Figure 9 Permian groundwater piper plots

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
Several monitoring wells were unlocated (GW-2) or inaccessible (GW030051, GW030052, and GW036459) during the reporting period. It is recommended to locate these wells for future monitoring or provide justifications for updating the GWMP.	2023 Annual Review/Quarterly Report	COMPLETE: GW-2 has been monitored in the October 2024 monitoring round. Water level data for GW030051, GW030052, and GW036459 have been obtained from WaterNSW, and therefore continue monitoring in the ongoing events.
Continue the monitoring program and the quarterly reporting on groundwater levels and quality as outlined in the GWMP.	2023 Annual Review	COMPLETE/ONGOING: ongoing monitoring and reporting established.
Review logger data from TR7 and GW01, as appears erroneous, and replace as necessary.	April 2024 Quarterly	ONGOING: Loggers review underway.
Elevation survey of all bores to assist with groundwater level trigger development and plotting of bores as reduced water levels (i.e. as metres below Australian height datum – mAHD).	April 2024 Quarterly	COMPLETE: Elevation survey has been done for all bores. Water level plots have been updated to reflect reduced water levels (as mAHD, refer to Appendix B)
Verify sensor depths for all VWPs 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 VWPs, 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.

Recommendations based on the review and analysis completed herein, are as follows:

- Dissolved copper or cadmium were not analysed during the January 2025 monitoring round. It is recommended that the two parameters to be included in the ongoing monitoring rounds.

5.0 References

Hydrosimulations. 2018. “Vickery Extension Project: Groundwater Assessment. Report .”

Queensland Government. 2024. *SILO 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 November 2024 – January 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

26 March 2025

Table A-1: Tigger Action Response Plan

PERFORMANCE MEASURE AND INDICATOR, TARP OBJECTIVE AND ASSESSMENT CRITERIA	MONITORING PROGRAM	MANAGEMENT		
		TRIGGER	ACTION	RESPONSE
Performance Measure Feature 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). **TARP Objective** 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. **Assessment Criteria** 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.	**Locations** **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. **Monitoring Frequency** During mining Quarterly manual measurements of water level. Continuous monitoring in bores installed with Vibrating Wire Piezometers (VWPs). **Post-mining** 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: 7 Undertake landholder and government consultation; 8 Offset groundwater leakage from the Namoi Alluvium aquifer; 9 Review and refine the GWMP including undertaking additional 10 specific monitoring of private landholder bores; 11 Review Site Water Balance and predictive groundwater model; and 12 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

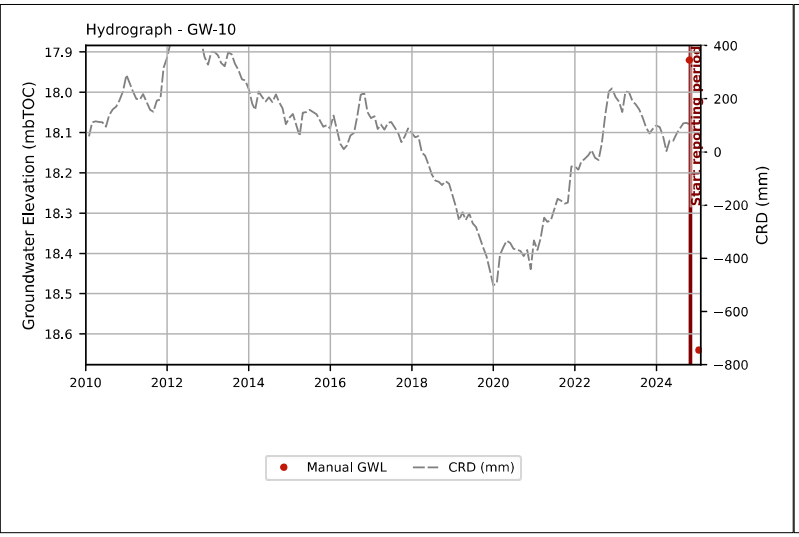
Vickery Extension Project Groundwater Monitoring Report

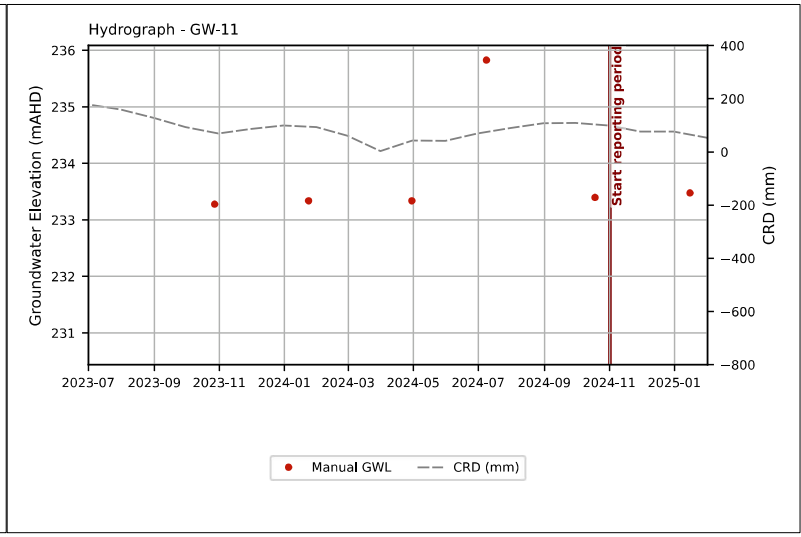
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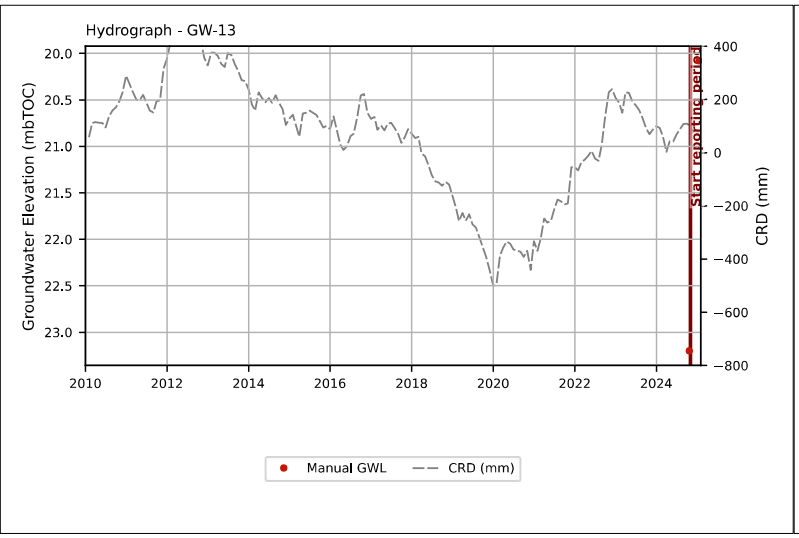
Whitehaven Coal Ltd

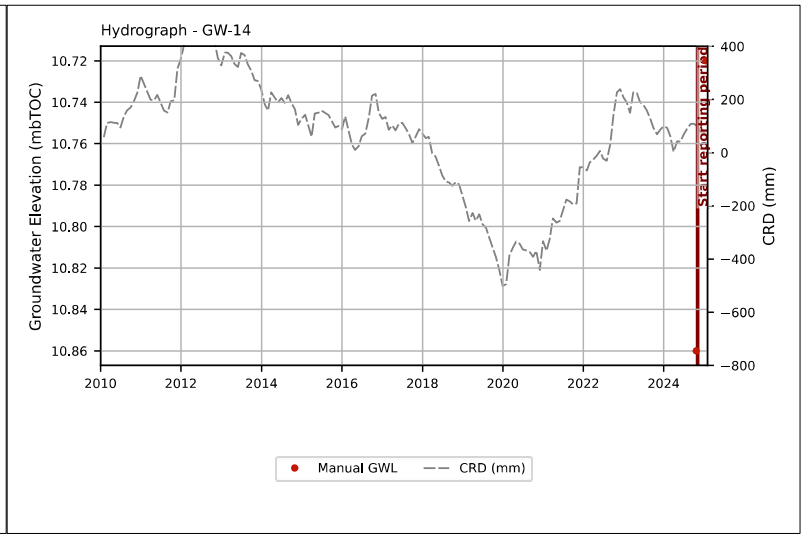
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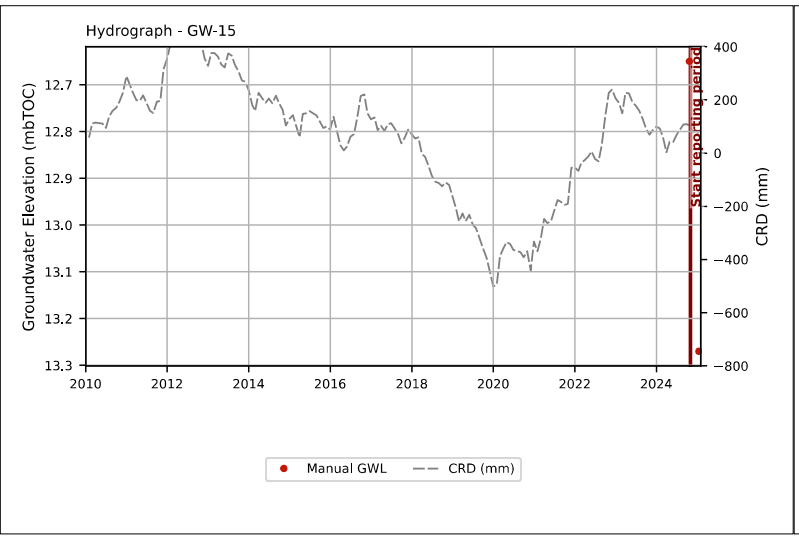
26 March 2025

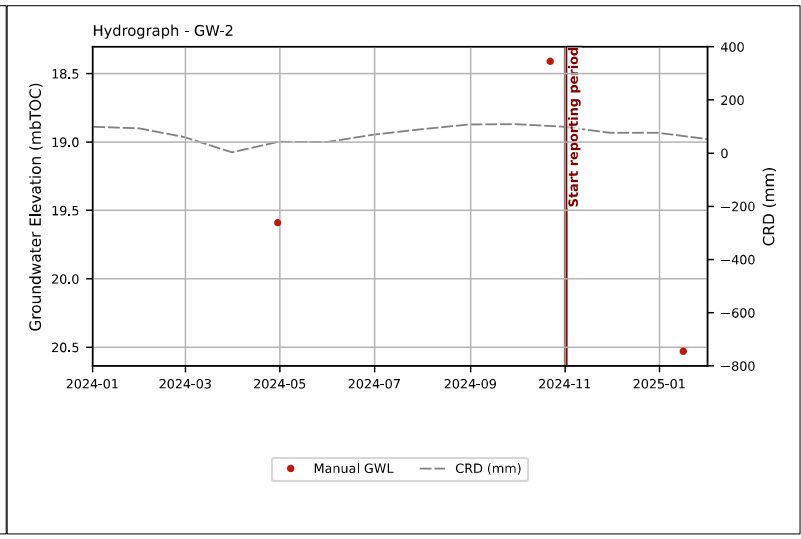

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Manual GWL
CRD (mm)

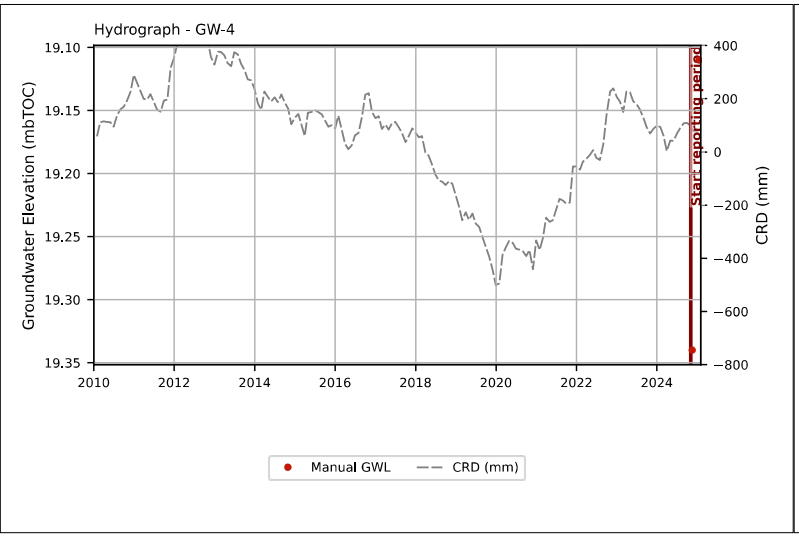

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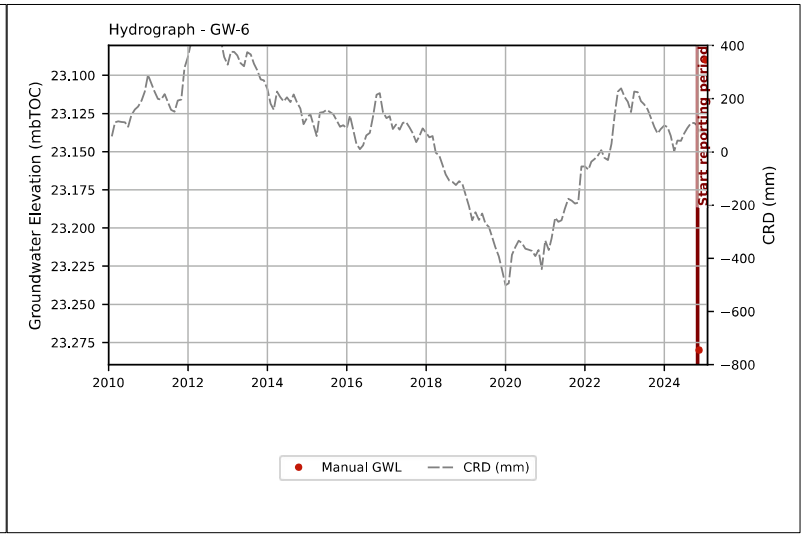

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CRD (mm)

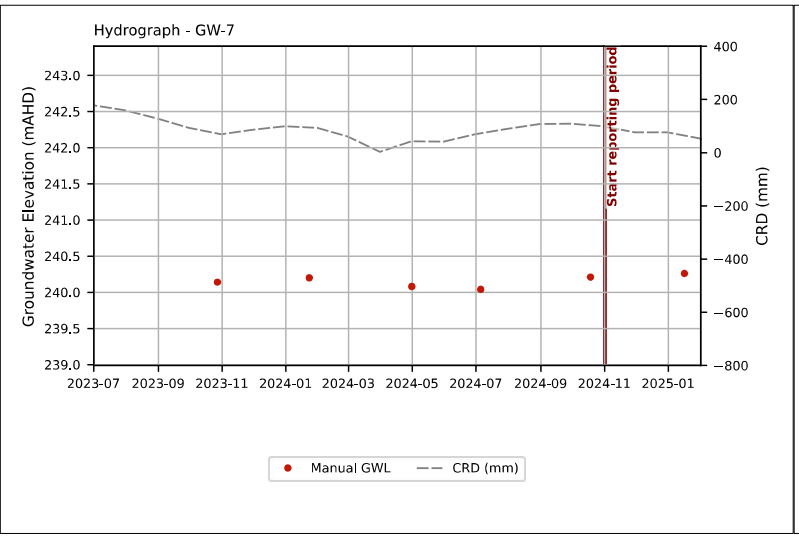

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CRD (mm)

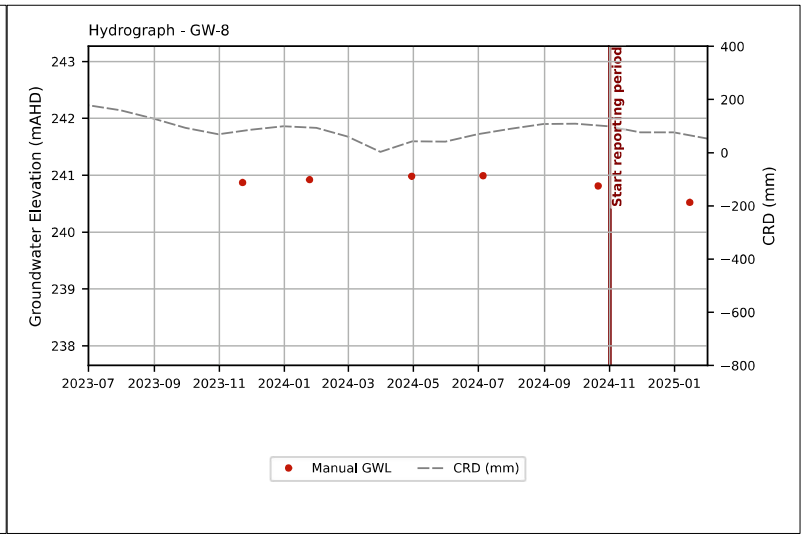

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CRD (mm)

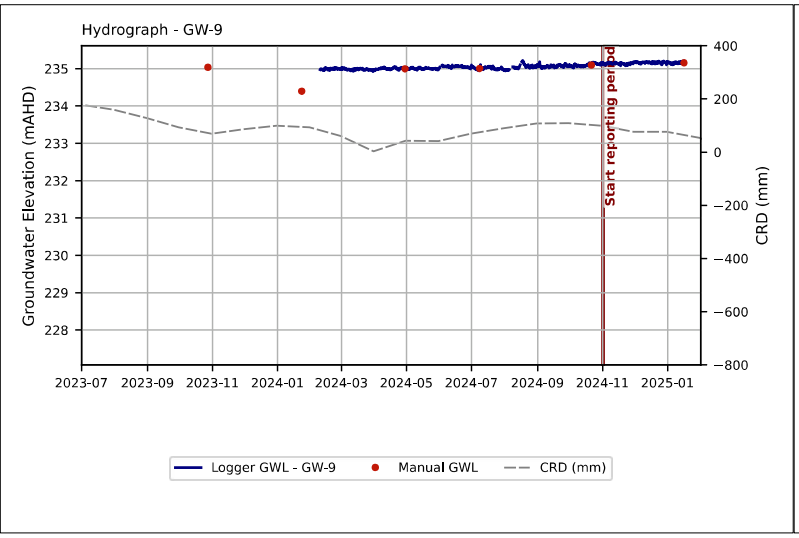

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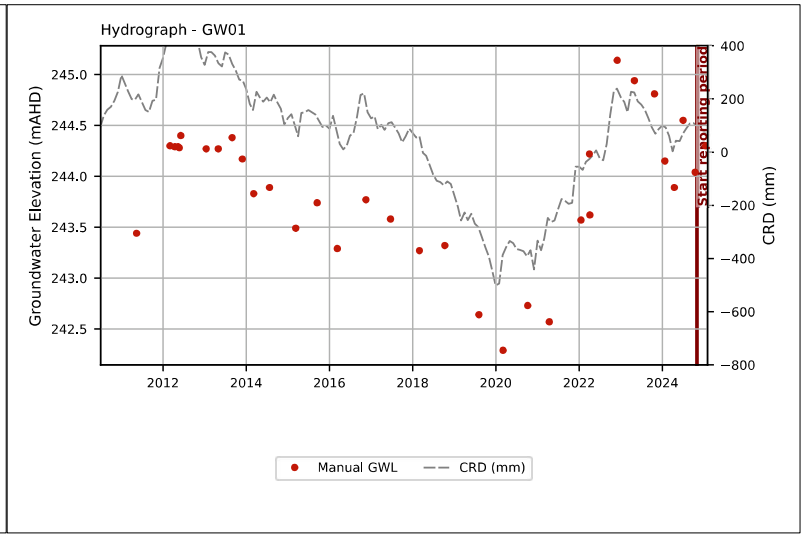

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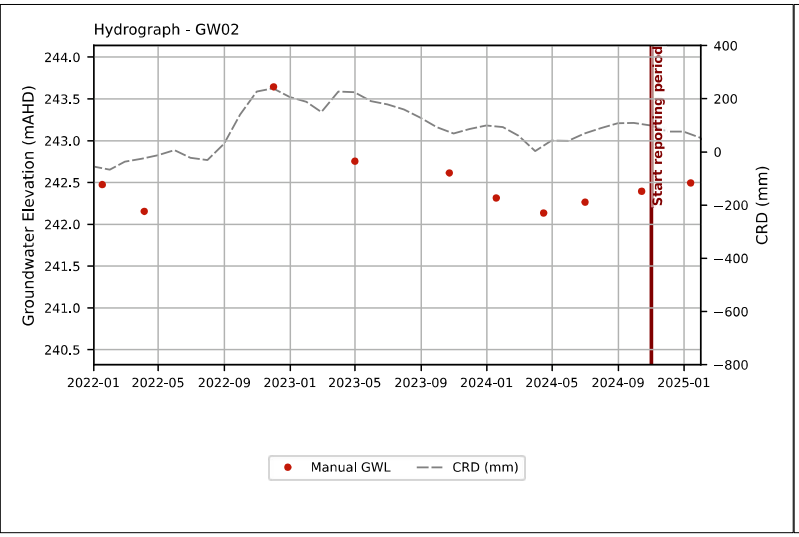

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CRD (mm)

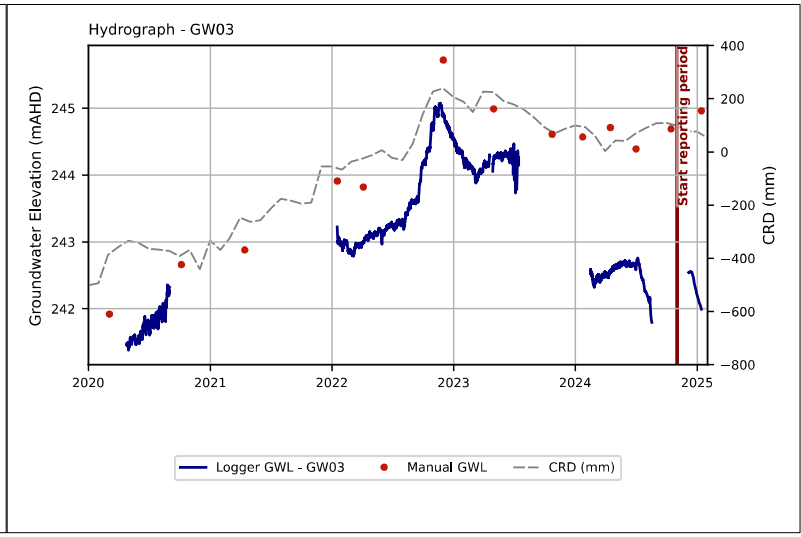

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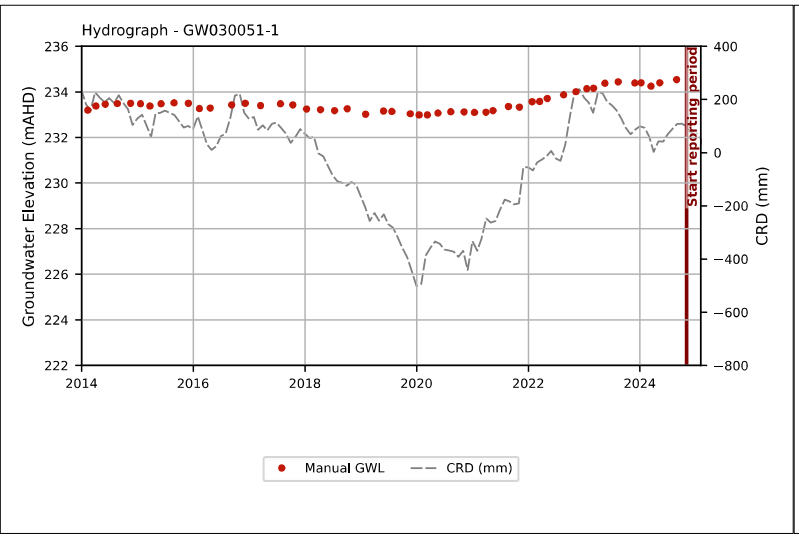

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CRD (mm)

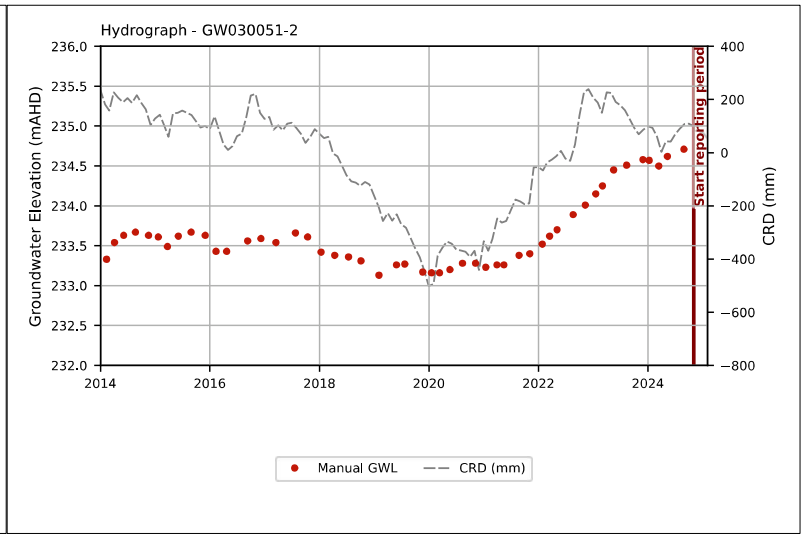

Hydrograph - GW-9
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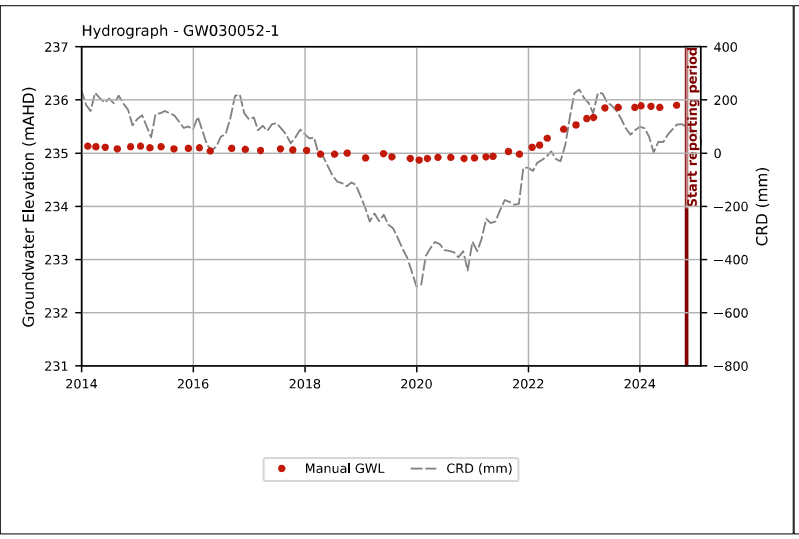

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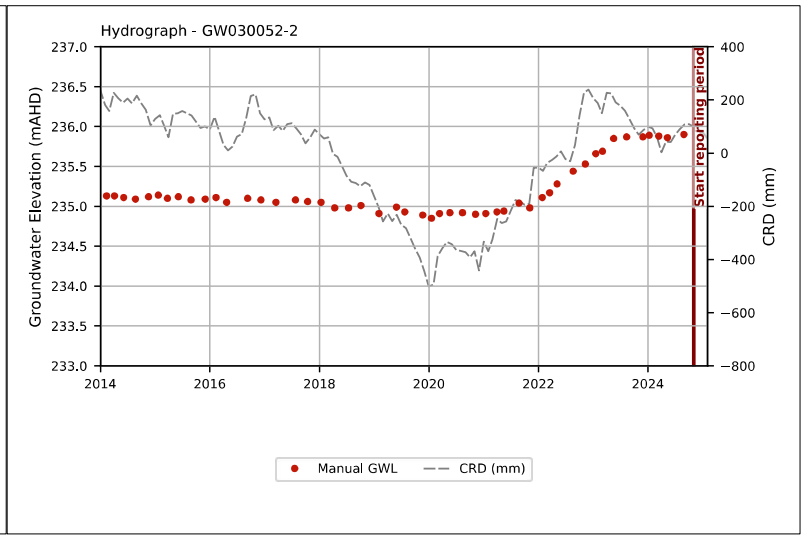

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CRD (mm)

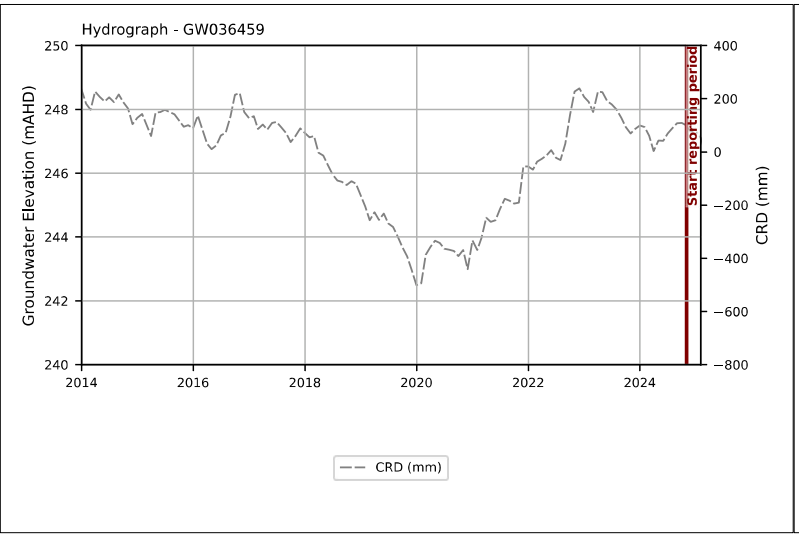

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Manual GWL
CRD (mm)

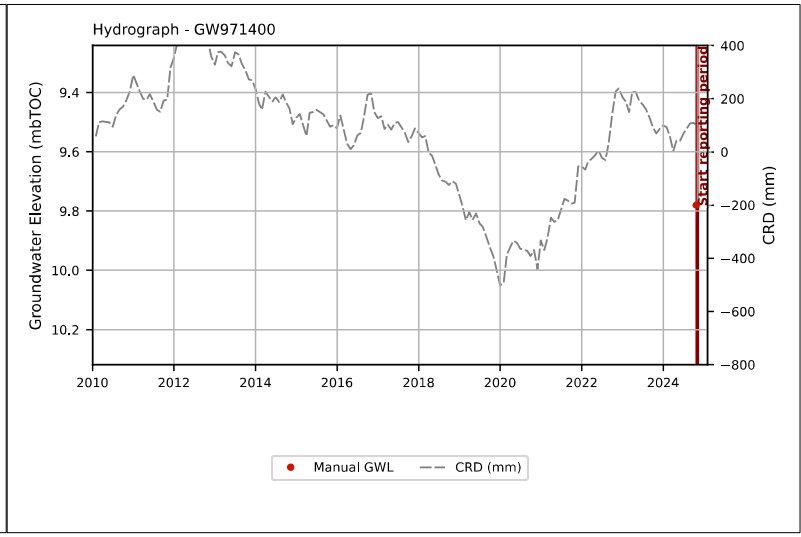

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CRD (mm)

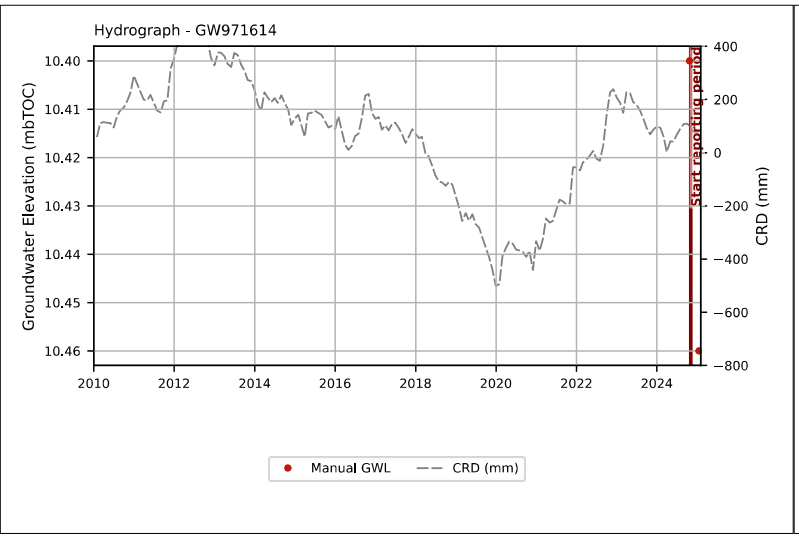

Hydrograph - GW030051-2
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Start reporting period
Manual GWL
CRD (mm)

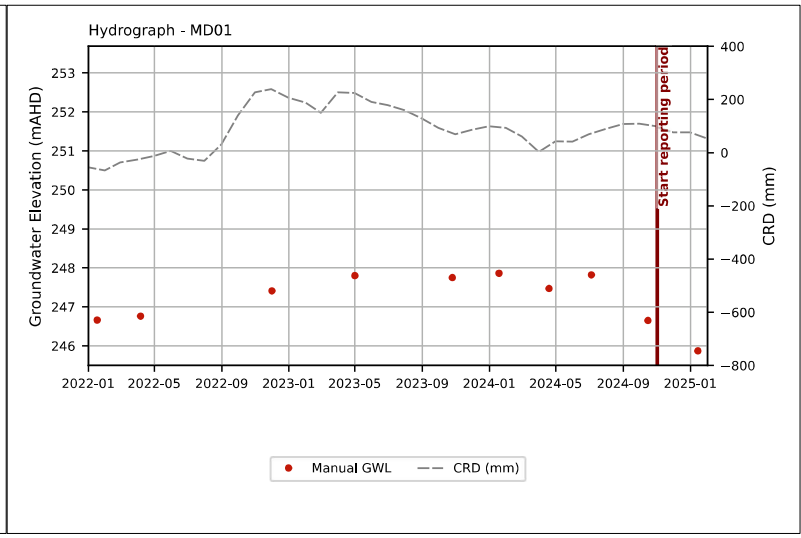

Hydrograph - GW030052-1
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

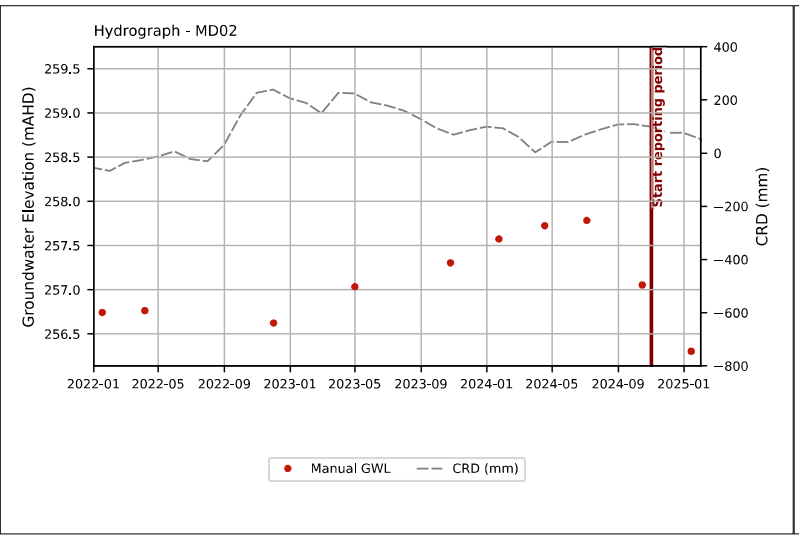

Hydrograph - GW030052-2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

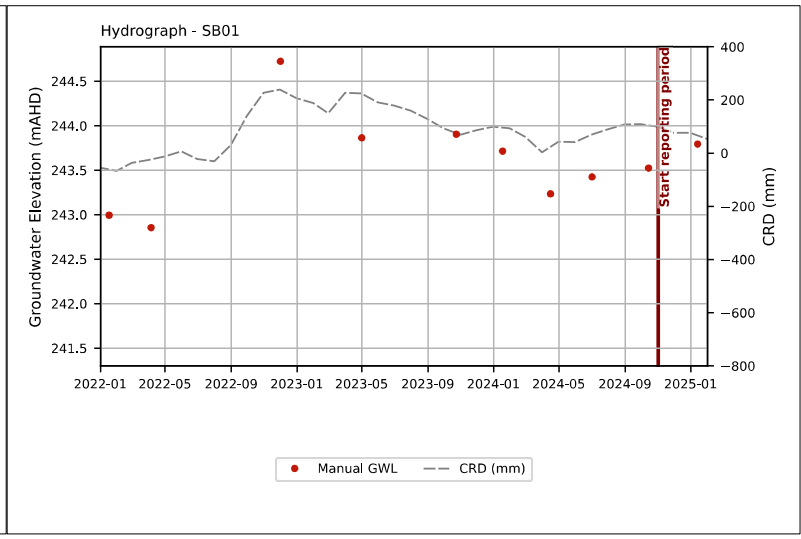

Hydrograph - GW036459
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
CRD (mm)

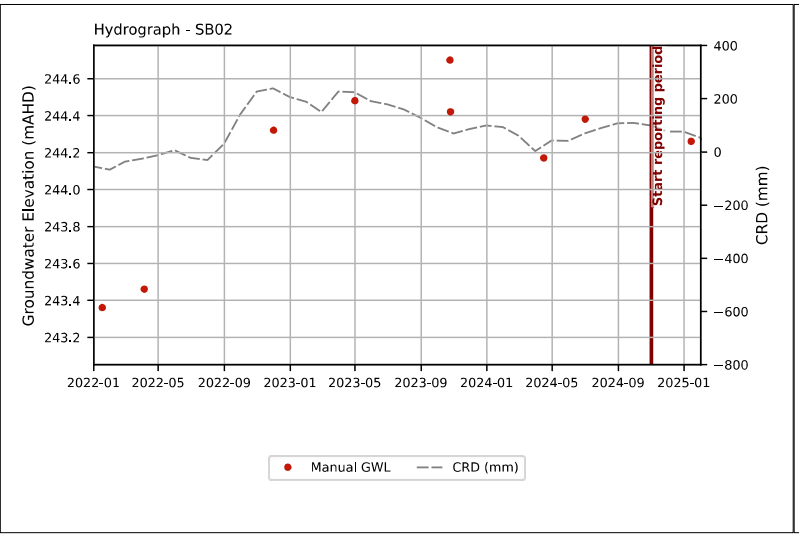

Hydrograph - GW971400
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

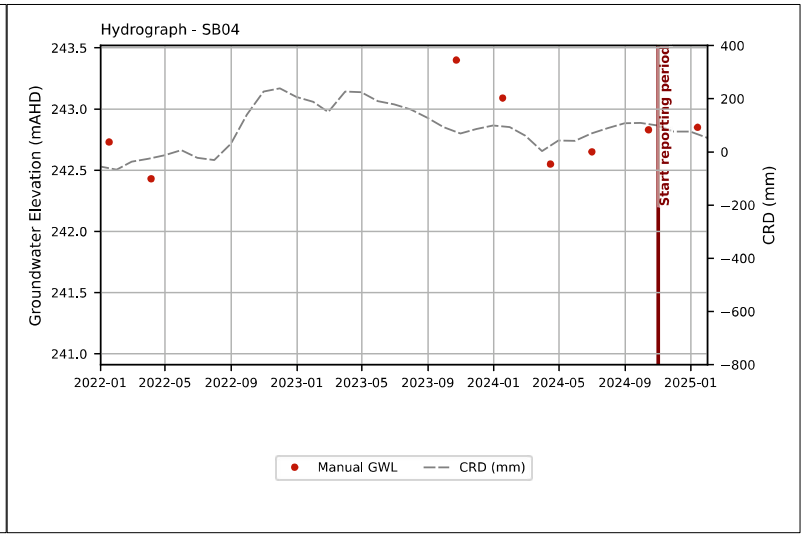

Hydrograph - GW971614
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

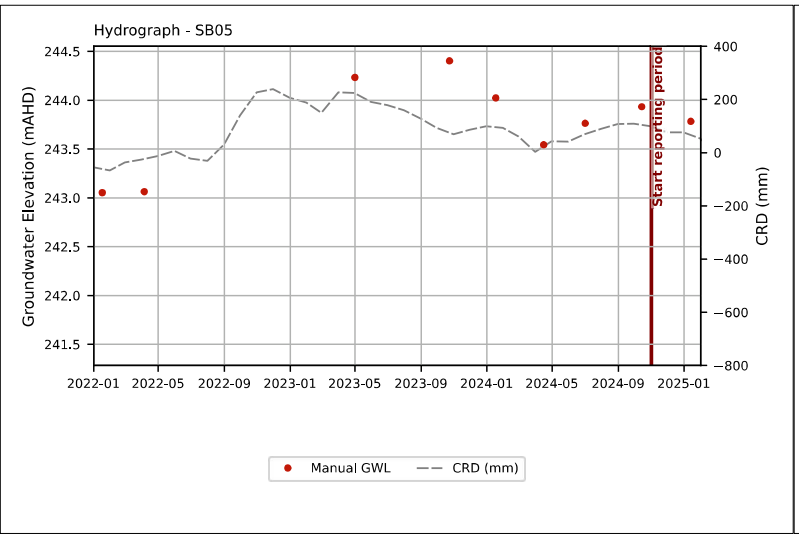

Hydrograph - MD01
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

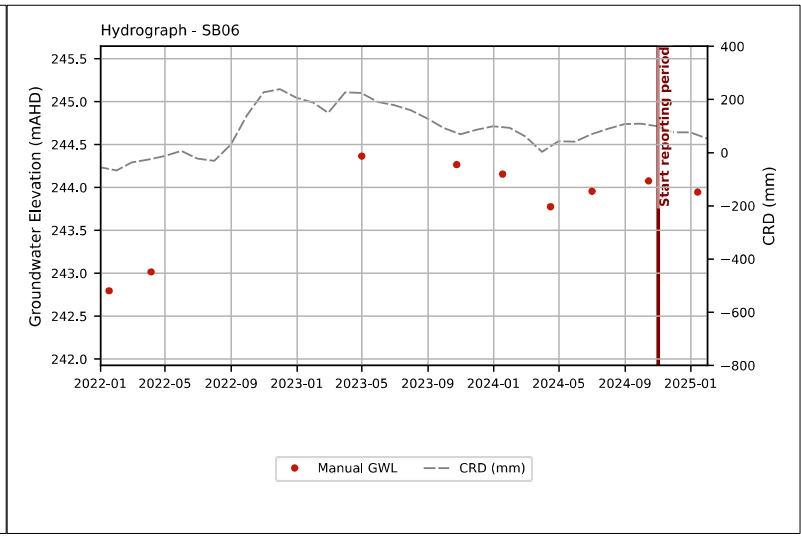

Hydrograph - MD02
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

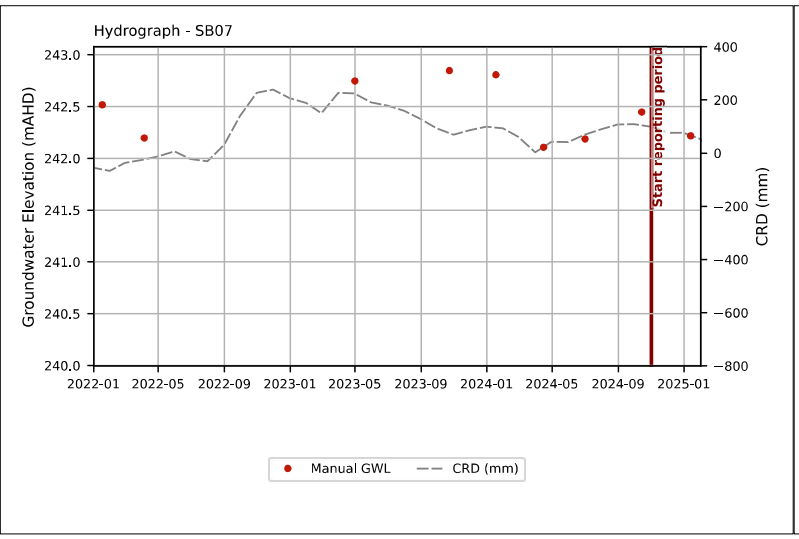

Hydrograph - SB01
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

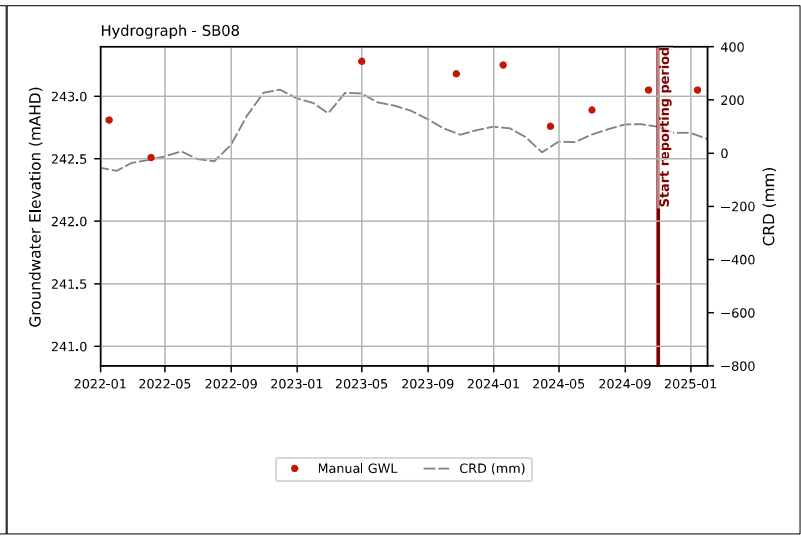

Hydrograph - SB02
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

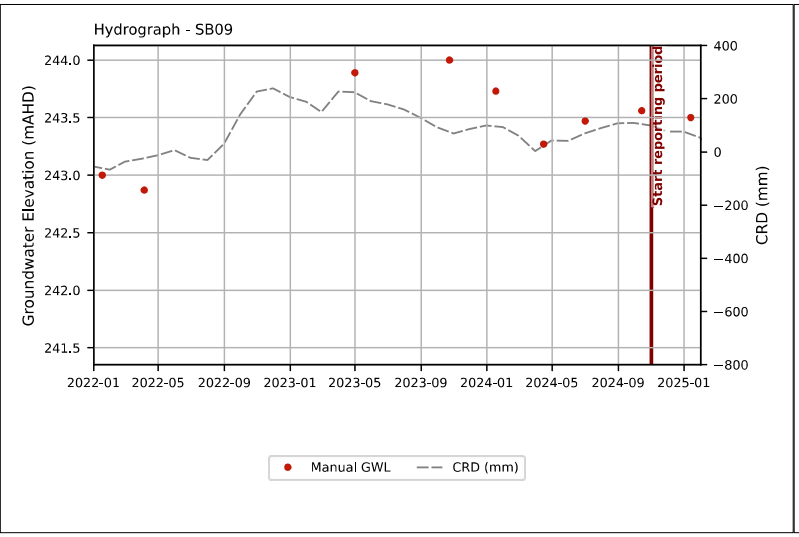

Hydrograph - SB04
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

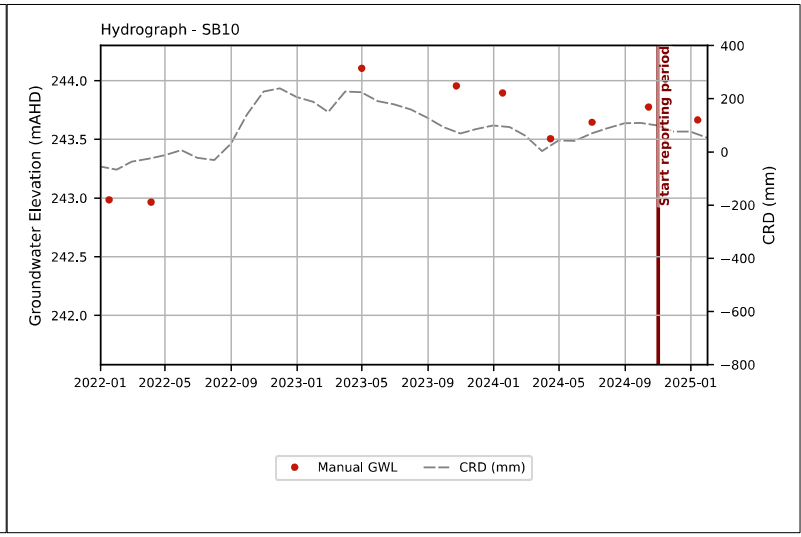

Hydrograph - SB05
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

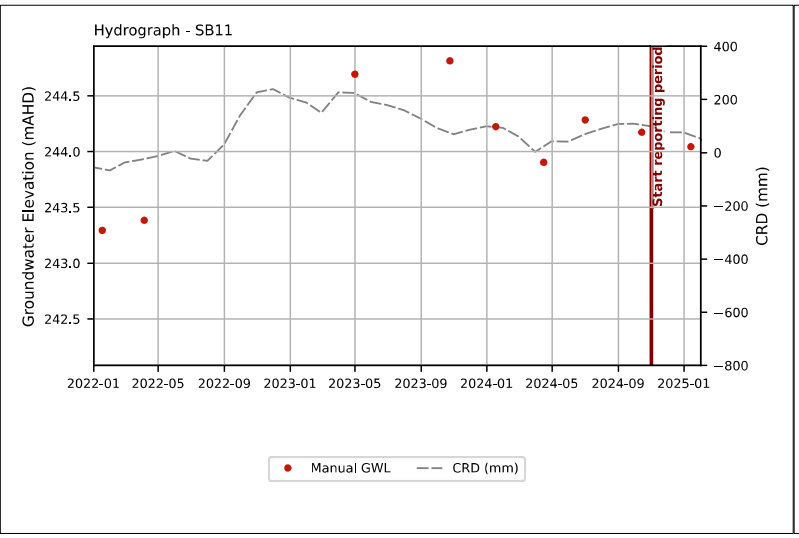

Hydrograph - SB06
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

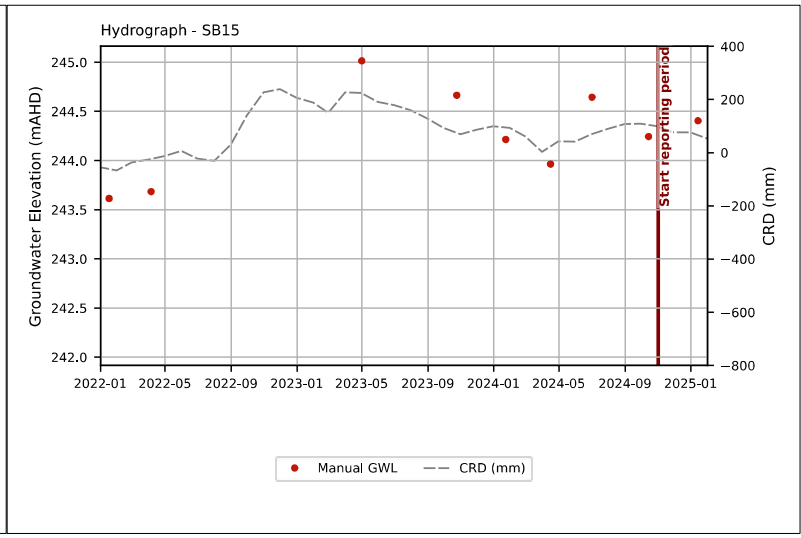

Hydrograph - SB07
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

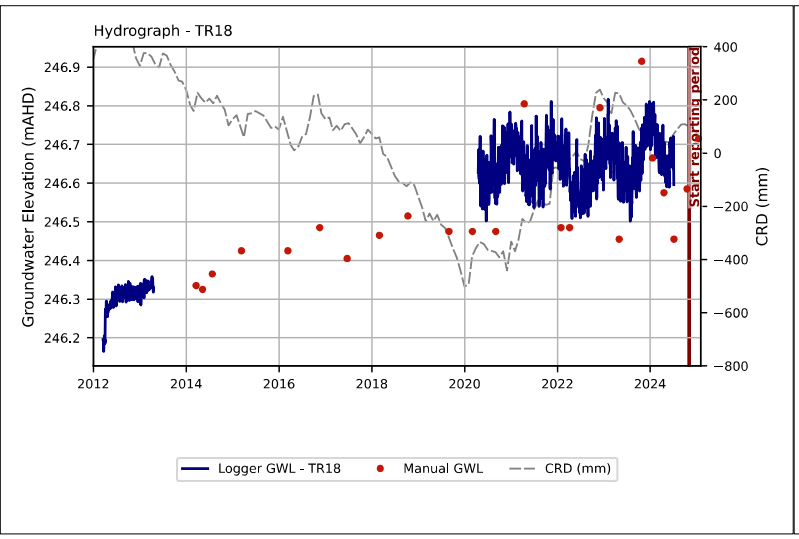

Hydrograph - SB08
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

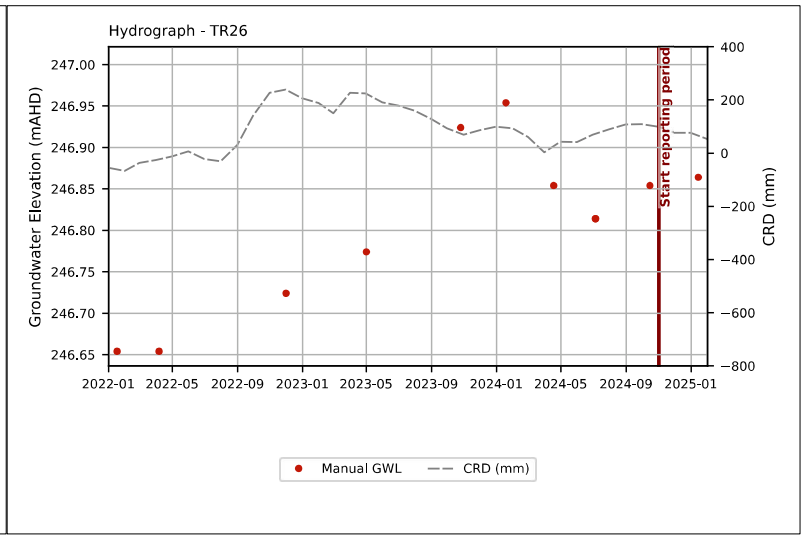

Hydrograph - SB09
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

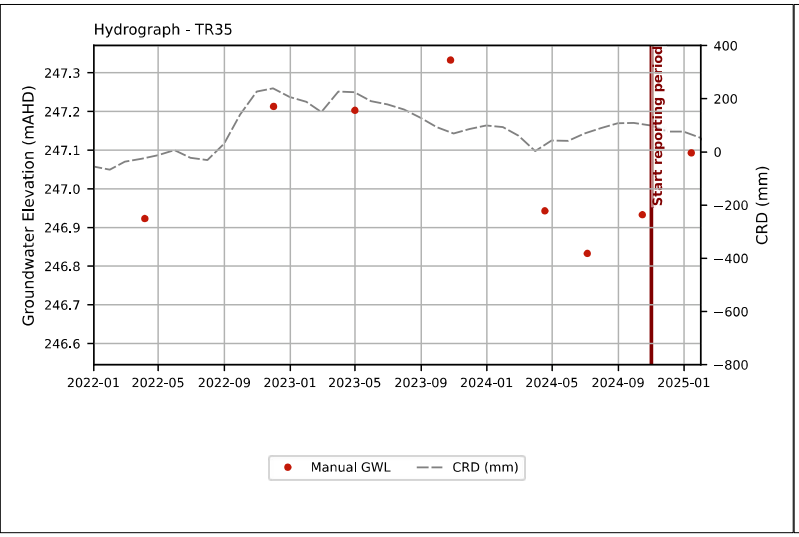

Hydrograph - SB10
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

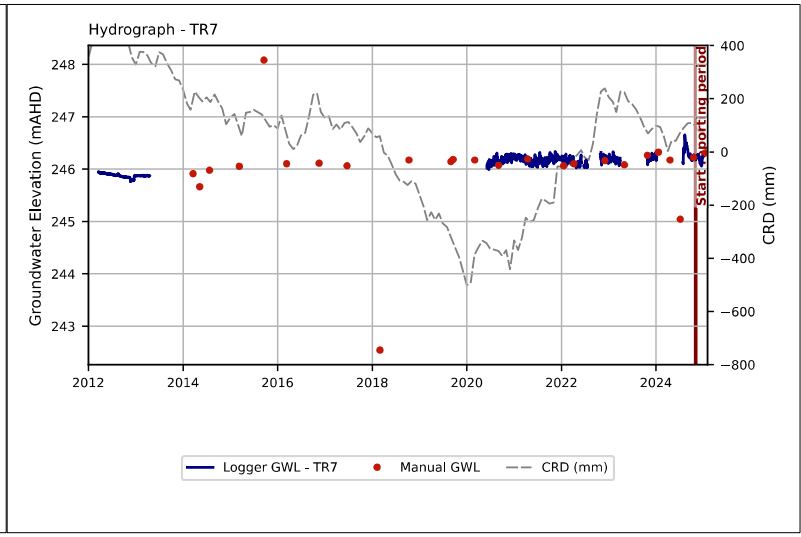

Hydrograph - SB11
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

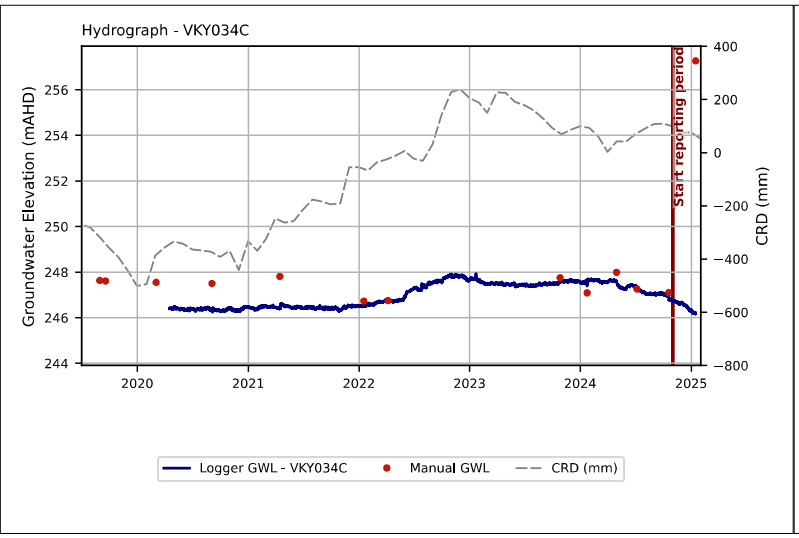

Hydrograph - SB15
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

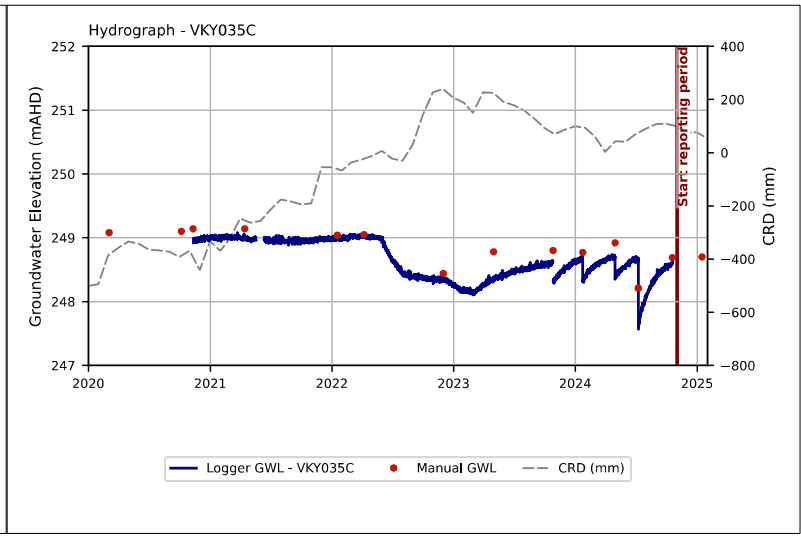

Hydrograph - TR18
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - TR18
Manual GWL
CRD (mm)

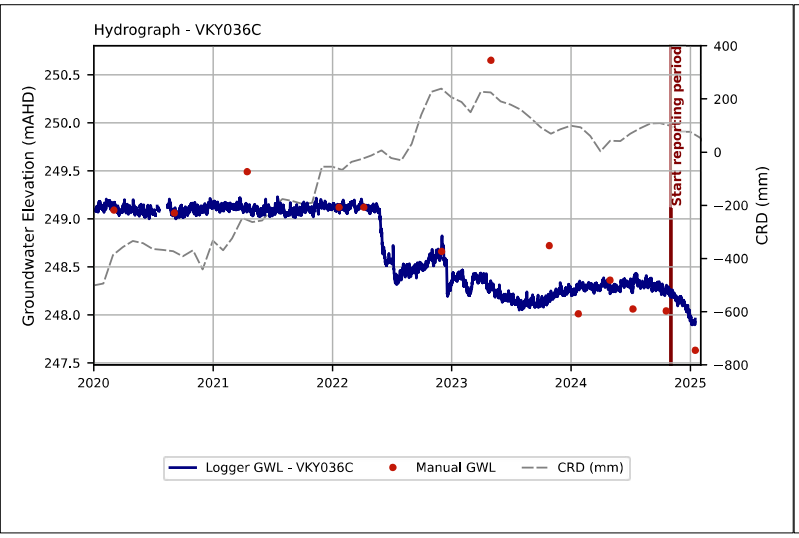

Hydrograph - TR26
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

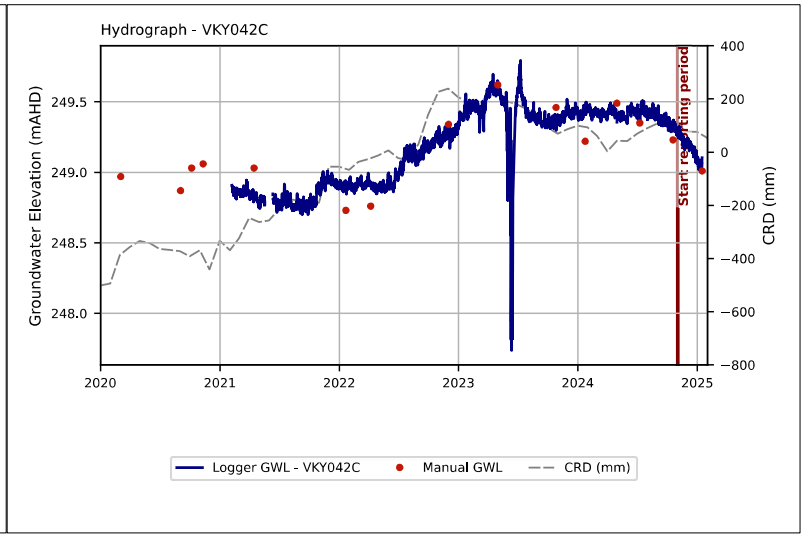

Hydrograph - TR35
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

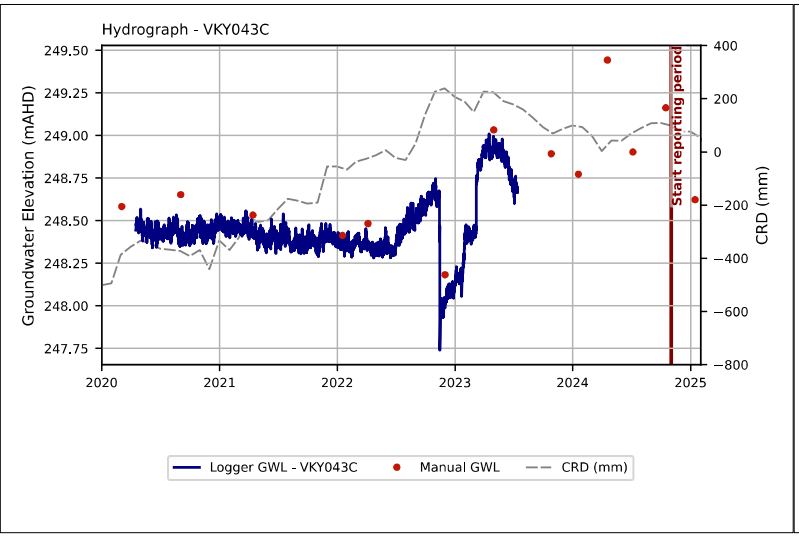

Hydrograph - TR7
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - TR7
Manual GWL
CRD (mm)

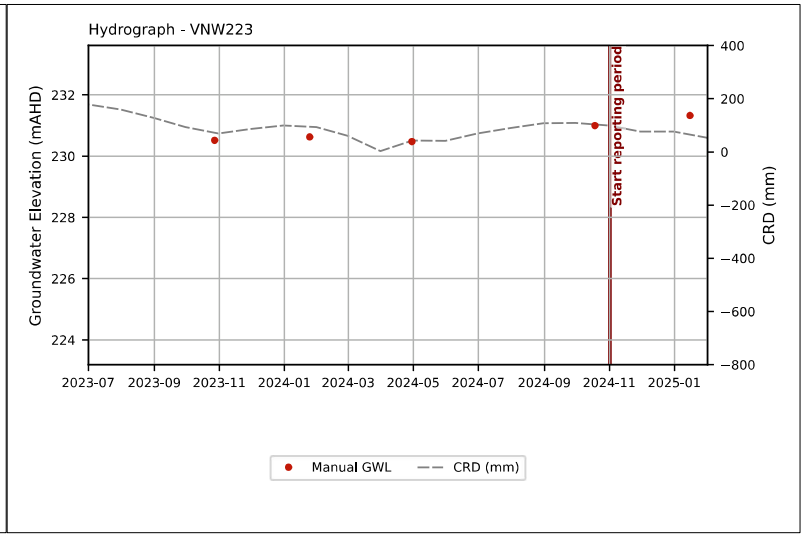

Hydrograph - VKY034C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY034C
Manual GWL
CRD (mm)

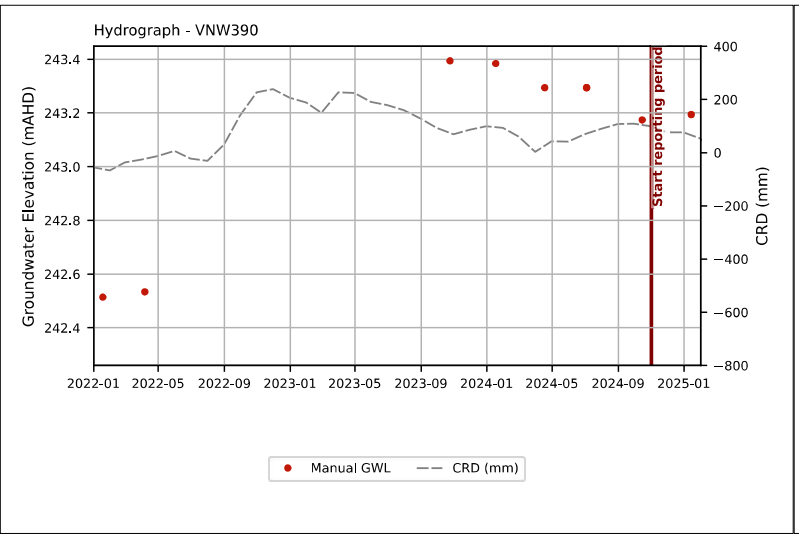

Hydrograph - VKY035C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY035C
Manual GWL
CRD (mm)

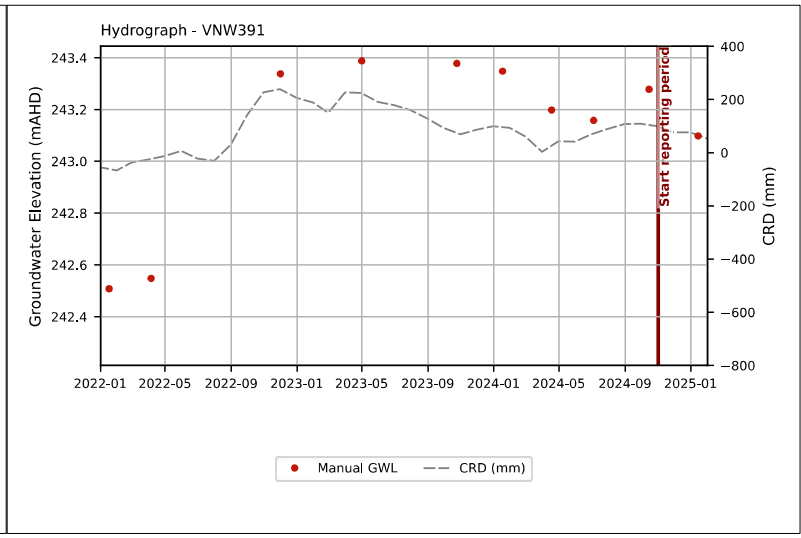

Hydrograph - VKY036C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY036C
Manual GWL
CRD (mm)

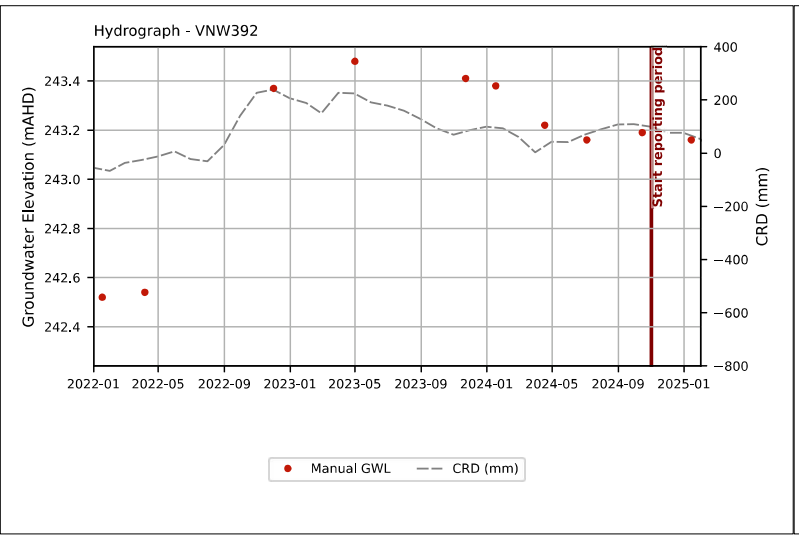

Hydrograph - VKY042C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY042C
Manual GWL
CRD (mm)

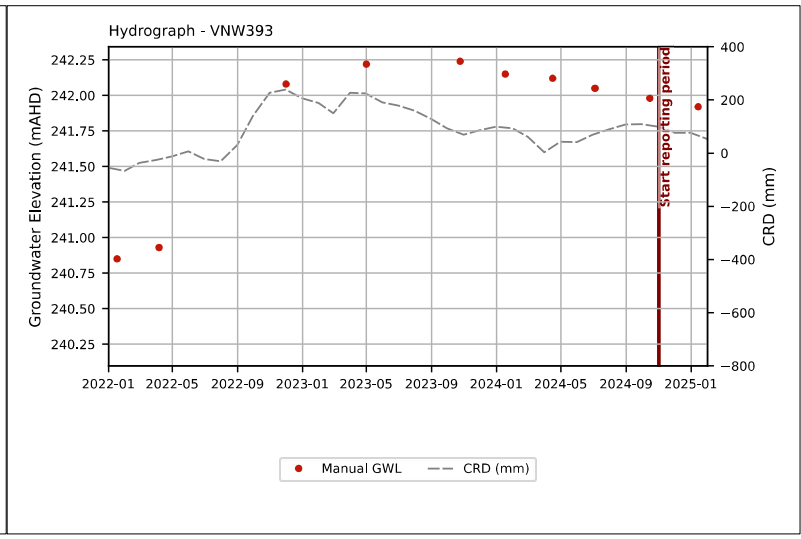

Hydrograph - VKY043C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY043C
Manual GWL
CRD (mm)

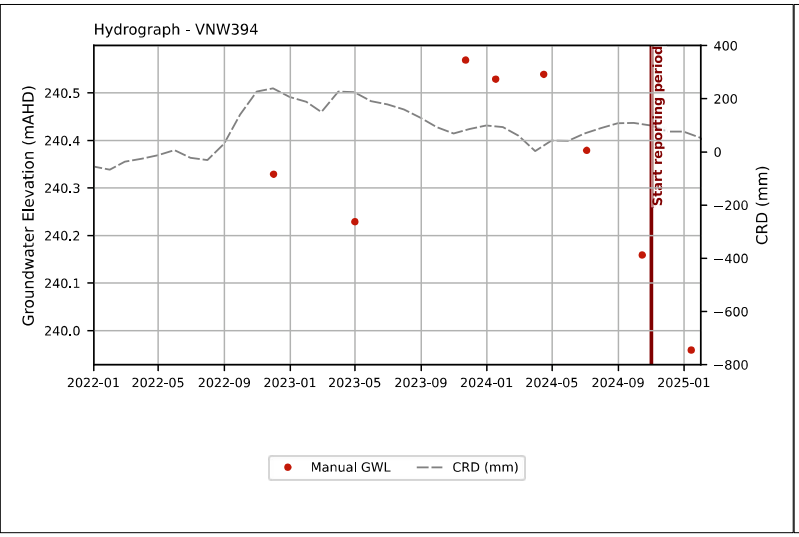

Hydrograph - VNW223
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

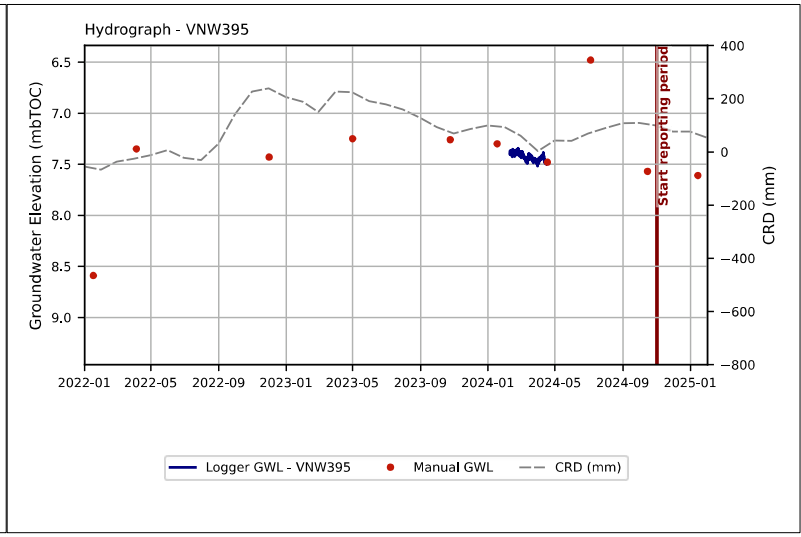

Hydrograph - VNW390
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

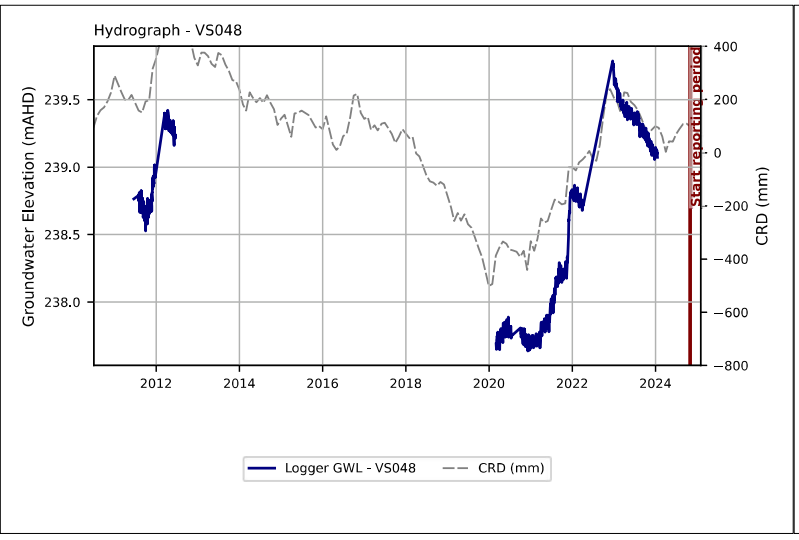

Hydrograph - VNW391
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

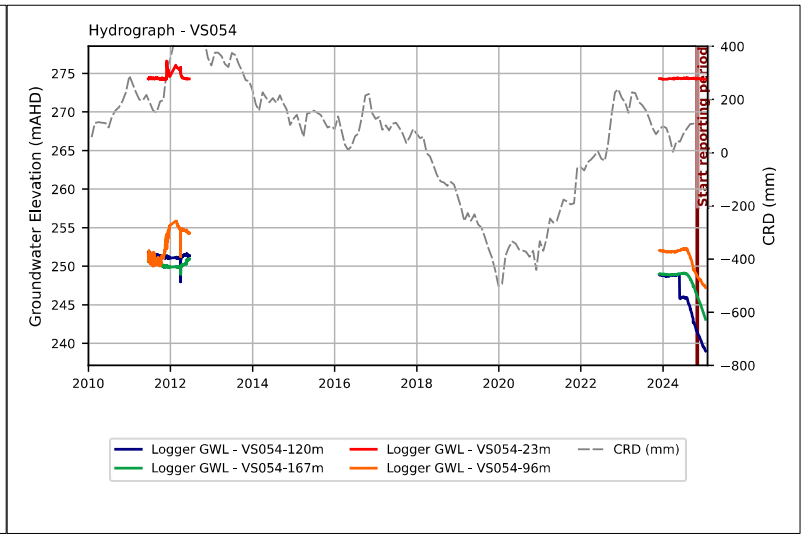

Hydrograph - VNW392
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

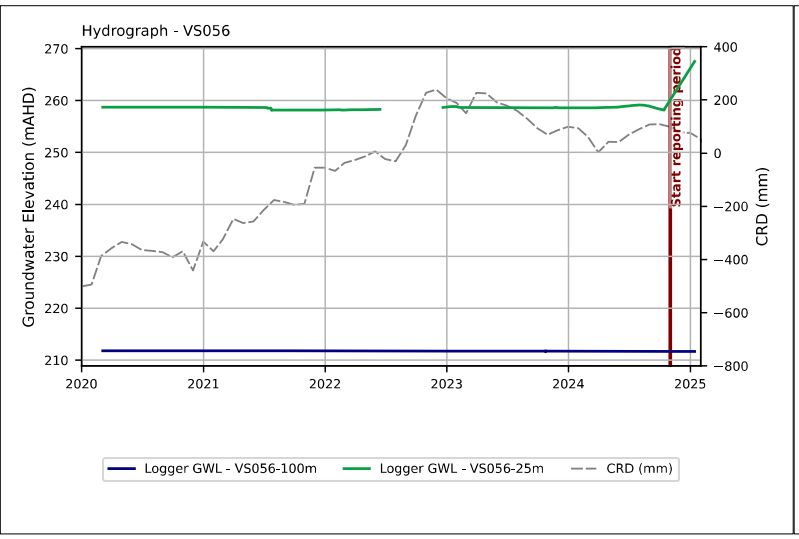

Hydrograph - VNW393
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

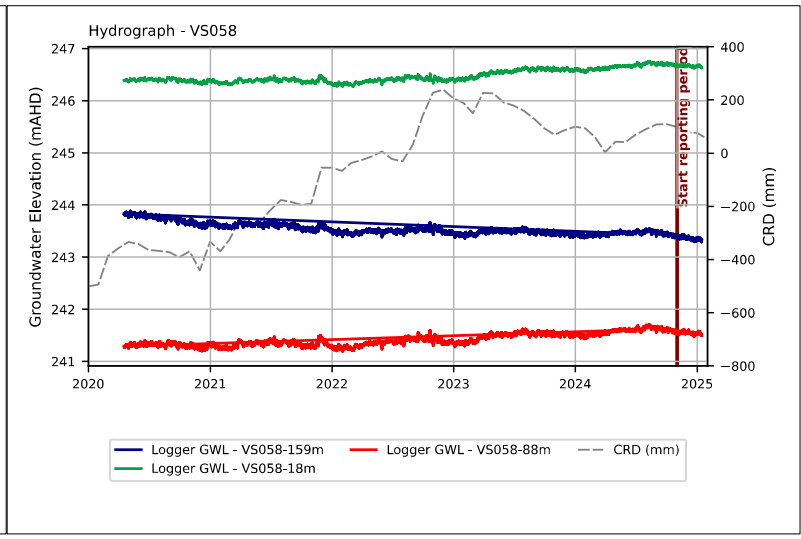

Hydrograph - VNW394
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

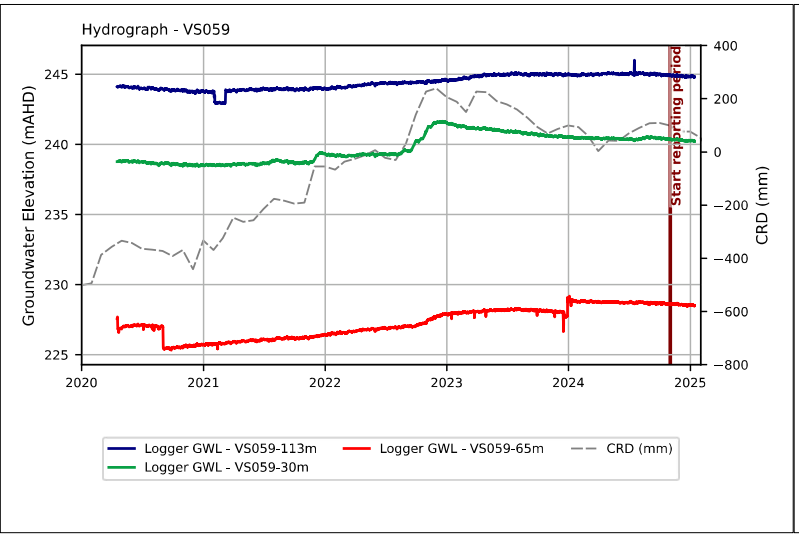

Hydrograph - VNW395
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Logger GWL - VNW395
Manual GWL
CRD (mm)

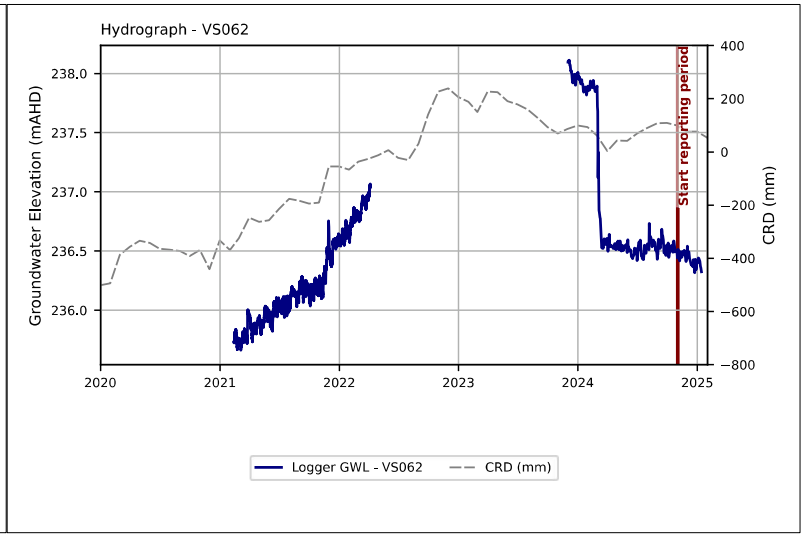

Hydrograph - VS048
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS048
CRD (mm)

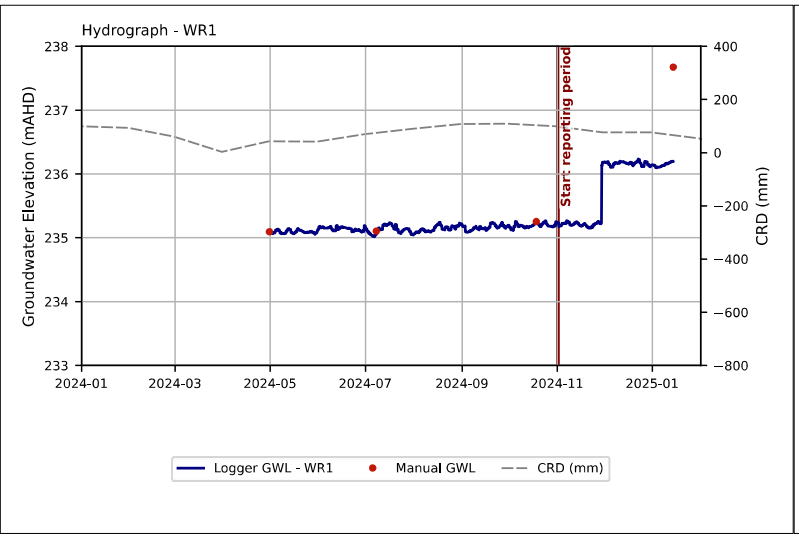

Hydrograph - VS054
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS054-120m
Logger GWL - VS054-23m
CRD (mm)
Logger GWL - VS054-167m
Logger GWL - VS054-96m

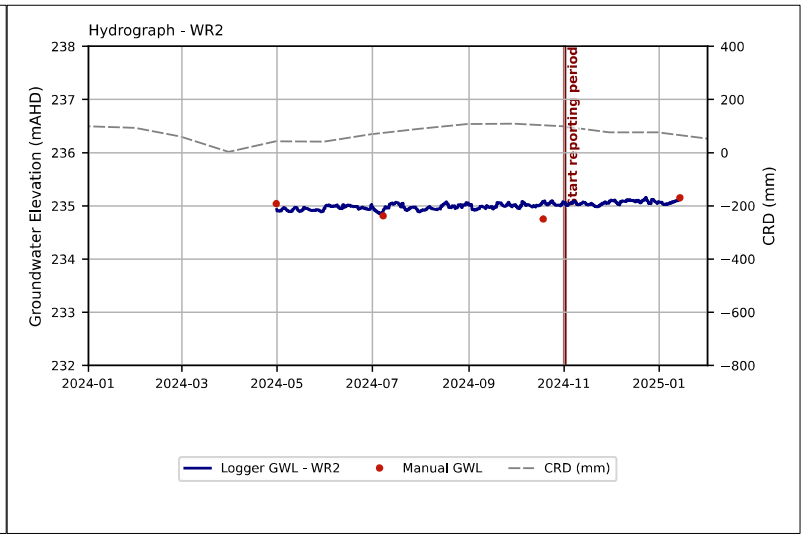

Hydrograph - VS056
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS056-100m
Logger GWL - VS056-25m
CRD (mm)


Hydrograph - VS058
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS058-159m
Logger GWL - VS058-88m
CRD (mm)
Logger GWL - VS058-18m


Hydrograph - VS059
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS059-113m
Logger GWL - VS059-65m
CRD (mm)
Logger GWL - VS059-30m


Hydrograph - VS062
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS062
CRD (mm)


Hydrograph - WR1
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - WR1
Manual GWL
CRD (mm)


Hydrograph - WR2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - WR2
Manual GWL
CRD (mm)

Appendix C Groundwater Quality Results

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review November 2024 – January 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

26 March 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 cleanning 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_2S
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	H2S; 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	

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

CHAIN OF CUSTODY	PS4XXPD	HANDED OVER BY	CBased Environment	HANDOVER DATE/TIME	2025-01-17 10:	REQUIRED TURNAROUND	5 Working Da	RETURN EQUIPMENT	N	EDD FORMAT	IN	PAGE 1 OF
S		al		20		ys		o		X		9

LAB USE ONLY	RECEIVED(DATE/TIME): 17-01-25 1030	APPROPRIATELY SEALED?: YES NO	TEMPERATURE: 3.8 Ice	JOB #:	SIGNED: IR

LABORATORY	ALS Newcastle | 5/585 Maitland Road Mayfield West 2304 NSW
SAMPLERS	Greg Quayle
QUOTE #	SYBQ-403-21v4
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	2025-01-15 12:25	4F55Y3NQ-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	GW-13	2025-01-15 13:30	4F55Y3NQ-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	GW-14	2025-01-16 08:55	4F55Y3NQ-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	GW-2	2025-01-16 07:50	4F55Y3NQ-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	GW-6	2025-01-15 13:45	4F55Y3NQ-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	GW-7	2025-01-16 13:30	4F55Y3NQ-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	GW-8	2025-01-15 07:45	4F55Y3NQ-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	GW-9	2025-01-16 07:40	4F55Y3NQ-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	GW01	2025-01-14 08:08	4F55Y3NQ-9	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
10	GW02	2025-01-13 08:45	4F55Y3NQ-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	GW03	2025-01-13 12:42	4F55Y3NQ-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
12	MD01	2025-01-14 10:11	4F55Y3NQ-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	MD02	2025-01-14 09:47	4F55Y3NQ-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
14	SB01	2025-01-13 13:12	4F55Y3NQ-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	SB02	2025-01-14 08:32	4F55Y3NQ-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	SB04	2025-01-13 11:52	4F55Y3NQ-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	SB05	2025-01-13 14:30	4F55Y3NQ-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
18	SB06	2025-01-13 15:04	4F55Y3NQ-18	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

ALS PU

Environmental Division
Newcastle
Work Order Reference
EN2500866

Telephone : – 61 2 4014 2500

19	SB07	2025-01-13 09:32	4F55Y3NQ-19	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
20	SB08	2025-01-13 12:04	4F55Y3NQ-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
21	SB09	2025-01-13 13:40	4F55Y3NQ-21	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
22	SB10	2025-01-13 14:14	4F55Y3NQ-22	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	SB15	2025-01-14 07:42	4F55Y3NQ-23	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY PS4XXPDS **HANDED OVER BY** CBasedEnvironmental **HANDOVER DATE/TIME** 2025-01-17 10:20 **REQUIRED TURNAROUND** 5 Working Days **RETURN EQUIPMENT** No **EDD FORMAT** INX **PAGE 2 OF 9**

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
24	TR18	2025-01-14 13:10	4F55Y3NQ-24	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	TR26	2025-01-14 12:40	4F55Y3NQ-25	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
26	TR35	2025-01-14 13:40	4F55Y3NQ-26	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27	TR7	2025-01-14 12:55	4F55Y3NQ-27	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
28	VKY0035C	2025-01-15 10:10	4F55Y3NQ-28	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
29	VKY0036C	2025-01-15 10:45	4F55Y3NQ-29	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
30	VKY0042C	2025-01-15 11:15	4F55Y3NQ-30	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
31	VKY0034C	2025-01-15 09:45	4F55Y3NQ-31	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Too turbid to field filter - lab to filter
32	VKY0043C	2025-01-14 13:25	4F55Y3NQ-32	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
33	VNW223/P-3	2025-01-15 11:45	4F55Y3NQ-33	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
34	VNW390	2025-01-14 10:15	4F55Y3NQ-34	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
35	VNW391	2025-01-14 11:40	4F55Y3NQ-35	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
36	VNW392	2025-01-14 12:10	4F55Y3NQ-36	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
37	VNW393	2025-01-14 11:30	4F55Y3NQ-37	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
38	VNW394	2025-01-14 11:00	4F55Y3NQ-38	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
39	VNW395	2025-01-14 11:17	4F55Y3NQ-39	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
40	WR1	2025-01-14 09:30	4F55Y3NQ-40	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

41	WR2	2025-01-14 07:50	4F55Y3NQ-41	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
42	GW-4	2025-01-16 08:25	4F55Y3NQ-42	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
43	GW-10	2025-01-15 13:00	4F55Y3NQ-43	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
44	GW-15	2025-01-15 08:45	4F55Y3NQ-44	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
45	Landreef Tap	2025-01-16 08:30	4F55Y3NQ-45	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
46	GW97164	2025-01-16 08:00	4F55Y3NQ-46	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY PS4XXPDS **HANDED OVER BY** CBased Environmental **HANDOVER DATE/TIME** 2025-01-17 10:20 **REQUIRED TURNAROUND** 5 Working Days **RETURN EQUIPMENT** No **EDD FORMAT** INX **PAGE 3 OF 9**

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
47	VKY GW Duplicate 1	2025-01-15 08:45	4F55Y3NQ-47	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
48	VKY GW Duplicate 2	2025-01-15 08:25	4F55Y3NQ-48	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
49	VKY-GW-Blank	2025-01-16 08:40	4F55Y3NQ-49	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
50	VKY GW Lab Split Dup 1	2025-01-15 08:45	4F55Y3NQ-50	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
51	VKY GW Lab Split Dup 2	2025-01-15 12:25	4F55Y3NQ-51	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	PS4XXPDS	HANDED OVER BY	CBased Environmental	HANDOVER DATE/TIME	2025-01-17 10:20	REQUIRED TURNAROUND	5 Working Days	RETURN EQUIPMENT	No	EDD FORMAT	INX	PAGE 4 OF 9

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO3 Q. Total anions R. Total Cations S. Total Phosphorus as P T. Alkalinity (total) U. Aluminium (dissolved) V. Antimony (dissolved) W. Arsenic (dissolved) X. Barium (dissolved) Y. Boron (dissolved) Z. Calcium (dissolved) AA. Chloride AB. Chromium (dissolved) AC. Cobalt (dissolved) AD. Iron (dissolved)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	SAMPLE INSTRUCTIONS
1	GW-11	2025-01-15 12:25	4F55Y3NQ-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	GW-13	2025-01-15 13:30	4F55Y3NQ-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	GW-14	2025-01-16 08:55	4F55Y3NQ-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	GW-2	2025-01-16 07:50	4F55Y3NQ-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	GW-6	2025-01-15 13:45	4F55Y3NQ-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	GW-7	2025-01-16 13:30	4F55Y3NQ-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	GW-8	2025-01-15 07:45	4F55Y3NQ-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	GW-9	2025-01-16 07:40	4F55Y3NQ-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	GW01	2025-01-14 08:08	4F55Y3NQ-9	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
10	GW02	2025-01-13 08:45	4F55Y3NQ-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	GW03	2025-01-13 12:42	4F55Y3NQ-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
12	MD01	2025-01-14 10:11	4F55Y3NQ-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	MD02	2025-01-14 09:47	4F55Y3NQ-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
14	SB01	2025-01-13 13:12	4F55Y3NQ-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	SB02	2025-01-14 08:32	4F55Y3NQ-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	SB04	2025-01-13 11:52	4F55Y3NQ-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	SB05	2025-01-13 14:30	4F55Y3NQ-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

17	SB05	2025-01-13 14:30	4F55Y3NQ-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
18	SB06	2025-01-13 15:04	4F55Y3NQ-18	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	SB07	2025-01-13 09:32	4F55Y3NQ-19	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
20	SB08	2025-01-13 12:04	4F55Y3NQ-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
21	SB09	2025-01-13 13:40	4F55Y3NQ-21	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
22	SB10	2025-01-13 14:14	4F55Y3NQ-22	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	SB15	2025-01-14 07:42	4F55Y3NQ-23	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY PS4XXPDS **HANDED OVER BY** CBased Environmental **HANDOVER DATE/TIME** 2025-01-17 10:20 **REQUIRED TURNAROUND** 5 Working Days **RETURN EQUIPMENT** No **EDD FORMAT** IN X **PAGE 5 OF 9**

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO3 Q. Total anions R. Total Cations S. Total Phosphorus as P T. Alkalinity (total) U. Aluminium (dissolved) V. Antimony (dissolved) W. Arsenic (dissolved) X. Barium (dissolved) Y. Boron (dissolved) Z. Calcium (dissolved) AA. Chloride AB. Chromium (dissolved) AC. Cobalt (dissolved) AD. Iron (dissolved)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	SAMPLE INSTRUCTIONS
24	TR18	2025-01-14 13:10	4F55Y3NQ-24	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	TR26	2025-01-14 12:40	4F55Y3NQ-25	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
26	TR35	2025-01-14 13:40	4F55Y3NQ-26	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27	TR7	2025-01-14 12:55	4F55Y3NQ-27	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
28	VKY0035C	2025-01-15 10:10	4F55Y3NQ-28	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
29	VKY0036C	2025-01-15 10:45	4F55Y3NQ-29	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
30	VKY0042C	2025-01-15 11:15	4F55Y3NQ-30	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
31	VKY0034C	2025-01-15 09:45	4F55Y3NQ-31	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Too turbid to field filter - lab to filter
32	VKY0043C	2025-01-14 13:25	4F55Y3NQ-32	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
33	VNW223/P-3	2025-01-15 11:45	4F55Y3NQ-33	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
34	VNW390	2025-01-14 10:15	4F55Y3NQ-34	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
35	VNW391	2025-01-14 11:40	4F55Y3NQ-35	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
36	VNW392	2025-01-14 12:10	4F55Y3NQ-36	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
37	VNW393	2025-01-14 11:30	4F55Y3NQ-37	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
38	VNW394	2025-01-14 11:00	4F55Y3NQ-38	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
39	[illegible]	[illegible]	[illegible]	4	[illegible]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

39	VNW395	2025-01-14 11:17	4F55Y3NQ-39	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
40	WR1	2025-01-14 09:30	4F55Y3NQ-40	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
41	WR2	2025-01-14 07:50	4F55Y3NQ-41	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
42	GW-4	2025-01-16 08:25	4F55Y3NQ-42	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
43	GW-10	2025-01-15 13:00	4F55Y3NQ-43	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
44	GW-15	2025-01-15 08:45	4F55Y3NQ-44	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
45	Landreef Tap	2025-01-16 08:30	4F55Y3NQ-45	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
46	GW97164	2025-01-16 08:00	4F55Y3NQ-46	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY PS4XXPDS **HANDED OVER BY** CBased Environmental **HANDOVER DATE/TIME** 2025-01-17 10:20 **REQUIRED TURNAROUND** 5 Working Days **RETURN EQUIPMENT** No **EDD FORMAT** IN X **PAGE 6 OF 9**

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO3 Q. Total anions R. Total Cations S. Total Phosphorus as P T. Alkalinity (total) U. Aluminium (dissolved) V. Antimony (dissolved) W. Arsenic (dissolved) X. Barium (dissolved) Y. Boron (dissolved) Z. Calcium (dissolved) AA. Chloride AB. Chromium (dissolved) AC. Cobalt (dissolved) AD. Iron (dissolved)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	SAMPLE INSTRUCTIONS
47	VKY GW Duplicate 1	2025-01-15 08:45	4F55Y3NQ-47	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
48	VKY GW Duplicate 2	2025-01-15 08:25	4F55Y3NQ-48	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
49	VKY-GW-Blank	2025-01-16 08:40	4F55Y3NQ-49	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
50	VKY GW Lab Split Dup 1	2025-01-15 08:45	4F55Y3NQ-50	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
51	VKY GW Lab Split Dup 2	2025-01-15 12:25	4F55Y3NQ-51	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	PS4XXPD	HANDED OVER BY	CBased Environment	HANDOVER DATE/TIME	2025-01-17 10:	REQUIRED TURNAROUND	5 Working Da	RETURN EQUIPMENT	N	EDD FORMAT	IN	PAGE 7 OF
S		al		20		ys		o		X		9

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

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR		SAMPLE INSTRUCTIONS
1	GW-11	2025-01-15 12:25	4F55Y3NQ-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
2	GW-13	2025-01-15 13:30	4F55Y3NQ-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
3	GW-14	2025-01-16 08:55	4F55Y3NQ-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
4	GW-2	2025-01-16 07:50	4F55Y3NQ-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
5	GW-6	2025-01-15 13:45	4F55Y3NQ-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
6	GW-7	2025-01-16 13:30	4F55Y3NQ-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
7	GW-8	2025-01-15 07:45	4F55Y3NQ-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
8	GW-9	2025-01-16 07:40	4F55Y3NQ-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
9	GW01	2025-01-14 08:08	4F55Y3NQ-9	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		

10	GW02	2025-01-13 08:45	4F55Y3NQ-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
11	GW03	2025-01-13 12:42	4F55Y3NQ-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
12	MD01	2025-01-14 10:11	4F55Y3NQ-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
13	MD02	2025-01-14 09:47	4F55Y3NQ-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
14	SB01	2025-01-13 13:12	4F55Y3NQ-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
15	SB02	2025-01-14 08:32	4F55Y3NQ-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
16	SB04	2025-01-13 11:52	4F55Y3NQ-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
17	SB05	2025-01-13 14:30	4F55Y3NQ-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
18	SB06	2025-01-13 15:04	4F55Y3NQ-18	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
19	SB07	2025-01-13 09:32	4F55Y3NQ-19	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
20	SB08	2025-01-13 12:04	4F55Y3NQ-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
21	SB09	2025-01-13 13:40	4F55Y3NQ-21	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
22	SB10	2025-01-13 14:14	4F55Y3NQ-22	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
23	SB15	2025-01-14 07:42	4F55Y3NQ-23	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		

CHAIN OF CUSTODY PS4XXPDS **HANDED OVER BY** CBased Environmental **HANDOVER DATE/TIME** 2025-01-17 10:20 **REQUIRED TURNAROUND** 5 Working Days **RETURN EQUIPMENT** No **EDD FORMAT** INX

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

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR		SAMPLE INSTRUCTIONS
24	TR18	2025-01-14 13:10	4F55Y3NQ-24	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
25	TR26	2025-01-14 12:40	4F55Y3NQ-25	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
26	TR35	2025-01-14 13:40	4F55Y3NQ-26	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
27	TR7	2025-01-14 12:55	4F55Y3NQ-27	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
28	VKY0035C	2025-01-15 10:10	4F55Y3NQ-28	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
29	VKY0036C	2025-01-15 10:45	4F55Y3NQ-29	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
30	VKY0042C	2025-01-15 11:15	4F55Y3NQ-30	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
31	VKY0034C	2025-01-15 09:45	4F55Y3NQ-31	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Too turbid to field filter - lab to filter
32	VKY0043C	2025-01-14 13:25	4F55Y3NQ-32	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
33	VNW223/P-3	2025-01-15 11:45	4F55Y3NQ-33	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
34	VNW390	2025-01-14 10:15	4F55Y3NQ-34	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
35	VNW391	2025-01-14 11:40	4F55Y3NQ-35	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
36	VNW392	2025-01-14 12:10	4F55Y3NQ-36	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
37	VNW393	2025-01-14 11:30	4F55Y3NQ-37	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
38	VNW394	2025-01-14 11:00	4F55Y3NQ-38	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
39	VNW395	2025-01-14 11:17	4F55Y3NQ-39	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
40	WR1	2025-01-14 09:30	4F55Y3NQ-40	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
41	WR2	2025-01-14 07:50	4F55Y3NQ-41	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
42	GW-4	2025-01-16 08:25	4F55Y3NQ-42	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
43	GW-10	2025-01-15 13:00	4F55Y3NQ-43	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
44	GW-15	2025-01-15 08:45	4F55Y3NQ-44	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
45	Landreef Tap	2025-01-16 08:30	4F55Y3NQ-45	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
46	GW97164	2025-01-16 08:00	4F55Y3NQ-46	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		

CHAIN OF CUSTODY	PS4XXPDS	HANDED OVER BY	CBased Environmental	HANDOVER DATE/TIME	2025-01-17 10:20	REQUIRED TURNAROUND	5 Working Days	RETURN EQUIPMENT	No	EDD FORMAT	INX	PAGE 9 OF 9

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

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR		SAMPLE INSTRUCTIONS
47	VKY GW Duplicate 1	2025-01-15 08:45	4F55Y3NQ-47	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
48	VKY GW Duplicate 2	2025-01-15 08:25	4F55Y3NQ-48	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
49	VKY-GW-Blank	2025-01-16 08:40	4F55Y3NQ-49	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
50	VKY GW Lab Split Dup 1	2025-01-15 08:45	4F55Y3NQ-50	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
51	VKY GW Lab Split Dup 2	2025-01-15 12:25	4F55Y3NQ-51	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		

CERTIFICATE OF ANALYSIS

Work Order	: **EN2500866**	Page	: 1 of 35
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: All Deliverables	Contact	:
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 02 6571 3334	Telephone	: +61 2 4014 2500
Project	: Vickery Quarterly Groundwaters	Date Samples Received	: 17-Jan-2025 10:30
Order number	: ----	Date Analysis Commenced	: 24-Jan-2025
C-O-C number	: ----	Issue Date	: 03-Feb-2025 17:48
Sampler	: Greg Quayle		
Site	: Vickery		
Quote number	: SYBQ/403/21v4 and PLANNED EVENTS		
No. of samples received	: 52		
No. of samples analysed	: 52		

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.
- EG020: Poor matrix spike recovery was obtained for Cadmium, Magnesium and Nickel. Confirmed by reanalysis
- It has been noted that Nitrite is greater than NOx, however this difference is within the limits of experimental variation.
- EK057/EK059G: Nitrite and NOx results confirmed by re analysis.
- TDS by method EA-015 may bias high for various samples due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- EK067: It has been noted that Filtered is greater than Total Phosphorous for various samples, however this difference is within the limits of experimental variation.
- 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)

Compound	CAS Number	LOR	Unit	Sample ID	GW-11 4F55Y3NQ-1	GW-13 4F55Y3NQ-2	GW-14 4F55Y3NQ-3	GW-2 4F55Y3NQ-4	GW-6 4F55Y3NQ-5
				Sampling date / time	15-Jan-2025 12:25	15-Jan-2025 13:30	16-Jan-2025 08:55	16-Jan-2025 07:50	15-Jan-2025 13:45
					EN2500866-001	EN2500866-002	EN2500866-003	EN2500866-004	EN2500866-005
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.29	7.72	7.26	7.29	7.96
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		4620	1680	3690	1200	1380
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		3590	1050	2570	812	872
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		185	736	544	515	711
Total Alkalinity as CaCO3	----	1	mg/L		185	736	544	515	711
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		3	26	462	23	<1
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		1500	148	807	119	60
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		216	29	204	98	9
Magnesium	7439-95-4	1	mg/L		52	16	92	29	5
Sodium	7440-23-5	1	mg/L		669	378	574	159	361
Potassium	7440-09-7	1	mg/L		11	12	2	2	2
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	0.001	<0.001
Barium	7440-39-3	0.001	mg/L		0.112	0.043	0.044	0.204	0.306
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	0.002	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW-11 4F55Y3NQ-1	GW-13 4F55Y3NQ-2	GW-14 4F55Y3NQ-3	GW-2 4F55Y3NQ-4	GW-6 4F55Y3NQ-5
				Sampling date / time	15-Jan-2025 12:25	15-Jan-2025 13:30	16-Jan-2025 08:55	16-Jan-2025 07:50	15-Jan-2025 13:45
					EN2500866-001	EN2500866-002	EN2500866-003	EN2500866-004	EN2500866-005
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**1.04**	**0.136**	**0.008**	**0.009**	**0.029**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	**0.005**	**0.001**	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**3.02**	**0.894**	**2.58**	**0.930**	**0.166**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.034**	**0.020**	**0.031**	**0.016**	<0.005
Boron	7440-42-8	0.05	mg/L		**0.13**	**0.08**	<0.05	<0.05	**0.08**
Iron	7439-89-6	0.05	mg/L		**8.70**	**0.38**	<0.05	<0.05	**0.11**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**1.96**	**4.26**	**0.05**	**0.05**	**0.88**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.01**	**0.05**	**0.02**	**0.02**	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.03**	<0.01	**0.71**	**0.36**	**0.02**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.04**	**0.04**	**0.73**	**0.38**	**0.02**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		<0.01	**0.12**	**0.02**	**0.05**	**0.13**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.08**	**1.41**	**0.04**	**0.04**	**0.99**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**46.1**	**19.4**	**43.2**	**14.1**	**15.9**
ø Total Cations	----	0.01	meq/L		**44.4**	**19.5**	**42.8**	**14.2**	**16.6**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	GW-11 4F55Y3NQ-1	GW-13 4F55Y3NQ-2	GW-14 4F55Y3NQ-3	GW-2 4F55Y3NQ-4	GW-6 4F55Y3NQ-5
			Sampling date / time	15-Jan-2025 12:25	15-Jan-2025 13:30	16-Jan-2025 08:55	16-Jan-2025 07:50	15-Jan-2025 13:45
Compound	CAS Number	LOR	Unit	EN2500866-001	EN2500866-002	EN2500866-003	EN2500866-004	EN2500866-005
				Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued								
ø Ionic Balance	----	0.01	%	**1.80**	**0.23**	**0.56**	**0.42**	**2.20**
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)								
Dissolved Oxygen	----	0.1	mg/L	**7.8**	**8.4**	**8.6**	**8.7**	**7.3**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW-7 4F55Y3NQ-6	GW-8 4F55Y3NQ-7	GW-9 4F55Y3NQ-8	GW01 4F55Y3NQ-9	GW02 4F55Y3NQ-10
				Sampling date / time	16-Jan-2025 13:30	15-Jan-2025 07:45	16-Jan-2025 07:40	14-Jan-2025 08:08	13-Jan-2025 08:45
					EN2500866-006	EN2500866-007	EN2500866-008	EN2500866-009	EN2500866-010
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		8.41	7.47	5.71	7.49	7.68
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		4200	3750	1340	1060	897
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		2780	2290	1080	676	582
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		50	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		985	733	8	445	365
Total Alkalinity as CaCO3	----	1	mg/L		1040	733	8	445	365
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		414	109	<1	132	91
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		706	885	448	48	43
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		6	130	69	74	50
Magnesium	7439-95-4	1	mg/L		160	84	16	47	22
Sodium	7440-23-5	1	mg/L		637	668	129	143	142
Potassium	7440-09-7	1	mg/L		324	9	10	1	<1
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		0.022	0.192	0.041	0.081	0.046
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW-7 4F55Y3NQ-6	GW-8 4F55Y3NQ-7	GW-9 4F55Y3NQ-8	GW01 4F55Y3NQ-9	GW02 4F55Y3NQ-10
				Sampling date / time	16-Jan-2025 13:30	15-Jan-2025 07:45	16-Jan-2025 07:40	14-Jan-2025 08:08	13-Jan-2025 08:45
					EN2500866-006	EN2500866-007	EN2500866-008	EN2500866-009	EN2500866-010
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**0.040**	**0.132**	**2.60**	**0.240**	**0.006**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.001**	**0.002**	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.090**	**2.73**	**1.71**	**1.46**	**0.656**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	**0.008**	<0.005	**0.005**
Boron	7440-42-8	0.05	mg/L		**0.17**	**0.07**	<0.05	**0.07**	**0.06**
Iron	7439-89-6	0.05	mg/L		<0.05	**5.72**	**64.1**	**0.77**	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**1.53**	**1.63**	**0.90**	**0.24**	**0.02**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.15**	<0.01	<0.01	**0.01**	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	<0.01	**0.01**	**0.19**	**0.74**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.01**	<0.01	**0.01**	**0.20**	**0.74**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.09**	**0.14**	**0.02**	**0.19**	**0.17**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.07**	**0.16**	**0.02**	**0.16**	**0.18**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**49.3**	**41.9**	**12.8**	**13.0**	**10.4**
ø Total Cations	----	0.01	meq/L		**49.5**	**42.7**	**10.6**	**13.8**	**10.5**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW-7 4F55Y3NQ-6	GW-8 4F55Y3NQ-7	GW-9 4F55Y3NQ-8	GW01 4F55Y3NQ-9	GW02 4F55Y3NQ-10
				Sampling date / time	16-Jan-2025 13:30	15-Jan-2025 07:45	16-Jan-2025 07:40	14-Jan-2025 08:08	13-Jan-2025 08:45
Compound	CAS Number	LOR	Unit		EN2500866-006	EN2500866-007	EN2500866-008	EN2500866-009	EN2500866-010
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Ionic Balance	----	0.01	%		**0.15**	**0.95**	**9.26**	**3.03**	**0.39**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.4**	**8.4**	**7.9**	**8.5**	**8.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	GW03 4F55Y3NQ-11	MD01 4F55Y3NQ-12	MD02 4F55Y3NQ-13	SB01 4F55Y3NQ-14	SB02 4F55Y3NQ-15
			Sampling date / time	13-Jan-2025 12:42	14-Jan-2025 10:11	14-Jan-2025 09:47	13-Jan-2025 13:12	14-Jan-2025 08:32
Compound	CAS Number	LOR	Unit	EN2500866-011	EN2500866-012	EN2500866-013	EN2500866-014	EN2500866-015
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**7.51**	**9.05**	**7.07**	**7.59**	**7.50**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**867**	**1360**	**1180**	**1640**	**6640**
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**577**	**774**	**683**	**958**	**4570**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	**93**	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**417**	**231**	**511**	**550**	**841**
Total Alkalinity as CaCO3	----	1	mg/L	**417**	**324**	**511**	**550**	**841**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**53**	**33**	**28**	**216**	**1280**
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**22**	**258**	**81**	**175**	**1300**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**86**	**9**	**100**	**102**	**76**
Magnesium	7439-95-4	1	mg/L	**31**	**8**	**55**	**68**	**69**
Sodium	7440-23-5	1	mg/L	**79**	**267**	**137**	**214**	**1550**
Potassium	7440-09-7	1	mg/L	**2**	**22**	**10**	**2**	**2**
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	<0.01	**0.04**	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L	**0.080**	**0.141**	**0.262**	**0.114**	**0.028**
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	**0.002**
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW03 4F55Y3NQ-11	MD01 4F55Y3NQ-12	MD02 4F55Y3NQ-13	SB01 4F55Y3NQ-14	SB02 4F55Y3NQ-15
				Sampling date / time	13-Jan-2025 12:42	14-Jan-2025 10:11	14-Jan-2025 09:47	13-Jan-2025 13:12	14-Jan-2025 08:32
					EN2500866-011	EN2500866-012	EN2500866-013	EN2500866-014	EN2500866-015
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**0.089**	**0.017**	**0.050**	**0.153**	**0.692**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	**0.002**	**0.001**	<0.001	**0.002**
Nickel	7440-02-0	0.001	mg/L		<0.001	**0.002**	**0.010**	<0.001	**0.001**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.977**	**1.34**	**1.33**	**2.07**	**2.03**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	**0.014**	**0.006**	<0.005	<0.005
Boron	7440-42-8	0.05	mg/L		<0.05	<0.05	<0.05	**0.08**	**0.14**
Iron	7439-89-6	0.05	mg/L		**0.42**	<0.05	**1.55**	**0.14**	**0.08**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.72**	**16.4**	**0.29**	**0.10**	**0.03**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.03**	<0.01	**0.02**	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.85**	**0.05**	**0.02**	**0.01**	**0.13**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.88**	**0.05**	**0.04**	**0.01**	**0.13**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.10**	**0.27**	**0.06**	**0.21**	**0.64**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.84**	**0.33**	**0.11**	**0.34**	**0.65**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**10.0**	**14.4**	**13.1**	**20.4**	**80.1**
ø Total Cations	----	0.01	meq/L		**10.3**	**13.3**	**15.7**	**20.0**	**76.9**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW03 4F55Y3NQ-11	MD01 4F55Y3NQ-12	MD02 4F55Y3NQ-13	SB01 4F55Y3NQ-14	SB02 4F55Y3NQ-15
				Sampling date / time	13-Jan-2025 12:42	14-Jan-2025 10:11	14-Jan-2025 09:47	13-Jan-2025 13:12	14-Jan-2025 08:32
Compound	CAS Number	LOR	Unit		EN2500866-011	EN2500866-012	EN2500866-013	EN2500866-014	EN2500866-015
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Ionic Balance	----	0.01	%		**1.35**	**4.16**	**9.21**	**0.93**	**2.02**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.0**	**6.8**	**8.1**	**8.2**	**8.4**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SB04 4F55Y3NQ-16	SB05 4F55Y3NQ-17	SB06 4F55Y3NQ-18	SB07 4F55Y3NQ-19	SB08 4F55Y3NQ-20
			Sampling date / time	13-Jan-2025 11:52	13-Jan-2025 14:30	13-Jan-2025 15:04	13-Jan-2025 09:32	13-Jan-2025 12:04
Compound	CAS Number	LOR	Unit	EN2500866-016	EN2500866-017	EN2500866-018	EN2500866-019	EN2500866-020
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**7.55**	**7.92**	**7.84**	**7.69**	**7.69**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**3060**	**3220**	**2860**	**901**	**1020**
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**2070**	**2230**	**1800**	**561**	**582**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**830**	**725**	**481**	**374**	**386**
Total Alkalinity as CaCO3	----	1	mg/L	**830**	**725**	**481**	**374**	**386**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**413**	**447**	**366**	**89**	**97**
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**452**	**462**	**545**	**40**	**66**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**102**	**26**	**35**	**54**	**71**
Magnesium	7439-95-4	1	mg/L	**88**	**19**	**30**	**24**	**38**
Sodium	7440-23-5	1	mg/L	**584**	**777**	**634**	**134**	**118**
Potassium	7440-09-7	1	mg/L	**1**	<1	<1	<1	<1
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	**0.56**	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L	<0.001	**0.004**	**0.002**	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L	**0.112**	**0.086**	**0.104**	**0.045**	**0.054**
Chromium	7440-47-3	0.001	mg/L	**0.001**	<0.001	<0.001	**0.001**	<0.001
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L	**0.001**	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB04 4F55Y3NQ-16	SB05 4F55Y3NQ-17	SB06 4F55Y3NQ-18	SB07 4F55Y3NQ-19	SB08 4F55Y3NQ-20
				Sampling date / time	13-Jan-2025 11:52	13-Jan-2025 14:30	13-Jan-2025 15:04	13-Jan-2025 09:32	13-Jan-2025 12:04
					EN2500866-016	EN2500866-017	EN2500866-018	EN2500866-019	EN2500866-020
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**0.307**	**0.703**	**0.285**	**0.002**	**0.007**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	**0.002**	**0.002**	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.002**	<0.001	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**2.47**	**0.646**	**1.07**	**0.699**	**1.10**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.056**	<0.005	<0.005	<0.005	<0.005
Boron	7440-42-8	0.05	mg/L		**0.11**	**0.15**	**0.13**	**0.06**	**0.06**
Iron	7439-89-6	0.05	mg/L		**1.58**	**0.19**	**0.23**	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.10**	**0.24**	**0.07**	**0.02**	**0.03**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.02**	<0.01	<0.01	<0.01	**0.01**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.06**	**0.05**	<0.01	**0.29**	**0.30**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.08**	**0.05**	<0.01	**0.29**	**0.31**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.16**	**0.63**	**0.19**	**0.07**	**0.06**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.24**	**1.11**	**0.29**	**0.09**	**0.12**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**37.9**	**36.8**	**32.6**	**10.4**	**11.6**
ø Total Cations	----	0.01	meq/L		**37.8**	**36.6**	**31.8**	**10.5**	**11.8**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SB04 4F55Y3NQ-16	SB05 4F55Y3NQ-17	SB06 4F55Y3NQ-18	SB07 4F55Y3NQ-19	SB08 4F55Y3NQ-20
				Sampling date / time	13-Jan-2025 11:52	13-Jan-2025 14:30	13-Jan-2025 15:04	13-Jan-2025 09:32	13-Jan-2025 12:04
Compound	CAS Number	LOR	Unit		EN2500866-016	EN2500866-017	EN2500866-018	EN2500866-019	EN2500866-020
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Ionic Balance	----	0.01	%		**0.23**	**0.23**	**1.26**	**0.21**	**0.90**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**6.9**	**7.5**	**8.3**	**8.6**	**8.6**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SB09 4F55Y3NQ-21	SB10 4F55Y3NQ-22	SB15 4F55Y3NQ-23	TR18 4F55Y3NQ-24	TR26 4F55Y3NQ-25
			Sampling date / time	13-Jan-2025 13:40	13-Jan-2025 14:14	14-Jan-2025 07:42	14-Jan-2025 13:10	14-Jan-2025 12:40
Compound	CAS Number	LOR	Unit	EN2500866-021	EN2500866-022	EN2500866-023	EN2500866-024	EN2500866-025
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**7.83**	**7.86**	**7.60**	**7.31**	**7.59**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**968**	**2010**	**1020**	**13200**	**6560**
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**544**	**1280**	**642**	**8700**	**3660**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**437**	**663**	**439**	**690**	**1240**
Total Alkalinity as CaCO3	----	1	mg/L	**437**	**663**	**439**	**690**	**1240**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**78**	**238**	**119**	**630**	**229**
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**29**	**202**	**37**	**4090**	**1580**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**48**	**41**	**75**	**261**	**158**
Magnesium	7439-95-4	1	mg/L	**28**	**31**	**45**	**328**	**166**
Sodium	7440-23-5	1	mg/L	**164**	**419**	**117**	**2410**	**1230**
Potassium	7440-09-7	1	mg/L	**1**	<1	<1	**11**	**10**
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	<0.01	**0.03**	<0.01
Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L	**0.078**	**0.050**	**0.066**	**0.065**	**0.157**
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB09 4F55Y3NQ-21	SB10 4F55Y3NQ-22	SB15 4F55Y3NQ-23	TR18 4F55Y3NQ-24	TR26 4F55Y3NQ-25
				Sampling date / time	13-Jan-2025 13:40	13-Jan-2025 14:14	14-Jan-2025 07:42	14-Jan-2025 13:10	14-Jan-2025 12:40
					EN2500866-021	EN2500866-022	EN2500866-023	EN2500866-024	EN2500866-025
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**0.615**	**0.011**	**0.002**	**0.032**	**0.105**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	<0.001	**0.011**	**0.006**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.934**	**0.987**	**1.41**	**7.29**	**3.82**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.013**	<0.005	<0.005	<0.005	<0.005
Boron	7440-42-8	0.05	mg/L		**0.07**	**0.10**	**0.06**	**0.07**	**0.09**
Iron	7439-89-6	0.05	mg/L		<0.05	<0.05	<0.05	**0.20**	**0.07**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.14**	**0.03**	**0.01**	**0.02**	**0.03**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	**0.02**	**0.01**	**0.07**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	**0.10**	**0.17**	**0.09**	**0.14**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	**0.10**	**0.19**	**0.10**	**0.21**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.09**	**0.11**	**0.07**	**0.21**	**0.08**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.94**	**0.12**	**0.12**	**0.32**	**0.14**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**11.2**	**23.9**	**12.3**	**142**	**74.1**
ø Total Cations	----	0.01	meq/L		**11.8**	**22.8**	**12.5**	**145**	**75.3**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SB09 4F55Y3NQ-21	SB10 4F55Y3NQ-22	SB15 4F55Y3NQ-23	TR18 4F55Y3NQ-24	TR26 4F55Y3NQ-25
				Sampling date / time	13-Jan-2025 13:40	13-Jan-2025 14:14	14-Jan-2025 07:42	14-Jan-2025 13:10	14-Jan-2025 12:40
Compound	CAS Number	LOR	Unit		EN2500866-021	EN2500866-022	EN2500866-023	EN2500866-024	EN2500866-025
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Ionic Balance	----	0.01	%		**2.98**	**2.31**	**0.98**	**0.99**	**0.80**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.4**	**8.4**	**8.5**	**7.2**	**6.9**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	TR35 4F55Y3NQ-26	TR7 4F55Y3NQ-27	VKY0035C 4F55Y3NQ-28	VKY0036C 4F55Y3NQ-29	VKY0042C 4F55Y3NQ-30
			Sampling date / time	14-Jan-2025 13:40	14-Jan-2025 12:55	15-Jan-2025 10:10	15-Jan-2025 10:45	15-Jan-2025 11:15
Compound	CAS Number	LOR	Unit	EN2500866-026	EN2500866-027	EN2500866-028	EN2500866-029	EN2500866-030
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**7.25**	**7.19**	**7.52**	**7.67**	**7.28**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**17100**	**15300**	**3090**	**5620**	**5510**
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**12000**	**10000**	**1920**	**3550**	**3570**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**710**	**726**	**890**	**1260**	**787**
Total Alkalinity as CaCO3	----	1	mg/L	**710**	**726**	**890**	**1260**	**787**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**526**	**458**	**83**	**190**	**307**
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**5420**	**4810**	**535**	**1120**	**1320**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**358**	**310**	**51**	**55**	**215**
Magnesium	7439-95-4	1	mg/L	**570**	**368**	**46**	**43**	**235**
Sodium	7440-23-5	1	mg/L	**3000**	**2780**	**655**	**1340**	**788**
Potassium	7440-09-7	1	mg/L	**19**	**14**	**7**	**7**	**22**
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	**0.001**	**0.006**	<0.001
Barium	7440-39-3	0.001	mg/L	**0.098**	**0.114**	**0.073**	**0.250**	**0.138**
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	**0.001**	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L	**0.008**	**0.005**	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	TR35 4F55Y3NQ-26	TR7 4F55Y3NQ-27	VKY0035C 4F55Y3NQ-28	VKY0036C 4F55Y3NQ-29	VKY0042C 4F55Y3NQ-30
				Sampling date / time	14-Jan-2025 13:40	14-Jan-2025 12:55	15-Jan-2025 10:10	15-Jan-2025 10:45	15-Jan-2025 11:15
					EN2500866-026	EN2500866-027	EN2500866-028	EN2500866-029	EN2500866-030
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**0.907**	**0.381**	**0.308**	**0.151**	**0.220**
Molybdenum	7439-98-7	0.001	mg/L		**0.002**	<0.001	**0.006**	**0.002**	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.111**	**0.024**	**0.006**	**0.004**	**0.003**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**9.40**	**10.2**	**0.864**	**0.947**	**3.58**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.009**	**0.006**	<0.005	<0.005	**0.015**
Boron	7440-42-8	0.05	mg/L		**0.07**	**0.07**	<0.05	**0.09**	**0.06**
Iron	7439-89-6	0.05	mg/L		**0.10**	**0.54**	**0.64**	**0.11**	**0.94**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.05**	**0.11**	**0.90**	**1.06**	**0.54**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	**0.02**	**0.02**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	<0.01	**0.02**	**0.01**	**0.02**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	<0.01	**0.02**	**0.03**	**0.04**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.03**	**0.14**	**0.13**	**0.55**	**0.07**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.06**	**0.32**	**0.14**	**0.62**	**0.02**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**178**	**160**	**34.6**	**60.7**	**59.4**
ø Total Cations	----	0.01	meq/L		**196**	**167**	**35.0**	**64.7**	**64.9**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	TR35 4F55Y3NQ-26	TR7 4F55Y3NQ-27	VKY0035C 4F55Y3NQ-28	VKY0036C 4F55Y3NQ-29	VKY0042C 4F55Y3NQ-30
				Sampling date / time	14-Jan-2025 13:40	14-Jan-2025 12:55	15-Jan-2025 10:10	15-Jan-2025 10:45	15-Jan-2025 11:15
Compound	CAS Number	LOR	Unit		EN2500866-026	EN2500866-027	EN2500866-028	EN2500866-029	EN2500866-030
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Ionic Balance	----	0.01	%		**4.74**	**2.24**	**0.57**	**3.21**	**4.47**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**7.9**	**7.0**	**7.8**	**7.0**	**8.8**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	VKY0034C 4F55Y3NQ-31	VKY0043C 4F55Y3NQ-32	VNW223/P-3 4F55Y3NQ-33	VNW390 4F55Y3NQ-34	VNW391 4F55Y3NQ-35
			Sampling date / time	15-Jan-2025 09:45	14-Jan-2025 13:25	15-Jan-2025 11:45	14-Jan-2025 10:15	14-Jan-2025 11:40
Compound	CAS Number	LOR	Unit	EN2500866-031	EN2500866-032	EN2500866-033	EN2500866-034	EN2500866-035
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**7.71**	**8.13**	**7.74**	**7.35**	**7.68**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**3830**	**2950**	**5300**	**2260**	**2320**
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**2580**	**1460**	**3080**	**1360**	**1380**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**1350**	**1120**	**1050**	**597**	**603**
Total Alkalinity as CaCO3	----	1	mg/L	**1350**	**1120**	**1050**	**597**	**603**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**115**	<1	**91**	**107**	**101**
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**534**	**377**	**1140**	**406**	**446**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**28**	**11**	**102**	**195**	**186**
Magnesium	7439-95-4	1	mg/L	**28**	**4**	**126**	**46**	**59**
Sodium	7440-23-5	1	mg/L	**1000**	**752**	**982**	**286**	**277**
Potassium	7440-09-7	1	mg/L	**7**	**5**	**8**	**11**	**12**
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L	**0.001**	<0.001	<0.001	**0.001**	<0.001
Barium	7440-39-3	0.001	mg/L	**0.257**	**0.328**	**0.109**	**0.125**	**0.171**
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	**0.002**	<0.001
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VKY0034C 4F55Y3NQ-31	VKY0043C 4F55Y3NQ-32	VNW223/P-3 4F55Y3NQ-33	VNW390 4F55Y3NQ-34	VNW391 4F55Y3NQ-35
				Sampling date / time	15-Jan-2025 09:45	14-Jan-2025 13:25	15-Jan-2025 11:45	14-Jan-2025 10:15	14-Jan-2025 11:40
					EN2500866-031	EN2500866-032	EN2500866-033	EN2500866-034	EN2500866-035
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**0.008**	**0.005**	**0.007**	**0.227**	**0.233**
Molybdenum	7439-98-7	0.001	mg/L		**0.003**	<0.001	<0.001	**0.003**	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.003**	**0.001**	**0.002**	**0.024**	**0.004**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.523**	**0.411**	**2.18**	**1.91**	**1.78**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.014**	<0.005	**0.027**	**0.005**	**0.019**
Boron	7440-42-8	0.05	mg/L		**0.19**	**0.06**	**0.08**	**0.11**	**0.10**
Iron	7439-89-6	0.05	mg/L		<0.05	**0.10**	<0.05	**0.49**	**0.06**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.72**	**0.40**	**0.66**	**0.41**	**0.23**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.01**	<0.01	**0.22**	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.08**	<0.01	**1.68**	<0.01	**0.11**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.09**	<0.01	**1.90**	<0.01	**0.11**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.67**	**0.09**	**0.26**	**0.08**	**0.12**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.87**	**0.05**	**0.35**	**0.06**	**0.14**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**44.4**	**33.0**	**55.0**	**25.6**	**26.7**
ø Total Cations	----	0.01	meq/L		**47.4**	**33.7**	**58.4**	**26.2**	**26.5**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	VKY0034C 4F55Y3NQ-31	VKY0043C 4F55Y3NQ-32	VNW223/P-3 4F55Y3NQ-33	VNW390 4F55Y3NQ-34	VNW391 4F55Y3NQ-35
				Sampling date / time	15-Jan-2025 09:45	14-Jan-2025 13:25	15-Jan-2025 11:45	14-Jan-2025 10:15	14-Jan-2025 11:40
Compound	CAS Number	LOR	Unit		EN2500866-031	EN2500866-032	EN2500866-033	EN2500866-034	EN2500866-035
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Ionic Balance	----	0.01	%		**3.21**	**1.05**	**2.95**	**1.21**	**0.45**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**6.6**	**8.0**	**7.4**	**6.8**	**7.6**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VNW392 4F55Y3NQ-36	VNW393 4F55Y3NQ-37	VNW394 4F55Y3NQ-38	VNW395 4F55Y3NQ-39	WR1 4F55Y3NQ-40
				Sampling date / time	14-Jan-2025 12:10	14-Jan-2025 11:30	14-Jan-2025 11:00	14-Jan-2025 11:17	14-Jan-2025 09:30
					EN2500866-036	EN2500866-037	EN2500866-038	EN2500866-039	EN2500866-040
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.57	7.68	7.45	8.06	7.30
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		3310	2930	5300	2050	25900
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		2250	1800	3640	1250	28200
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		609	352	357	496	603
Total Alkalinity as CaCO3	----	1	mg/L		609	352	357	496	603
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		300	205	498	147	1490
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		702	710	1250	348	8460
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		303	169	214	56	1450
Magnesium	7439-95-4	1	mg/L		95	32	86	28	851
Sodium	7440-23-5	1	mg/L		364	473	933	394	4200
Potassium	7440-09-7	1	mg/L		18	6	7	6	11
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	0.004	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		0.118	0.058	0.061	0.050	0.130
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		0.002	<0.001	0.002	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VNW392 4F55Y3NQ-36	VNW393 4F55Y3NQ-37	VNW394 4F55Y3NQ-38	VNW395 4F55Y3NQ-39	WR1 4F55Y3NQ-40
				Sampling date / time	14-Jan-2025 12:10	14-Jan-2025 11:30	14-Jan-2025 11:00	14-Jan-2025 11:17	14-Jan-2025 09:30
					EN2500866-036	EN2500866-037	EN2500866-038	EN2500866-039	EN2500866-040
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**0.220**	**0.176**	**0.283**	**0.056**	**0.080**
Molybdenum	7439-98-7	0.001	mg/L		**0.004**	**0.005**	**0.001**	**0.001**	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.026**	**0.013**	**0.006**	**0.140**	**0.024**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**2.82**	**2.17**	**2.96**	**0.599**	**32.2**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.009**	<0.005	**0.005**	<0.005	**0.007**
Boron	7440-42-8	0.05	mg/L		**0.09**	**0.08**	**0.06**	**0.05**	**0.17**
Iron	7439-89-6	0.05	mg/L		**0.93**	**0.40**	**0.69**	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	**0.0003**
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.31**	**0.44**	**0.21**	**0.65**	**0.15**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.02**	**0.06**	**0.01**	**0.01**	**0.01**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.01**	**0.01**	<0.01	**1.18**	**0.12**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.03**	**0.07**	<0.01	**1.19**	**0.13**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.07**	**0.08**	**0.31**	**0.45**	**0.26**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.04**	**0.10**	**0.41**	**0.50**	**0.31**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**38.2**	**31.3**	**52.8**	**22.8**	**282**
ø Total Cations	----	0.01	meq/L		**39.2**	**31.8**	**58.5**	**22.4**	**325**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	VNW392 4F55Y3NQ-36	VNW393 4F55Y3NQ-37	VNW394 4F55Y3NQ-38	VNW395 4F55Y3NQ-39	WR1 4F55Y3NQ-40
			Sampling date / time	14-Jan-2025 12:10	14-Jan-2025 11:30	14-Jan-2025 11:00	14-Jan-2025 11:17	14-Jan-2025 09:30
Compound	CAS Number	LOR	Unit	EN2500866-036	EN2500866-037	EN2500866-038	EN2500866-039	EN2500866-040
				Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued								
ø Ionic Balance	----	0.01	%	**1.31**	**0.74**	**5.17**	**0.88**	**7.19**
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)								
Dissolved Oxygen	----	0.1	mg/L	**9.0**	**8.7**	**8.1**	**8.2**	**8.7**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	WR2 4F55Y3NQ-41	GW-4 4F55Y3NQ-42	GW-10 4F55Y3NQ-43	GW-15 4F55Y3NQ-44	Landreef Tap 4F55Y3NQ-45
				Sampling date / time	14-Jan-2025 07:50	16-Jan-2025 08:25	15-Jan-2025 13:00	15-Jan-2025 08:45	16-Jan-2025 08:30
					EN2500866-041	EN2500866-042	EN2500866-043	EN2500866-044	EN2500866-045
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.16	8.36	8.08	8.89	7.56
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		25800	2650	1560	689	736
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		21800	1740	1120	424	441
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	29	<1	37	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		513	1020	751	254	261
Total Alkalinity as CaCO3	----	1	mg/L		513	1040	751	291	261
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		1790	<1	21	28	54
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		8220	309	60	29	52
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		1300	6	41	5	62
Magnesium	7439-95-4	1	mg/L		698	4	23	2	24
Sodium	7440-23-5	1	mg/L		4220	685	324	166	68
Potassium	7440-09-7	1	mg/L		19	3	26	4	<1
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	0.004	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	0.002	<0.001	0.002	<0.001
Barium	7440-39-3	0.001	mg/L		0.174	0.272	0.081	0.020	0.018
Chromium	7440-47-3	0.001	mg/L		0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		0.014	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	WR2 4F55Y3NQ-41	GW-4 4F55Y3NQ-42	GW-10 4F55Y3NQ-43	GW-15 4F55Y3NQ-44	Landreef Tap 4F55Y3NQ-45
				Sampling date / time	14-Jan-2025 07:50	16-Jan-2025 08:25	15-Jan-2025 13:00	15-Jan-2025 08:45	16-Jan-2025 08:30
					EN2500866-041	EN2500866-042	EN2500866-043	EN2500866-044	EN2500866-045
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**1.12**	**0.008**	**0.023**	**0.010**	<0.001
Molybdenum	7439-98-7	0.001	mg/L		**0.020**	<0.001	**0.001**	**0.003**	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.158**	<0.001	**0.003**	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**30.7**	**0.164**	**1.01**	**0.219**	**0.628**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.011**	**0.029**	**0.116**	<0.005	<0.005
Boron	7440-42-8	0.05	mg/L		**0.12**	**0.14**	**0.14**	<0.05	<0.05
Iron	7439-89-6	0.05	mg/L		**1.43**	**0.25**	<0.05	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.23**	**0.51**	**0.11**	**0.10**	**0.02**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	**0.02**	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	<0.01	**4.02**	<0.01	**0.69**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	<0.01	**4.02**	**0.02**	**0.69**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.39**	**0.04**	**0.17**	**0.13**	**0.07**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.37**	**0.11**	**0.17**	**0.10**	**0.06**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**279**	**29.5**	**17.1**	**7.22**	**7.80**
ø Total Cations	----	0.01	meq/L		**306**	**30.5**	**18.7**	**7.74**	**8.03**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	WR2 4F55Y3NQ-41	GW-4 4F55Y3NQ-42	GW-10 4F55Y3NQ-43	GW-15 4F55Y3NQ-44	Landreef Tap 4F55Y3NQ-45
			Sampling date / time	14-Jan-2025 07:50	16-Jan-2025 08:25	15-Jan-2025 13:00	15-Jan-2025 08:45	16-Jan-2025 08:30
Compound	CAS Number	LOR	Unit	EN2500866-041	EN2500866-042	EN2500866-043	EN2500866-044	EN2500866-045
				Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued								
ø Ionic Balance	----	0.01	%	**4.60**	**1.68**	**4.36**	**3.49**	**1.40**
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)								
Dissolved Oxygen	----	0.1	mg/L	**8.7**	**6.7**	**8.5**	**8.4**	**8.7**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW97164 4F55Y3NQ-46	VKY GW Duplicate 1 4F55Y3NQ-47	VKY GW Duplicate 2 4F55Y3NQ-48	VKY-GW-Blank 4F55Y3NQ-49	VKY Lab Split Dup 1 4F55Y3NQ-50
				Sampling date / time	16-Jan-2025 08:00	15-Jan-2025 08:45	15-Jan-2025 08:25	16-Jan-2025 08:40	15-Jan-2025 08:45
					EN2500866-046	EN2500866-047	EN2500866-048	EN2500866-049	EN2500866-050
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.50**	**8.79**	**7.24**	**5.97**	**8.89**
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**611**	**678**	**4660**	<1	**681**
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**378**	**374**	**3000**	<10	**396**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	**32**	<1	<1	**39**
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**251**	**259**	**111**	<1	**251**
Total Alkalinity as CaCO3	----	1	mg/L		**251**	**291**	**111**	<1	**290**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**30**	**29**	**2**	<1	**28**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**33**	**29**	**1420**	<1	**28**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**58**	**5**	**214**	<1	**5**
Magnesium	7439-95-4	1	mg/L		**21**	**2**	**47**	<1	**2**
Sodium	7440-23-5	1	mg/L		**52**	**164**	**664**	<1	**161**
Potassium	7440-09-7	1	mg/L		<1	**4**	**11**	<1	**4**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		**0.019**	**0.019**	**0.114**	<0.001	**0.019**
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW97164 4F55Y3NQ-46	VKY GW Duplicate 1 4F55Y3NQ-47	VKY GW Duplicate 2 4F55Y3NQ-48	VKY-GW-Blank 4F55Y3NQ-49	VKY Lab Split Dup 1 4F55Y3NQ-50
				Sampling date / time	16-Jan-2025 08:00	15-Jan-2025 08:45	15-Jan-2025 08:25	16-Jan-2025 08:40	15-Jan-2025 08:45
					EN2500866-046	EN2500866-047	EN2500866-048	EN2500866-049	EN2500866-050
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		<0.001	**0.010**	**1.07**	<0.001	**0.010**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	**0.002**	<0.001	<0.001	**0.002**
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.586**	**0.215**	**3.20**	<0.001	**0.212**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	**0.048**	<0.005	<0.005
Boron	7440-42-8	0.05	mg/L		<0.05	<0.05	**0.14**	<0.05	<0.05
Iron	7439-89-6	0.05	mg/L		<0.05	<0.05	**10.4**	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	**0.10**	**1.48**	**0.03**	**0.10**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.02**	<0.01	**0.02**	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.20**	<0.01	**0.02**	<0.01	<0.01
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.22**	<0.01	**0.04**	<0.01	<0.01
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.06**	**0.14**	**0.01**	<0.01	**0.08**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.04**	**0.23**	**0.02**	<0.01	**0.10**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**6.57**	**7.24**	**42.3**	<0.01	**7.17**
ø Total Cations	----	0.01	meq/L		**6.88**	**7.65**	**43.7**	<0.01	**7.52**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	GW97164 4F55Y3NQ-46	VKY GW Duplicate 1 4F55Y3NQ-47	VKY GW Duplicate 2 4F55Y3NQ-48	VKY-GW-Blank 4F55Y3NQ-49	VKY Lab Split Dup 1 4F55Y3NQ-50
			Sampling date / time	16-Jan-2025 08:00	15-Jan-2025 08:45	15-Jan-2025 08:25	16-Jan-2025 08:40	15-Jan-2025 08:45
Compound	CAS Number	LOR	Unit	EN2500866-046	EN2500866-047	EN2500866-048	EN2500866-049	EN2500866-050
				Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued								
ø Ionic Balance	----	0.01	%	**2.33**	**2.78**	**1.62**	**----**	**2.40**
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)								
Dissolved Oxygen	----	0.1	mg/L	**8.8**	**9.0**	**8.1**	**9.0**	**8.5**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	VKY Lab Split Dup 2 4F55Y3NQ-51	SB11	----	----	----
				Sampling date / time	15-Jan-2025 08:45	13-Jan-2025 15:19	----	----	----
Compound	CAS Number	LOR	Unit		EN2500866-051	EN2500866-052	--------	--------	--------
					Result	Result	----	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**6.99**	**7.70**	----	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**4650**	**1020**	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**3290**	**688**	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**75**	**454**	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**75**	**454**	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<1	**106**	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**1370**	**35**	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**217**	**35**	----	----	----
Magnesium	7439-95-4	1	mg/L		**48**	**22**	----	----	----
Sodium	7440-23-5	1	mg/L		**672**	**205**	----	----	----
Potassium	7440-09-7	1	mg/L		**11**	**1**	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	----	----	----
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	----	----
Barium	7440-39-3	0.001	mg/L		**0.115**	**0.062**	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	VKY Lab Split Dup 2 4F55Y3NQ-51	SB11	----	----	----
				Sampling date / time	15-Jan-2025 08:45	13-Jan-2025 15:19	----	----	----
Compound	CAS Number	LOR	Unit		EN2500866-051	EN2500866-052	--------	--------	--------
					Result	Result	----	----	----
EG020F: Dissolved Metals by ICP-MS - Continued									
Manganese	7439-96-5	0.001	mg/L		**1.09**	**0.142**	----	----	----
Molybdenum	7439-98-7	0.001	mg/L		<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	----	----
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	----	----	----
Strontium	7440-24-6	0.001	mg/L		**3.22**	**0.844**	----	----	----
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.040**	<0.005	----	----	----
Boron	7440-42-8	0.05	mg/L		**0.13**	**0.08**	----	----	----
Iron	7439-89-6	0.05	mg/L		**9.92**	<0.05	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**1.53**	**0.16**	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.01**	<0.01	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.04**	**0.43**	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.05**	**0.43**	----	----	----
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.01**	**0.07**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.04**	**0.12**	----	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**40.1**	**12.3**	----	----	----
ø Total Cations	----	0.01	meq/L		**44.3**	**12.5**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	VKY Lab Split Dup 2 4F55Y3NQ-51	SB11	----	----	----
				Sampling date / time	15-Jan-2025 08:45	13-Jan-2025 15:19	----	----	----
Compound	CAS Number	LOR	Unit		EN2500866-051	EN2500866-052	--------	--------	--------
					Result	Result	----	----	----
EN055: Ionic Balance - Continued									
ø Ionic Balance	----	0.01	%		**4.91**	**0.95**	**----**	**----**	**----**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	**----**	**----**	**----**
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.2**	**8.7**	**----**	**----**	**----**

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EG020F: Dissolved Metals by ICP-MS
(WATER) EP025: Oxygen - Dissolved (DO)
(WATER) EG035F: Dissolved Mercury by FIMS
(WATER) EK067FG: Filtered Total Phosphorus as P by Discrete Analyser
(WATER) EA005P: pH by PC Titrator
(WATER) ED093F: Dissolved Major Cations
(WATER) EN055: Ionic Balance
(WATER) ED045G: Chloride by Discrete Analyser
(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA
(WATER) ED037P: Alkalinity by PC Titrator
(WATER) EK055G: Ammonia as N by Discrete Analyser
(WATER) EA010P: Conductivity by PC Titrator
(WATER) EA015: Total Dissolved Solids dried at 180 ± 5 °C
(WATER) EP020: Oil and Grease (O&G)
(WATER) EK057G: Nitrite as N by Discrete Analyser
(WATER) EK058G: Nitrate as N by Discrete Analyser
(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser
(WATER) EK067G: Total Phosphorus as P by Discrete Analyser

GROUND WATER MONITORING

Client: **Whitehaven Coal - Vickery Project**

Sampled By: GG

Project: **Quarterly Groundwater Sampling** (Jan, Apr, Jul, Oct)

Signed:

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 500ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
GW-4									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW-10									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW-15									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW971614									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW971400	24-1-25	0759	N/A	N/A	N/A	0.85	10.64	–	pump	6.97	2.79ms	20.9	-77	NIL	C	C	Y/N	Y/N	1	1	1	1	
QA Samples																							
VKY GW Duplicate 1			Duplicate 1 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			1	1	1	1	
VKY GW Duplicate 2			Duplicate 2 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			1	1	1	1	
VKY GW Blank															C S T	C O Bk Bn Gn Gy			1	1	1	1	
Split Duplicate samples to be split into two bottle sets. Please label one set as 'Split Dup (1/2) ALS' and one as 'Split Dup (1/2) Eurofins"																							
VKY GW Lab Split Dup 1			Site Split Duplicate 1 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			2	2	2	2	
VKY GW Lab Split Dup 2			Site Split Duplicate 2 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			2	2	2	2	
																	Total Bottles:		56	56	56	56	

4

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Bn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still → Trickle → Slow → Steady → Fast
Bottles: GP = Green Plastic, RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

pH 7 buffer check required every 10 samples - If the Difference is over 0.2, recalibrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

CHAIN OF CUSTODY	MVF5DXAX	HANDED OVER BY	Nathan Lane	HANDOVER DATE/TIME	2025-01-28 14:36	REQUIRED TURNAROUND	Urgent	RETURN EQUIPMENT	No	EDD FORMAT	INX	PAGE 1 OF 3

LAB USE ONLY	RECEIVED(DATE/TIME): 28-01-25 1555	APPROPRIATELY SEALED?: YES NO	TEMPERATURE: 2.0 ICE	JOB #:	SIGNED: IR

LABORATORY	ALS Newcastle | 5/585 Maitland Road Mayfield West 2304 NSW
SAMPLERS	CBased Environmental
QUOTE #	SYBQ-403-21 v4
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	GW971400	2025-01-24 07:59	U4UYK3VY-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

ALS PU

Environmental Division
Newcastle
Work Order Reference
EN2501508

Telephone : +61 2 4014 2500

CHAIN OF CUSTODY MVF5DXAX **HANDED OVER BY** Nathan Lane **HANDOVER DATE/TIME** 2025-01-28 14:36 **REQUIRED TURNAROUND** Urgent **RETURN EQUIPMENT** No **EDD FORMAT** INX

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO3 Q. Total anions R. Total Cations S. Total Phosphorus as P T. Alkalinity (total) U. Aluminium (dissolved) V. Antimony (dissolved) W. Arsenic (dissolved) X. Barium (dissolved) Y. Boron (dissolved) Z. Calcium (dissolved) AA. Chloride AB. Chromium (dissolved) AC. Cobalt (dissolved) AD. Iron (dissolved)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	SAMPLE INSTRUCTIONS
1	GW971400	2025-01-24 07:59	U4UYK3VY-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY MVF5DXAX **HANDED OVER BY** Nathan Lane **HANDOVER DATE/TIME** 2025-01-28 14:36 **REQUIRED TURNAROUND** Urgent **RETURN EQUIPMENT** No **EDD FORMAT** INX

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

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR		SAMPLE INSTRUCTIONS
1	GW971400	2025-01-24 07:59	U4UYK3VY-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		

CERTIFICATE OF ANALYSIS

Work Order	: **EN2501508**	Page	: 1 of 5
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: All Deliverables	Contact	:
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 02 6571 3334	Telephone	: +61 2 4014 2500
Project	: Vickery Quarterly Groundwaters	Date Samples Received	: 28-Jan-2025 15:55
Order number	: ----	Date Analysis Commenced	: 28-Jan-2025
C-O-C number	: ----	Issue Date	: 03-Feb-2025 09:10
Sampler	: CBased Environmental		
Site	: Vickery		
Quote number	: SYBQ/403/21v4 and PLANNED EVENTS		
No. of samples received	: 1		
No. of samples analysed	: 1		

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*
Allan Brown	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW
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.
- ED093: It is recognised that total concentration is less than dissolved for some metal analytes. However, the difference is within experimental variation of the methods.
- TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- 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	GW971400 U4UYK3VY-1	----	----	----	----
				Sampling date / time	24-Jan-2025 07:59	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2501508-001	--------	--------	--------	--------
					Result	----	----	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.08**	----	----	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**2810**	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**2100**	----	----	----	----
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		**470**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**470**	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**477**	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**379**	----	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**229**	----	----	----	----
Magnesium	7439-95-4	1	mg/L		**76**	----	----	----	----
Sodium	7440-23-5	1	mg/L		**283**	----	----	----	----
Potassium	7440-09-7	1	mg/L		**2**	----	----	----	----
ED093T: Total Major Cations									
Calcium	7440-70-2	1	mg/L		**208**	----	----	----	----
Magnesium	7439-95-4	1	mg/L		**84**	----	----	----	----
Sodium	7440-23-5	1	mg/L		**314**	----	----	----	----
Potassium	7440-09-7	1	mg/L		**2**	----	----	----	----
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	GW971400 U4UYK3VY-1	----	----	----	----
				Sampling date / time	24-Jan-2025 07:59	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2501508-001	--------	--------	--------	--------
					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		**0.055**	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Cobalt	7440-48-4	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		**0.024**	----	----	----	----
Molybdenum	7439-98-7	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.018**	----	----	----	----
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		**1.86**	----	----	----	----
Tin	7440-31-5	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
Boron	7440-42-8	0.05	mg/L		**0.05**	----	----	----	----
Iron	7439-89-6	0.05	mg/L		**0.15**	----	----	----	----
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		**0.01**	----	----	----	----
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		**3.58**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**3.58**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.18**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW971400 U4UYK3VY-1	----	----	----	----
				Sampling date / time	24-Jan-2025 07:59	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2501508-001	--------	--------	--------	--------
					Result	----	----	----	----
EK071FG: Dissolved Reactive Phosphorus as P by DA									
Dissolved Reactive Phosphorus as P	----	0.01	mg/L		<0.01	**----**	**----**	**----**	**----**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**30.0**	**----**	**----**	**----**	**----**
ø Total Cations	----	0.01	meq/L		**30.0**	**----**	**----**	**----**	**----**
ø Ionic Balance	----	0.01	%		**0.05**	**----**	**----**	**----**	**----**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	**----**	**----**	**----**	**----**
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**9.2**	**----**	**----**	**----**	**----**

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) ED037P: Alkalinity by PC Titrator
(WATER) ED093F: Dissolved Major Cations
(WATER) EN055: Ionic Balance
(WATER) ED045G: Chloride by Discrete Analyser
(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA
(WATER) ED093T: Total Major Cations
(WATER) EK067G: Total Phosphorus as P by Discrete Analyser
(WATER) EG020F: Dissolved Metals by ICP-MS
(WATER) EG035F: Dissolved Mercury by FIMS
(WATER) EK057G: Nitrite as N by Discrete Analyser
(WATER) EK058G: Nitrate as N by Discrete Analyser
(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser
(WATER) EP020: Oil and Grease (O&G)
(WATER) EA015: Total Dissolved Solids dried at 180 ± 5 °C
(WATER) EK071FG: Dissolved Reactive Phosphorus as P by DA
(WATER) EK055G: Ammonia as N by Discrete Analyser
(WATER) EP025: Oxygen - Dissolved (DO)
(WATER) EA010P: Conductivity by PC Titrator

CHAIN OF CUSTODY DOCUMENTATION

EUROFINS

CLIENT: CBased Environmental Pty Ltd

POSTAL ADDRESS: PO Box 245 CESSNOCK NSW 2325

monitoringresults@cbased.com.au,
AQuiroz@whitehavencoal.com.au, SEND INVOICE TO: accounts@cbased.com.au

DATA NEEDED BY: 5 working days REPORT NEEDED BY: 5 working days

PROJECT ID: Vickery Qtrly GW QUOTE NO.: CBased-20230316-13

P.O. NO.: COMMENTS/SPECIAL HANDLING/STORAGE OR DIPOSAL:

FOR LAB USE ONLY
COOLER SEAL
Yes ..... No .....
Broken ..... Intact .....
COOLER TEMP: deg C

Metals are field filtered unless indicated

LABORATORY BATCH NO.:

SAMPLERS

PHONE: 0265713334 E-MAIL: monitoringresults@cbased.com.au

REPORT FORMAT: HARD: Yes FAX: DISK: BULLETIN BOARD: E-MAIL: Yes

QC LEVEL: QCS1: QCS2: QCS3: Yes QCS4:

SAMPLE DATA				CONTAINER DATA		ANALYSIS REQUIRED																							
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH	EC	TDS	B11C	B11E	B19B	Ammonia	Total P	Oil & Grease	M12	B, Co, Mn (diss)	Ba, Sb, Sr (diss)	Al, Fe (diss)											NOTES
VKY Lab Split Dup 1 Eurofins	Water	15/01/2025	8:45	1x 500mL GP, 1x PP, 1x PG, 1x RP(filt)	4	X	X	X	X	X	X	X	X	X	X	X	X	X											
VKY Lab Split Dup 2 Eurofins	Water	15/01/2025	12:25	1x 500mL GP, 1x PP, 1x PG, 1x RP(filt)	4	X	X	X	X	X	X	X	X	X	X	X	X	X											
				TOTAL BOTTLES:																									

RELINQUISHED BY:

NAME: Nathan Lord DATE: 17.1.25
OF: CBased Environmental TIME: 5:40pm
NAME: DATE:
OF: TIME:

RECEIVED BY

NAME: DATE: 17/1
OF: TIME: 5:50
NAME: DATE:
OF: TIME:

METHOD OF SHIPMENT
CONSIGNMENT NOTE NO. 6-3
TRANSPORT CO. NAME

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinced Jar; S = Solvent Washed Acid Rinced Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; O = Other.

1178740

Cbased Environmental Pty Ltd
Unit 3, 2 Enterprise Crescent
Singleton
NSW 2330

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Marni Blake**

Report **1178740-W**
Project name VICKERY QTRLY GW
Received Date Jan 17, 2025

Client Sample ID			**VKY Lab Split Dup 1 Eurofins**	**VKY Lab Split Dup 2 Eurofins**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**N25-Ja0025645**	**N25-Ja0025646**
Date Sampled			**Jan 15, 2025**	**Jan 15, 2025**
Test/Reference	LOR	Unit		
Ammonia (as N)	0.01	mg/L	0.09	5.8
Chloride	1	mg/L	1600	24
Conductivity (at 25 °C)	10	uS/cm	690	5000
Oil & Grease (HEM)	10	mg/L	< 10	< 10
pH (at 25 °C)	0.1	pH Units	9.2	7.2
Phosphate total (as P)	0.01	mg/L	0.10	0.03
Sulphate (as SO4)	2	mg/L	< 2	28
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	410	[Q19]3500
Alkalinity (speciated)				
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	250	190
Carbonate Alkalinity (as CaCO3)	20	mg/L	71	< 20
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	320	190
Eurofins Suite B19B: NO3/NO2/NOx				
Nitrate & Nitrite (as N)	0.05	mg/L	0.06	< 0.05
Nitrate (as N)	0.02	mg/L	0.04	0.04
Nitrite (as N)	0.02	mg/L	0.02	< 0.02
Heavy Metals				
Aluminium (filtered)	0.05	mg/L	< 0.05	< 0.05
Antimony (filtered)	0.005	mg/L	< 0.005	< 0.005
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001
Barium (filtered)	0.02	mg/L	0.02	0.11
Boron (filtered)	0.05	mg/L	< 0.05	0.13
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001
Cobalt (filtered)	0.001	mg/L	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.003	0.004
Iron (filtered)	0.05	mg/L	< 0.05	10
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.011	1.0
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001
Molybdenum (filtered)	0.005	mg/L	< 0.005	< 0.005
Nickel (filtered)	0.001	mg/L	< 0.001	< 0.001
Selenium (filtered)	0.001	mg/L	< 0.001	< 0.001
Silver (filtered)	0.005	mg/L	< 0.005	< 0.005
Strontium (filtered)	0.001	mg/L	0.22	3.2

Client Sample ID			VKY Lab Split Dup 1 Eurofins	VKY Lab Split Dup 2 Eurofins
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**N25-Ja0025645**	**N25-Ja0025646**
Date Sampled			**Jan 15, 2025**	**Jan 15, 2025**
Test/Reference	LOR	Unit		
Heavy Metals				
Tin (filtered)	0.005	mg/L	< 0.005	< 0.005
Zinc (filtered)	0.005	mg/L	< 0.005	0.058
Eurofins Suite B11C: Na/K/Ca/Mg				
Calcium	0.5	mg/L	4.5	190
Magnesium	0.5	mg/L	2.0	49
Potassium	0.5	mg/L	4.2	12
Sodium	0.5	mg/L	160	720

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Ammonia (as N)	Melbourne	Jan 21, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Conductivity (at 25 °C)	Newcastle	Jan 20, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Oil & Grease (HEM)	Melbourne	Jan 24, 2025	28 Days
- Method: LTM-INO-4180 Oil and Grease			
pH (at 25 °C)	Newcastle	Jan 20, 2025	6 Hours
- Method: LTM-GEN-7090 pH by ISE			
Phosphate total (as P)	Sydney	Jan 21, 2025	28 Days
- Method: E052 Total Phosphate (as P)			
Eurofins Suite B19B: NO3/NO2/NOx	Melbourne	Jan 21, 2025	14 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Heavy Metals (filtered)	Sydney	Jan 21, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Metals IWRG 621 : Metals M12 filtered	Sydney	Jan 21, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11C: Na/K/Ca/Mg	Sydney	Jan 21, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Sydney	Jan 21, 2025	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Sulphate (as SO4)	Sydney	Jan 21, 2025	28 Days
- Method: In-house method LTM-INO-4270 Sulphate by Ion Chromatograph			
Alkalinity (speciated)	Sydney	Jan 21, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Newcastle	Jan 20, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			

eurofins

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Project Name: VICKERY QTRLY GW

Order No.:
Report #: 1178740
Phone: 02 6571 3334
Fax:

Received: Jan 17, 2025 5:00 PM
Due: Jan 24, 2025
Priority: 5 Day
Contact Name: Marni Blake

Eurofins Analytical Services Manager : Irem Haskara

Sample Detail	Aluminium (filtered)	Ammonia (as N)	Antimony (filtered)	Barium (filtered)	Boron (filtered)	Cobalt (filtered)	Conductivity (at 25 °C)	Iron (filtered)	Manganese (filtered)	Oil & Grease (HEM)	pH (at 25 °C)	Phosphate total (as P)	Strontium (filtered)	Metals IWRG 621 : Metals M12 filtered	Eurofins Suite B19B: NO3/NO2/NOx	Eurofins Suite B11E: Cl/SO4/Alkalinity	Eurofins Suite B11C: Na/K/Ca/Mg	Total Dissolved Solids Dried at 180 °C ± 2 °C
Melbourne Laboratory - NATA # 1261 Site # 1254		X								X					X			
Sydney Laboratory - NATA # 1261 Site # 18217	X		X	X	X	X		X	X			X	X	X		X	X	
Mayfield West Laboratory - NATA # 1261 Site # 25079							X				X							X
External Laboratory																		

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																	
1	VKY Lab Split Dup 1 Eurofins	Jan 15, 2025	8:45AM	Water	N25-Ja0025645	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	VKY Lab Split Dup 2 Eurofins	Jan 15, 2025	12:25PM	Water	N25-Ja0025646	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Test Counts						2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Oil & Grease (HEM)	mg/L	< 10			10	Pass	
Phosphate total (as P)	mg/L	< 0.01			0.01	Pass	
Sulphate (as SO4)	mg/L	< 2			2	Pass	
Method Blank							
Eurofins Suite B19B: NO3/NO2/NOx							
Nitrate & Nitrite (as N)	mg/L	< 0.05			0.05	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Nitrite (as N)	mg/L	< 0.02			0.02	Pass	
Method Blank							
Heavy Metals							
Aluminium (filtered)	mg/L	< 0.05			0.05	Pass	
Antimony (filtered)	mg/L	< 0.005			0.005	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Barium (filtered)	mg/L	< 0.02			0.02	Pass	
Boron (filtered)	mg/L	< 0.05			0.05	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Cobalt (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Iron (filtered)	mg/L	< 0.05			0.05	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Molybdenum (filtered)	mg/L	< 0.005			0.005	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Selenium (filtered)	mg/L	< 0.001			0.001	Pass	
Silver (filtered)	mg/L	< 0.005			0.005	Pass	
Strontium (filtered)	mg/L	< 0.001			0.001	Pass	
Tin (filtered)	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Eurofins Suite B11C: Na/K/Ca/Mg							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
LCS - % Recovery							
Ammonia (as N)	%	92			70-130	Pass	
Chloride	%	105			70-130	Pass	
Oil & Grease (HEM)	%	92			70-130	Pass	
Sulphate (as SO4)	%	105			70-130	Pass	
LCS - % Recovery							
Eurofins Suite B19B: NO3/NO2/NOx							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nitrate & Nitrite (as N)	%	80			70-130	Pass	
Nitrite (as N)	%	77			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Aluminium (filtered)	%	96			80-120	Pass	
Antimony (filtered)	%	90			80-120	Pass	
Arsenic (filtered)	%	99			80-120	Pass	
Barium (filtered)	%	97			80-120	Pass	
Boron (filtered)	%	97			80-120	Pass	
Cadmium (filtered)	%	100			80-120	Pass	
Chromium (filtered)	%	97			80-120	Pass	
Cobalt (filtered)	%	96			80-120	Pass	
Copper (filtered)	%	95			80-120	Pass	
Iron (filtered)	%	90			80-120	Pass	
Lead (filtered)	%	93			80-120	Pass	
Manganese (filtered)	%	96			80-120	Pass	
Mercury (filtered)	%	90			80-120	Pass	
Molybdenum (filtered)	%	91			80-120	Pass	
Nickel (filtered)	%	96			80-120	Pass	
Selenium (filtered)	%	95			80-120	Pass	
Silver (filtered)	%	98			80-120	Pass	
Strontium (filtered)	%	98			80-120	Pass	
Tin (filtered)	%	98			80-120	Pass	
Zinc (filtered)	%	96			80-120	Pass	
LCS - % Recovery							
Eurofins Suite B11C: Na/K/Ca/Mg							
Calcium	%	101			80-120	Pass	
Magnesium	%	113			80-120	Pass	
Potassium	%	105			80-120	Pass	
Sodium	%	110			80-120	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	%	108			70-130	Pass	
Hydroxide Alkalinity (as CaCO3)	%	108			70-130	Pass	
Total Alkalinity (as CaCO3)	%	108			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-Ja0022871	NCP	%	95			70-130	Pass	
Chloride	N25-Ja0025645	CP	%	96			70-130	Pass	
Sulphate (as SO4)	N25-Ja0025645	CP	%	106			70-130	Pass	
Spike - % Recovery									
Eurofins Suite B19B: NO3/NO2/NOx				Result 1					
Nitrate & Nitrite (as N)	M25-Ja0022871	NCP	%	88			70-130	Pass	
Nitrite (as N)	M25-Ja0022871	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Aluminium (filtered)	S25-Ja0039056	NCP	%	105			75-125	Pass	
Antimony (filtered)	S25-Ja0039056	NCP	%	106			75-125	Pass	
Arsenic (filtered)	S25-Ja0039056	NCP	%	116			75-125	Pass	
Boron (filtered)	S25-Ja0039056	NCP	%	92			75-125	Pass	
Cadmium (filtered)	S25-Ja0039056	NCP	%	113			75-125	Pass	
Chromium (filtered)	S25-Ja0039056	NCP	%	101			75-125	Pass	
Cobalt (filtered)	S25-Ja0039056	NCP	%	99			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper (filtered)	S25-Ja0039056	NCP	%	96			75-125	Pass	
Iron (filtered)	S25-Ja0039056	NCP	%	89			75-125	Pass	
Lead (filtered)	S25-Ja0039056	NCP	%	99			75-125	Pass	
Mercury (filtered)	S25-Ja0039056	NCP	%	94			75-125	Pass	
Molybdenum (filtered)	S25-Ja0039056	NCP	%	112			75-125	Pass	
Nickel (filtered)	S25-Ja0039056	NCP	%	97			75-125	Pass	
Selenium (filtered)	S25-Ja0039056	NCP	%	106			75-125	Pass	
Silver (filtered)	S25-Ja0039056	NCP	%	113			75-125	Pass	
Tin (filtered)	S25-Ja0039056	NCP	%	114			75-125	Pass	
Zinc (filtered)	S25-Ja0039056	NCP	%	102			75-125	Pass	
Spike - % Recovery									
Eurofins Suite B11C: Na/K/Ca/Mg				Result 1					
Magnesium	S25-Ja0026920	NCP	%	92			75-125	Pass	
Potassium	S25-Ja0026920	NCP	%	88			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	B25-Ja0025120	NCP	mg/L	8.1	7.9	2.0	30%	Pass	
Chloride	L25-Ja0027235	NCP	mg/L	470	470	1.0	30%	Pass	
Sulphate (as SO4)	S25-Ja0020781	NCP	mg/L	< 2	< 2	<1	30%	Pass	
Duplicate									
Eurofins Suite B19B: NO3/NO2/NOx				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	B25-Ja0025120	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Nitrite (as N)	B25-Ja0025120	NCP	mg/L	0.03	0.03	20	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium (filtered)	N25-Ja0029526	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Antimony (filtered)	N25-Ja0029526	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Arsenic (filtered)	N25-Ja0029526	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Barium (filtered)	N25-Ja0029526	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Boron (filtered)	N25-Ja0029526	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Cadmium (filtered)	N25-Ja0029526	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	N25-Ja0029526	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cobalt (filtered)	N25-Ja0029526	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	N25-Ja0029526	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Iron (filtered)	N25-Ja0029526	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Lead (filtered)	N25-Ja0029526	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	N25-Ja0029526	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Mercury (filtered)	N25-Ja0029526	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Molybdenum (filtered)	N25-Ja0029526	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nickel (filtered)	N25-Ja0029526	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Selenium (filtered)	N25-Ja0029526	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Silver (filtered)	N25-Ja0029526	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Strontium (filtered)	N25-Ja0029526	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Tin (filtered)	N25-Ja0029526	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Zinc (filtered)	N25-Ja0029526	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Eurofins Suite B11C: Na/K/Ca/Mg				Result 1	Result 2	RPD			
Calcium	S24-De0023514	NCP	mg/L	1.3	1.3	<1	30%	Pass	
Magnesium	S24-De0023514	NCP	mg/L	1.3	1.3	2.0	30%	Pass	
Potassium	S24-De0023514	NCP	mg/L	< 0.5	< 0.5	<1	30%	Pass	
Sodium	S24-De0023514	NCP	mg/L	1.3	1.3	2.0	30%	Pass	

Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	N25-Ja0025646	CP	mg/L	190	190	3.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	N25-Ja0025646	CP	mg/L	< 20	< 20	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	N25-Ja0025646	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	N25-Ja0025646	CP	mg/L	190	190	3.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q19	TDS may bias high due to the presence of fine particulate or colloidal matter that may pass through the filter paper.

Authorised by:

Andrew Black	Analytical Services Manager
Kirra Bailey	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic
Mickael Ros	Senior Analyst-Metal
Ryan Phillips	Senior Analyst-Inorganic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Appendix D Quality Trigger Level Anlaysis

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review November 2024 – January 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

26 March 2025

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

Bore	Trigger Level		Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-24
GW01	6.90	8.30	7.33	7.20	7.14	7.2	7.16	7.10
GW02	7.20	8.60	7.59	7.79	7.14	7.23	7.42	6.63
GW03	6.10	8.10	7.19	7.16	7.05	7.36	7.22	7.08
GW-10	6.70	8.40	no data	no data	no data	no data	7.57	7.36
GW-11	7.00	9.30	7.36	6.93	6.55	6.09	7.17	7.03
GW-13	6.70	8.40	no data	no data	no data	no data	7.35	7.30
GW-14	6.90	8.30	no data	no data	no data	no data	6.95	6.53
GW-15	6.90	8.30	no data	no data	no data	no data	8.97	8.85
GW-2	6.90	8.30	no data	no data	6.85	no data	6.84	6.45
GW-4	6.70	8.40	no data	no data	no data	no data	7.92	7.84
GW-6	6.70	8.40	no data	no data	no data	no data	7.73	7.52
GW-7	7.70	8.50	8.89	8.82	8.79	8.67	8.3	7.76
GW-8	6.70	8.40	7.11	7.03	6.95	6.49	7.0	6.62
GW-9	6.60	8.20	7.94	6.68	6.81	6.76	6.68	5.40
GW971400	6.90	8.30	no data	no data	no data	no data	6.8	7.08*
GW971614	6.90	8.30	no data	no data	no data	no data	6.65	7.08
MD01	6.70	8.40	11.58	11.69	10.73	9.59	8.33	8.84
MD02	6.70	8.40	6.84	6.78	6.59	6.57	6.72	6.81
SB01	6.90	8.30	7.44	7.31	7.20	7.21	7.23	7.12
SB02	6.90	8.30	7.28	7.28	7.14	7.2	7.23	7.22
SB04	6.90	8.30	7.29	7.43	7.27	7.12	7.21	7.04
SB05	6.90	8.30	2.09	7.73	7.63	7.58	7.71	7.52
SB06	6.90	8.30	7.35	7.61	7.42	7.56	7.7	7.42
SB07	6.90	8.30	7.35	7.47	7.28	7.22	7.58	7.29
SB08	6.90	8.30	7.24	7.39	7.17	7.29	7.27	7.27
SB09	6.90	8.30	3.32	7.56	7.27	7.52	7.44	7.40
SB10	6.90	8.30	7.43	7.47	7.28	7.5	7.38	7.25
SB11	6.90	8.30	7.26	7.70	7.45	7.77	7.51	7.39
SB15	6.90	8.30	7.29	7.23	7.17	7.3	7.24	7.41
TR18	6.70	8.40	6.58	6.85	6.69	6.64	6.79	6.68
TR26	6.70	8.40	7.06	7.16	7.11	6.69	6.93	6.85
TR35	6.70	8.40	6.66	6.75	6.72	6.75	6.73	6.54
TR7	7.40	7.80	6.53	7.05	6.71	6.82	6.63	6.51

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

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
GW01	10,083	1,042	1,265	1,384	1,052	738	1,244
GW02	969	731	971	926	1,065	1,016	992
GW03	811	862	888	862	947	1,004	983
GW-10	12,315	no data	no data	no data	no data	1,438	1,423
GW-11	4,912	4,360	4,340	4,520	4,760	4,760	4,310
GW-13	12,315	no data	no data	no data	no data	1,647	1,570
GW-14	10,083	no data	no data	no data	no data	3,840	4,260
GW-15	10,083	no data	no data	no data	no data	638	644
GW-2	10,083	no data	no data	1,218	no data	1,226	1,339
GW-4	12,315	no data	no data	no data	no data	2,980	2,970
GW-6	12,315	no data	no data	no data	no data	1,459	1,256
GW-7	5,378	4,300	4,490	4,560	4,710	4,470	4,690
GW-8	12,315	4,290	3,950	4,000	4,100	3,930	4,350
GW-9	12,740	6,110	3,320	5,630	1,591	1,099	1,544
GW971400	10,083	no data	no data	no data	no data	2,458	2,810*
GW971614	10,083	no data	no data	no data	no data	651	608
MD01	12,315	1,799	1,786	1,283	1,505	1,787	1,519
MD02	12,315	1,195	1,306	1,210	1,224	1,279	1,381
SB01	10,083	1,541	1,716	1,698	1,756	1,869	1,851
SB02	10,083	7,330	7,330	7,210	6,860	7,250	6,990
SB04	10,083	2,680	3,360	1,868	2,390	2,289	3,420
SB05	10,083	3,740	3,690	3,680	3,490	3,790	3,660
SB06	10,083	3,280	3,460	3,410	3,440	2,790	3,160
SB07	10,083	770	919	934	978	1,042	1,009
SB08	10,083	983	1,115	1,039	1,088	388	1,154
SB09	10,083	949	1,014	973	1,013	1,130	1,045
SB10	10,083	1,880	1,972	1,859	1,928	2,200	2,086
SB11	10,083	1,080	1,021	1,048	461	1,266	1,209
SB15	10,083	1,019	1,070	972	1,049	1,143	1,163
TR18	12,315	13,400	13,640	12,730	15,350	13,820	13,810
TR26	12,315	6,290	8,380	5,180	7,330	6,090	6,170
TR35	12,315	15,300	17,330	16,740	17,260	16,690	18,320
TR7	12,970	14,800	15,390	14,410	15,380	14,840^	15,520

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

Note: Reported as field EC value in µS/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 µS/cm to 14,840 µS/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/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25
GW01	365	96	171	132	54	111	132
GW02	365	77	74	81	102	79	91
GW03	365	52	56	58	46	54	53
GW-10	86	no data	no data	no data	no data	7	21
GW-11	365	<1	1	<1	1	<1	3
GW-13	86	no data	no data	no data	no data	24	26
GW-14	365	no data	no data	no data	no data	435	462
GW-15	365	no data	no data	no data	no data	28	28
GW-2	365	no data	no data	23	no data	26	23
GW-4	86	no data	no data	no data	no data	15	<1
GW-6	86	no data	no data	no data	no data	<1	<1
GW-7	86	364	385	399	380	396	414
GW-8	86	no data	100	109	72	82	109
GW-9	86	102	128	51	25	28	<1
GW971400	365	no data	no data	no data	no data	425	477
GW971614	365	no data	no data	no data	no data	32	30
MD01	86	22	23	26	36	14	33
MD02	86	28	29	28	29	29	28
SB01	365	182	183	190	148	193	216
SB02	365	1,120	no data	1,160	741	1,110	1,280
SB04	365	284	394	220	195	208	413
SB05	365	735	551	520	595	496	447
SB06	365	372	362	362	324	307	366
SB07	365	74	74	78	66	71	89
SB08	365	86	87	88	79	74	97
SB09	365	71	63	70	62	67	78
SB10	365	190	188	196	168	198	238
SB11	365	85	72	93	80	85	106
SB15	365	90	79	95	53	98	119
TR18	86	702	620	592	622	626	630
TR26	86	194	230	180	198	195	229
TR35	86	660	651	622	624	624	526
TR7	365	508	714	501	518	563	458

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

Note: Sulfate as SO_4 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**).

Table D-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
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
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
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-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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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-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-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-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-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-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-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-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-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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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
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
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
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

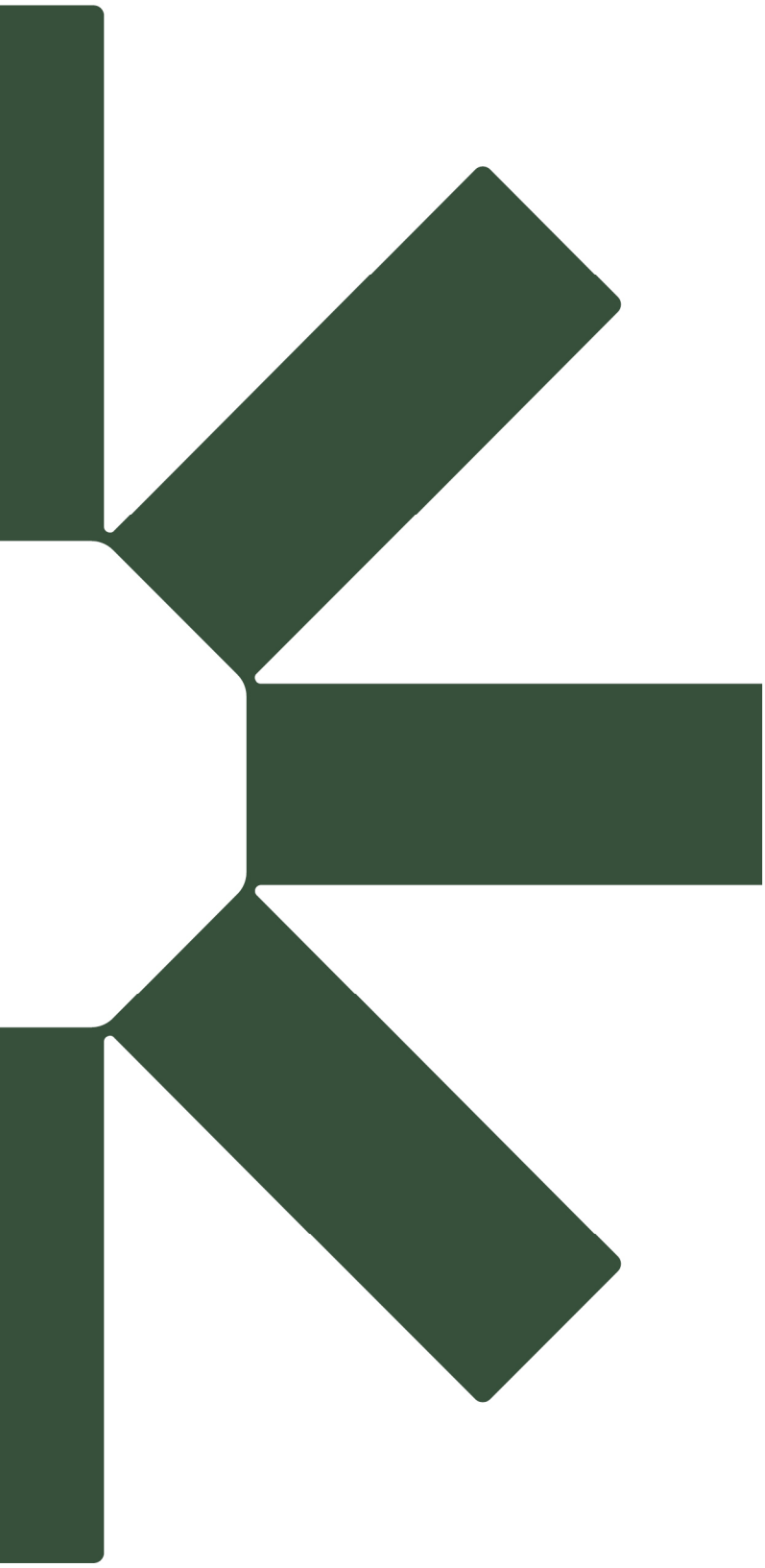
Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
SB15	Jul-24	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.02	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
SB15	Oct-24	<0.01	<0.001	<0.001	0.06	<0.0001	<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
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
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
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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
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
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
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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

*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

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review February 2025 – April 2025

Whitehaven Coal Ltd

Blue Vale Rd, Boggabri NSW 2382 Australia

Prepared by:

SLR Consulting Australia

SLR Project No.: 640.031099.00001

25 June 2025

Revision: 1.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	25 June 2025	Daniel D'Elmaine Raymond Minnaar	Sharon Hulbert	Sharon Hulbert

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Whitehaven Coal Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Appendices

Appendix A Trigger Action Response Plan
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Acronyms and Abbreviations

CMAs	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 February 2025 through 30th April 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.

Mining operations continue on site, with coal extraction occurring. Within the reporting period, Whitehaven Coal completed construction 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 across the active haul roads.

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 February 2025 through 30th April 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 slightly lower rainfall compared to long-term average rainfall in February. Significantly higher rainfall compared to the long-term average rainfall was observed from MET2 in March 2025 and slightly higher than long-term average in April 2025.

Table 1: Monthly rainfall vs long-term average rainfall

Year	2024									2025			
Month	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**March**	**Apr**
SILO 2024-2025 monthly rainfall (mm)	68.6	33.0	70.3	51.1	56.9	42.1	33.6	54.2	58.3	35.8	39.0	179.0	62.8
SILO Long-term average rainfall (mm)	33.2	39.2	40.5	38.6	35.2	37.3	49.0	58.0	60.9	69.4	57.6	47.0	33.5
On-site Rainfall (mm)	101.8	52.8	74.0	43.0	68.2	16.0	54.6	53.1	60.7	12.9	22.0	217.6	44.6

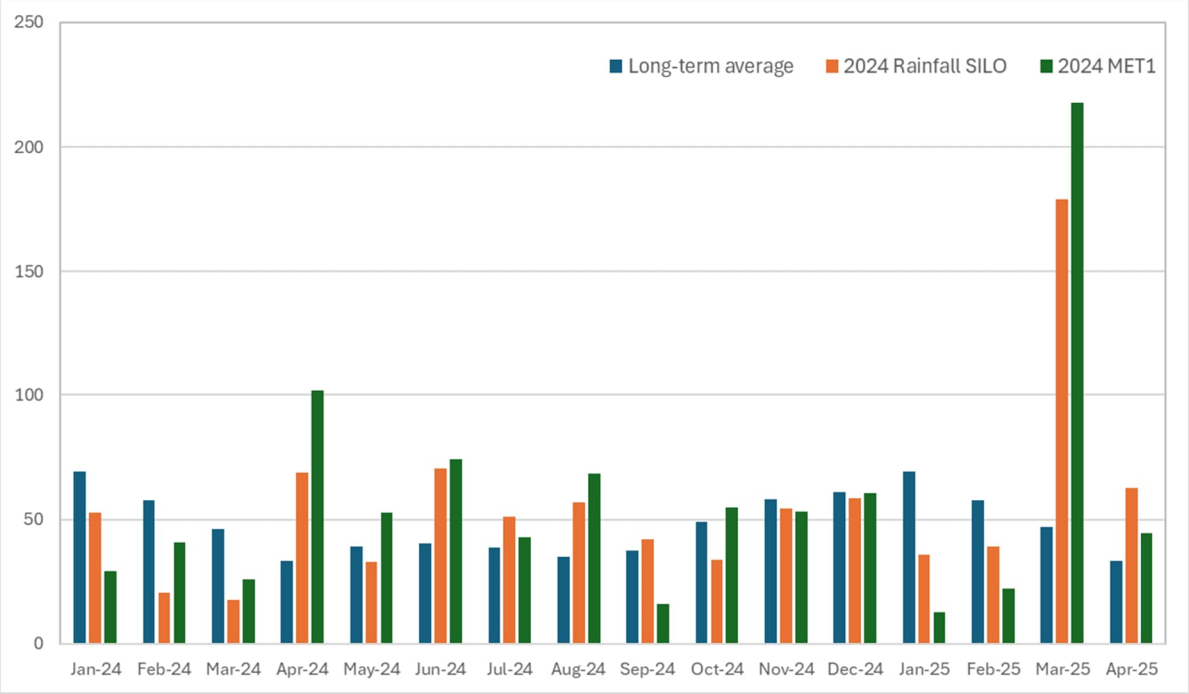


Figure 1 On-site monthly rainfall vs long-term average monthly rainfall

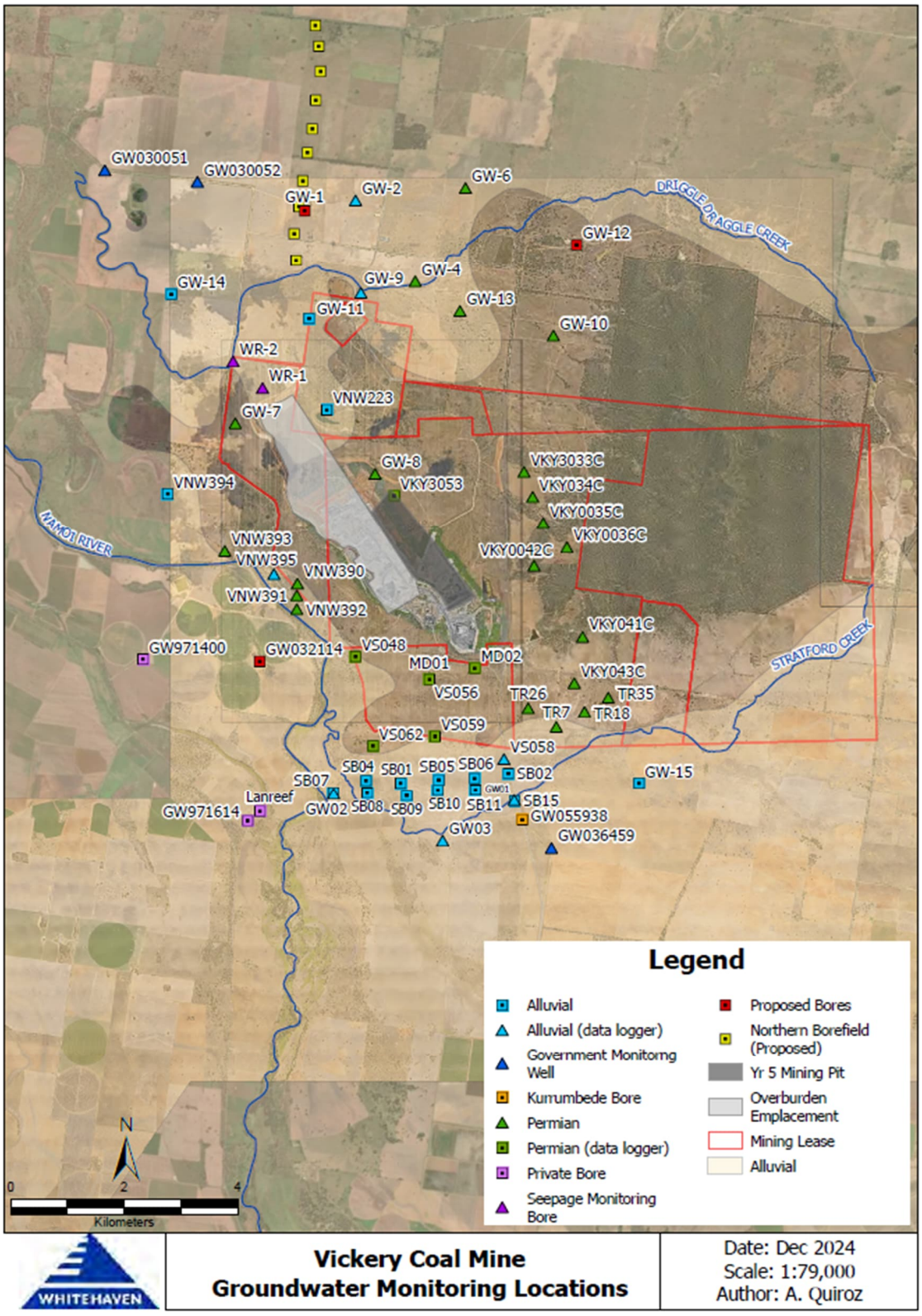
2.2 Groundwater Monitoring Network

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).

Figure 2: VCM groundwater monitoring network



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
GW01	9.1	8.2	8.4	8.5	9.2	9.5	8.8	9.3	9.0	9.2
GW02	-	7.5	8.3	8.5	8.8	9.0	8.8	8.7	8.6	8.7
GW-11	-	-	-	16.7	16.6	16.6	14.2	16.6	16.5	16.5
GW-14	-	-	-	-	-	-	-	10.9	10.7	10.5
GW-15	-	-	-	-	-	-	-	12.7	13.3	13.2
GW-2	-	-	-	-	-	19.6	-	18.4	20.5	18.5
GW-9	-	-	-	17.8	18.4	17.8	17.8	17.7	17.6	17.6
SB01	7.3	6.4	7.2	7.2	7.4	7.9	7.7	7.6	7.3	7.7
SB02	10.3	9.8	9.7	9.5	9.7	10.0	9.8	1.4^	9.9	10.0
SB04	7.5	6.3	7.6	7.3	7.6	8.2	8.1	7.9	7.9	7.9
SB05	8.3	7.1	7.9	7.7	8.1	8.6	8.4	8.2	8.4	8.4
SB06	9.8	8.4	8.8	8.9	9.0	9.4	9.2	9.1	9.2	9.3
SB07		8.0	8.9	8.8	8.8	9.5	9.5	9.2	9.4	9.2
SB08	7.8	6.7	7.6	7.7	7.6	8.1	8.0	7.8	7.8	7.9
SB09	7.9	6.4	7.3	7.2	7.5	8.0	7.8	7.7	7.7	7.8
SB10	8.1	7.5	8.0	8.2	8.2	8.6	8.5	8.3	8.4	8.5
SB11	9.8	8.1	8.7	8.6	9.2	9.5	9.1	9.2	9.4	9.4
SB15	9.3	8.2	8.8	9.1	9.6	9.8	9.1	9.5	9.4	9.6
VNW223	-	-	-	22.0	21.9	22.1	-	21.5	21.2	21.4
VNW394	-	6.7	6.8	6.5	6.5	6.5	6.7	6.9	7.1	7.0
VNW395	-	7.4	7.3	7.3	7.3	7.5	6.5	7.6	7.6	7.6

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
WR1	-	-	-	-	-	14.6	14.5	14.4	12.0	14.4
WR2	-	-	-	-	-	12.1	12.4	12.4	12.0	12.6

* mbgl = metres below ground level. ^Reading considered outlier/error.

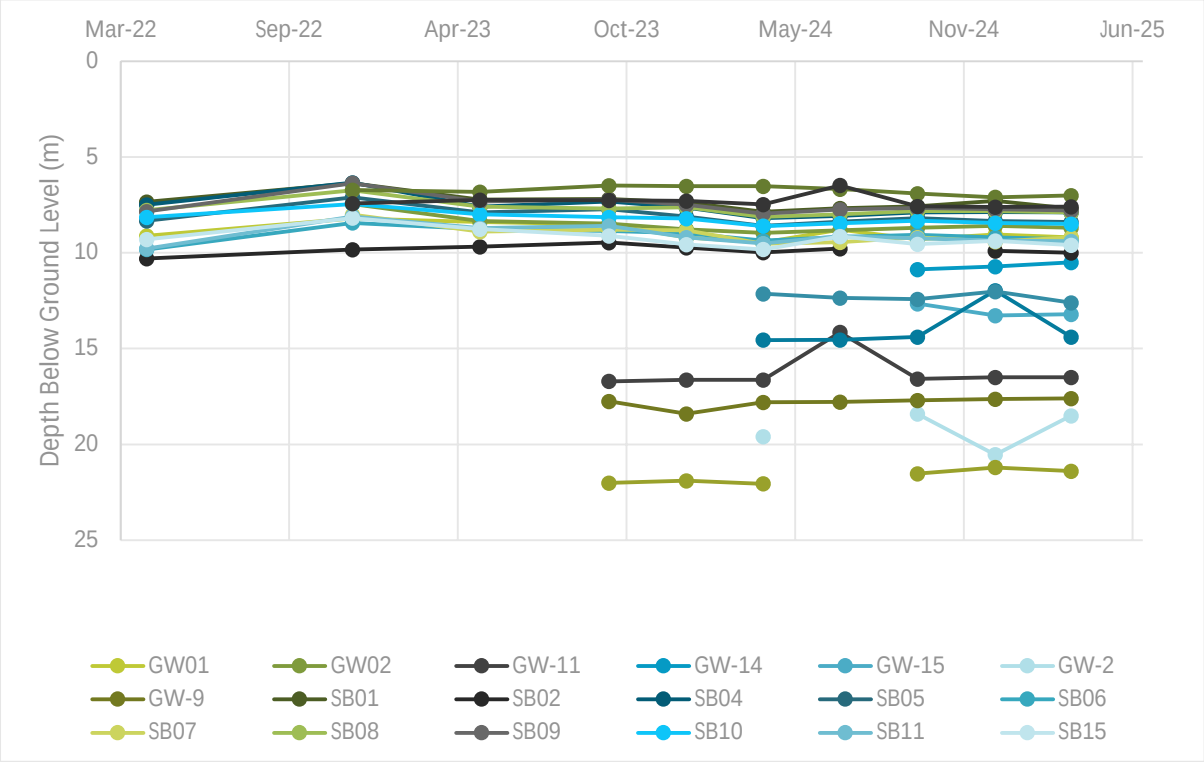


Figure 3: Alluvial bores hydrograph (manual dips, below ground level)

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

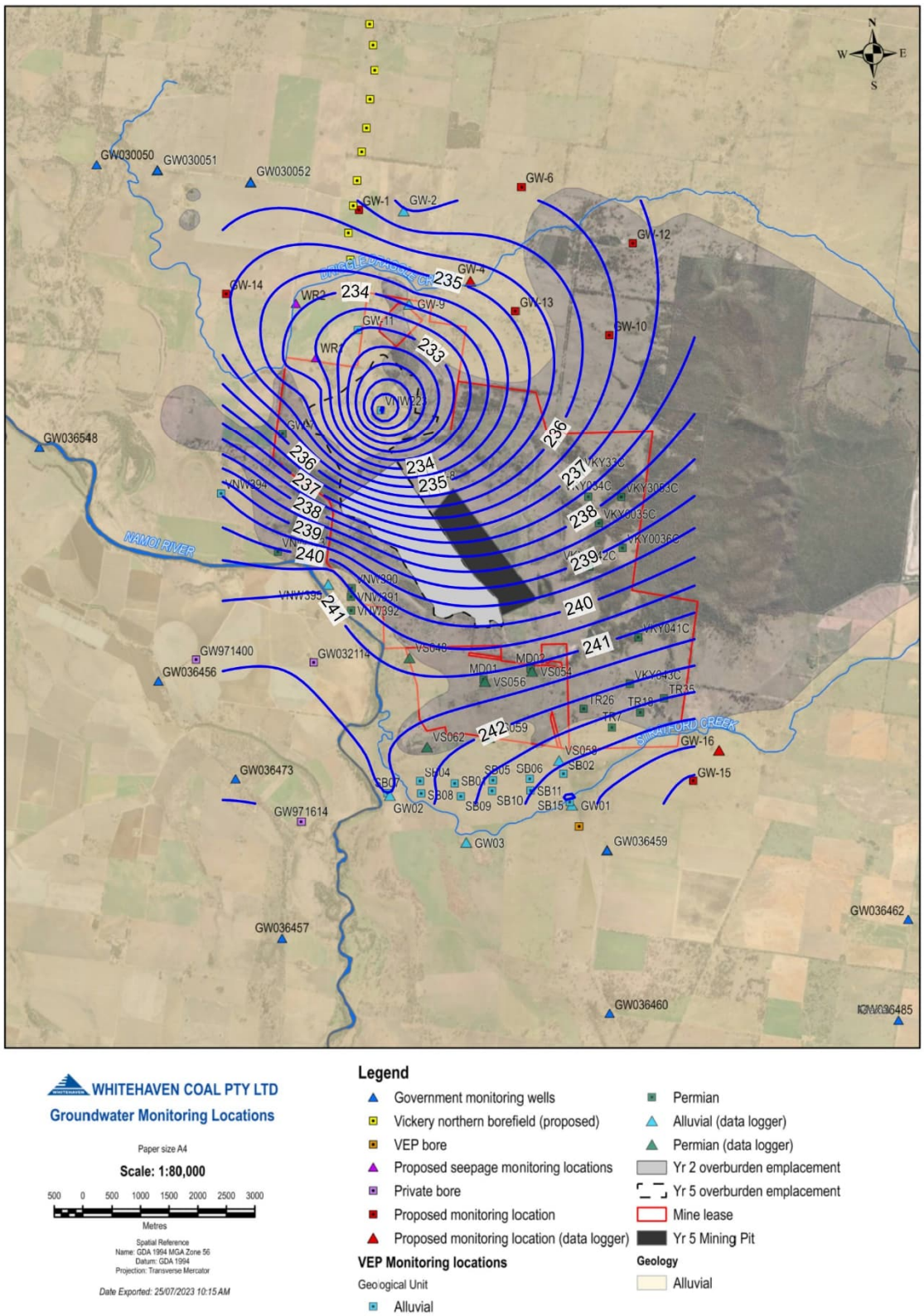


Figure 4 Alluvial groundwater contour map (April 2025)

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
GW03	-	6.1	6.9	7.2	7.3	7.1	7.5	7.2	6.9	7.0
GW-4	-	-	-	-	-	-	-	19.3	19.1	19.3
GW-6	-	-	-	-	-	-	-	23.3	23.1	23.0
GW-7	-	-	-	27.9	27.8	27.9	28.0	27.8	27.7	27.3
GW-8	-	-	-	21.7	21.7	21.6	21.6	21.8	22.1	13.3
GW-10	-	-	-	-	-	-	-	17.9	18.6	14.5
GW-13	-	-	-	-	-	-	-	23.2	20.1	13.2
MD01	-	28.0	27.6	27.7	27.6	28.0	27.6	28.8	29.6	30.1
MD02	-	41.0	40.6	40.3	40.0	39.9	39.8	40.6	41.3	42.2
TR18	-	13.0	13.4	12.9	13.2	13.3	13.4	13.3	13.1	13.2
TR26	-	12.4	12.4	12.2	12.2	12.3	12.4	12.3	12.3	12.3
TR35	-	18.2	18.2	18.0	11.2	18.4	18.5	18.4	18.3	18.5
TR7	-	9.9	9.9	9.8	9.7	9.8	11.0	9.8	9.7	9.8
VKY034C	-	39.8	40.0	39.6	40.3	39.4	40.1	40.3	30.1	42.4
VKY035C	-	42.4	42.0	42.0	42.0	41.9	42.6	42.1	42.1	42.8
VKY036C	-	49.2	47.2	49.2	49.9	49.5	49.8	49.9	50.3	-
VKY042C	-	42.7	42.4	42.6	42.8	42.5	42.7	42.8	43.0	33.3
VKY043C	-	16.4	15.6	15.7	15.8	15.2	15.7	15.4	16.0	16.3
VNW390	-	9.4	9.3	9.4	9.4	9.5	9.5	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
VNW392	-	6.3	6.1	6.2	6.2	6.4	6.5	6.4	6.5	6.5
VNW393	-	10.6	10.5	10.5	10.6	10.6	10.7	10.7	10.8	10.8

* Metres below ground level

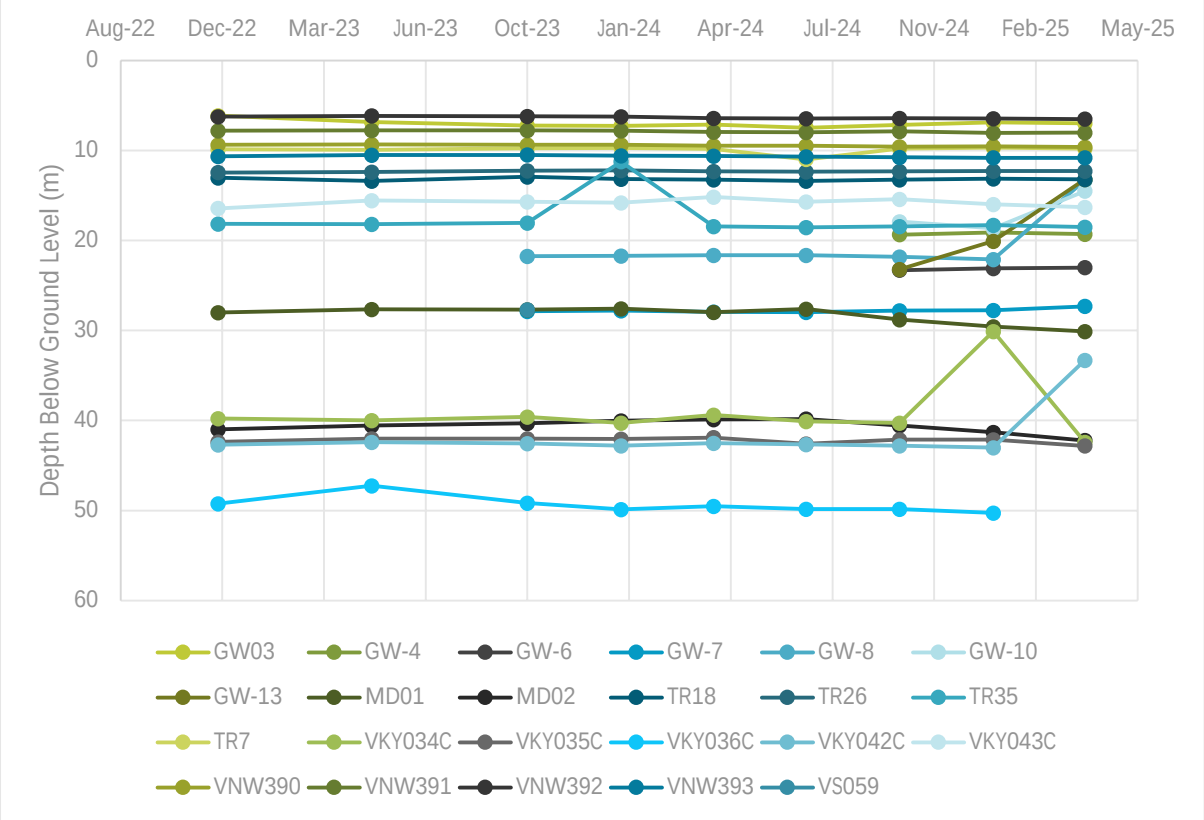


Figure 5: Permian bores hydrograph (manual dips)

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

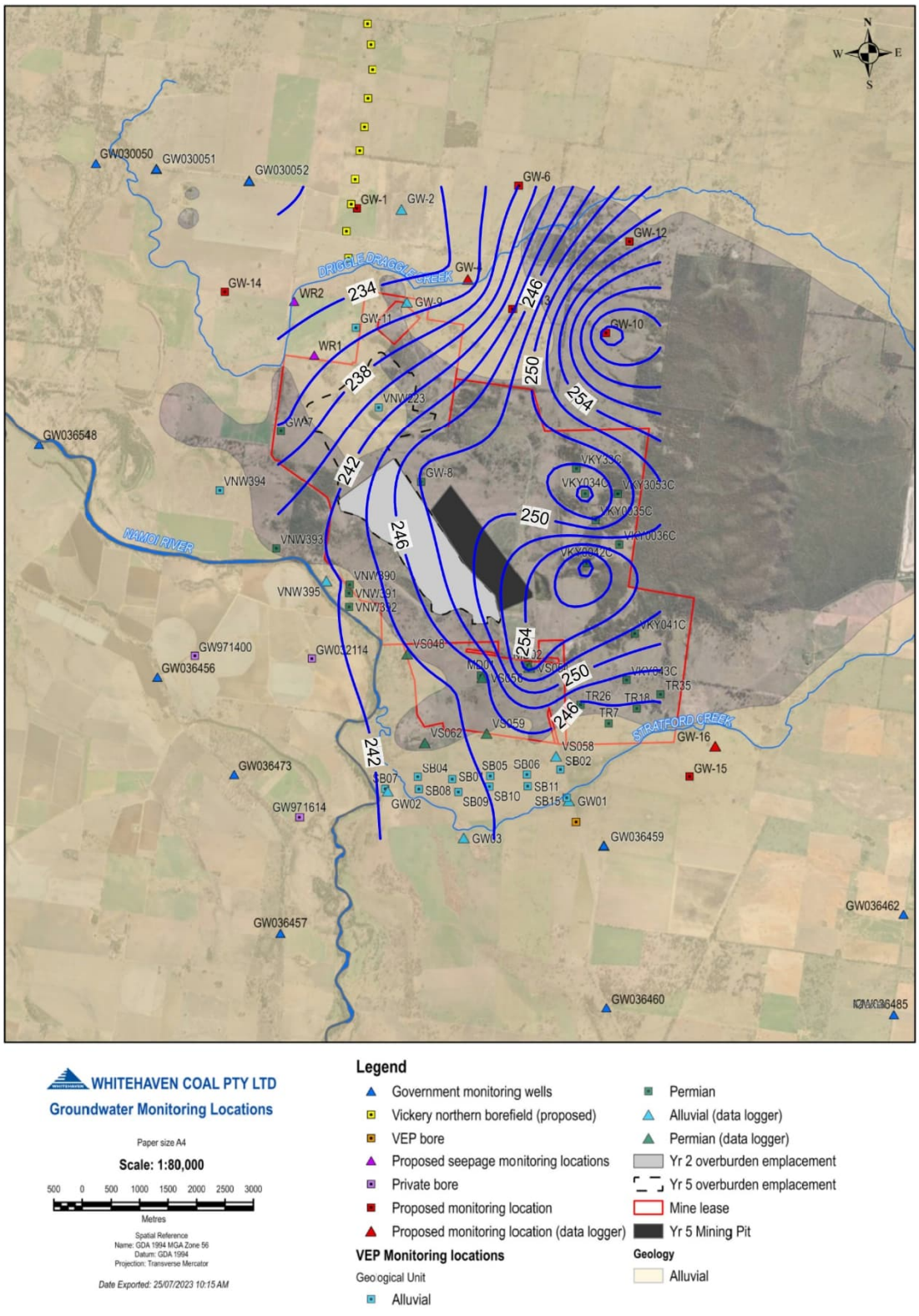


Figure 6 Permian aquifer groundwater level contour map (April 2025)

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 – 23/04/2025	-	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 – 15/04/2025	-	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	VWP (01-10-6743)	17/01/2024 – 18/08/2024; 05/12/2024 – 13/01/2025	3,547	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 – 22/04/2025	3,183	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. These
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; 03/06/2020 – 17/04/2024; 25/07/2024 – 15/04/2025	2,080	Logger data was not available for the July 2024 monitoring round. In the January 2025 monitoring round, the logger file was named SB07, which is considered to be a typo. The file

Bore ID	Logger Type	Recording Period	Number of Data Points	Comments
				was named TR7 for the April 2025 monitoring round
TR18	Logger (Rugged TROLL 100)	16/04/2020 – 04/07/2024	1,940	Logger data was not available in the April 2025 monitoring round
VKY034C	Logger (Rugged TROLL 100)	07/01/2020 – 16/04/2025	7,704	-
VKY035C	Logger (Rugged TROLL 100)	04/11/2020 – 16/04/2025	6,894	-
VKY036C	Logger (Rugged TROLL 100)	07/01/2020 – 16/04/2025	8,102	-
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 – 16/04/2025	6,497	-
VKY043C	Logger (Rugged TROLL 100)	07/01/2020 – 13/07/2023	5,137	Logger stopped reading in July 23
VKY3053C	VWP	04/03/2020 – 17/01/2024	-	No data in April 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 – 13/01/2025	7,349	No data during April 2025 (or for the previous 12 months)
VS054 (23, 96, 120, 167m)	VWP (SN11-1769/1776/1770/1772)	17/06/2012 – 15/06/2012; and 01/12/2023 – 15/04/2025		
VS056 (25, 100m)	VWP (SN11-1765/1771)	04/03/2020 – 15/04/2025	VS056-25m: 1,623; VS056-100m: 1,622	-
VS058 (18, 88, 159m)	VWP (SN11-1768)	16/04/2020 – 22/04/2025	~6,933/sensor	-

Bore ID	Logger Type	Recording Period	Number of Data Points	Comments
VS062	VWP	12/02/2021 – 13/01/2025	10,416	-
VS059 (30, 65, 113m)	VWP	16/04/2020 – 13/01/2025	~7,326/sensor	-
WR-1	Logger (Rugged TROLL 100)	30/04/2024 - 24/04/2025	1,437	-
WR-2	Logger (Rugged TROLL 100)	30/04/2024 – 24/04/2025	1,437	-

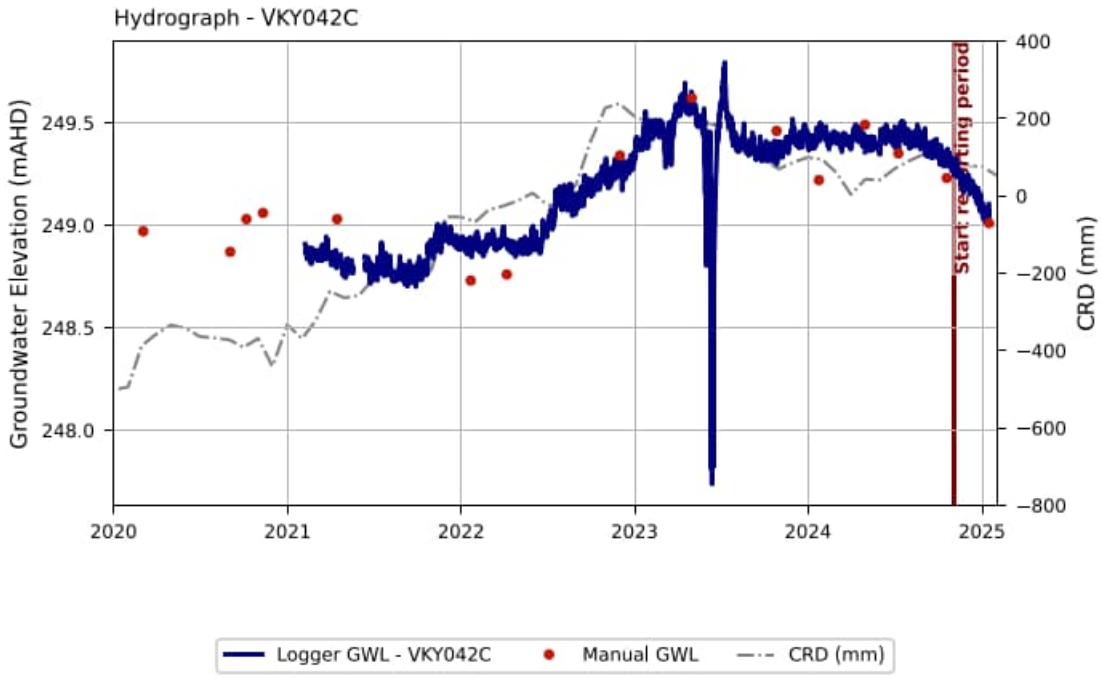


Figure 7: Logger hydrograph – VKY042C

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 January 2025 monitoring rounds.

During the October 2024 monitoring round, SB02 had a groundwater level of 1.38 meters below ground level, representing an 8.4-meter increase from the July 2024 monitoring round. In the current reporting period, the water level measurement is 10.0 meters below ground level, returning to the historical level observed before October 2024. This confirms that the October 2024 result is considered an outlier.

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 April 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 in particular, GW8 and GW13, recorded increases in standing water levels. GW8 rose by approximately 8.8 metres, from 22.1 mbgl in January 2025 to 13.3 mbgl in April 2025. Similarly, GW13 recorded a 6.9 metre rise in water level, from 20.1 mbgl to 13.2 mbgl over the same period. The on-site rainfall data indicates that the reporting period received significantly above average rainfall and is likely the cause of the increase in water levels. March 2025 received 217.6 millimetres of rainfall, substantially above both the SILO monthly average (47.0 millimetres) and the long-term on-site average for that month. February 2025 also recorded elevated rainfall, at 179.0 millimetres.

The previous anomaly observed at VKY034C in January 2025, where the manual measurement recorded a significant and uncharacteristic rise to 30.1 mbgl, has now been resolved. The April 2025 reading of 42.4 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 January measurement was likely an outlier.

Elsewhere, the Permian bores showed minor variations. VKY036E and VKY042C continued their gradual downward trends, reflecting a longer-term decline possibly associated with broader aquifer behaviour or regional abstraction. Most other bores, including TR26, TR35, TR7, and the VNM series, displayed fluctuations of less than 0.3 metres, typical of seasonal variation and within expected limits.

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 significantly elevated rainfall, particularly during February and March 2025. 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. The notably high rainfall may have resulted in subdued evidence of potential drawdowns observed with above average recharge occurring.

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 April 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.

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 8 and **Figure 9** show the piper diagrams for the alluvial and Permian groundwater respectively. Where data was available, the July 2024 and April 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.

Review of the individual temporal plots 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). 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
TR7	pH	pH unit	7.4-7.8	6.53	7.05	6.71	6.82	6.63	6.51	7.36
GW03	EC	µS/cm	811	862	888	862	947	1,004	983	898
TR18			12,315*	13,400	13,640	12,730	15,350	13,820	13,810	13,300
TR35			12,315*	15,300	17,330	16,740	17,260	16,690	18,320	16,300
TR-7			12,970	14,800	15,390	14,410	15,380	14,840	15,520	15,200
GW-7	$SO4^{2-}$	mg/L	86*	364	385	399	380	396	414	354
SB05			365*	735	551	520	595	496	447	380
TR18			86*	702	620	592	622	626	630	552
TR26			86*	194	230	180	198	195	229	217
TR35			86*	660	651	622	624	624	526	562
TR7			365*	508	714	501	518	563	458	507
VKY034C			86*	123	185	116	98	90	115	117
VKY036C			86*	244	294	281	100	174	190	174
VKY042C			86*	302	309	312	283	326	307	316
VNW392			86*	-	284	296	263	314	300	266
VNW393			86*	179	185	200	165	202	205	212
VNW394			365*	-	551	560	574	591	498	535
TR35	Cobalt	mg/L	0.0014	-	0.007	0.01	0.011	0.01	0.008	0.006
TR7				-	0.008	0.004	0.008	0.004	0.005	0.003
VNW392				-	0.003	0.003	0.003	0.003	0.002	0.003

Bore	Para.	Unit	Trigger Level	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25
TR35	Nickel	mg/L	0.011	-	0.713	0.558	0.435	0.308	0.111	0.067
TR7				-	0.39	0.118	0.272	0.045	0.024	0.053
MD01	Zinc	mg/L	0.008	-	0.31	0.213	0.106	0.049	0.014	0.034
TR7				-	0.015	0.03	0.02	0.017	0.009	0.013

*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**).

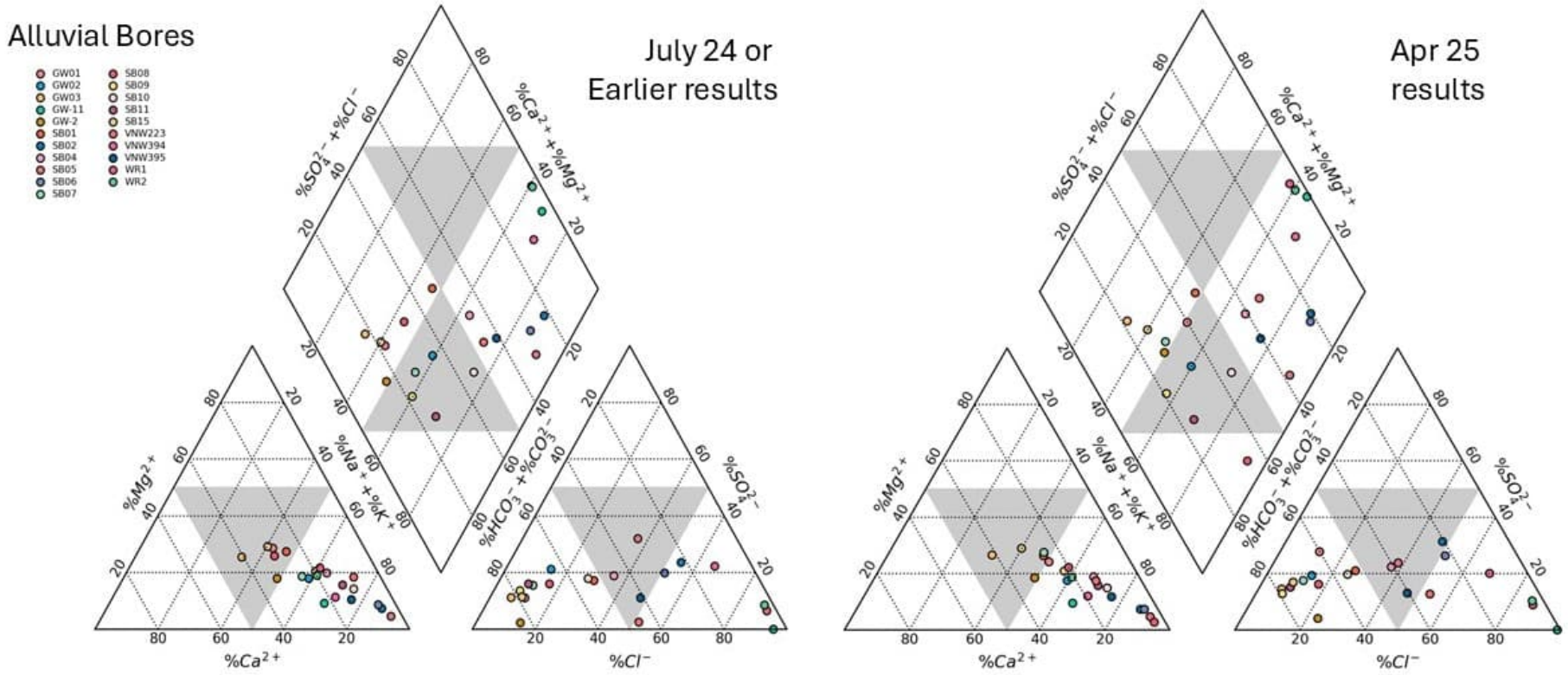


Figure 8 Alluvial groundwater piper plots

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

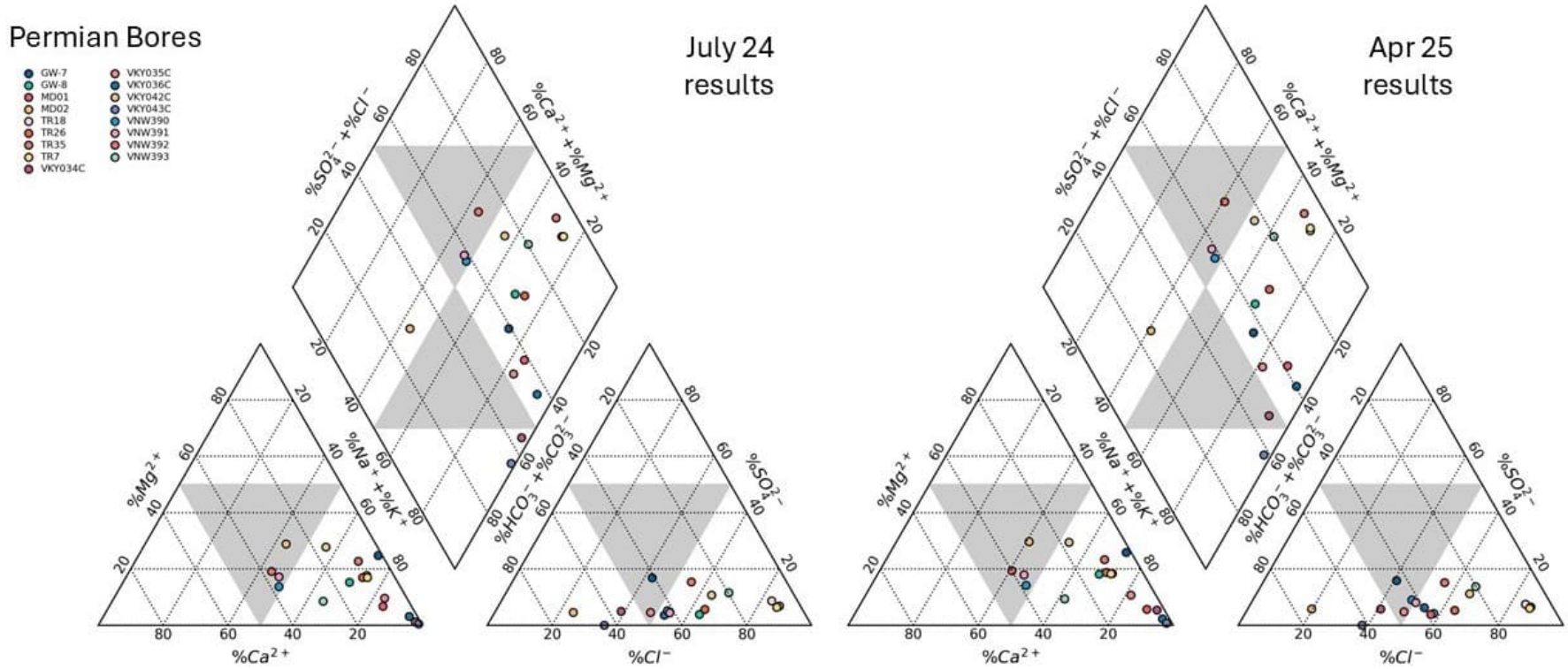


Figure 9 Permian groundwater piper plots

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	COMPLETE/ONGOING: ongoing monitoring and reporting established.
Review logger data from TR7 and GW01, as appears erroneous, and replace as necessary.	April 2024 Quarterly	ONGOING: Loggers review underway.
Verify sensor depths for all VWPs 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 VWPs, 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.

Dissolved copper or cadmium were not analysed during the January 2025 monitoring round. The two parameters were be included in the April 2025 monitoring round.

The following recommendations are made from the current monitoring period:

- 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.

5.0 References

Hydrosimulations. 2018. “Vickery Extension Project: Groundwater Assessment. Report .”

Queensland Government. 2024. *SILO 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 February 2025 – April 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

25 June 2025

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) and data loggers. Post-mining 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		
		• 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 and Indicator, TARP Objective and Assessment Criteria	Monitoring Program	Management		
		Trigger	Action	Response
<u>Performance Measure Feature</u> 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 impacts (Hydrosimulations, 2018). <u>TARP Objective</u> This TARP defines levels of deviation in groundwater quality from baseline conditions and the actions to be implemented in response to each level deviation. <u>Assessment Criteria</u> 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.	<u>Locations</u> Open standpipes All open standpipe monitoring locations as set out in Table 4-2 of the GWMP. <u>Monitoring Frequency</u> During mining pH and EC will be measured in the field on a quarterly basis in the alluvial and waste rock deposits (after waste rock bores installed) and on a biannual basis in the Permian geology . 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 exceedances 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 to 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. 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.
		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).	• *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

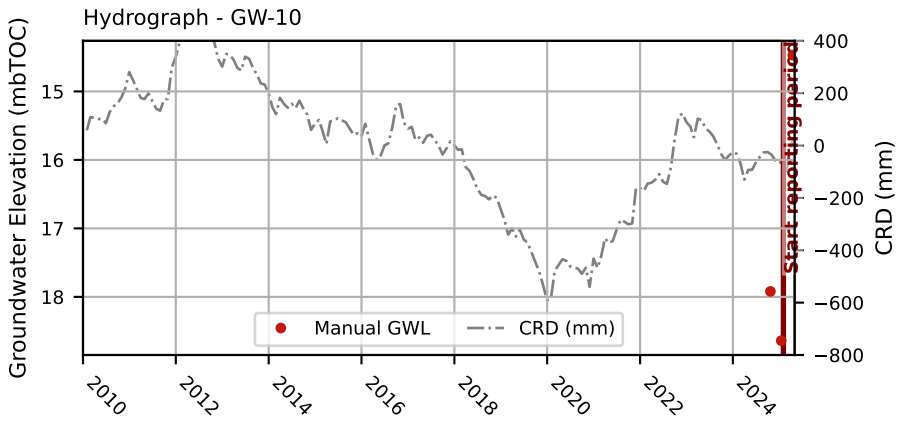
Vickery Extension Project Groundwater Monitoring Report

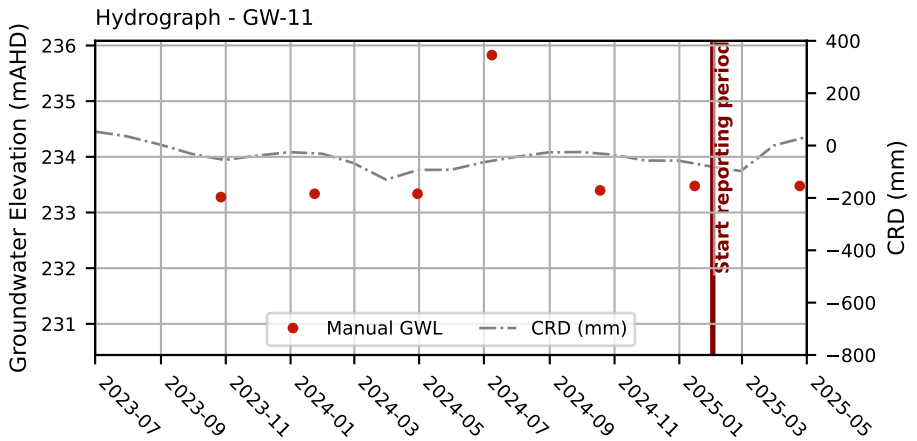
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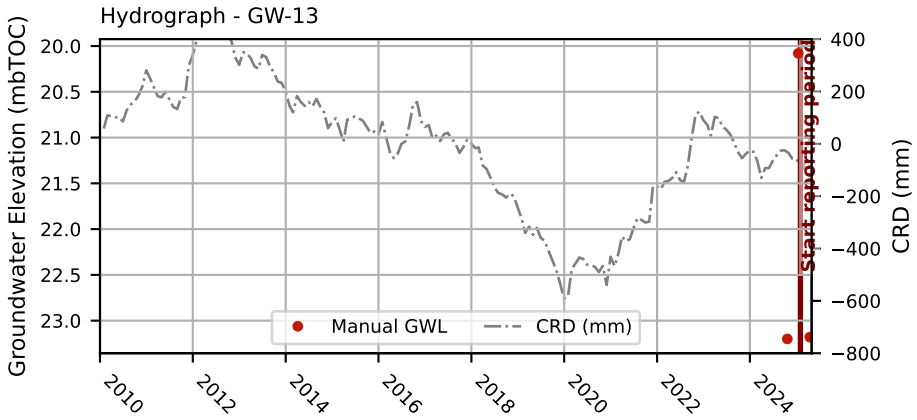
Whitehaven Coal Ltd

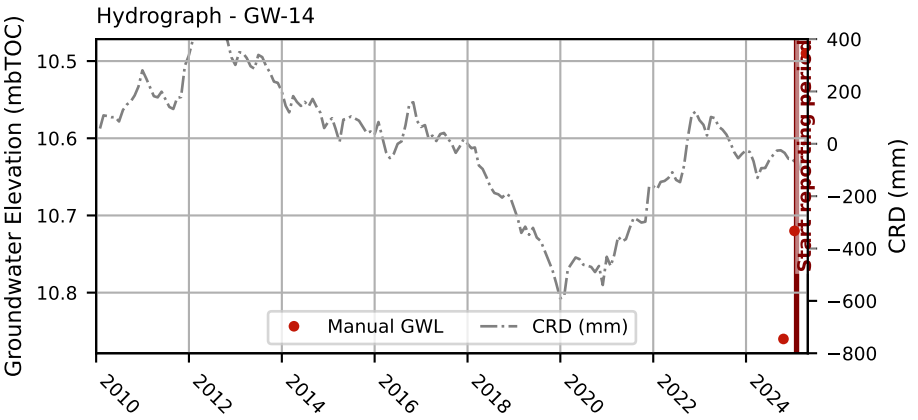
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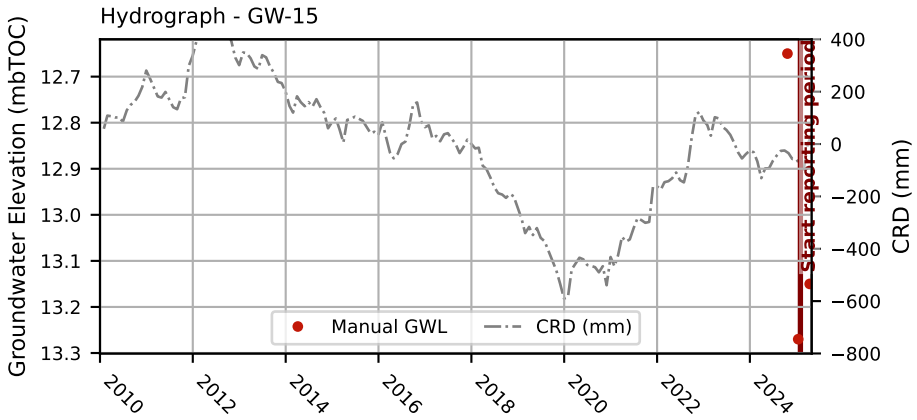
25 June 2025

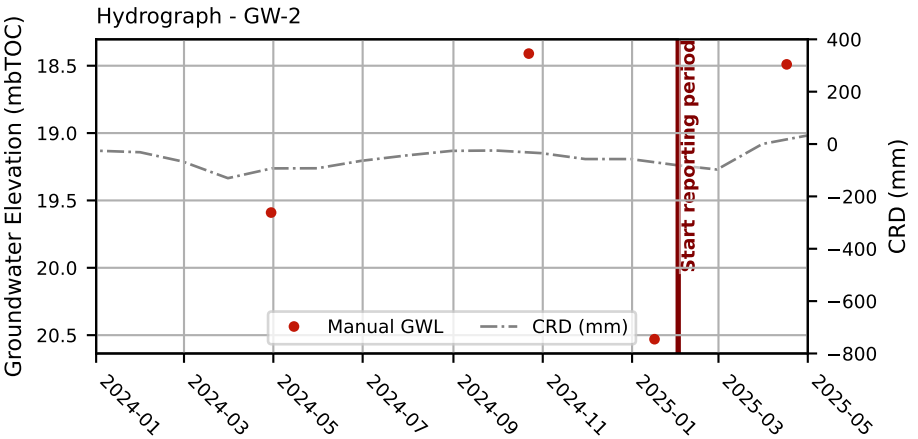

Hydrograph - GW-10
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CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

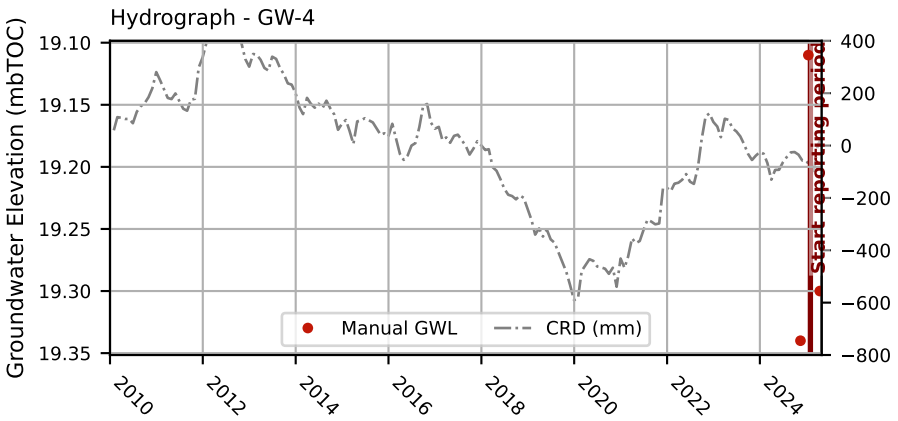

Hydrograph - GW-11
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CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

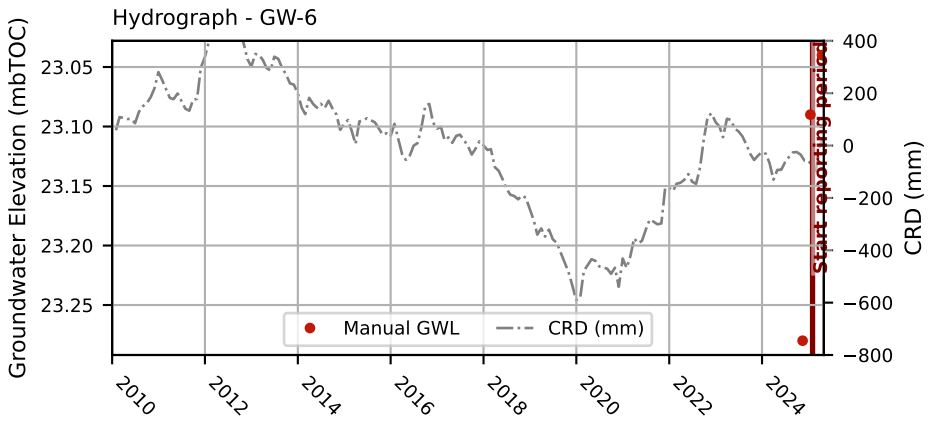

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CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

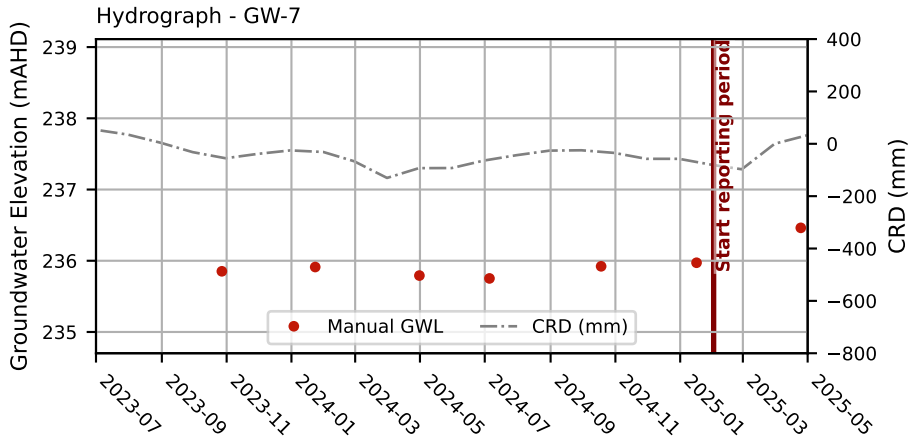

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CRD (mm)
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CRD (mm)
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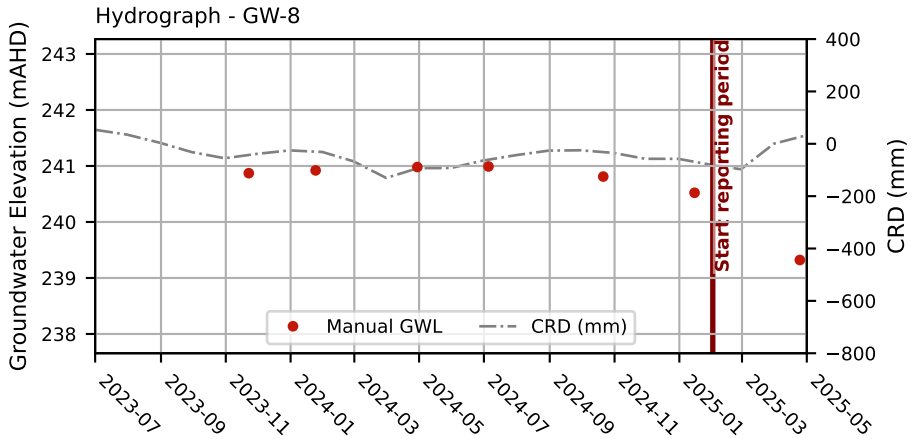

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Groundwater Elevation (mbTOC)
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Manual GWL
CRD (mm)
Start reporting period

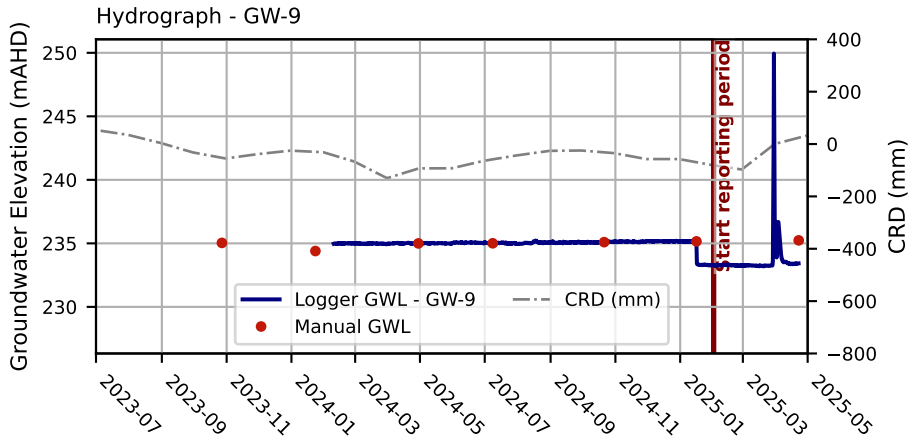

Hydrograph - GW-2
Groundwater Elevation (mbTOC)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

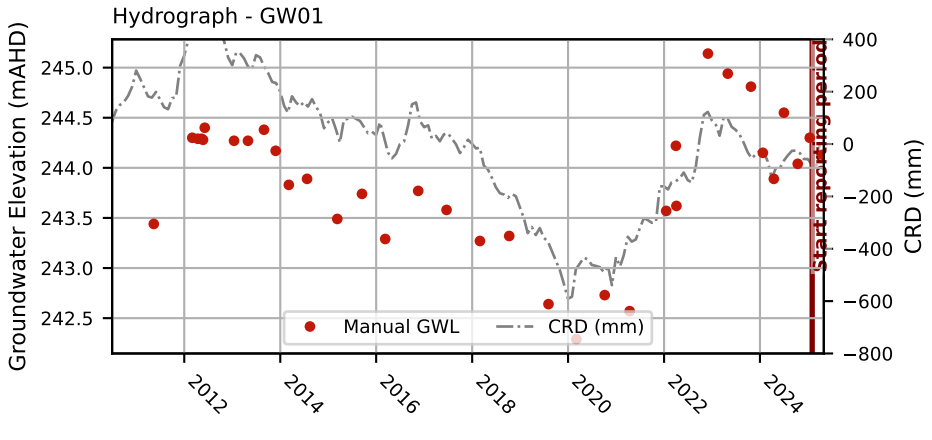

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Manual GWL
CRD (mm)
Start reporting period

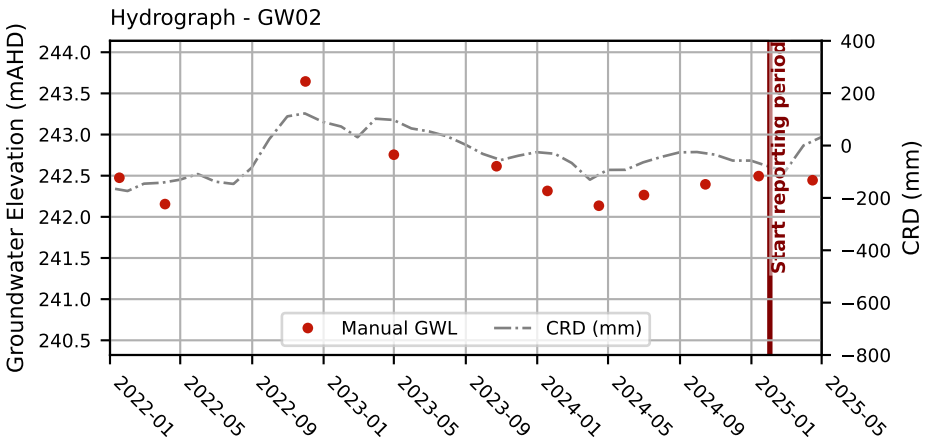

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Manual GWL
CRD (mm)
Start reporting period

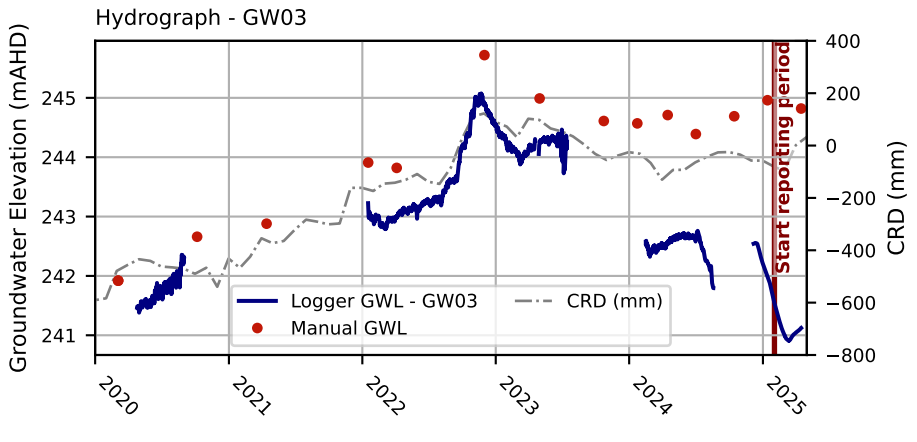

Hydrograph - GW-7
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Manual GWL
CRD (mm)
Start reporting period

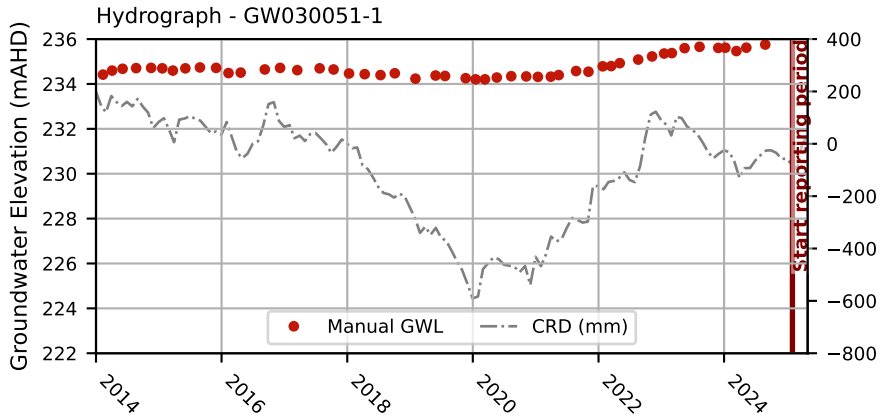

Hydrograph - GW-8
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

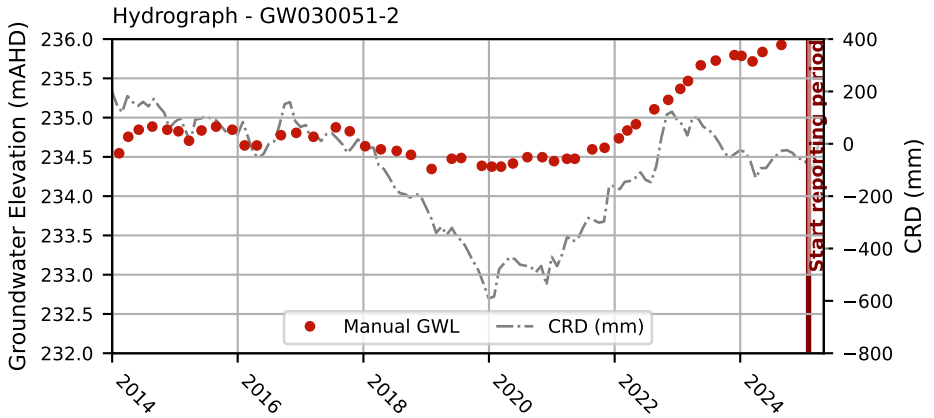

Hydrograph - GW-9
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - GW-9
Manual GWL
CRD (mm)
Start reporting period

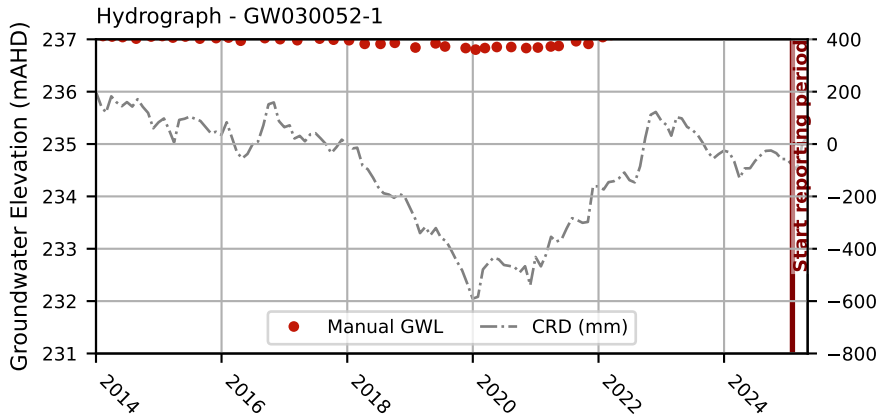

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CRD (mm)
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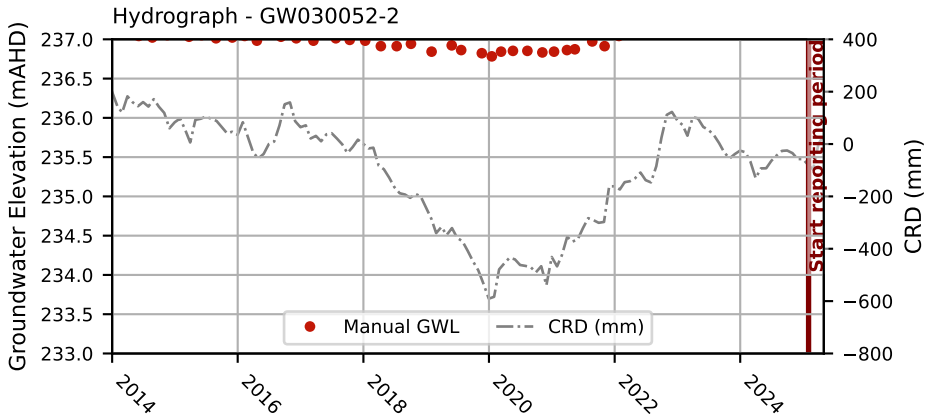

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Manual GWL
CRD (mm)

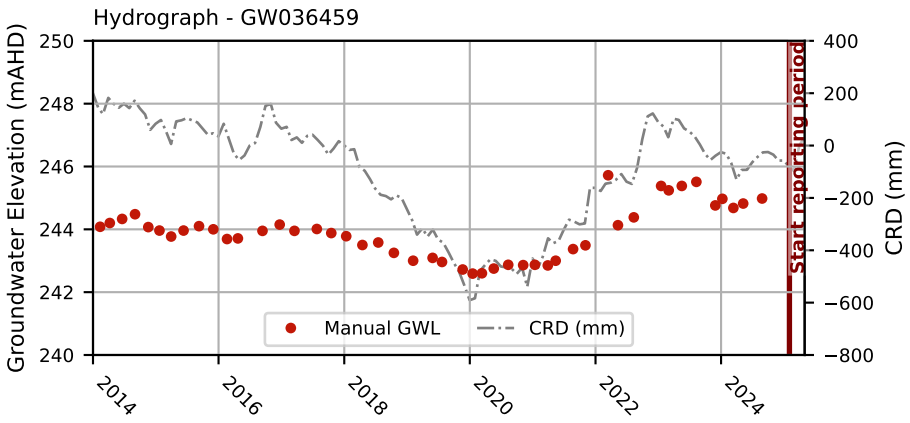

Hydrograph - GW03
Groundwater Elevation (mAHD)
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Start reporting period
Logger GWL - GW03
Manual GWL
CRD (mm)

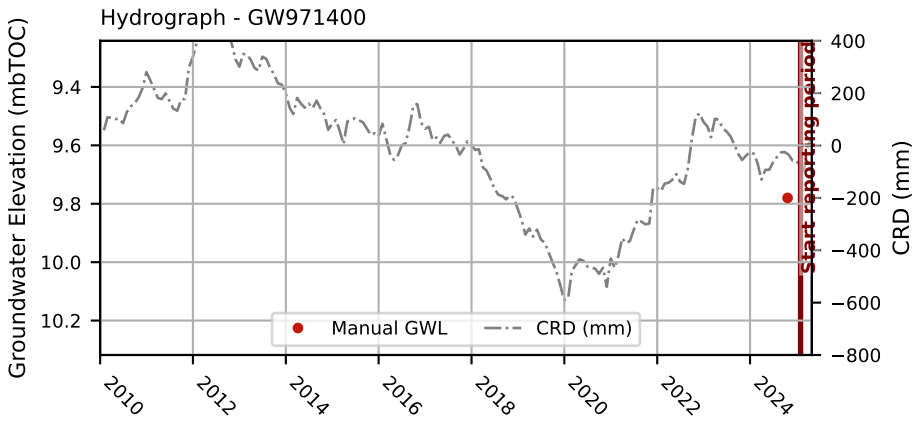

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Start reporting period
Manual GWL
CRD (mm)

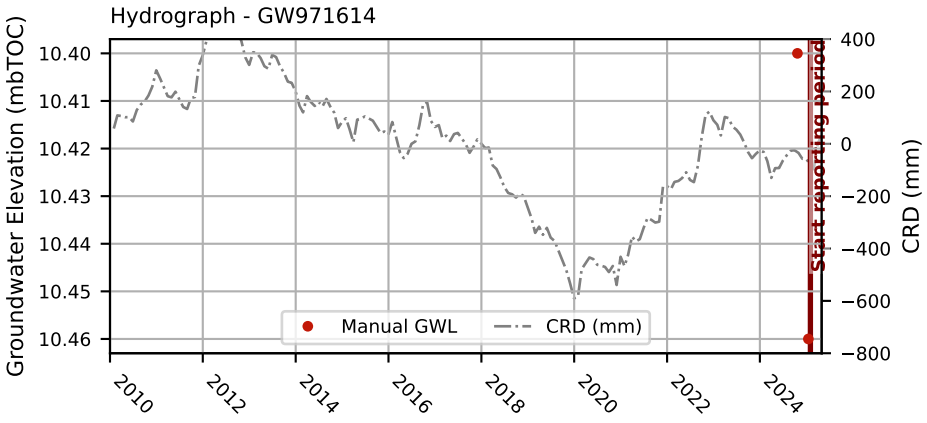

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CRD (mm)

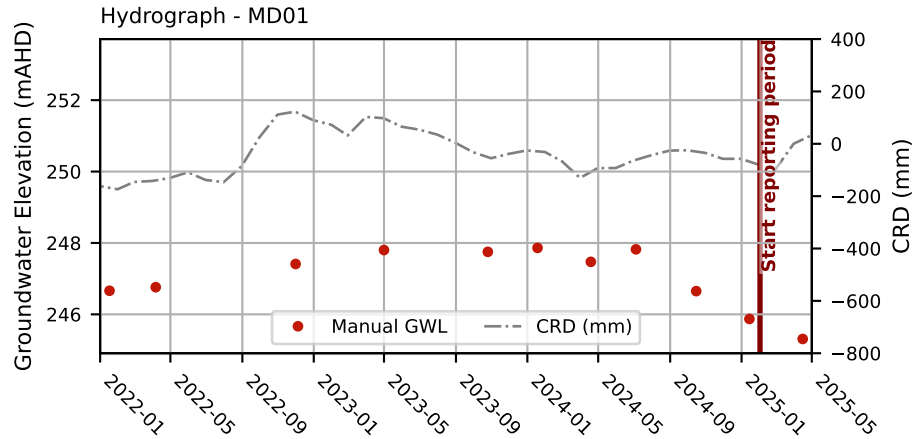

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Manual GWL
CRD (mm)

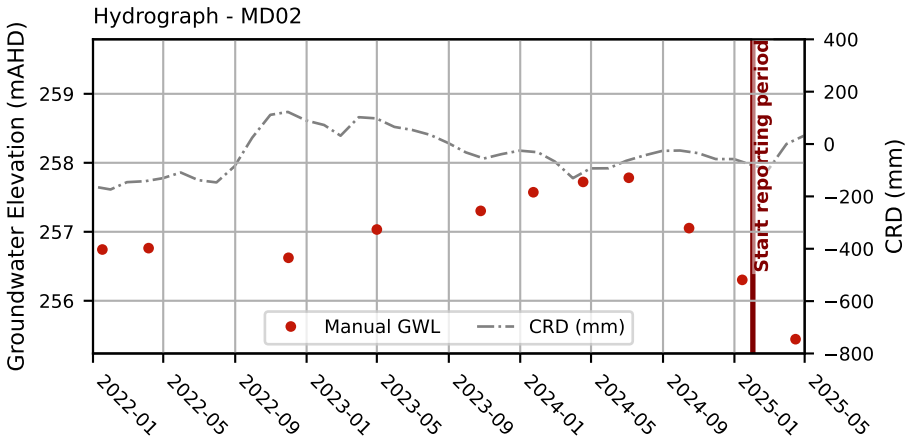

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CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

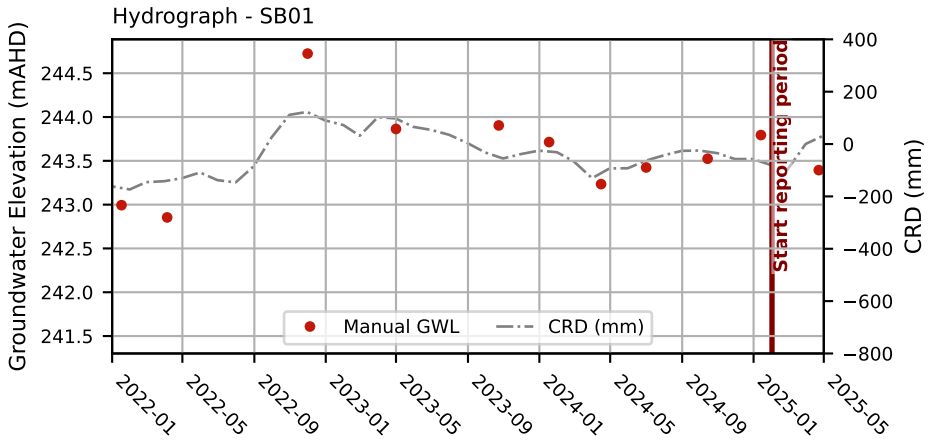

Hydrograph - GW036459
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CRD (mm)
Start reporting period

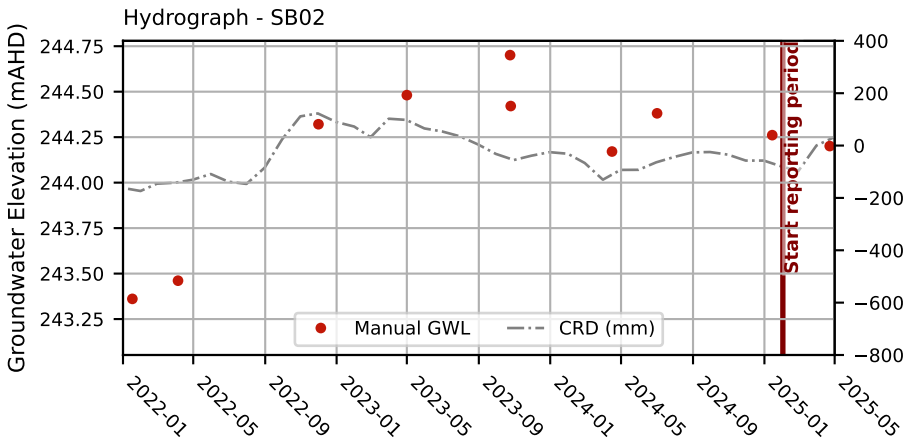

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CRD (mm)
Start reporting period

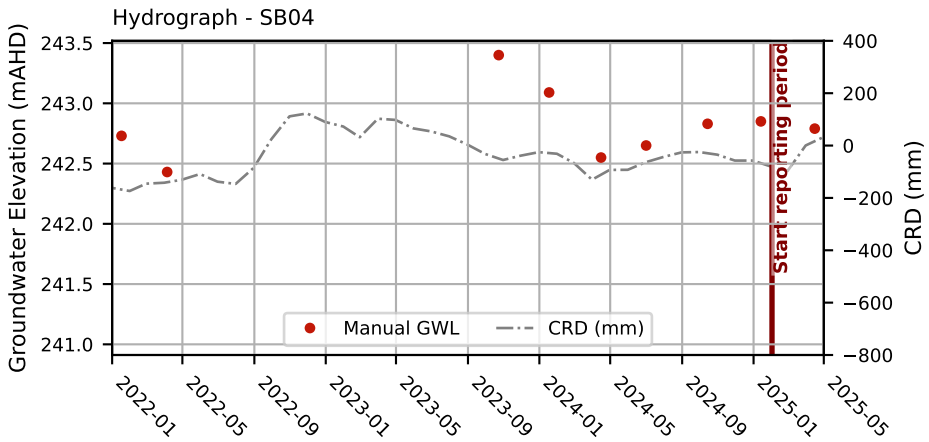

Hydrograph - GW971614
Groundwater Elevation (mbTOC)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

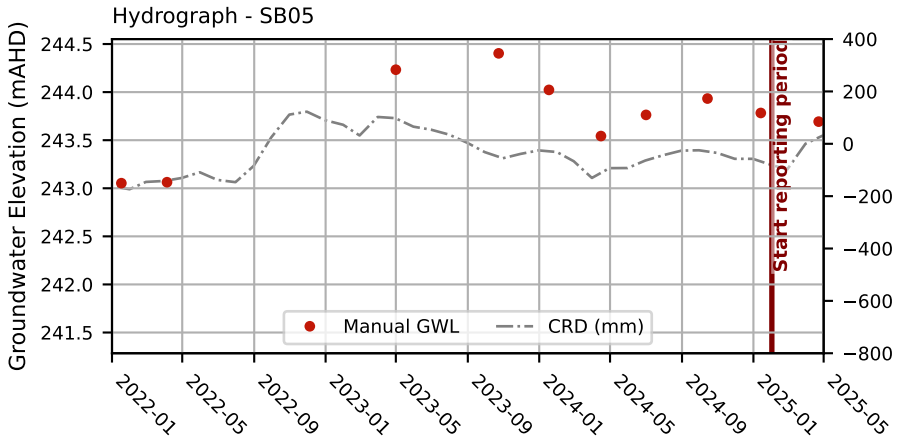

Hydrograph - MD01
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

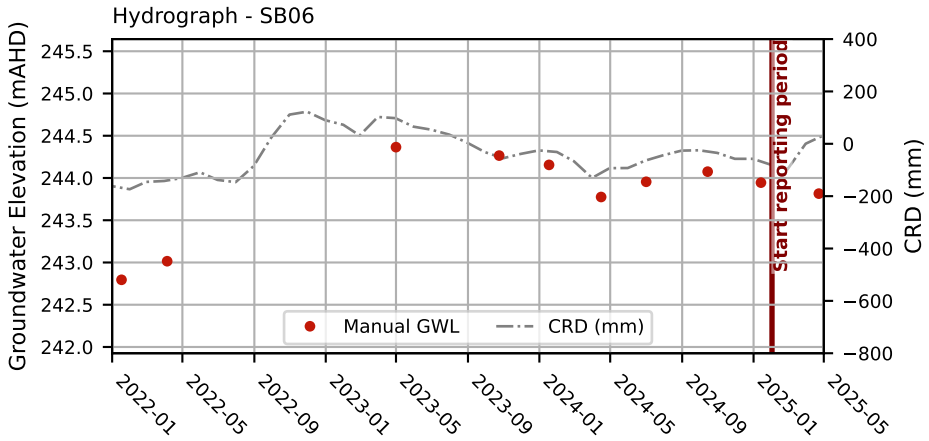

Hydrograph - MD02
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

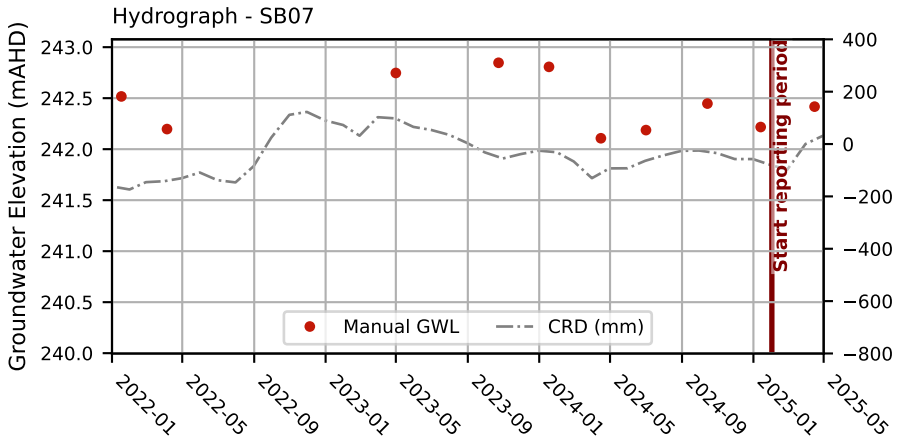

Hydrograph - SB01
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

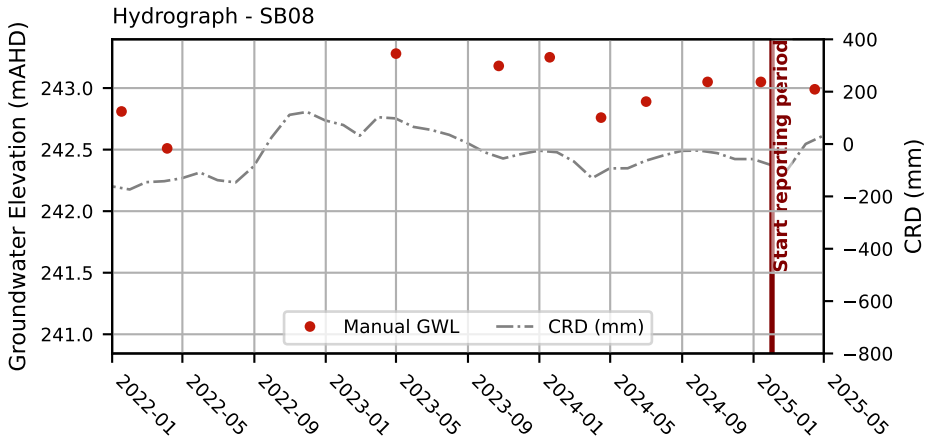

Hydrograph - SB02
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

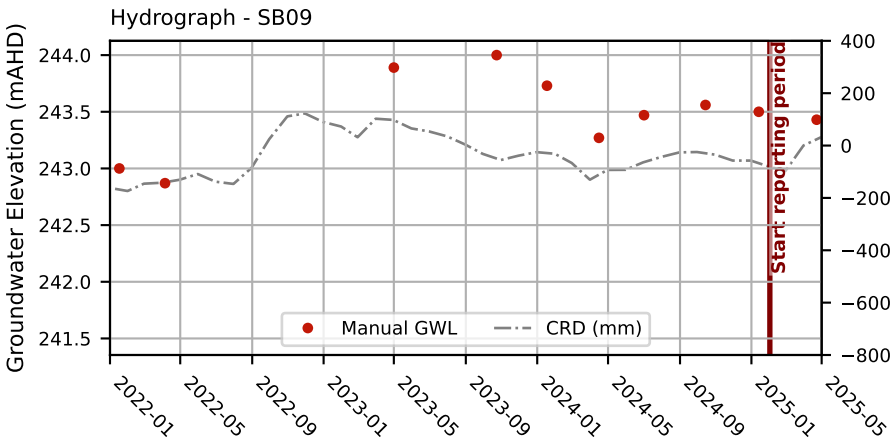

Hydrograph - SB04
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

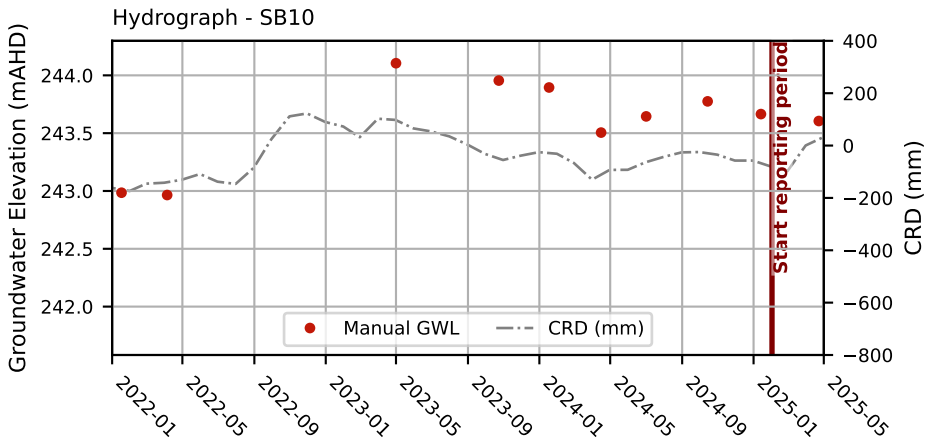

Hydrograph - SB05
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

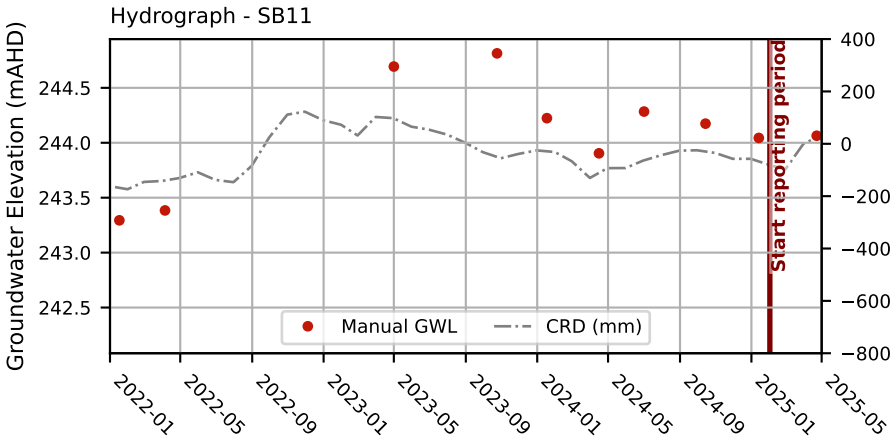

Hydrograph - SB06
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

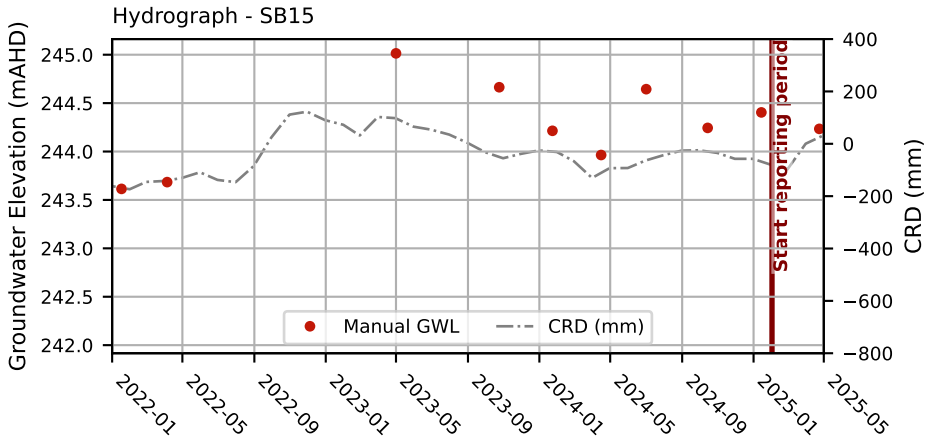

Hydrograph - SB07
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

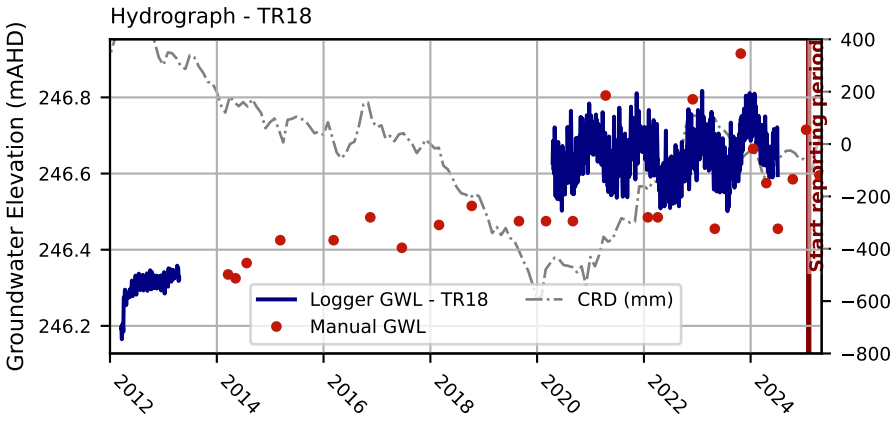

Hydrograph - SB08
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

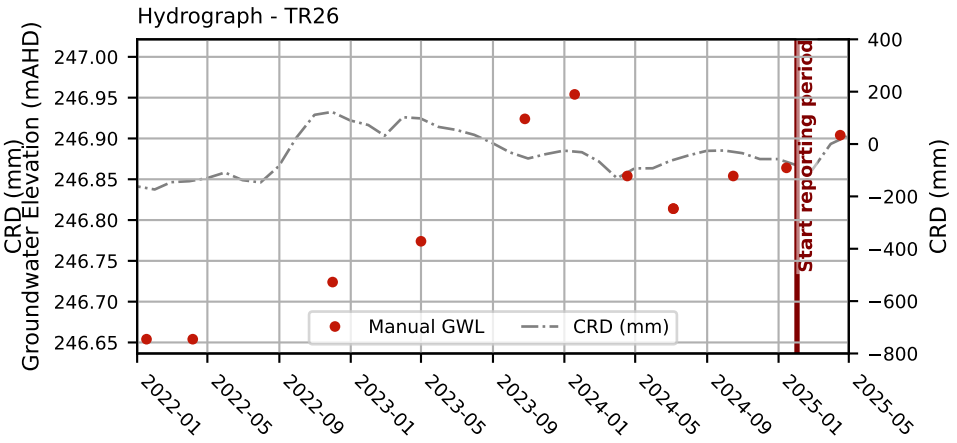

Hydrograph - SB09
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

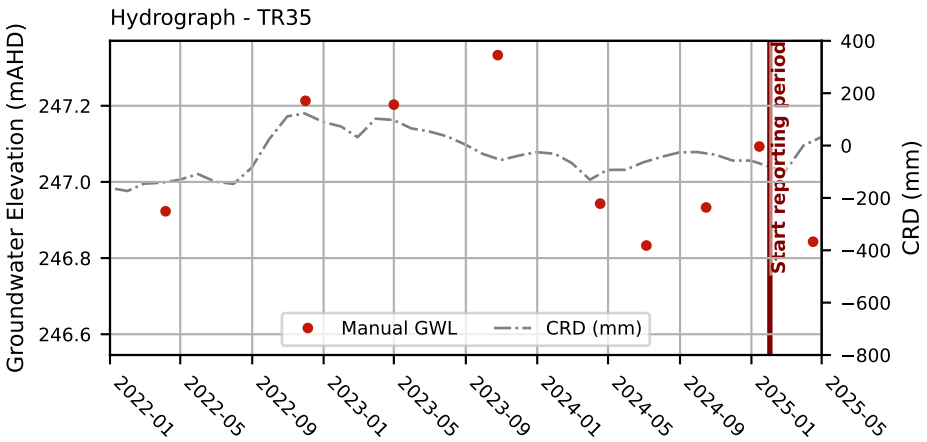

Hydrograph - SB10
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

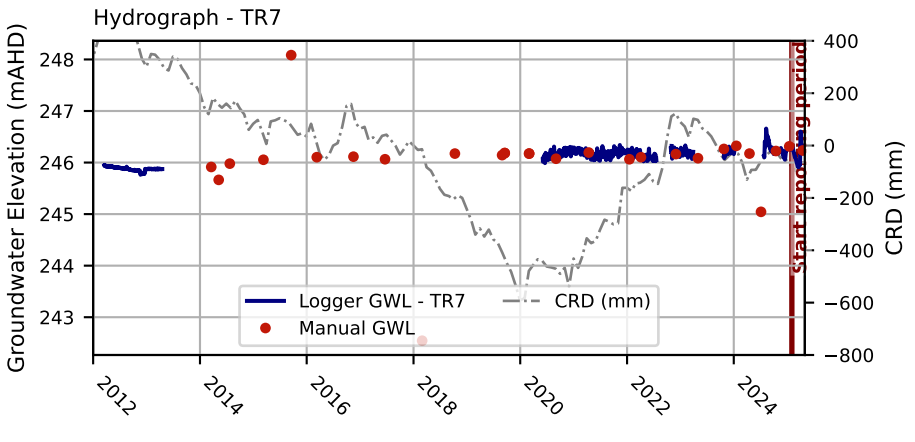

Hydrograph - SB11
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

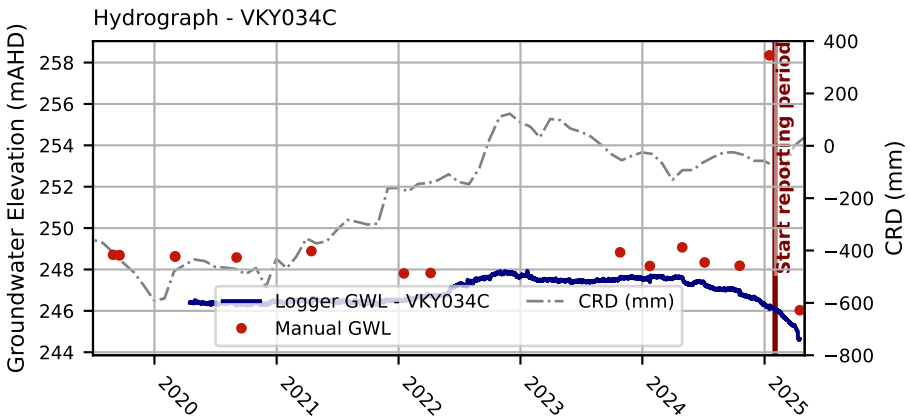

Hydrograph - SB15
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

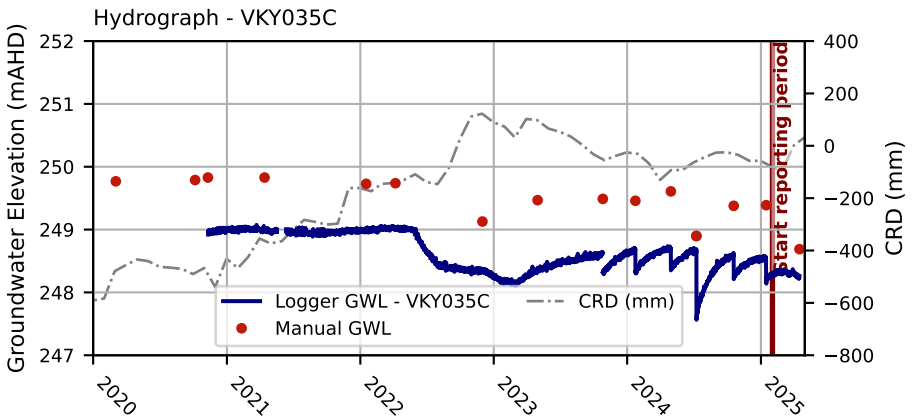

Hydrograph - TR18
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - TR18
Manual GWL
CRD (mm)
Start reporting period

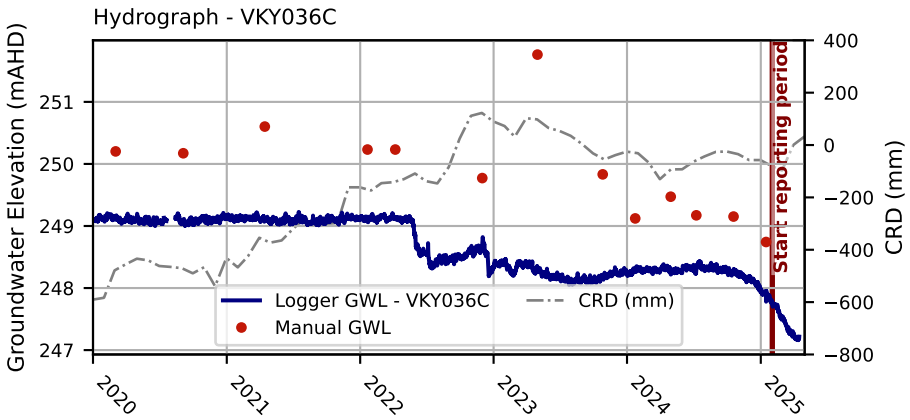

Hydrograph - TR26
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

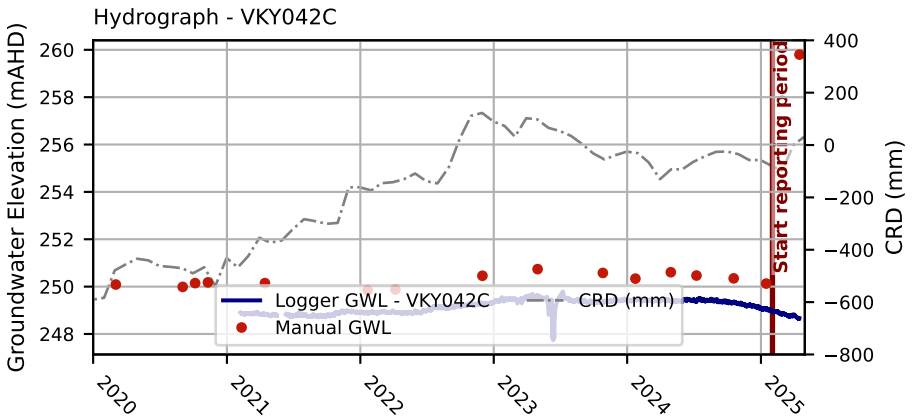

Hydrograph - TR35
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

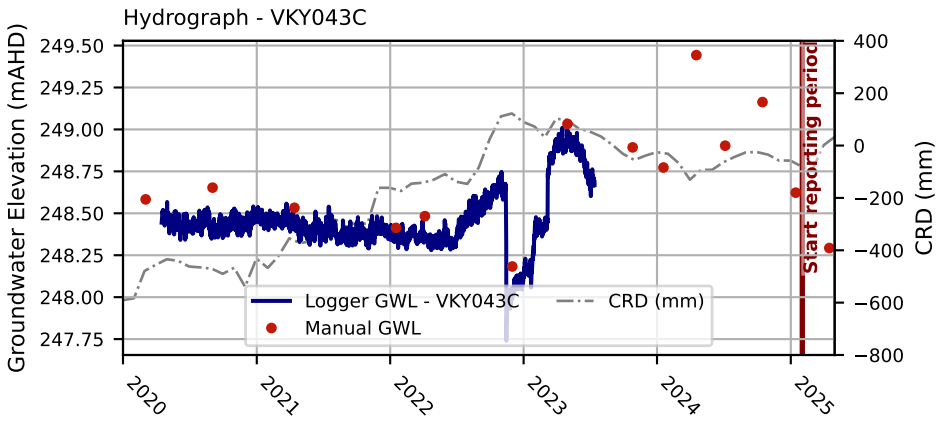

Hydrograph - TR7
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - TR7
Manual GWL
CRD (mm)
Start reporting period

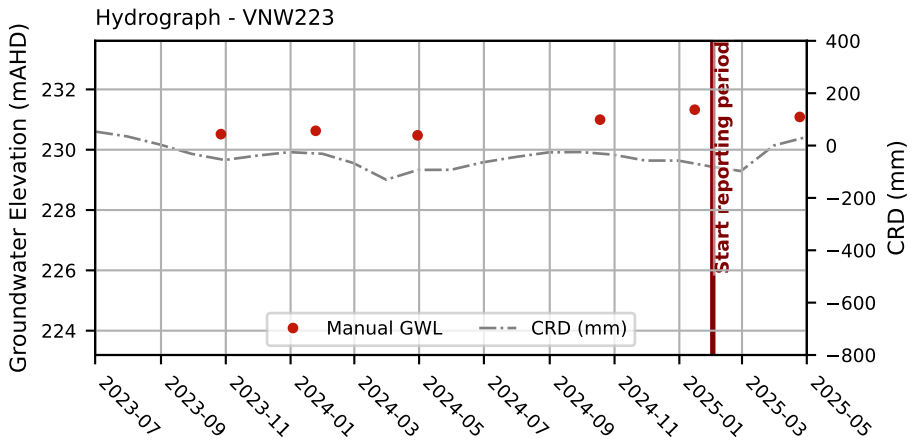

Hydrograph - VKY034C
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - VKY034C
Manual GWL
CRD (mm)
Start reporting period

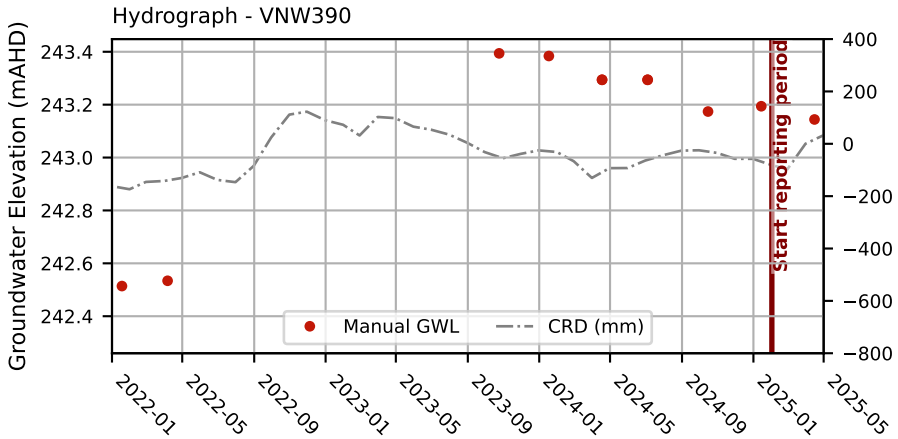

Hydrograph - VKY035C
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - VKY035C
Manual GWL
CRD (mm)
Start reporting period

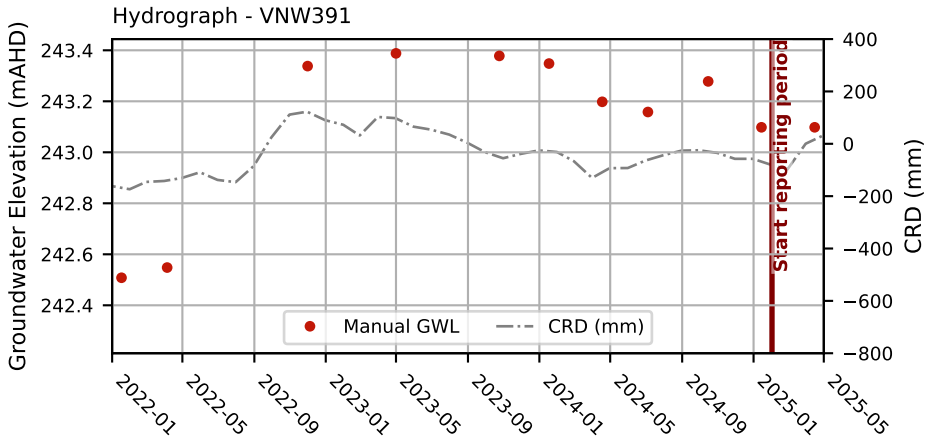

Hydrograph - VKY036C
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - VKY036C
Manual GWL
CRD (mm)
Start reporting period

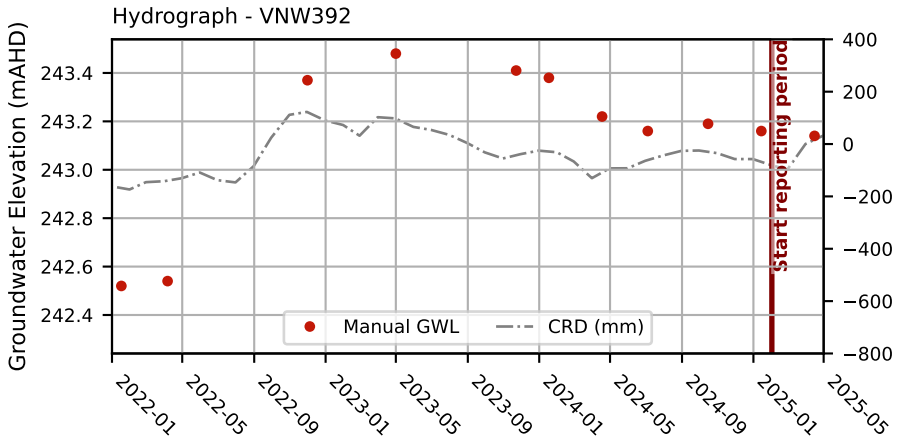

Hydrograph - VKY042C
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - VKY042C
Manual GWL
CRD (mm)
Start reporting period

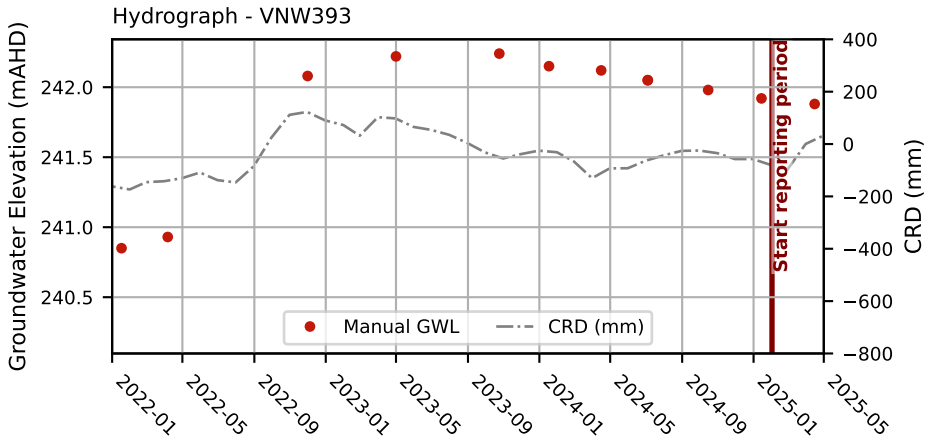

Hydrograph - VKY043C
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - VKY043C
Manual GWL
CRD (mm)
Start reporting period

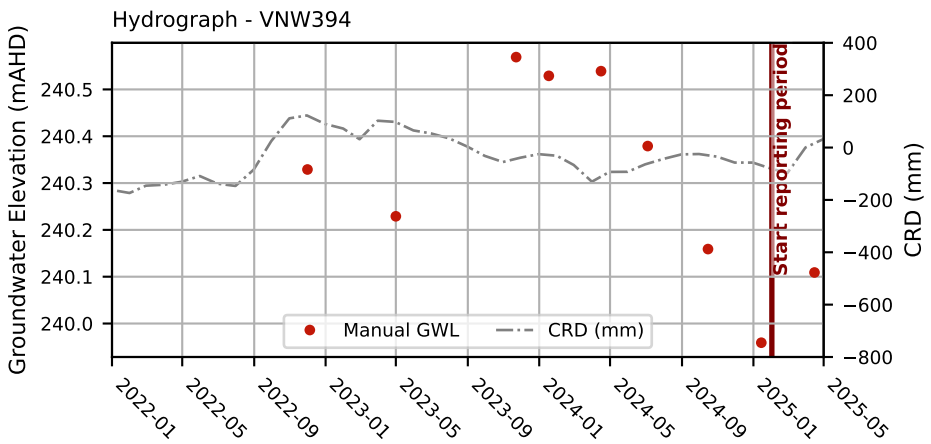

Hydrograph - VNW223
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

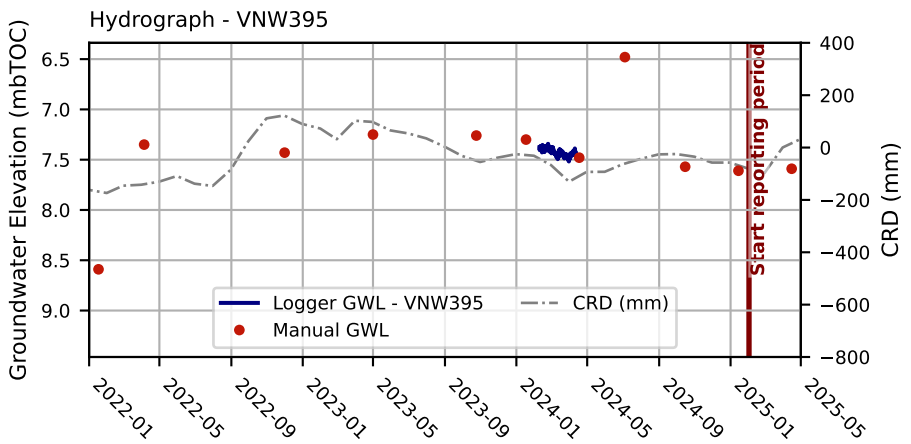

Hydrograph - VNW390
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

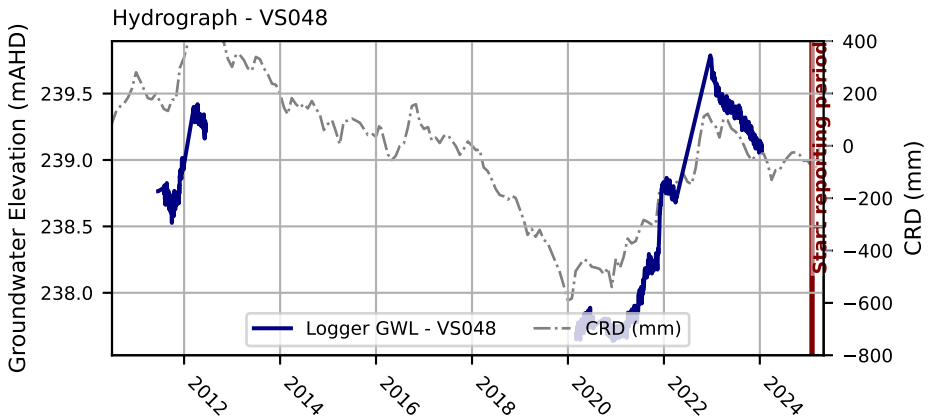

Hydrograph - VNW391
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

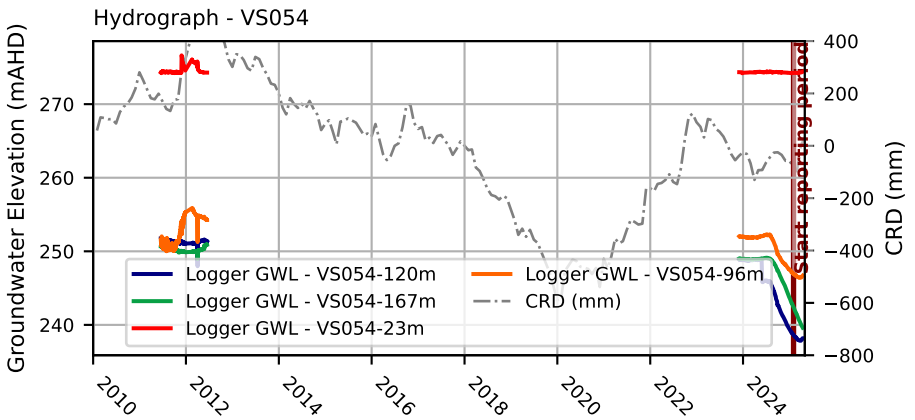

Hydrograph - VNW392
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

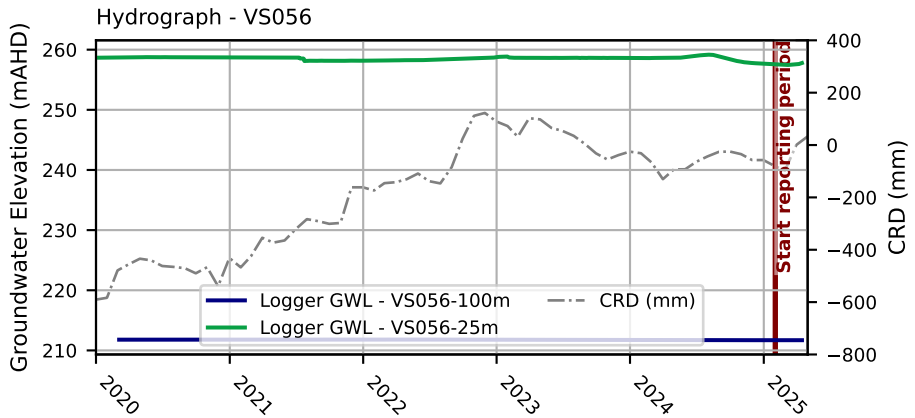

Hydrograph - VNW393
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

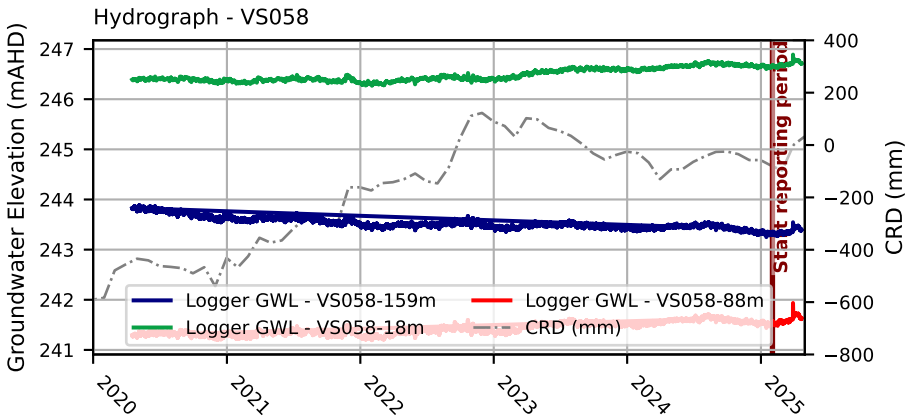

Hydrograph - VNW394
Groundwater Elevation (mAHD)
CRD (mm)
Manual GWL
CRD (mm)
Start reporting period

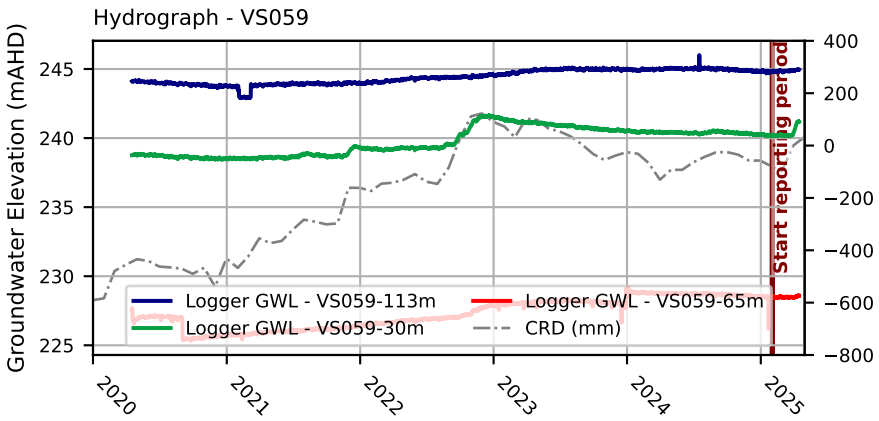

Hydrograph - VNW395
Groundwater Elevation (mbTOC)
CRD (mm)
Logger GWL - VNW395
Manual GWL
CRD (mm)
Start reporting period

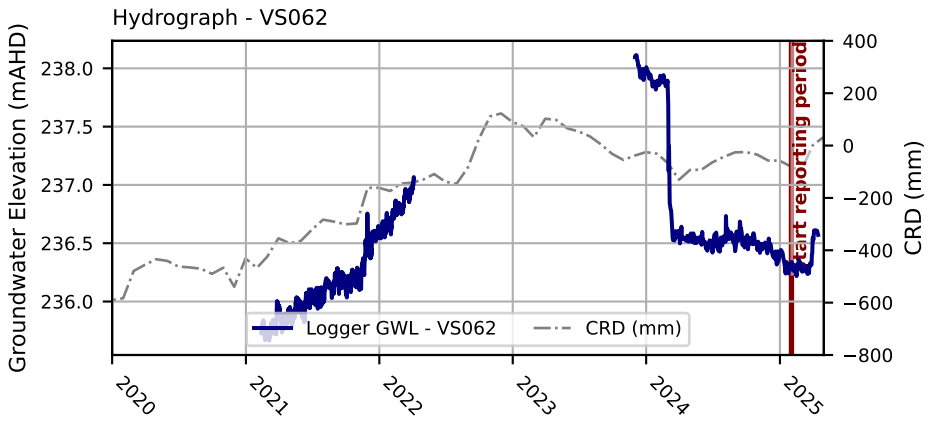

Hydrograph - VS048
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - VS048
CRD (mm)
Start reporting period

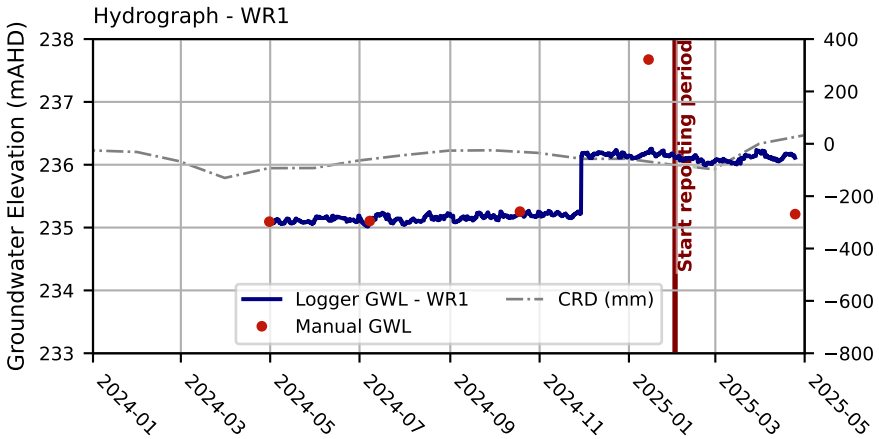

Hydrograph - VS054
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - VS054-120m
Logger GWL - VS054-167m
Logger GWL - VS054-23m
Logger GWL - VS054-96m
CRD (mm)
Start reporting period

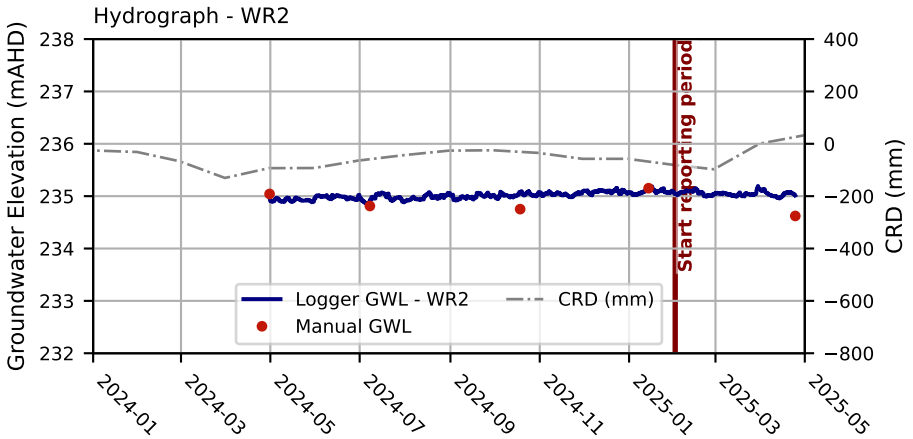

Hydrograph - VS056
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - VS056-100m
Logger GWL - VS056-25m
CRD (mm)
Start reporting period


Hydrograph - VS058
Groundwater Elevation (mAHD)
CRD (mm)
Logger GWL - VS058-159m
Logger GWL - VS058-18m
Logger GWL - VS058-88m
CRD (mm)
Start reporting period


Hydrograph - VS059
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS059-113m
Logger GWL - VS059-65m
Logger GWL - VS059-30m
CRD (mm)


Hydrograph - VS062
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS062
CRD (mm)


Hydrograph - WR1
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - WR1
Manual GWL
CRD (mm)


Hydrograph - WR2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - WR2
Manual GWL
CRD (mm)

Appendix C Groundwater Quality Results

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review February 2025 – April 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

25 June 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 cleanning 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

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
VKY GW Duplicate 1 - MD01	18-01-2024 9:38	11.54	1848	22.9	-147	Nil	Slightly turbid	Brown	-
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	

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
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
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_2S
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	-	-	-	-	-	-	-	-

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
MD01	04-07-2024 12:45	9.59	1505	19.6	-244	-	Slightly Turbid	Brown	H2S; Vegetable matter
VS048	04-07-2024 11:55	-	-	-	-	-	-	-	-
VS054	04-07-2024 12:15	-	-	-	-	-	-	-	Comm Port 25 (V3.66)
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	-

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
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	-
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	

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
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	
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

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
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	-
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	

Sample Location	Date	pH - Field	EC - Field (µS)	Temperature	Redox	Odour	Appearance	Colour	Comments
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	
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_2S 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 H2S 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 H2S
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 H2S
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	

GROUND WATER MONITORING

Client: **Whitehaven Coal - Vickery Project**

Sampled By: GQ/SM

Project: **Quarterly Groundwater Sampling** (Jan, Apr, Jul, Oct)

Signed:

Meters need to be checked every 24 hours

*Data saved into Field Downloads folder or emailed to monitoringresults@chased.com.au

Date	Field pH/EC/ Temp meter #	Calibation checked (record details on F305)	Field Redox meter #	Calibation checked (record details on F323)	Field Laptop #	VWP data files transferred*	Weather conditions (eg. sunny, rain)	Any Health/safety issues on site (if yes, detail under Comments)	Field Tech Initials	
		Y / N		Y / N		Y / N				
		Y / N		Y / N		Y / N				
		Y / N		Y / N		Y / N				
		Y / N		Y / N		Y / N				
		Y / N		Y / N		Y / N				

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 500ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
GW-11						0.3	2		GS LF HF HS	6					C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW-13	16-4-25	1201	[illegible]	—	47.99	•	23.18		GS LF HF HS	7.24	822 us	22.8	66	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
GW-14	16-4-25	1438	—	—	—		1049		GS LF HF HS	6.94	3.36ms	21.2	74	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
GW-2	16/4/25	1358	—	—	[illegible]	N/A	18.49		GS LF HF HS	6.86	1191 us	21.1	119	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
GW-6	16/4/25	1228	—	—	63.86		23.04		GS LF HF HS	7.60	1388 us	23.5	-168	S	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	SLIGHT HYDROCARBON ODOUR
GW-7						0.34			GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW-8									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW-9			? - Y / N	Y / N		0.64			GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW01			ML - Y / N	Y / N		0.52		8.20	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW02	15/4/25	1153	ML (Y) N	(Y) N	17.69	0.45	8.65	7.45	GS LF HF HS	7.74	872 us	24.4	26	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
GW03	15/4/25	1329	VL - Y / N	Y / N	43.46	-.77	7.02	6.12	GS LF HF HS	7.17	872 us	23.4	-85	VS	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	VERY SLIGHT H2S ODOUR
MD01	15/4/25	1121			53.57	0.62	30.12	28.02	GS LF HF HS	8.67	1438 us	23.9	-244	STG	C S T	C O Bk Bn Gn Gy	Y N	Y / N	1	1	1	1	STRONG UNKNOWN ODOUR
MD02	15/4/25	1055			59.69	0.64	42.16	40.98	GS LF HF HS	6.80	1232 us	25.1	-61	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
SB01						0.9		6.37	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Bn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still → Trickle → Slow → Steady → Fast
Bottles: GP = Green Plastic, RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

pH 7 buffer check required every 10 samples - If the Difference is over 0.2, recalibrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

Client: Whitehaven Coal - Vickery Project

Project: Quarterly Groundwater Sampling (Jan, Apr, Jul, Oct)

Sampled By: GR/SM

Signed: [signature]

GROUND WATER MONITORING

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 500ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
SB02						0.4		9.84	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
SB04	15.4.25	1249			9.15	0.8	7.94	6.34	GS LF HF HS	7.15	2184 us	22.5	-171	S	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	SLIGHT H2S ODOUR
SB05						0.75		7.10	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
SB06						0.3		8.43	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
SB07	15.4.25	1153	WS - Y / N		18.14	0.73	09.22	8.01	GS LF HF HS	7.32	908 us	22.0	63	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
SB08	15.4.25	1305			18.08	1.02	07.89	6.73	GS LF HF HS	7.22	1035 us	21.4	-95	S	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	SLIGHT UNKNOWN ODOUR
SB09						0.5		6.36	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
SB10						1		7.45	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
SB11						0.25		8.10	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
SB15						0.8		8.18	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
TR18	16.4.25	0820			21.46	0.87	13.24	13.04	GS LF HF HS	6.93	13.62 ms	17.5	131	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
TR26	16.4.25	0750			20.27	1.0	12.26	12.44	GS LF HF HS	7.09	7.29 ms	19.0	117	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
TR35	16.4.25	0853			25.40	0.65	18.53	18.16	GS LF HF HS	6.96	16.18 ms	18.9	103		C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
TR7	16.4.25	0805			18.67	0.72	9.78	9.85	GS LF HF HS	6.93	15.35 ms	17.0	113	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VKY035C	16.4.25	1005	WS - Y / N		—	0.51	42.81	42.37	GS LF HF HS	7.01	3.17 ms	22.2	-17	S	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VKY036C	16.4.25	1023	WS - Y / N			0.88		49.23	GS LF HF HS	7.30	5.72 ms	22.0	-89	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	SLIGHT UNKNOWN ODOUR
VKY042C	16.4.25	1057	WS - Y / N		—	0.75	33.34	42.68	GS LF HF HS	6.71	5.51 ms	22.3	-3	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VKY034C	16.4.25	0936	WS - Y / N		—	0.78	42.41	39.79	GS LF HF HS	7.21	3.84 ms	22.2	53	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	X	0	1	TO TURBID TO FILTER LOG TO FIELD
VKY041C	15.4.25	1427	RST (#101508 - SN 02023) - Y / N	Y / N																			
	15.4.25	1430	RST (#101349 - SN 02027) - Y / N	Y / N												CLEAR							
VKY043C	16.4.25	0936			—	0.96	16.30	16.41	GS LF HF HS	7.84	3.51 ms	16.8	30	NIL	[illegible]	[illegible]	Y / N	Y / N	1	[illegible]	1	1	[illegible]
VKY33C	16.4.25	0921	RST (#2029) - Y / N	Y / N																			
	16.4.25	0925	RST (#2087) - Y / N	Y / N																			
VKY3053C			RST - Y / N	Y / N																			

0936 0936

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Bn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still → Trickle → Slow → Steady → Fast
Bottles: GP = Green Plastic, RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

pH 7 buffer check required every 10 samples - If the Difference is over 0.2, recalibrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

W 20
T 18
TOOO 22

Client: Whitehaven Coal - Vickery Project

Sampled By: GG/SM

Project: Quarterly Groundwater Sampling (Jan, Apr, Jul, Oct)

Signed:

GROUND WATER MONITORING

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 500ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
VNW223						0.74			GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VNW390	15/4/25	0903			54.90	0.81	9.61	9.38	GS LF HF HS	6.84	2.33ms	21.3	-154	S	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
VNW391	15/4/25	0947			51.62	0.56	8.04	7.80	GS LF HF HS	7.03	2308us	21.9	-193	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	VERY SLEIGHT H2S
VNW392	15/4/25	0956			61.79	0.56	6.48	6.25	GS LF HF HS	6.67	3.34ms	20.9	-137	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
VNW393	15/4/25	0839			59.27	0.74	10.86	10.64	GS LF HF HS	7.11	3.10ms	21.3	-111	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
VNW394	15/4/25	0814			26.35	0.59	6.95	6.73	GS LF HF HS	6.84	5.52ms	20.6	-199	S	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
VNW395	15/4/25	0930	? - Y / N	Y / N	12.08	0.56	7.59	7.43	GS LF HF HS	7.31	2.28 ms	20.0	-272	M	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	SLEIGHT H2S
VS048	15/4/25	1036	ML - Y / N	Y / N																			NO LOGGER - FAULTY AND REMOVED PREVIOUSLY
VS054	15/4/25	1052	VL - Y / N	Y / N																			ANT BAIT
VS056	15/4/25	1112	ML (#1765) - Y / N	Y / N																			ANT BAIT
	15/4/25	1118	ML (#1771) - Y / N	Y / N																			
VS058			VL - Y / N	Y / N																			
VS059	15/4/25	1409	VL - Y / N	Y / N																			
VS062	15.4.25	1232	ML - Y / N	Y / N																			LITHIUM BATTERY REPLACED
WR-1			Y / N	Y / N				13.37	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
WR-2			Y / N	Y / N				11.35	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW036459																			1	1	1	1	No access - NSW Water locked bore
GW030051																			1	1	1	1	No access - NSW Water locked bore
GW030052																			1	1	1	1	No access - NSW Water locked bore

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

pH 7 buffer check required every 10 samples - if the Difference is over 0.2, recalibrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Brn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still → Trickle → Slow → Steady → Fast
Bottles: GP = Green Plastic, RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

* VNW395 - NOTED UNKNOWN ODOUR

Client: Whitehaven Coal - Vickery Project

Sampled By: GR/SM

Project: Quarterly Groundwater Sampling (Jan, Apr, Jul, Oct)

Signed:

GROUND WATER MONITORING

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 500ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
GW-4	16-4-25	1329			48.60	0.25	19.30	~	GS LF HF HS	8.11	2.99mS	22.6	57	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW-10	16-4-25	1137			24.88	0.52	14.47	~	GS LF HF HS	7.92	1808uS	23.0	37	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW-15	15-4-25	1450			29.03	0.44	13.15	~	GS LF HF HS	8.96	6802uS	21.9	-18	NIL	C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW971614									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
															C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
QA Samples							33.34																
VKY GW Duplicate 1	16-4-25	11.11	Duplicate 1 Taken From: VKY0004LC						GS LF HF HS	6.69	5.42mS	22.8	-9	NIL	C S T	C O Bk Bn Gn Gy			1	1	1	1	
VKY GW Duplicate 2			Duplicate 2 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			1	1	1	1	
VKY GW Blank															C S T	C O Bk Bn Gn Gy			1	1	1	1	
Split Duplicate samples to be split into two bottle sets. Please label one set as 'Split Dup (1/2) ALS' and one as 'Split Dup (1/2) Eurofins"																							
VKY GW Lab Split Dup 1	16-4-25	11.11	Site Split Duplicate 1 Taken From: VKY0002C				33.34		GS LF HF HS	6.72	5.49mS	22.8	-12	NIL	C S T	C O Bk Bn Gn Gy			2	2	2	2	
VKY GW Lab Split Dup 2			Site Split Duplicate 2 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			2	2	2	2	
																	Total Bottles:		56	56	56	56	

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

pH 7 buffer check required every 10 samples - If the Difference is over 0.2, recalibrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Bn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still -> Trickle -> Slow -> Steady -> Fast
Bottles: GP = Green Plastic, RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

CHAIN OF CUSTODY	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE
6YXYZ8P2	Cbased Environmental al	2025-04-17 13:43	5 Working Days	N o	IN X	1 OF 6

LAB USE ONLY	RECEIVED (DATE/TIME): 17/4/25 4:40	APPROPRIATELY SEALED?: YES / NO	TEMPERATURE: 6.7 ICE	JOB #:	SIGNED:

LABORATORY	ALS Newcastle | 5/585 Maitland Road Mayfield West 2304 NSW
SAMPLERS	CBased Environmental
QUOTE #	SYBQ-403-21v4
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

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

ph/ec/alk2EN

GENERAL INSTRUCTIONS

#	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-13	2025-04-16 12:01	VPCGBNM5-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	GW-14	2025-04-16 14:38	VPCGBNM5-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	GW-2	2025-04-16 13:58	VPCGBNM5-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	GW-6	2025-04-16 12:28	VPCGBNM5-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	GW02	2025-04-15 11:53	VPCGBNM5-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	GW03	2025-04-15 13:29	VPCGBNM5-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	MD01	2025-04-15 11:21	VPCGBNM5-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	MD02	2025-04-15 10:55	VPCGBNM5-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	SB04	2025-04-15 12:49	VPCGBNM5-9	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
10	SB07	2025-04-15 11:53	VPCGBNM5-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	SB08	2025-04-15 13:05	VPCGBNM5-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
12	TR18	2025-04-16 08:20	VPCGBNM5-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	TR26	2025-04-16 07:50	VPCGBNM5-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
14	TR35	2025-04-16 08:53	VPCGBNM5-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	TR7	2025-04-16 08:05	VPCGBNM5-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	VKY0035C	2025-04-16 10:05	VPCGBNM5-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	VKY0036C	2025-04-16 10:23	VPCGBNM5-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
18	VKY0042C	2025-04-16 10:57	VPCGBNM5-18	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Environmental Division
Sydney
Work Order Reference
ES2511376



Telephone : +61-2-8784 8555

19	VKY0034C	2025-04-16 09:36	VPCGBNM5-19	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter. To turbid to filter.
20	VKY0043C	2025-04-16 08:36	VPCGBNM5-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
21	VNW390	2025-04-15 09:03	VPCGBNM5-21	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
22	VNW391	2025-04-15 09:45	VPCGBNM5-22	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	VNW392	2025-04-15 09:56	VPCGBNM5-23	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY 6YXYZ8P2 **HANDED OVER BY** Cbased Environmental **HANDOVER DATE/TIME** 2025-04-17 13:43 **REQUIRED TURNAROUND** 5 Working Days **RETURN EQUIPMENT** No **EDD FORMAT** IN X **PAGE 2 OF 6**

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
24	VNW393	2025-04-15 08:39	VPCGBNM5-24	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	VNW394	2025-04-15 08:14	VPCGBNM5-25	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
26	VNW395	2025-04-15 09:30	VPCGBNM5-26	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27	GW-4	2025-04-16 13:29	VPCGBNM5-27	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
28	GW-10	2025-04-16 11:37	VPCGBNM5-28	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
29	GW-15	2025-04-15 14:50	VPCGBNM5-29	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
30	VKY GW Duplicate 1	2025-04-16 11:11	VPCGBNM5-30	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
31	VKY GW Lab Split Dup 1	2025-04-16 11:11	VPCGBNM5-31	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	6YXYZ8P	HANDED OVER BY	Cbased Environment	HANDOVER DATE/TIME	2025-04-17 13:	REQUIRED TURNAROUND	5 Working Da	RETURN EQUIPMENT	N	EDD FORMAT	IN	PAGE 3 OF
2		al		43		ys		o		X		6

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO3 Q. Total anions R. Total Cations S. Total Phosphorus as P T. Alkalinity (total) U. Aluminium (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)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	SAMPLE INSTRUCTIONS
1	GW-13	2025-04-16 12:01	VPCGBNM5-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	GW-14	2025-04-16 14:38	VPCGBNM5-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	GW-2	2025-04-16 13:58	VPCGBNM5-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	GW-6	2025-04-16 12:28	VPCGBNM5-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	GW02	2025-04-15 11:53	VPCGBNM5-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	GW03	2025-04-15 13:29	VPCGBNM5-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	MD01	2025-04-15 11:21	VPCGBNM5-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	MD02	2025-04-15 10:55	VPCGBNM5-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	SB04	2025-04-15 12:49	VPCGBNM5-9	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
10	SB07	2025-04-15 11:53	VPCGBNM5-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	SB08	2025-04-15 13:05	VPCGBNM5-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
12	TR18	2025-04-16 08:20	VPCGBNM5-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	TR26	2025-04-16 07:50	VPCGBNM5-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
14	TR35	2025-04-16 08:53	VPCGBNM5-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	TR7	2025-04-16 08:05	VPCGBNM5-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	VKY0035C	2025-04-16 10:05	VPCGBNM5-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	VKY0036C	2025-04-16 10:23	VPCGBNM5-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

18	VKY0042C	2025-04-16 10:57	VPCGBNM5-18	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	VKY0034C	2025-04-16 09:36	VPCGBNM5-19	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter. To turbid to filter.
20	VKY0043C	2025-04-16 08:36	VPCGBNM5-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
21	VNW390	2025-04-15 09:03	VPCGBNM5-21	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
22	VNW391	2025-04-15 09:45	VPCGBNM5-22	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	VNW392	2025-04-15 09:56	VPCGBNM5-23	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY 6YXYZ8P2 **HANDED OVER BY** Cbased Environmental **HANDOVER DATE/TIME** 2025-04-17 13:43 **REQUIRED TURNAROUND** 5 Working Days **RETURN EQUIPMENT** No **EDD FORMAT** IN X **PAGE 4 OF 6**

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO3 Q. Total anions R. Total Cations S. Total Phosphorus as P T. Alkalinity (total) U. Aluminium (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)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	SAMPLE INSTRUCTIONS
24	VNW393	2025-04-15 08:39	VPCGBNM5-24	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	VNW394	2025-04-15 08:14	VPCGBNM5-25	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
26	VNW395	2025-04-15 09:30	VPCGBNM5-26	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27	GW-4	2025-04-16 13:29	VPCGBNM5-27	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
28	GW-10	2025-04-16 11:37	VPCGBNM5-28	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
29	GW-15	2025-04-15 14:50	VPCGBNM5-29	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
30	VKY GW Duplicate 1	2025-04-16 11:11	VPCGBNM5-30	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
31	VKY GW Lab Split Dup 1	2025-04-16 11:11	VPCGBNM5-31	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	6YXYZ8P	HANDED OVER BY	Cbased Environment	HANDOVER DATE/TIME	2025-04-17 13:	REQUIRED TURNAROUND	5 Working Da	RETURN EQUIPMENT	N	EDD FORMAT	IN	PAGE 5 OF
2		al		43		ys		o		X		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)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	SAMPLE INSTRUCTIONS
1	GW-13	2025-04-16 12:01	VPCGBNM5-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	GW-14	2025-04-16 14:38	VPCGBNM5-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	GW-2	2025-04-16 13:58	VPCGBNM5-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	GW-6	2025-04-16 12:28	VPCGBNM5-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	GW02	2025-04-15 11:53	VPCGBNM5-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	GW03	2025-04-15 13:29	VPCGBNM5-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	MD01	2025-04-15 11:21	VPCGBNM5-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	MD02	2025-04-15 10:55	VPCGBNM5-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	SB04	2025-04-15 12:49	VPCGBNM5-9	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
10	SB07	2025-04-15 11:53	VPCGBNM5-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

11	SB08	2025-04-15 13:05	VPCGBNM5-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
12	TR18	2025-04-16 08:20	VPCGBNM5-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	TR26	2025-04-16 07:50	VPCGBNM5-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
14	TR35	2025-04-16 08:53	VPCGBNM5-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	TR7	2025-04-16 08:05	VPCGBNM5-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	VKY0035C	2025-04-16 10:05	VPCGBNM5-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	VKY0036C	2025-04-16 10:23	VPCGBNM5-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
18	VKY0042C	2025-04-16 10:57	VPCGBNM5-18	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	VKY0034C	2025-04-16 09:36	VPCGBNM5-19	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter. To turbid to filter.
20	VKY0043C	2025-04-16 08:36	VPCGBNM5-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
21	VNW390	2025-04-15 09:03	VPCGBNM5-21	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
22	VNW391	2025-04-15 09:45	VPCGBNM5-22	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	VNW392	2025-04-15 09:56	VPCGBNM5-23	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY 6YXYZ8P2 **HANDED OVER BY** Cbased Environmental **HANDOVER DATE/TIME** 2025-04-17 13:43 **REQUIRED TURNAROUND** 5 Working Days **RETURN EQUIPMENT** No **EDD FORMAT** INX **PAGE 6 OF 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)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	SAMPLE INSTRUCTIONS

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	SAMPLE INSTRUCTIONS
24	VNW393	2025-04-15 08:39	VPCGBNM5-24	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	VNW394	2025-04-15 08:14	VPCGBNM5-25	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
26	VNW395	2025-04-15 09:30	VPCGBNM5-26	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27	GW-4	2025-04-16 13:29	VPCGBNM5-27	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
28	GW-10	2025-04-16 11:37	VPCGBNM5-28	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
29	GW-15	2025-04-15 14:50	VPCGBNM5-29	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
30	VKY GW Duplicate 1	2025-04-16 11:11	VPCGBNM5-30	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
31	VKY GW Lab Split Dup 1	2025-04-16 11:11	VPCGBNM5-31	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CERTIFICATE OF ANALYSIS

Work Order	: **ES2511376**	Page	: 1 of 20
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: All Deliverables	Contact	: Jessica Chen
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6571 3334	Telephone	: +61-2-8784 8555
Project	: Vickery Quarterly Groundwaters	Date Samples Received	: 17-Apr-2025 16:40
Order number	: ----	Date Analysis Commenced	: 19-Apr-2025
C-O-C number	: ----	Issue Date	: 29-Apr-2025 15:05
Sampler	: CBased Environmental		
Site	: Vickery		
Quote number	: SYBQ/403/21v4 and PLANNED EVENTS		
No. of samples received	: 28		
No. of samples analysed	: 28		

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.
- EG020: Poor matrix spike recovery was obtained for some elements on sample ES2509683-#002. Confirmed by reanalysis.
- ED041G: LOR raised for Sulfate due to sample matrix
- EK067G/EK067FG: It is recognised that total phosphrous is less than filtered total phosphrous. However, the difference is within experimental variation of the methods.
- TDS by method EA-015 various samples may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- 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)

Compound	CAS Number	LOR	Unit	Sample ID	GW-13 VPCGBNM5-1	GW-6 VPCGBNM5-4	GW02 VPCGBNM5-5	GW03 VPCGBNM5-6	MD01 VPCGBNM5-7
				Sampling date / time	16-Apr-2025 12:01	16-Apr-2025 12:28	15-Apr-2025 11:53	15-Apr-2025 13:29	15-Apr-2025 11:21
					ES2511376-001	ES2511376-004	ES2511376-005	ES2511376-006	ES2511376-007
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.65**	**8.03**	**7.78**	**7.63**	**8.64**
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**814**	**1450**	**995**	**898**	**1630**
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**752**	**1050**	**706**	**633**	**994**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	**45**
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**430**	**748**	**388**	**422**	**309**
Total Alkalinity as CaCO3	----	1	mg/L		**430**	**748**	**388**	**422**	**354**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<10	<1	**89**	**62**	**32**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**16**	**54**	**47**	**22**	**343**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**29**	**9**	**47**	**87**	**14**
Magnesium	7439-95-4	1	mg/L		**9**	**5**	**22**	**34**	**9**
Sodium	7440-23-5	1	mg/L		**166**	**349**	**141**	**76**	**256**
Potassium	7440-09-7	1	mg/L		**8**	**2**	<1	**2**	**20**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		**0.02**	<0.01	<0.01	<0.01	**0.02**
Antimony	7440-36-0	0.001	mg/L		**0.005**	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		**0.033**	**0.355**	**0.045**	**0.084**	**0.058**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		**0.035**	<0.001	**0.001**	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW-13 VPCGBNM5-1	GW-6 VPCGBNM5-4	GW02 VPCGBNM5-5	GW03 VPCGBNM5-6	MD01 VPCGBNM5-7
				Sampling date / time	16-Apr-2025 12:01	16-Apr-2025 12:28	15-Apr-2025 11:53	15-Apr-2025 13:29	15-Apr-2025 11:21
Compound	CAS Number	LOR	Unit		ES2511376-001	ES2511376-004	ES2511376-005	ES2511376-006	ES2511376-007
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		**0.002**	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.009**	<0.001	<0.001	<0.001	**0.004**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.144**	**0.018**	<0.005	<0.005	**0.034**
Manganese	7439-96-5	0.001	mg/L		**0.224**	**0.034**	**0.005**	**0.119**	**0.007**
Molybdenum	7439-98-7	0.001	mg/L		**0.001**	<0.001	<0.001	<0.001	**0.011**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.816**	**0.173**	**0.670**	**1.00**	**0.534**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L		**0.09**	**0.08**	**0.06**	<0.05	<0.05
Iron	7439-89-6	0.05	mg/L		**0.17**	**1.08**	<0.05	**0.17**	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.10**	**0.90**	**0.13**	**0.54**	**19.2**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	**0.03**	**0.03**	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.12**	**0.01**	**1.88**	**0.79**	**0.03**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.12**	**0.01**	**1.91**	**0.82**	**0.03**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.37**	**0.07**	**0.13**	**1.07**	**0.32**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.44**	**0.11**	**0.17**	**1.26**	**0.39**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW-13 VPCGBNM5-1	GW-6 VPCGBNM5-4	GW02 VPCGBNM5-5	GW03 VPCGBNM5-6	MD01 VPCGBNM5-7
				Sampling date / time	16-Apr-2025 12:01	16-Apr-2025 12:28	15-Apr-2025 11:53	15-Apr-2025 13:29	15-Apr-2025 11:21
Compound	CAS Number	LOR	Unit		ES2511376-001	ES2511376-004	ES2511376-005	ES2511376-006	ES2511376-007
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		9.04	16.5	10.9	10.3	17.4
ø Total Cations	----	0.01	meq/L		----	----	----	----	14.5
ø Total Cations	----	0.01	meq/L		9.61	16.1	10.3	10.5	----
ø Ionic Balance	----	0.01	%		----	----	----	----	9.30
ø Ionic Balance	----	0.01	%		3.06	1.15	3.02	0.74	----
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		8.6	7.8	9.9	7.6	6.7

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	MD02 VPCGBNM5-8	SB04 VPCGBNM5-9	SB07 VPCGBNM5-10	SB08 VPCGBNM5-11	TR18 VPCGBNM5-12
				Sampling date / time	15-Apr-2025 10:55	15-Apr-2025 12:49	15-Apr-2025 11:53	15-Apr-2025 13:05	16-Apr-2025 08:20
					ES2511376-008	ES2511376-009	ES2511376-010	ES2511376-011	ES2511376-012
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.26**	**7.64**	**7.76**	**7.70**	**7.40**
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**1240**	**2360**	**928**	**1020**	**13300**
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**839**	**1660**	**690**	**704**	**10400**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**542**	**620**	**388**	**397**	**736**
Total Alkalinity as CaCO3	----	1	mg/L		**542**	**620**	**388**	**397**	**736**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**33**	**269**	**85**	**77**	**552**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**83**	**326**	**39**	**61**	**4580**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**85**	**74**	**55**	**72**	**264**
Magnesium	7439-95-4	1	mg/L		**52**	**61**	**23**	**37**	**311**
Sodium	7440-23-5	1	mg/L		**130**	**408**	**130**	**120**	**2290**
Potassium	7440-09-7	1	mg/L		**8**	<1	<1	<1	**11**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		**0.001**	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		**0.252**	**0.082**	**0.049**	**0.056**	**0.064**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	**0.002**	<0.001	**0.873**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MD02 VPCGBNM5-8	SB04 VPCGBNM5-9	SB07 VPCGBNM5-10	SB08 VPCGBNM5-11	TR18 VPCGBNM5-12
				Sampling date / time	15-Apr-2025 10:55	15-Apr-2025 12:49	15-Apr-2025 11:53	15-Apr-2025 13:05	16-Apr-2025 08:20
Compound	CAS Number	LOR	Unit		ES2511376-008	ES2511376-009	ES2511376-010	ES2511376-011	ES2511376-012
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.012**	<0.001	<0.001	<0.001	**0.013**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	<0.005	<0.005	**0.010**
Manganese	7439-96-5	0.001	mg/L		**0.074**	**0.136**	**0.001**	**0.046**	**0.021**
Molybdenum	7439-98-7	0.001	mg/L		**0.002**	<0.001	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**1.30**	**1.75**	**0.724**	**1.11**	**7.35**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L		<0.05	**0.10**	**0.06**	**0.06**	**0.06**
Iron	7439-89-6	0.05	mg/L		**1.55**	**0.14**	<0.05	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.33**	**0.17**	**0.02**	**0.29**	**0.08**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	**0.03**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.07**	**0.04**	**0.30**	**0.14**	**0.02**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.07**	**0.04**	**0.30**	**0.14**	**0.05**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.06**	**0.16**	**0.02**	**0.08**	**0.09**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.11**	**0.28**	**0.07**	**0.09**	**0.22**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MD02 VPCGBNM5-8	SB04 VPCGBNM5-9	SB07 VPCGBNM5-10	SB08 VPCGBNM5-11	TR18 VPCGBNM5-12
				Sampling date / time	15-Apr-2025 10:55	15-Apr-2025 12:49	15-Apr-2025 11:53	15-Apr-2025 13:05	16-Apr-2025 08:20
Compound	CAS Number	LOR	Unit		ES2511376-008	ES2511376-009	ES2511376-010	ES2511376-011	ES2511376-012
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**13.8**	**27.2**	**10.6**	**11.2**	**155**
ø Total Cations	----	0.01	meq/L		**14.4**	**26.5**	**10.3**	**11.8**	**139**
ø Ionic Balance	----	0.01	%		**1.85**	**1.35**	**1.58**	**2.60**	**5.69**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**9.3**	**7.6**	**8.2**	**8.0**	**9.9**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	TR26 VPCGBNM5-13	TR35 VPCGBNM5-14	TR7 VPCGBNM5-15	VKY0035C VPCGBNM5-16	VKY0036C VPCGBNM5-17
				Sampling date / time	16-Apr-2025 07:50	16-Apr-2025 08:53	16-Apr-2025 08:05	16-Apr-2025 10:05	16-Apr-2025 10:23
Compound	CAS Number	LOR	Unit		ES2511376-013	ES2511376-014	ES2511376-015	ES2511376-016	ES2511376-017
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.58**	**7.48**	**7.36**	**7.59**	**7.74**
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**8270**	**16300**	**15200**	**3360**	**5830**
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**6010**	**16300**	**14500**	**2330**	**4080**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**1600**	**738**	**777**	**942**	**1400**
Total Alkalinity as CaCO3	----	1	mg/L		**1600**	**738**	**777**	**942**	**1400**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**217**	**562**	**507**	**77**	**174**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**1930**	**5530**	**5300**	**570**	**1110**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**180**	**329**	**312**	**52**	**27**
Magnesium	7439-95-4	1	mg/L		**181**	**492**	**344**	**44**	**17**
Sodium	7440-23-5	1	mg/L		**1270**	**2660**	**2540**	**628**	**1310**
Potassium	7440-09-7	1	mg/L		**11**	**18**	**14**	**7**	**6**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	**0.003**	**0.010**
Barium	7440-39-3	0.001	mg/L		**0.142**	**0.093**	**0.097**	**0.078**	**0.265**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	**0.0002**	**0.0002**	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	**0.002**	<0.001
Copper	7440-50-8	0.001	mg/L		**0.002**	**0.844**	**0.387**	**0.001**	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	TR26 VPCGBNM5-13	TR35 VPCGBNM5-14	TR7 VPCGBNM5-15	VKY0035C VPCGBNM5-16	VKY0036C VPCGBNM5-17
				Sampling date / time	16-Apr-2025 07:50	16-Apr-2025 08:53	16-Apr-2025 08:05	16-Apr-2025 10:05	16-Apr-2025 10:23
					ES2511376-013	ES2511376-014	ES2511376-015	ES2511376-016	ES2511376-017
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	**0.006**	**0.003**	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.004**	**0.067**	**0.053**	**0.012**	**0.002**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.013**	**0.011**	**0.013**	**0.023**	<0.005
Manganese	7439-96-5	0.001	mg/L		**0.042**	**0.789**	**0.193**	**0.321**	**0.185**
Molybdenum	7439-98-7	0.001	mg/L		**0.002**	**0.004**	**0.001**	**0.007**	**0.004**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**4.85**	**8.64**	**10.1**	**0.906**	**0.558**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L		**0.10**	**0.08**	**0.06**	<0.05	**0.09**
Iron	7439-89-6	0.05	mg/L		<0.05	**0.08**	**0.12**	**0.46**	**0.43**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.03**	**0.07**	**0.07**	**0.99**	**0.88**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.14**	**0.38**	**0.14**	**0.01**	**0.02**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.14**	**0.38**	**0.14**	**0.01**	**0.02**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.09**	**0.02**	**0.09**	**0.09**	**0.17**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.11**	**0.06**	**0.13**	**0.15**	**0.70**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	TR26 VPCGBNM5-13	TR35 VPCGBNM5-14	TR7 VPCGBNM5-15	VKY0035C VPCGBNM5-16	VKY0036C VPCGBNM5-17
				Sampling date / time	16-Apr-2025 07:50	16-Apr-2025 08:53	16-Apr-2025 08:05	16-Apr-2025 10:05	16-Apr-2025 10:23
Compound	CAS Number	LOR	Unit		ES2511376-013	ES2511376-014	ES2511376-015	ES2511376-016	ES2511376-017
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**90.9**	**182**	**176**	**36.5**	**62.9**
ø Total Cations	----	0.01	meq/L		**79.4**	**173**	**155**	**33.7**	**59.9**
ø Ionic Balance	----	0.01	%		**6.77**	**2.63**	**6.32**	**3.98**	**2.46**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**9.7**	**9.1**	**9.2**	**8.2**	**8.4**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VKY0042C VPCGBNM5-18	VKY0034C VPCGBNM5-19	VKY0043C VPCGBNM5-20	VNW390 VPCGBNM5-21	VNW391 VPCGBNM5-22
				Sampling date / time	16-Apr-2025 10:57	16-Apr-2025 09:36	16-Apr-2025 08:36	15-Apr-2025 09:03	15-Apr-2025 09:45
					ES2511376-018	ES2511376-019	ES2511376-020	ES2511376-021	ES2511376-022
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.24**	**7.74**	**8.09**	**7.33**	**7.58**
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**5640**	**4070**	**3120**	**2400**	**2510**
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**4230**	**2970**	**2210**	**1510**	**1670**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**830**	**1370**	**1170**	**621**	**630**
Total Alkalinity as CaCO3	----	1	mg/L		**830**	**1370**	**1170**	**621**	**630**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**316**	**117**	<1	**106**	**97**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**1360**	**611**	**421**	**418**	**448**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**208**	**20**	**11**	**195**	**194**
Magnesium	7439-95-4	1	mg/L		**214**	**29**	**3**	**44**	**57**
Sodium	7440-23-5	1	mg/L		**716**	**920**	**723**	**272**	**264**
Potassium	7440-09-7	1	mg/L		**21**	**7**	**5**	**11**	**12**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	**0.002**	**0.001**
Barium	7440-39-3	0.001	mg/L		**0.135**	**0.171**	**0.334**	**0.130**	**0.194**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		**0.003**	<0.001	**0.001**	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	VKY0042C VPCGBNM5-18	VKY0034C VPCGBNM5-19	VKY0043C VPCGBNM5-20	VNW390 VPCGBNM5-21	VNW391 VPCGBNM5-22
				Sampling date / time	16-Apr-2025 10:57	16-Apr-2025 09:36	16-Apr-2025 08:36	15-Apr-2025 09:03	15-Apr-2025 09:45
Compound	CAS Number	LOR	Unit		ES2511376-018	ES2511376-019	ES2511376-020	ES2511376-021	ES2511376-022
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	**0.002**	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.002**	**0.004**	<0.001	**0.026**	**0.002**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.013**	**0.013**	**0.005**	<0.005	**0.005**
Manganese	7439-96-5	0.001	mg/L		**0.216**	**0.002**	**0.004**	**0.362**	**0.264**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	**0.003**	<0.001	**0.004**	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**3.60**	**0.528**	**0.421**	**1.97**	**1.90**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L		**0.05**	**0.06**	**0.07**	**0.11**	**0.10**
Iron	7439-89-6	0.05	mg/L		**0.98**	<0.05	**0.13**	**1.08**	**4.92**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.73**	**0.86**	**0.44**	**0.53**	**0.75**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	**0.09**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.05**	**0.02**	**0.02**	**0.09**	**0.20**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.05**	**0.02**	**0.02**	**0.09**	**0.29**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		<0.01	**0.47**	**0.01**	**0.10**	**0.13**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.03**	**0.68**	**0.04**	**0.14**	**0.18**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	VKY0042C VPCGBNM5-18	VKY0034C VPCGBNM5-19	VKY0043C VPCGBNM5-20	VNW390 VPCGBNM5-21	VNW391 VPCGBNM5-22
				Sampling date / time	16-Apr-2025 10:57	16-Apr-2025 09:36	16-Apr-2025 08:36	15-Apr-2025 09:03	15-Apr-2025 09:45
Compound	CAS Number	LOR	Unit		ES2511376-018	ES2511376-019	ES2511376-020	ES2511376-021	ES2511376-022
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**61.5**	**47.0**	**35.2**	**26.4**	**27.2**
ø Total Cations	----	0.01	meq/L		**59.7**	**43.6**	**32.4**	**25.5**	**26.2**
ø Ionic Balance	----	0.01	%		**1.53**	**3.82**	**4.26**	**1.81**	**2.03**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.6**	**7.7**	**8.2**	**8.4**	**8.5**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VNW392 VPCGBNM5-23	VNW393 VPCGBNM5-24	VNW394 VPCGBNM5-25	VNW395 VPCGBNM5-26	GW-10 VPCGBNM5-28
				Sampling date / time	15-Apr-2025 09:56	15-Apr-2025 08:39	15-Apr-2025 08:14	15-Apr-2025 09:30	16-Apr-2025 11:37
					ES2511376-023	ES2511376-024	ES2511376-025	ES2511376-026	ES2511376-028
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.18	7.64	7.48	7.80	8.30
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		3590	3190	5460	2390	1820
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		2640	2130	3950	1680	1540
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		646	392	395	591	713
Total Alkalinity as CaCO3	----	1	mg/L		646	392	395	591	713
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		266	212	535	151	<10
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		724	749	1340	394	83
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		307	182	216	57	45
Magnesium	7439-95-4	1	mg/L		90	36	82	34	30
Sodium	7440-23-5	1	mg/L		347	445	882	410	348
Potassium	7440-09-7	1	mg/L		17	6	8	6	36
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	0.01	<0.01	0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	0.011
Arsenic	7440-38-2	0.001	mg/L		0.003	<0.001	0.004	<0.001	0.006
Barium	7440-39-3	0.001	mg/L		0.138	0.057	0.076	0.054	0.073
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	0.141

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VNW392 VPCGBNM5-23	VNW393 VPCGBNM5-24	VNW394 VPCGBNM5-25	VNW395 VPCGBNM5-26	GW-10 VPCGBNM5-28
				Sampling date / time	15-Apr-2025 09:56	15-Apr-2025 08:39	15-Apr-2025 08:14	15-Apr-2025 09:30	16-Apr-2025 11:37
					ES2511376-023	ES2511376-024	ES2511376-025	ES2511376-026	ES2511376-028
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		**0.003**	<0.001	**0.002**	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.005**	**0.006**	**0.008**	**0.004**	**0.006**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	<0.005	<0.005	**0.130**
Manganese	7439-96-5	0.001	mg/L		**0.510**	**0.195**	**0.353**	**0.122**	**0.057**
Molybdenum	7439-98-7	0.001	mg/L		**0.001**	**0.004**	**0.002**	<0.001	**0.004**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**2.94**	**2.37**	**2.98**	**0.680**	**0.932**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L		**0.08**	**0.08**	**0.06**	**0.05**	**0.17**
Iron	7439-89-6	0.05	mg/L		**4.76**	**0.56**	**0.80**	<0.05	**0.10**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.58**	**0.53**	**1.83**	**4.06**	**0.28**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	**0.38**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.01**	**0.06**	**0.05**	**0.15**	**39.2**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.01**	**0.06**	**0.05**	**0.15**	**39.6**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.02**	**0.05**	**0.08**	**0.68**	**1.05**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.25**	**0.09**	**0.57**	**0.72**	**1.09**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	VNW392 VPCGBNM5-23	VNW393 VPCGBNM5-24	VNW394 VPCGBNM5-25	VNW395 VPCGBNM5-26	GW-10 VPCGBNM5-28
				Sampling date / time	15-Apr-2025 09:56	15-Apr-2025 08:39	15-Apr-2025 08:14	15-Apr-2025 09:30	16-Apr-2025 11:37
Compound	CAS Number	LOR	Unit		ES2511376-023	ES2511376-024	ES2511376-025	ES2511376-026	ES2511376-028
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		----	----	----	----	19.4
ø Total Anions	----	0.01	meq/L		38.9	33.4	56.8	26.1	----
ø Total Cations	----	0.01	meq/L		38.2	31.6	56.1	23.6	20.8
ø Ionic Balance	----	0.01	%		----	----	----	----	3.34
ø Ionic Balance	----	0.01	%		0.80	2.80	0.65	4.90	----
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		8.6	9.2	7.0	5.9	7.9

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW-15 VPCGBNM5-29	VKY GW Duplicate 1 VPCGBNM5-30	VKY GW Lab Split Dup 1 VPCGBNM5-31	----	----
				Sampling date / time	15-Apr-2025 14:50	16-Apr-2025 11:11	16-Apr-2025 11:11	----	----
					ES2511376-029	ES2511376-030	ES2511376-031	--------	--------
					Result	Result	Result	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		8.91	7.35	7.30	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		706	5620	5540	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		540	4030	3920	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		39	<1	<1	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		268	825	824	----	----
Total Alkalinity as CaCO3	----	1	mg/L		307	825	824	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		34	303	305	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		29	1360	1390	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		5	207	204	----	----
Magnesium	7439-95-4	1	mg/L		2	217	211	----	----
Sodium	7440-23-5	1	mg/L		159	731	714	----	----
Potassium	7440-09-7	1	mg/L		4	22	21	----	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	----	----
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Barium	7440-39-3	0.001	mg/L		0.022	0.130	0.134	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	0.0001	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	GW-15 VPCGBNM5-29	VKY GW Duplicate 1 VPCGBNM5-30	VKY GW Lab Split Dup 1 VPCGBNM5-31	----	----
			Sampling date / time	15-Apr-2025 14:50	16-Apr-2025 11:11	16-Apr-2025 11:11	----	----
Compound	CAS Number	LOR	Unit	ES2511376-029	ES2511376-030	ES2511376-031	--------	--------
				Result	Result	Result	----	----
EG020F: Dissolved Metals by ICP-MS - Continued								
Copper	7440-50-8	0.001	mg/L	**0.002**	**0.005**	**0.009**	**----**	**----**
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	**----**	**----**
Nickel	7440-02-0	0.001	mg/L	<0.001	**0.003**	**0.003**	**----**	**----**
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	**----**	**----**
Zinc	7440-66-6	0.005	mg/L	<0.005	**0.021**	**0.029**	**----**	**----**
Manganese	7439-96-5	0.001	mg/L	**0.012**	**0.220**	**0.220**	**----**	**----**
Molybdenum	7439-98-7	0.001	mg/L	**0.002**	<0.001	<0.001	**----**	**----**
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	**----**	**----**
Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	<0.001	**----**	**----**
Strontium	7440-24-6	0.001	mg/L	**0.213**	**3.48**	**3.47**	**----**	**----**
Tin	7440-31-5	0.001	mg/L	<0.001	<0.001	<0.001	**----**	**----**
Boron	7440-42-8	0.05	mg/L	<0.05	**0.05**	**0.05**	**----**	**----**
Iron	7439-89-6	0.05	mg/L	<0.05	**0.92**	**0.87**	**----**	**----**
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	**----**	**----**
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**0.27**	**0.81**	**0.86**	**----**	**----**
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	<0.01	**----**	**----**
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	**0.03**	**0.10**	**0.11**	**----**	**----**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.03**	**0.10**	**0.11**	**----**	**----**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser								
Filtered Total Phosphorus as P	----	0.01	mg/L	**0.12**	**0.02**	**0.01**	**----**	**----**
EK067G: Total Phosphorus as P by Discrete Analyser								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW-15 VPCGBNM5-29	VKY GW Duplicate 1 VPCGBNM5-30	VKY GW Lab Split Dup 1 VPCGBNM5-31	----	----
				Sampling date / time	15-Apr-2025 14:50	16-Apr-2025 11:11	16-Apr-2025 11:11	----	----
Compound	CAS Number	LOR	Unit		ES2511376-029	ES2511376-030	ES2511376-031	--------	--------
					Result	Result	Result	----	----
EK067G: Total Phosphorus as P by Discrete Analyser - Continued									
Total Phosphorus as P	----	0.01	mg/L		**0.12**	**0.01**	**0.02**	**----**	**----**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**7.66**	**61.2**	**62.0**	**----**	**----**
ø Total Cations	----	0.01	meq/L		**7.43**	**60.5**	**59.1**	**----**	**----**
ø Ionic Balance	----	0.01	%		**1.51**	**0.50**	**2.38**	**----**	**----**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	**----**	**----**
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**9.0**	**8.7**	**8.7**	**----**	**----**

GROUND WATER MONITORING

Client: **Whitehaven Coal - Vickery Project**

Sampled By: GD/GH

Project: **Quarterly Groundwater Sampling** (Jan, Apr, Jul, Oct)

Signed:

Meters need to be checked every 24 hours

*Data saved into Field Downloads folder or emailed to monitoringresults@cbased.com.au

Date	Field pH/EC/ Temp meter #	Calibation checked (record details on F305)	Field Redox meter #	Calibation checked (record details on F323)	Field Laptop #	VWP data files transferred*	Weather conditions (eg. sunny, rain)	Any Health/safety issues on site (If yes, detail under Comments)	Field Tech Initials	
		Y / N		Y / N		Y / N				
		Y / N		Y / N		Y / N				
		Y / N		Y / N		Y / N				
		Y / N		Y / N		Y / N				
		Y / N		Y / N		Y / N				

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 250ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
GW-11	24/4/25	0915			45.25	0.3	16.50		GS LF HF HS	7.15	4.75mS	21.7		NIL	C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
~~GW-13~~									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
~~GW-14~~									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
~~GW-2~~									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
~~GW-6~~									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
GW-7	24/4/25	1305			48.54	0.34	27.25		GS LF HF HS	8.91	4.47mS	25.0		NIL	C S T	C O Bk Bn Gn Gy	Y/N	Y/N	6	1	1	1	
GW-8	24/4/25	1105			—		23.29		GS LF HF HS	5.28	4.20mS	21.7		NIL	C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
GW-9	22/4/25	1353	? Y / N	Y N	—	0.64	17.56		GS LF HF HS	7.52	487µS	22.5	-120	NIL	C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
GW01	23/4/25	0807	ML Y / N	Y N	32.80	0.52	9.21	8.20	GS LF HF HS	7.33	244mS	18.3	-22	NIL	C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
~~GW02~~			ML Y / N	Y/N		0.45		7.45	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
~~GW03~~			VL Y / N	Y/N				6.42	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
~~MB01~~								28.03	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
~~MB02~~								40.98	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
SB01	22.4.25	1041			23.18	0.9	7.70	6.37	GS LF HF HS	7.30	1788µS	19.6	-2	NIL	C S T	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Bn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still → Trickle → Slow → Steady → Fast
Bottles: GP = Green Plastic, RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

pH 7 buffer check required every 10 samples - If the Difference is over 0.2, recalibrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

GROUND WATER MONITORING

Client: Whitehaven Coal - Vickery Project

Sampled By: GD/BH

Project: Quarterly Groundwater Sampling (Jan, Apr, Jul, Oct)

Signed:

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 500ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
SB02	22/4/25	1436			21.35	0.4	9.96	9.84	GS LF HF HS	7.48	6.87mS	23.1	-119	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
~~SB04~~						~~0.8~~		~~8.34~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
SB05	22-4-25	1135			-	0.75	8.44	7.10	GS LF HF HS	7.70	3.30mS	20.2	-103	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
SB06	22-4-25	1245			20.92	0.3	9.32	8.43	GS LF HF HS	8.12	2.93mS	21.0	-159	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	TO TURBID TO FILTER - LAB TO FILTER
~~SB07~~			~~WS - Y / N~~					~~8.01~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~SB08~~						~~0.6~~		~~8.73~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
SB09	22-4-25	1053			20.38	0.5	7.79	6.36	GS LF HF HS	7.55	1054uS	20.0	-22	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
SB10	22-4-25	1120			18.10	1	8.50	7.45	GS LF HF HS	7.49	1839uS	19.8	-27	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
SB11	22/4/25	1304			30.24	0.25	9.35	8.10	GS LF HF HS	7.61	1144uS	22.9	31	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
SB15	23/4/25	0829			32.25	0.8	9.55	8.18	GS LF HF HS	6.84	1032uS	20.1	22	NIL	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
~~TR18~~						~~0.87~~		~~13.04~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~TR30~~								~~12.44~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~TR35~~								~~18.16~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~TR7~~						~~0.72~~		~~9.85~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~VKY035C~~			~~WS - Y / N~~			~~0.51~~		~~42.37~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~VKY036C~~			~~WS - Y / N~~			~~0.68~~		~~49.23~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~VKY042C~~			~~WS - Y / N~~			~~0.75~~		~~42.68~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~VKY034C~~			~~WS - Y / N~~			~~0.78~~		~~39.79~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~VKY041C~~			~~RST (#101508 - SN 02023) Y / N~~	~~Y / N~~																			
			~~RST (#101340 - SN 02027) Y / N~~	~~Y / N~~																			
~~VKY043C~~						~~0.96~~		~~16.41~~	~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~	~~Y / N~~	~~Y / N~~	~~1~~	~~1~~	~~1~~	~~1~~	
~~VKY33C~~			~~RST (#2029) - Y / N~~	~~Y / N~~																			
			~~RST(#2087) - Y / N~~	~~Y / N~~																			
VKY3053C	24/4/25	1120	RST - Y N	Y / N																			

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Bn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still → Trickle → Slow → Steady → Fast
Bottles: GP = Green Plastic, RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

pH 7 buffer check required every 10 samples - if the Difference is over 0.2, recalibrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

GROUND WATER MONITORING

Client: **Whitehaven Coal - Vickery Project**

Sampled By: GO / BH

Project: **Quarterly Groundwater Sampling** (Jan, Apr, Jul, Oct)

Signed:

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 500ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
VNW223	24/4/25	0856 (0856)				0.74	21.44		GS LF HF HS	7.14	4.57mS	21.6		N/C	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
VNW390								9.38	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VNW391								7.80	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VNW392								6.25	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VNW393								10.64	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VNW394								8.73	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VNW395			? - Y / N	Y / N		0.56		7.43	GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
VS049			ML - Y / N	Y / N																			
VS064			VL - Y / N	Y / N																			
VS066			ML (#1765) - Y / N	Y / N																			
			ML (#1771) - Y / N	Y / N																			
VS058	22.4.25	1334	VL (Y) N	Y (N)																			
VS059			VL - Y / N	Y / N																			
VS062			ML - Y / N	Y / N																			
WR-1	24/4/25	1240	Y / N	Y / N		1.05	14.43	13.37	GS LF HF HS	6.96	27.3mS	23.0		N/C	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
WR-2	24/4/25	1215	Y N	Y N		0.73	12.59	11.35	GS LF HF HS	6.99	26.1mS	23.0		N/C	C S T	C O Bk Bn Gn Gy	Y N	Y N	1	1	1	1	
GW036459																			1	1	1	1	No access - NSW Water locked bore
GW030051																			1	1	1	1	No access - NSW Water locked bore
GW030052																			1	1	1	1	No access - NSW Water locked bore

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Bn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still → Trickle → Slow → Steady → Fast
Bottles: GP = Green Plastic, RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

pH 7 buffer check required every 10 samples - If the Difference is over 0.2, recalibrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

GROUND WATER MONITORING

Client: **Whitehaven Coal - Vickery Project**

Sampled By: GR/GH

Project: **Quarterly Groundwater Sampling** (Jan, Apr, Jul, Oct)

Signed:

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 500ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
~~GW4~~									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
~~GW10~~									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
~~GW15~~									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
TANK GW971614	24/4/25	1449			N/A	N/A	N/A	N/A	~~GS~~ LF HF HS	7.42	681.6	22.8		NIL	C S T	C O Bk Bn Gn Gy	~~Y / N~~	~~Y / N~~	1	1	1	1	
GW971400																							
LANREEF	24/4/25	1447	—	—	HOUSE		10.71																DEP ONLY
QA Samples																							
~~VKY GW Duplicate 1~~			~~Duplicate 1 Taken From:~~						~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~			~~1~~	~~1~~	~~1~~	~~1~~	
VKY GW Duplicate 2	24/4/25		Duplicate 2 Taken From: GW11						GS LF HF HS	7.23	5.02mS	21.4		NIL	C S T	C O Bk Bn Gn Gy			1	1	1	1	
VKY GW Blank	24/4/25	0800								7.80	5.22mS			NIL	C S T	C O Bk Bn Gn Gy			1	1	1	1	
Split Duplicate samples to be split into two bottle sets. Please label one set as 'Split Dup (1/2) ALS' and one as 'Split Dup (1/2) Eurofins"																							
~~VKY GW Lab Split Dup 1~~			~~Site Split Duplicate 1 Taken From:~~						~~GS LF HF HS~~						~~C S T~~	~~C O Bk Bn Gn Gy~~			~~2~~	~~2~~	~~2~~	~~2~~	
VKY GW Lab Split Dup 2	24/4/25		Site Split Duplicate 2 Taken From: GW11						GS LF HF HS	6.33	4.92mS	22.5			C S T	C O Bk Bn Gn Gy			2	2	2	2	
																	Total Bottles:		**56**	**56**	**56**	**56**	

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Bn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still → Trickle → Slow → Steady → Fast
Bottles: GP = Green Plastic; RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

pH 7 buffer check required every 10 samples - if the Difference is over 0.2, recallbrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

* NOTE MEGAN MARTEN REQUESTED GW971614 AND THE BORE CALLED LANREEF BE RECORDED SEPERATE. THEY ARE APPROX 50-70 MMS APART AND ON THE ~~WORK~~ SAME STREAM. WE CAN DEP LANREEK BUT CANT SAMPLE UNLESS FROM A GARDEN TAP. WE CAN SAMPLE GW971614 BUT CANT DEP.

CHAIN OF CUSTODY	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE
232FA4Y	Cbased Environment al	2025-04-3014:05	5 Working Days	N o	IN X	1 OF 3

LAB USE ONLY	RECEIVED(DATE/TIME): 1/5/25 4:36	APPROPRIATELY SEALED?: YES NO	TEMPERATURE 3.8/ice	JOB #:	SIGNED

ALS P10

LABORATORY	ALS Newcastle | 5/585 Maitland Road Mayfield West 2304 NSW
SAMPLERS	CBased Environmental
QUOTE #	SYBQ-403-21v4
PO #	

SITE	Vickery
PROJECT	Vickery Quarterly Groundwaters
PROJECT MANAGER	
COMPANY	CBased Environmental Pty Ltd | PO Box 245 Cessnock NSW 2325
CONTACT PERSON	Mamie 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

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

GENERAL INSTRUCTIONS

Environmental Division
Sydney
Work Order Reference
ES2512473

Telephone : +61-2-8784 8555

#	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	2025-04-24 09:15	CYFKMESA-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	GW-7	2025-04-24 13:05	CYFKMESA-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	GW-8	2025-04-24 11:05	CYFKMESA-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	GW-9	2025-04-22 13:53	CYFKMESA-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	GW01	2025-04-23 08:07	CYFKMESA-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	SB01	2025-04-22 10:41	CYFKMESA-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	SB02	2025-04-22 14:36	CYFKMESA-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	SB05	2025-04-22 11:35	CYFKMESA-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	SB06	2025-04-22 12:45	CYFKMESA-9	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Too Turbid -Lab to Filter
10	SB09	2025-04-22 10:53	CYFKMESA-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	SB10	2025-04-22 11:20	CYFKMESA-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
12	SB11	2025-04-22 13:04	CYFKMESA-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	SB15	2025-04-23 08:29	CYFKMESA-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
14	VNW223/P-3	2025-04-24 08:56	CYFKMESA-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	WR1	2025-04-24 12:40	CYFKMESA-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	WR2	2025-04-24 12:15	CYFKMESA-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	GW971614	2025-04-24 14:49	CYFKMESA-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
18	VKY GW Duplicate 2	2025-04-24 00:00	CYFKMESA-19	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

18	VKY GW Duplicate 2	2025-04-24 00:00	CYFKMESA-19	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	VKY-GW-Blank	2025-04-24 08:00	CYFKMESA-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
20	VKY GW Lab Split Dup 2	2025-04-24 00:00	CYFKMESA-21	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY 232FA4Y **HANDED OVER BY** Cbased Environmental **HANDOVER DATE/TIME** 2025-04-30 14:05 **REQUIRED TURNAROUND** 5 Working Days **RETURN EQUIPMENT** No **EDD FORMAT** IN X **PAGE 3 OF 3**

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)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	SAMPLE INSTRUCTIONS
1	GW-11	2025-04-24 09:15	CYFKMESA-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	GW-7	2025-04-24 13:05	CYFKMESA-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	GW-8	2025-04-24 11:05	CYFKMESA-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	GW-9	2025-04-22 13:53	CYFKMESA-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	GW01	2025-04-23 08:07	CYFKMESA-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	SB01	2025-04-22 10:41	CYFKMESA-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	SB02	2025-04-22 14:36	CYFKMESA-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	SB05	2025-04-22 11:35	CYFKMESA-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	SB06	2025-04-22 12:45	CYFKMESA-9	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Too Turbid - Lab to Filter
10	SB09	2025-04-22 10:5[illegible]	CYFKMESA-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

19	VKY-GW-Blank	2025-04-24 08:00	CYFKMESA-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
20	VKY GW Lab Split Dup 2	2025-04-24 00:00	CYFKMESA-21	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	232FA4Y	**HANDED OVER BY**	Cbased Environment	**HANDOVER DATE/TIME**	2025-04-30 14:	**REQUIRED TURNAROUND**	5 Working Da	**RETURN EQUIPMENT**	N	**EDD FORMAT**	IN
Y		al		05		ys		o		X	

PAGE 2 OF 3

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

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	SAMPLE INSTRUCTIONS
1	GW-11	2025-04-24 09:15	CYFKMESA-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	GW-7	2025-04-24 13:05	CYFKMESA-2	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	GW-8	2025-04-24 11:05	CYFKMESA-3	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	GW-9	2025-04-22 13:53	CYFKMESA-4	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	GW01	2025-04-23 08:07	CYFKMESA-5	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	SB01	2025-04-22 10:41	CYFKMESA-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	SB02	2025-04-22 14:36	CYFKMESA-7	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	SB05	2025-04-22 11:35	CYFKMESA-8	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	SB06	2025-04-22 12:45	CYFKMESA-9	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Too Turbid - Lab to Filter
10	SB09	2025-04-22 10:53	CYFKMESA-10	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	SB10	2025-04-22 11:20	CYFKMESA-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
12	SB11	2025-04-22 13:04	CYFKMESA-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	SB15	2025-04-23 08:29	CYFKMESA-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
14	VNW223/P-3	2025-04-24 08:56	CYFKMESA-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	WR1	2025-04-24 12:40	CYFKMESA-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	WR2	2025-04-24 12:15	CYFKMESA-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	GW971614	2025-04-24 14:49	CYFKMESA-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

		3																		
11	SB10	2025-04-22 11:20	CYFKMESA-11	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
12	SB11	2025-04-22 13:04	CYFKMESA-12	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	SB15	2025-04-23 08:29	CYFKMESA-13	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
14	VNW223/P-3	2025-04-24 08:56	CYFKMESA-14	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	WR1	2025-04-24 12:40	CYFKMESA-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	WR2	2025-04-24 12:15	CYFKMESA-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	GW971614	2025-04-24 14:49	CYFKMESA-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
18	VKY GW Duplicate 2	2025-04-24 00:00	CYFKMESA-19	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	VKY-GW-Blank	2025-04-24 08:00	CYFKMESA-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
20	VKY GW Lab Split Dup 2	2025-04-24 00:00	CYFKMESA-21	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CERTIFICATE OF ANALYSIS

Work Order	: **ES2512473**	Page	: 1 of 14
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: All Deliverables	Contact	: Jessica Chen
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6571 3334	Telephone	: +61-2-8784 8555
Project	: Vickery Quarterly Groundwaters	Date Samples Received	: 01-May-2025 16:36
Order number	: ----	Date Analysis Commenced	: 05-May-2025
C-O-C number	: ----	Issue Date	: 12-May-2025 17:11
Sampler	: ----		
Site	: Vickery		
Quote number	: SYBQ/403/21v4 and PLANNED EVENTS		
No. of samples received	: 20		
No. of samples analysed	: 20		

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.
- EK067G/EK067FG: It is recognised that total phosphrous is less than filtered total phosphrous. However, the difference is within experimental variation of the methods.
- EK057G/EK059G: It is recognised that NOx is less than nitrite. The result has been confirmed by re-analysis from their respective bottles.
- TDS by method EA-015 sample 6 and 9 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- 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)

Compound	CAS Number	LOR	Unit	Sample ID	GW-11 CYFKMESA-1	GW-7 CYFKMESA-2	GW-8 CYFKMESA-3	GW-9 CYFKMESA-4	GW01 CYFKMESA-5
				Sampling date / time	24-Apr-2025 09:15	24-Apr-2025 13:05	24-Apr-2025 11:05	22-Apr-2025 13:53	23-Apr-2025 08:07
					ES2512473-001	ES2512473-002	ES2512473-003	ES2512473-004	ES2512473-005
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		6.32	8.55	7.61	7.44	7.08
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		4890	4660	4210	475	223
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		3040	2820	2320	346	167
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	73	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		21	1080	875	126	76
Total Alkalinity as CaCO3	----	1	mg/L		21	1150	875	126	76
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<1	354	77	40	28
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		1300	668	782	48	9
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		218	15	116	28	12
Magnesium	7439-95-4	1	mg/L		50	154	93	6	7
Sodium	7440-23-5	1	mg/L		642	632	653	64	26
Potassium	7440-09-7	1	mg/L		10	316	10	11	3
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		0.01	<0.01	<0.01	0.01	0.10
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	0.002	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		0.113	0.012	0.190	0.015	0.019
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		0.002	0.029	<0.001	0.002	0.002

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW-11 CYFKMESA-1	GW-7 CYFKMESA-2	GW-8 CYFKMESA-3	GW-9 CYFKMESA-4	GW01 CYFKMESA-5
				Sampling date / time	24-Apr-2025 09:15	24-Apr-2025 13:05	24-Apr-2025 11:05	22-Apr-2025 13:53	23-Apr-2025 08:07
					ES2512473-001	ES2512473-002	ES2512473-003	ES2512473-004	ES2512473-005
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	**0.002**	**0.003**	**0.002**	**0.006**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.059**	<0.005	<0.005	<0.005	<0.005
Manganese	7439-96-5	0.001	mg/L		**1.06**	**0.021**	**0.104**	**0.866**	**0.206**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**3.09**	**0.298**	**2.41**	**0.484**	**0.237**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L		**0.14**	**0.20**	**0.08**	**0.11**	<0.05
Iron	7439-89-6	0.05	mg/L		**10.2**	<0.05	**1.21**	**0.87**	**0.12**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**1.97**	**0.78**	**0.78**	**0.94**	**0.15**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	**0.13**	<0.01	**0.05**	**0.01**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.03**	**0.07**	**0.05**	<0.01	**0.65**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.03**	**0.20**	**0.05**	**0.03**	**0.66**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		<0.01	**0.03**	**0.22**	**0.08**	**0.19**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	**0.07**	**0.83**	**0.22**	**0.22**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW-11 CYFKMESA-1	GW-7 CYFKMESA-2	GW-8 CYFKMESA-3	GW-9 CYFKMESA-4	GW01 CYFKMESA-5
				Sampling date / time	24-Apr-2025 09:15	24-Apr-2025 13:05	24-Apr-2025 11:05	22-Apr-2025 13:53	23-Apr-2025 08:07
Compound	CAS Number	LOR	Unit		ES2512473-001	ES2512473-002	ES2512473-003	ES2512473-004	ES2512473-005
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**37.1**	**49.2**	**41.1**	**4.70**	**2.36**
ø Total Cations	----	0.01	meq/L		**43.2**	**49.0**	**42.1**	**4.96**	**2.38**
ø Ionic Balance	----	0.01	%		**7.58**	**0.20**	**1.15**	**2.61**	**----**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.7**	**8.9**	**5.5**	**8.2**	**8.6**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB01 CYFKMESA-6	SB02 CYFKMESA-7	SB05 CYFKMESA-8	SB06 CYFKMESA-9	SB09 CYFKMESA-10
				Sampling date / time	22-Apr-2025 10:41	22-Apr-2025 14:36	22-Apr-2025 11:35	22-Apr-2025 12:45	22-Apr-2025 10:53
					ES2512473-006	ES2512473-007	ES2512473-008	ES2512473-009	ES2512473-010
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.63	7.88	8.05	8.11	7.88
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		1630	7320	3440	3010	952
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		1060	4550	2100	2780	627
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		568	921	768	382	458
Total Alkalinity as CaCO3	----	1	mg/L		568	921	768	382	458
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		180	1110	380	359	59
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		167	1250	449	516	27
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		106	82	26	25	52
Magnesium	7439-95-4	1	mg/L		66	68	20	27	30
Sodium	7440-23-5	1	mg/L		226	1510	732	608	153
Potassium	7440-09-7	1	mg/L		2	2	<1	<1	2
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		0.002	0.010	0.004	0.004	<0.001
Barium	7440-39-3	0.001	mg/L		0.122	0.031	0.059	0.058	0.070
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	0.006	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB01 CYFKMESA-6	SB02 CYFKMESA-7	SB05 CYFKMESA-8	SB06 CYFKMESA-9	SB09 CYFKMESA-10
				Sampling date / time	22-Apr-2025 10:41	22-Apr-2025 14:36	22-Apr-2025 11:35	22-Apr-2025 12:45	22-Apr-2025 10:53
					ES2512473-006	ES2512473-007	ES2512473-008	ES2512473-009	ES2512473-010
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.002**	**0.002**	<0.001	**0.003**	**0.001**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Manganese	7439-96-5	0.001	mg/L		**0.519**	**0.489**	**0.224**	**0.302**	**0.394**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	**0.003**	**0.003**	**0.005**	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**2.17**	**2.15**	**0.633**	**0.904**	**0.982**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L		**0.08**	**0.15**	**0.17**	**0.14**	**0.08**
Iron	7439-89-6	0.05	mg/L		**0.16**	**1.14**	**0.16**	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.05**	**0.12**	**0.08**	**0.14**	**0.17**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	**0.05**	**0.04**	**2.06**	**0.02**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	**0.05**	**0.04**	**2.06**	**0.02**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.12**	**0.43**	**0.05**	**1.15**	**0.13**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.13**	**0.42**	**0.06**	**1.64**	**0.13**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SB01 CYFKMESA-6	SB02 CYFKMESA-7	SB05 CYFKMESA-8	SB06 CYFKMESA-9	SB09 CYFKMESA-10
				Sampling date / time	22-Apr-2025 10:41	22-Apr-2025 14:36	22-Apr-2025 11:35	22-Apr-2025 12:45	22-Apr-2025 10:53
Compound	CAS Number	LOR	Unit		ES2512473-006	ES2512473-007	ES2512473-008	ES2512473-009	ES2512473-010
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**19.8**	**76.8**	**35.9**	**29.7**	**11.1**
ø Total Cations	----	0.01	meq/L		**20.6**	**75.4**	**34.8**	**29.9**	**11.8**
ø Ionic Balance	----	0.01	%		**1.97**	**0.89**	**1.61**	**0.42**	**2.75**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.3**	**8.7**	**8.7**	**7.6**	**8.4**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB10 CYFKMESA-11	SB11 CYFKMESA-12	SB15 CYFKMESA-13	VNW223/P-3 CYFKMESA-14	WR1 CYFKMESA-15
				Sampling date / time	22-Apr-2025 11:20	22-Apr-2025 13:04	23-Apr-2025 08:29	24-Apr-2025 08:56	24-Apr-2025 12:40
					ES2512473-011	ES2512473-012	ES2512473-013	ES2512473-014	ES2512473-015
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.81	7.93	7.72	7.74	7.23
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		1710	1050	999	4600	26400
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		1120	728	658	2660	19700
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		612	479	460	892	633
Total Alkalinity as CaCO3	----	1	mg/L		612	479	460	892	633
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		172	76	84	266	1120
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		159	35	34	823	8070
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		48	37	78	138	1180
Magnesium	7439-95-4	1	mg/L		37	25	44	104	794
Sodium	7440-23-5	1	mg/L		341	208	114	770	3880
Potassium	7440-09-7	1	mg/L		<1	2	<1	7	11
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		0.069	0.055	0.073	0.102	0.128
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	0.0002
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	0.005	0.002	0.014	2.35

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB10 CYFKMESA-11	SB11 CYFKMESA-12	SB15 CYFKMESA-13	VNW223/P-3 CYFKMESA-14	WR1 CYFKMESA-15
				Sampling date / time	22-Apr-2025 11:20	22-Apr-2025 13:04	23-Apr-2025 08:29	24-Apr-2025 08:56	24-Apr-2025 12:40
					ES2512473-011	ES2512473-012	ES2512473-013	ES2512473-014	ES2512473-015
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	**0.004**
Nickel	7440-02-0	0.001	mg/L		<0.001	**0.001**	<0.001	**0.004**	**0.094**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	**0.005**	**0.011**	**0.038**	**0.018**
Manganese	7439-96-5	0.001	mg/L		**0.136**	**0.047**	**0.006**	**0.026**	**0.248**
Molybdenum	7439-98-7	0.001	mg/L		**0.001**	<0.001	<0.001	<0.001	**0.002**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	**0.002**
Strontium	7440-24-6	0.001	mg/L		**1.13**	**0.840**	**1.52**	**2.31**	**30.1**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L		**0.11**	**0.08**	**0.07**	**0.08**	**0.18**
Iron	7439-89-6	0.05	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	**0.0037**
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.06**	**0.02**	**0.01**	**0.02**	**0.42**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	**0.01**	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.03**	**0.31**	**0.28**	**4.70**	**0.05**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.03**	**0.31**	**0.28**	**4.71**	**0.05**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.13**	**0.16**	**0.06**	**0.15**	**0.22**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.14**	**0.16**	**0.07**	**0.16**	**0.21**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SB10 CYFKMESA-11	SB11 CYFKMESA-12	SB15 CYFKMESA-13	VNW223/P-3 CYFKMESA-14	WR1 CYFKMESA-15
				Sampling date / time	22-Apr-2025 11:20	22-Apr-2025 13:04	23-Apr-2025 08:29	24-Apr-2025 08:56	24-Apr-2025 12:40
Compound	CAS Number	LOR	Unit		ES2512473-011	ES2512473-012	ES2512473-013	ES2512473-014	ES2512473-015
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**20.3**	**12.1**	**11.9**	**46.6**	**264**
ø Total Cations	----	0.01	meq/L		**20.3**	**13.0**	**12.5**	**49.1**	**293**
ø Ionic Balance	----	0.01	%		**0.05**	**3.43**	**2.35**	**2.66**	**5.33**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.5**	**9.1**	**9.0**	**9.0**	**8.5**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	WR2 CYFKMESA-16	GW971614 CYFKMESA-17	VKY-GW-Blank CYFKMESA-20	VKY GW Lab Split Dup 2 CYFKMESA-21	VKY GW Duplicate 2 CYFKMESA-19
				Sampling date / time	24-Apr-2025 12:15	24-Apr-2025 14:49	24-Apr-2025 08:00	24-Apr-2025 00:00	24-Apr-2025 14:49
					ES2512473-016	ES2512473-017	ES2512473-019	ES2512473-020	ES2512473-021
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.40	7.47	6.04	7.15	7.14
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		25100	622	<1	5110	5050
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		18700	430	<10	3360	3260
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		540	267	<1	97	170
Total Alkalinity as CaCO3	----	1	mg/L		540	267	<1	97	170
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		1250	31	<1	3	4
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		7660	35	<1	1310	1360
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		1160	58	<1	217	203
Magnesium	7439-95-4	1	mg/L		636	25	<1	51	52
Sodium	7440-23-5	1	mg/L		3860	56	<1	689	751
Potassium	7440-09-7	1	mg/L		21	4	<1	12	12
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	0.002	<0.001
Barium	7440-39-3	0.001	mg/L		0.208	0.021	<0.001	0.110	0.108
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	WR2 CYFKMESA-16	GW971614 CYFKMESA-17	VKY-GW-Blank CYFKMESA-20	VKY GW Lab Split Dup 2 CYFKMESA-21	VKY GW Duplicate 2 CYFKMESA-19
				Sampling date / time	24-Apr-2025 12:15	24-Apr-2025 14:49	24-Apr-2025 08:00	24-Apr-2025 00:00	24-Apr-2025 14:49
					ES2512473-016	ES2512473-017	ES2512473-019	ES2512473-020	ES2512473-021
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		**0.002**	**0.013**	<0.001	**0.001**	**0.001**
Cobalt	7440-48-4	0.001	mg/L		**0.010**	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.220**	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.015**	<0.005	<0.005	**0.007**	**0.012**
Manganese	7439-96-5	0.001	mg/L		**0.478**	**0.002**	<0.001	**1.01**	**0.974**
Molybdenum	7439-98-7	0.001	mg/L		**0.045**	<0.001	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**27.7**	**0.607**	<0.001	**3.11**	**3.17**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L		**0.13**	<0.05	<0.05	**0.13**	**0.14**
Iron	7439-89-6	0.05	mg/L		**0.88**	<0.05	<0.05	**2.25**	**1.37**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**1.41**	**0.01**	<0.01	**1.88**	**2.10**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.03**	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.20**	**0.32**	**0.07**	**0.03**	**0.03**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.23**	**0.32**	**0.07**	**0.03**	**0.03**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.13**	**0.05**	<0.01	**0.01**	<0.01
EK067G: Total Phosphorus as P by Discrete Analyser									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	WR2 CYFKMESA-16	GW971614 CYFKMESA-17	VKY-GW-Blank CYFKMESA-20	VKY GW Lab Split Dup 2 CYFKMESA-21	VKY GW Duplicate 2 CYFKMESA-19
				Sampling date / time	24-Apr-2025 12:15	24-Apr-2025 14:49	24-Apr-2025 08:00	24-Apr-2025 00:00	24-Apr-2025 14:49
Compound	CAS Number	LOR	Unit		ES2512473-016	ES2512473-017	ES2512473-019	ES2512473-020	ES2512473-021
					Result	Result	Result	Result	Result
EK067G: Total Phosphorus as P by Discrete Analyser - Continued									
Total Phosphorus as P	----	0.01	mg/L		**0.14**	**0.05**	**0.02**	**0.08**	<0.01
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**253**	**6.97**	<0.01	**39.0**	**41.8**
ø Total Cations	----	0.01	meq/L		**279**	**7.49**	<0.01	**45.3**	**47.4**
ø Ionic Balance	----	0.01	%		**4.85**	**3.61**	**----**	**7.53**	**6.21**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**7.9**	**9.4**	**10.0**	**8.7**	**7.1**

GROUND WATER MONITORING

Client: **Whitehaven Coal - Vickery Project**

Sampled By: GS

Project: **Quarterly Groundwater Sampling** (Jan, Apr, Jul, Oct)

Signed:

Site	Date	Time	Logger Downloaded	Logger Batteries Replaced	Bore Total Depth (m)	Standpipe TOC to Ground (m) height	Depth to Water (m)	Typical Depth (m)	Sampling Method	Field pH	Field EC	Temp. (°C)	Redox (mV)	Odour	Water Turbidity	Water Colour	Monitoring bore in good condition (note any damage under comments)	Photo taken	Bottles: 500ml GP	Bottles: RP (filt.)	Bottles: PP	Bottles: PG	Comments
GW-4									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW-10									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW-15									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
GW971614									GS LF HF HS						C S T	C O Bk Bn Gn Gy	Y / N	Y / N	1	1	1	1	
3=GW971400	2/5	0848	—	—	—	—	10.39	12mc	GS LF HF HS BORE	6.45	2159 uS	18.2	59	NEL	CST	C O Bk Bn Gn Gy	Y/N	Y/N	1	1	1	1	
QA Samples																							
VKY GW Duplicate 1			Duplicate 1 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			1	1	1	1	
VKY GW Duplicate 2			Duplicate 2 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			1	1	1	1	
VKY GW Blank															C S T	C O Bk Bn Gn Gy			1	1	1	1	
Split Duplicate samples to be split into two bottle sets. Please label one set as 'Split Dup (1/2) ALS' and one as 'Split Dup (1/2) Eurofins"																							
VKY GW Lab Split Dup 1			Site Split Duplicate 1 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			2	2	2	2	
VKY GW Lab Split Dup 2			Site Split Duplicate 2 Taken From:.....						GS LF HF HS						C S T	C O Bk Bn Gn Gy			2	2	2	2	
																	Total Bottles:		**56**	**56**	**56**	**56**	

ML = Mini Logger
QL = Quattro Logger
VL = V-Logger
WS = Win Situ (Rugged Troll)
RST = RST Logger

GS=Grab Sample with Bailer,
LF=Low Flow Sampling,
HF=High Volume Pumping,
HS = Hydrasleeve (CIRCLE)

CBased Sampling Method: M105 - Groundwater Sampling
Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)
Colour: C=Colourless, O=Orange, Bk = Black, Bn=Brown, Gn=Green, Gy = Grey (CIRCLE)
Flow Rate: Still → Trickle → Slow → Steady → Fast
Bottles: GP = Green Plastic, RP = Red Plastic, (filt. = filtered), PP = Purple Plastic, BP = Blue Plastic, YP = Yellow Plastic, OG = Orange Glass, PG = Purple Glass, BG = Brown Glass, MP = Maroon Plastic, PV = Purple Vial, ST = Sterile

pH 7 buffer check required every 10 samples - if the Difference is over 0.2, recalibrate using Form F305 (2 point calibration)

Date	Time	pH reading	Recalibration required? (Yes/No)	Date	Time	pH reading	Recalibration required? (Yes/No)
			Yes/No				Yes/No
			Yes/No				Yes/No

Transport conditions ☐ Esky with Ice
☐ Other (Provide details)

CHAIN OF CUSTODY	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE 1 OF
HG2UD6RU	Cbased Environmental al	2025-05-05 14:33	5 Working Days	N o	IN X	4

LAB USE ONLY	RECEIVED (DATE/TIME): 12/5/25 4pm	APPROPRIATELY SEALED?: YES NO	TEMPERATURE: 4·1 ice	JOB #:	SIGNED:

ALS PO

LABORATORY	ALS Newcastle | 5/585 Maitland Road Mayfield West 2304 NSW
SAMPLERS	CBased Environmental
QUOTE #	SYBQ-403-21 v4
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	GW971400	2025-05-02 08:48	KQZPJYVZ-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

pH/ec/alk @ EN rec: e.c 13/5 19:30

Rel: CM 1700 13.05

LAB OF ORIGIN:
NEWCASTLE

E-MAILED

Environmental Division
Sydney
Work Order Reference
ES2513704

Telephone : +61-2-8784 8555

CHAIN OF CUSTODY	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE 2 OF
HG2UD6RU	Cbased Environmental	2025-05-05 14:33	5 Working Days	N	IN	4

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO3 Q. Total anions R. Total Cations S. Total Phosphorus as P T. Alkalinity (total) U. Aluminium (dissolved) V. Antimony (dissolved) W. Arsenic (dissolved) X. Barium (dissolved) Y. Boron (dissolved) Z. Cadmium (dissolved) AA. Calcium (dissolved) AB. Chloride AC. Chromium (dissolved) AD. Cobalt (dissolved)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	SAMPLE INSTRUCTIONS
1	GW971400	2025-05-02 08:48	KQZPJYVZ-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

LAB OF ORIGIN:
NEWCASTLE

E-MAILED

CHAIN OF CUSTODY	HG2UD6R	HANDED OVER BY	Cbased Environment	HANDOVER DATE/TIME	2025-05-05 14:	REQUIRED TURNAROUND	5 Working Da	RETURN EQUIPMENT	N	EDD FORMAT	IN	PAGE 3 OF
U		al		33		ys		o		X		4

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

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	SAMPLE INSTRUCTIONS
1	GW971400	2025-05-02 08:48	KQZPJYVZ-1	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

LAB OF ORIGIN:
NEWCASTLE
E-MAILED

CHAIN OF CUSTODY	HG2UD6R	HANDED OVER BY	Cbased Environment	HANDOVER DATE/TIME	2025-05-05 14:	REQUIRED TURNAROUND	5 Working Da	RETURN EQUIPMENT	N	EDD FORMAT	IN	PAGE 4 OF
U		al		33		ys		o		X		4

						ANALYSIS REQUIRED														GENERAL INSTRUCTIONS
						AT. Zinc (dissolved)														
#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AT														SAMPLE INSTRUCTIONS
1	GW971400	2025-05-02 08:48	KQZPJYVZ-1	4	Water	X														

LAB OF ORIGIN:
NEWCASTLE

E-MAILED

CERTIFICATE OF ANALYSIS

Work Order	: **ES2513704**	Page	: 1 of 5
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: All Deliverables	Contact	: Jessica Chen
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6571 3334	Telephone	: +61-2-8784 8555
Project	: Vickery Quarterly Groundwaters	Date Samples Received	: 12-May-2025 16:00
Order number	: ----	Date Analysis Commenced	: 13-May-2025
C-O-C number	: ----	Issue Date	: 16-May-2025 17:24
Sampler	: CBased Environmental		
Site	: Vickery		
Quote number	: SYBQ/403/21v4 and PLANNED EVENTS		
No. of samples received	: 1		
No. of samples analysed	: 1		

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
Christopher Cameron	Laboratory Technician	Newcastle - Inorganics, Mayfield West, 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	GW971400 KQZPJYVZ-1	----	----	----	----
				Sampling date / time	02-May-2025 08:48	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2513704-001	--------	--------	--------	--------
					Result	----	----	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.35**	----	----	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**2050**	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**1440**	----	----	----	----
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		**427**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**427**	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**355**	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**312**	----	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**152**	----	----	----	----
Magnesium	7439-95-4	1	mg/L		**65**	----	----	----	----
Sodium	7440-23-5	1	mg/L		**267**	----	----	----	----
Potassium	7440-09-7	1	mg/L		**2**	----	----	----	----
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	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Barium	7440-39-3	0.001	mg/L		**0.041**	----	----	----	----
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		**0.005**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW971400 KQZPJYVZ-1	----	----	----	----
				Sampling date / time	02-May-2025 08:48	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2513704-001	--------	--------	--------	--------
					Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.017**	----	----	----	----
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		**0.010**	----	----	----	----
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		**1.40**	----	----	----	----
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		**0.06**	----	----	----	----
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		<0.01	----	----	----	----
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		**2.06**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**2.06**	----	----	----	----
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		**0.18**	----	----	----	----
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW971400 KQZPJYVZ-1	----	----	----	----
				Sampling date / time	02-May-2025 08:48	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2513704-001	--------	--------	--------	--------
					Result	----	----	----	----
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**24.7**	----	----	----	----
ø Total Cations	----	0.01	meq/L		**24.6**	----	----	----	----
ø Ionic Balance	----	0.01	%		**0.25**	----	----	----	----
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	----	----	----	----
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**9.7**	----	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(WATER) ED037P: Alkalinity by PC Titrator

(WATER) EA005P: pH by PC Titrator

(WATER) EA010P: Conductivity by PC Titrator

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd

CLIENT: CBased Environmental Pty Ltd

POSTAL ADDRESS: PO Box 245 CESSNOCK NSW 2325

monitoringresults@cbased.com.au,inxpreservemail@whitehavenco al.com.au, AQuiroz@whitehavencoal.com.au, HMills@whitehavencoal.com.au

SEND INVOICE TO: accounts@cbased.com.au

DATA NEEDED BY: 5 working days

REPORT NEEDED BY: 5 working days

PROJECT ID: Vickery Qly GW

QUOTE NO.: SYBQ-403-21v4

P.O. NO.:

COMMENTS/SPECIAL HANDLING/STORAGE OR DIPOSAL:

FOR LAB USE ONLY
COOLER SEAL
Yes ..... No .....
Broken ..... 0-5 Intact .....
COOLER TEMP: deg.C

Metals are field filtered unless indicated

All metals are dissolved - extra metals EG020F

INVIRON EDD required

Please enter site to enable INX upload

LABORATORY BATCH NO.:

SAMPLERS:

PHONE: 0265713334 E-MAIL: monitoringresults@cbased.com.au

REPORT FORMAT: HARD: Yes FAX: DISK: BULLETIN BOARD: E-MAIL: Yes

QC LEVEL: QCS1: QCS2: QCS3: Yes QCS4:

ANALYSIS REQUIRED

SAMPLE DATA				CONTAINER DATA		pH	EC	TDS	NT-1	NT-2	NT-4	Ammonia	Total P	Oil & Grease	W-30	B, Co, Mn (diss)	Mo, Ag, Ba (diss)	Sb, Sn, Sr (diss)	NOTES
SAMPLE ID	INX Number	DATE	TIME	TYPE & PRESERVATIVE	NO.														
GW2	VPCGBNM5-3	16/04/2025	13:58	1x 500mL GP, 1x PP, 1x PG, 1x RP(filt)	4	X	X	X	X	X	X	X	X	X	X	X	X	X	
GW4	VPCGBNM5-27	16/04/2025	13:25	1x 500mL GP, 1x PP, 1x PG, 1x RP(filt)	4	X	X	X	X	X	X	X	X	X	X	X	X	X	
GW14	VPCGBNM5-2	16/04/2025	14:38	1x 500mL GP, 1x PP, 1x PG, 1x RP(filt)	4	X	X	X	X	X	X	X	X	X	X	X	X	X	
				TOTAL BOTTLES:															

RELINQUISHED BY:

NAME : Nathan Law DATE: 23/4/25

OF: CBased Environmental TIME: 12:00

NAME : DATE: 24/4/25

OF: TIME:

RECEIVED BY

NAME : DATE: 24/4/25

OF: TIME: 4:30

NAME : Varun DATE: 24/4/25

OF: AGS TIME: 1930

METHOD OF SHIPMENT

CONSIGNMENT NOTE NO.

TRANSPORT CO. NAME. AGS plus

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinced Jar; S = Solvent Washed Acid Rinced Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; O = Other.

pH/ec/alk

Environmental Division Sydney
Work Order Reference
ES2511850

Telephone : +61-2-8784 8555

CERTIFICATE OF ANALYSIS

Work Order	: **ES2511850**	Page	: 1 of 5
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: All Deliverables	Contact	: Jessica Chen
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6571 3334	Telephone	: +61-2-8784 8555
Project	: Vickery Qly GW	Date Samples Received	: 24-Apr-2025 16:43
Order number	: ----	Date Analysis Commenced	: 24-Apr-2025
C-O-C number	: ----	Issue Date	: 12-May-2025 11:56
Sampler	: ----		
Site	:		
Quote number	: SYBQ/403/21v4 and PLANNED EVENTS		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

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

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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.

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- 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	GW2 VPCGBNM5-3	GW4 VPCGBNM5-27	GW14 VPCGBNM5-2	----	----
				Sampling date / time	16-Apr-2025 13:58	16-Apr-2025 13:25	16-Apr-2025 14:38	----	----
Compound	CAS Number	LOR	Unit		ES2511850-001	ES2511850-002	ES2511850-003	--------	--------
					Result	Result	Result	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.92**	**8.56**	**7.86**	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**1130**	**3200**	**4370**	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**766**	**2030**	**2880**	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	**82**	<1	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**489**	**1150**	**530**	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**489**	**1240**	**530**	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**22**	<1	**483**	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**92**	**358**	**860**	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**89**	**5**	**190**	----	----
Magnesium	7439-95-4	1	mg/L		**31**	**4**	**88**	----	----
Sodium	7440-23-5	1	mg/L		**154**	**787**	**548**	----	----
Potassium	7440-09-7	1	mg/L		**2**	**4**	**2**	----	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	----	----
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Arsenic	7440-38-2	0.001	mg/L		**0.002**	**0.004**	<0.001	----	----
Barium	7440-39-3	0.001	mg/L		**0.228**	**0.352**	**0.049**	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	----	----
Chromium	7440-47-3	0.001	mg/L		**0.004**	<0.001	<0.001	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW2 VPCGBNM5-3	GW4 VPCGBNM5-27	GW14 VPCGBNM5-2	----	----
				Sampling date / time	16-Apr-2025 13:58	16-Apr-2025 13:25	16-Apr-2025 14:38	----	----
Compound	CAS Number	LOR	Unit		ES2511850-001	ES2511850-002	ES2511850-003	--------	--------
					Result	Result	Result	----	----
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	----	----
Zinc	7440-66-6	0.005	mg/L		**0.008**	**0.012**	**0.077**	----	----
Manganese	7439-96-5	0.001	mg/L		**0.006**	**0.007**	**0.004**	----	----
Molybdenum	7439-98-7	0.001	mg/L		**0.001**	<0.001	<0.001	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Strontium	7440-24-6	0.001	mg/L		**0.930**	**0.179**	**2.67**	----	----
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Boron	7440-42-8	0.05	mg/L		**0.05**	**0.14**	**0.05**	----	----
Iron	7439-89-6	0.05	mg/L		<0.05	<0.05	<0.05	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.04**	**0.39**	**0.02**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	**0.02**	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.47**	**0.03**	**0.94**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.47**	**0.03**	**0.96**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.03**	**0.09**	**0.05**	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**12.8**	**34.9**	**44.9**	----	----
ø Total Cations	----	0.01	meq/L		**13.7**	**34.9**	**40.6**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW2 VPCGBNM5-3	GW4 VPCGBNM5-27	GW14 VPCGBNM5-2	----	----
				Sampling date / time	16-Apr-2025 13:58	16-Apr-2025 13:25	16-Apr-2025 14:38	----	----
Compound	CAS Number	LOR	Unit		ES2511850-001	ES2511850-002	ES2511850-003	--------	--------
					Result	Result	Result	----	----
EN055: Ionic Balance - Continued									
ø Ionic Balance	----	0.01	%		**3.46**	**0.06**	**5.02**	**----**	**----**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	**11**	<5	**----**	**----**

CHAIN OF CUSTODY DOCUMENTATION

EUROFINS

CLIENT: CBased Environmental Pty Ltd

POSTAL ADDRESS: PO Box 245 CESSNOCK NSW 2325

monitoringresults@cbased.com.au,
AQuiroz@whitehavencoal.com.au, SEND INVOICE TO: accounts@cbased.com.au

DATA NEEDED BY: 5 working days REPORT NEEDED BY: 5 working days

PROJECT ID: Vickery Qtrly GW QUOTE NO.: **CBased-20230316-13**

P.O. NO.: COMMENTS/SPECIAL HANDLING/STORAGE OR DIPOSAL:

FOR LAB USE ONLY
COOLER SEAL
Yes ..... No .....
Broken ..... Intact .....
COOLER TEMP: deg.C

Metals are field filtered unless indicated

LABORATORY BATCH NO.:

SAMPLERS:

PHONE: 0265713334 E-MAIL: monitoringresults@cbased.com.au

REPORT FORMAT: HARD: Yes FAX: DISK: BULLETIN BOARD: E-MAIL: Yes

QC LEVEL: QCS1: QCS2: QCS3: Yes QCS4:

SAMPLE DATA				CONTAINER DATA		ANALYSIS REQUIRED																				
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH	EC	TDS	B11C	B11E	B19B	Ammonia	Total P	Oil & Grease	M12	B, Co, Mn (diss)	Ba, Sb, Sr (diss)	Al, Fe (diss)								NOTES
~~VKY Lab Split Dup 1 Eurofins~~	~~Water~~			~~1x 500mL GP, 1x PP, 1x PG, 1x RP(filt)~~	4	X	X	X	X	X	X	X	X	X	X	X	X	X								
VKY Lab Split Dup 2 Eurofins	Water	21.9.25		1x 500mL GP, 1x PP, 1x PG, 1x RP(filt)	4	X	X	X	X	X	X	X	X	X	X	X	X	X								
				TOTAL BOTTLES:																						

RELINQUISHED BY:

NAME: M. Blank DATE: 2.5.25
OF: CBased Environmental TIME: 13.57.
NAME: DATE:
OF: TIME:

RECEIVED BY

NAME: DATE: 2/5/25
OF: TIME: 3.35.
NAME: DATE:
OF: TIME:

METHOD OF SHIPMENT

CONSIGNMENT NOTE NO. 13.5

TRANSPORT CO. NAME.

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinced Jar; S = Solvent Washed Acid Rinced Glass Bottle;
VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle;
O = Other.

~~#~~ 1215424

Cbased Environmental Pty Ltd
Unit 3, 2 Enterprise Crescent
Singleton
NSW 2330

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Marni Blake**

Report **1215424-W**
Project name VICKERY QTRLY GW
Received Date May 02, 2025

Client Sample ID			**VKY Lab Split Dup 2 Eurofins**
Sample Matrix			**Water**
Eurofins Sample No.			**N25-My0008370**
Date Sampled			**Apr 24, 2025**
Test/Reference	LOR	Unit	
Ammonia (as N)	0.01	mg/L	2.0
Chloride	1	mg/L	1800
Conductivity (at 25 °C)	10	uS/cm	5000
Oil & Grease (HEM)	10	mg/L	11
pH (at 25 °C)	0.1	pH Units	7.1
Phosphate total (as P)	0.01	mg/L	0.03
Sulphate (as SO4)	2	mg/L	6.5
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	3300
Alkalinity (speciated)			
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	140
Carbonate Alkalinity (as CaCO3)	20	mg/L	< 20
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20
Total Alkalinity (as CaCO3)	20	mg/L	140
Eurofins Suite B19B: NO3/NO2/NOx			
Nitrate & Nitrite (as N)	0.05	mg/L	< 0.05
Nitrate (as N)	0.02	mg/L	0.02
Nitrite (as N)	0.02	mg/L	< 0.02
Heavy Metals			
Aluminium (filtered)	0.05	mg/L	< 0.05
Antimony (filtered)	0.005	mg/L	< 0.005
Arsenic (filtered)	0.001	mg/L	< 0.001
Barium (filtered)	0.02	mg/L	0.11
Boron (filtered)	0.05	mg/L	0.16
Cadmium (filtered)	0.0002	mg/L	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001
Cobalt (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	0.001
Iron (filtered)	0.05	mg/L	2.3
Lead (filtered)	0.001	mg/L	< 0.001
Manganese (filtered)	0.005	mg/L	0.94
Mercury (filtered)	0.0001	mg/L	< 0.0001
Molybdenum (filtered)	0.005	mg/L	< 0.005
Nickel (filtered)	0.001	mg/L	< 0.001
Selenium (filtered)	0.001	mg/L	< 0.001
Silver (filtered)	0.005	mg/L	< 0.005

Client Sample ID			VKY Lab Split Dup 2 Eurofins
Sample Matrix			**Water**
Eurofins Sample No.			**N25-My0008370**
Date Sampled			**Apr 24, 2025**
Test/Reference	LOR	Unit	
Heavy Metals			
Strontium (filtered)	0.001	mg/L	3.1
Tin (filtered)	0.005	mg/L	< 0.005
Zinc (filtered)	0.005	mg/L	0.007
Eurofins Suite B11C: Na/K/Ca/Mg			
Calcium	0.5	mg/L	190
Magnesium	0.5	mg/L	50
Potassium	0.5	mg/L	12
Sodium	0.5	mg/L	700

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Ammonia (as N)	Melbourne	May 07, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Conductivity (at 25 °C)	Newcastle	May 05, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Oil & Grease (HEM)	Melbourne	May 08, 2025	28 Days
- Method: LTM-INO-4180 Oil and Grease			
pH (at 25 °C)	Newcastle	May 05, 2025	6 Hours
- Method: LTM-GEN-7090 pH by ISE			
Phosphate total (as P)	Sydney	May 06, 2025	28 Days
- Method: E052 Total Phosphate (as P)			
Eurofins Suite B19B: NO3/NO2/NOx	Melbourne	May 07, 2025	14 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Heavy Metals (filtered)	Sydney	May 06, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Metals IWRG 621 : Metals M12 filtered	Sydney	May 06, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11C: Na/K/Ca/Mg	Sydney	May 06, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Sydney	May 06, 2025	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Sulphate (as SO4)	Sydney	May 05, 2025	28 Days
- Method: In-house method LTM-INO-4270 Sulphate by Ion Chromatograph			
Alkalinity (speciated)	Sydney	May 06, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Newcastle	May 05, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
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+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Cbased Environmental Pty Ltd
Address: Unit 3, 2 Enterprise Crescent
Singleton
NSW 2330

Project Name: VICKERY QTRLY GW

Order No.:
Report #: 1215424
Phone: 02 6571 3334
Fax:

Received: May 2, 2025 3:35 PM
Due: May 9, 2025
Priority: 5 Day
Contact Name: Marni Blake

Eurofins Analytical Services Manager : Irem Haskara

Sample Detail	Aluminium (filtered)	Ammonia (as N)	Antimony (filtered)	Barium (filtered)	Boron (filtered)	Cobalt (filtered)	Conductivity (at 25 °C)	Iron (filtered)	Manganese (filtered)	Oil & Grease (HEM)	pH (at 25 °C)	Phosphate total (as P)	Strontium (filtered)	Metals IWRG 621 : Metals M12 filtered	Eurofins Suite B19B: NO3/NO2/NOx	Eurofins Suite B11E: Cl/SO4/Alkalinity	Eurofins Suite B11C: Na/K/Ca/Mg	Total Dissolved Solids Dried at 180 °C ± 2 °C
Melbourne Laboratory - NATA # 1261 Site # 1254		X								X					X			
Sydney Laboratory - NATA # 1261 Site # 18217	X		X	X	X	X		X	X			X	X	X		X	X	
Mayfield West Laboratory - NATA # 1261 Site # 25079							X				X							X
External Laboratory																		
No / **Sample ID** / **Sample Date** / **Sampling Time** / **Matrix** / **LAB ID**																		
1 — VKY Lab Split Dup 2 Eurofins — Apr 24, 2025 — — — Water — N25-My0008370	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Test Counts	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Oil & Grease (HEM)	mg/L	< 10			10	Pass	
Phosphate total (as P)	mg/L	< 0.01			0.01	Pass	
Sulphate (as SO4)	mg/L	< 2			2	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Eurofins Suite B19B: NO3/NO2/NOx							
Nitrate & Nitrite (as N)	mg/L	< 0.05			0.05	Pass	
Nitrite (as N)	mg/L	< 0.02			0.02	Pass	
Method Blank							
Heavy Metals							
Aluminium (filtered)	mg/L	< 0.05			0.05	Pass	
Antimony (filtered)	mg/L	< 0.005			0.005	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Barium (filtered)	mg/L	< 0.02			0.02	Pass	
Boron (filtered)	mg/L	< 0.05			0.05	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Cobalt (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Iron (filtered)	mg/L	< 0.05			0.05	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Molybdenum (filtered)	mg/L	< 0.005			0.005	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Selenium (filtered)	mg/L	< 0.001			0.001	Pass	
Silver (filtered)	mg/L	< 0.005			0.005	Pass	
Strontium (filtered)	mg/L	< 0.001			0.001	Pass	
Tin (filtered)	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Eurofins Suite B11C: Na/K/Ca/Mg							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
LCS - % Recovery							
Ammonia (as N)	%	92			70-130	Pass	
Chloride	%	114			70-130	Pass	
Conductivity (at 25 °C)	%	101			70-130	Pass	
Oil & Grease (HEM)	%	118			70-130	Pass	
Phosphate total (as P)	%	101			70-130	Pass	
Sulphate (as SO4)	%	114			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Alkalinity (speciated)							
Total Alkalinity (as CaCO3)	%	118			70-130	Pass	
LCS - % Recovery							
Eurofins Suite B19B: NO3/NO2/NOx							
Nitrate & Nitrite (as N)	%	109			70-130	Pass	
Nitrite (as N)	%	93			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Aluminium (filtered)	%	94			80-120	Pass	
Antimony (filtered)	%	100			80-120	Pass	
Arsenic (filtered)	%	96			80-120	Pass	
Barium (filtered)	%	99			80-120	Pass	
Boron (filtered)	%	96			80-120	Pass	
Cadmium (filtered)	%	102			80-120	Pass	
Chromium (filtered)	%	99			80-120	Pass	
Cobalt (filtered)	%	97			80-120	Pass	
Copper (filtered)	%	96			80-120	Pass	
Iron (filtered)	%	96			80-120	Pass	
Lead (filtered)	%	100			80-120	Pass	
Manganese (filtered)	%	99			80-120	Pass	
Mercury (filtered)	%	106			80-120	Pass	
Molybdenum (filtered)	%	104			80-120	Pass	
Nickel (filtered)	%	97			80-120	Pass	
Selenium (filtered)	%	93			80-120	Pass	
Silver (filtered)	%	90			80-120	Pass	
Strontium (filtered)	%	97			80-120	Pass	
Tin (filtered)	%	100			80-120	Pass	
Zinc (filtered)	%	94			80-120	Pass	
LCS - % Recovery							
Eurofins Suite B11C: Na/K/Ca/Mg							
Calcium	%	95			80-120	Pass	
Magnesium	%	97			80-120	Pass	
Potassium	%	96			80-120	Pass	
Sodium	%	98			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Ammonia (as N)	S25-My0011543	NCP	%	79			70-130	Pass	
Chloride	N25-My0000195	NCP	%	99			70-130	Pass	
Phosphate total (as P)	N25-My0008370	CP	%	88			70-130	Pass	
Sulphate (as SO4)	N25-My0000195	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Eurofins Suite B19B: NO3/NO2/NOx				Result 1					
Nitrate & Nitrite (as N)	S25-My0011543	NCP	%	77			70-130	Pass	
Nitrite (as N)	S25-My0011543	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Aluminium (filtered)	N25-My0008370	CP	%	87			75-125	Pass	
Antimony (filtered)	N25-My0008370	CP	%	97			75-125	Pass	
Arsenic (filtered)	N25-My0008370	CP	%	88			75-125	Pass	
Barium (filtered)	N25-My0008370	CP	%	86			75-125	Pass	
Cadmium (filtered)	N25-My0008370	CP	%	92			75-125	Pass	
Chromium (filtered)	N25-My0008370	CP	%	86			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cobalt (filtered)	N25-My0008370	CP	%	83			75-125	Pass	
Copper (filtered)	N25-My0008370	CP	%	82			75-125	Pass	
Iron (filtered)	N25-My0008370	CP	%	86			75-125	Pass	
Lead (filtered)	N25-My0008370	CP	%	84			75-125	Pass	
Mercury (filtered)	N25-My0008370	CP	%	88			75-125	Pass	
Molybdenum (filtered)	N25-My0008370	CP	%	106			75-125	Pass	
Nickel (filtered)	N25-My0008370	CP	%	82			75-125	Pass	
Selenium (filtered)	N25-My0008370	CP	%	87			75-125	Pass	
Silver (filtered)	N25-My0008370	CP	%	87			75-125	Pass	
Tin (filtered)	N25-My0008370	CP	%	96			75-125	Pass	
Zinc (filtered)	N25-My0008370	CP	%	82			75-125	Pass	
Spike - % Recovery									
Eurofins Suite B11C: Na/K/Ca/Mg				Result 1					
Calcium	S25-My0010068	NCP	%	89			75-125	Pass	
Magnesium	S25-My0010068	NCP	%	90			75-125	Pass	
Potassium	S25-My0010068	NCP	%	90			75-125	Pass	
Sodium	S25-My0010068	NCP	%	89			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	S25-My0011547	NCP	mg/L	240	240	2.0	30%	Pass	
Chloride	S25-My0004701	NCP	mg/L	57	58	1.0	30%	Pass	
Phosphate total (as P)	N25-My0008370	CP	mg/L	0.03	0.03	20	30%	Pass	
Sulphate (as SO4)	S25-My0004701	NCP	mg/L	84	86	1.0	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	N25-My0008370	CP	mg/L	140	140	1.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	N25-My0008370	CP	mg/L	< 20	< 20	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	N25-My0008370	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	N25-My0008370	CP	mg/L	140	140	1.0	30%	Pass	
Duplicate									
Eurofins Suite B19B: NO3/NO2/NOx				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	S25-My0011547	NCP	mg/L	0.06	0.06	12	30%	Pass	
Nitrite (as N)	S25-My0011547	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium (filtered)	N25-My0000103	NCP	mg/L	1.6	1.7	3.0	30%	Pass	
Antimony (filtered)	N25-My0000103	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Arsenic (filtered)	N25-My0000103	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Barium (filtered)	N25-My0000103	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Boron (filtered)	N25-My0000103	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Cadmium (filtered)	N25-My0000103	NCP	mg/L	0.0004	0.0003	28	30%	Pass	
Chromium (filtered)	N25-My0000103	NCP	mg/L	0.005	0.005	13	30%	Pass	
Cobalt (filtered)	N25-My0000103	NCP	mg/L	0.001	0.001	9.0	30%	Pass	
Copper (filtered)	N25-My0000103	NCP	mg/L	0.007	0.007	2.0	30%	Pass	
Iron (filtered)	N25-My0000103	NCP	mg/L	0.23	0.26	12	30%	Pass	
Lead (filtered)	N25-My0000103	NCP	mg/L	0.011	0.011	3.0	30%	Pass	
Manganese (filtered)	N25-My0000103	NCP	mg/L	0.038	0.039	2.0	30%	Pass	
Mercury (filtered)	N25-My0000103	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Molybdenum (filtered)	N25-My0000103	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nickel (filtered)	N25-My0000103	NCP	mg/L	0.010	0.010	4.0	30%	Pass	
Selenium (filtered)	N25-My0000103	NCP	mg/L	0.002	0.002	10	30%	Pass	
Silver (filtered)	N25-My0000103	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Strontium (filtered)	N25-My0000103	NCP	mg/L	0.028	0.028	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Tin (filtered)	N25-My0000103	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Zinc (filtered)	N25-My0000103	NCP	mg/L	0.19	0.20	3.0	30%	Pass	
Duplicate									
Eurofins Suite B11C: Na/K/Ca/Mg				Result 1	Result 2	RPD			
Calcium	N25-My0008370	CP	mg/L	190	190	1.0	30%	Pass	
Magnesium	N25-My0008370	CP	mg/L	50	48	3.0	30%	Pass	
Potassium	N25-My0008370	CP	mg/L	12	12	2.0	30%	Pass	
Sodium	N25-My0008370	CP	mg/L	700	680	3.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

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Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Appendix D Quality Trigger Level Anlaysis

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review February 2025 – April 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

25 June 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
GW01	6.90	8.30	7.33	7.20	7.14	7.2	7.16	7.10	7.33
GW02	7.20	8.60	7.59	7.79	7.14	7.23	7.42	6.63	7.74
GW03	6.10	8.10	7.19	7.16	7.05	7.36	7.22	7.08	7.17
GW-10	6.70	8.40	no data	no data	no data	no data	7.57	7.36	7.92
GW-11	7.00	9.30	7.36	6.93	6.55	6.09	7.17	7.03	7.15
GW-13	6.70	8.40	no data	no data	no data	no data	7.35	7.30	7.24
GW-14	6.90	8.30	no data	no data	no data	no data	6.95	6.53	6.94
GW-15	6.90	8.30	no data	no data	no data	no data	8.97	8.85	8.96
GW-2	6.90	8.30	no data	no data	6.85	no data	6.84	6.45	6.86
GW-4	6.70	8.40	no data	no data	no data	no data	7.92	7.84	8.11
GW-6	6.70	8.40	no data	no data	no data	no data	7.73	7.52	7.60
GW-7	7.70	8.50	8.89	8.82	8.79	8.67	8.3	7.76	8.91
GW-8	6.70	8.40	7.11	7.03	6.95	6.49	7.0	6.62	5.28
GW-9	6.60	8.20	7.94	6.68	6.81	6.76	6.68	5.40	7.52
GW971400	6.90	8.30	no data	no data	no data	no data	6.8	7.08*	6.25
GW971614	6.90	8.30	no data	no data	no data	no data	6.65	7.08	7.42
MD01	6.70	8.40	11.58	11.69	10.73	9.59	8.33	8.84	8.67
MD02	6.70	8.40	6.84	6.78	6.59	6.57	6.72	6.81	6.80
SB01	6.90	8.30	7.44	7.31	7.20	7.21	7.23	7.12	7.30
SB02	6.90	8.30	7.28	7.28	7.14	7.2	7.23	7.22	7.48
SB04	6.90	8.30	7.29	7.43	7.27	7.12	7.21	7.04	7.15
SB05	6.90	8.30	2.09	7.73	7.63	7.58	7.71	7.52	7.70
SB06	6.90	8.30	7.35	7.61	7.42	7.56	7.7	7.42	8.12
SB07	6.90	8.30	7.35	7.47	7.28	7.22	7.58	7.29	7.32
SB08	6.90	8.30	7.24	7.39	7.17	7.29	7.27	7.27	7.22
SB09	6.90	8.30	3.32	7.56	7.27	7.52	7.44	7.40	7.55
SB10	6.90	8.30	7.43	7.47	7.28	7.5	7.38	7.25	7.49
SB11	6.90	8.30	7.26	7.70	7.45	7.77	7.51	7.39	7.61
SB15	6.90	8.30	7.29	7.23	7.17	7.3	7.24	7.41	6.84
TR18	6.70	8.40	6.58	6.85	6.69	6.64	6.79	6.68	6.93
TR26	6.70	8.40	7.06	7.16	7.11	6.69	6.93	6.85	7.09
TR35	6.70	8.40	6.66	6.75	6.72	6.75	6.73	6.54	6.96
TR7	7.40	7.80	6.53	7.05	6.71	6.82	6.63	6.51	6.93

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

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
GW01	10,083	1,042	1,265	1,384	1,052	738	1,244	244.0
GW02	969	731	971	926	1,065	1,016	992	872.0
GW03	811	862	888	862	947	1,004	983	872.0
GW-10	12,315	no data	no data	no data	no data	1,438	1,423	1808.0
GW-11	4,912	4,360	4,340	4,520	4,760	4,760	4,310	4750.0
GW-13	12,315	no data	no data	no data	no data	1,647	1,570	822.0
GW-14	10,083	no data	no data	no data	no data	3,840	4,260	3360.0
GW-15	10,083	no data	no data	no data	no data	638	644	680.0
GW-2	10,083	no data	no data	1,218	no data	1,226	1,339	1191.0
GW-4	12,315	no data	no data	no data	no data	2,980	2,970	2990.0
GW-6	12,315	no data	no data	no data	no data	1,459	1,256	1388.0
GW-7	5,378	4,300	4,490	4,560	4,710	4,470	4,690	4470.0
GW-8	12,315	4,290	3,950	4,000	4,100	3,930	4,350	4200.0
GW-9	12,740	6,110	3,320	5,630	1,591	1,099	1,544	487.0
GW971400	10,083	no data	no data	no data	no data	2,458	2,810*	2159
GW971614	10,083	no data	no data	no data	no data	651	608	681
MD01	12,315	1,799	1,786	1,283	1,505	1,787	1,519	1438.0
MD02	12,315	1,195	1,306	1,210	1,224	1,279	1,381	1232.0
SB01	10,083	1,541	1,716	1,698	1,756	1,869	1,851	1788.0
SB02	10,083	7,330	7,330	7,210	6,860	7,250	6,990	6870.0
SB04	10,083	2,680	3,360	1,868	2,390	2,289	3,420	2184.0
SB05	10,083	3,740	3,690	3,680	3,490	3,790	3,660	3300.0
SB06	10,083	3,280	3,460	3,410	3,440	2,790	3,160	2930.0
SB07	10,083	770	919	934	978	1,042	1,009	908.0
SB08	10,083	983	1,115	1,039	1,088	388	1,154	1035.0
SB09	10,083	949	1,014	973	1,013	1,130	1,045	1054.0
SB10	10,083	1,880	1,972	1,859	1,928	2,200	2,086	1839.0
SB11	10,083	1,080	1,021	1,048	461	1,266	1,209	1144.0
SB15	10,083	1,019	1,070	972	1,049	1,143	1,163	1052.0
TR18	12,315	13,400	13,640	12,730	15,350	13,820	13,810	13620.0
TR26	12,315	6,290	8,380	5,180	7,330	6,090	6,170	7290.0
TR35	12,315	15,300	17,330	16,740	17,260	16,690	18,320	16180.0
TR7	12,970	14,800	15,390	14,410	15,380	14,840^	15,520	15350.0

Bore	Trigger Level	Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25
VKY034C	12,315	3,590	3,850	4,030	4,170	3,970	3,910	3840.0
VKY035C	12,315	3,110	3,340	3,230	3,290	3,330	3,220	3170.0
VKY036C	12,315	5,600	5,810	5,780	5,830	6,020	2,980	5720.0
VKY042C	12,315	5,420	5,430	5,480	5,990	5,850	5,590	5510.0
VKY043C	12,315	2,990	3,410	3,410	3,290	3,050	3,240	3510.0
VNW223	10,120	5,940	no data	no data	no data	5,360	4,390	4570.0
VNW390	12,315	2,300	2,376	2,291	2,473	2,431	2,629	2330.0
VNW391	12,315	2,530	2,471	2,352	2,458	2,424	2,550	2308.0
VNW392	12,315	3,690	3,310	3,480	3,510	3,410	3,480	3340.0
VNW393	12,315	2,740	2,830	2,840	3,090	3,140	3,210	3100.0
VNW394	10,083	5,520	5,410	5,400	5,620	5,420	5,480	5520.0
VNW395	10,083	463	1,395	1,681	1,832	1,834	2,153	2280.0
WR1	10,083	no data	no data	26,500	26,800	26,800	25,400	27300.0
WR2	10,083	no data	no data	25,340	26,600	26,600	27,900	26100.0

Note: Reported as field EC value in µS/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 µS/cm to 14,840 µS/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/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25
GW01	365	96	171	132	54	111	132	28
GW02	365	77	74	81	102	79	91	89
GW03	365	52	56	58	46	54	53	62
GW-10	86	no data	no data	no data	no data	7	21	<10
GW-11	365	<1	1	<1	1	<1	3	<1
GW-13	86	no data	no data	no data	no data	24	26	<10
GW-14	365	no data	no data	no data	no data	435	462	483
GW-15	365	no data	no data	no data	no data	28	28	34
GW-2	365	no data	no data	23	no data	26	23	22
GW-4	86	no data	no data	no data	no data	15	<1	<1
GW-6	86	no data	no data	no data	no data	<1	<1	<1
GW-7	86	364	385	399	380	396	414	354
GW-8	86	no data	100	109	72	82	109	77
GW-9	86	102	128	51	25	28	<1	40
GW971400	365	no data	no data	no data	no data	425	477	355
GW971614	365	no data	no data	no data	no data	32	30	31
MD01	86	22	23	26	36	14	33	32
MD02	86	28	29	28	29	29	28	33
SB01	365	182	183	190	148	193	216	180
SB02	365	1,120	no data	1,160	741	1,110	1,280	1110
SB04	365	284	394	220	195	208	413	269
SB05	365	735	551	520	595	496	447	380
SB06	365	372	362	362	324	307	366	359
SB07	365	74	74	78	66	71	89	85
SB08	365	86	87	88	79	74	97	77
SB09	365	71	63	70	62	67	78	59
SB10	365	190	188	196	168	198	238	172
SB11	365	85	72	93	80	85	106	76
SB15	365	90	79	95	53	98	119	84
TR18	86	702	620	592	622	626	630	552
TR26	86	194	230	180	198	195	229	217
TR35	86	660	651	622	624	624	526	562
TR7	365	508	714	501	518	563	458	507

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

Note: Sulfate as SO_4 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**).

Table D-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
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
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		<0.001	<0.001	0.119	<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	0.130

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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-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-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-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-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-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-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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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-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-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
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-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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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	<).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
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
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
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
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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
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	0.10	<0.0001	<0.001	<0.001	0.002	<0.001	0.042	<0.0001	0.002	0.004	<0.01	<0.001	0.013
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

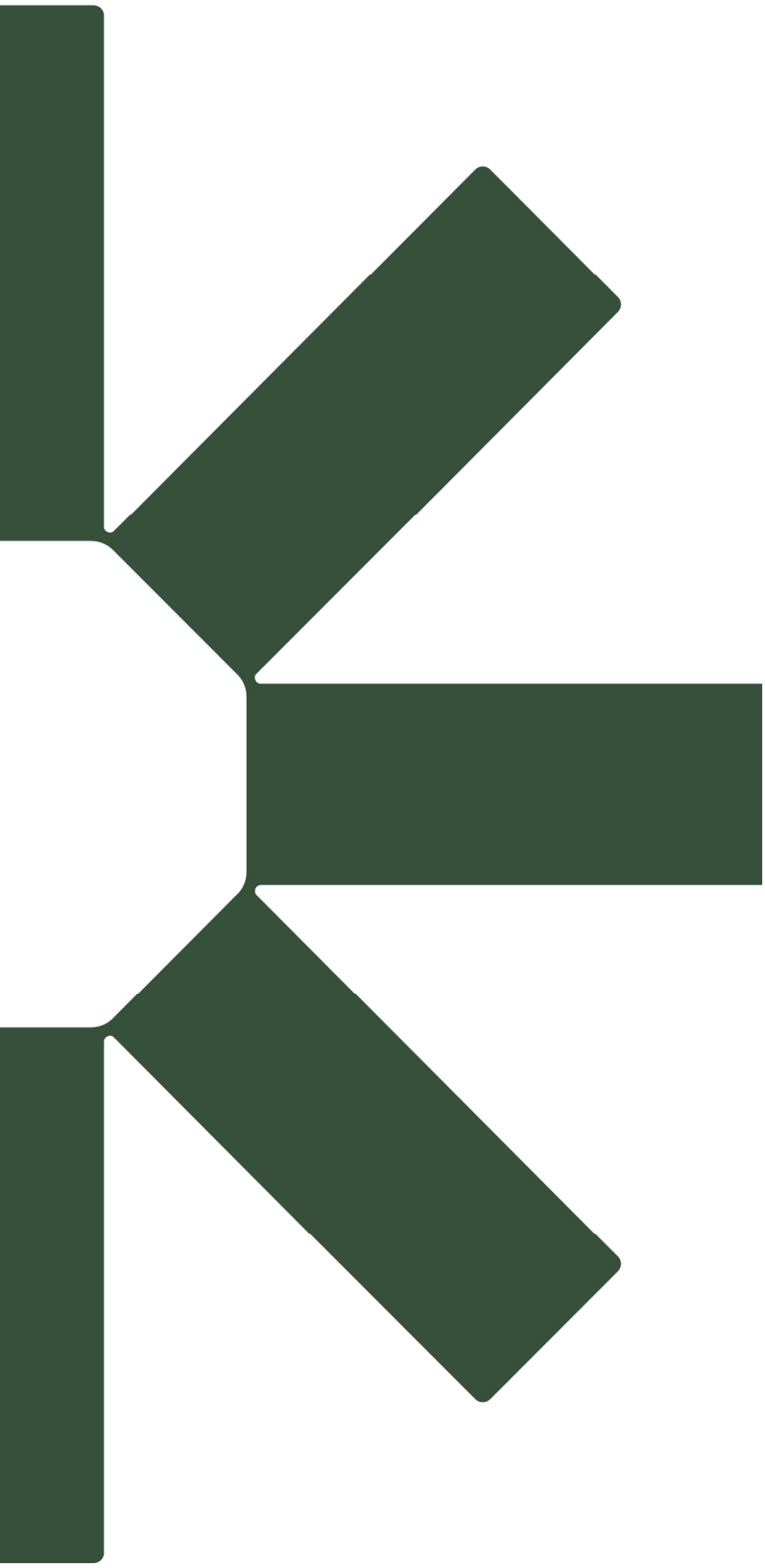
Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
TR35	Apr-25	<0.01	<0.001	<0.001	0.08	0.0002	<0.001	0.006	0.844	<0.001	0.789	<0.0001	0.004	0.067	<0.01	<0.001*	0.011
TR7	Jan-24	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	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
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
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
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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
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
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
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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
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
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
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	0.220	<0.01	<0.001*	0.015

*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

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review May 2025 – July 2025

Whitehaven Coal Ltd

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Prepared by:

SLR Consulting Australia

SLR Project No.: 640.031099.00001

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Revision	Date	Prepared By	Checked By	Authorised By
1.0	25 September 2025	Joy Xie	Sharon Hulbert	Sharon Hulbert
2.0	26 September 2025	Minor editorials	Sharon Hulbert	Sharon Hulbert

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Whitehaven Coal Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Appendices

Appendix A Trigger Action Response Plan
Appendix B Groundwater Level Results
Appendix C Groundwater Quality Results
Appendix D Quality Trigger Level Anlaysis

Acronyms and Abbreviations

CMAs	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

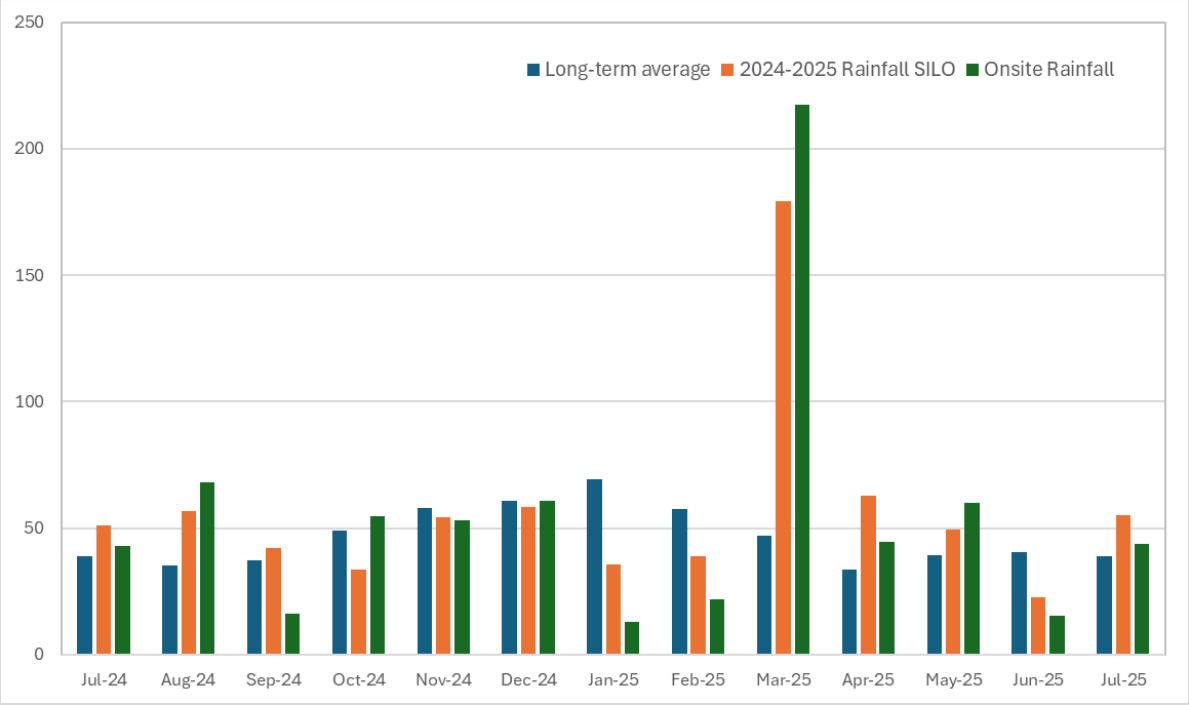


Figure 1 On-site monthly rainfall vs long-term average monthly rainfall

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).

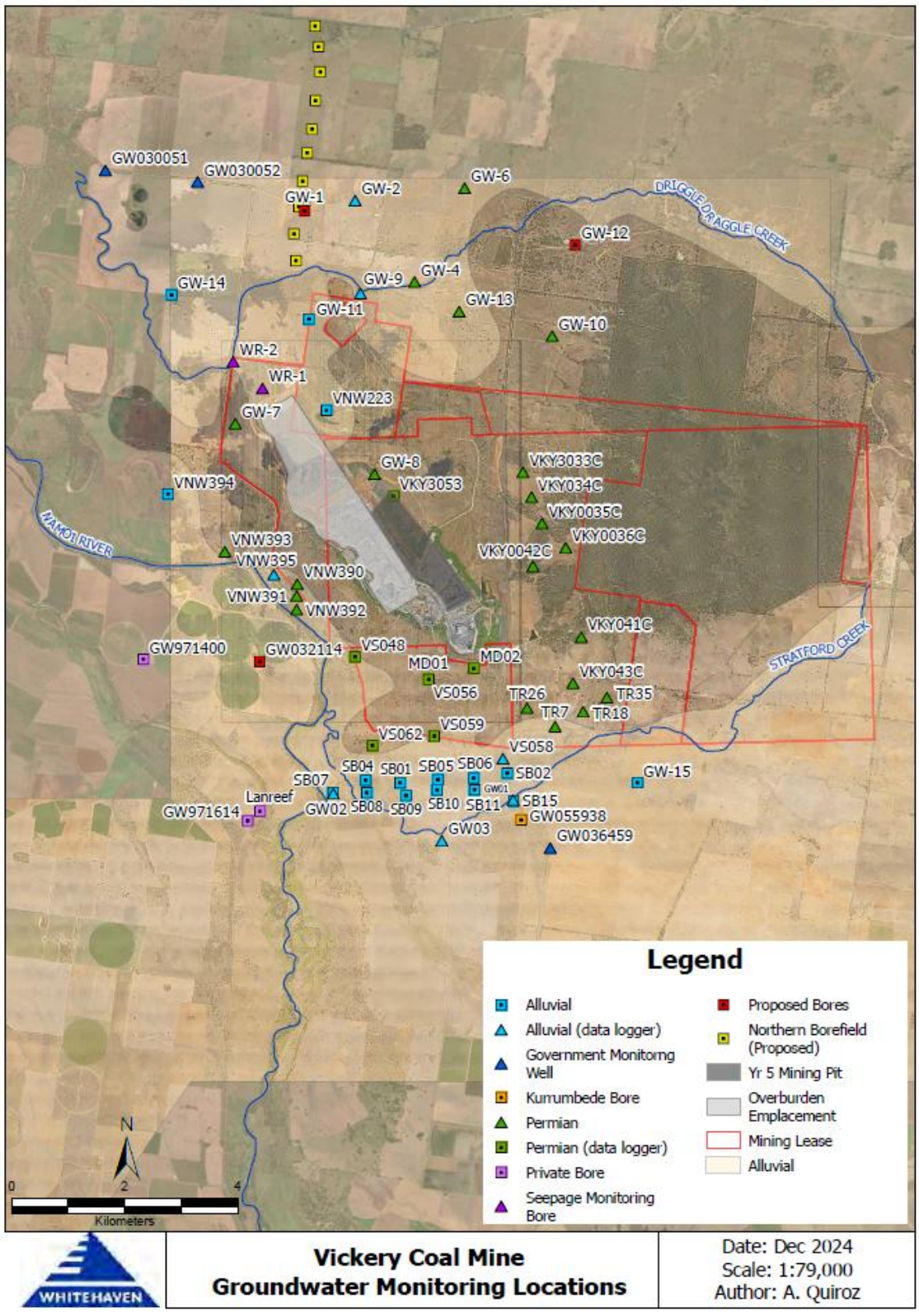


Figure 2: VCM groundwater monitoring network

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.

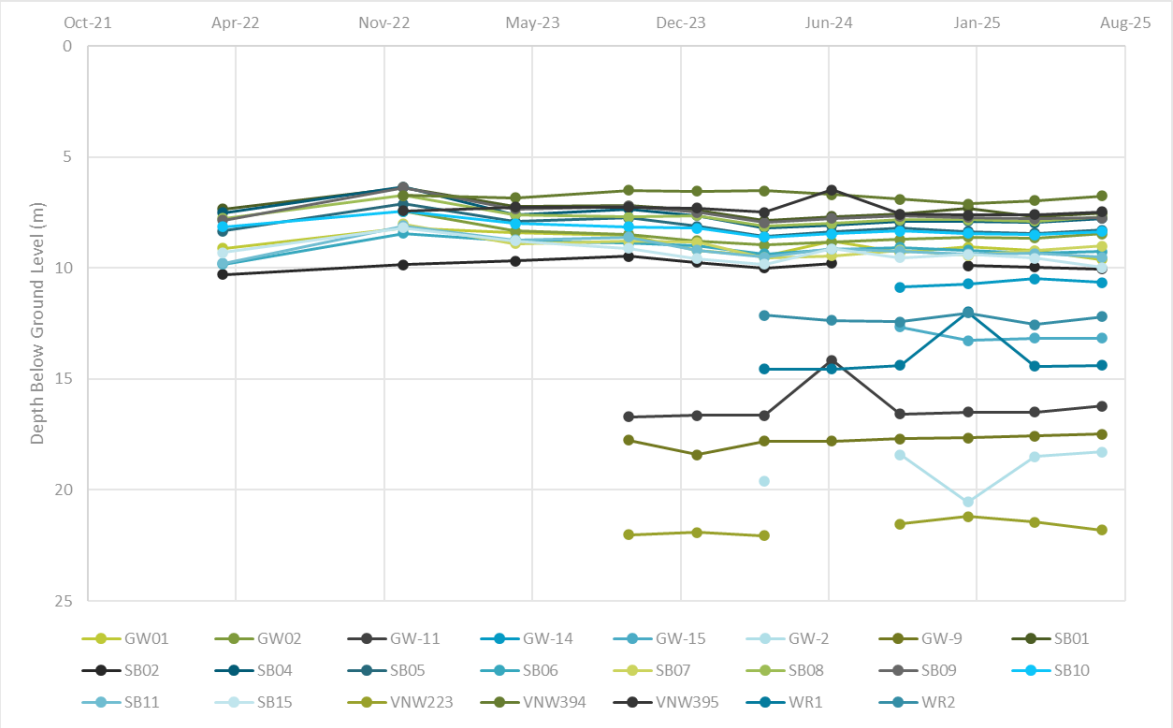


Figure 3: Alluvial bores hydrograph (manual dips, below ground level)

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.

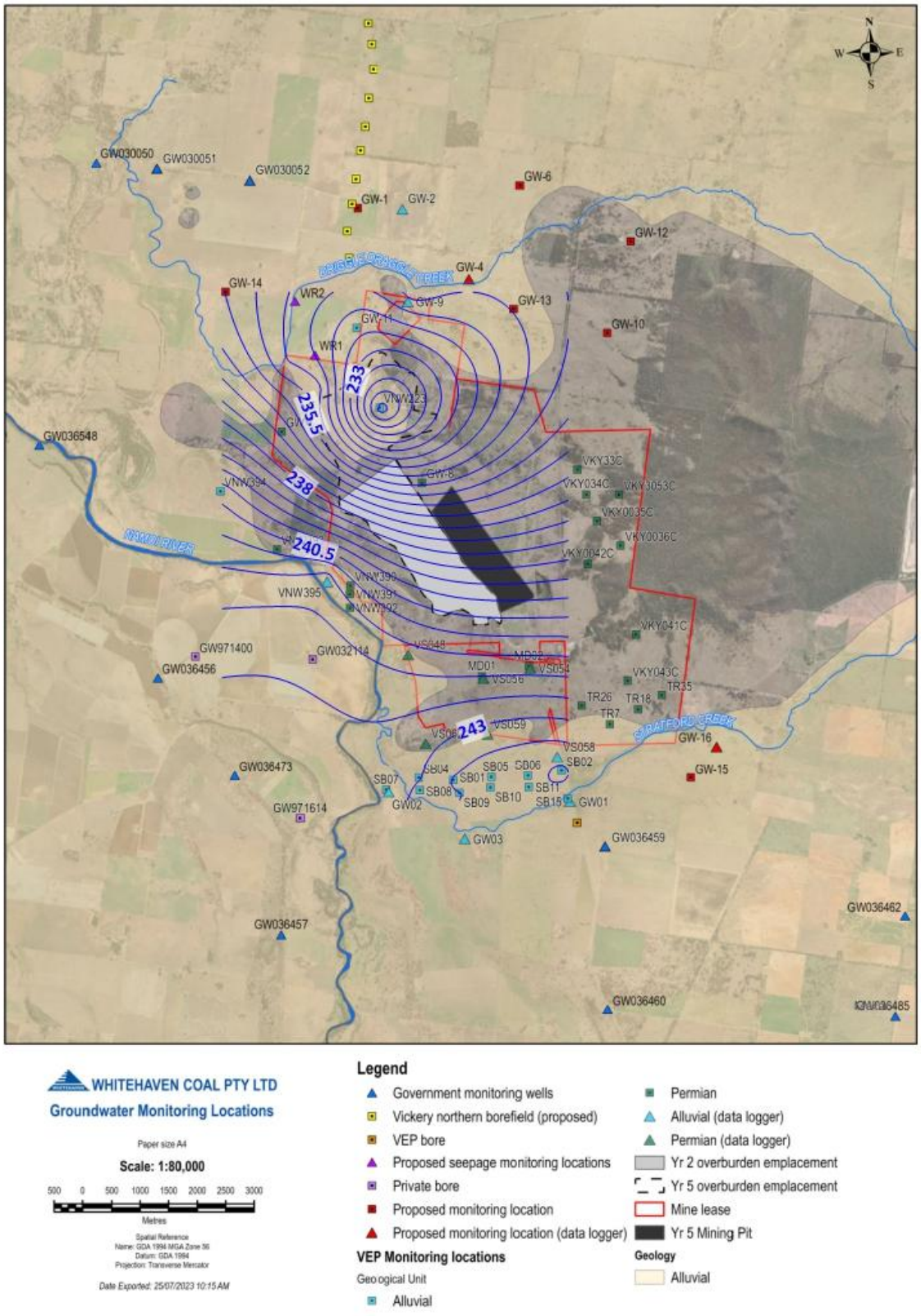


Figure 4 Alluvial groundwater contour map (July 2025)

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

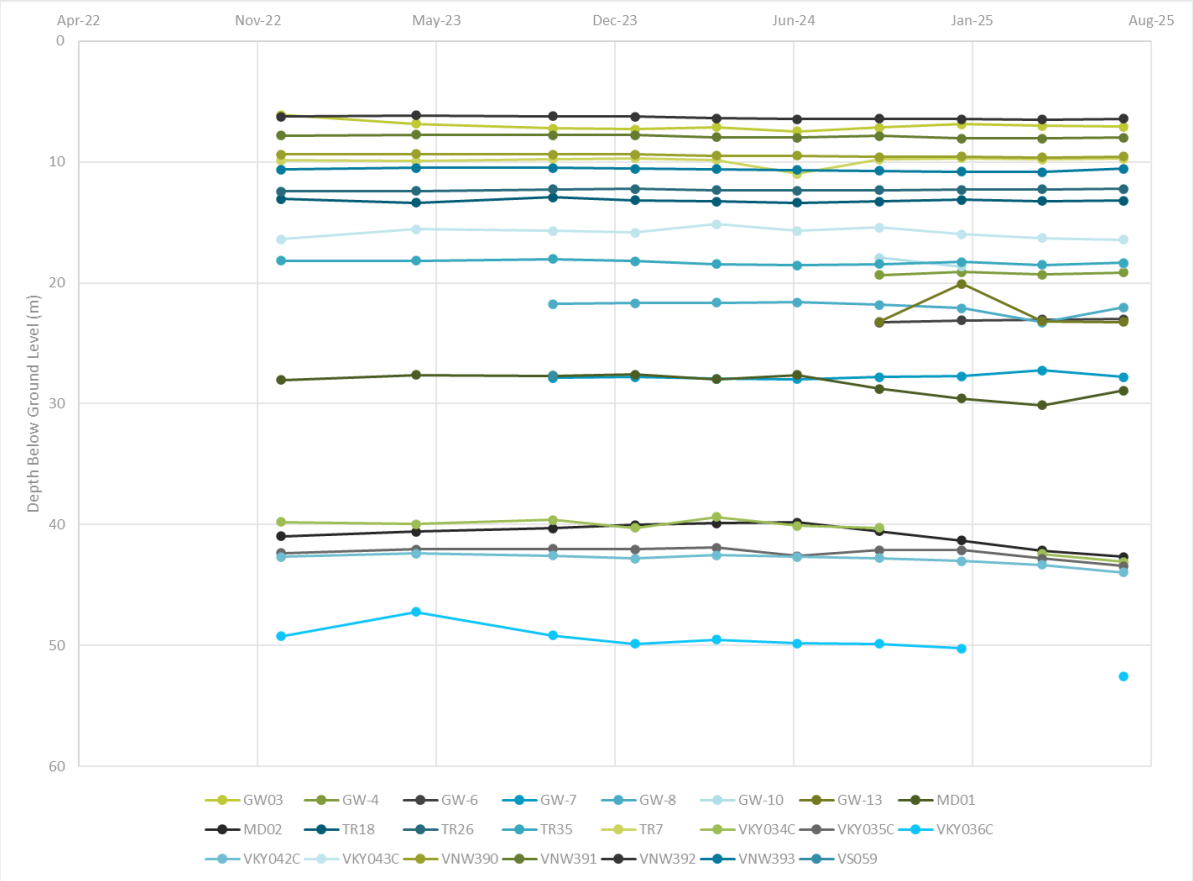


Figure 5: Permian bores hydrograph (manual dips, erroneous data removed)

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.

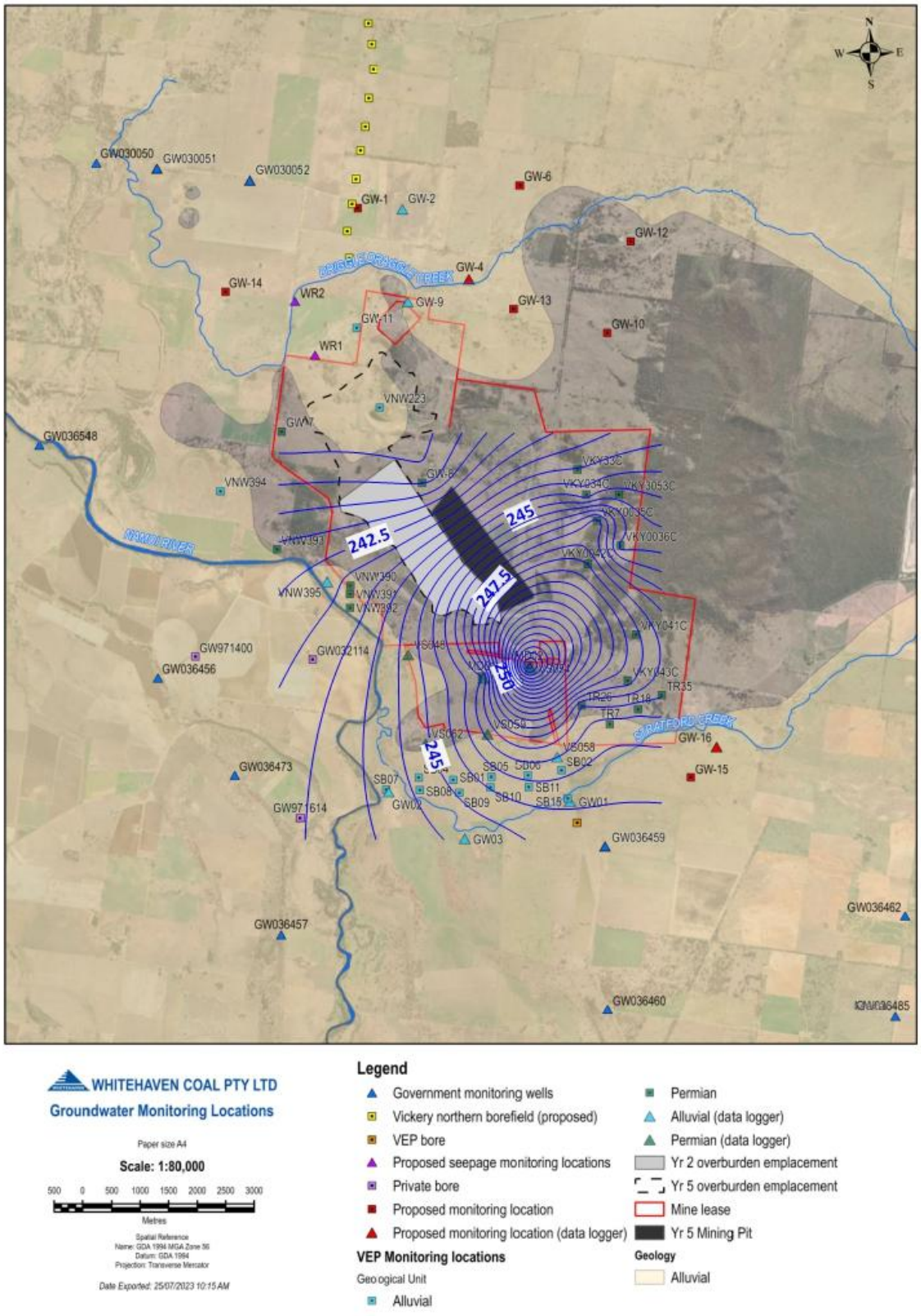


Figure 6 Permian aquifer groundwater level contour map (July 2025)

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	-

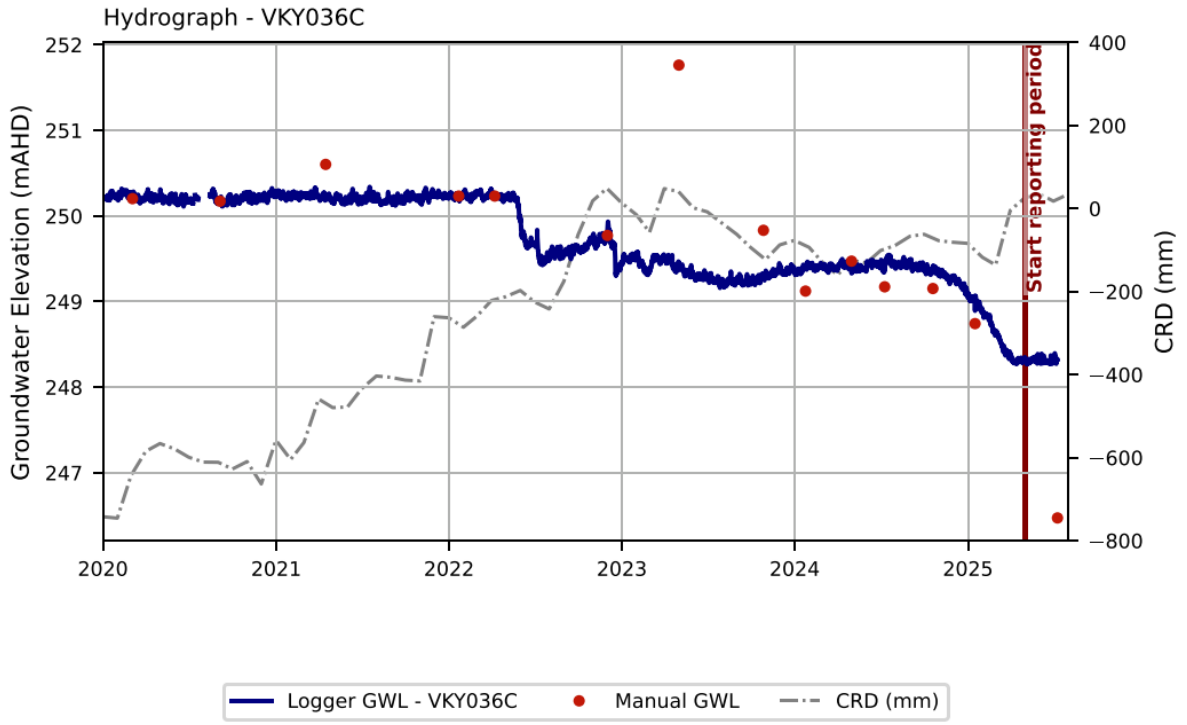


Figure 7: Logger hydrograph – VKY034C

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.

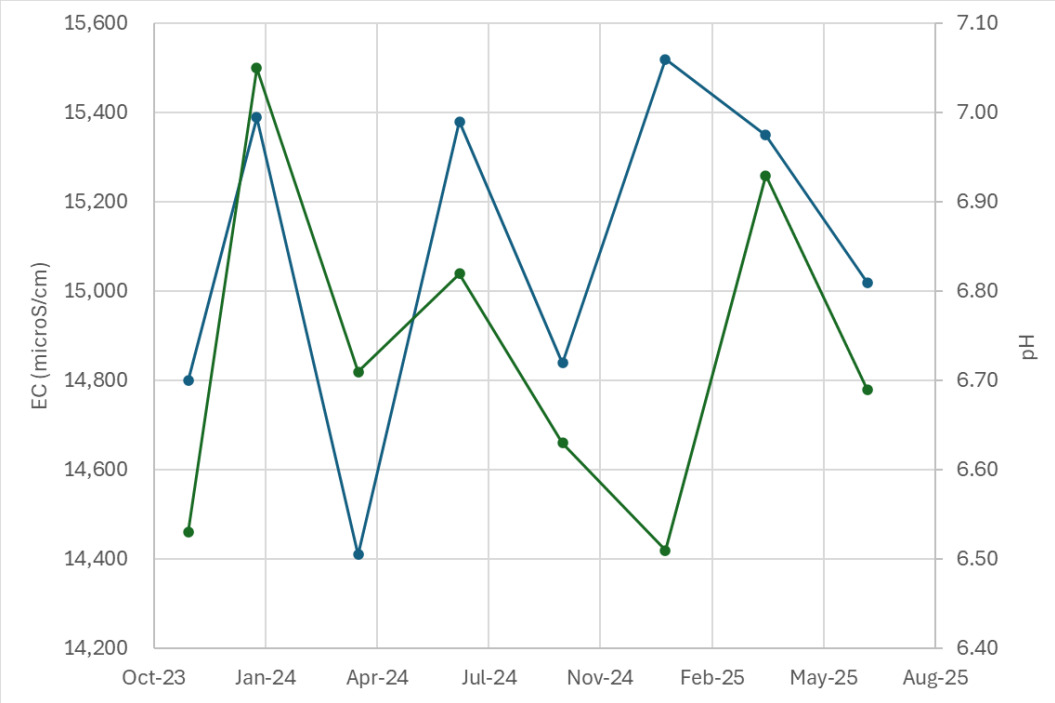


Figure 8 Temporal plot for EC and pH for TR7

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	$SO4^{2-}$	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**).



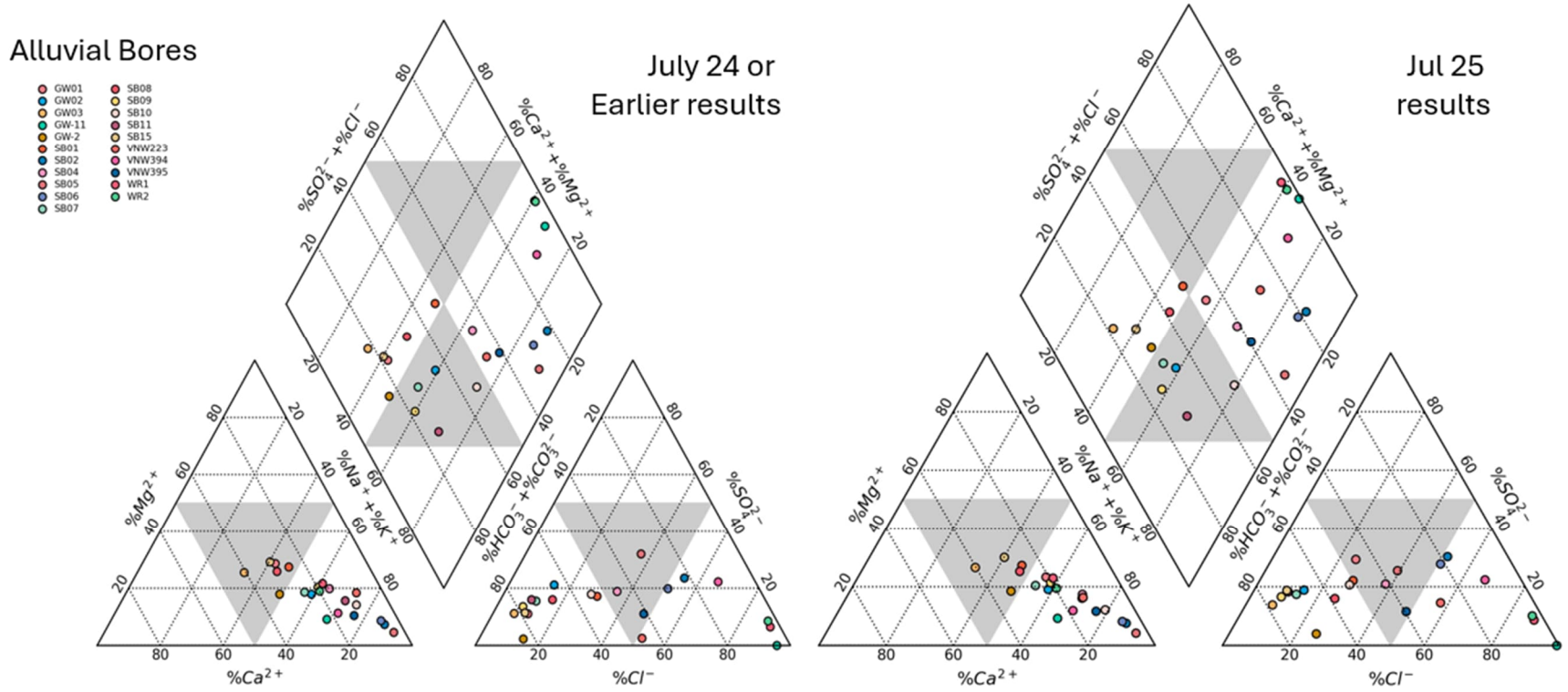


Figure 9 Alluvial groundwater piper plots

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

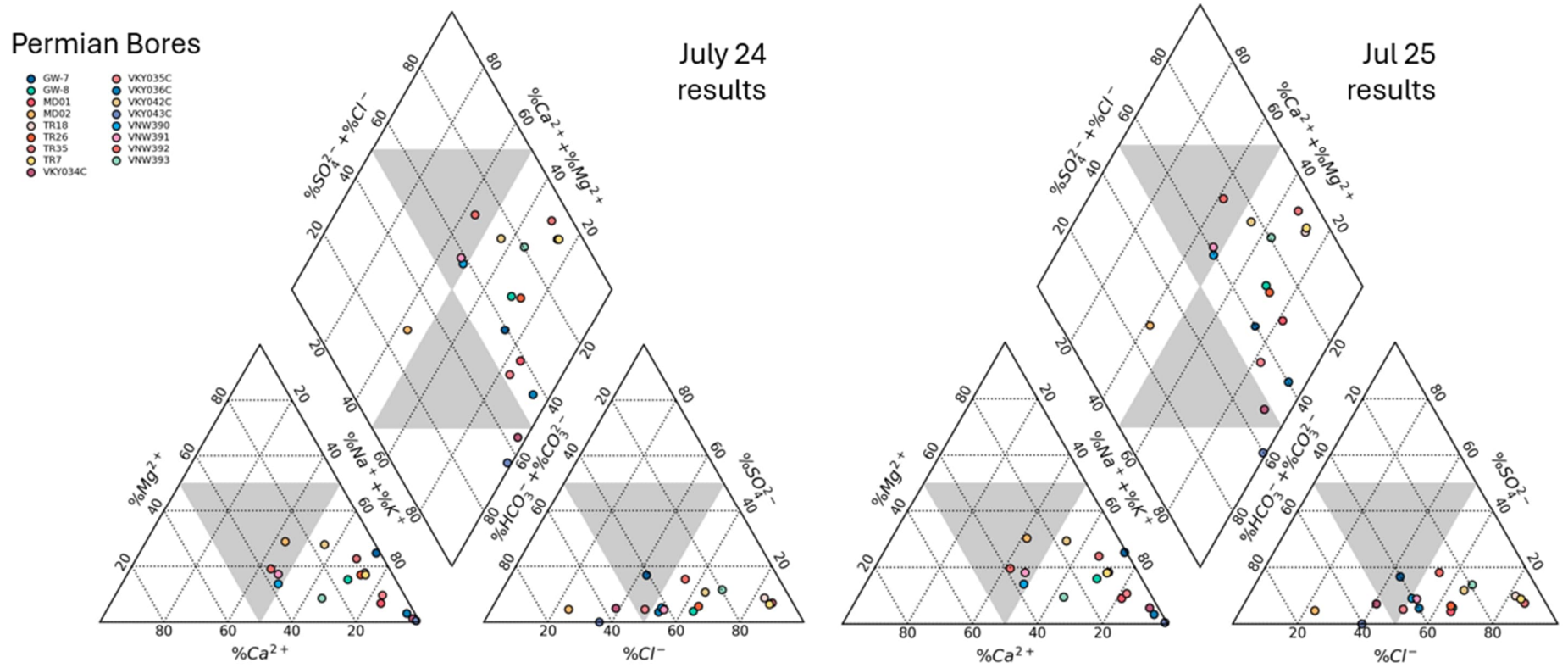


Figure 10 Permian groundwater piper plots

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 VWPs 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 VWPs, 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. *SILO 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
Performance Measure Feature 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). **TARP Objective** 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. **Assessment Criteria** 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.	**Locations** **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. **Monitoring Frequency** During mining Quarterly manual measurements of water level. Continuous monitoring in bores installed with Vibrating Wire Piezometers (VWPs). **Post-mining** 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: 9 Undertake landholder and government consultation; 10 Offset groundwater leakage from the Namoi Alluvium aquifer; 11 Review and refine the GWMP including undertaking additional 12 specific monitoring of private landholder bores; 13 Review Site Water Balance and predictive groundwater model; and 14 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

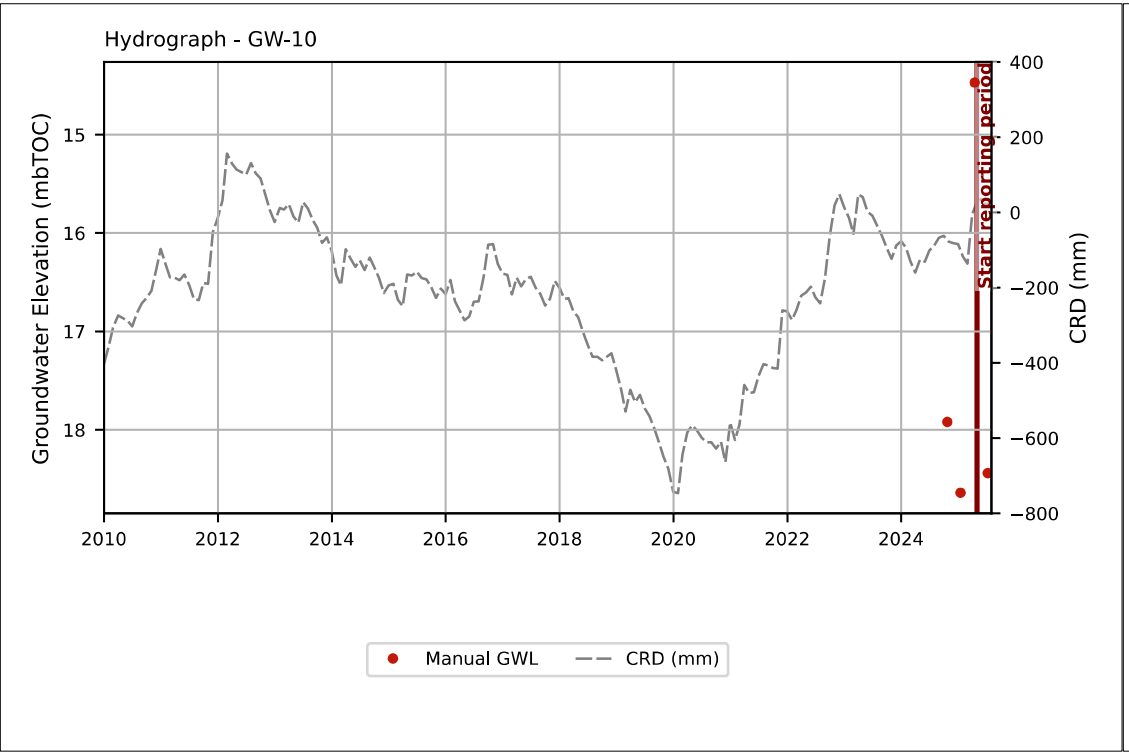
Vickery Extension Project Groundwater Monitoring Report

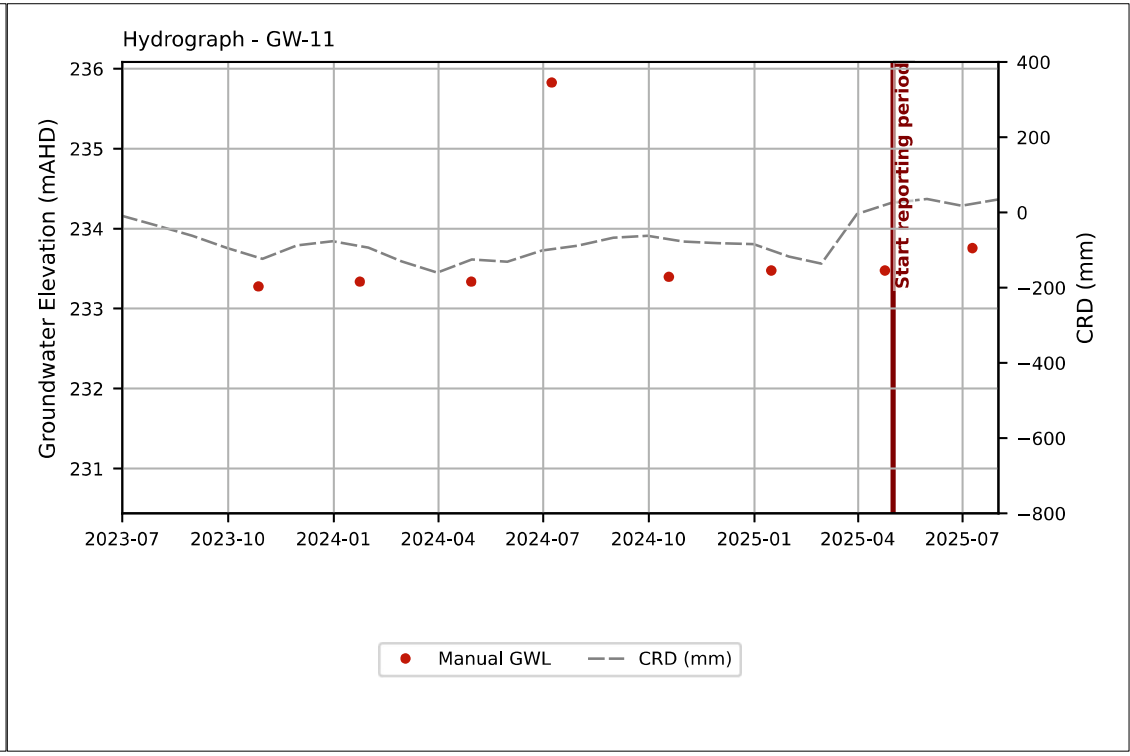
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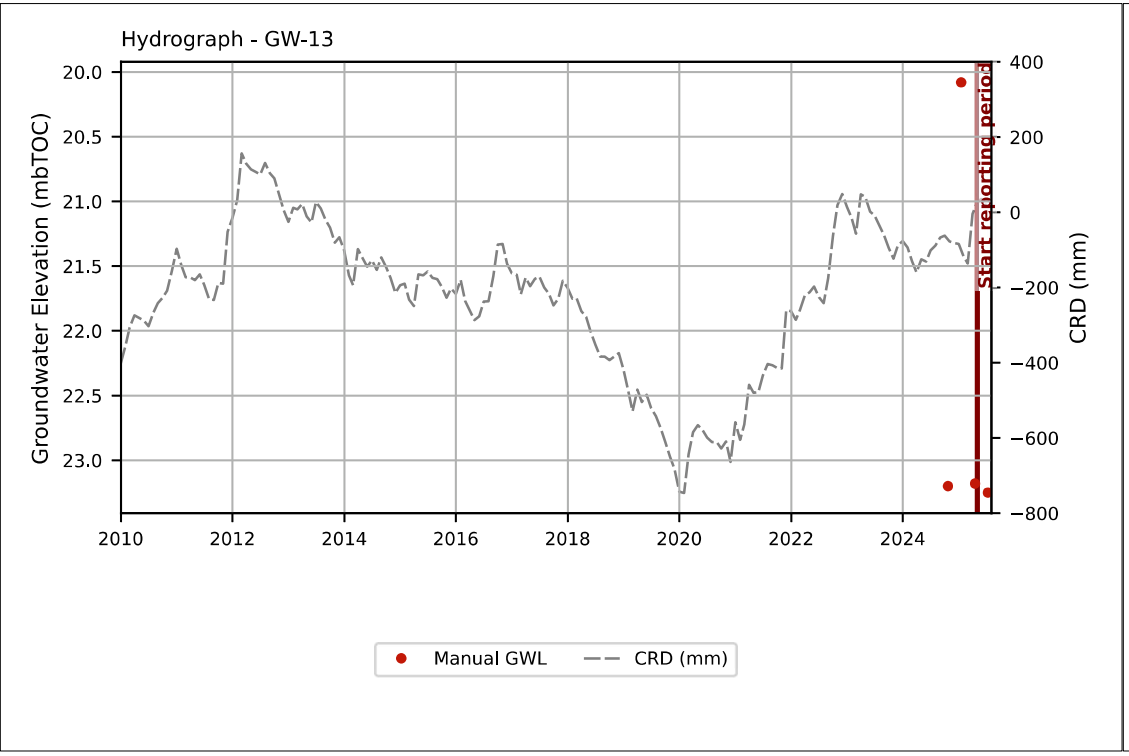
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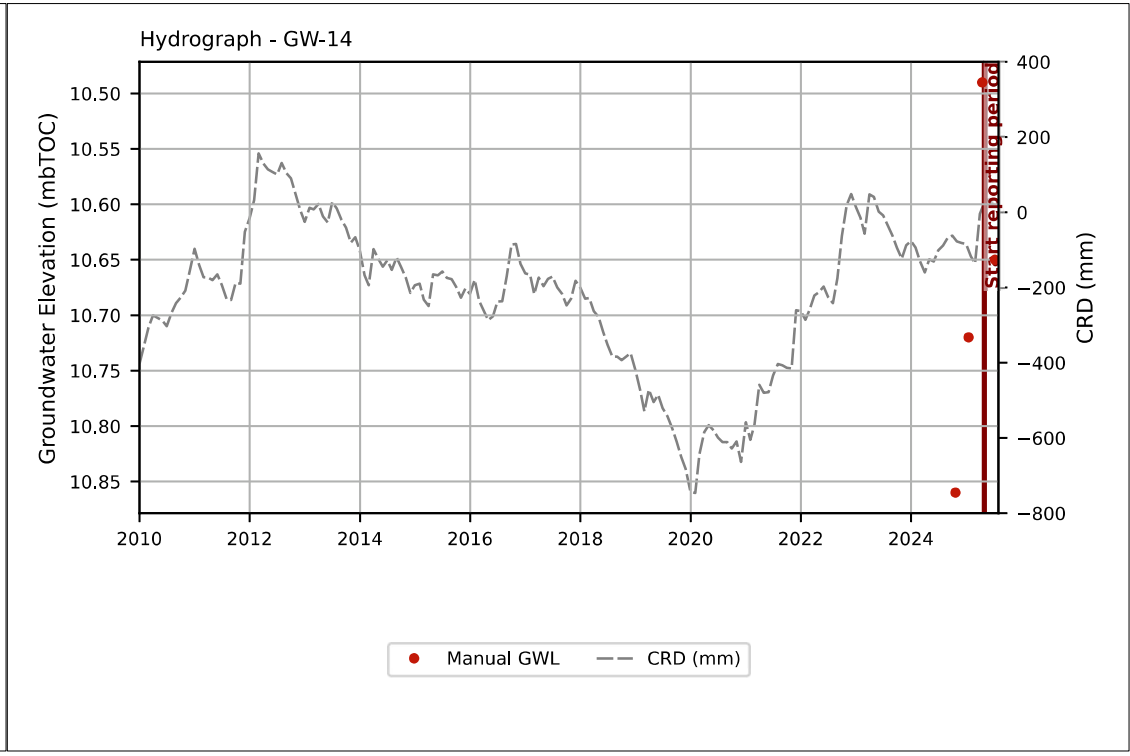
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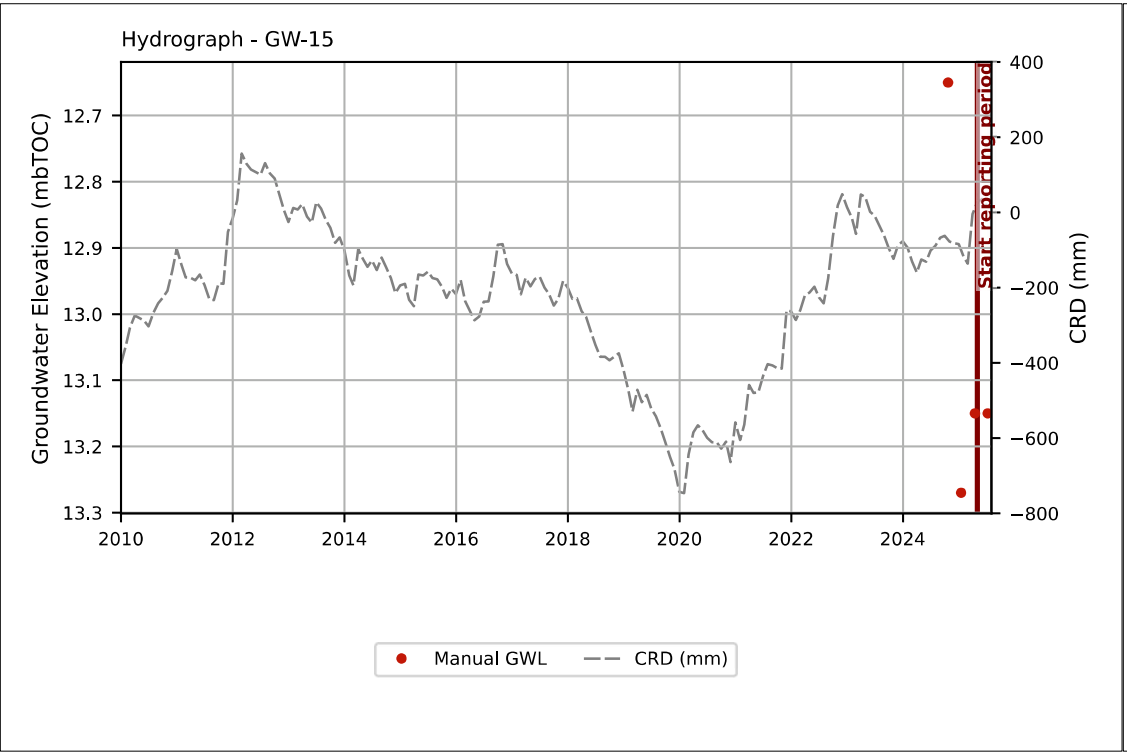
25 September 2025

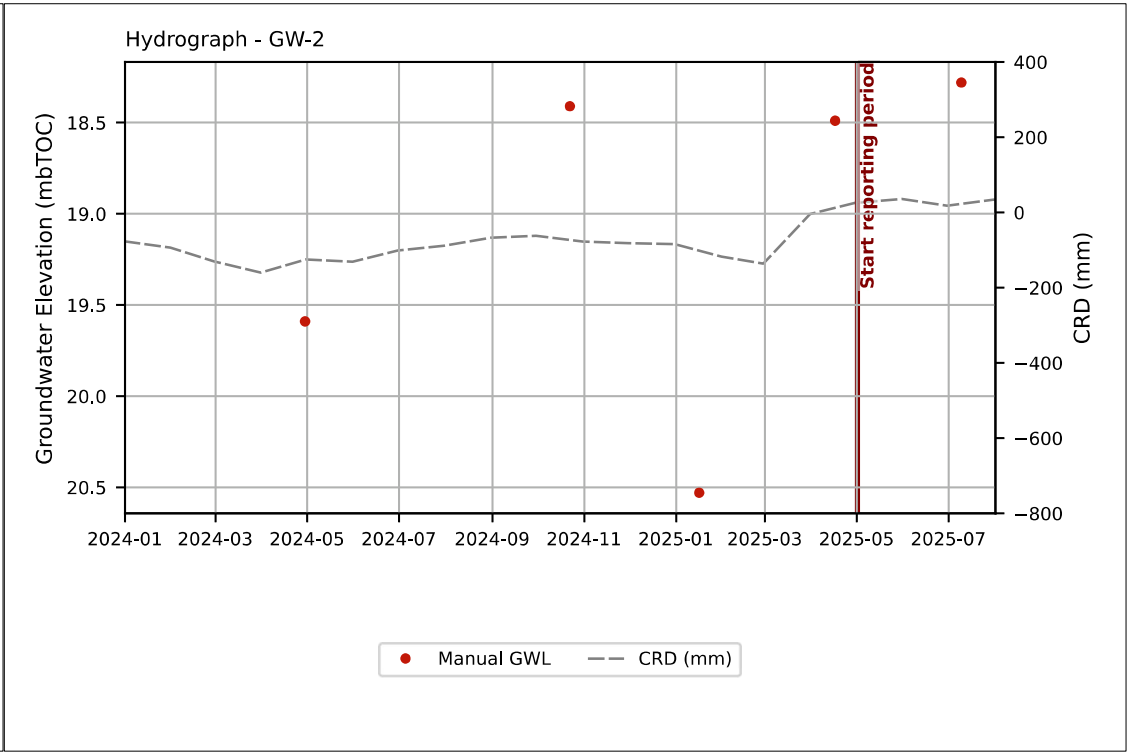

Hydrograph - GW-10
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

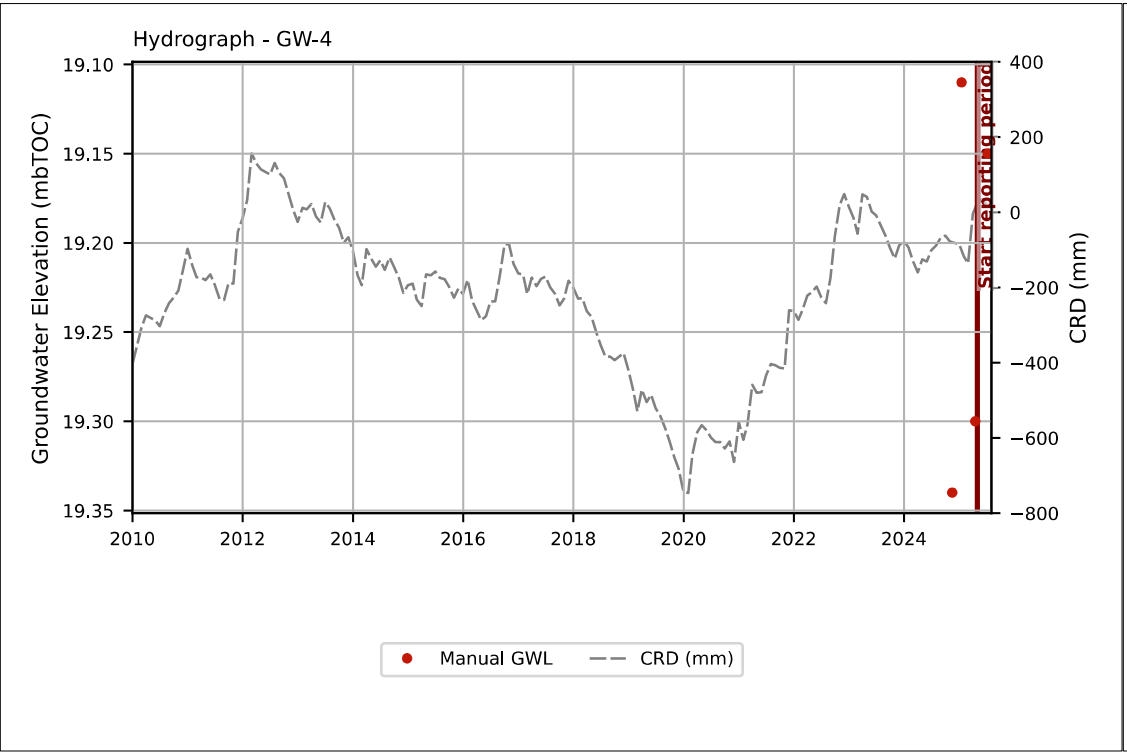

Hydrograph - GW-11
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

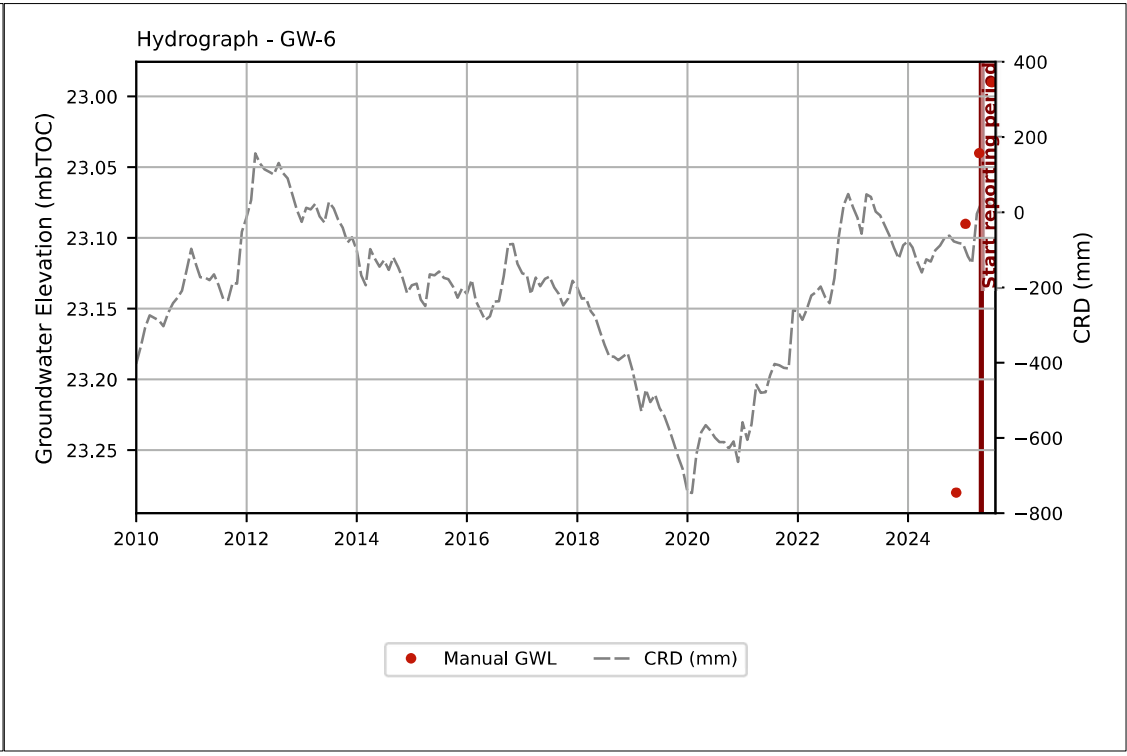

Hydrograph - GW-13
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

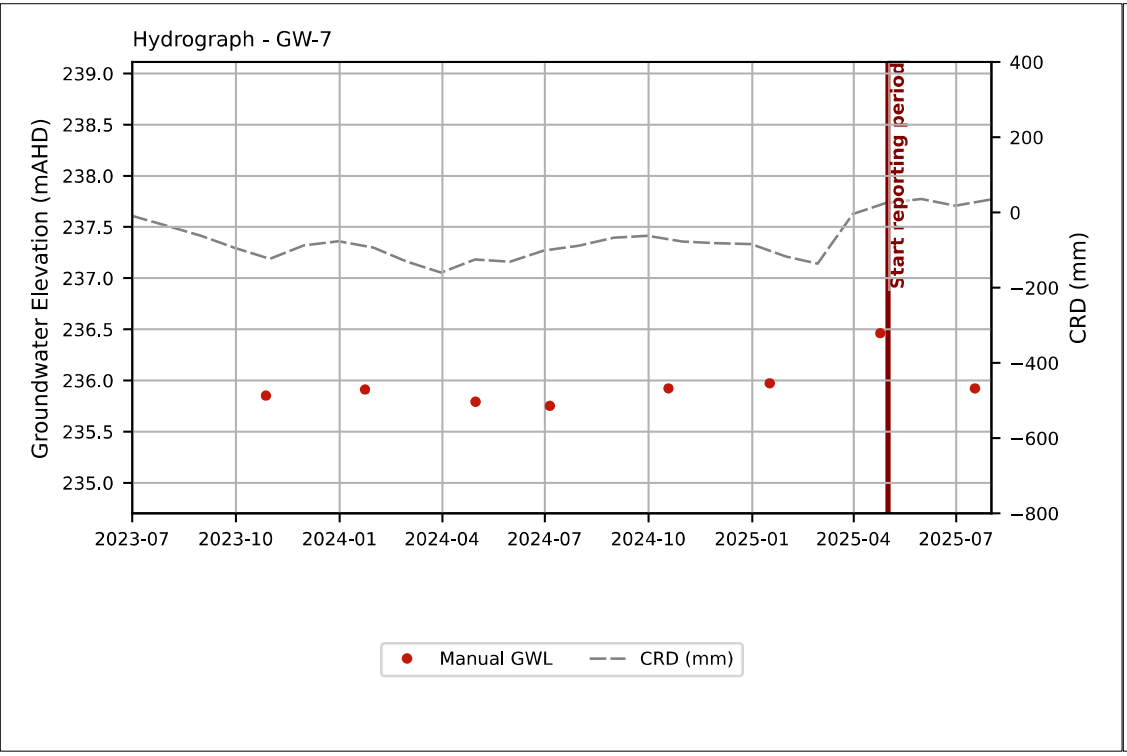

Hydrograph - GW-14
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

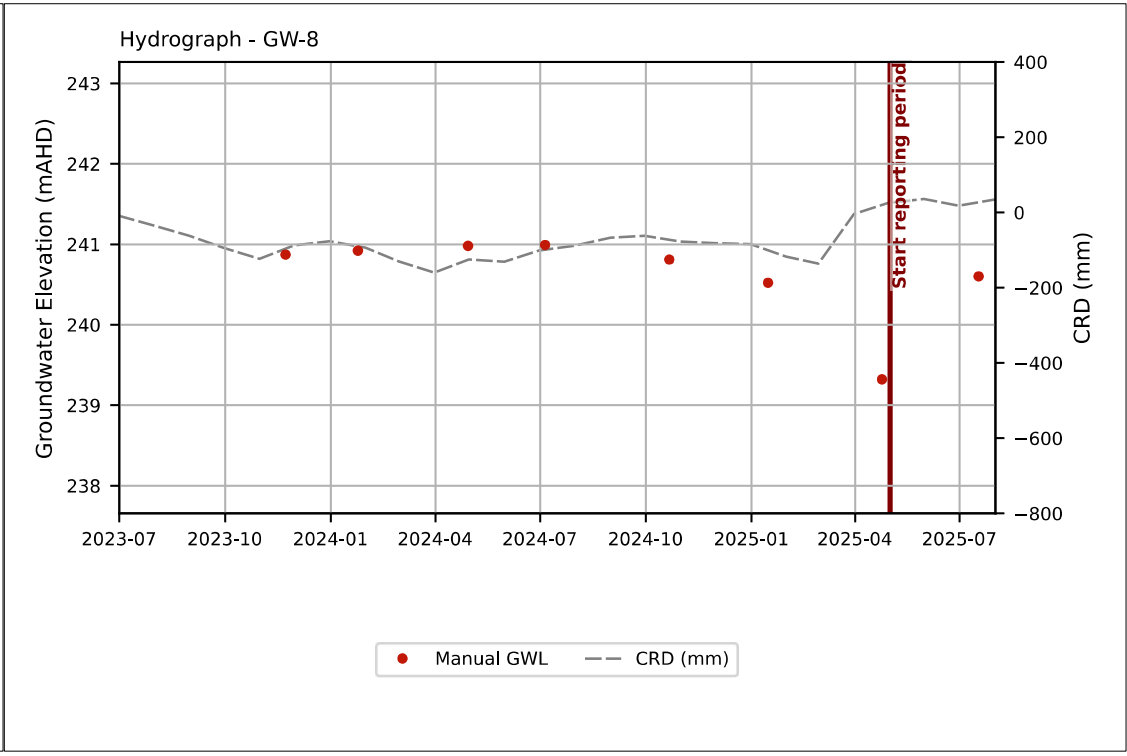

Hydrograph - GW-15
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

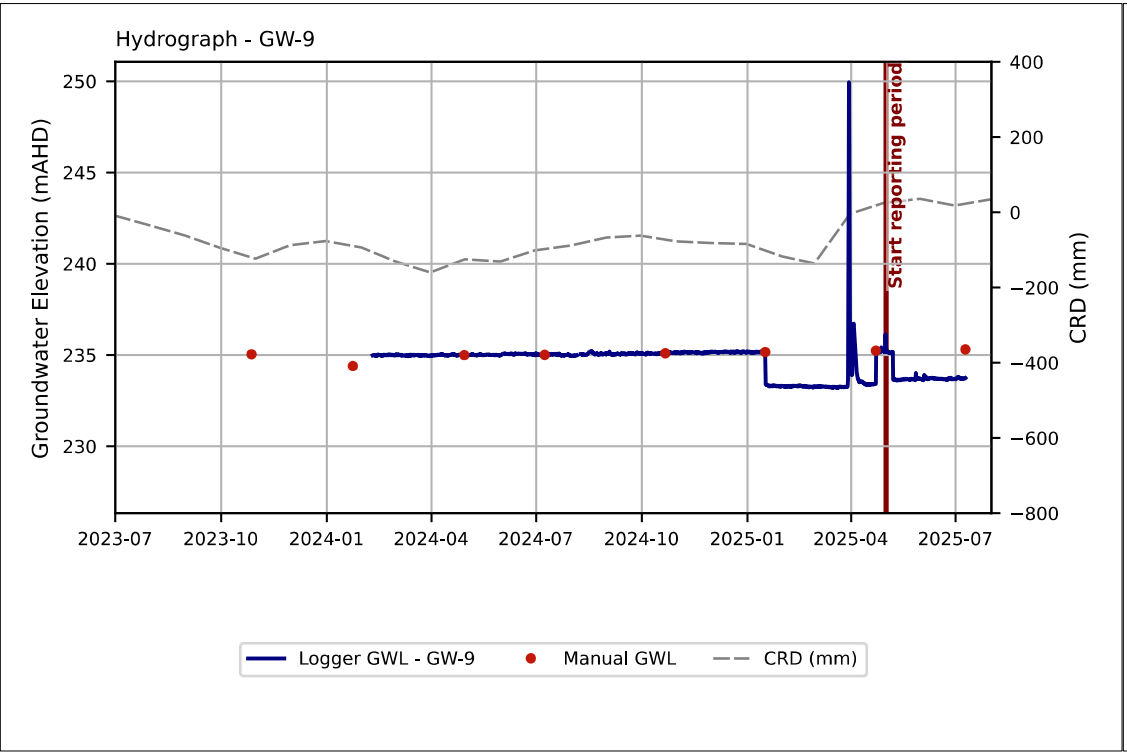

Hydrograph - GW-2
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

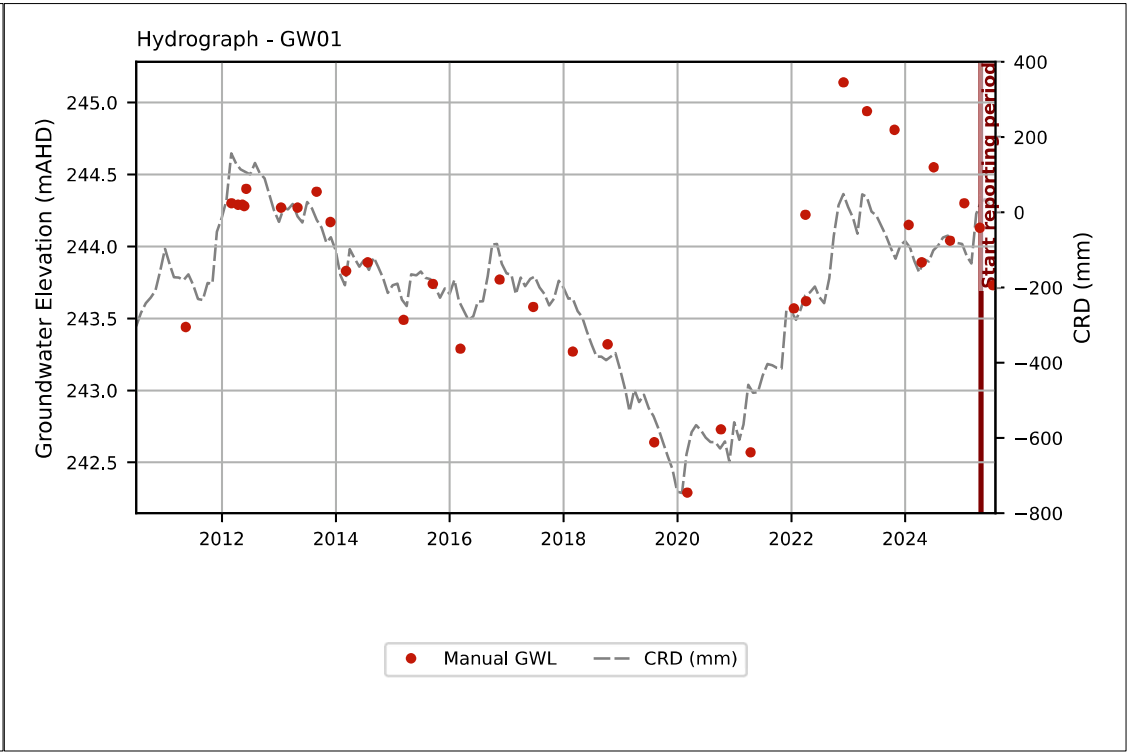

Hydrograph - GW-4
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

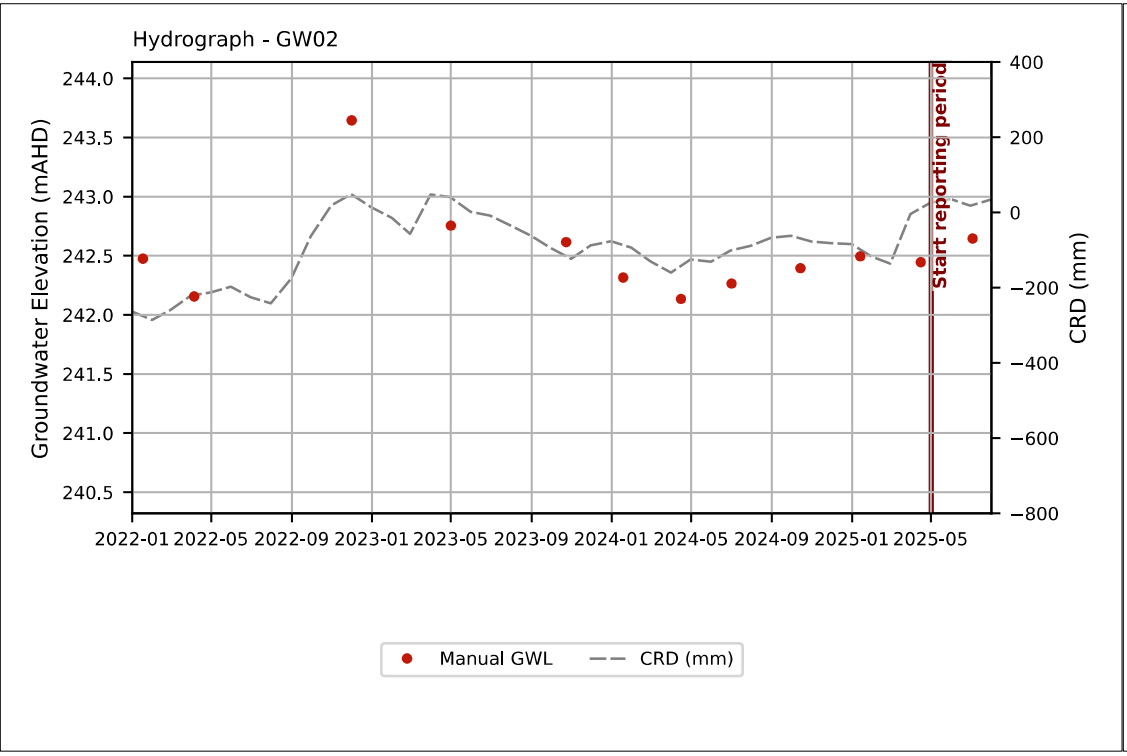

Hydrograph - GW-6
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

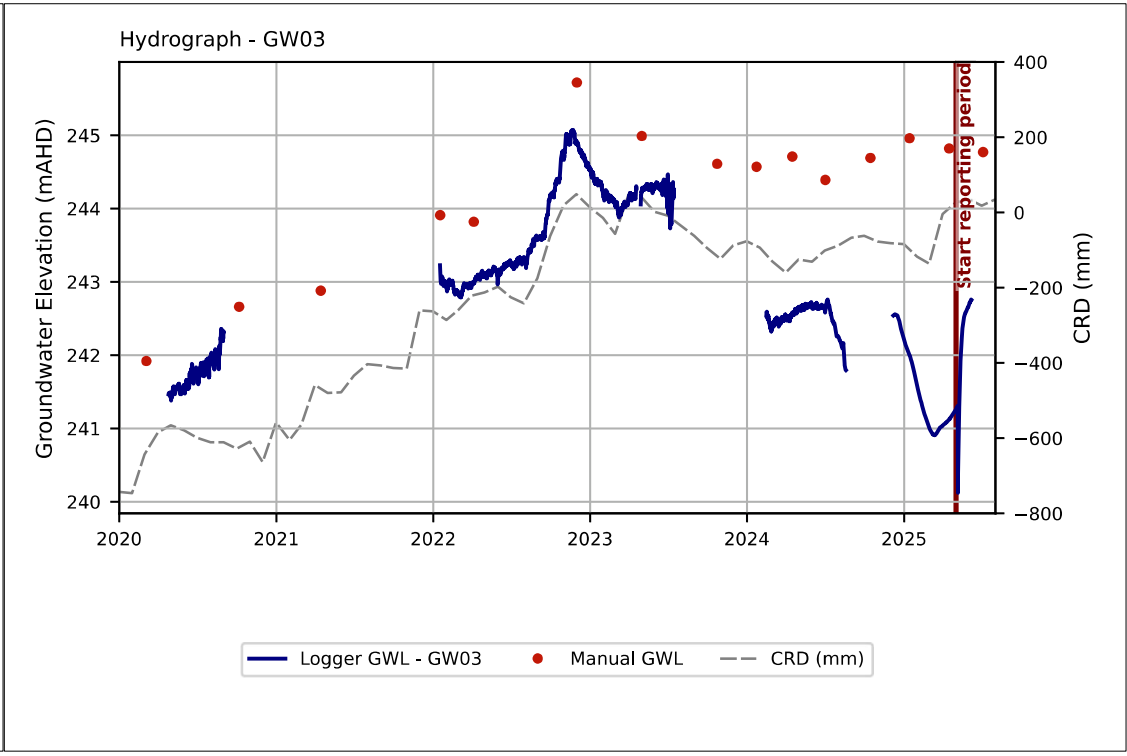

Hydrograph - GW-7
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

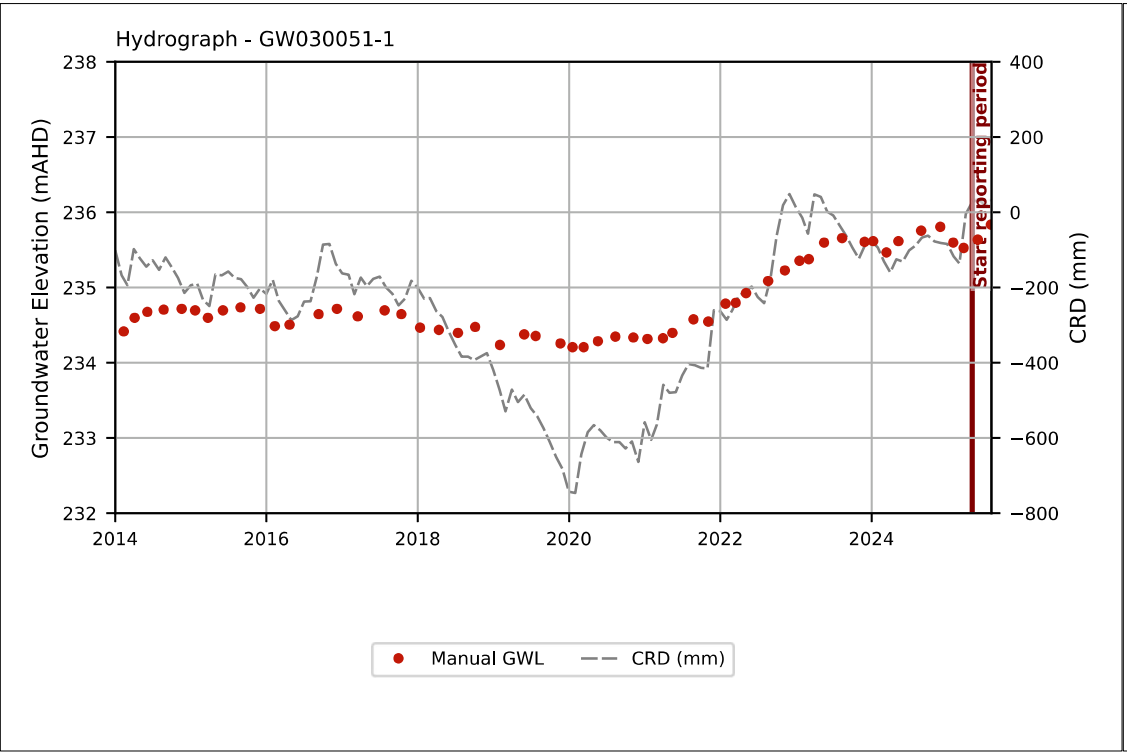

Hydrograph - GW-8
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

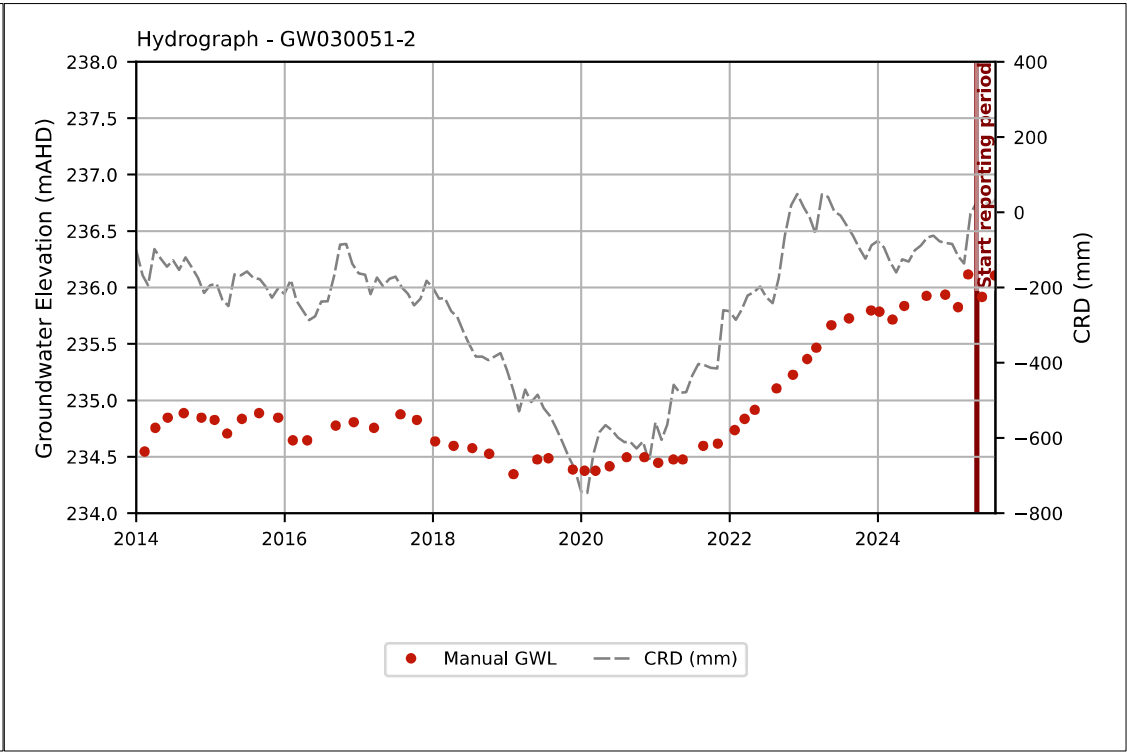

Hydrograph - GW-9
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - GW-9
Manual GWL
CRD (mm)

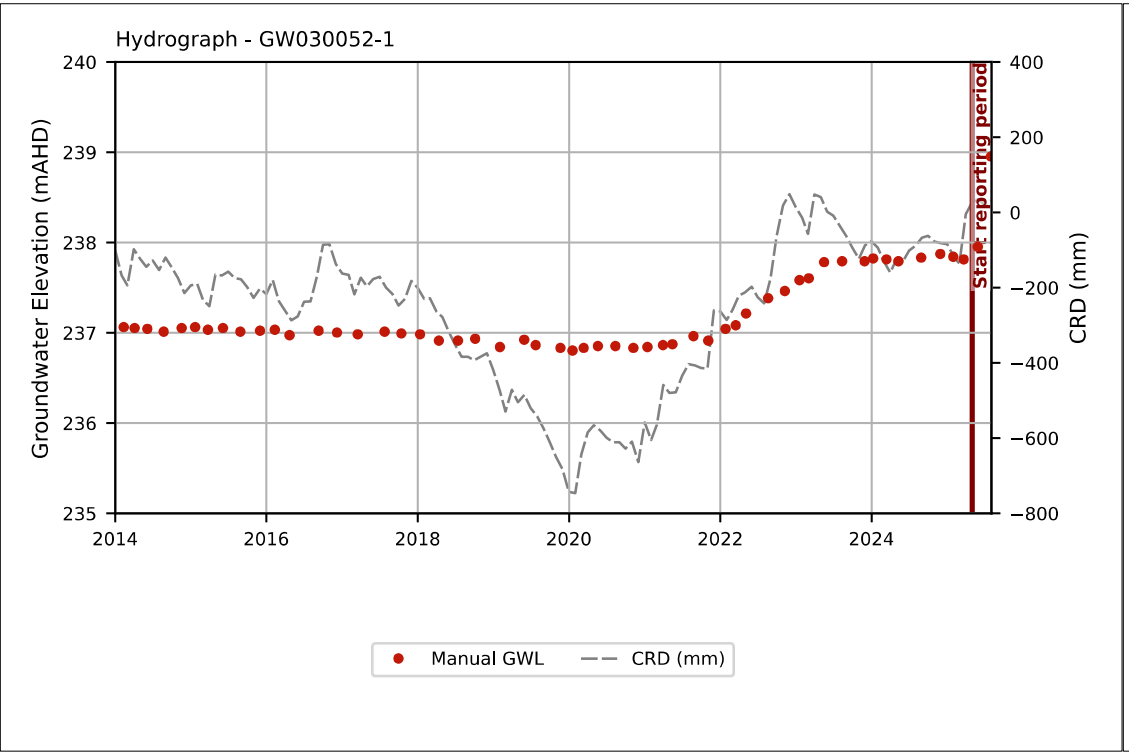

Hydrograph - GW01
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

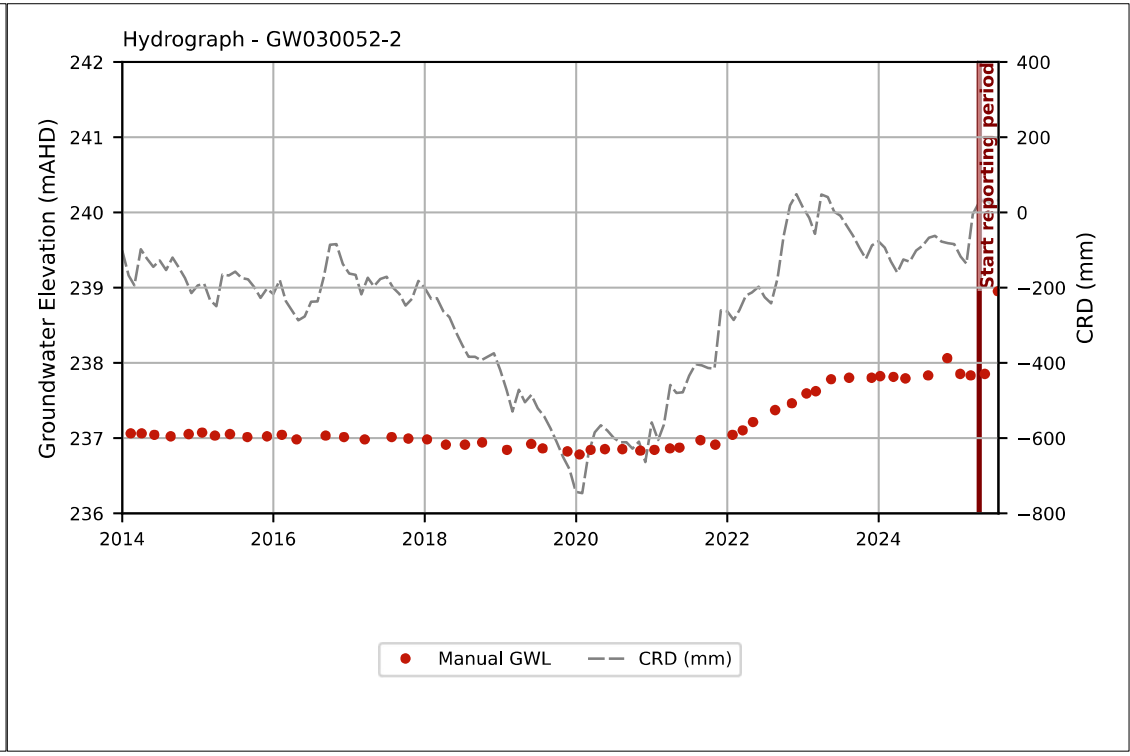

Hydrograph - GW02
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

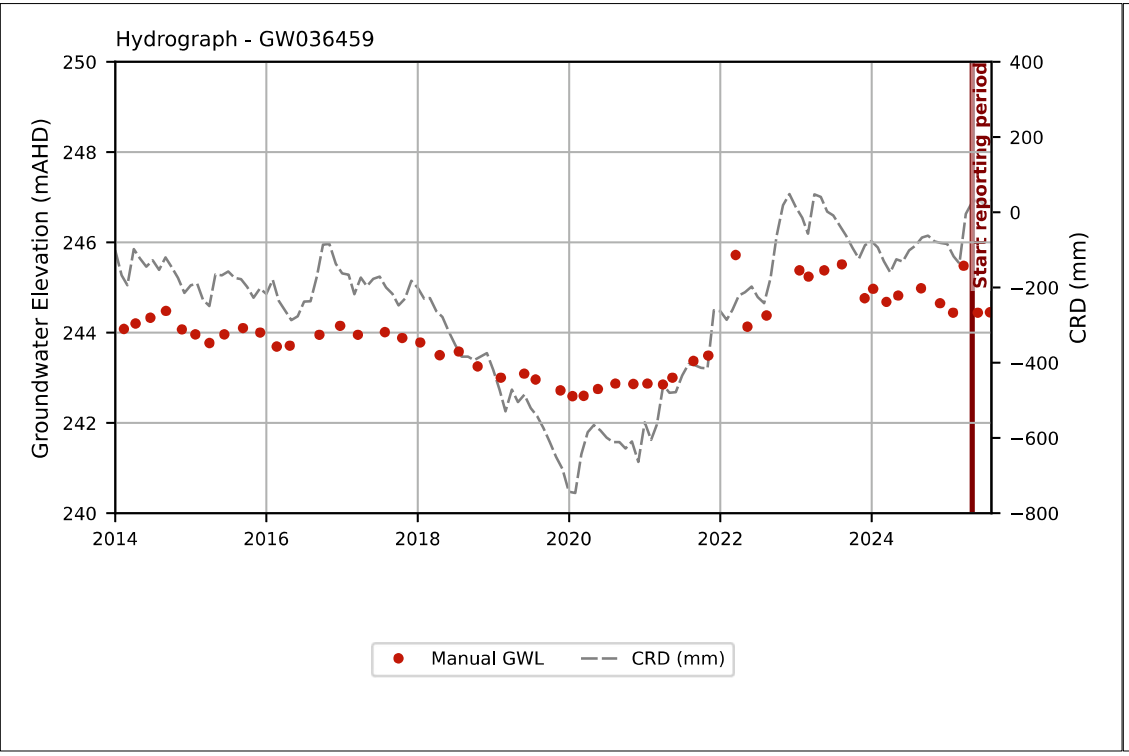

Hydrograph - GW03
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - GW03
Manual GWL
CRD (mm)

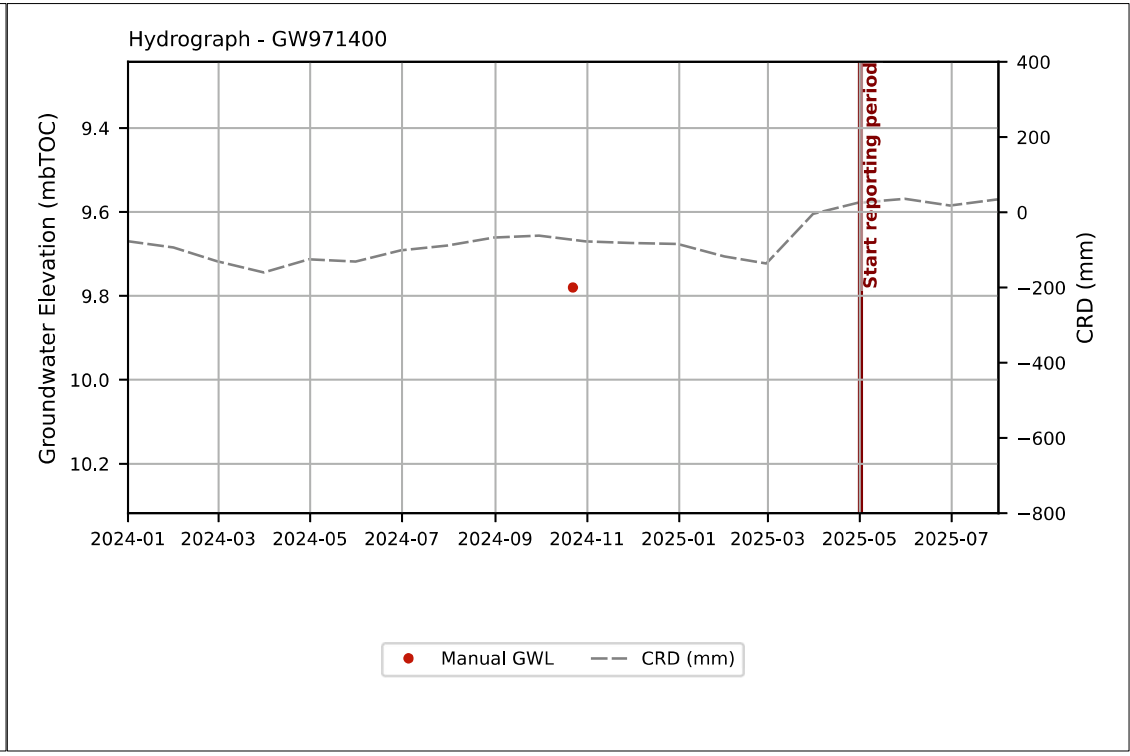

Hydrograph - GW030051-1
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

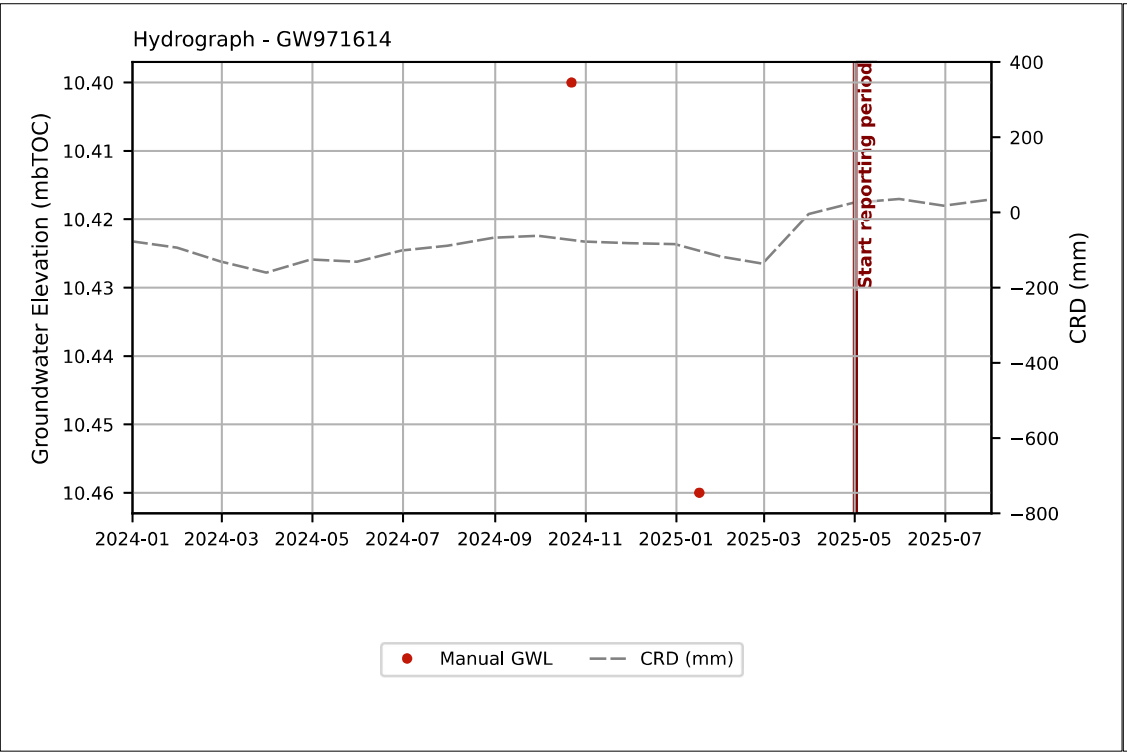

Hydrograph - GW030051-2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

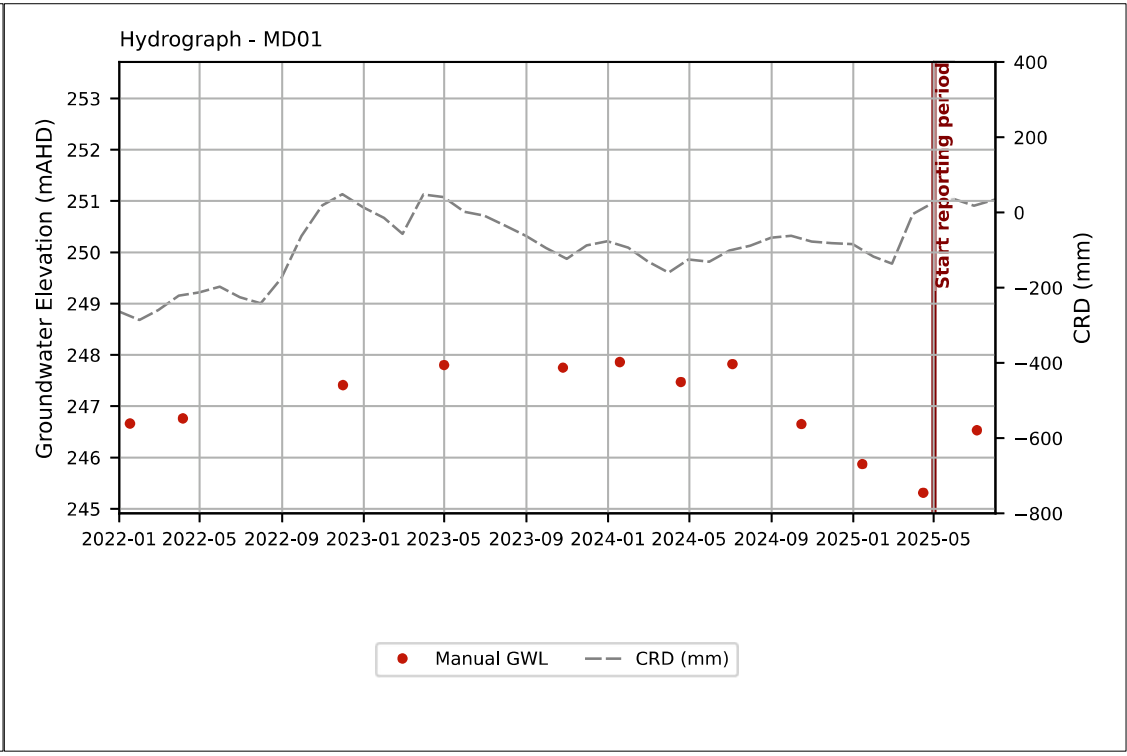

Hydrograph - GW030052-1
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

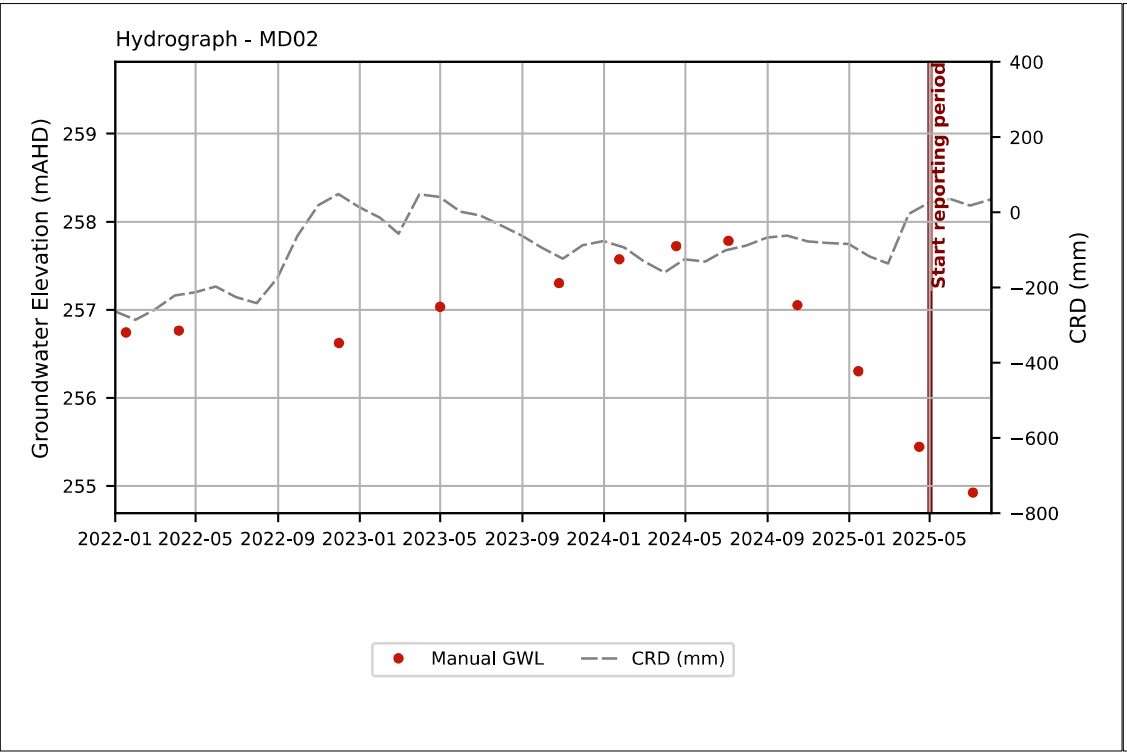

Hydrograph - GW030052-2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

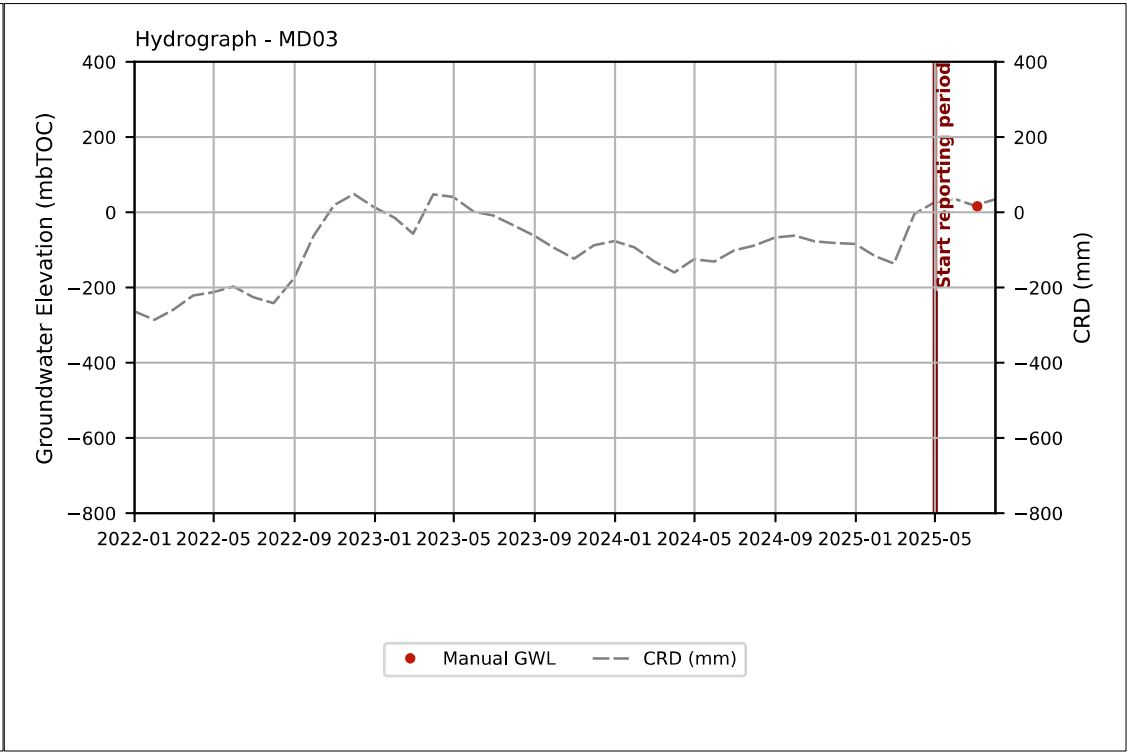

Hydrograph - GW036459
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

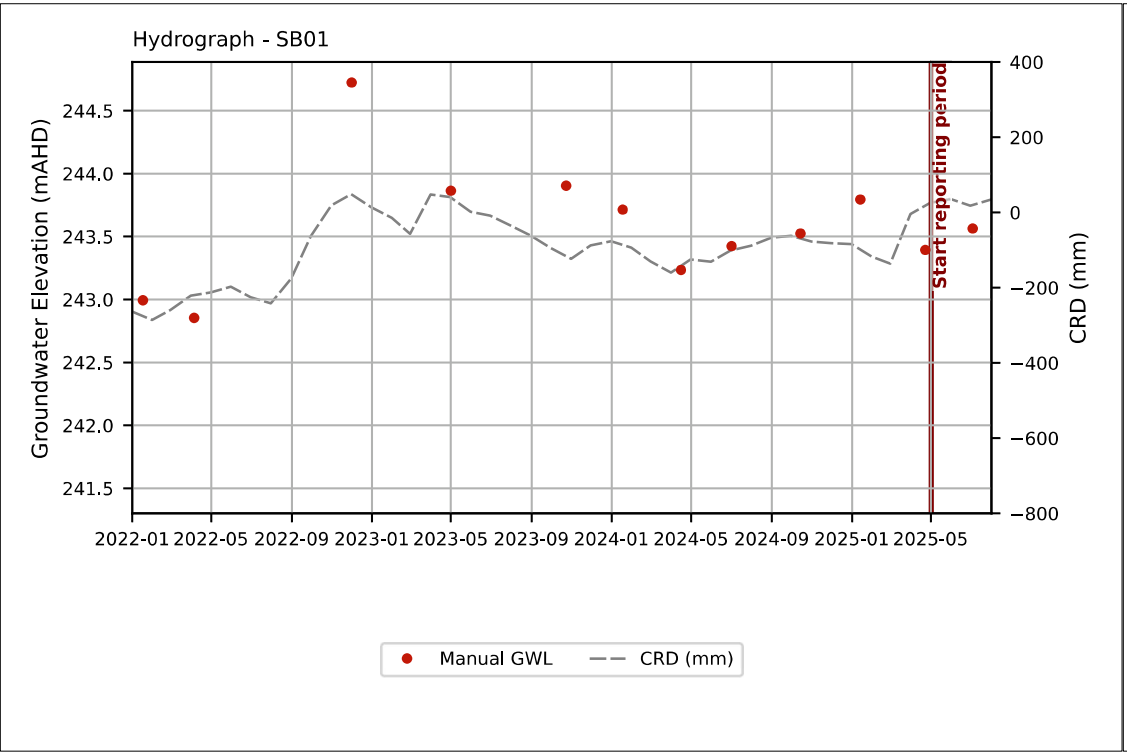

Hydrograph - GW971400
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

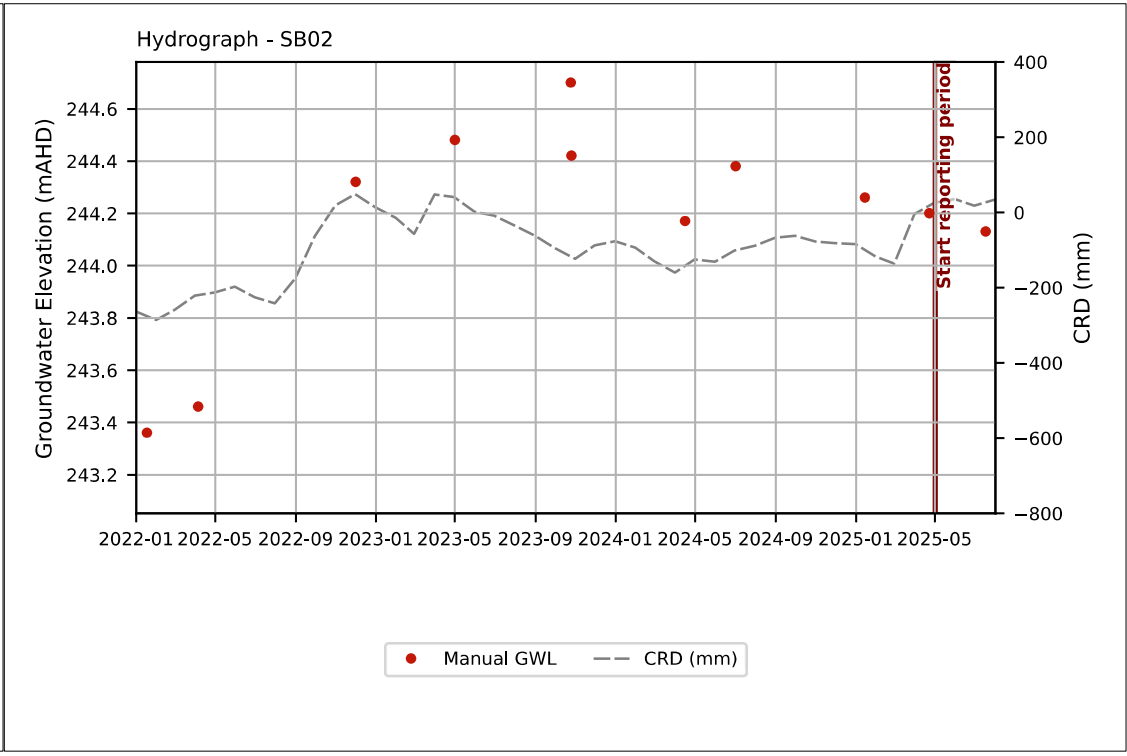

Hydrograph - GW971614
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

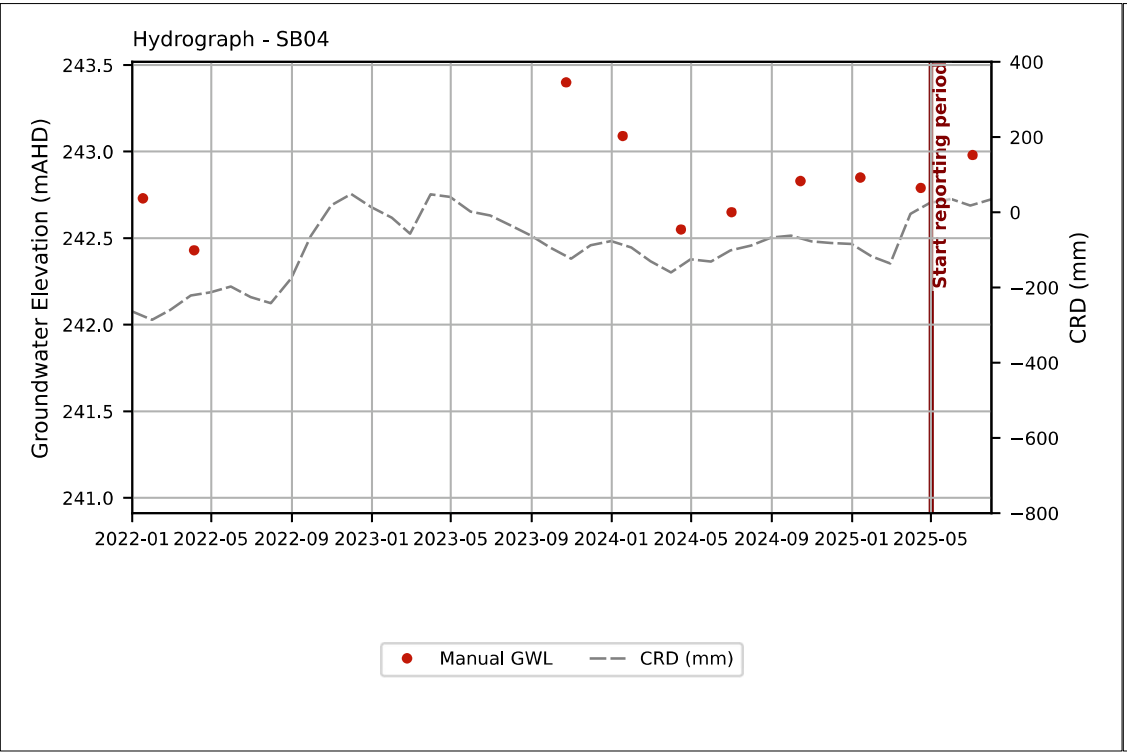

Hydrograph - MD01
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

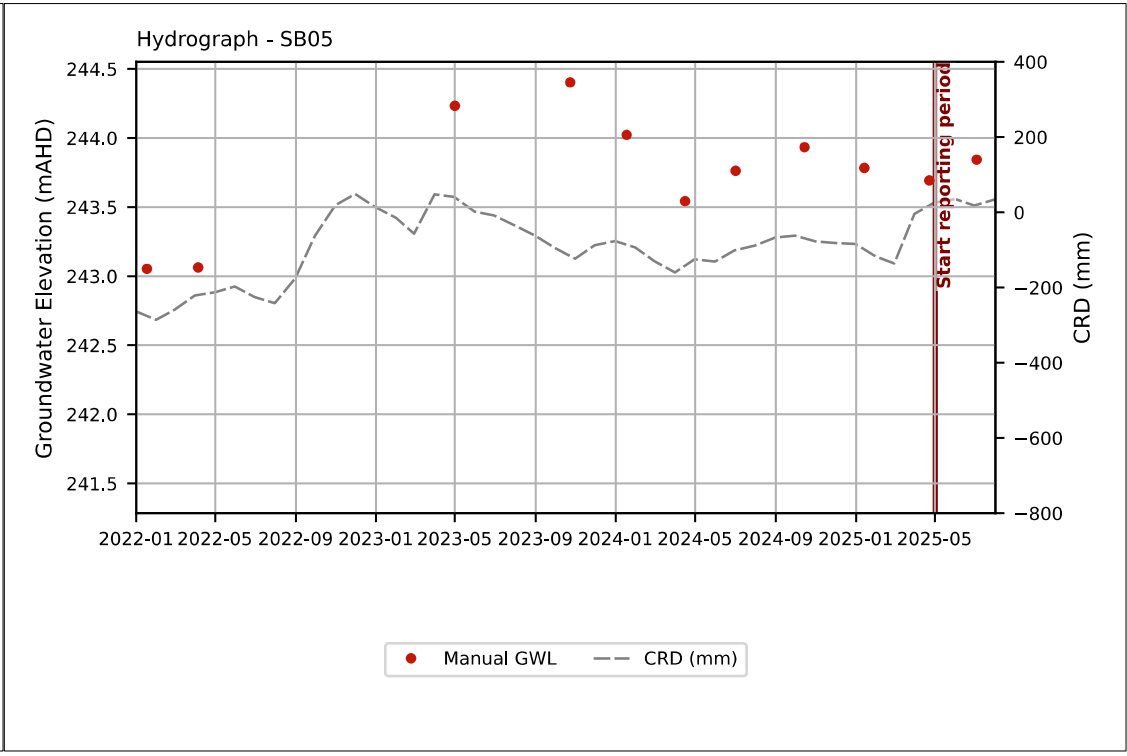

Hydrograph - MD02
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

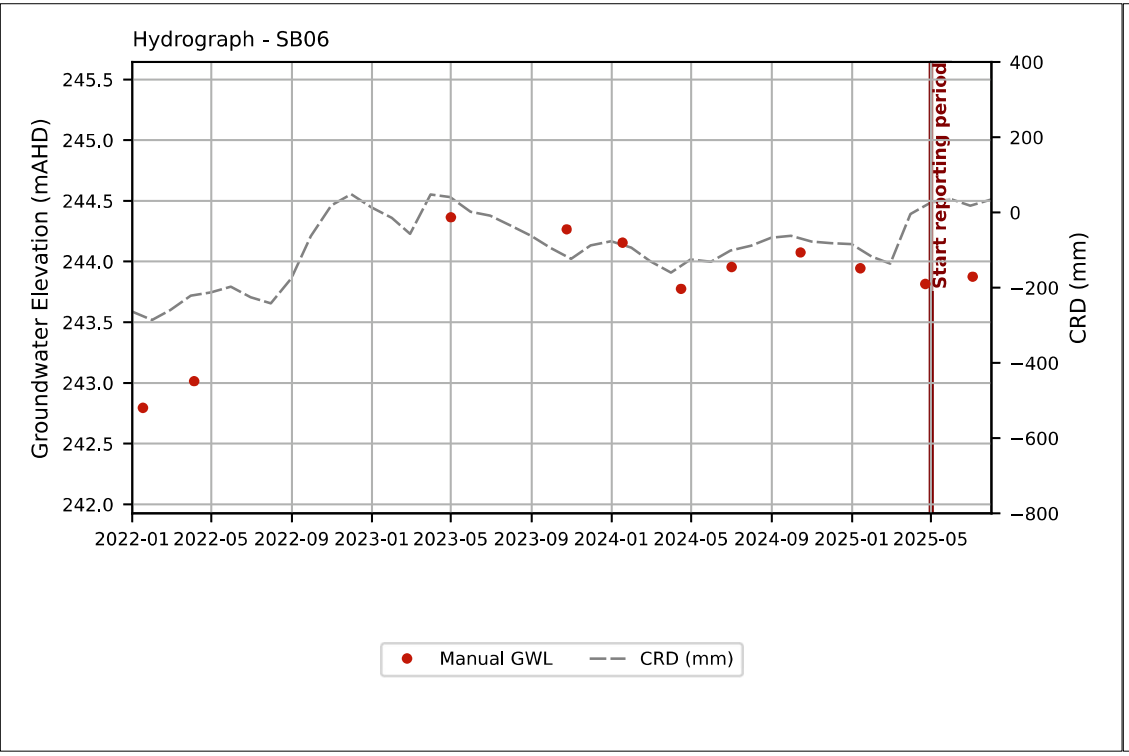

Hydrograph - MD03
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

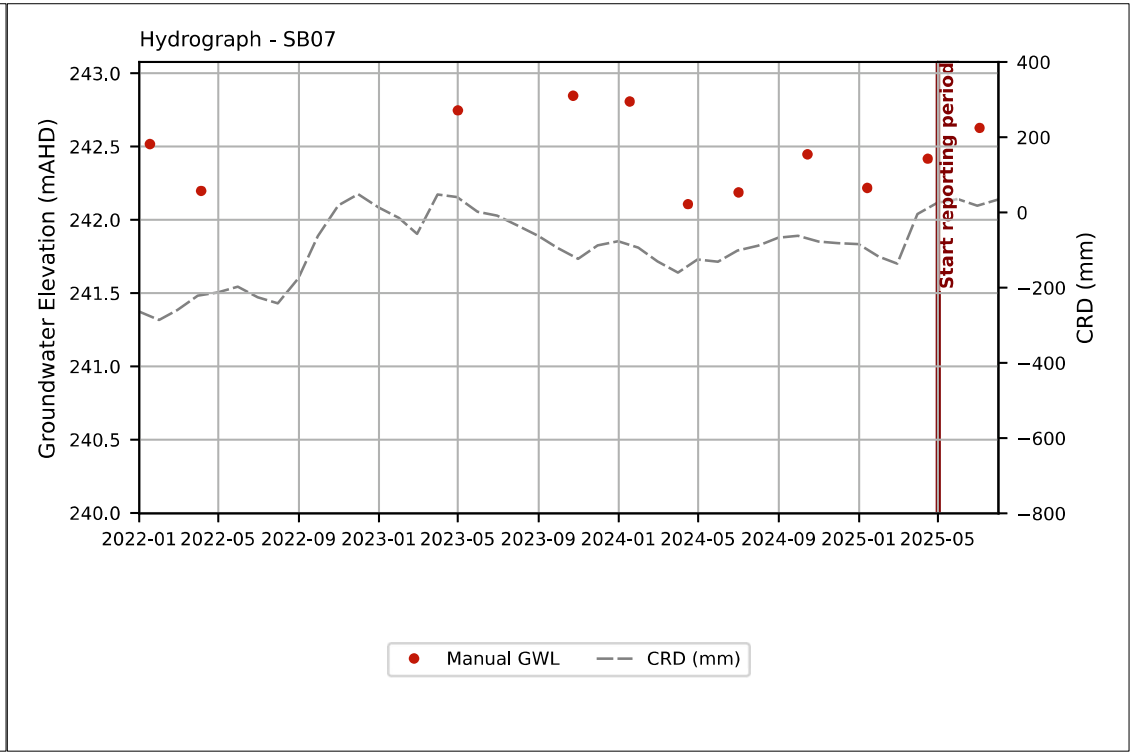

Hydrograph - SB01
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

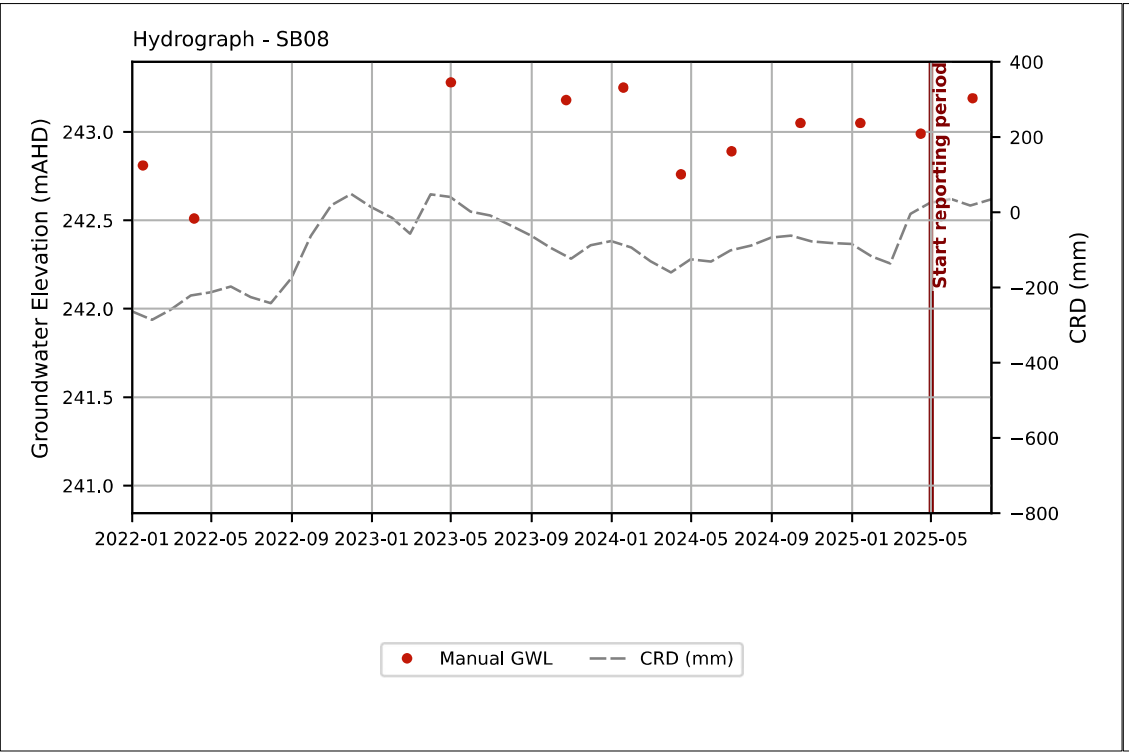

Hydrograph - SB02
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

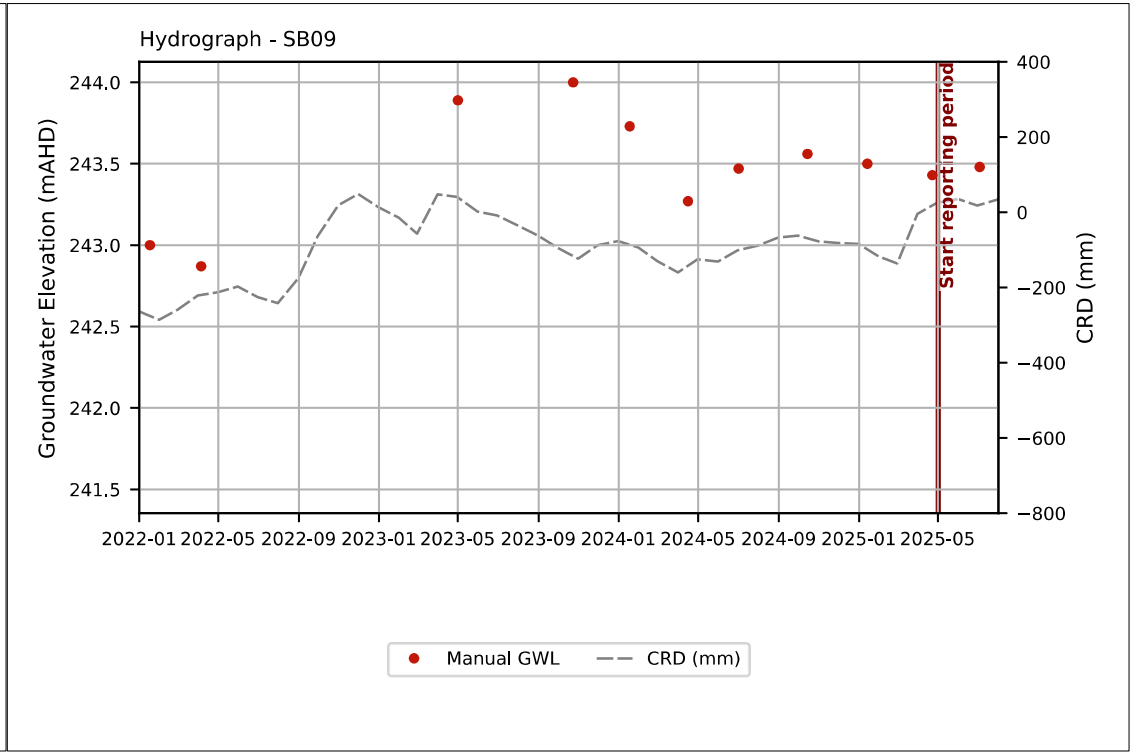

Hydrograph - SB04
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

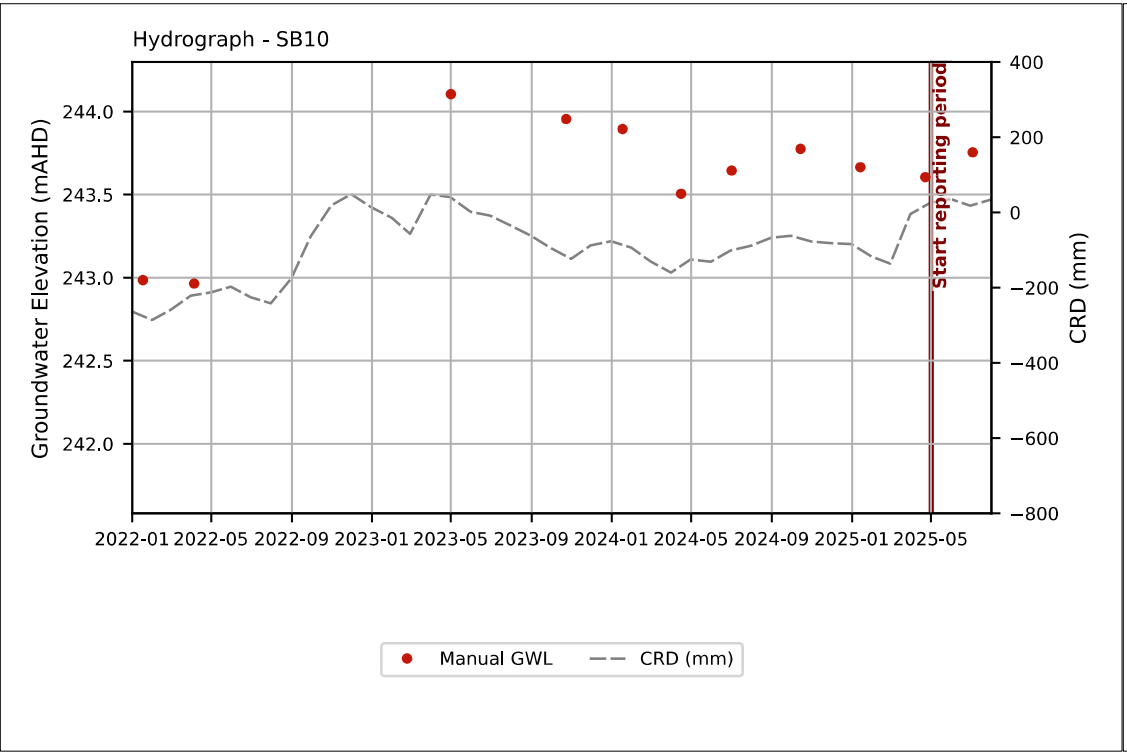

Hydrograph - SB05
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

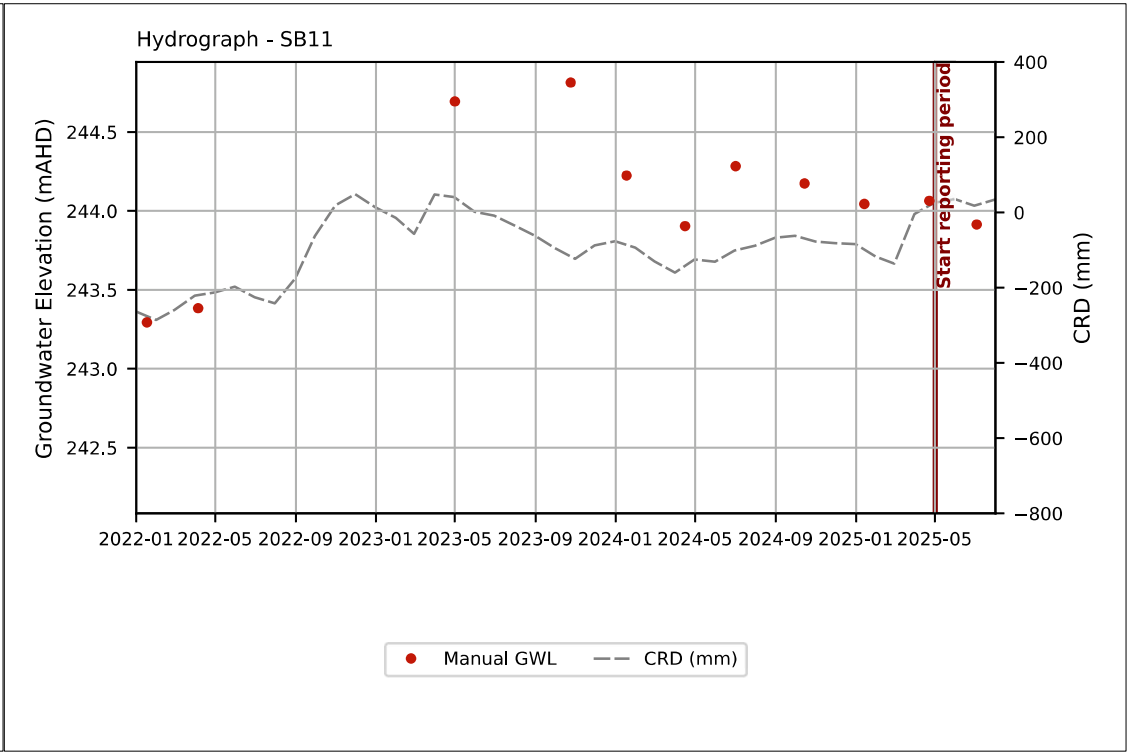

Hydrograph - SB06
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

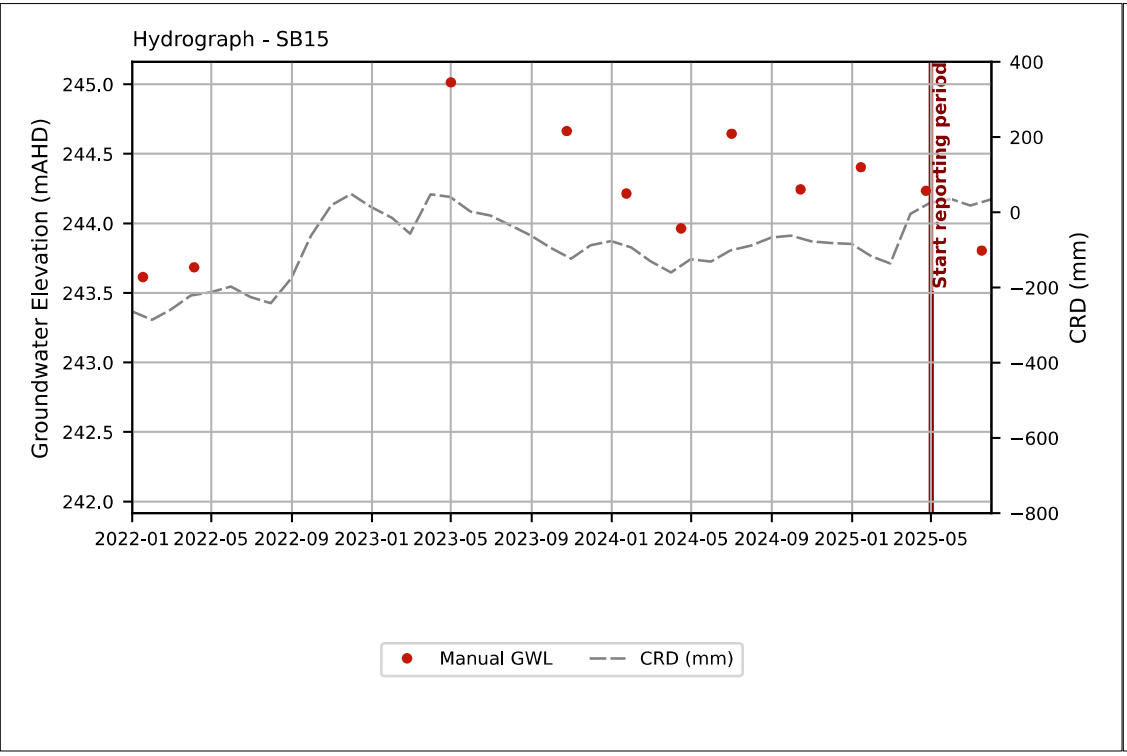

Hydrograph - SB07
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

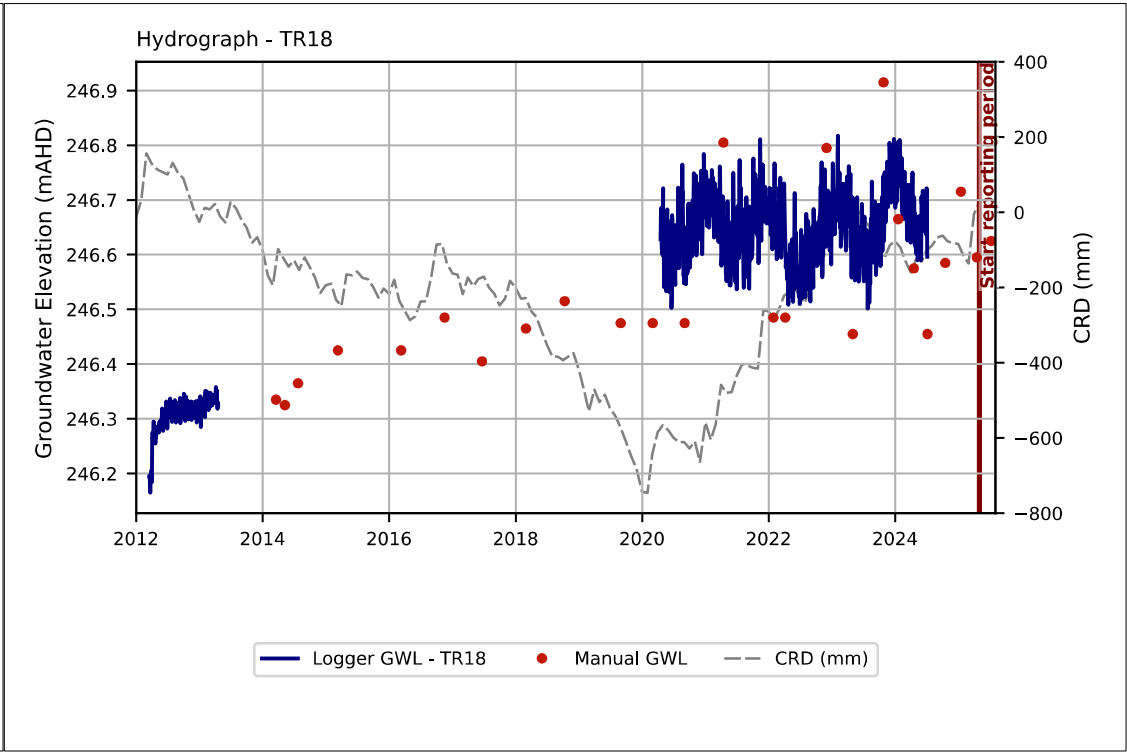

Hydrograph - SB08
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

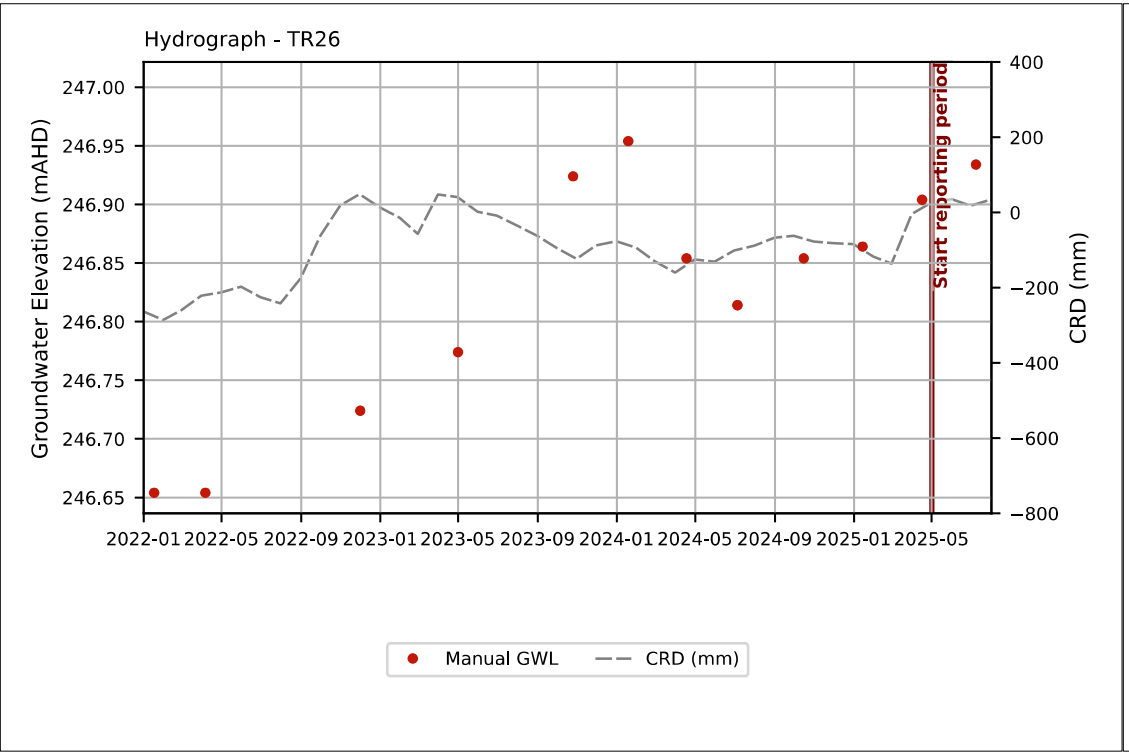

Hydrograph - SB09
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

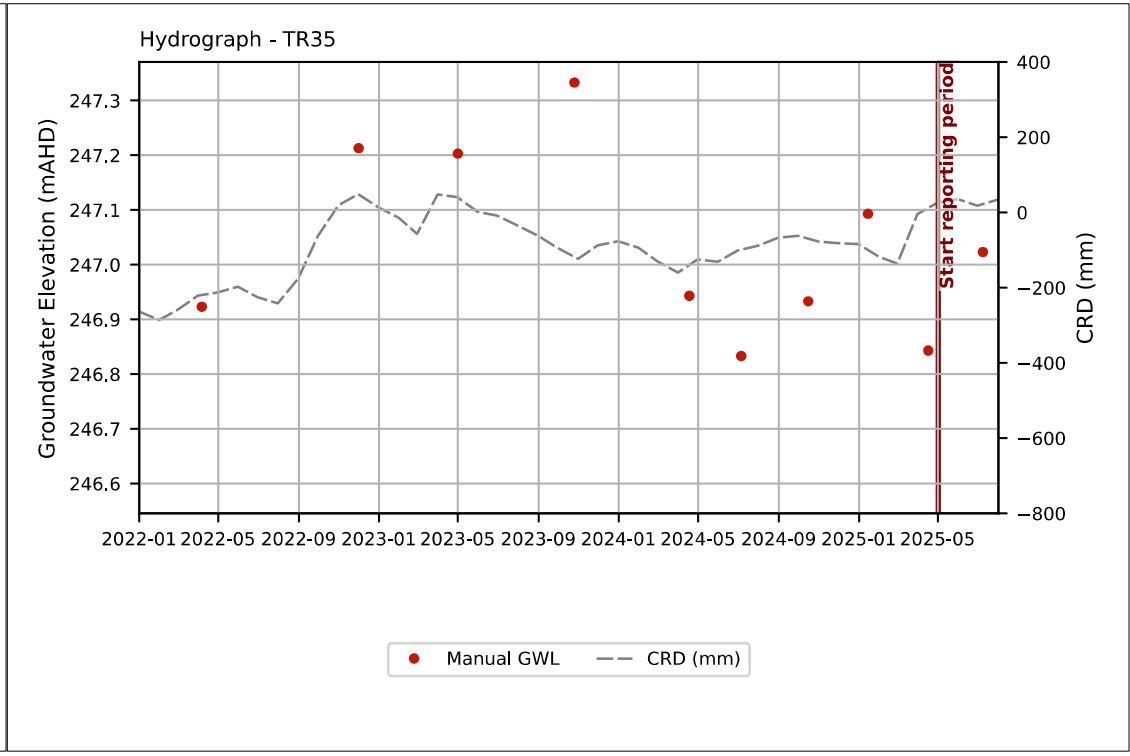

Hydrograph - SB10
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

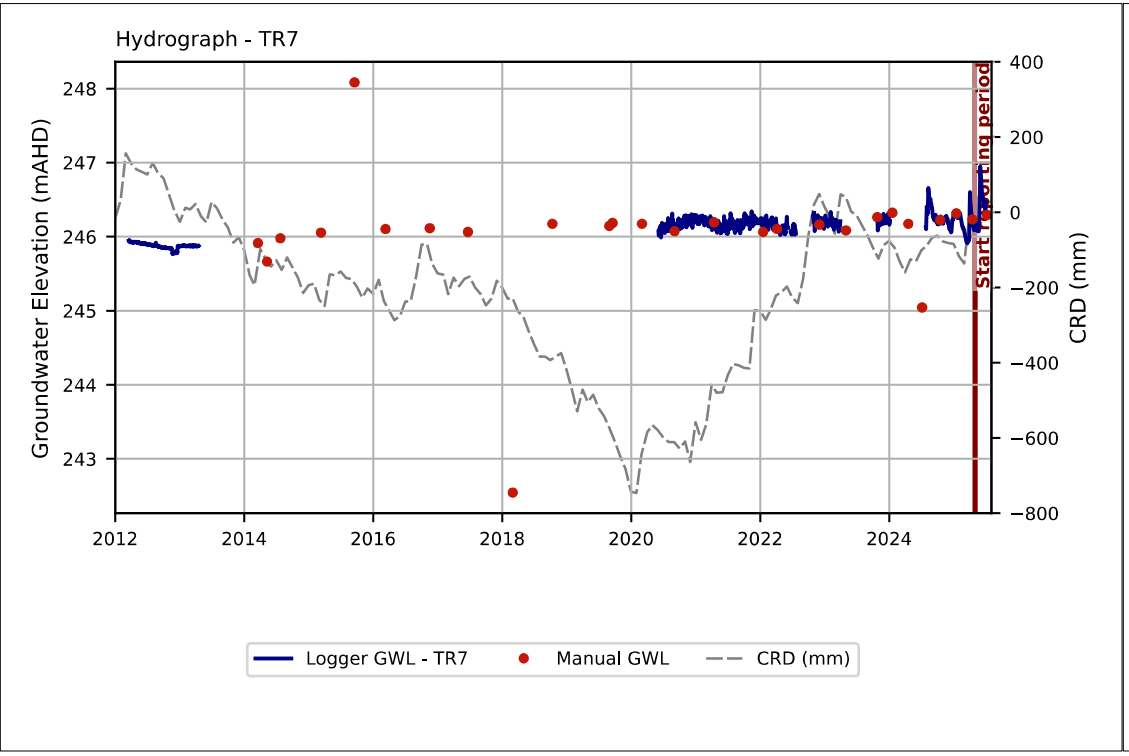

Hydrograph - SB11
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

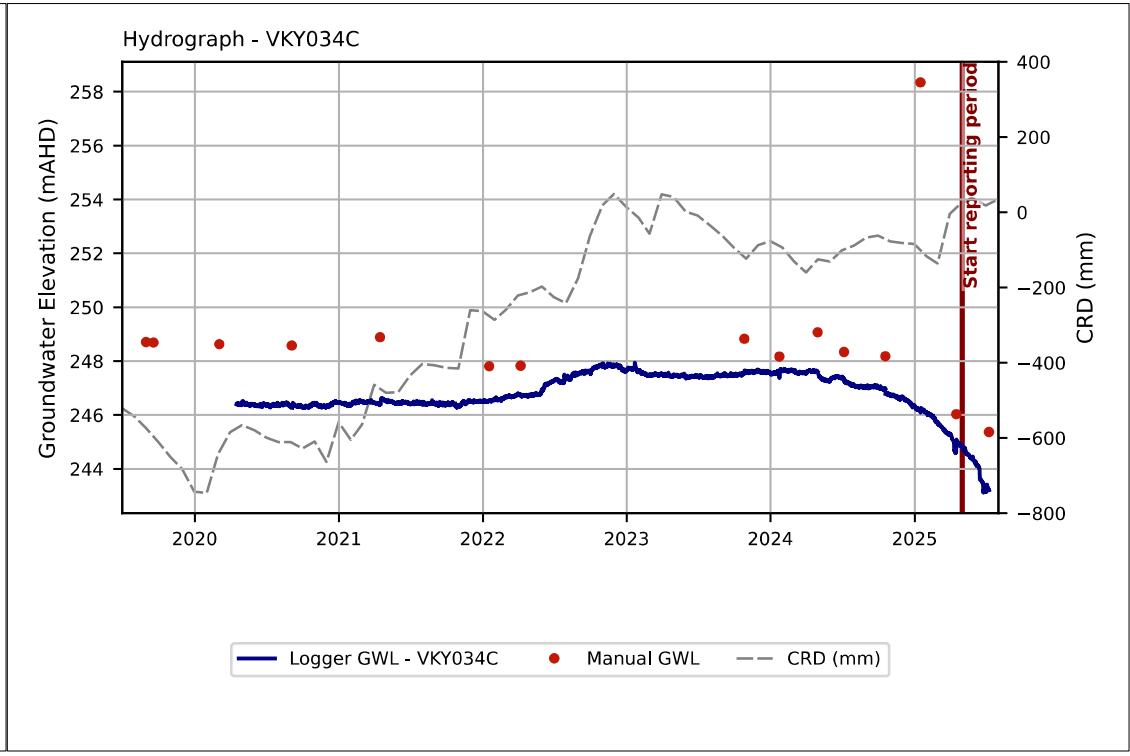

Hydrograph - SB15
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

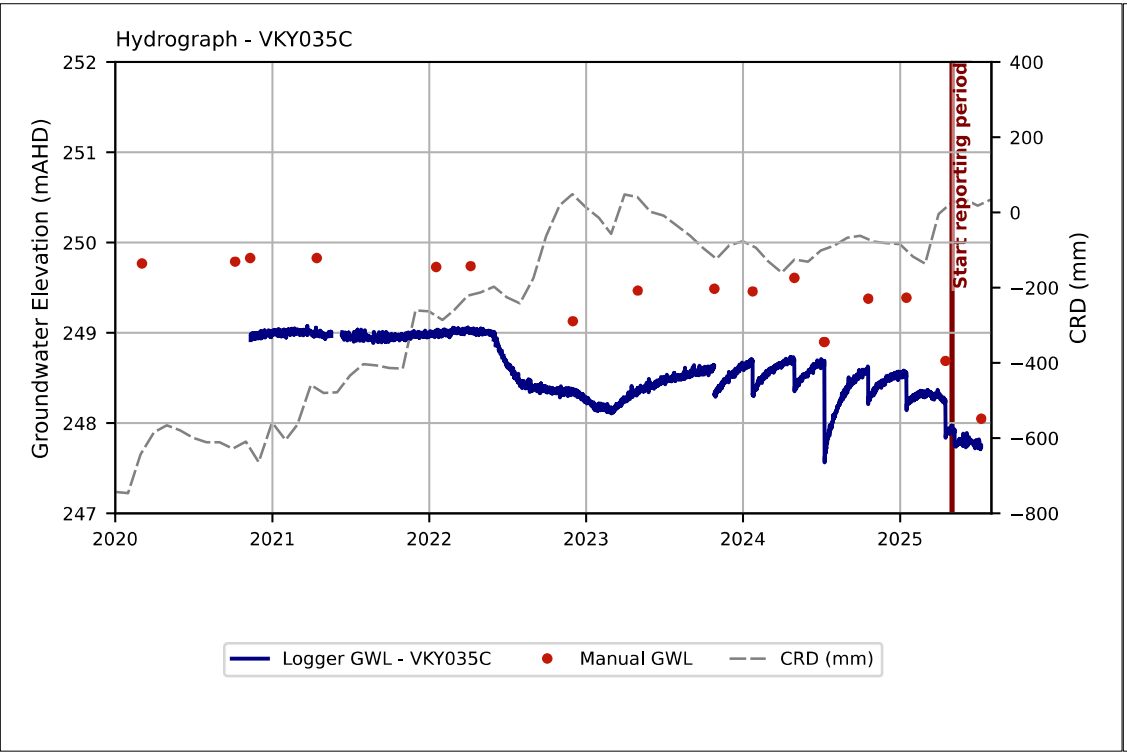

Hydrograph - TR18
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - TR18
Manual GWL
CRD (mm)

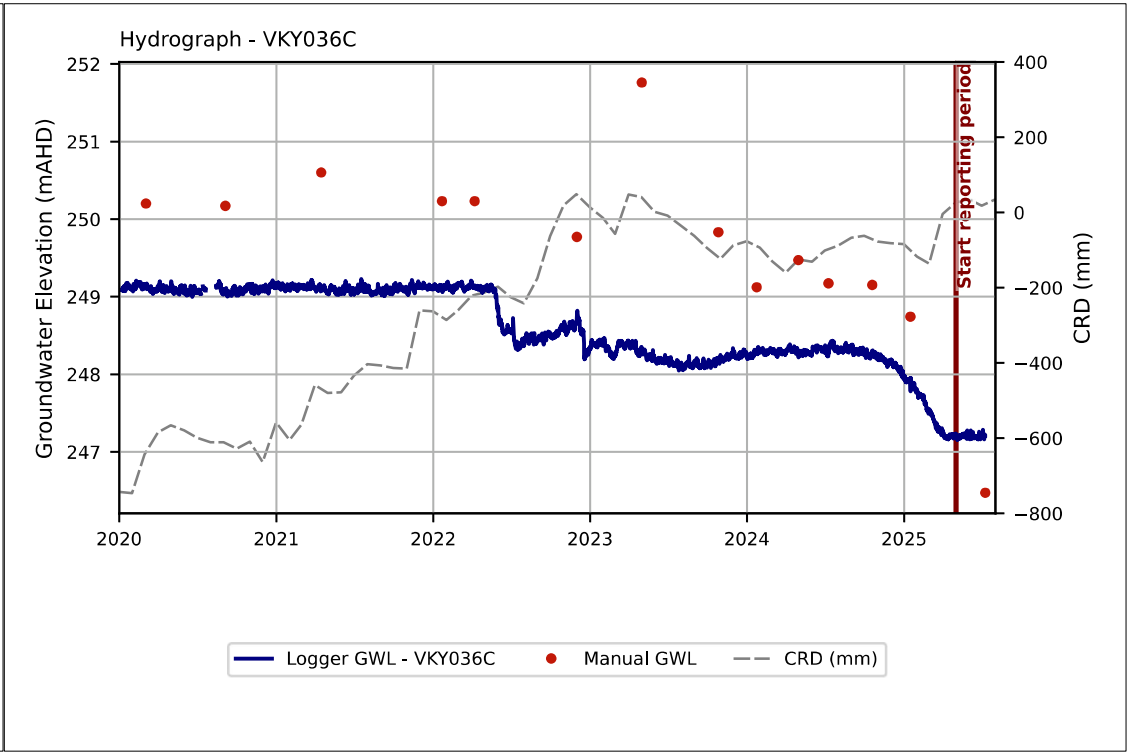

Hydrograph - TR26
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

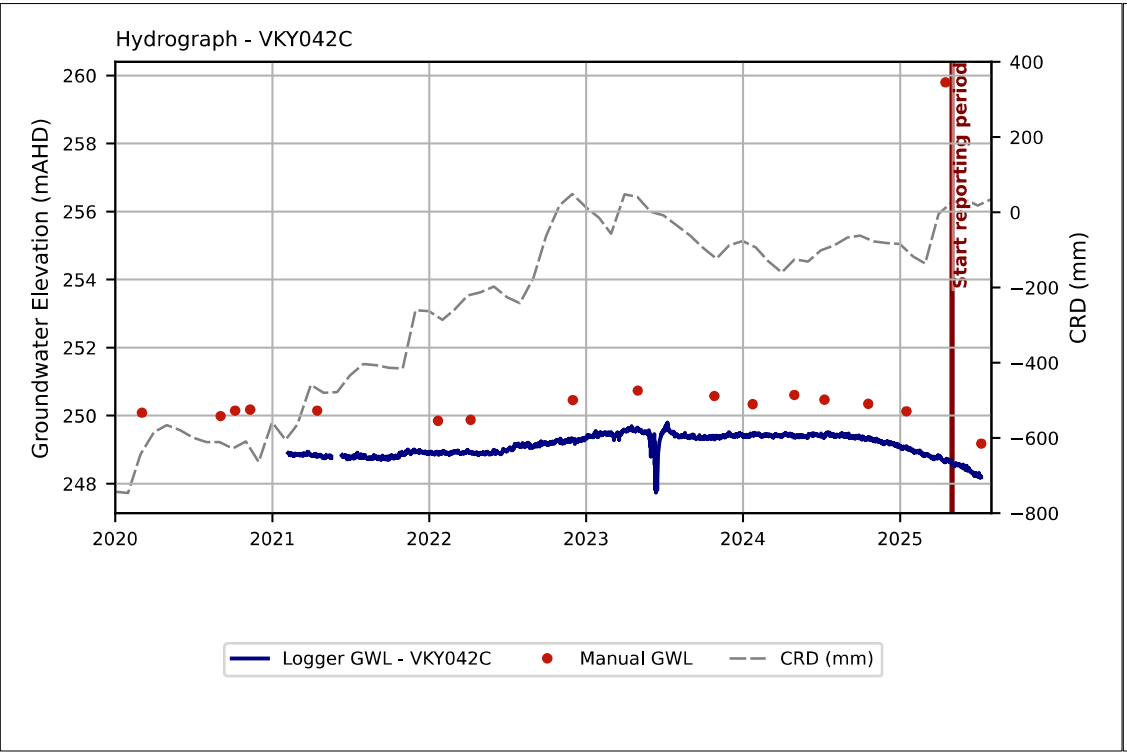

Hydrograph - TR35
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

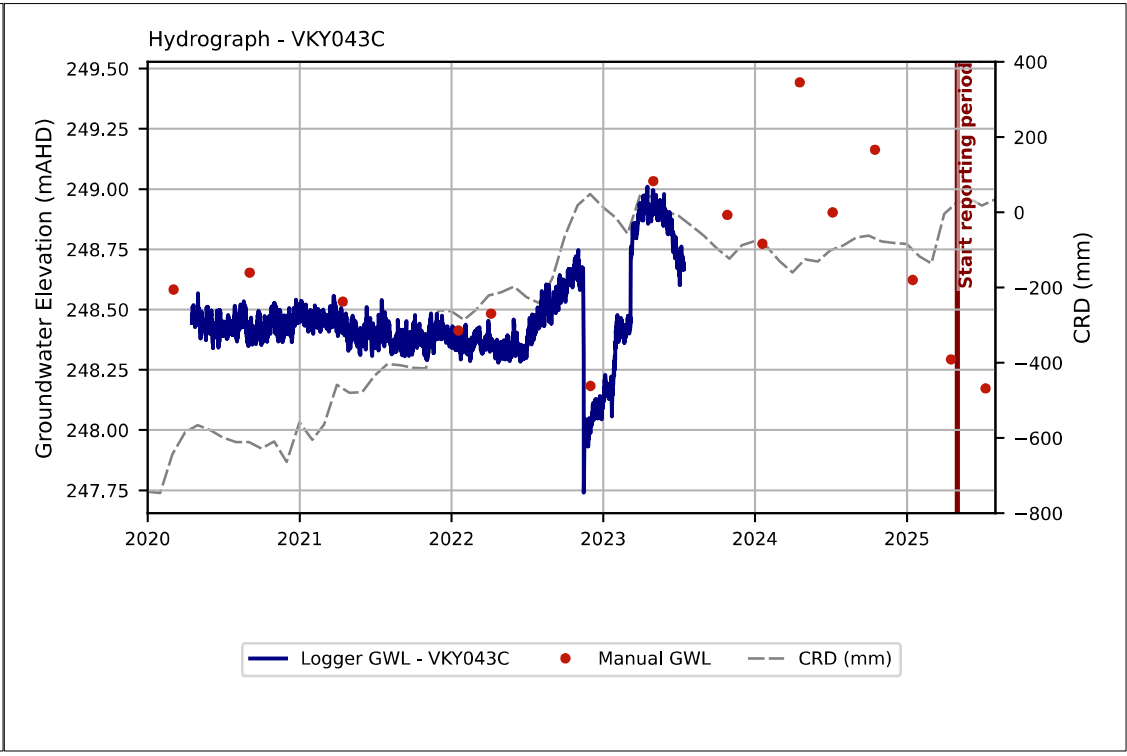

Hydrograph - TR7
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - TR7
Manual GWL
CRD (mm)

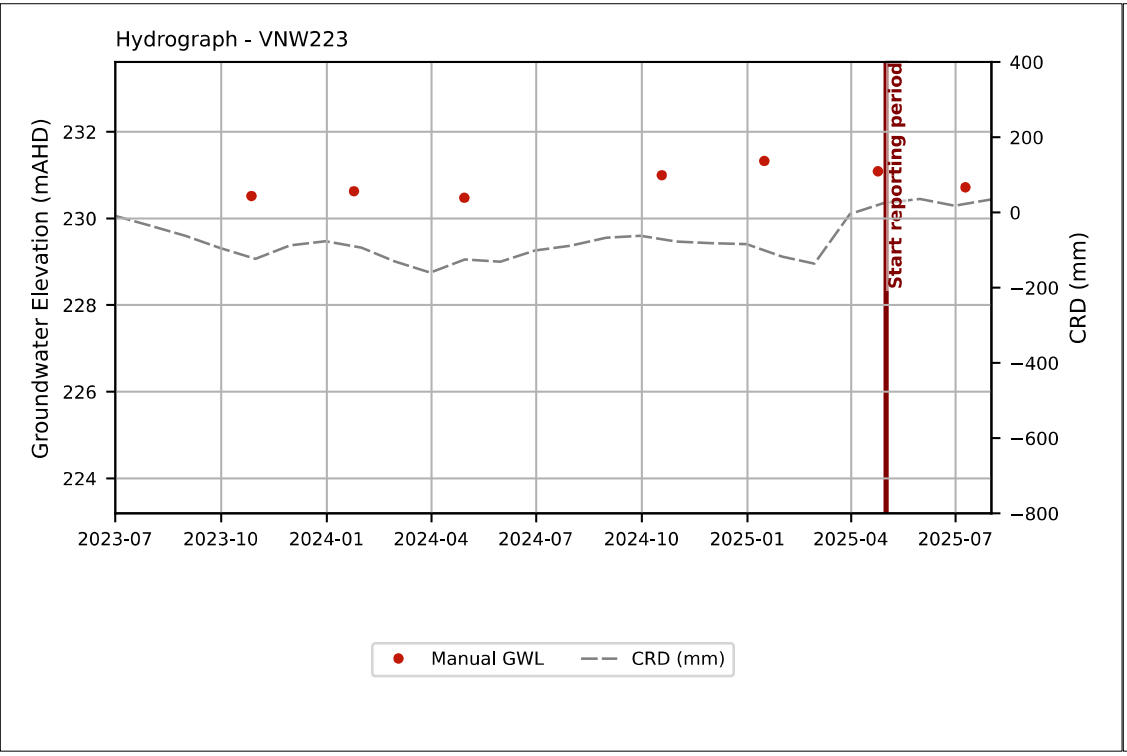

Hydrograph - VKY034C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY034C
Manual GWL
CRD (mm)

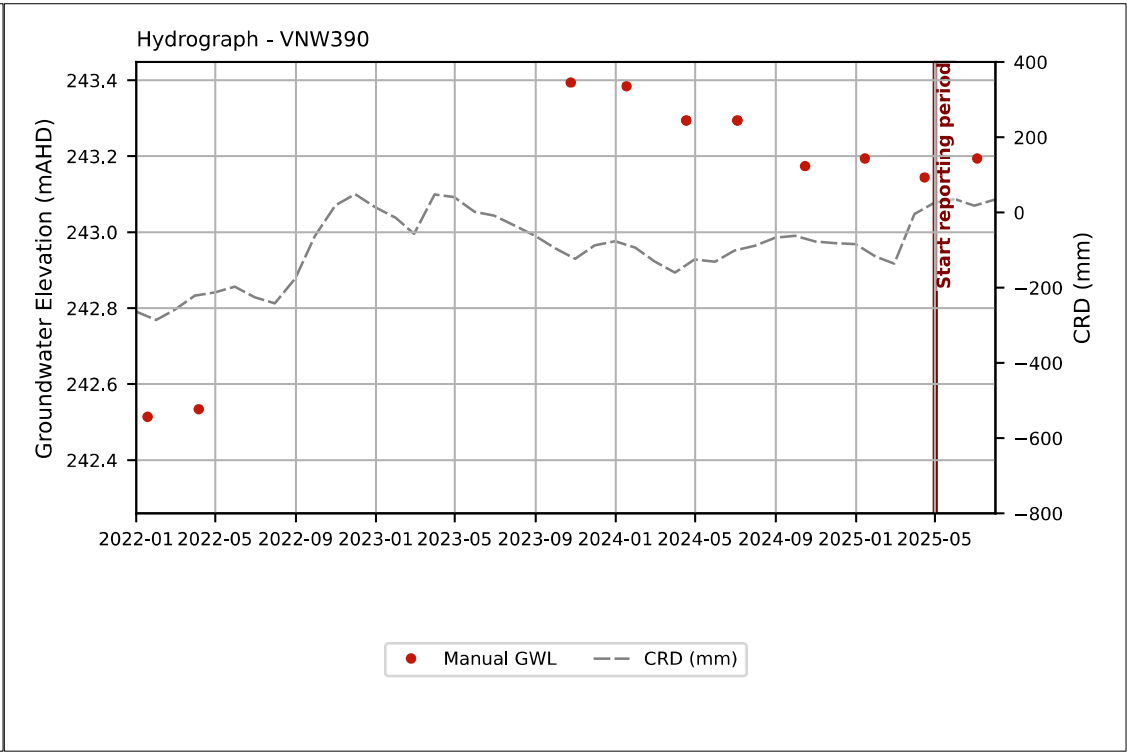

Hydrograph - VKY035C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY035C
Manual GWL
CRD (mm)

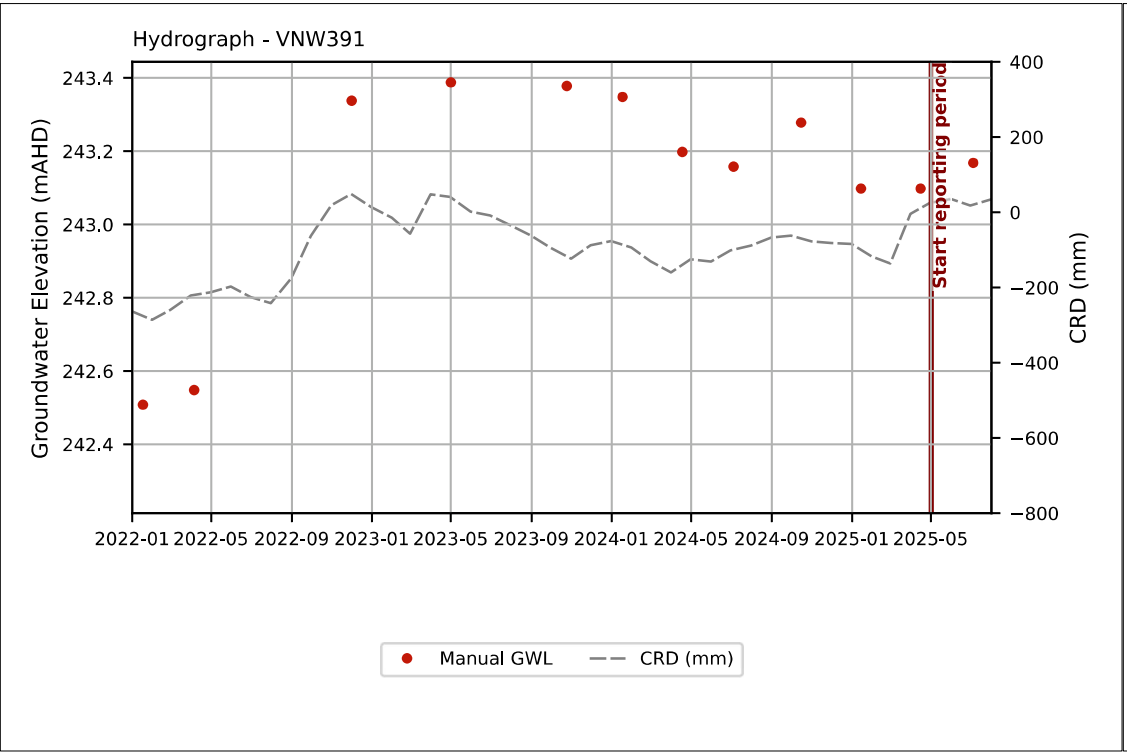

Hydrograph - VKY036C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY036C
Manual GWL
CRD (mm)

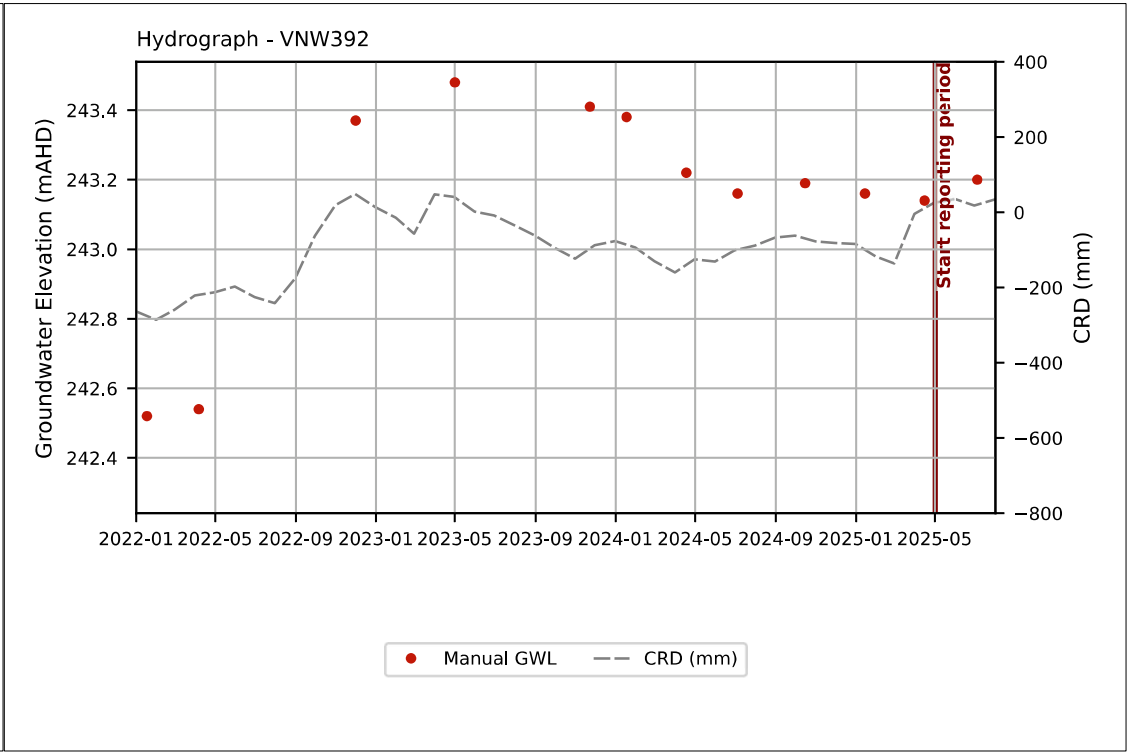

Hydrograph - VKY042C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY042C
Manual GWL
CRD (mm)

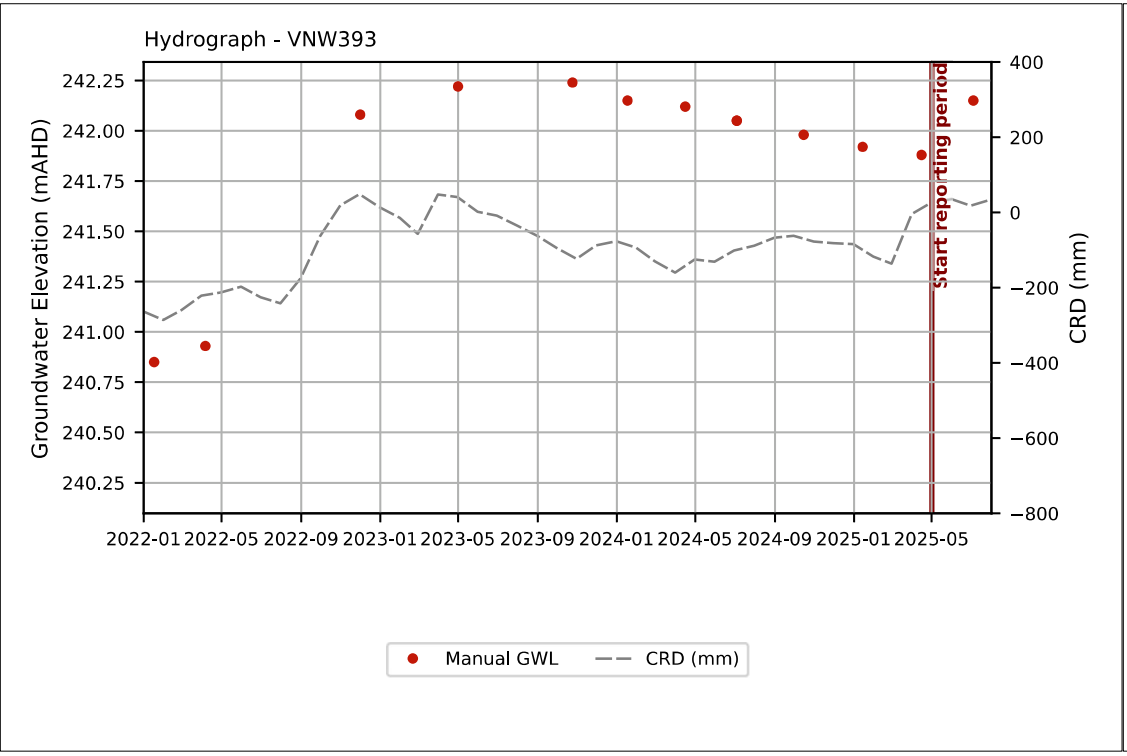

Hydrograph - VKY043C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY043C
Manual GWL
CRD (mm)

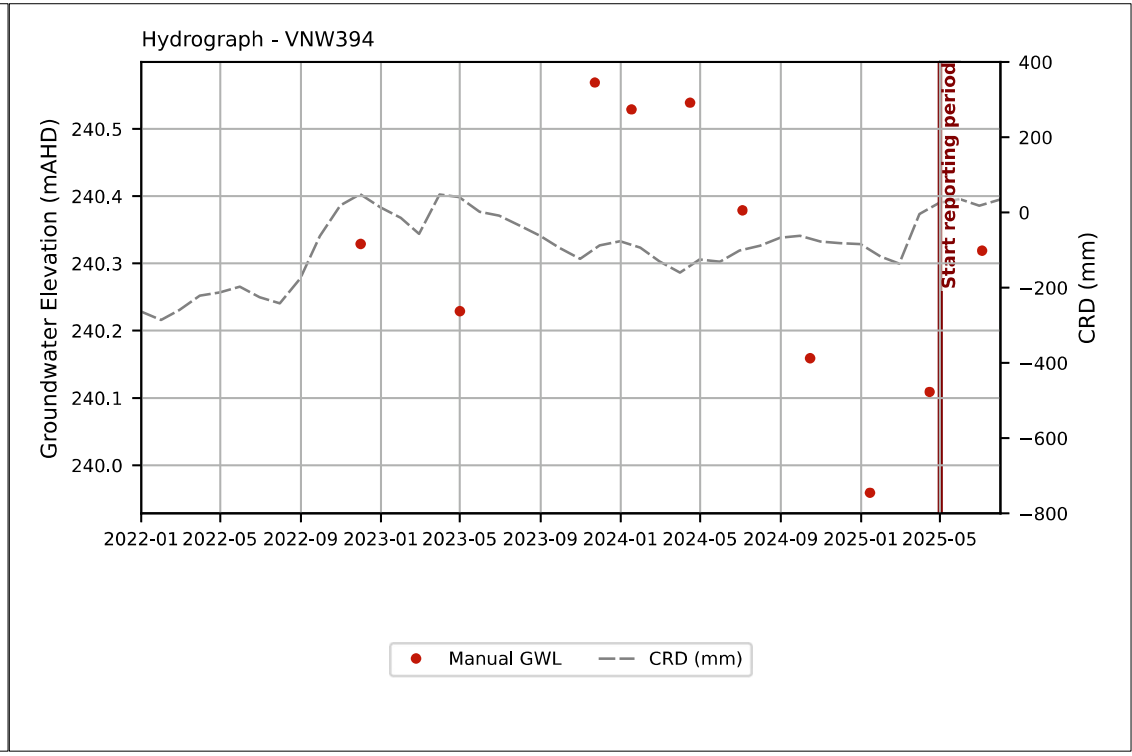

Hydrograph - VNW223
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

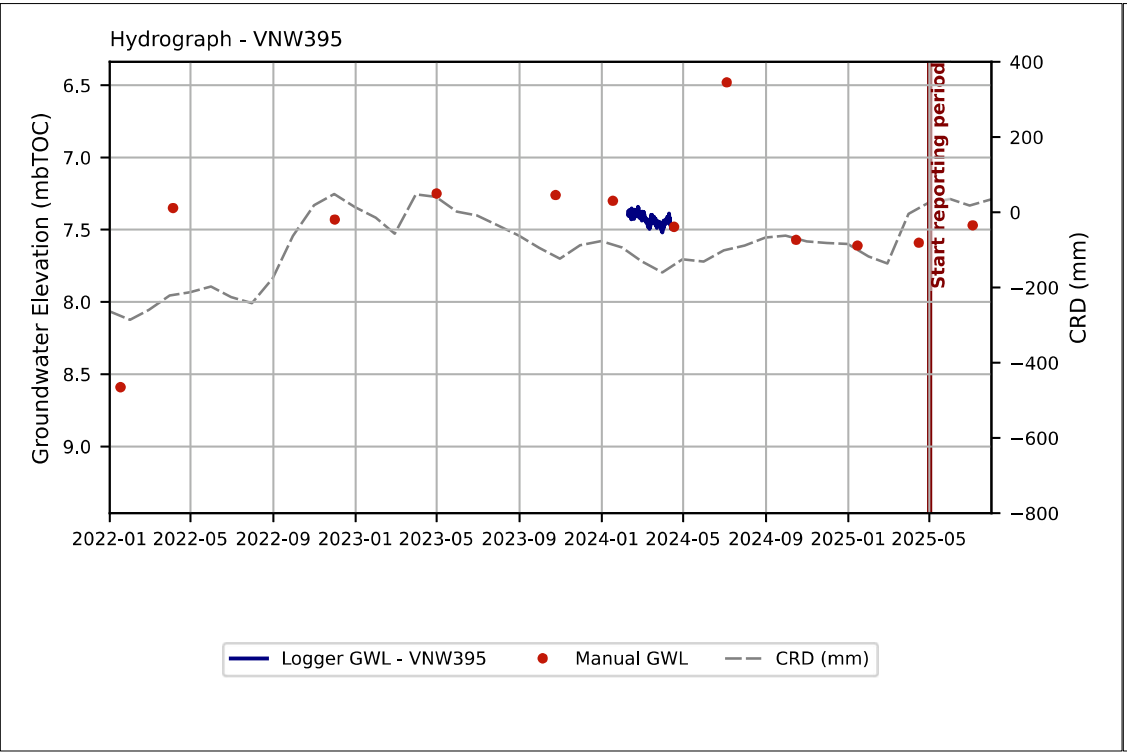

Hydrograph - VNW390
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

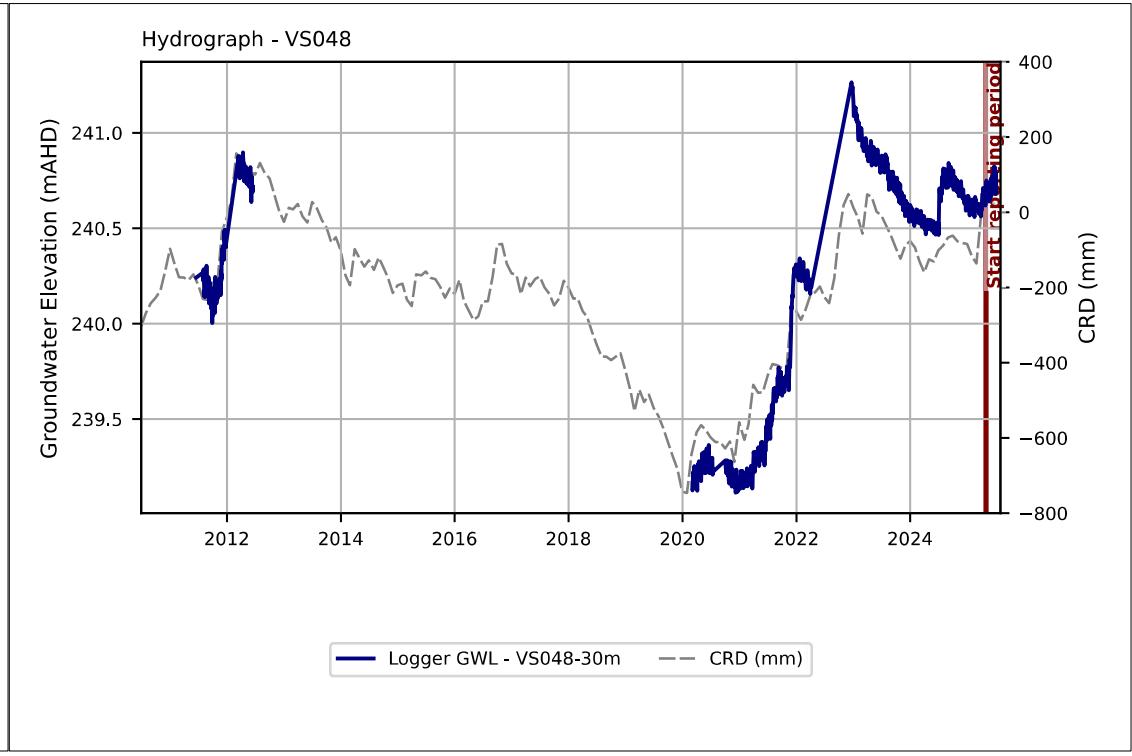

Hydrograph - VNW391
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

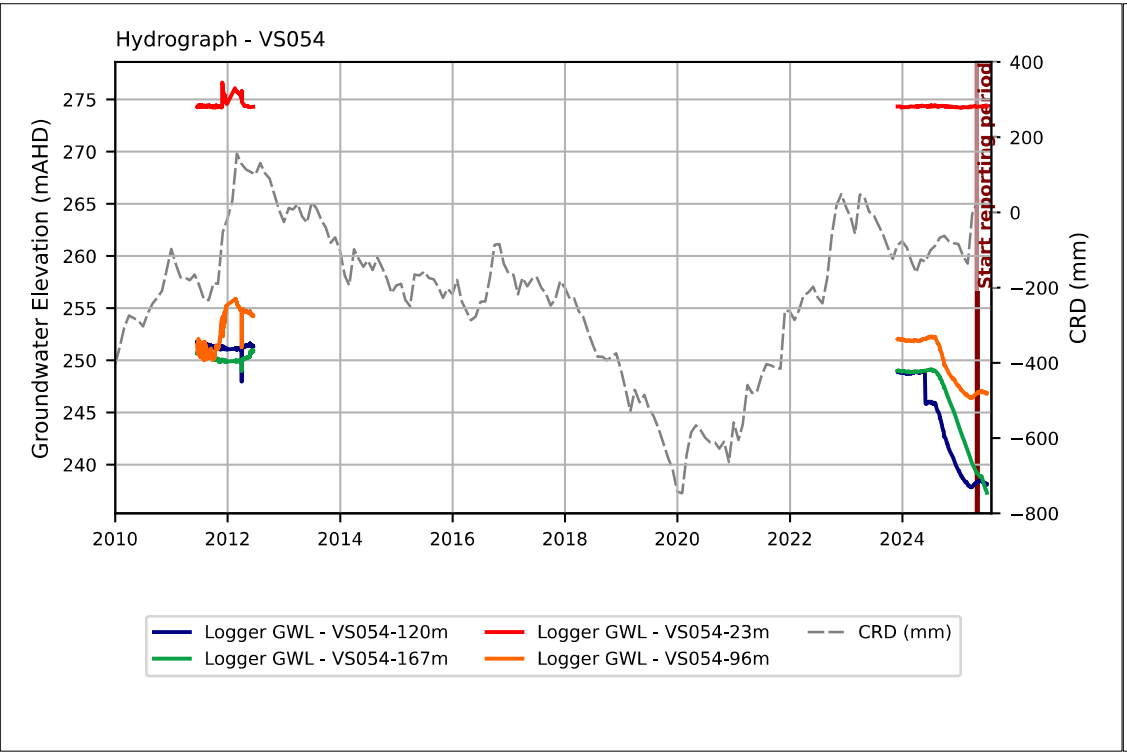

Hydrograph - VNW392
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

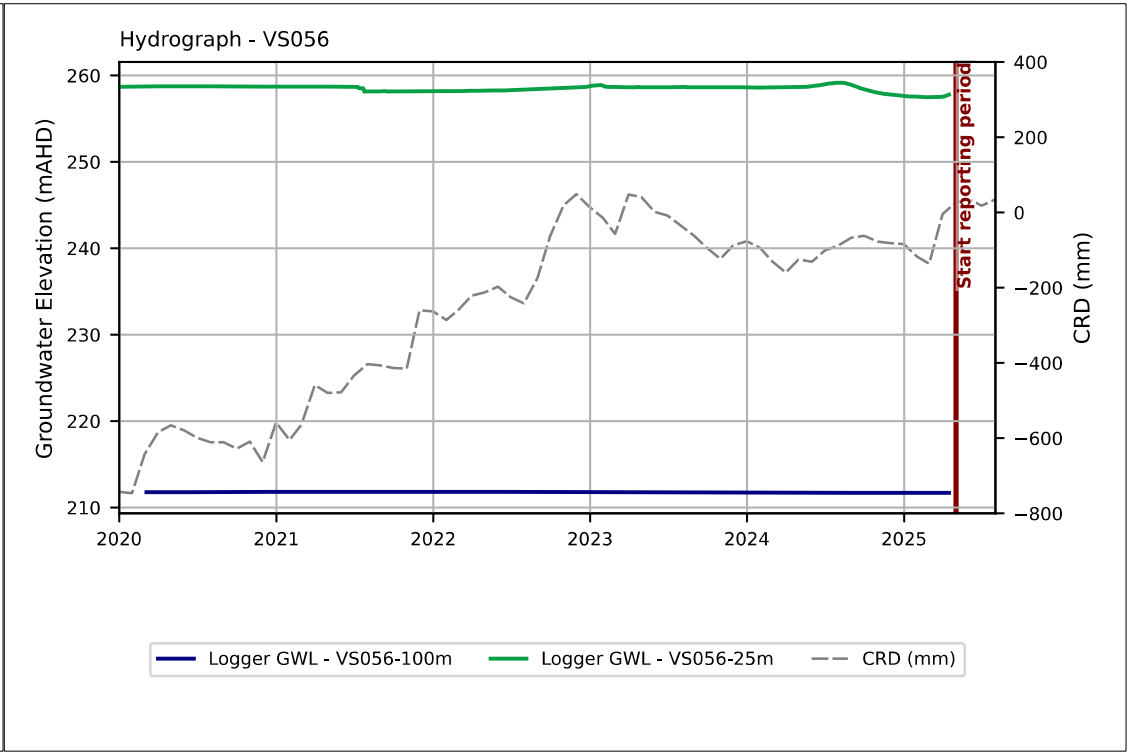

Hydrograph - VNW393
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

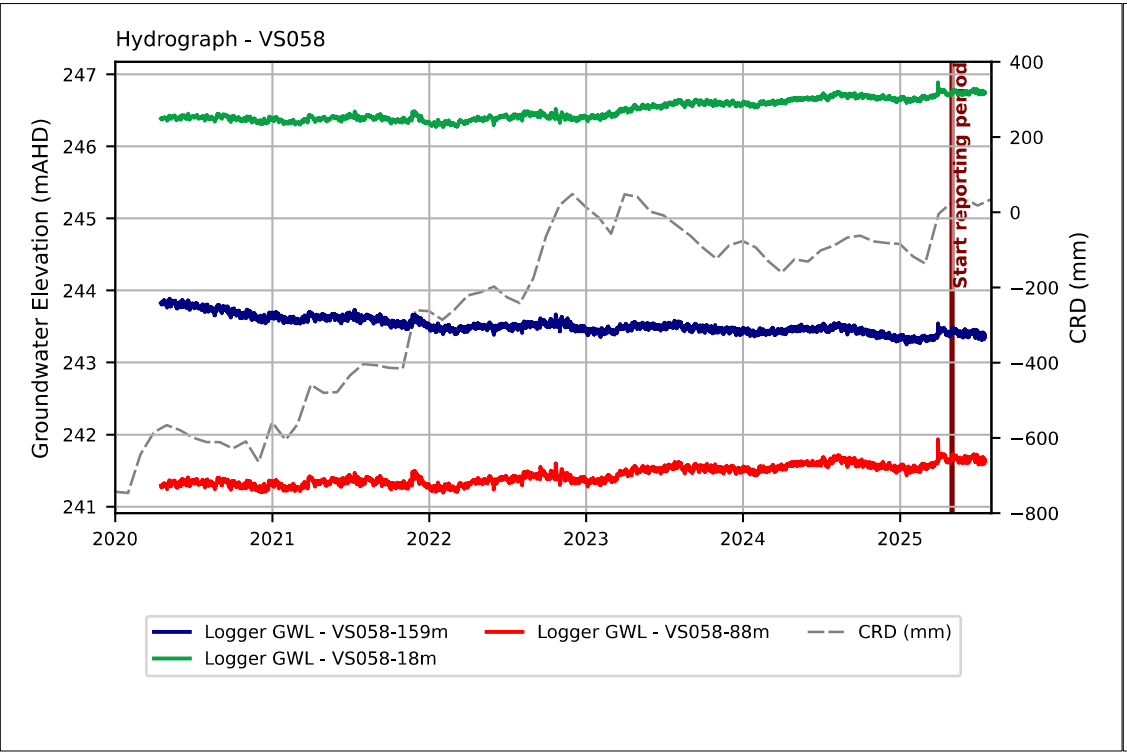

Hydrograph - VNW394
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

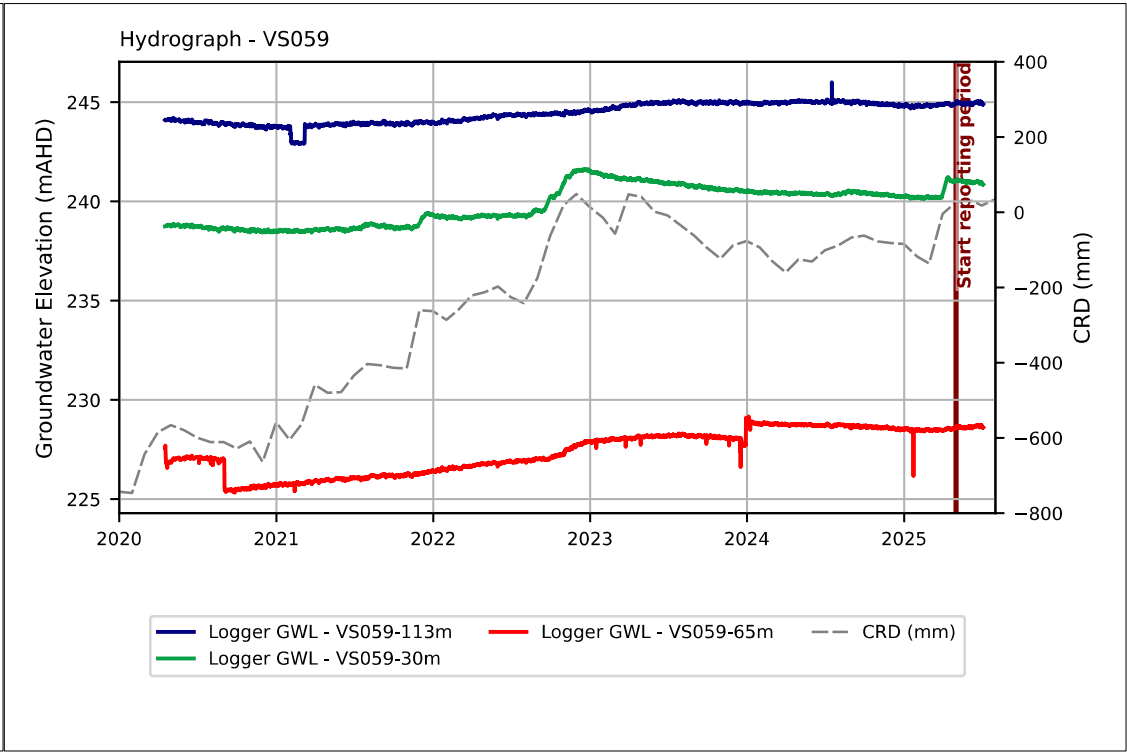

Hydrograph - VNW395
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Logger GWL - VNW395
Manual GWL
CRD (mm)

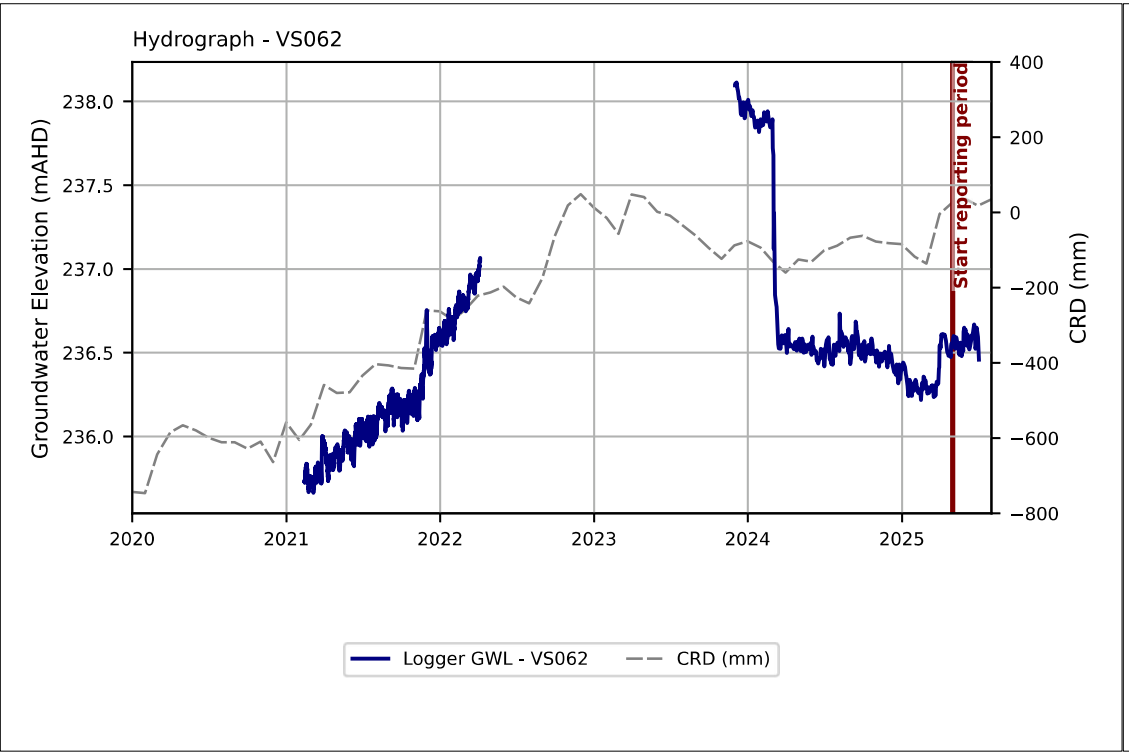

Hydrograph - VS048
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS048-30m
CRD (mm)

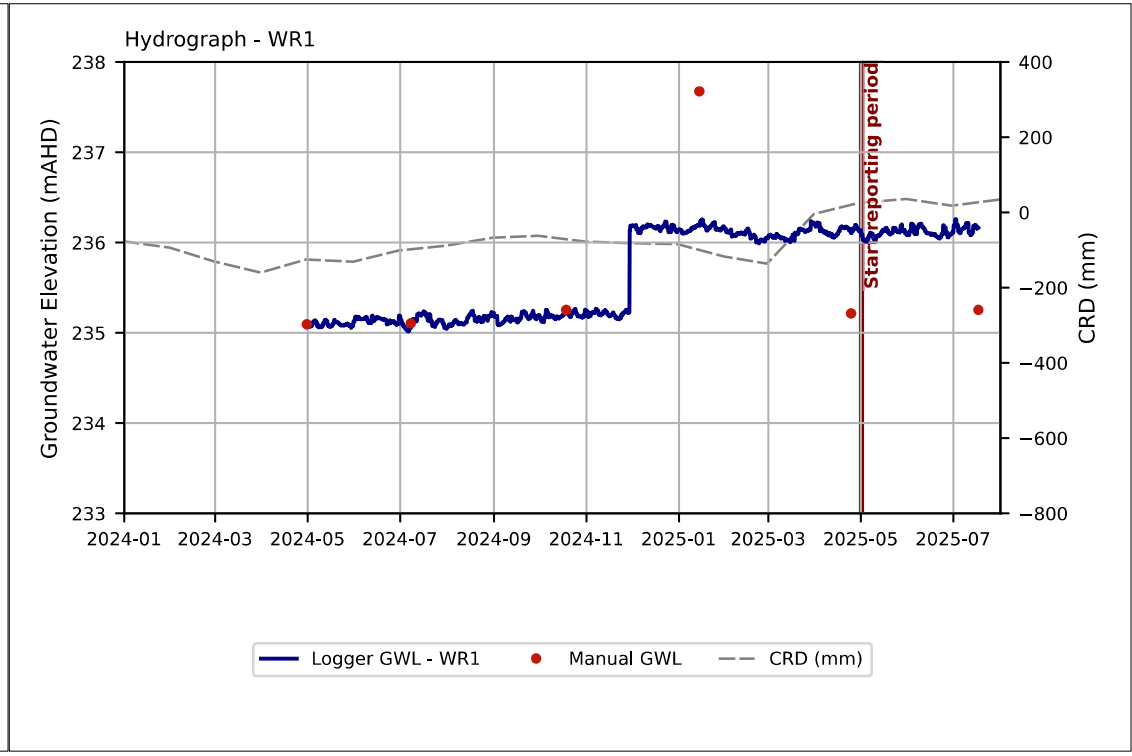

Hydrograph - VS054
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS054-120m
Logger GWL - VS054-167m
Logger GWL - VS054-23m
Logger GWL - VS054-96m
CRD (mm)

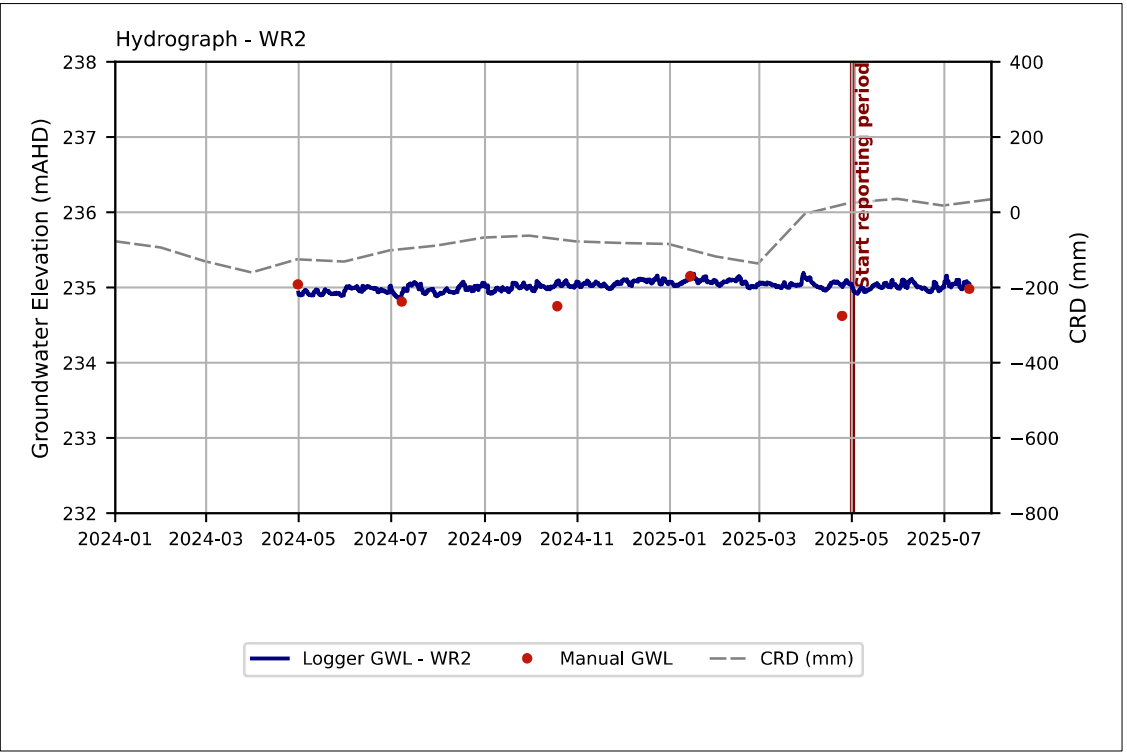

Hydrograph - VS056
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS056-100m
Logger GWL - VS056-25m
CRD (mm)


Hydrograph - VS058
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS058-159m
Logger GWL - VS058-18m
Logger GWL - VS058-88m
CRD (mm)


Hydrograph - VS059
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS059-113m
Logger GWL - VS059-30m
Logger GWL - VS059-65m
CRD (mm)


Hydrograph - VS062
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS062
CRD (mm)


Hydrograph - WR1
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - WR1
Manual GWL
CRD (mm)


Hydrograph - WR2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - WR2
Manual GWL
CRD (mm)

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 cleanning 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_2S
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	H2S; 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_2S 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 H2S 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 H2S
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 H2S
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	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE 1 OF
GTEZB4YY	Environmental	2025-07-10 11:24	5 Working Days	No	INX	6

LAB USE ONLY	RECEIVED(DATE/TIME): 10.7.25 1615	APPROPRIATELY SEALED?: YES NO	TEMPERATURE: 4.7 ice	JOB #:	SIGNED: IR

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	

E-MAILED

LAB OF ORIGIN: NEWCASTLE

Environmental Division Sydney
Work Order Reference
ES2521085



Telephone : +61-2-8784 8555

Rel: IR of ALS
10.7.25 @ 17:00

ALS PU
Rec'd - SOBSHW 10/7/25 1940

15	SB07	2025-07-03 11:25	6XT33ZTB-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	SB08	2025-07-03 12:28	6XT33ZTB-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	SB09	2025-07-03 14:03	6XT33ZTB-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
18	SB10	2025-07-03 14:18	6XT33ZTB-18	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	SB11	2025-07-03 15:12	6XT33ZTB-19	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
20	TR18	2025-07-08 10:45	6XT33ZTB-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
21	TR26	2025-07-08 09:56	6XT33ZTB-21	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter
22	TR35	2025-07-08 11:26	6XT33ZTB-22	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	TR7	2025-07-08 10:22	6XT33ZTB-23	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE 2 OF
GTEZB4YY	GBased Environmental	2025-07-10 11:24	5 Working Days	No	INX	6

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
24	VKY0035C	2025-07-08 12:45	6XT33ZTB-24	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	VKY0036C	2025-07-08 13:26	6XT33ZTB-25	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter
26	VKY0042C	2025-07-08 14:09	6XT33ZTB-26	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27	VKY0034C	2025-07-08 12:07	6XT33ZTB-27	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter
28	VKY0043C	2025-07-08 11:05	6XT33ZTB-28	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
29	GW-4	2025-07-09 10:32	6XT33ZTB-29	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
30	GW-10	2025-07-09 08:35	6XT33ZTB-30	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
31	GW-15	2025-07-08 08:31	6XT33ZTB-31	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
32	MD03	2025-07-04 12:45	6XT33ZTB-32	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
33	VKY GW Duplicate 1	2025-07-09 10:32	6XT33ZTB-33	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
34	VKY-GW-Blank	2025-07-09 08:38	6XT33ZTB-34	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
35	VKY GW Lab Split Dup 1	2025-07-08 08:31	6XT33ZTB-35	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
36	VKY GW Lab Split Dup 2	2025-07-08 08:38	6XT33ZTB-36	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
37	VNW229/P 3	2025-07-09 12:17	6XT33ZTB-37	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

38	VNW390	2025-07-04 09:17	6XT33ZTB-38	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
39	VNW391	2025-07-04 10:24	6XT33ZTB-39	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
40	VNW392	2025-07-04 10:40	6XT33ZTB-40	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
41	VNW393	2025-07-04 08:46	6XT33ZTB-41	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
42	VNW394	2025-07-04 08:20	6XT33ZTB-42	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
43	VNW395	2025-07-04 09:47	6XT33ZTB-43	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE 3 OF
GTEZB4YY	Cbased Environmental	2025-07-10 11:24	5 Working Days	No	INX	6

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO3	
Q. Total anions	
R. Total Cations	
S. Total Phosphorus as P	
T. Alkalinity (total)	
U. Aluminium (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)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	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 09:56	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	6XT33ZYB-6	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	GW02	2025-07-09 10:58	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	

15	SB07	2025-07-03 11:25	6XT33ZTB-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	SB08	2025-07-03 12:28	6XT33ZTB-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	SB09	2025-07-03 14:03	6XT33ZTB-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
18	SB10	2025-07-03 14:18	6XT33ZTB-18	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	SB11	2025-07-03 15:12	6XT33ZTB-19	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
20	TR18	2025-07-08 10:45	6XT33ZTB-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
21	TR26	2025-07-08 09:56	6XT33ZTB-21	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter
22	TR35	2025-07-08 11:26	6XT33ZTB-22	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	TR7	2025-07-08 10:22	6XT33ZTB-23	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE 4 OF
GTEZB4YY	Chased Environmental	2025-07-10 11:24	5 Working Days	No	INK	6

ANALYSIS REQUIRED	GENERAL INSTRUCTIONS
P. Total Alkalinity as CaCO3	
Q. Total anions	
R. Total Cations	
S. Total Phosphorus as P	
T. Alkalinity (total)	
U. Aluminium (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)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	SAMPLE INSTRUCTIONS
24	VKY0035C	2025-07-08 12:45	6XT33ZTB-24	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	VKY0036C	2025-07-08 15:26	6XT33ZTB-25	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter
26	VKY0042C	2025-07-08 14:03	6XT33ZTB-26	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27	VKY0034C	2025-07-08 12:07	6XT33ZTB-27	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter
28	VKY0043C	2025-07-08 11:05	6XT33ZTB-28	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
29	GW-4	2025-07-09 10:32	6XT33ZTB-29	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
30	GW-10	2025-07-09 08:55	6XT33ZTB-30	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
31	GW-15	2025-07-08 08:31	6XT33ZTB-31	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
32	MW03	2025-07-04 12:48	6XT33ZTB-32	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
33	VKY GW Duplicate 1	2025-07-09 10:32	6XT33ZTB-33	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
34	VKY-GW-Blank	2025-07-09 08:38	6XT33ZTB-34	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
35	VKY GW Lab Split Dup 1	2025-07-08 08:31	6XT33ZTB-35	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
36	VKY GW Lab Split Dup 2	2025-07-08 08:35	6XT33ZTB-36	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
37	VNW222/P-3	2025-07-09 12:17	6XT33ZTB-37	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

38	VNW390	2025-07-04 09:17	6XT33ZTB-38	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
39	VNW391	2025-07-04 10:24	6XT33ZTB-39	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
40	VNW392	2025-07-04 10:40	6XT33ZTB-40	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
41	VNW393	2025-07-04 08:45	6XT33ZTB-41	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
42	VNW394	2025-07-04 08:20	6XT33ZTB-42	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
43	VNW395	2025-07-04 09:47	6XT33ZTB-43	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE 5 OF
GTEZB4YY	Environmental	2025-07-10 11:24	5 Working 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)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	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 09:56	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	
		2025-07-04																			

9	MD01	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	
15	SB07	2025-07-03 11:25	6XT33ZTB-15	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16	SB08	2025-07-03 12:28	6XT33ZTB-16	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17	SB09	2025-07-03 14:03	6XT33ZTB-17	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
18	SB10	2025-07-03 14:18	6XT33ZTB-18	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
19	SB11	2025-07-03 15:12	6XT33ZTB-19	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
20	TR18	2025-07-08 10:45	6XT33ZTB-20	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
21	TR26	2025-07-08 09:56	6XT33ZTB-21	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter
22	TR35	2025-07-08 11:26	6XT33ZTB-22	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	TR7	2025-07-08 10:22	6XT33ZTB-23	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CHAIN OF CUSTODY	HANDED OVER BY	HANDOVER DATE/TIME	REQUIRED TURNAROUND	RETURN EQUIPMENT	EDD FORMAT	PAGE 6 OF
GTEZB4YY	Obased Environmental	2025-07-10 11:24	5 Working 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)	

#	SAMPLE NAME	DATE/TIME	SAMPLE ID	CONTAINERS	MATRIX	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	SAMPLE INSTRUCTIONS
24	VKY00360	2025-07-08 12:45	6XT33ZTB-24	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	VKY00360	2025-07-08 13:26	6XT33ZTB-25	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter
26	VKY00420	2025-07-08 14:08	6XT33ZTB-26	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27	VKY00340	2025-07-08 12:07	6XT33ZTB-27	3	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Lab to filter
28	VKY00430	2025-07-08 11:05	6XT33ZTB-28	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
29	GW-4	2025-07-09 10:32	6XT33ZTB-29	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
30	GW-10	2025-07-09 08:35	6XT33ZTB-30	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
31	GW-15	2025-07-08 08:31	6XT33ZTB-31	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
		2025-07-04																			

32	MD03	2025-07-04 12:43	6XT33ZTB-32	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
33	VKY GW Duplicate 1	2025-07-09 10:32	6XT33ZTB-33	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
34	VKY-GW-Blank	2025-07-09 08:38	6XT33ZTB-34	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
35	VKY GW Lab Split Dup 1	2025-07-08 08:31	6XT33ZTB-35	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
36	VKY GW Lab Split Dup 2	2025-07-08 08:35	6XT33ZTB-36	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
37	VNW223/P-3	2025-07-09 12:17	6XT33ZTB-37	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
38	VNW390	2025-07-04 09:17	6XT33ZTB-38	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
39	VNW391	2025-07-04 10:24	6XT33ZTB-39	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
40	VNW392	2025-07-04 10:40	6XT33ZTB-40	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
41	VNW393	2025-07-04 08:45	6XT33ZTB-41	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
42	VNW394	2025-07-04 08:20	6XT33ZTB-42	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
43	VNW395	2025-07-04 09:47	6XT33ZTB-43	4	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

CERTIFICATE OF ANALYSIS

Work Order	: **ES2524176**	Page	: 1 of 5
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: Ms Marni Blake	Contact	: Jessica Chen
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: 02 6571 3334	Telephone	: +61-2-8784 8555
Project	: Vickery Quarterly Groundwaters	Date Samples Received	: 07-Aug-2025 17:00
Order number	: ----	Date Analysis Commenced	: 08-Aug-2025
C-O-C number	: HE3K6JV9	Issue Date	: 15-Aug-2025 17:29
Sampler	: ----		
Site	: Vickery		
Quote number	: SYBQ/403/21v5 and PLANNED EVENTS		
No. of samples received	: 1		
No. of samples analysed	: 1		

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									
ø Total Anions	----	0.01	meq/L		**12.1**	----	----	----	----
ø Total Cations	----	0.01	meq/L		**12.0**	----	----	----	----
ø 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**	Page	: 1 of 4
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: All Deliverables	Contact	: Jessica Chen
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6571 3334	Telephone	: +61-2-8784 8555
Project	: Vickery Quarterly Groundwaters	Date Samples Received	: 19-Aug-2025 13:55
Order number	: ----	Date Analysis Commenced	: 19-Aug-2025
C-O-C number	: ----	Issue Date	: 25-Aug-2025 10:38
Sampler	: ----		
Site	: Vickery		
Quote number	: SYBQ/403/21v5 and PLANNED EVENTS		
No. of samples received	: 1		
No. of samples analysed	: 1		

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	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								
ø Total Anions	----	0.01	meq/L	**22.8**	----	----	----	----
ø Total Cations	----	0.01	meq/L	**20.3**	----	----	----	----
ø 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 µS/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 µS/cm to 14,840 µS/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/Nov-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/Nov-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 SO_4 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	<).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

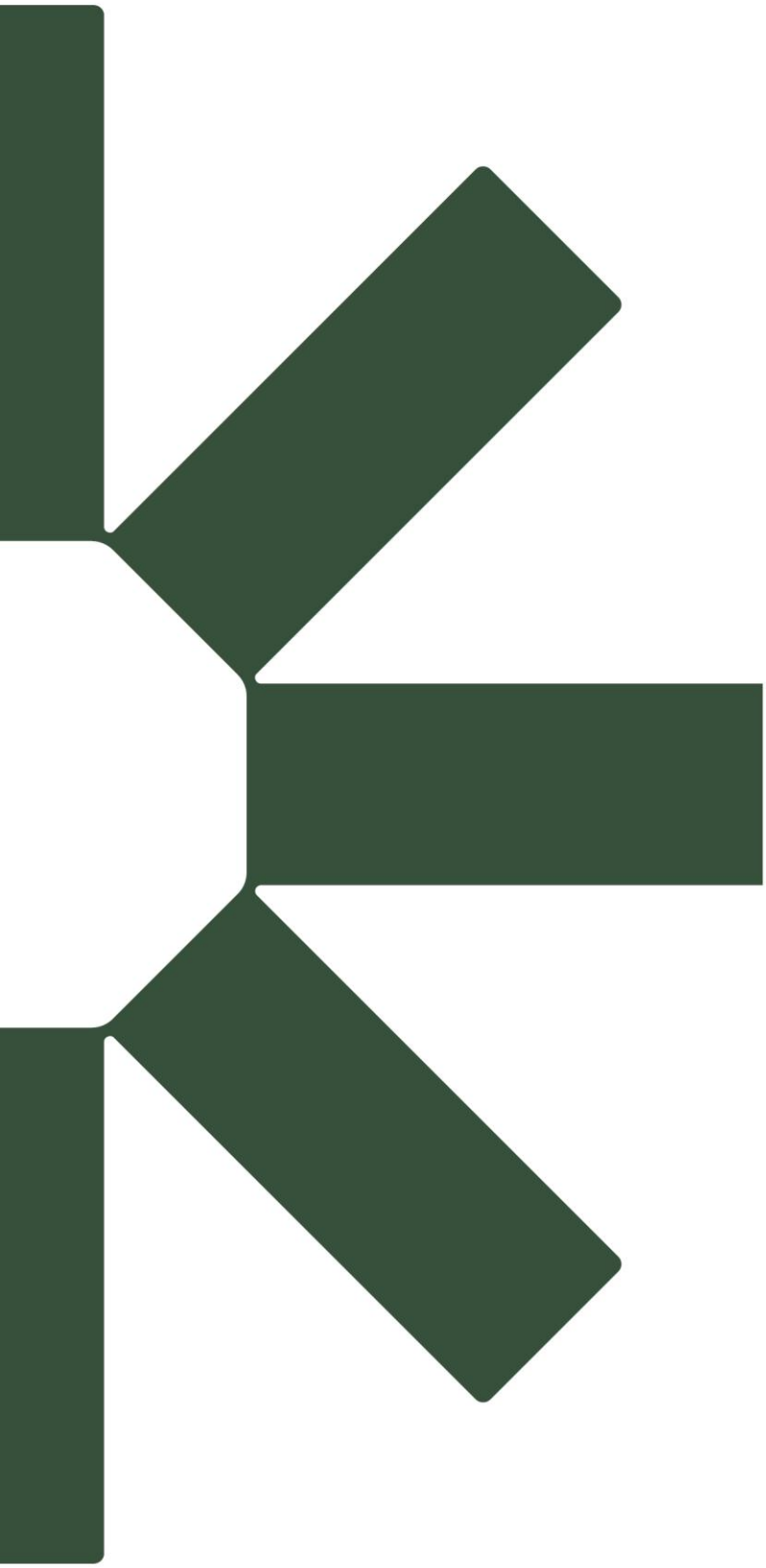
Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
VKY043C	Apr-24	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.004	<0.0001	<0.001	0.002	<0.01	<0.001*	0.006
VKY043C	Jul-24	<0.01	<0.001	<0.001	0.1	<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

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review August 2025 – October 2025

Whitehaven Coal Ltd

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Prepared by:

SLR Consulting Australia

SLR Project No.: 640.031099.00001

19 December 2025

Revision: 1.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	19 December 2025	Joy Xie	Sharon Hulbert	Brian Rask

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Whitehaven Coal Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Appendices

Appendix A Trigger Action Response Plan
Appendix B Groundwater Level Results
Appendix C Groundwater Quality Results
Appendix D Quality Trigger Level Anlaysis

Acronyms and Abbreviations

CMAs	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 level and quality data collected for the Vickery Extension Project (VEP) between 1st August 2025 through 31st October 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.

9 Eighth Quarterly Report (May 2025 through July 2025), published September 2025.

Mining operations continue on site, with coal extraction occurring. Within the reporting period, Whitehaven Coal continue 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 directly into MWD2. Water for dust suppression is taken from MWD2 and delivered via water carts. A water fill point is also operational at the MIA 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 TARPs for the open cut activities at VEP are provided 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. A review of the current GWMP and TARP is underway, and monitoring results—along with triggers identified in this and previous reviews—will be reassessed once the updated GWMP takes effect.

1.3 Report Objective

This report assesses the VEP groundwater level and quality monitoring data against the trigger levels for all required parameters (as per the relevant TARP in the site GWMP) for the reporting period from 1st August 2025 through 31st October 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 previous 12 months period, rainfall on site was substantially above long-term average in March 2025, and significantly higher in both May and August of 2025. Notably lower rainfall compared to the long-term average rainfall was observed from MET2 in January and June 2025.

Table 1: Monthly rainfall vs long-term average rainfall

Year	2024			2025									
Month	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**March**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
SILO 2024-2025 monthly rainfall (mm)	33.6	54.2	58.3	35.8	39.0	179.0	62.8	49.5	22.7	55.3	67.8	28.0	40.0
SILO Long-term average rainfall (mm)	49.0	58.0	60.9	69.4	57.6	47.0	33.5	39.3	40.4	38.7	35.4	37.2	48.9
On-site Rainfall (mm)	54.6	53.1	60.7	12.9	22.0	217.6	44.6	60	15.4	43.8	82.4	25.6	42.2

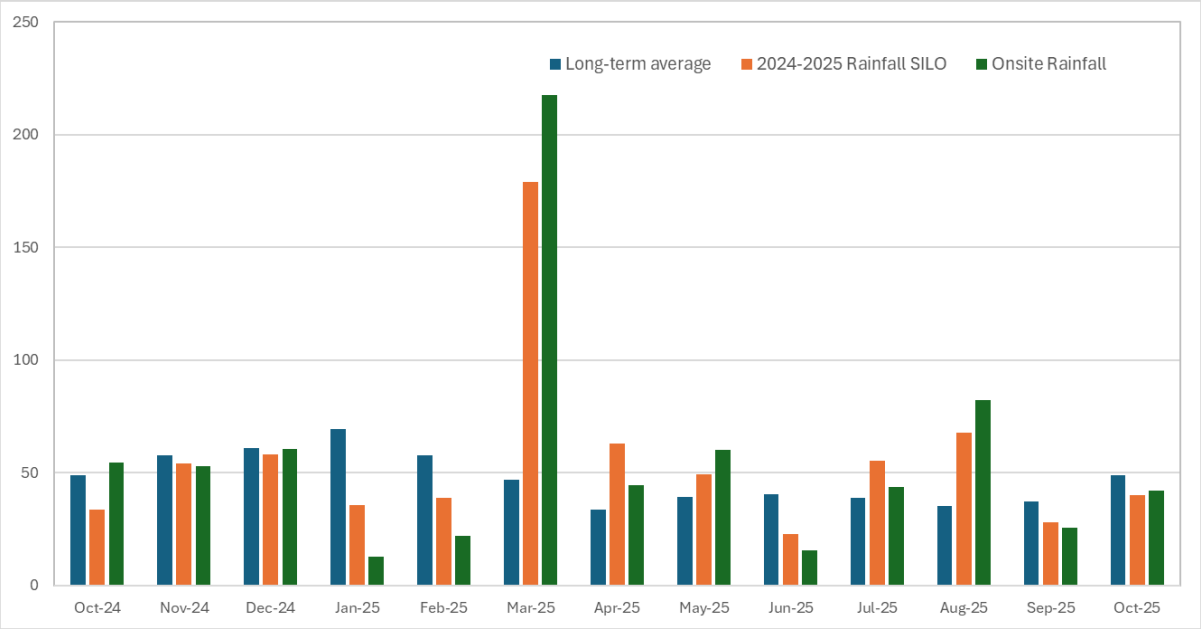


Figure 1 On-site monthly rainfall vs long-term average monthly rainfall

2.2 Groundwater Monitoring Network

As per the GWMP, the existing groundwater monitoring network consists of 65 monitoring sites, including

- 32 monitoring locations in Alluvial aquifer,
- 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), and
- Two water supply bores (GW971400 and GW971614).

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

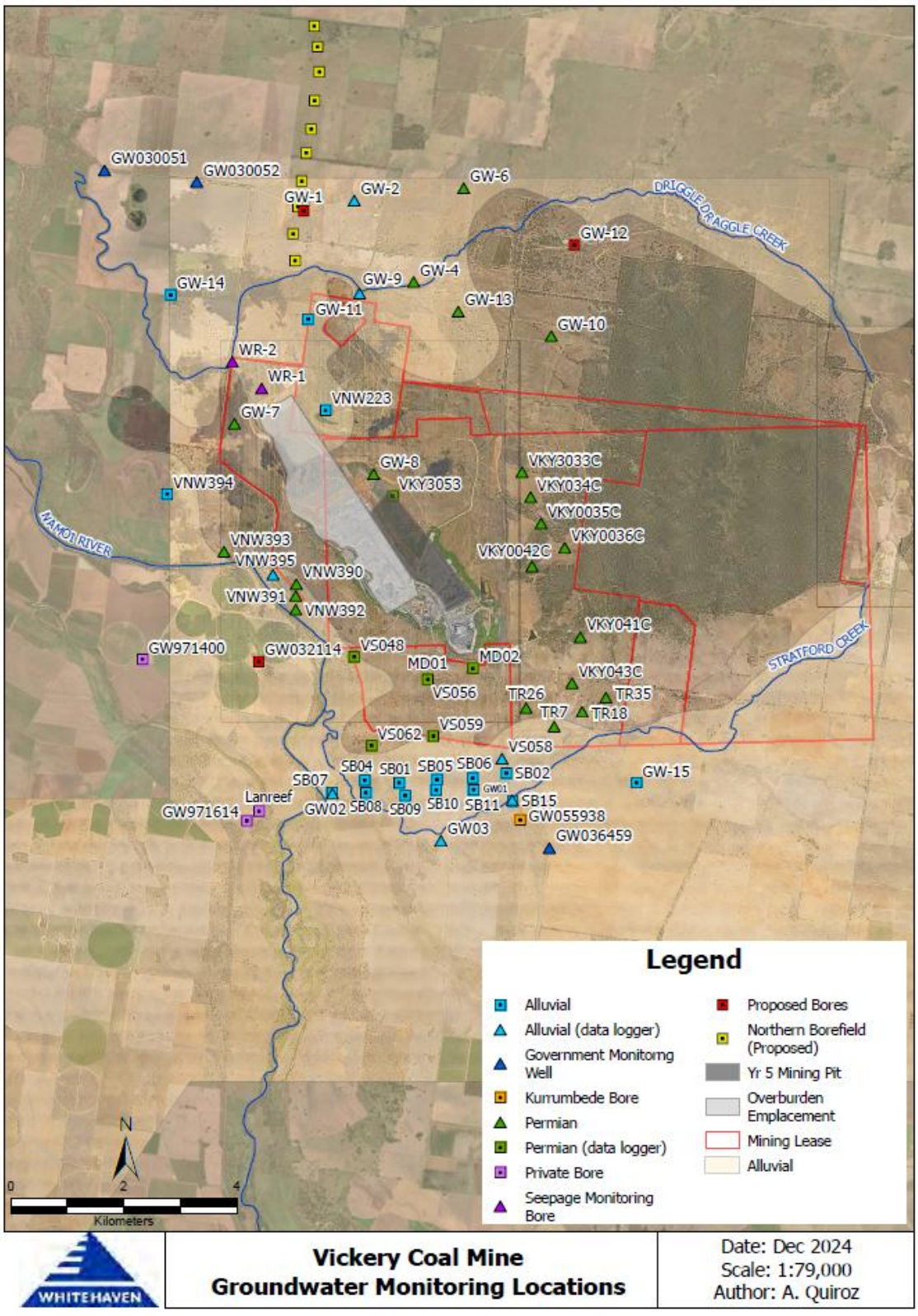


Figure 2: VCM groundwater monitoring network

2.3 Data Availability

In line with the VCM GWMP, the full suite of bores available was monitored during the reporting period, except for GW-6, which was sheared and could not be accessed.

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 presented in **Figure 3** and summarised in **Table 2**. The groundwater contour map, based on the results from October 2025 monitoring round, is presented in **Figure 4**.

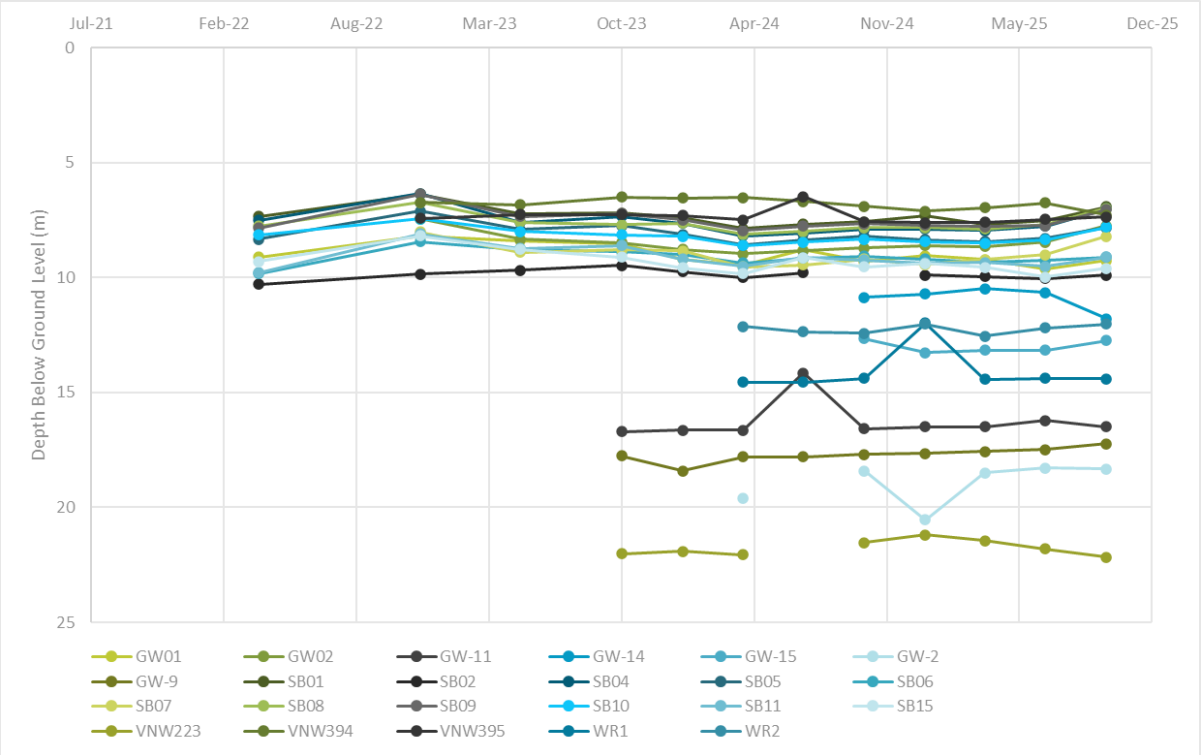
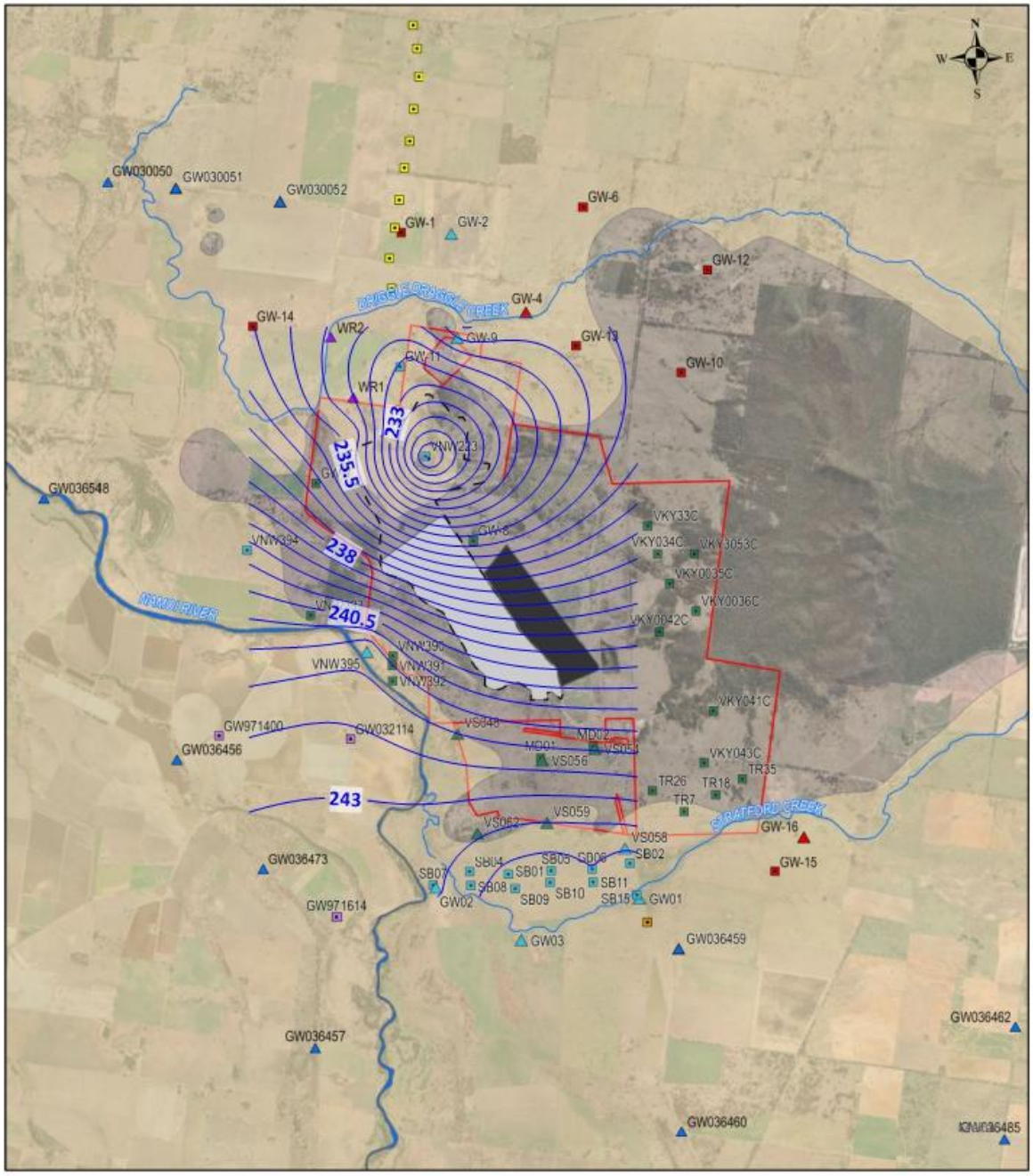


Figure 3: Alluvial bores hydrograph (manual dips, below ground level)

Table 2: Groundwater levels in alluvial aquifer

Sample Location	Depth to Water (mbTOC*)											
	Apr-22	Dec-22	May-23	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
GW01	9.1	8.2	8.4	8.5	9.2	9.5	8.8	9.3	9.0	9.2	9.6	9.3
GW02	-	7.5	8.3	8.5	8.8	9.0	8.8	8.7	8.6	8.7	8.5	7.7
GW03	-	6.1	6.9	7.2	7.3	7.1	7.5	7.2	6.9	7.02	7.07	6.44
GW-11	-	-	-	16.7	16.6	16.6	14.2	16.6	16.5	16.5	16.2	16.5
GW-14	-	-	-	-	-	-	-	10.9	10.7	10.5	10.7	11.8
GW-15	-	-	-	-	-	-	-	12.7	13.3	13.2	13.2	12.7
GW-2	-	-	-	-	-	19.6	-	18.4	20.5	18.5	18.3	18.3
GW-9	-	-	-	17.8	18.4	17.8	17.8	17.7	17.6	17.6	17.5	17.2
SB01	7.3	6.4	7.2	7.2	7.4	7.9	7.7	7.6	7.3	7.7	7.5	6.9
SB02	10.3	9.8	9.7	9.5	9.7	10.0	9.8	1.4^	9.9	10.0	10.0	9.9
SB04	7.5	6.3	7.6	7.3	7.6	8.2	8.1	7.9	7.9	7.9	7.8	7.0
SB05	8.3	7.1	7.9	7.7	8.1	8.6	8.4	8.2	8.4	8.4	8.3	7.8
SB06	9.8	8.4	8.8	8.9	9.0	9.4	9.2	9.1	9.2	9.3	9.3	9.1
SB07		8.0	8.9	8.8	8.8	9.5	9.5	9.2	9.4	9.2	9.0	8.2
SB08	7.8	6.7	7.6	7.7	7.6	8.1	8.0	7.8	7.8	7.9	7.7	7.0
SB09	7.9	6.4	7.3	7.2	7.5	8.0	7.8	7.7	7.7	7.8	7.7	7.0
SB10	8.1	7.5	8.0	8.2	8.2	8.6	8.5	8.3	8.4	8.5	8.4	7.8
SB11	9.8	8.1	8.7	8.6	9.2	9.5	9.1	9.2	9.4	9.4	9.5	9.1
SB15	9.3	8.2	8.8	9.1	9.6	9.8	9.1	9.5	9.4	9.6	10.0	9.6
VNW223	-	-	-	22.0	21.9	22.1	-	21.5	21.2	21.4	21.8	22.2
VNW394	-	6.7	6.8	6.5	6.5	6.5	6.7	6.9	7.1	7.0	6.7	7.3
VNW395	-	7.4	7.3	7.3	7.3	7.5	6.5	7.6	7.6	7.6	7.5	7.4
WR1	-	-	-	-	-	14.6	14.5	14.4	12.0	14.4	14.4	14.4
WR2	-	-	-	-	-	12.1	12.4	12.4	12.0	12.6	12.2	12.0
GW971400								9.8				9.4
GW971614								10.4	10.5			9.6

* mbTOC = metres below top of casing.
^Reading considered outlier/error.



WHITEHAVEN COAL PTY LTD

Groundwater Monitoring Locations

Paper size A4

Scale: 1:80,000

500 0 500 1000 1500 2000 2500 3000

Metres

Spatial Reference
Name: GDA 1994 MGA Zone 56
Datum: GDA 1994
Projection: Transverse Mercator

Date Exported: 25/07/2023 10:15 AM

Legend

- Government monitoring wells
- Vickery northern borefield (proposed)
- VEP bore
- Proposed seepage monitoring locations
- Private bore
- Proposed monitoring location
- Proposed monitoring location (data logger)

VEP Monitoring locations

Geological Unit

- Alluvial
- Permian
- Alluvial (data logger)
- Permian (data logger)
- Yr 2 overburden emplacement
- Yr 5 overburden emplacement
- Mine lease
- Yr 5 Mining Pit

Geology

- Alluvial

Figure 4 Alluvial groundwater contour map (October 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**. The groundwater contour map, based on the results of October 2025 monitoring round, is presented in **Figure 6**.

Table 3: Groundwater levels in Permian aquifer

Sample Location	Depth to Water (mbTOC*)										
	Dec-22	May-23	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
GW-4	-	-	-	-	-	-	19.3	19.1	19.3	19.2	19.1
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	27.6
GW-8	-	-	21.7	21.7	21.6	21.6	21.8	22.1	13.3	22.0	25.4
GW-10	-	-	-	-	-	-	17.9	18.6	14.5	18.4	15.5
GW-13	-	-	-	-	-	-	23.2	20.1	13.2	23.3	23.2
MD01	28.0	27.6	27.7	27.6	28.0	27.6	28.8	29.6	30.1	28.9	27.9
MD02	41.0	40.6	40.3	40.0	39.9	39.8	40.6	41.3	42.2	42.7	43.5
TR18	13.0	13.4	12.9	13.2	13.3	13.4	13.3	13.1	13.2	13.2	13.1
TR26	12.4	12.4	12.2	12.2	12.3	12.4	12.3	12.3	12.3	12.2	12.2
TR35	18.2	18.2	18.0	11.2	18.4	18.5	18.4	18.3	18.5	18.4	25.1
TR7	9.9	9.9	9.8	9.7	9.8	11.0	9.8	9.7	9.8	9.7	9.6
VKY034C	39.8	40.0	39.6	40.3	39.4	40.1	40.3	30.1	42.4	43.1	45.0
VKY035C	42.4	42.0	42.0	42.0	41.9	42.6	42.1	42.1	42.8	43.5	34.1
VKY036C	49.2	47.2	49.2	49.9	49.5	49.8	49.9	50.3	-	52.5	50.0
VKY042C	42.7	42.4	42.6	42.8	42.5	42.7	42.8	43.0	33.3	44.0	44.1
VKY043C	16.4	15.6	15.7	15.8	15.2	15.7	15.4	16.0	16.3	16.4	17.7
VNW390	9.4	9.3	9.4	9.4	9.5	9.5	9.6	9.6	9.6	9.6	9.4
VNW391	7.8	7.8	7.8	7.8	7.9	8.0	7.9	8.0	8.0	8.0	7.9
VNW392	6.3	6.1	6.2	6.2	6.4	6.5	6.4	6.5	6.5	6.4	6.4
VNW393	10.6	10.5	10.5	10.6	10.6	10.7	10.7	10.8	10.8	10.6	10.5

* mbTOC = metres below top of casing.
^ GW-6 found cropped in October 2025 monitoring round

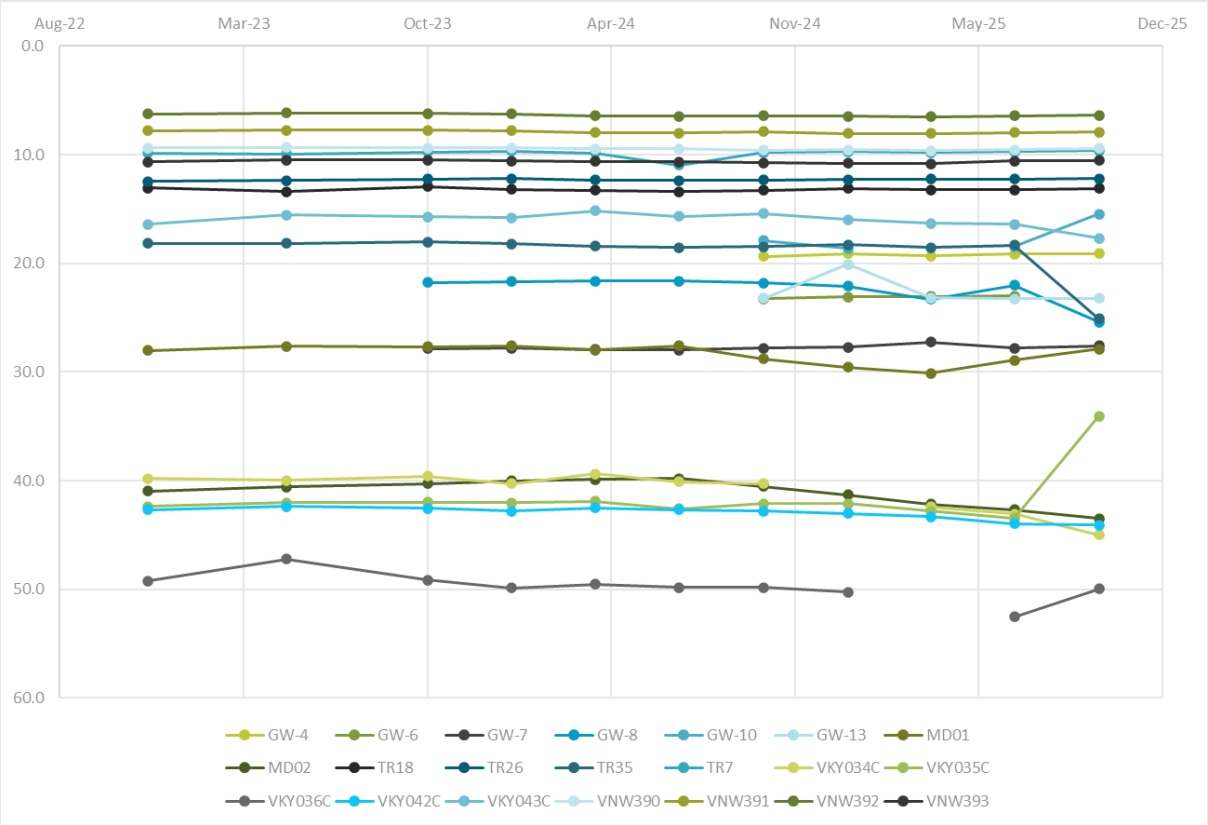


Figure 5: Permian bores hydrograph (manual dips, erroneous data removed)

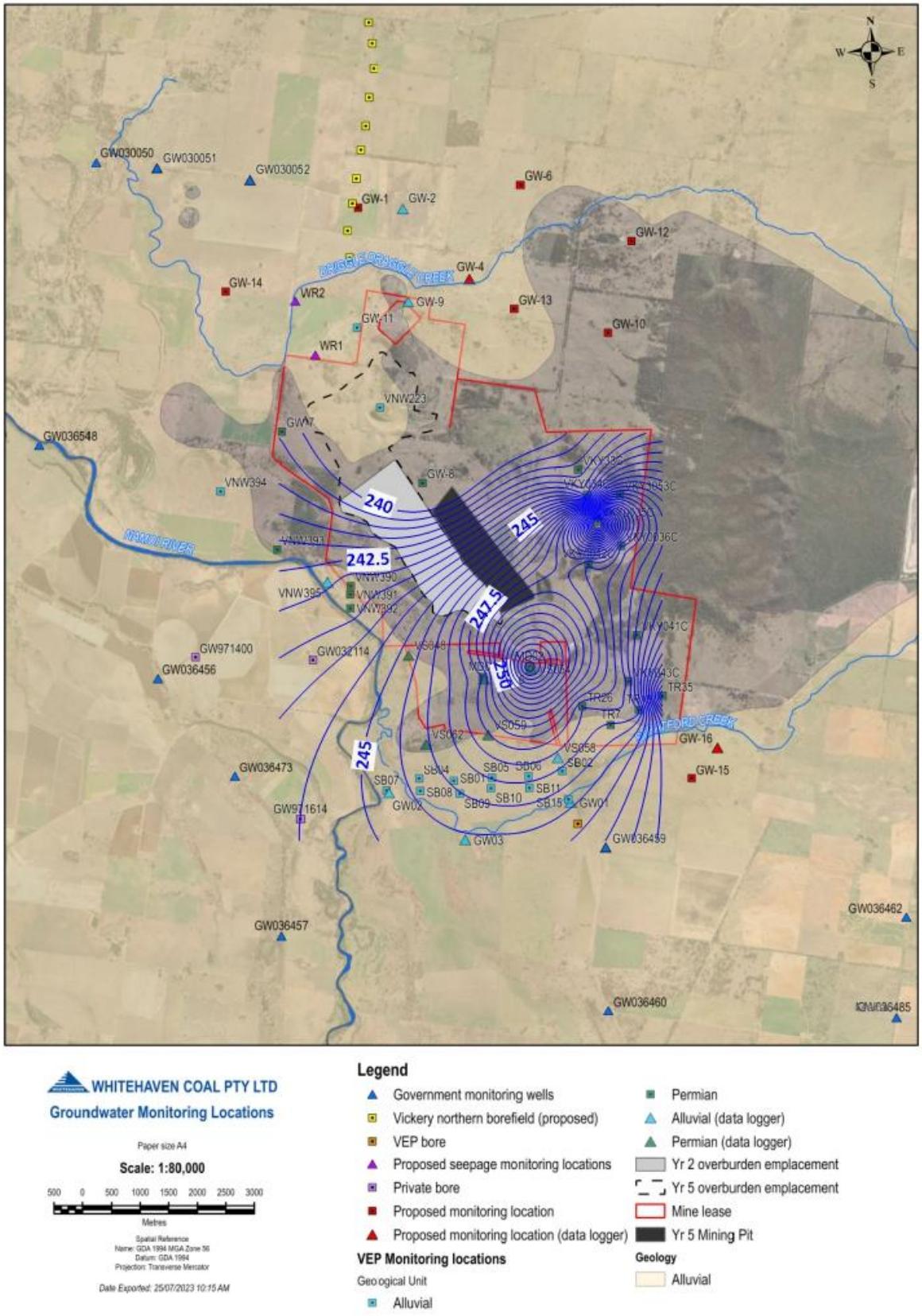

GW030050
GW030051
GW030052
GW-6
GW-1
GW-2
GW-12
GW-4
GW-14
WR2
GW-9
GW-13
GW-11
GW-10
WR1
VNW223
GW7
GW036548
GW-8
VNW394
240
245
242.5
247.5
250
VNW391
VNW395
VNW392
GW971400
GW032114
GW036456
TR35
TR26
TR7
GW-16
GW-15
VS059
VS062
VS058
SB02
SB04
SB05
SB06
SB01
SB07
SB08
SB10
SB11
SB09
SB15
GW01
GW02
GW03
GW036473
GW971614
GW036499
GW036462
GW036457
GW036460
GW036485
WHITEHAVEN COAL PTY LTD
Groundwater Monitoring Locations
Paper size A4
Scale: 1:80,000
500 0 500 1000 1500 2000 2500 3000
Metres
Spatial Reference
Name: GDA 1994 MGA Zone 56
Datum: GDA 1994
Projection: Transverse Mercator
Date Exported: 25/07/2023 10:15 AM
Legend
Government monitoring wells
Vickery northern borefield (proposed)
VEP bore
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Private bore
Proposed monitoring location
Proposed monitoring location (data logger)
VEP Monitoring locations
Geological Unit
Alluvial
Permian
Alluvial (data logger)
Permian (data logger)
Yr 2 overburden emplacement
Yr 5 overburden emplacement
Mine lease
Yr 5 Mining Pit
Geology
Alluvial

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

2.4.1.3 Data Loggers

A summary of the available logger data is presented in **Table 4**. An example of a logger and manual water level plot is provided in **Figure 7**, with the full suite of 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 – 01/10/2025	-	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 – 30/09/2025	-	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 – 01/10/2025	4,481	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 – 07/10/2025	2,128	String length has been corrected based on manual dips.
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; 03/06/2020 – 17/04/2024; 25/07/2024 – 30/09/2025	1,391	Logger data was not available for the July 2024 monitoring 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. The file was named SB01(TR7) for the October 2025 monitoring round. The reading showed drifting since March 2025.

Bore ID	Logger Type	Recording Period	Number of Data Points	Comments
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 – 03/10/2025	8,268	-
VKY035C	Logger (Rugged TROLL 100)	04/11/2020 – 03/10/2025	7,011	-
VKY036C	Logger (Rugged TROLL 100)	07/01/2020 – 03/10/2025	8,669	-
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 – 03/10/2025	6,996	-
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		Bore was removed due to mining progress.
VKY33C (38, 51, 70, 95, 115m)	VWP (DT2055-02087)	11/03/2015 – 02/10/2025	-	Calibration factors and sensor depths to be confirmed.
VKY33C (140, 170, 190m)	VWP (DT2055-02029)	11/03/2015 – 02/10/2025	-	Calibration factors and sensor depths to be confirmed.
VS048 (30m)	VWP	17/06/2011 – 15/06/2012; and 04/03/2020 – 01/10/2025	7,613	-
VS054 (23, 96, 120, 167m)	VWP (SN11-1769/1776/1770/1772)	17/06/2012 – 15/06/2012; and 16/11/2023 – 02/10/2025	~8,177/sensor	The temperature sensor located at VS054-167m exhibited a malfunction.
VS056 (25, 100m)	VWP (SN11-1765/1771)	04/03/2020 – 01/10/2025	VS056-25m: 8,217; VS056-100m: 1,796	-
VS058 (18, 88, 159m)	VWP (SN11-1768)	16/04/2020 – 01/10/2025	~7,972/sensor	-
VS062	VWP	12/02/2021 – 30/09/2025	10,679	-
VS059 (30, 65, 113m)	VWP	16/04/2020 – 01/10/2025	~7,975/sensor	-

Bore ID	Logger Type	Recording Period	Number of Data Points	Comments
WR-1	Logger (Rugged TROLL 100)	30/04/2024 - 09/10/2025	2,120	-
WR-2	Logger (Rugged TROLL 100)	30/04/2024 - 09/10/2025	2,107	-

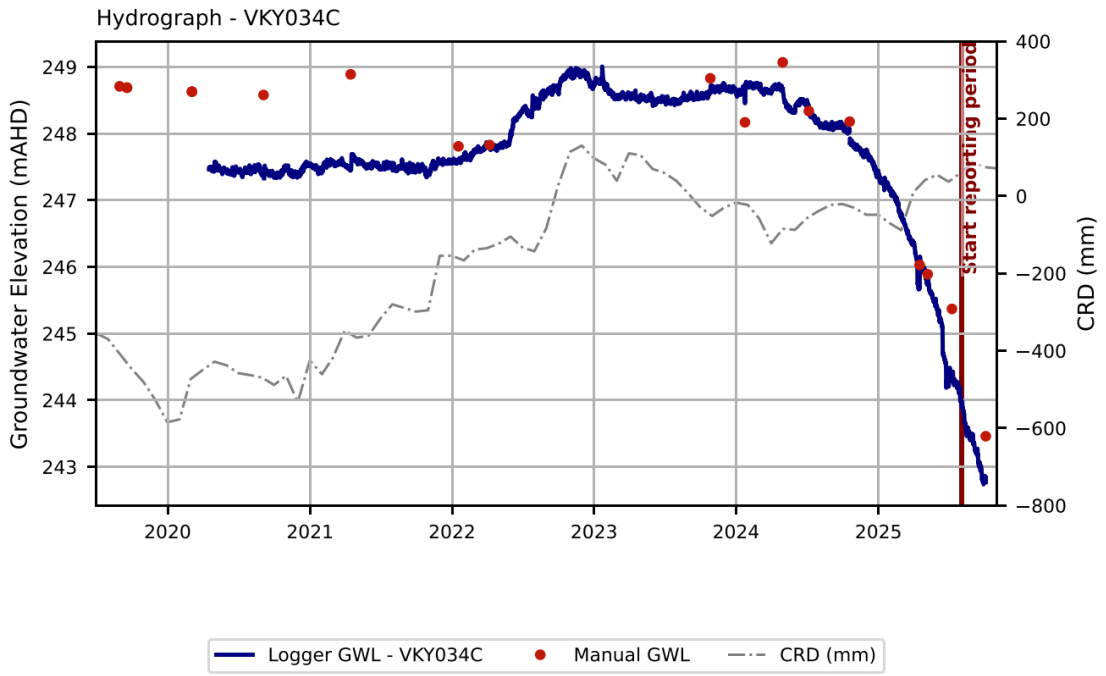


Figure 7: Logger hydrograph – VKY034C

2.4.2 TARP Trigger Level Summary

2.4.2.1 Alluvial aquifer

Groundwater levels in the Alluvial bores have shown minor variation between July 2025 and October 2025 monitoring rounds. Overall, the October 2025 average water level was approximately 10.5 metres below top of casing (mbTOC), with values ranging from 6.44 mbTOC at bore GW03 to 22.2 mbTOC at bore VNW223.

The largest decreases from July to October 2025 were observed at GW-14 by 1.1 m and VNW394 by 0.54 m. Both bores recorded their historical lowest water levels in this round; water level should be reviewed in the next monitoring round to determine whether it represents a continuous decline or is a temporary response to drier seasonal conditions.

Of note, the four additional bores showed very slight decreases, whilst the remaining 18 recorded slight increases of 0.5 – 1.0 m. This indicates the declining trend is not consistent across the alluvial aquifer.

No trigger level exceedances were recorded in the Alluvial aquifer bores.

2.4.2.2 Permian aquifer

Groundwater levels in the Permian aquifer bores have generally remained within historical ranges between July 2025 and October 2025 monitoring rounds, although some outliers showed notable variations in the latest monitoring round.

Overall, the October 2025 average water level was approximately 23.4 mbTOC, with values ranging from 6.4 mbTOC at VNW392 to 50.0 mbTOC at VKY036C.

Compared to July 2025 round, the largest changes in groundwater levels were observed as follows:

- Decreases in the measured depth to water of greater than 1 metre, indicating potential rising of groundwater level, was observed at:
    - VKY035C, observed a 9.4 m decrease in the measured depth to water. The significant water level rise from 43.5 mbTOC in July 2025 to 34.1 mbTOC in October 2025 was likely due to a data entry error in this round. This water level should be reviewed in the next monitoring round to confirm whether it is an anomaly or a real rise in groundwater level.
    - GW-10 observed a 2.99 m decrease in the measured depth to water (rise in groundwater level). No apparent trend in recent measurements.
    - VKY036C observed a 2.55 m decrease in the measured depth to water (rise in groundwater level). No apparent trend in recent measurements and latest value falls within historical fluctuations.
- Increases in the measured depth to water of greater than 1 metre, indicating potential decline of groundwater level, was observed at:
    - TR35 which saw a ~6.8 m increase in the measured depth to water, from 18.4 mbTOC to 25.1 mbTOC. The closest Permian bore, TR18, had an observed rise in water level of 0.11m. Nearby VKY043C recorded a decline in groundwater level of 1.91 metres. Groundwater levels in this bore have been relatively stable up until this month. The inconsistent groundwater responses of bores in the same area, and the lack of apparent long-term trend, do not provide clear indication of causation (i.e. decline due to extractive activities). Review of the ongoing observation data is recommended to confirm if trends exist.
    - GW-8 also recorded a 3.4 m increase in depth from 22.0 mbTOC to 25.40 mbTOC. In contrast, VKY036C located nearby observed a ~2.5 m water level rise (see above).
    - VKY034C recorded a 1.91 m increase in depth to groundwater (groundwater level decline) from 43.1 mbTOC to 45.0 mbTOC. This bore has shown minor but steady decline in groundwater level since April 2024.
    - VKY043C recorded a 1.27 m increase in depth to groundwater (groundwater level decline) from 16.4 mbTOC to 17.7 mbTOC. This bore has shown minor but steady decline in groundwater level since April 2024. This bore has shown minor but steady decline in groundwater level since October 2024.

No trigger level exceedances were recorded in the Permian aquifer bores.

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) in the latter two months, however August had significantly (approximately 4 times) higher rainfall than long term average. 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 October 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. A review of the trigger values is underway, and new values will be adopted once the updated GWMP and TARP take effect.

The EC level at bore GW03 is provided in **Figure 8**, together with the water level measurements at the same location. Since October 2023, EC has exceeded the trigger value of 811 µS/cm, ranging between approximately 860 and 1,000 µS/cm. Both EC and water level exhibit a similar pattern of variation, indicating a potential correlation. The observed changes in water level may have mobilised salts from surrounding strata, contributing to the increase in EC at GW03. The EC at GW03 is considered a trigger exceedance, and the TARP will be enacted accordingly.

Figure 9 presents the time series for pH and EC at TR7. All results exceeded the current trigger values; however, neither parameter has shown a discernible trend since October 2023, indicating no significant variation in groundwater quality. Consequently, this is not considered a realistic ‘exceedance’, and the TARP is not enacted for this bore/parameter. New site-specific trigger values will be developed as part of the upcoming GWMP and TARP update.

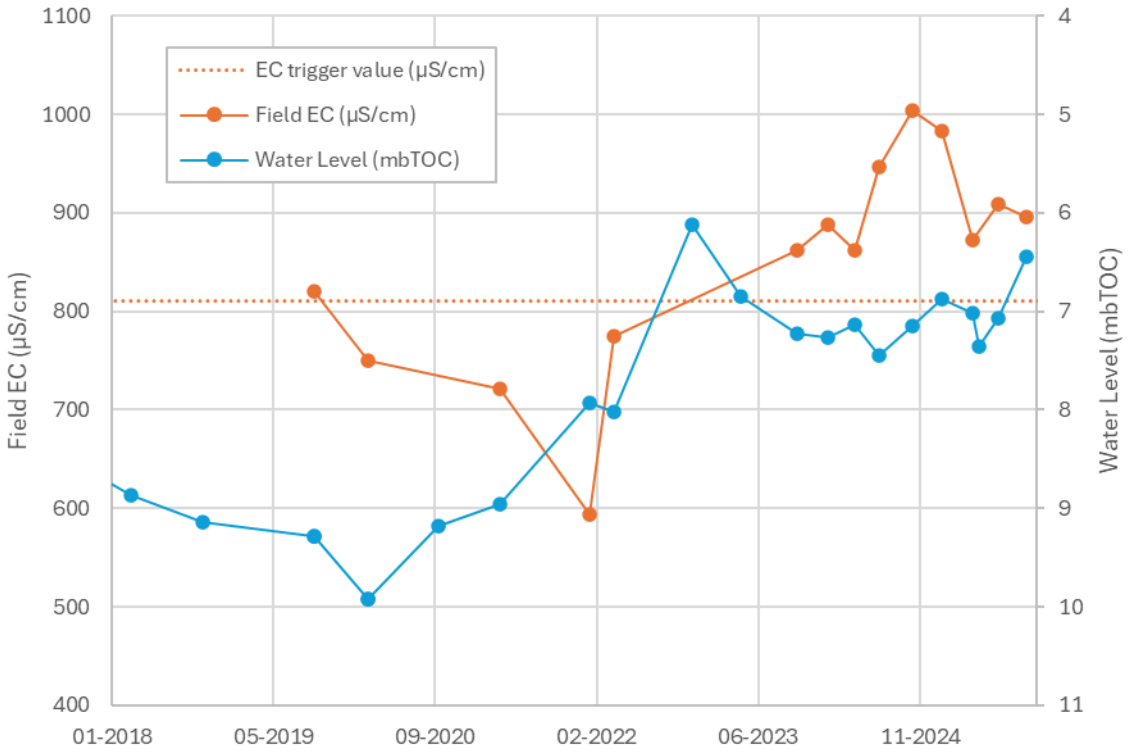


Figure 8 EC time series plot for GW03

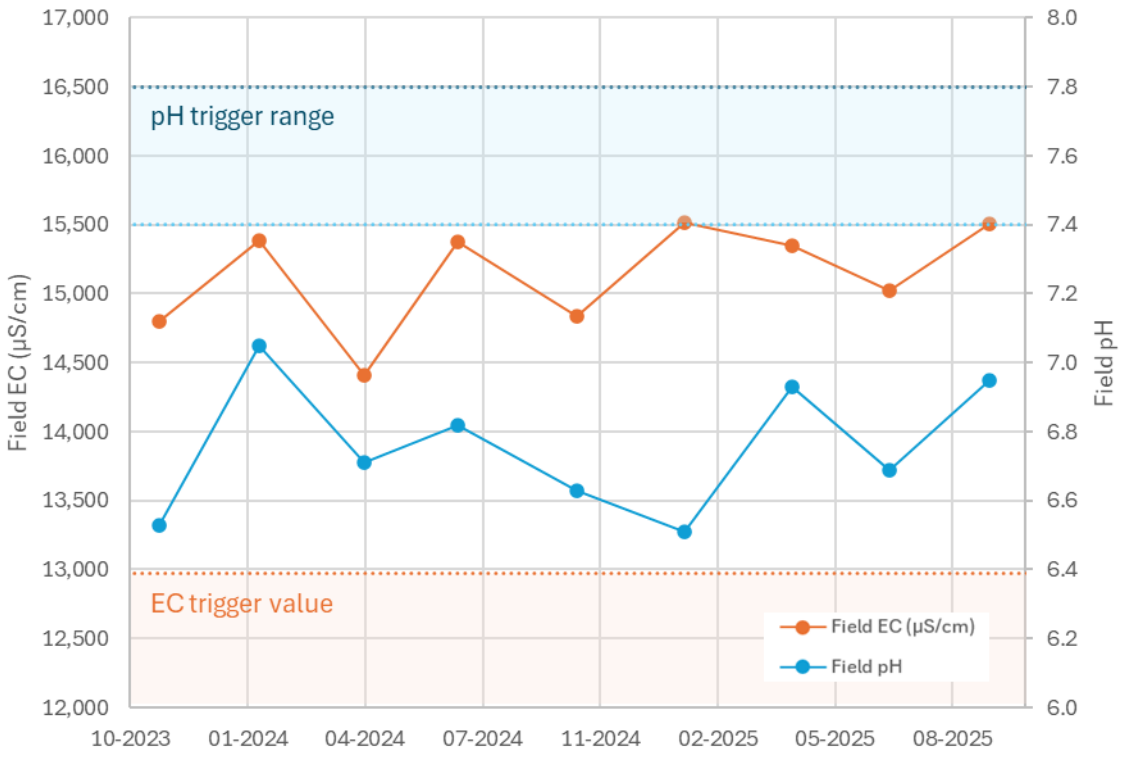


Figure 9 Time series plot for EC and pH for TR7

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 10 and **Figure 11** show the piper diagrams for the alluvial and Permian groundwater respectively. Where data was available, the July 2024 and October 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, excluding EC at GW03. 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, except for EC at GW03, which can be considered a Level 1 trigger.

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	Oct-25
GW-15	pH	pH unit	6.9-8.3*	-	-	-	-	8.97	8.85	8.96	8.88	9.15
TR7			7.4-7.8	6.53	7.05	6.71	6.82	6.63	6.51	6.93	6.69	6.95
GW03	EC	µS/cm	811	862	888	862	947	1,004	983	872	909	896
TR18			12,315*	13,400	13,640	12,730	15,350	13,820	13,810	13,620	14,060	13,520
TR35			12,315*	15,300	17,330	16,740	17,260	16,690	18,320	16,180	17,160	16,950
TR7			12,970	14,800	15,390	14,410	15,380	14,840	15,520	15,350	15,020	15,510
WR1			10,083*	-	-	26,500	26,800	26,800	25,400	27,300	25,580	23,500
WR2			10,083*	-	-	25,340	26,600	26,600	27,900	26,100	26,800	22,900
GW-7	$SO4^{2-}$	mg/L	86*	364	385	399	380	396	414	354	362	331
GW-14			365*	-	-	-	-	435	462	483	383	394
SB02			365*	1,120	-	1,160	741	1,110	1,280	1,110	1,080	928
SB05			365*	735	551	520	595	496	447	380	400	463
TR18			86*	702	620	592	622	626	630	552	644	602
TR26			86*	194	230	180	198	195	229	217	211	180
TR35			86*	660	651	622	624	624	526	562	631	611
TR7			365*	508	714	501	518	563	458	507	702	517
VKY034C			86*	123	185	116	98	90	115	117	138	94
VKY036C			86*	244	294	281	100	174	190	174	149	168
VKY042C			86*	302	309	312	283	326	307	316	314	304
VNW390			86*	95	95	106	55	104	107	106	102	87
VNW392			86*	-	284	296	263	314	300	266	313	285
VNW393			86*	179	185	200	165	202	205	212	197	178

Bore	Para.	Unit	Trigger Level	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
VNW394			365*	-	551	560	574	591	498	535	573	582
WR1			365*	-	-	1,320	901	1,280	1,490	1120	1,250	1,100
WR2			365*	-	-	1,540	1,120	1,670	1,790	1250	1,480	1,340
GW-2	Chromium	mg/L	0.001	-	-	<0.001	-	0.003	0.002	0.004	0.003	0.003
TR35	Cobalt	mg/L	0.0014	-	0.007	0.01	0.011	0.01	0.008	0.006	0.002	0.007
TR7				-	0.008	0.004	0.008	0.004	0.005	0.003	0.003	0.004
VNW392				-	0.003	0.003	0.003	0.003	0.002	0.003	0.003	0.003
VNW394				-	0.011	0.002	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	0.01
TR35	Copper	mg/L	0.0014	-	1.24	1.73	7.09	8.23	-	0.844	1.17	4.67
TR7				-	0.863	0.346	0.471	1.59	-	0.387	1.44	1.25
TR7	Nickel	mg/L	0.011	-	0.39	0.118	0.272	0.045	0.024	0.053	0.025	0.02
VNW390				-	0.002	0.002	0.036	0.016	0.024	0.026	0.017	0.011
WR1				-	-	0.004	0.037	0.024	0.024	0.094	0.03	0.026
WR2				-	-	0.004	0.118	0.087	0.158	0.22	0.025	0.039
GW-11	Zinc	mg/L	0.008	-	0.0075	0.012	0.043	0.043	0.034	0.059	0.041	0.024
GW-13				-	-	-	-	0.019	0.02	0.144	0.049	0.019
GW-14				-	-	-	-	0.095	0.031	0.077	0.087	0.035
MD01				-	0.31	0.213	0.106	0.049	0.014	0.034	0.012	0.01
TR35				-	0.015	0.030	0.02	0.017	0.009	0.011	0.01	0.033
VKY034C				-	<0.005	0.012	0.005	0.023	0.014	0.013	0.092	0.02

*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**).



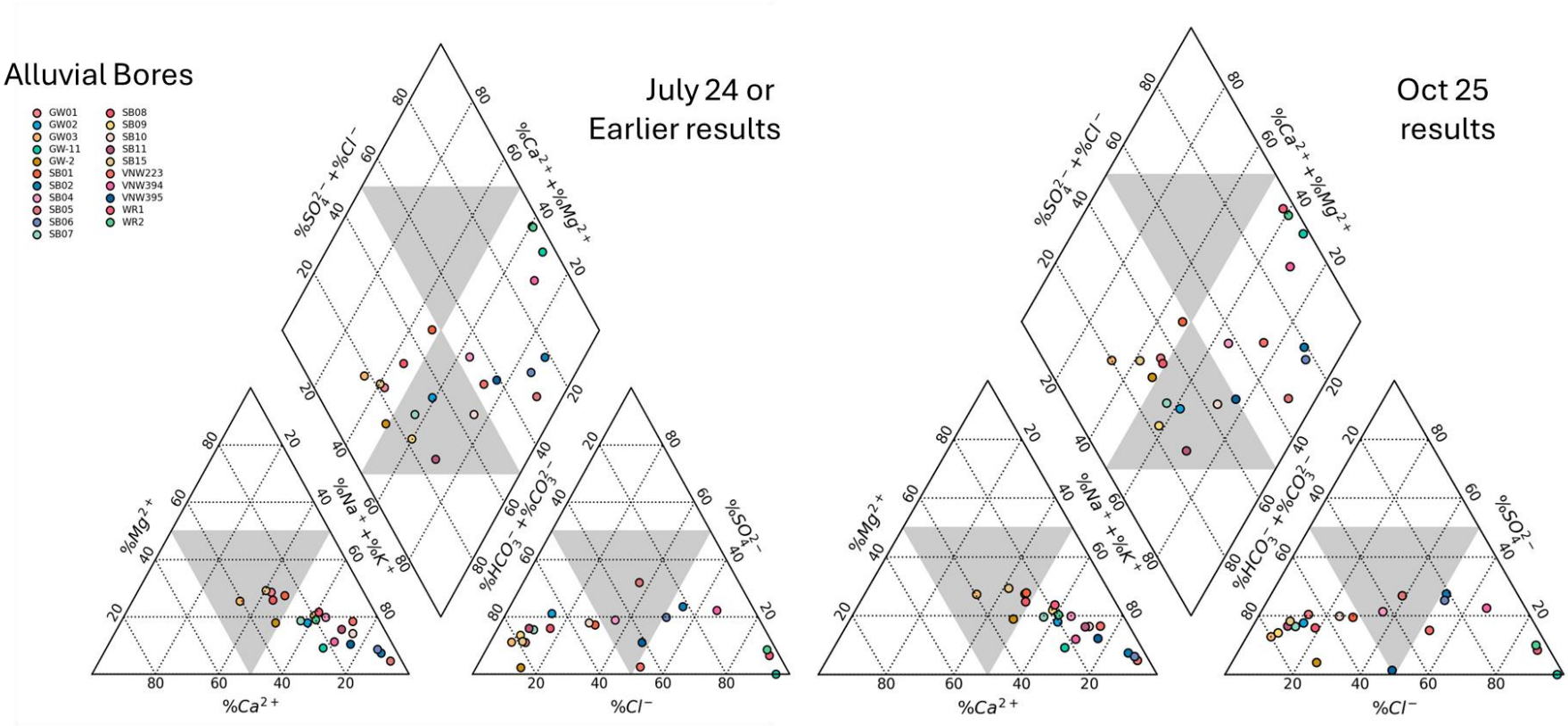


Figure 10 Alluvial groundwater piper plots

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

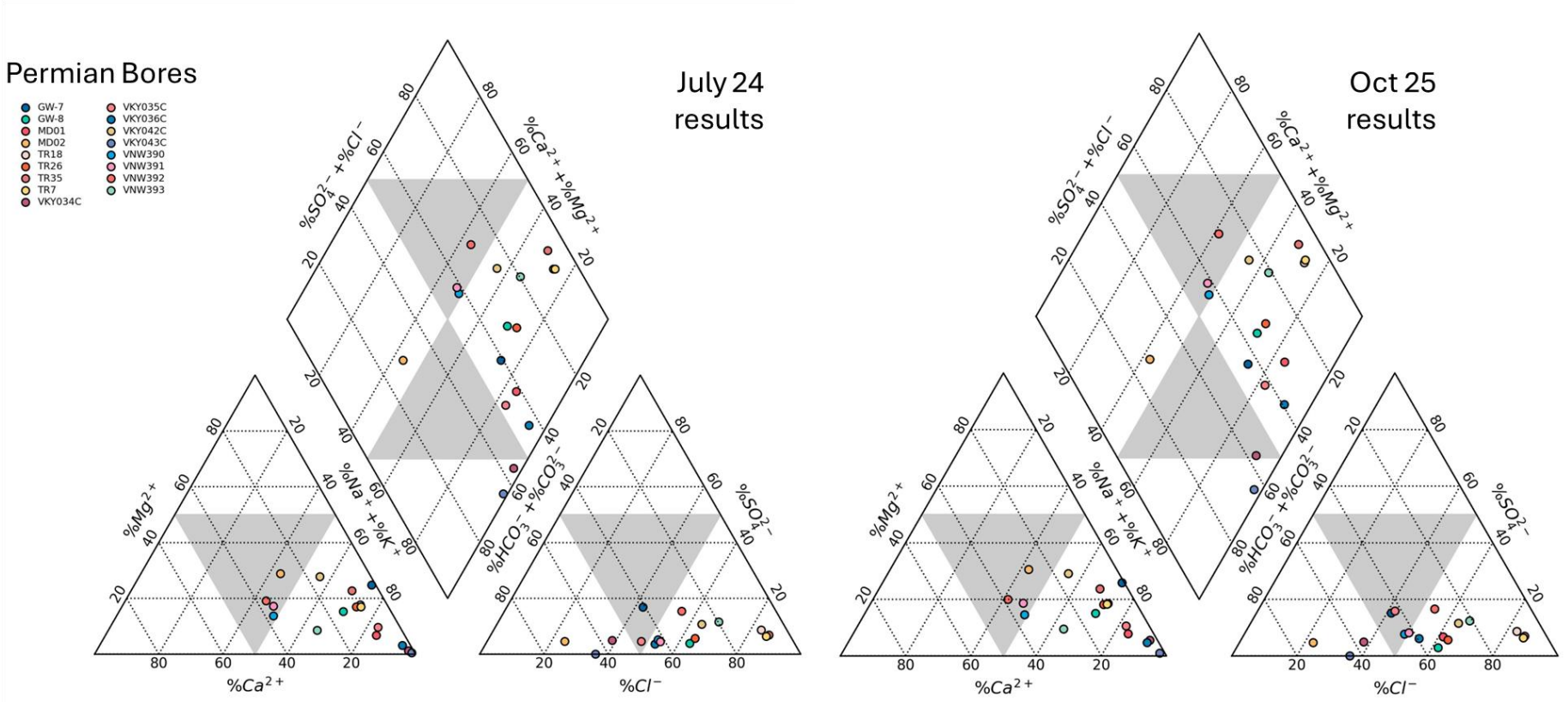


Figure 11 Permian groundwater piper plots

3.0 Action and Response

Based on the results summary presented in **Section 2.0**, groundwater level and groundwater quality are considered "Normal Conditions" for all monitoring bores and parameters, excluding EC at GW03. The appropriate level actions and responses are summarised in **Table 6**.

Table 6: Summary of Trigger Actions and Responses

Action / Response from Groundwater Quality TARP	Whitehaven Response
Actions	
Normal Condition Continue monitoring and review of data as per monitoring program.	Monthly monitoring and review of data is ongoing according to the monitoring program. No further action required.
Level 1 TARP (EC at GW03) Actions as required for Normal Condition. Re-sample of groundwater quality within seven days	Whitehaven will resample the EC at GW03 and provide results in next quarterly reporting.
Responses	
Normal Condition No response required.	No response required.
Level 1 TARP (EC at GW03) Report exceedances in Annual Review	Notification of exceedances will be included in the 2025 Annual Review.

4.0 Recommendations

Table 7 provides a summary of the historical recommendations, from Annual and prior quarterly reporting, with a comment on their current status.

Table 7: 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, GW01, and GW02 as appears erroneous, and replace as necessary.	April 2024 Quarterly	ONGOING: Loggers review underway.
Verify sensor depths for all VWPs 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 VWPs,

Recommendation	Cited	Status
		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.
Notable disparity between manual dips and logger readings for bore GW03. It is recommended that the logger be reviewed and calibrated as necessary to ensure data accuracy.	July 2025	ONGOING: Loggers review underway.
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.	July 2025	ONGOING: Loggers review and installation in progress.

The following recommendations are made from the current monitoring period:

- Resample EC at GW03 as per the TARP Level 1 TARP Action.
- Field notes indicate VNW223 was “blocked at approximately 2 m”. The downhole camera survey conducted in May 2025 suggested this bore in suitable condition. It is recommended that the condition of VNW223 be reviewed during the next monitoring round. If the bore remains blocked, bore development should be undertaken to restore full functionality.
- GW6 – sheared and should be removed from the ongoing monitoring regime.
- VKY3053 has been decommissioned, as consumed by the mining progression.

5.0 References

Hydrosimulations. 2018. “Vickery Extension Project: Groundwater Assessment. Report .”

Queensland Government. 2024. *SILO 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 August 2025 – October 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

19 December 2025

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) and data loggers. Post-mining 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		
		• 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 and Indicator, TARP Objective and Assessment Criteria	Monitoring Program	Management		
		Trigger	Action	Response
<u>Performance Measure Feature</u> 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 impacts (Hydrosimulations, 2018). <u>TARP Objective</u> This TARP defines levels of deviation in groundwater quality from baseline conditions and the actions to be implemented in response to each level deviation. <u>Assessment Criteria</u> 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.	<u>Locations</u> Open standpipes All open standpipe monitoring locations as set out in Table 4-2 of the GWMP. <u>Monitoring Frequency</u> During mining pH and EC will be measured in the field on a quarterly basis in the alluvial and waste rock deposits (after waste rock bores installed) and on a biannual basis in the Permian geology . 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 exceedances 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 to 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. 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.
		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).	• *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

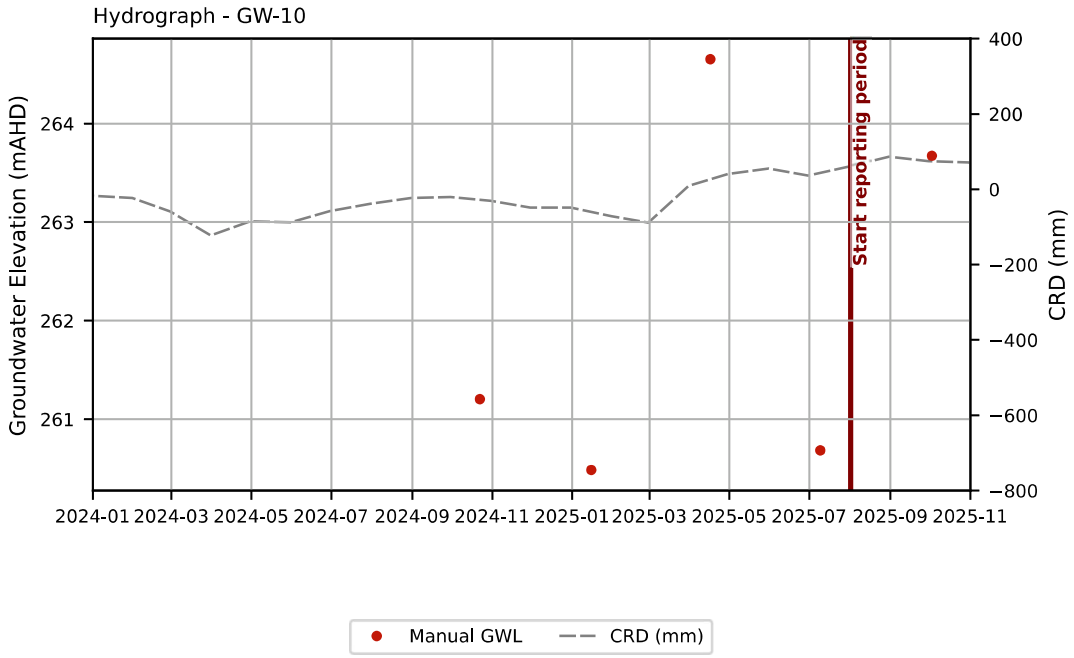
Vickery Extension Project Groundwater Monitoring Report

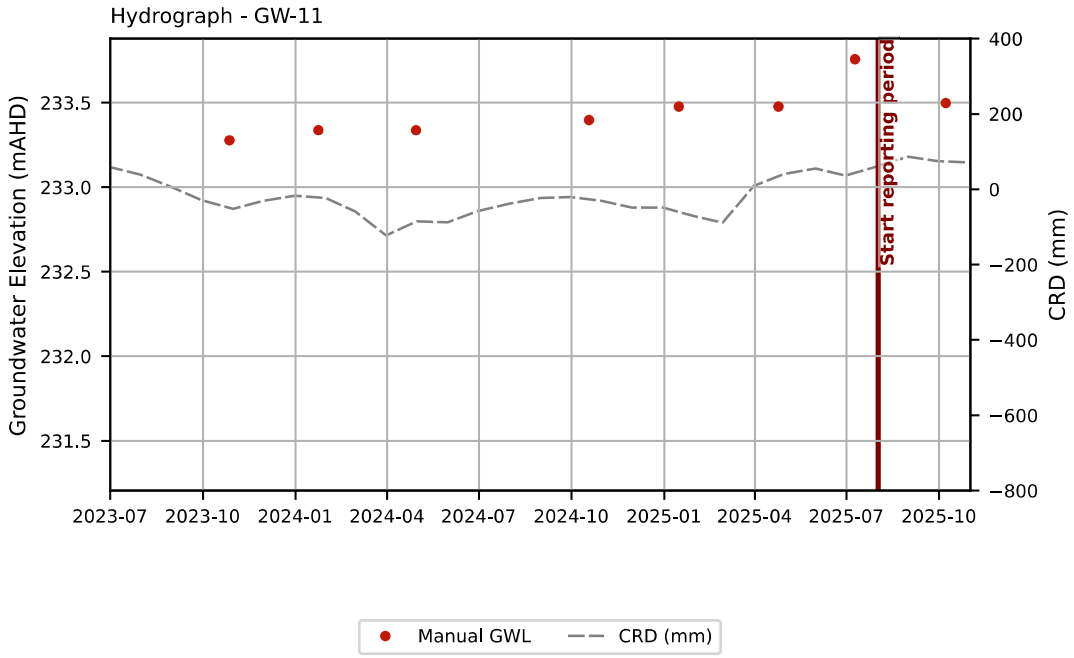
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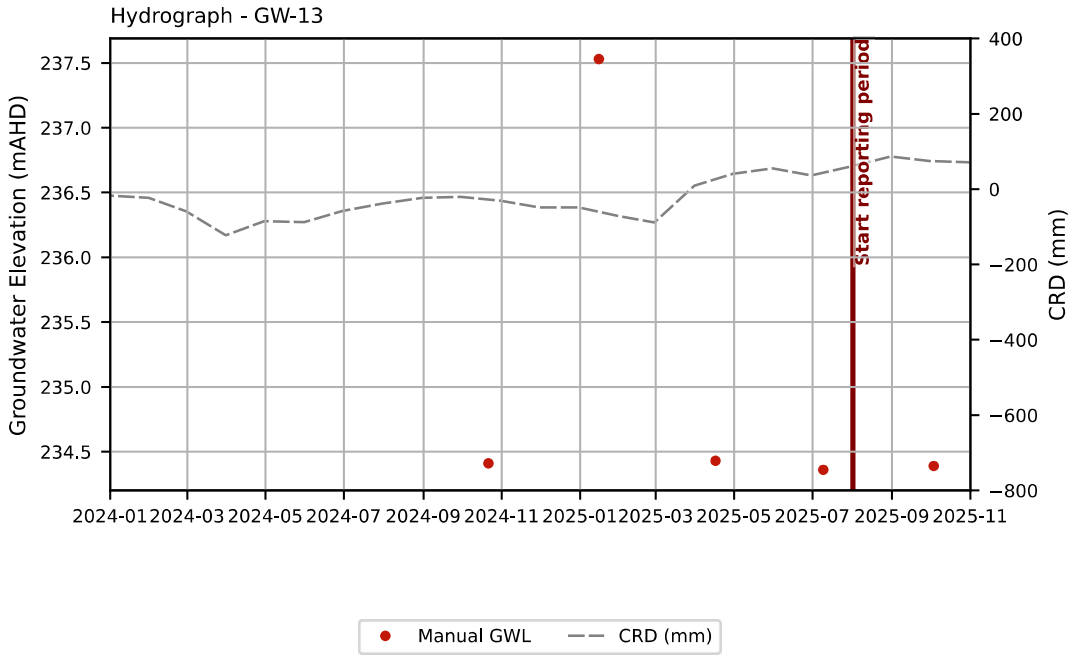
Whitehaven Coal Ltd

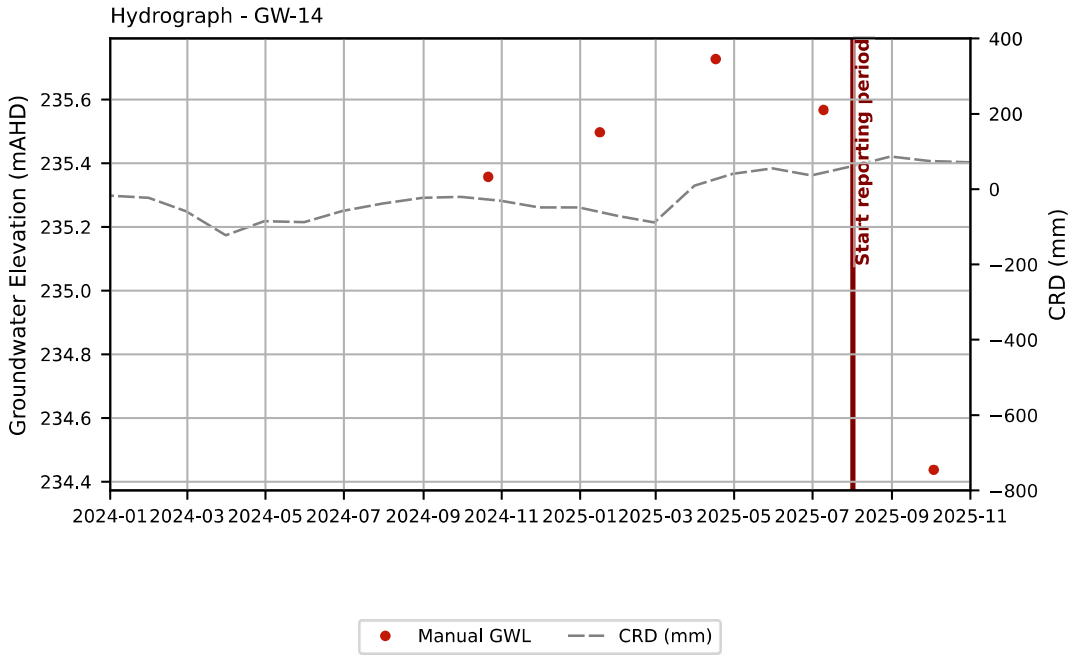
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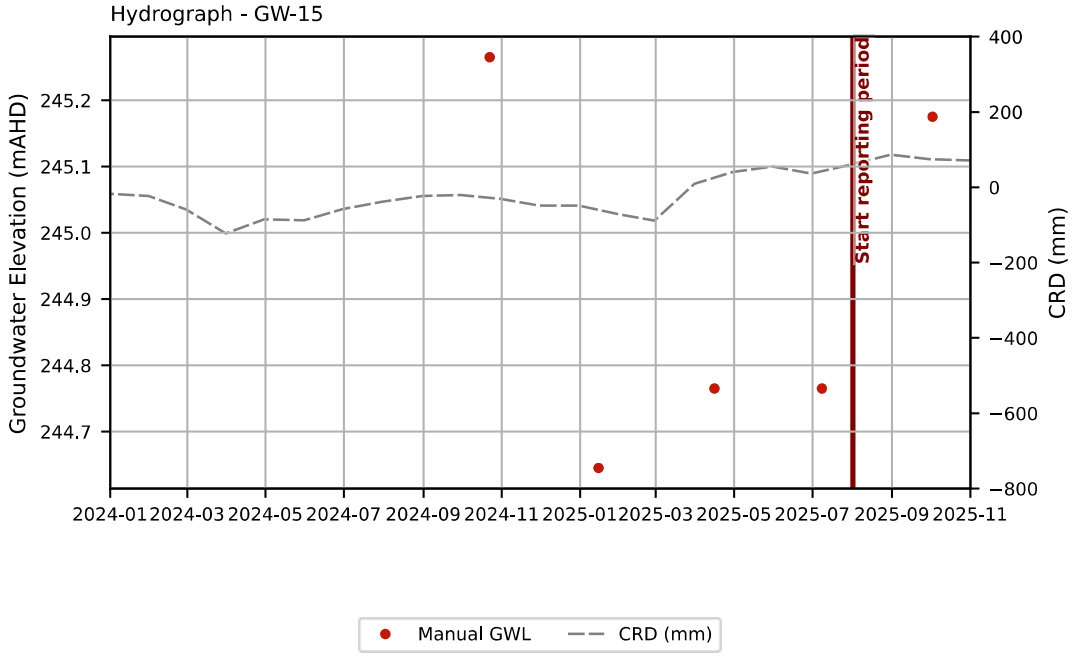
19 December 2025

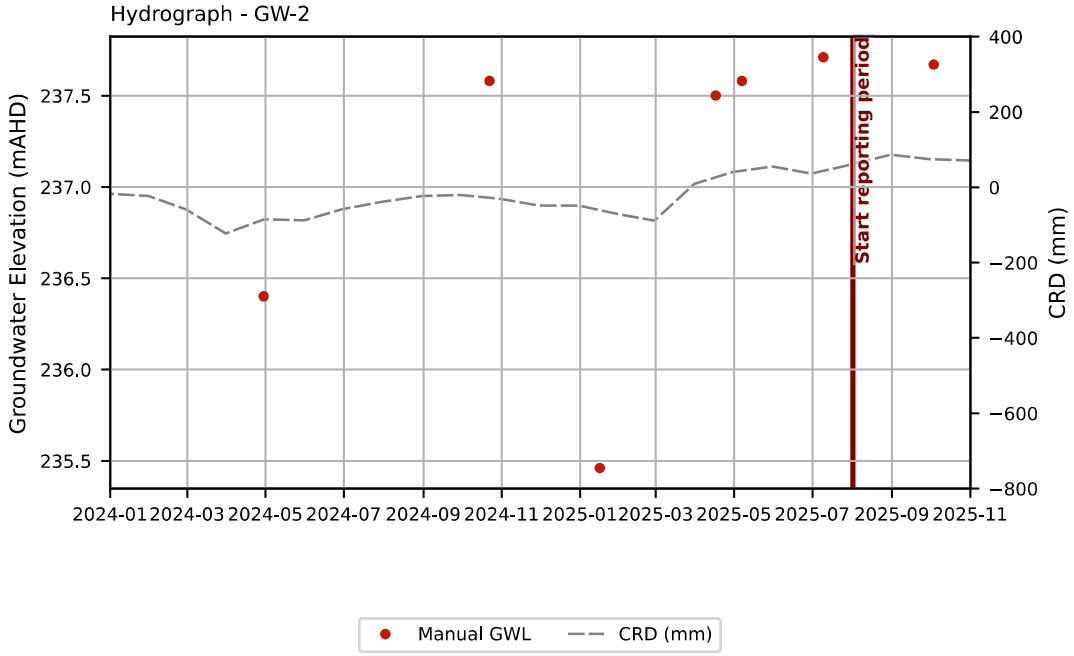

Hydrograph - GW-10
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

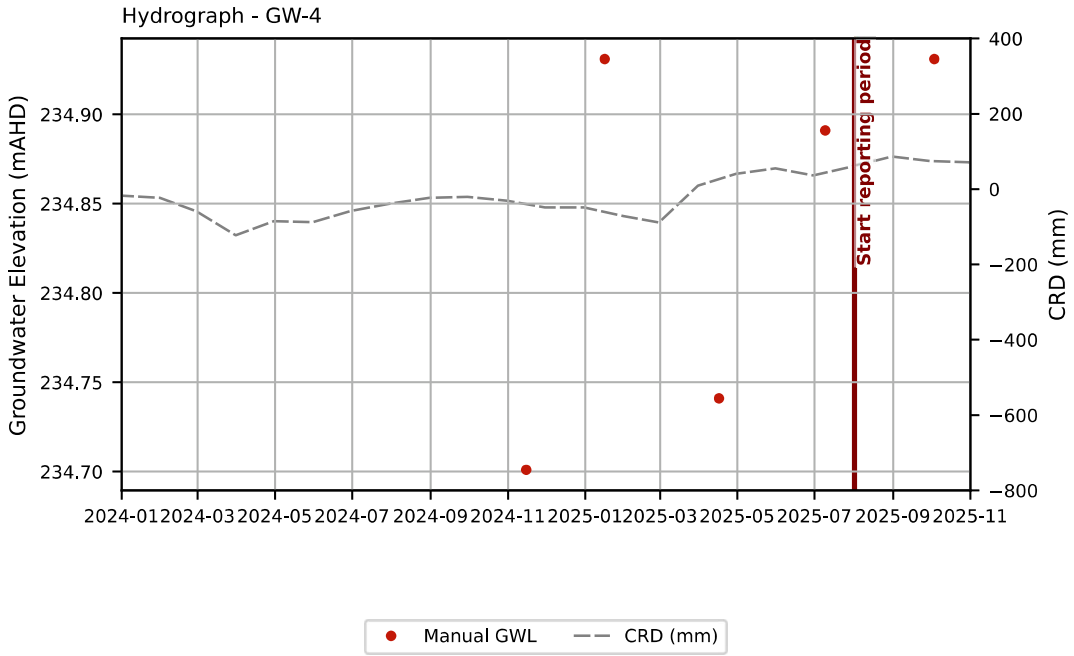

Hydrograph - GW-11
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

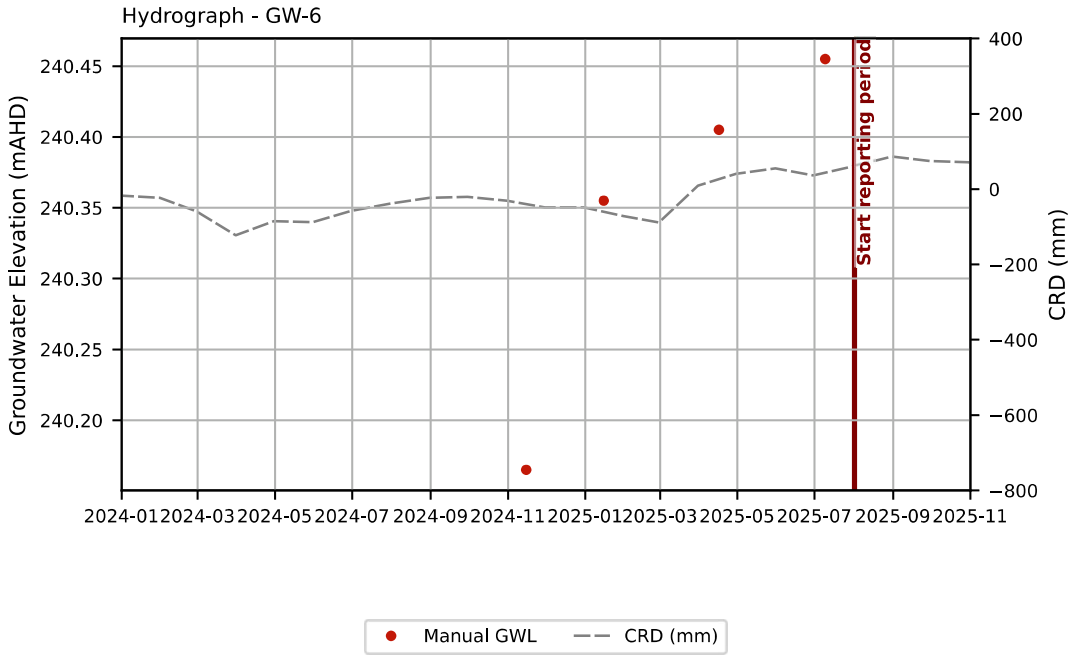

Hydrograph - GW-13
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

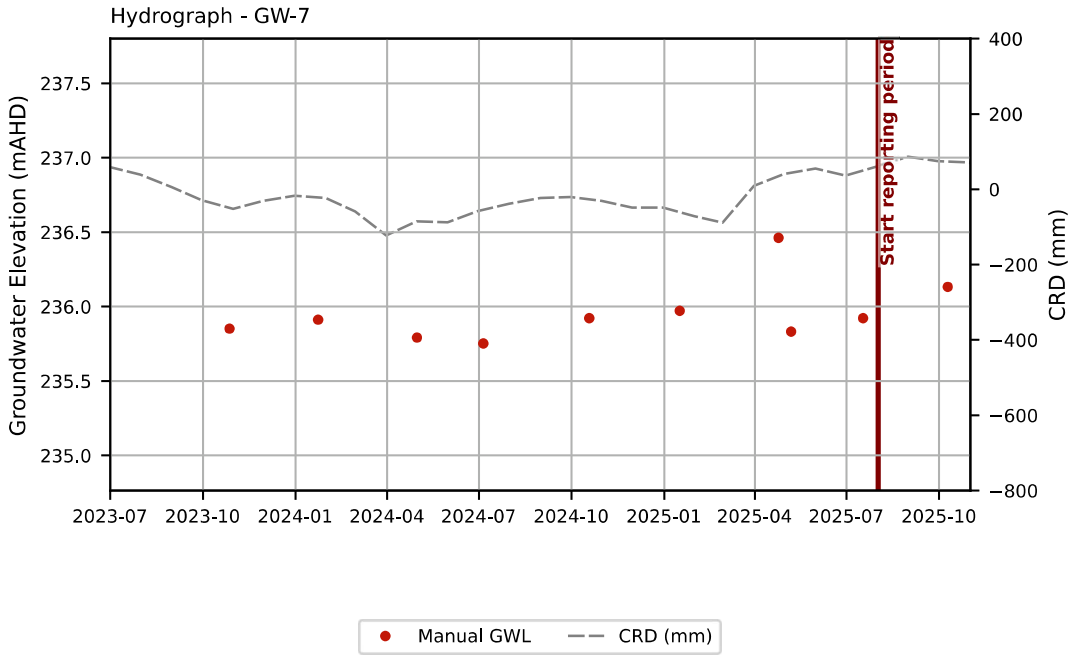

Hydrograph - GW-14
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

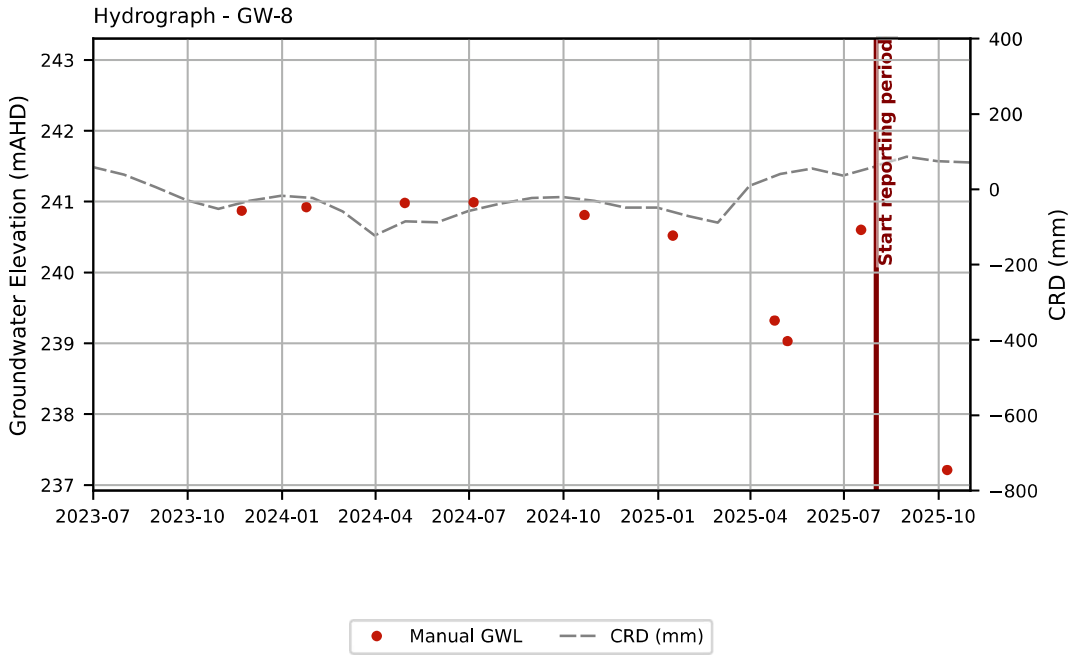

Hydrograph - GW-15
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

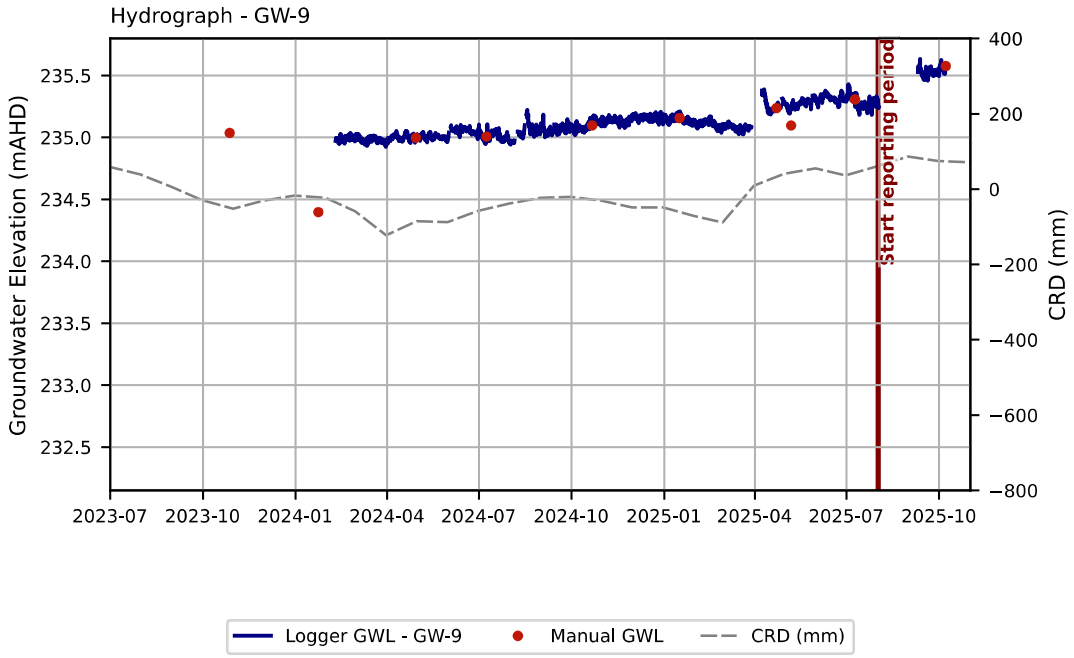

Hydrograph - GW-2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

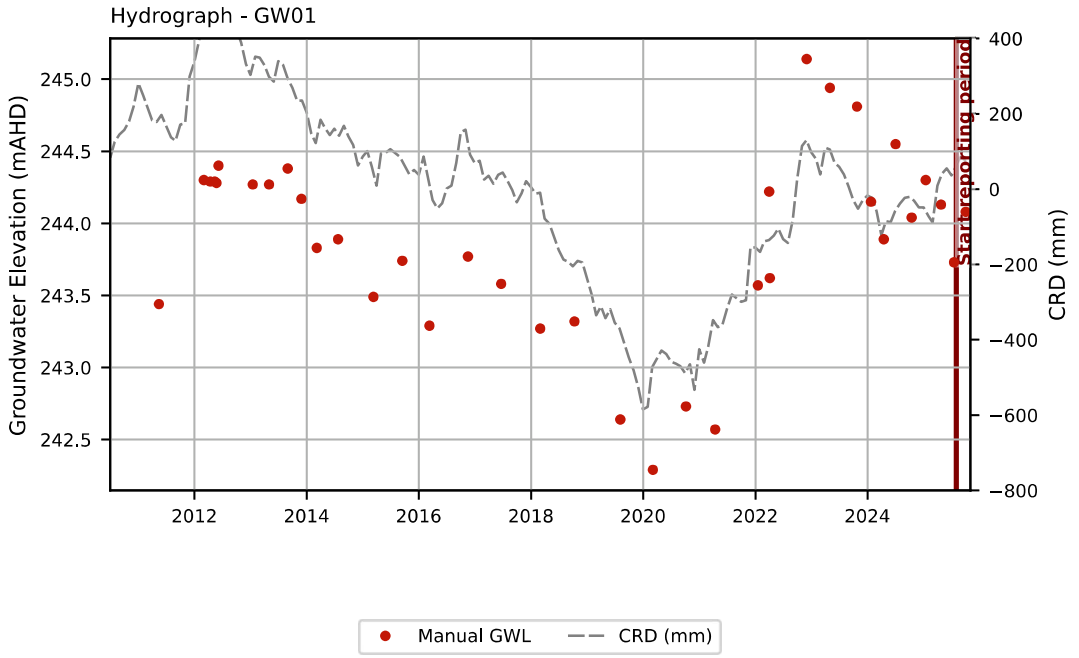

Hydrograph - GW-4
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

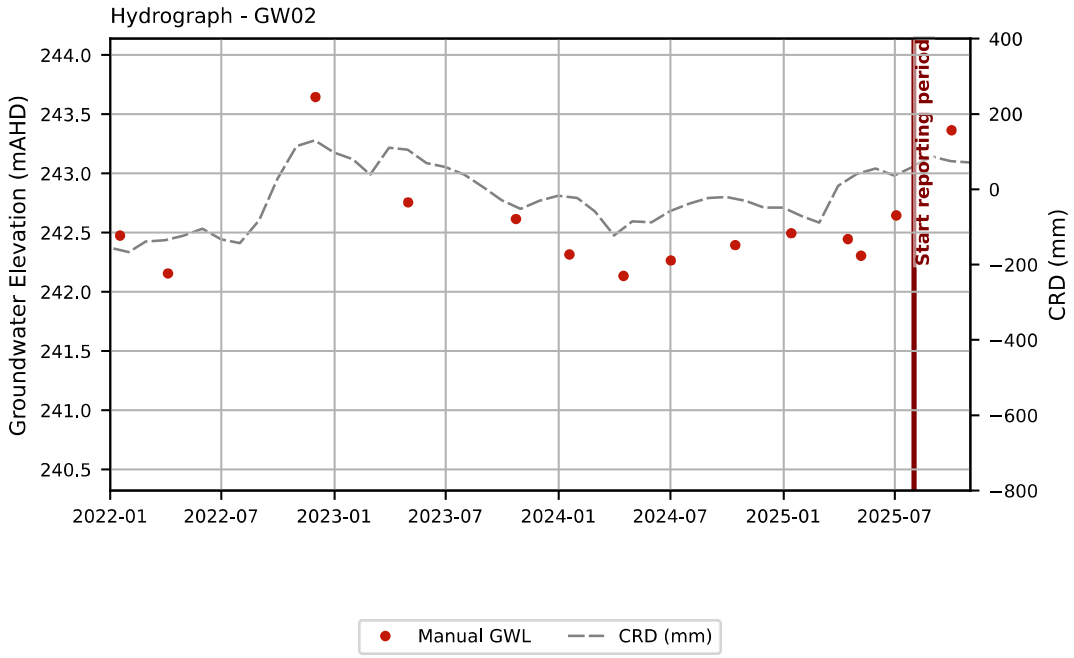

Hydrograph - GW-6
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

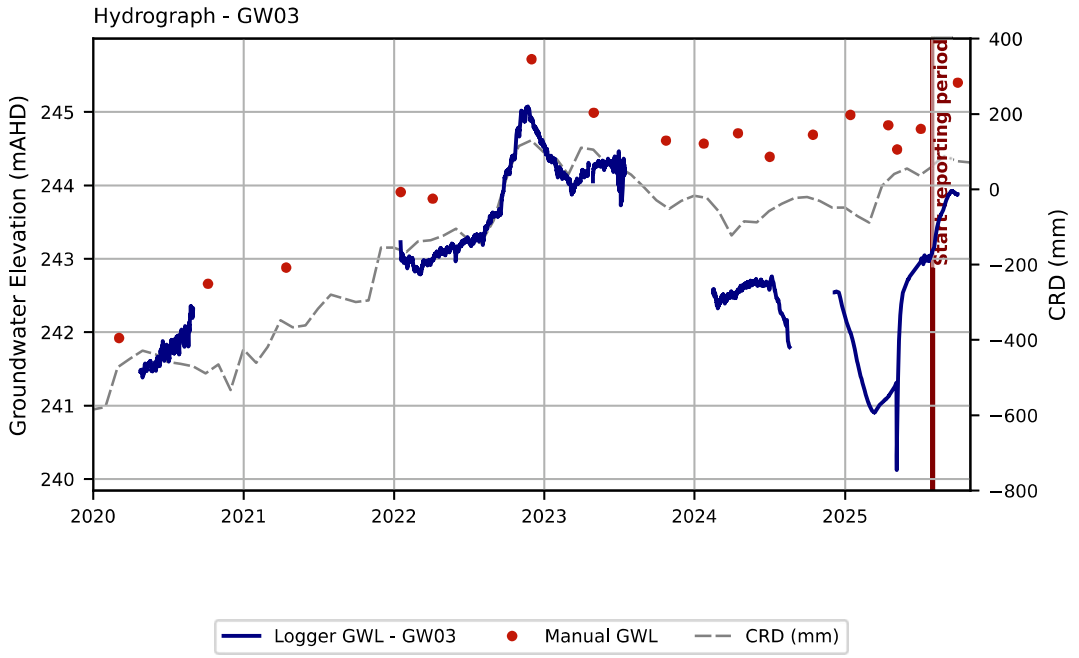

Hydrograph - GW-7
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

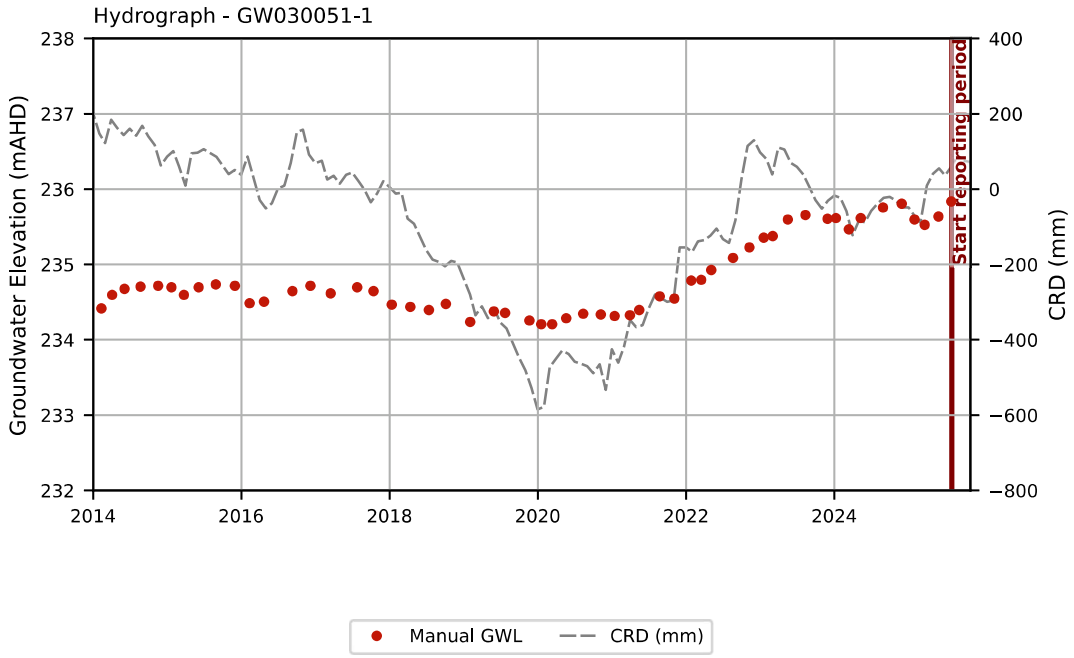

Hydrograph - GW-8
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

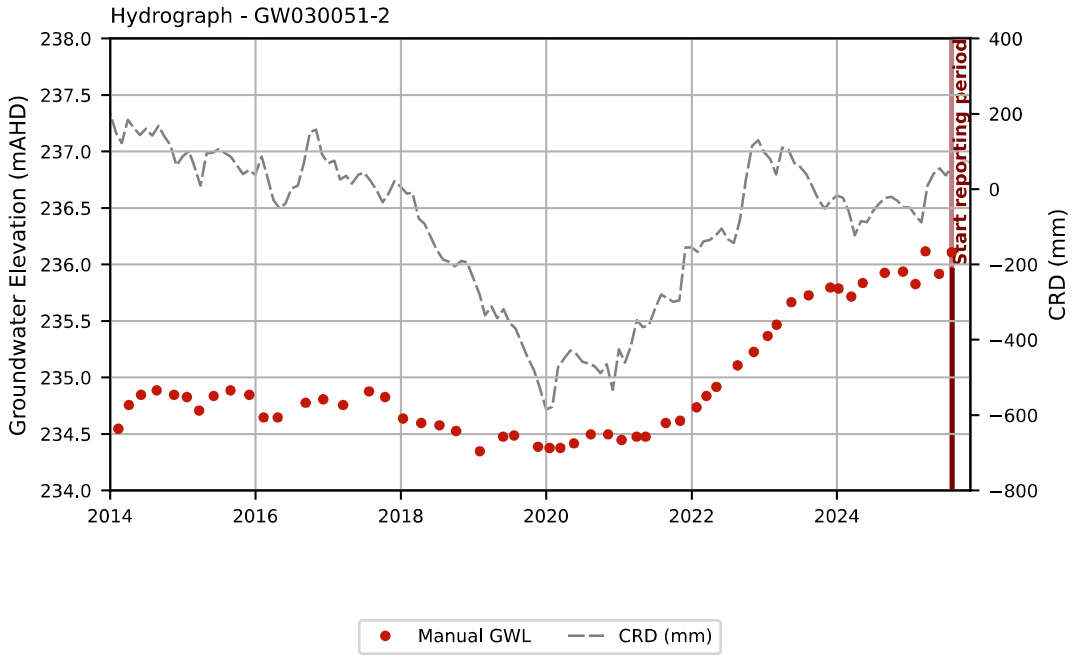

Hydrograph - GW-9
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - GW-9
Manual GWL
CRD (mm)

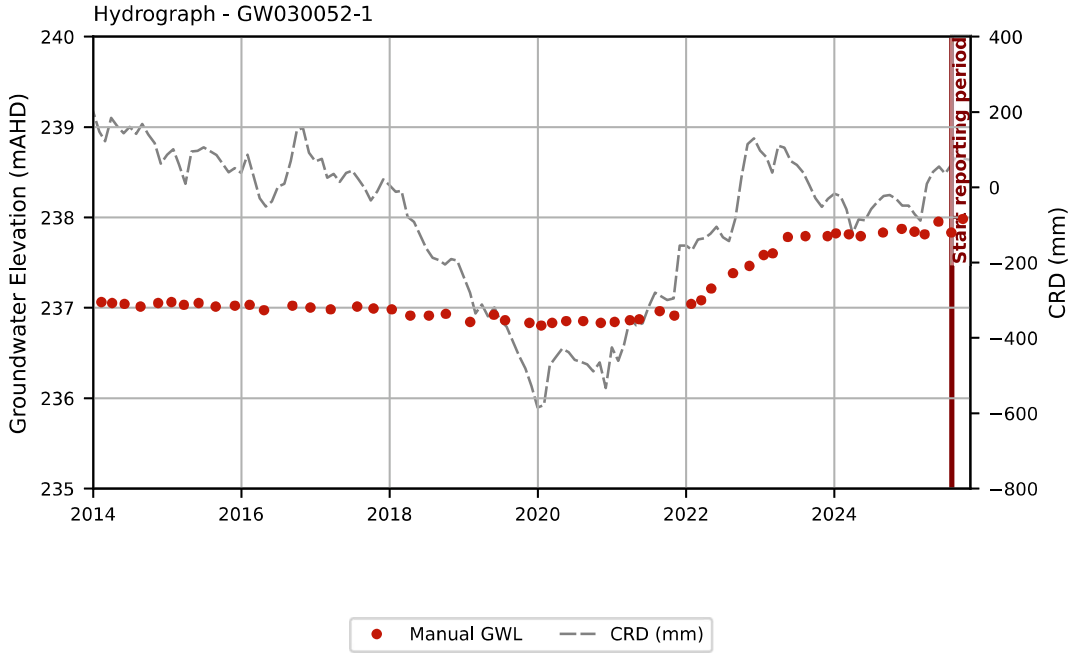

Hydrograph - GW01
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

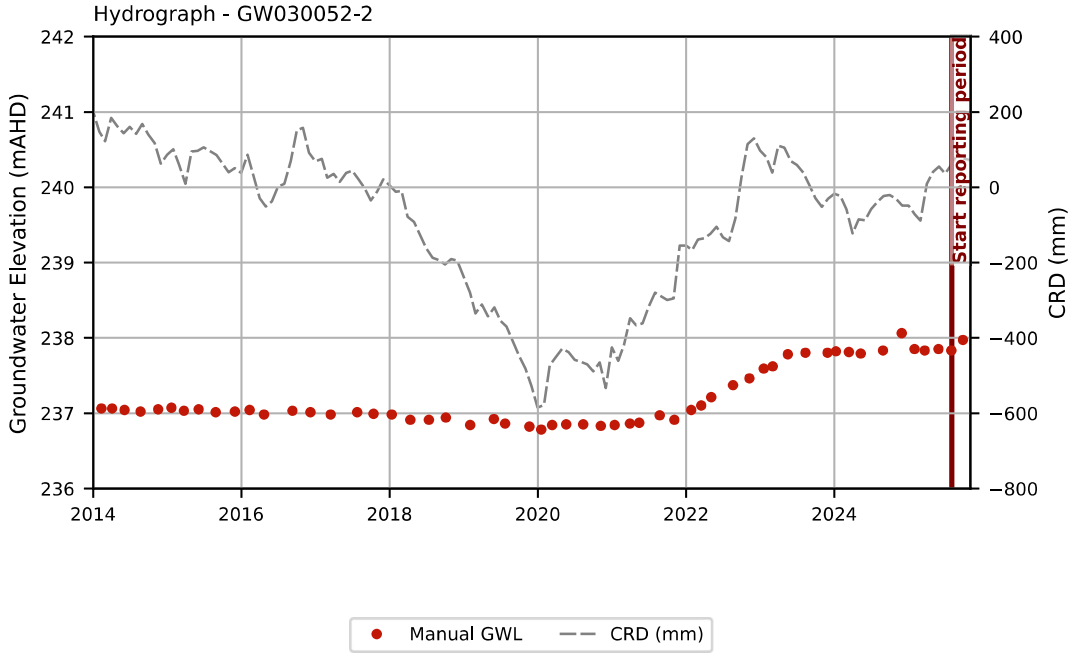

Hydrograph - GW02
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CRD (mm)
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Manual GWL
CRD (mm)

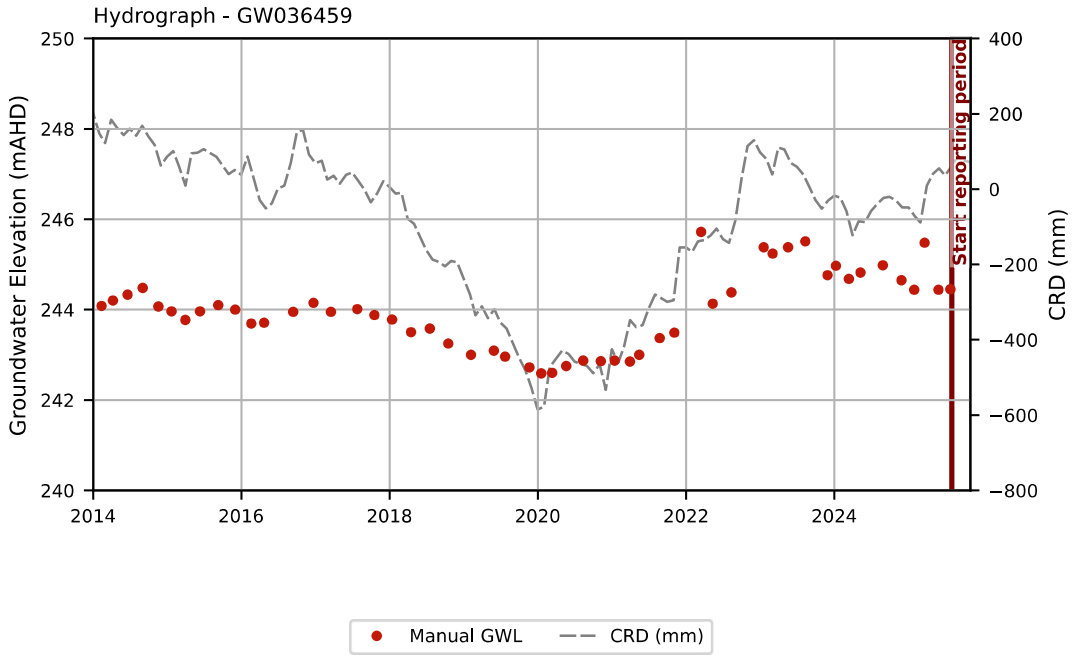

Hydrograph - GW03
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - GW03
Manual GWL
CRD (mm)

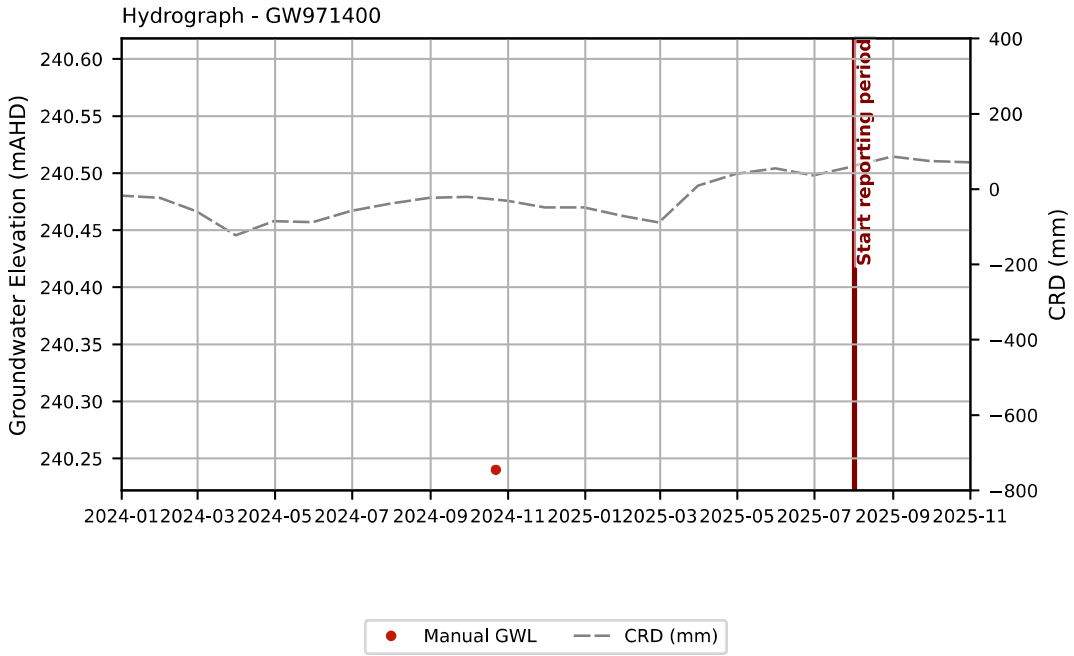

Hydrograph - GW030051-1
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

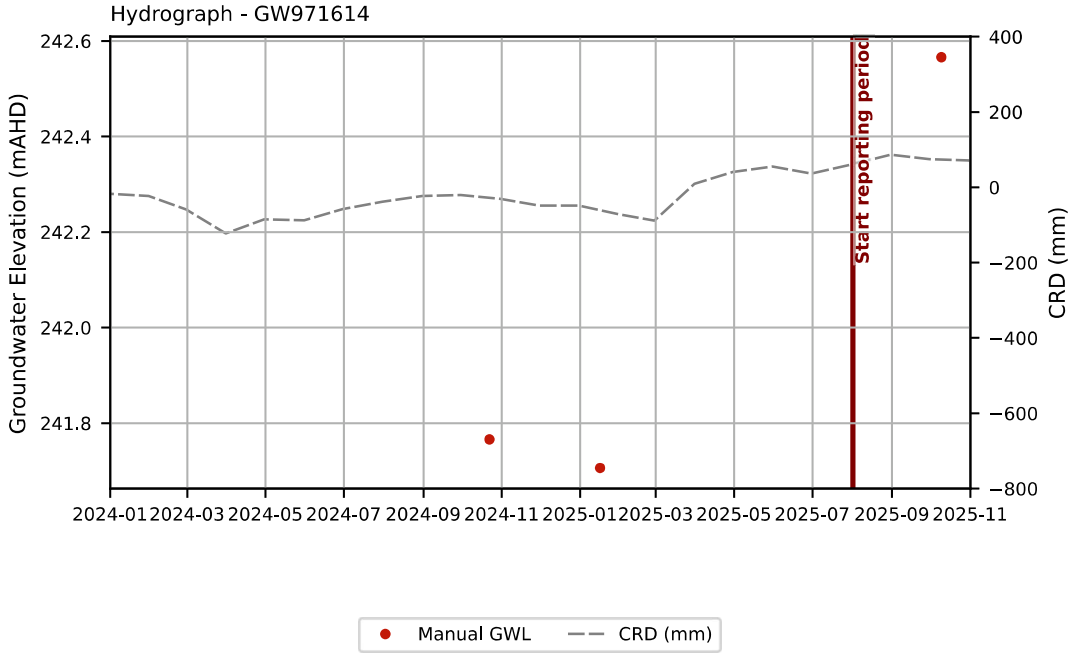

Hydrograph - GW030051-2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

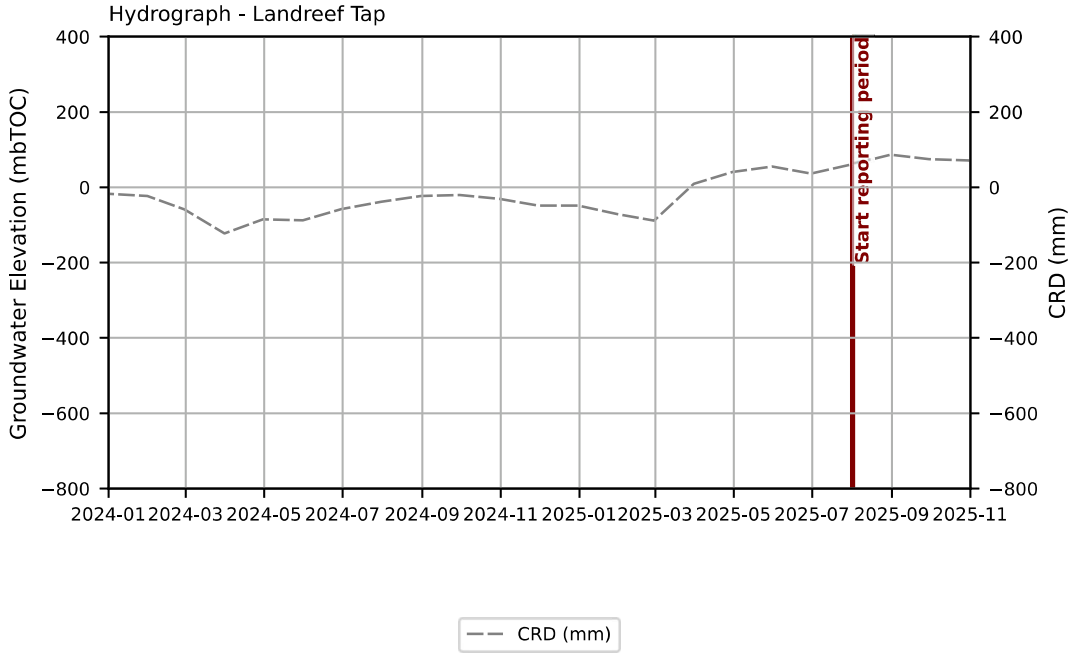

Hydrograph - GW030052-1
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

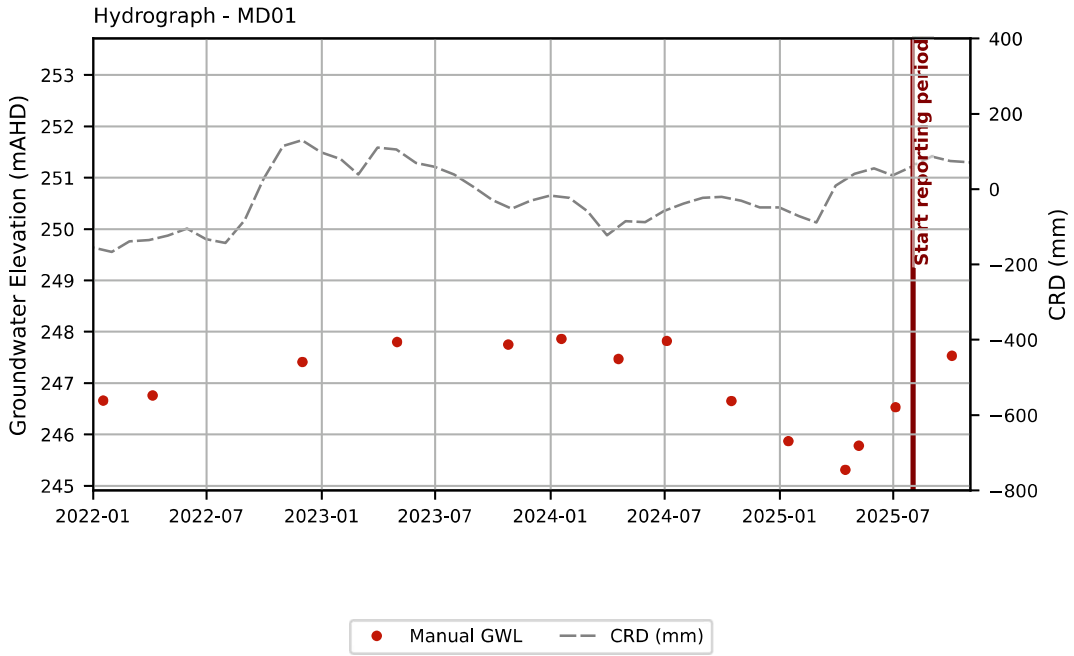

Hydrograph - GW030052-2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

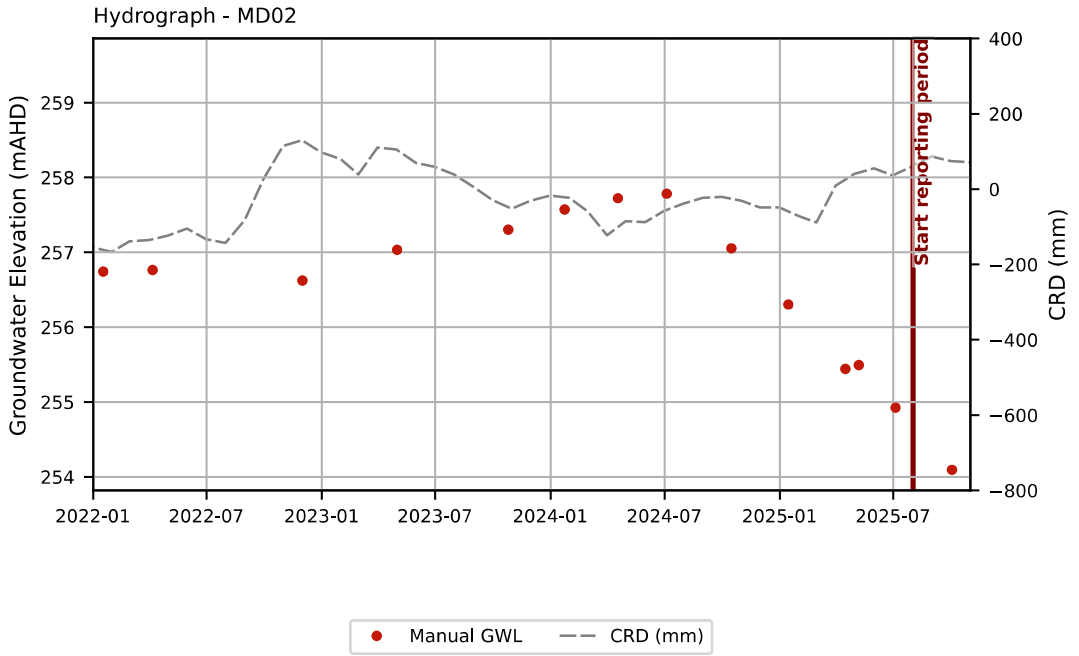

Hydrograph - GW036459
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

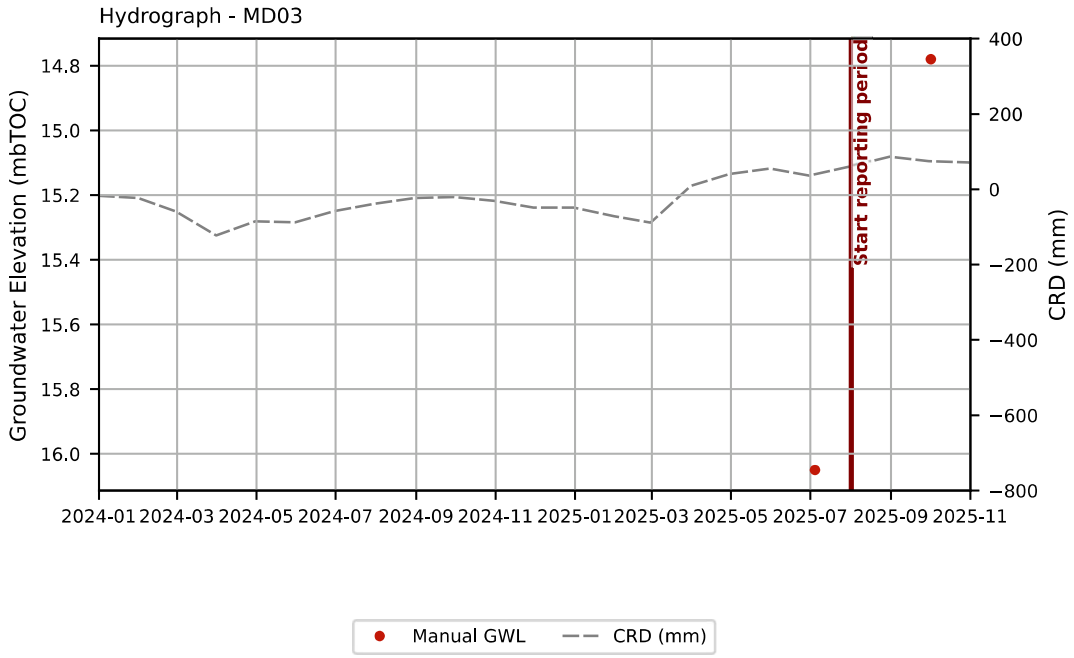

Hydrograph - GW971400
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

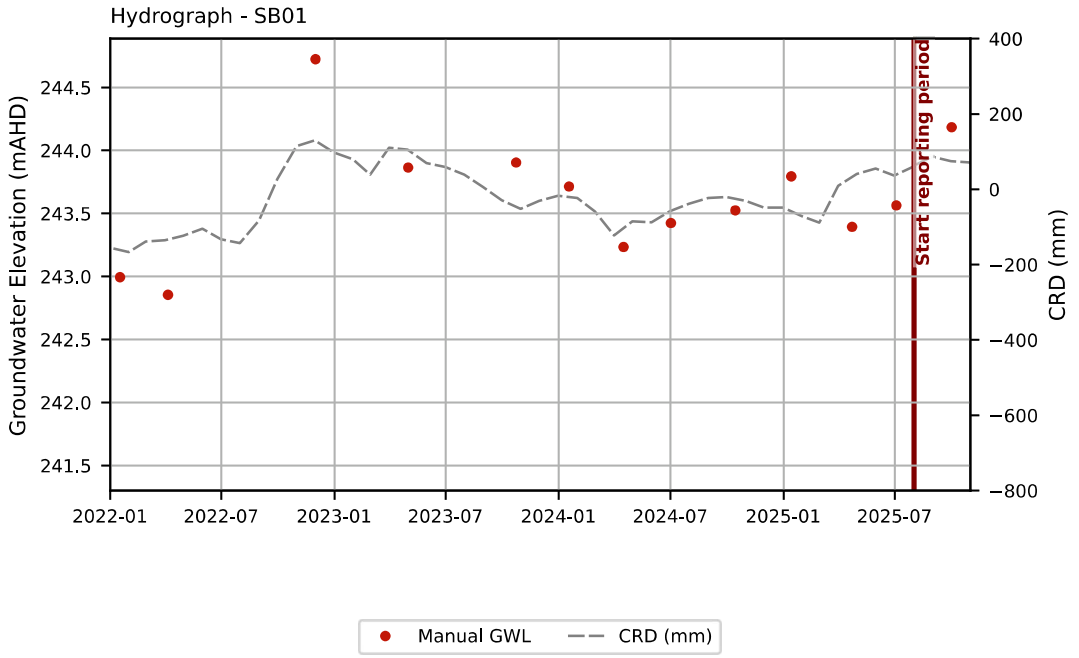

Hydrograph - GW971614
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

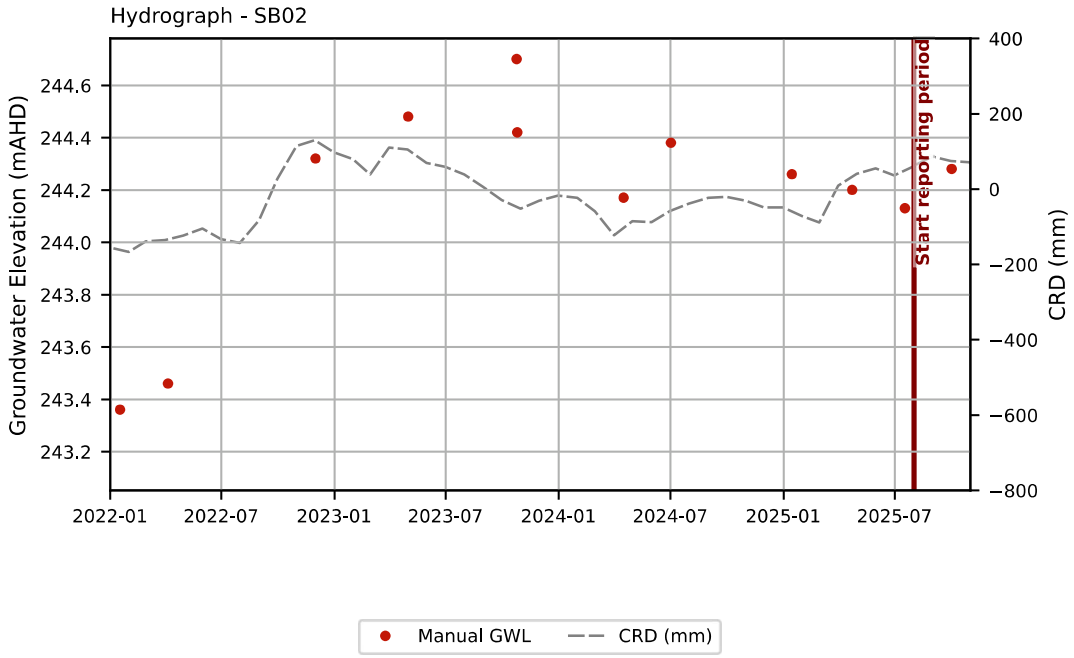

Hydrograph - Landreef Tap
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
CRD (mm)

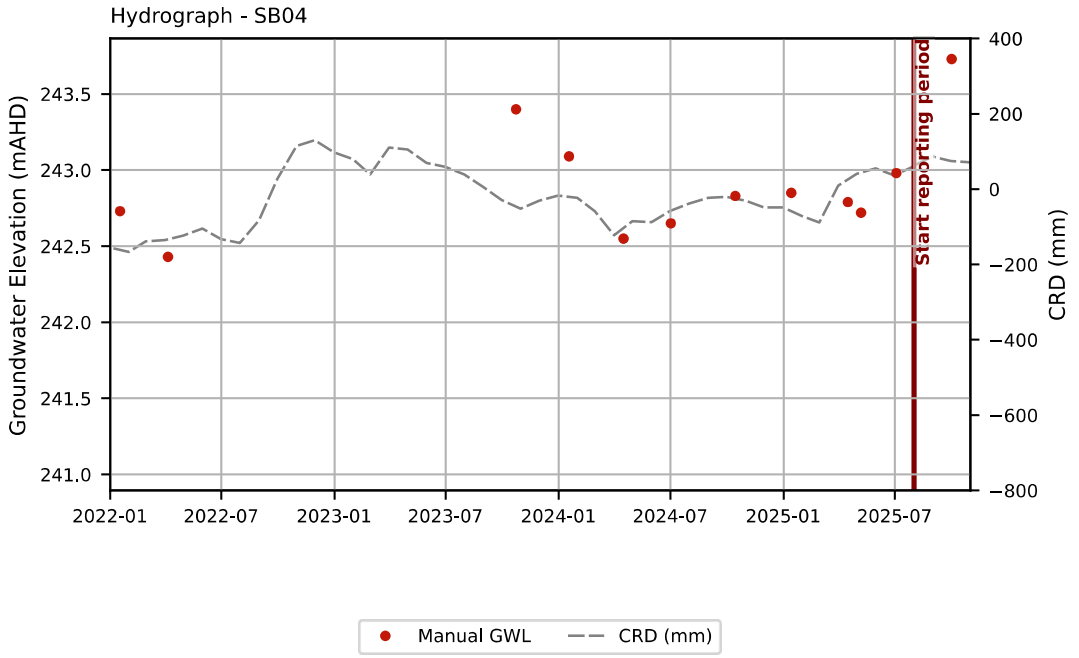

Hydrograph - MD01
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

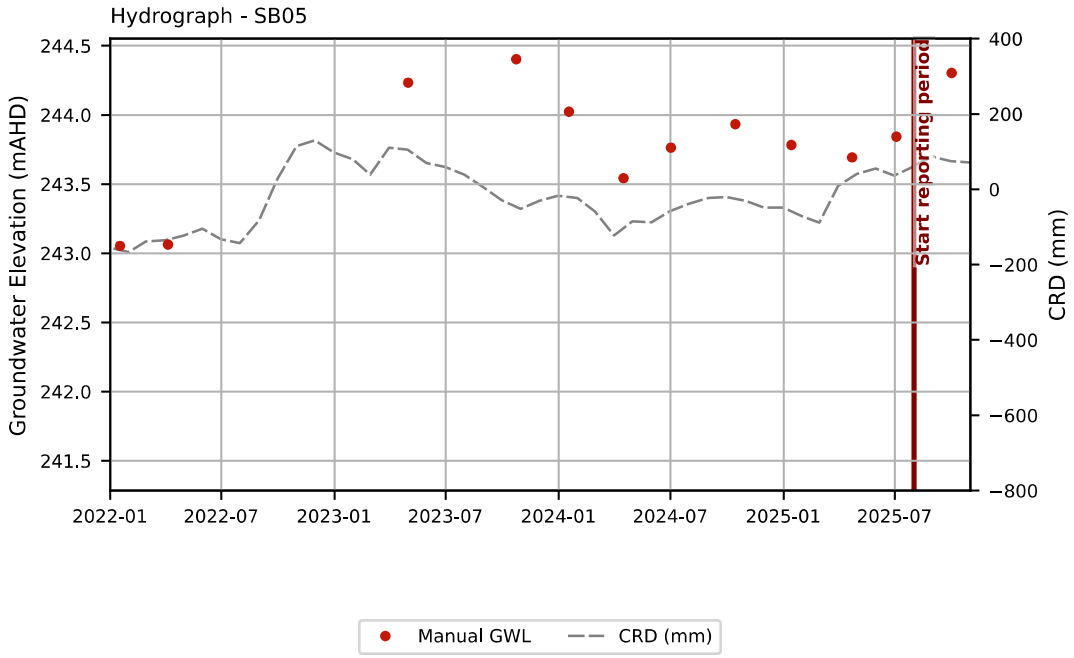

Hydrograph - MD02
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

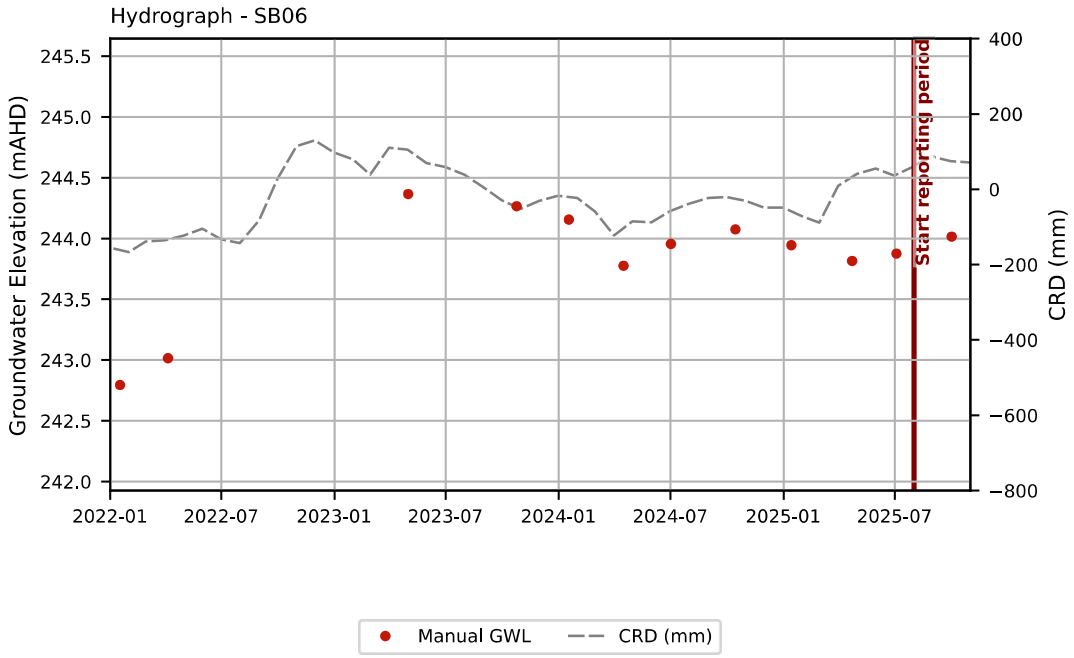

Hydrograph - MD03
Groundwater Elevation (mbTOC)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

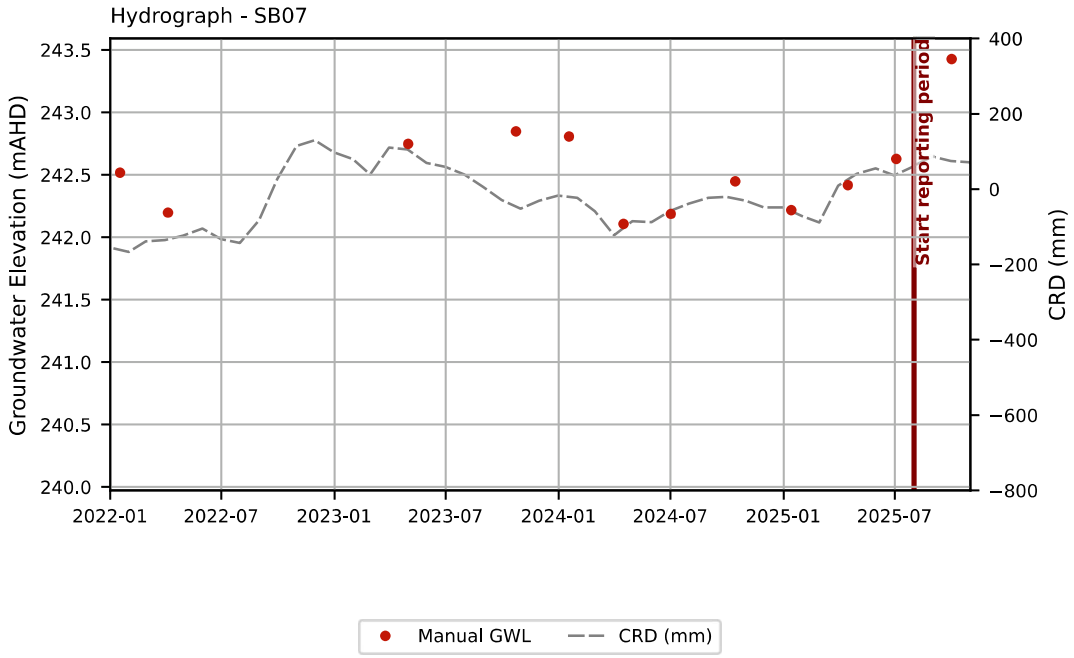

Hydrograph - SB01
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

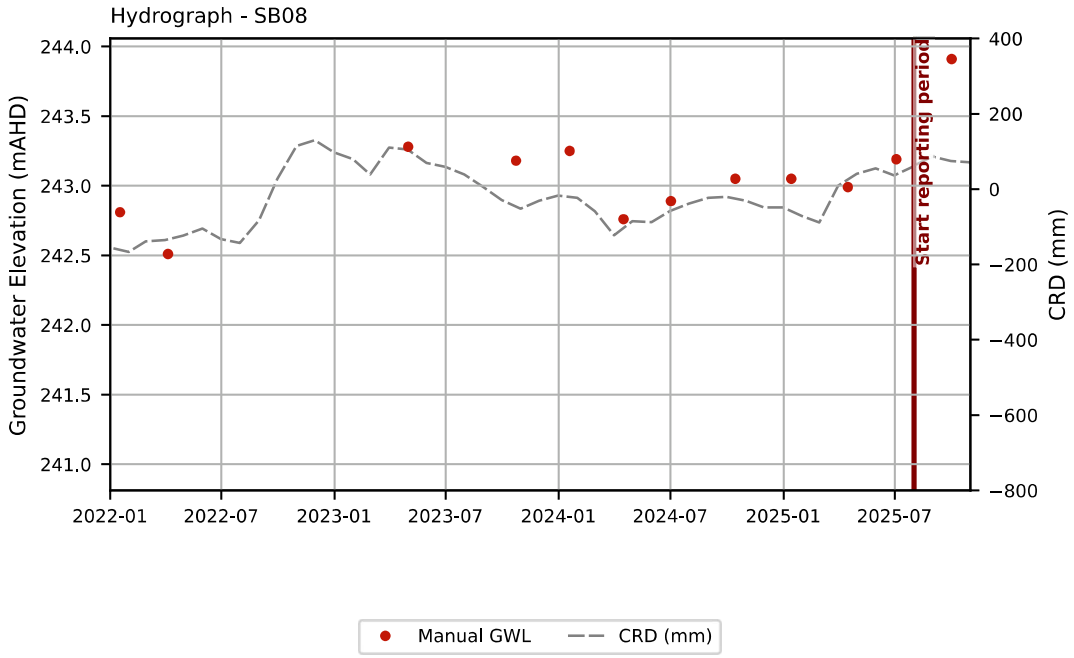

Hydrograph - SB02
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

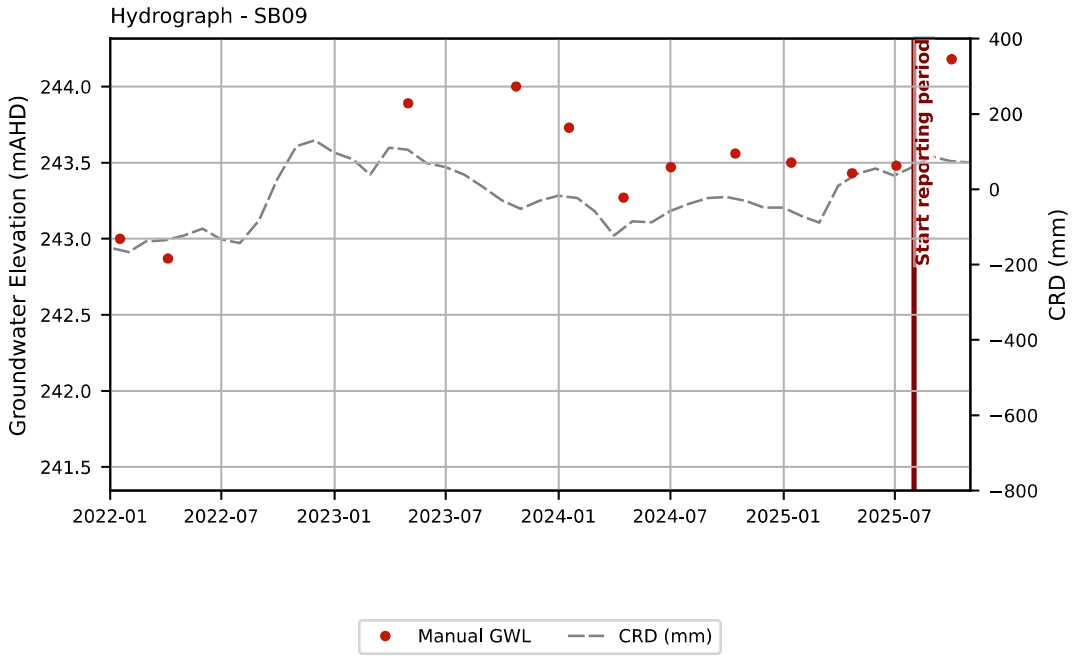

Hydrograph - SB04
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

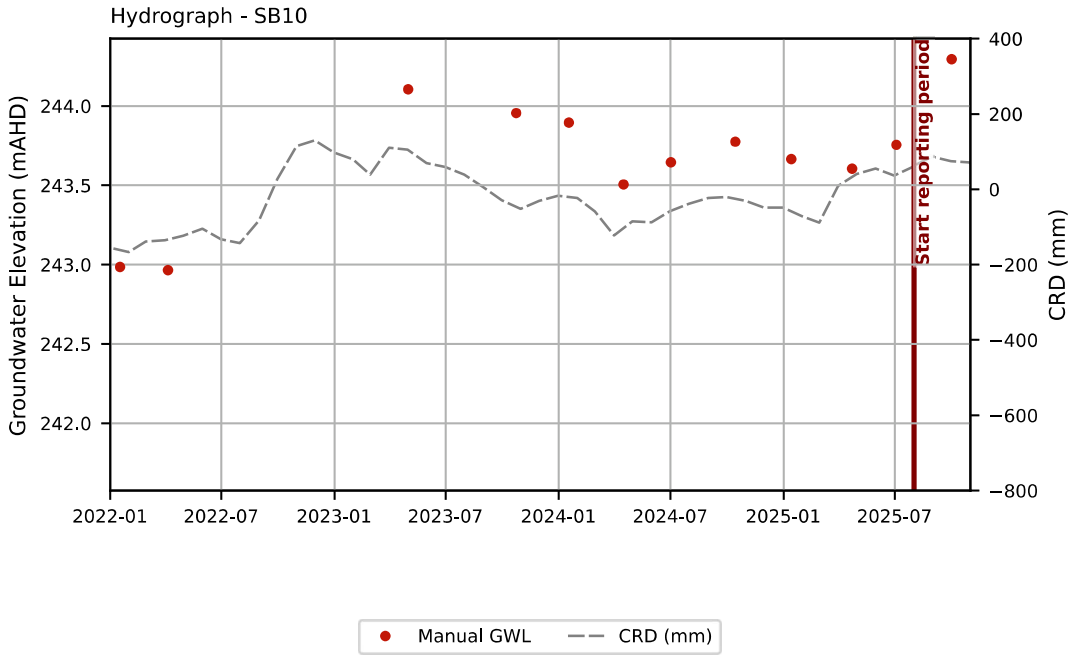

Hydrograph - SB05
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

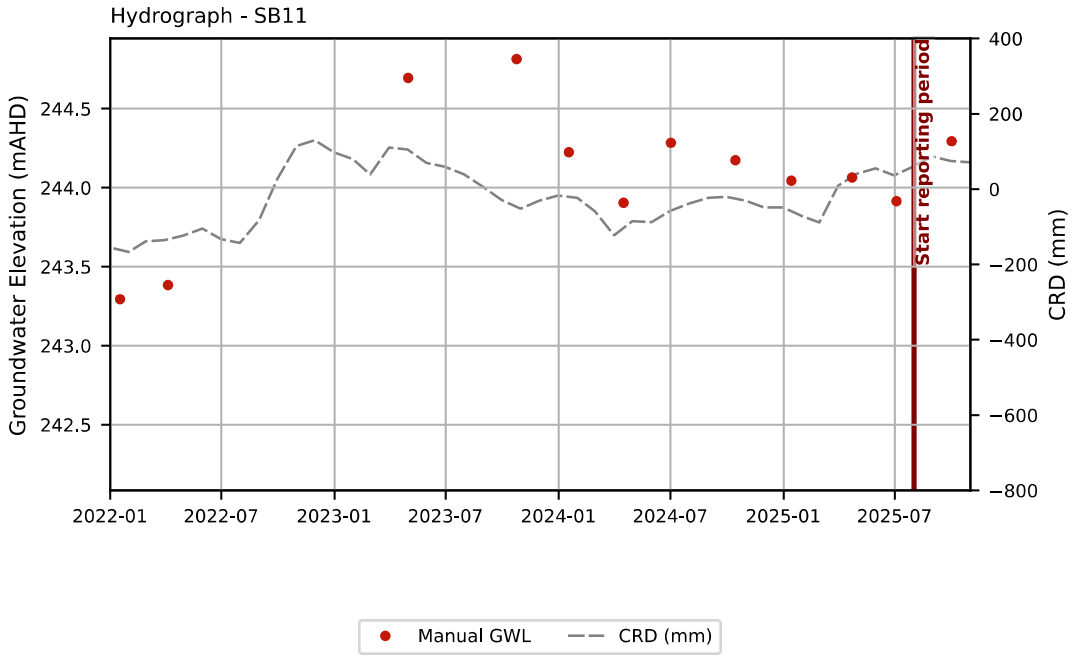

Hydrograph - SB06
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

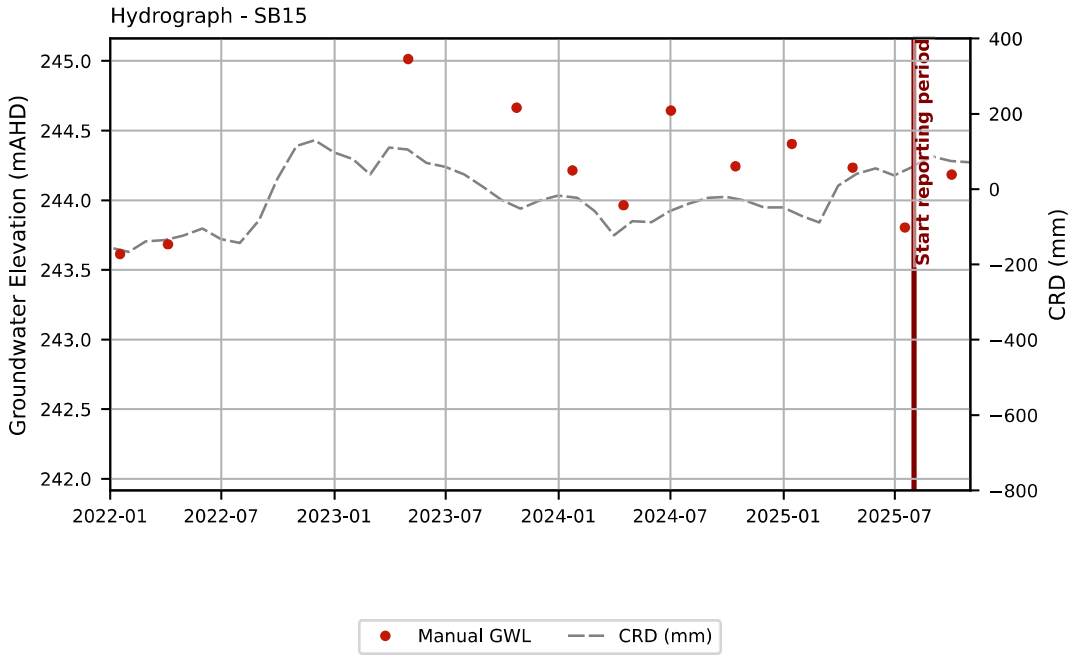

Hydrograph - SB07
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

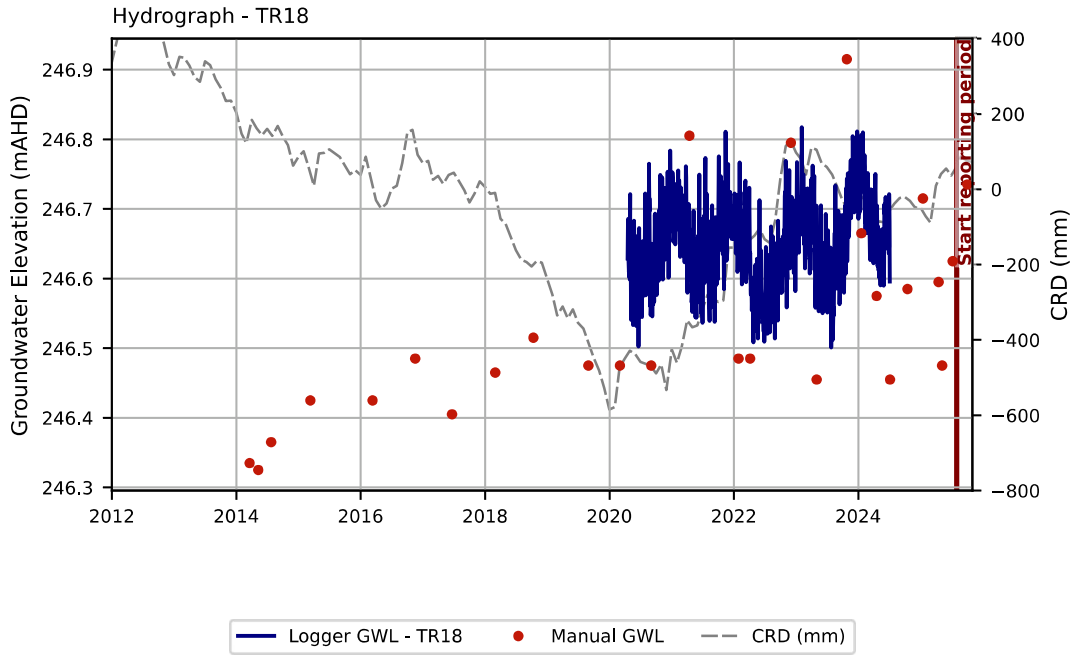

Hydrograph - SB08
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

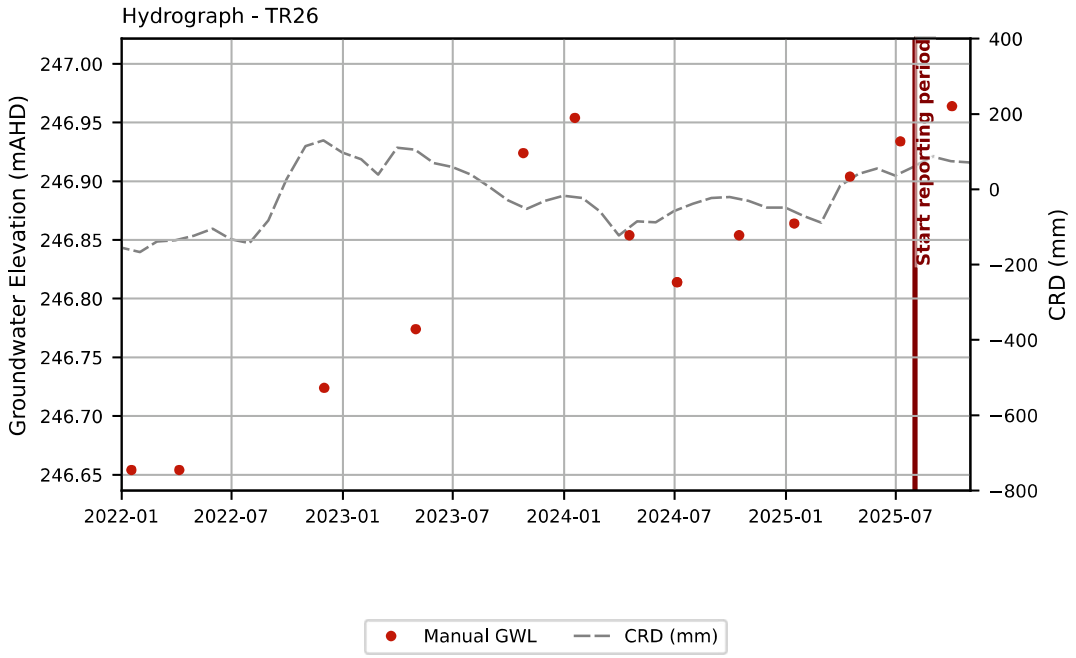

Hydrograph - SB09
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

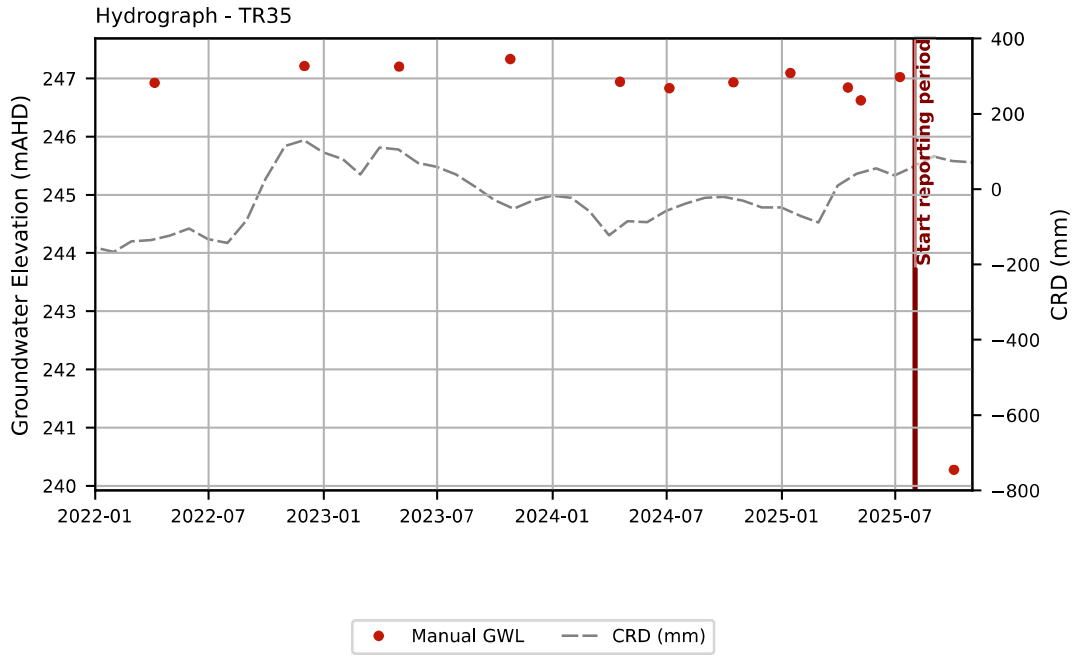

Hydrograph - SB10
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

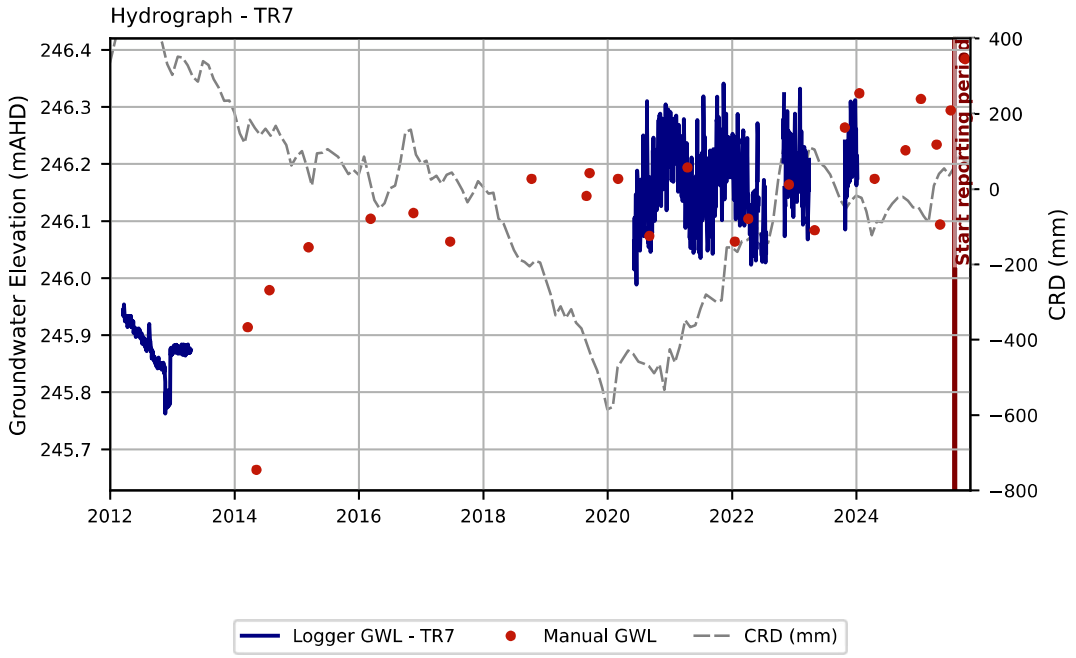

Hydrograph - SB11
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

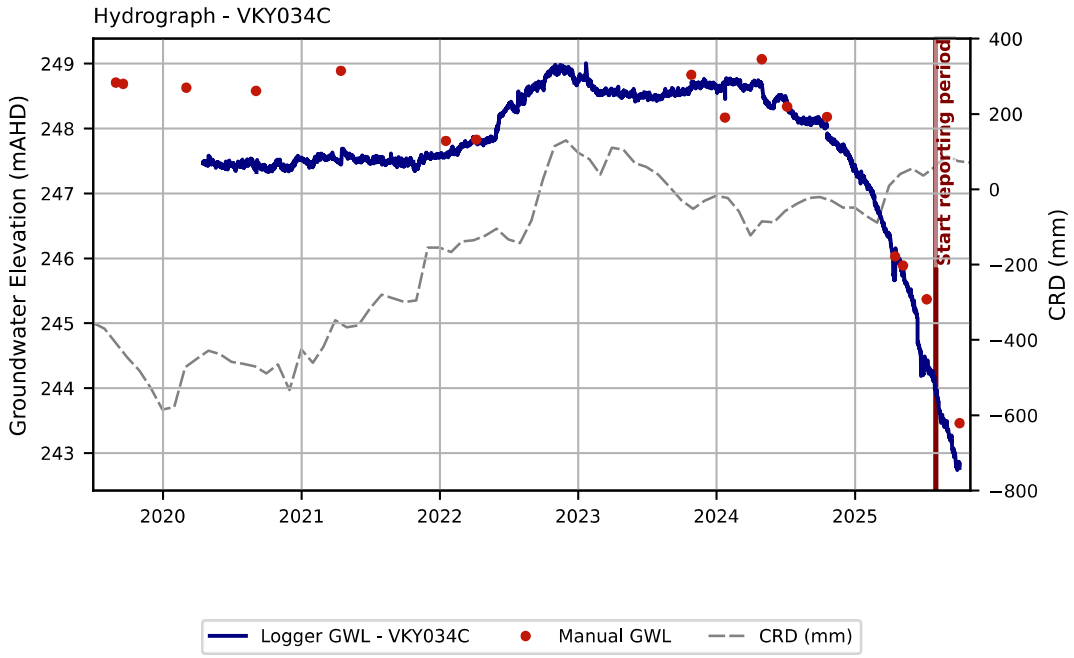

Hydrograph - SB15
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

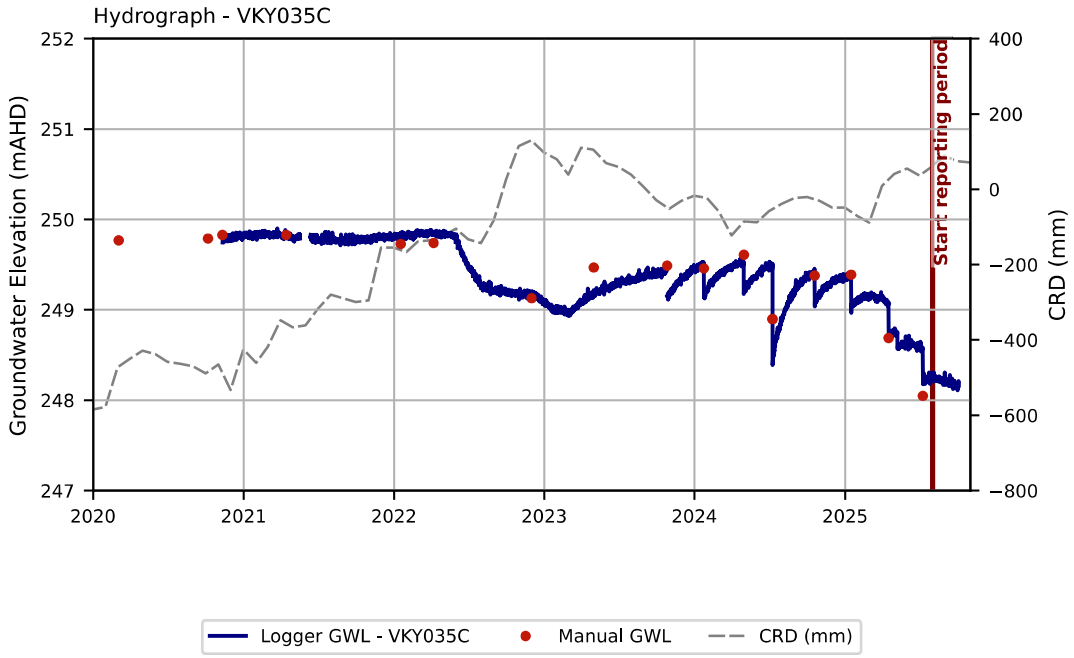

Hydrograph - TR18
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - TR18
Manual GWL
CRD (mm)

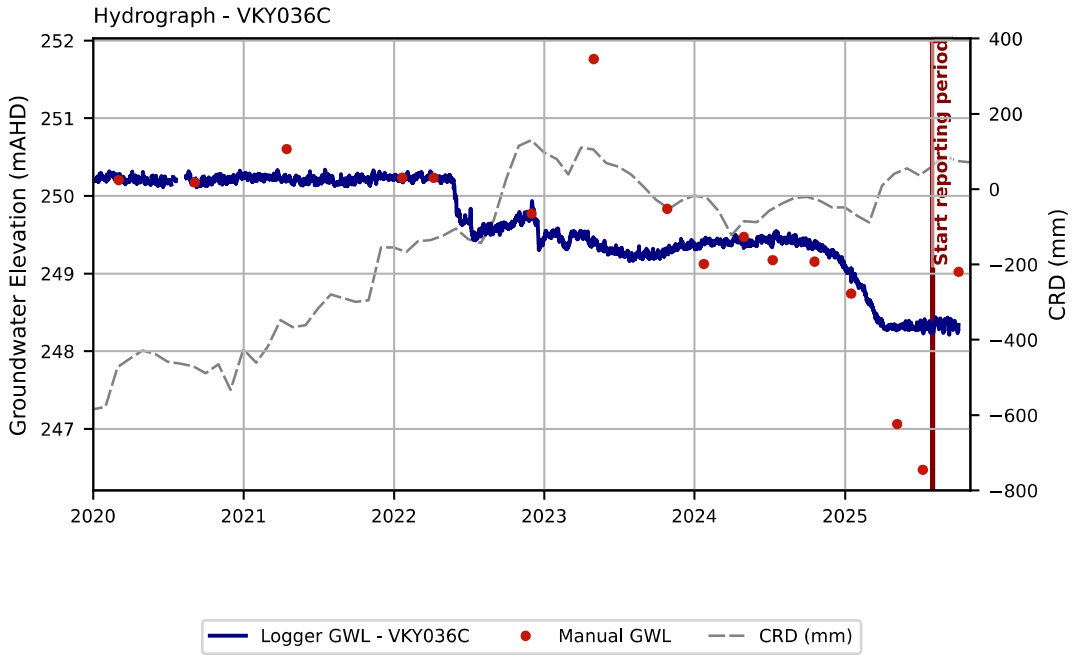

Hydrograph - TR26
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

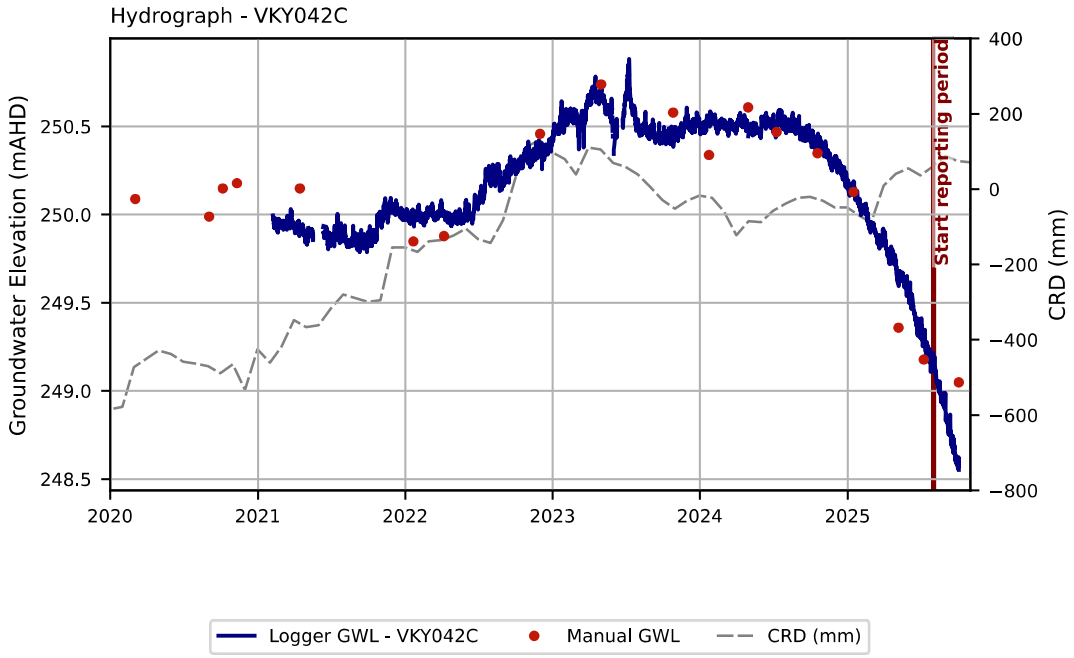

Hydrograph - TR35
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

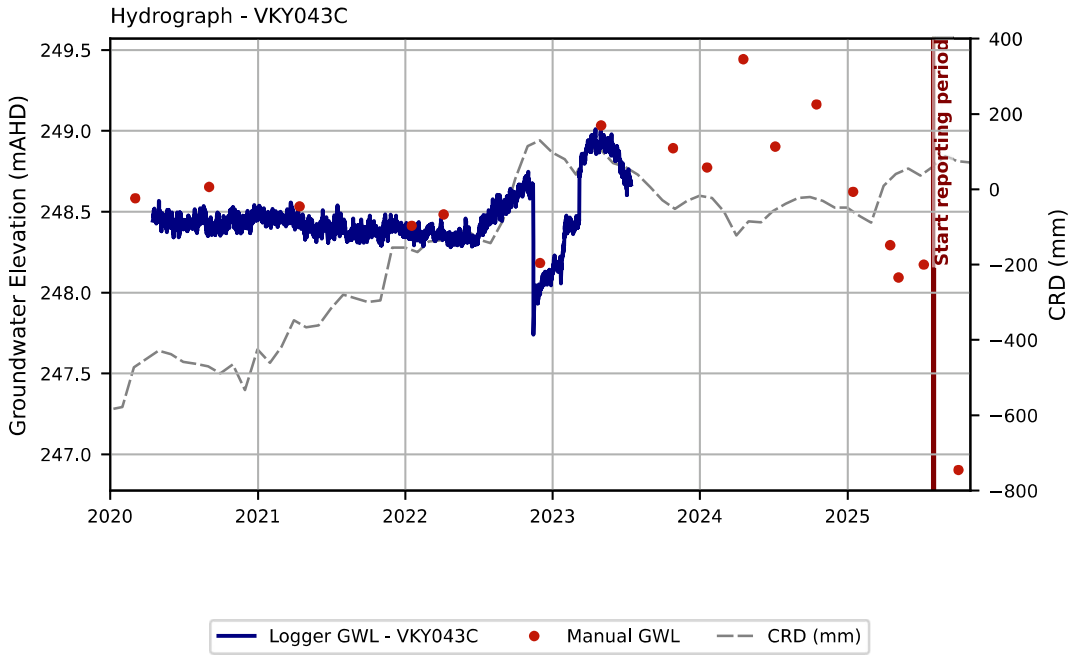

Hydrograph - TR7
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - TR7
Manual GWL
CRD (mm)

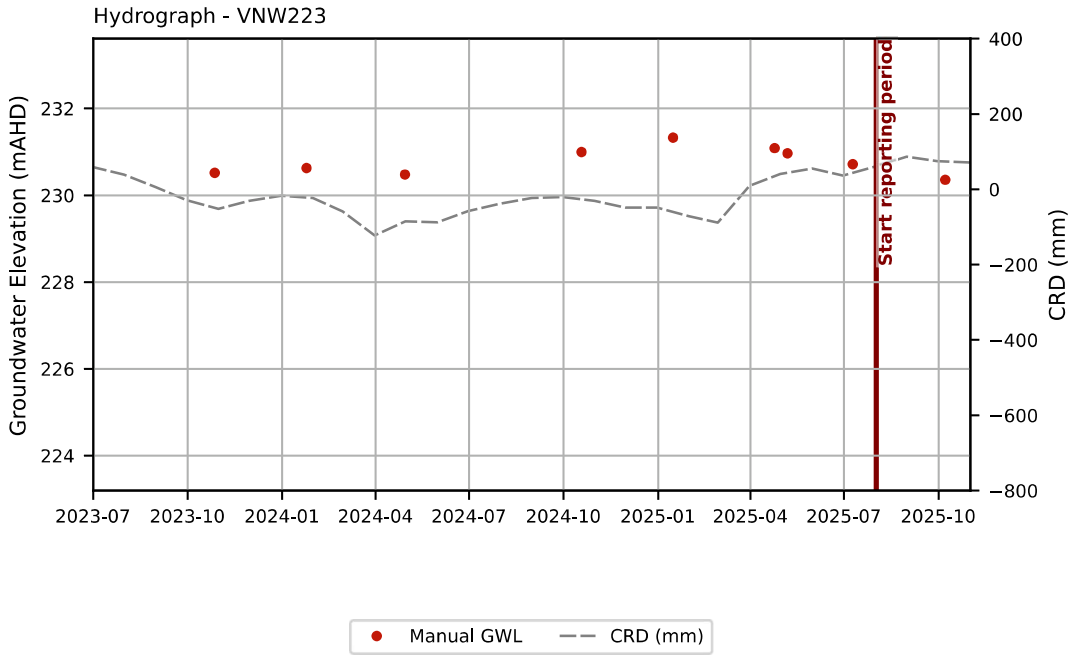

Hydrograph - VKY034C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY034C
Manual GWL
CRD (mm)

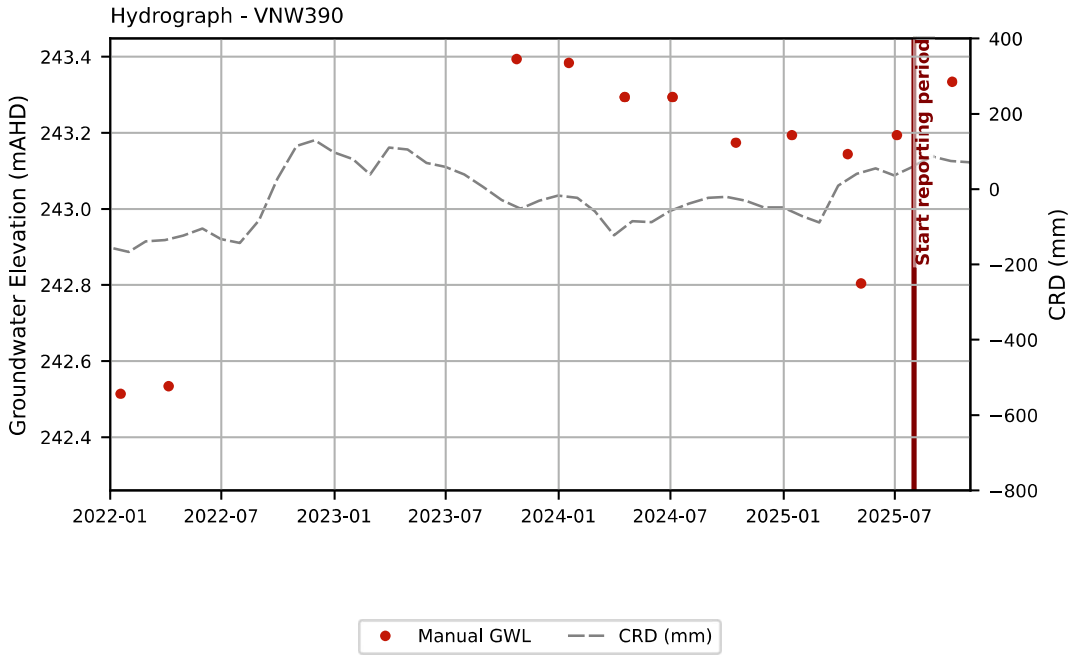

Hydrograph - VKY035C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY035C
Manual GWL
CRD (mm)

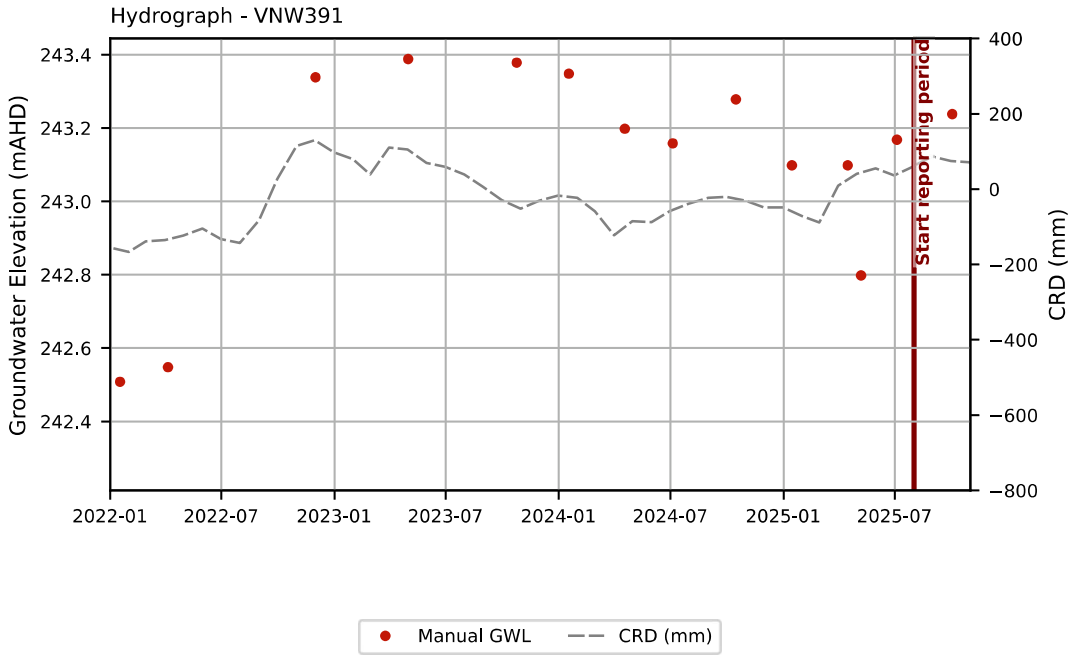

Hydrograph - VKY036C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY036C
Manual GWL
CRD (mm)

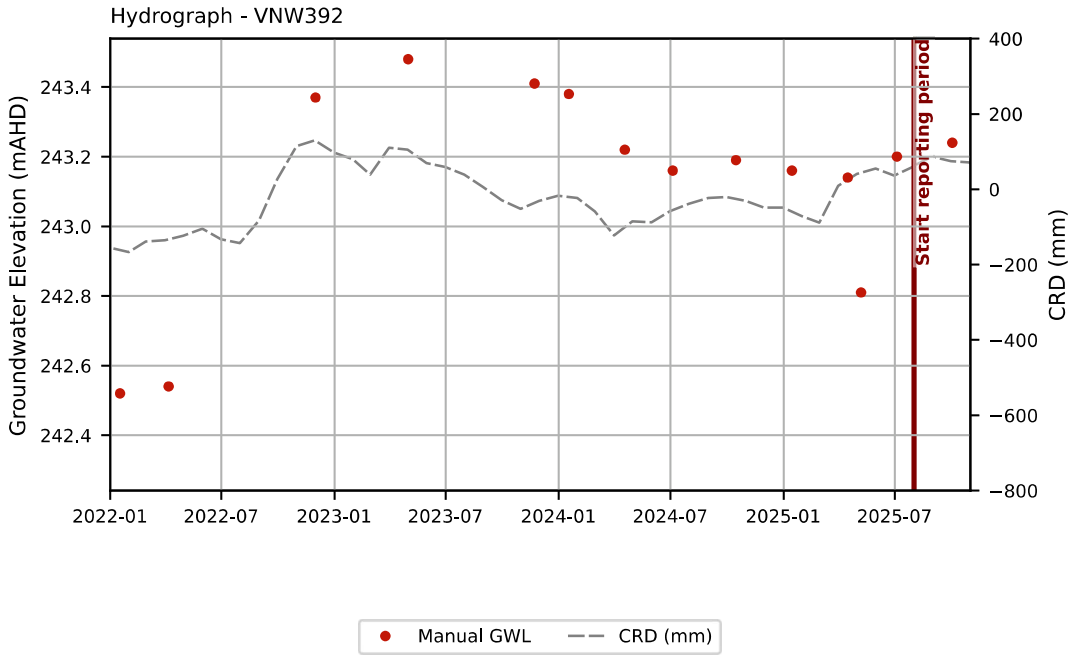

Hydrograph - VKY042C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY042C
Manual GWL
CRD (mm)

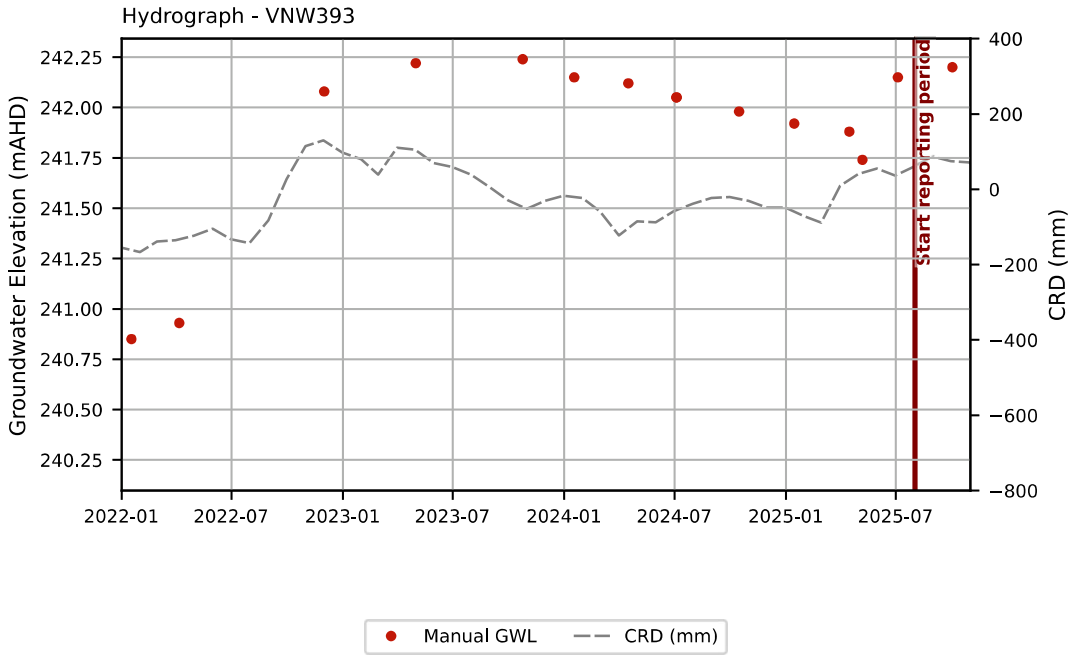

Hydrograph - VKY043C
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VKY043C
Manual GWL
CRD (mm)

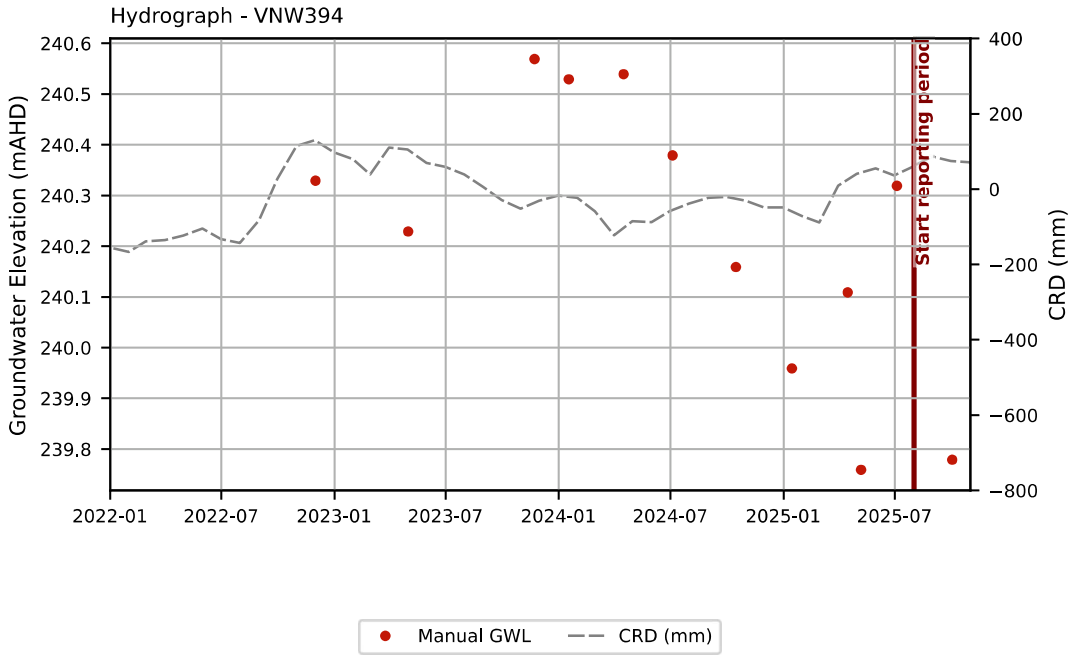

Hydrograph - VNW223
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

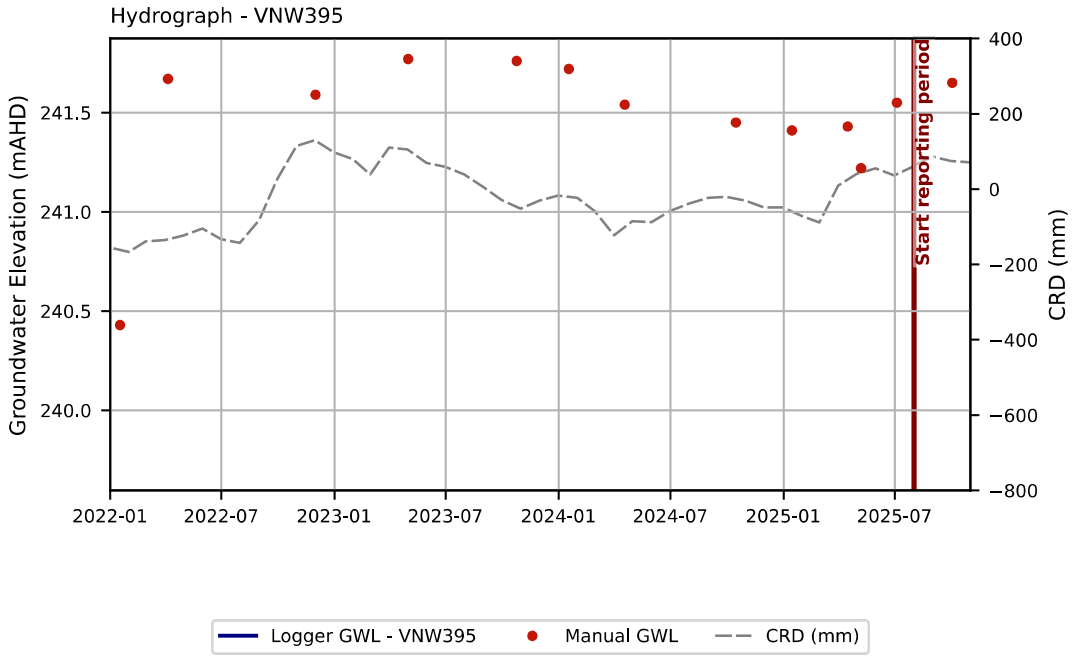

Hydrograph - VNW390
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)


Hydrograph - VNW391
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

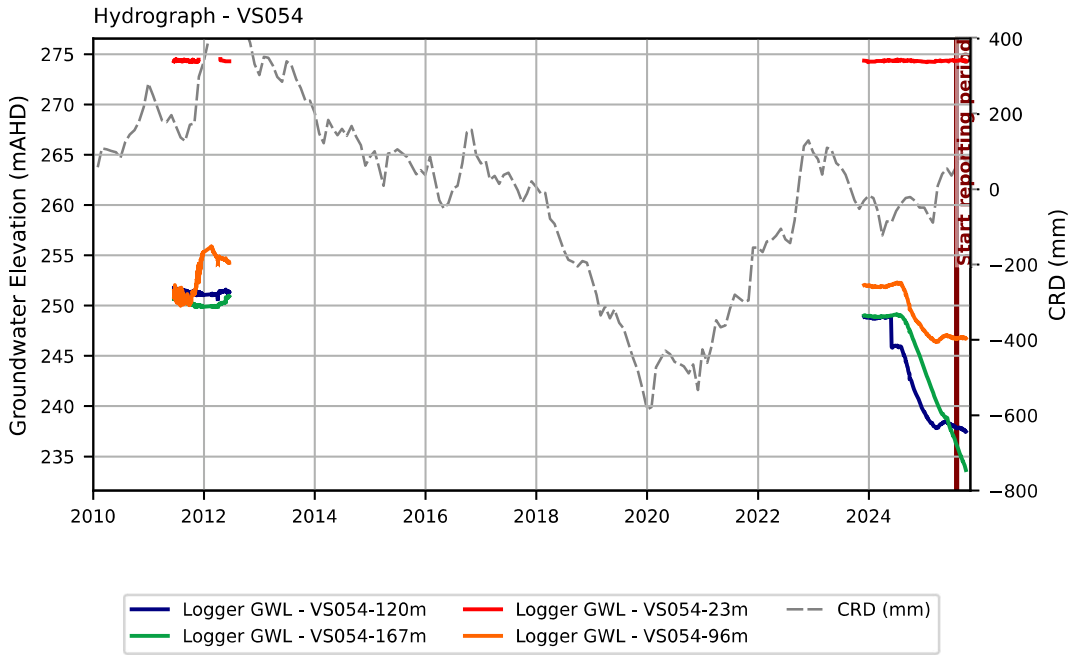

Hydrograph - VNW392
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

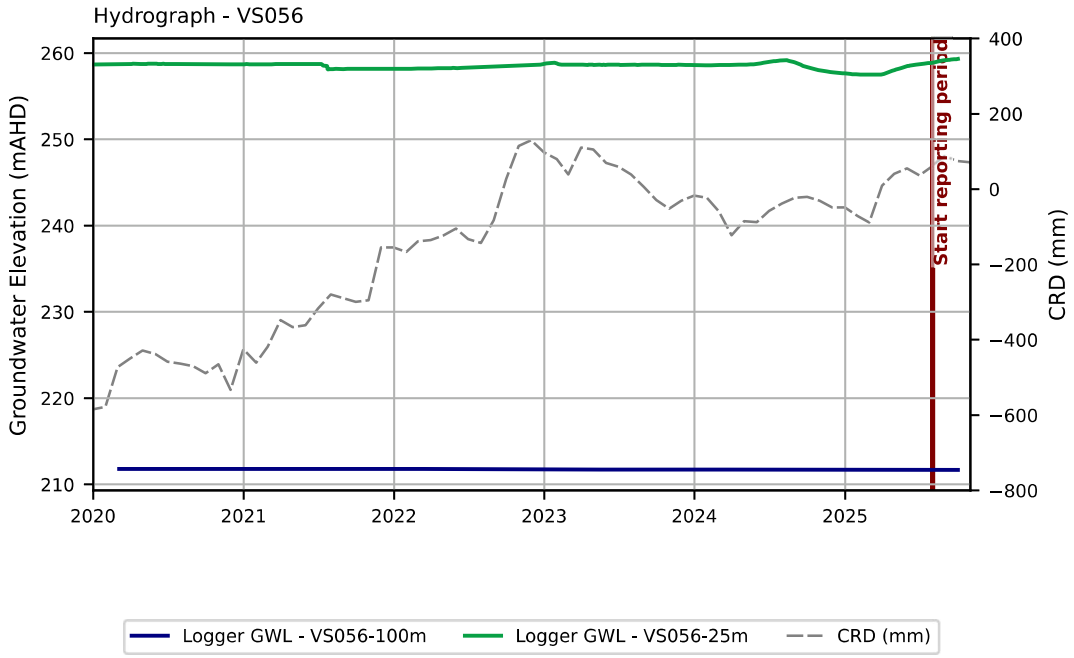

Hydrograph - VNW393
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

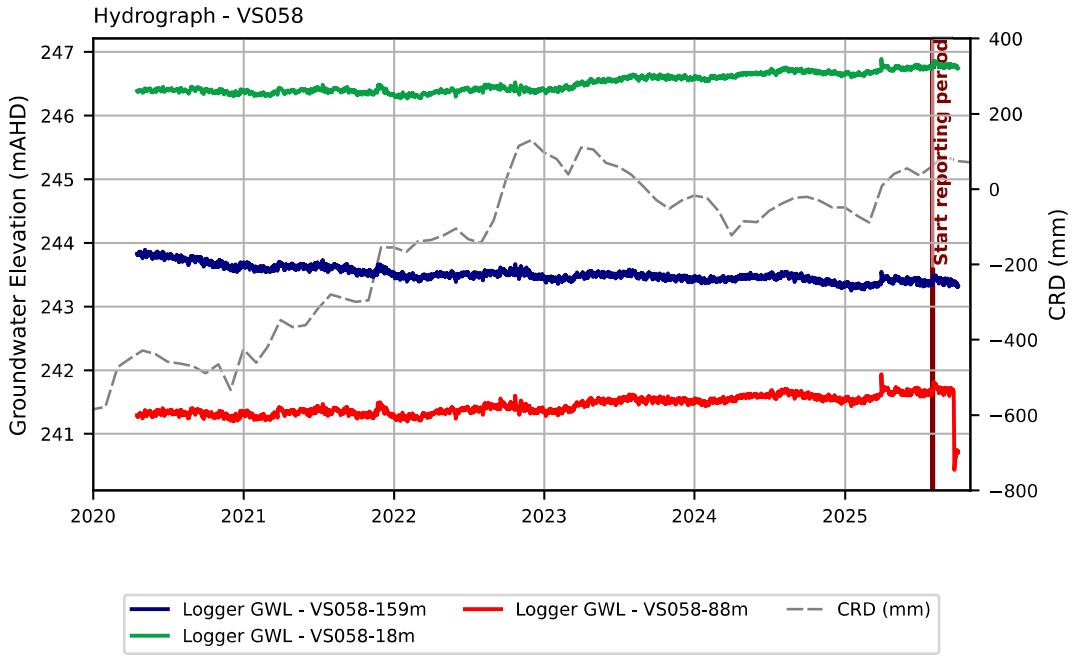

Hydrograph - VNW394
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Manual GWL
CRD (mm)

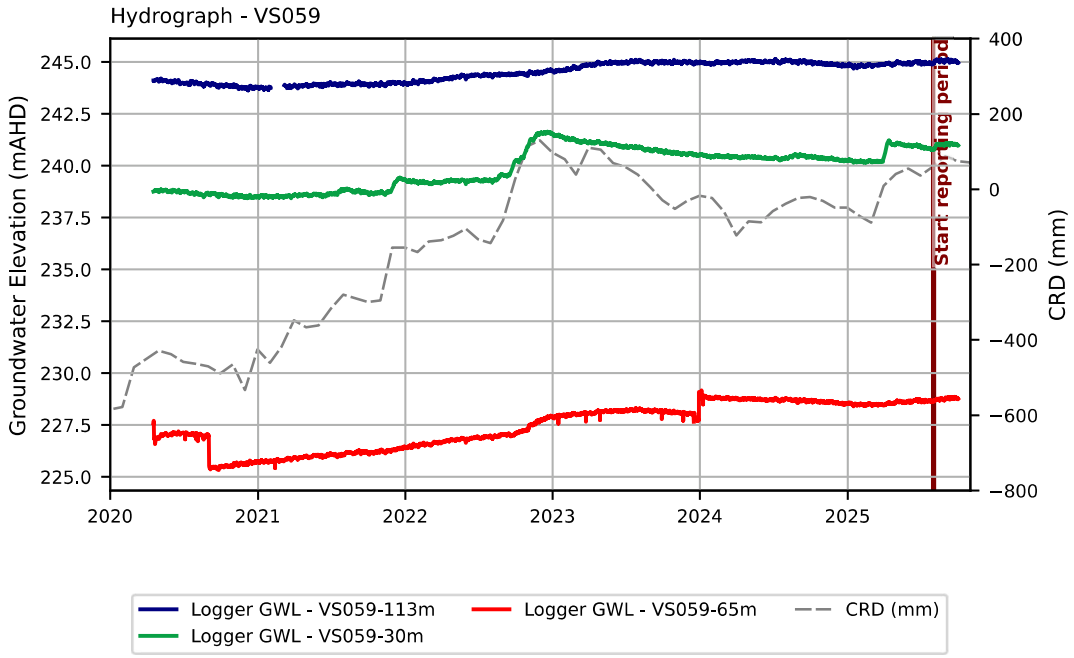

Hydrograph - VNW395
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VNW395
Manual GWL
CRD (mm)

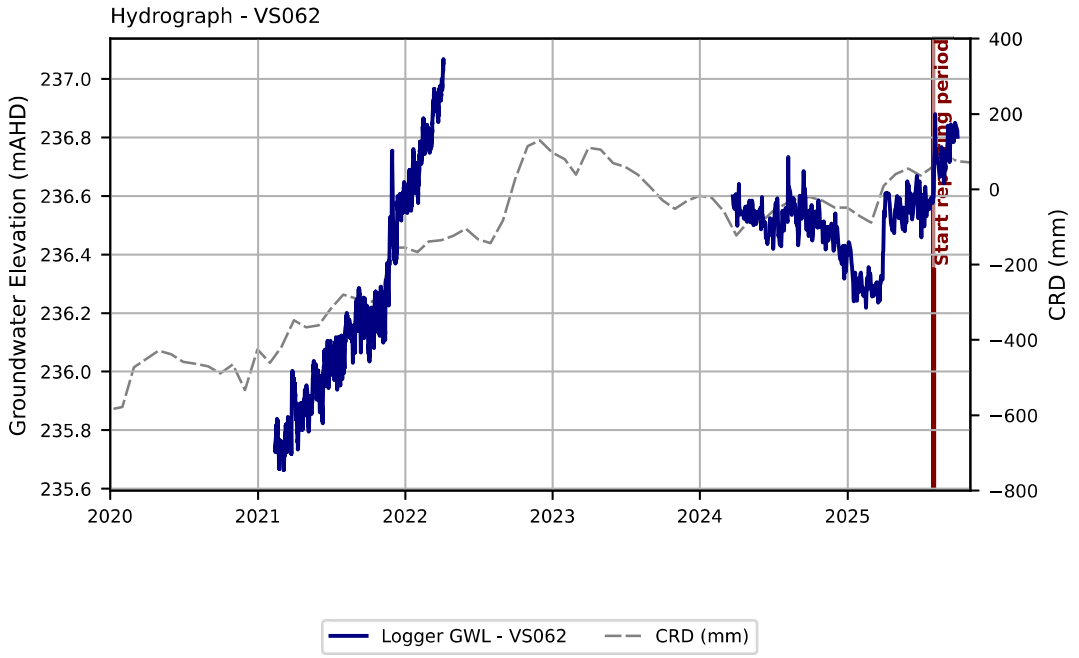

Hydrograph - VS048
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS048-30m
CRD (mm)

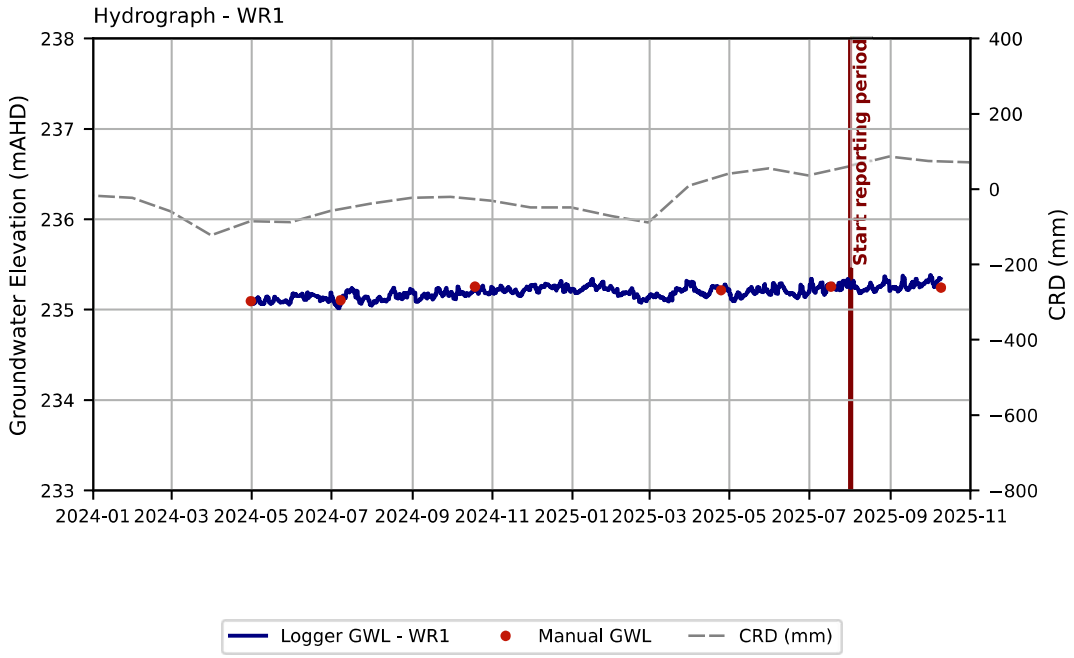

Hydrograph - VS054
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS054-120m
Logger GWL - VS054-23m
CRD (mm)
Logger GWL - VS054-167m
Logger GWL - VS054-96m

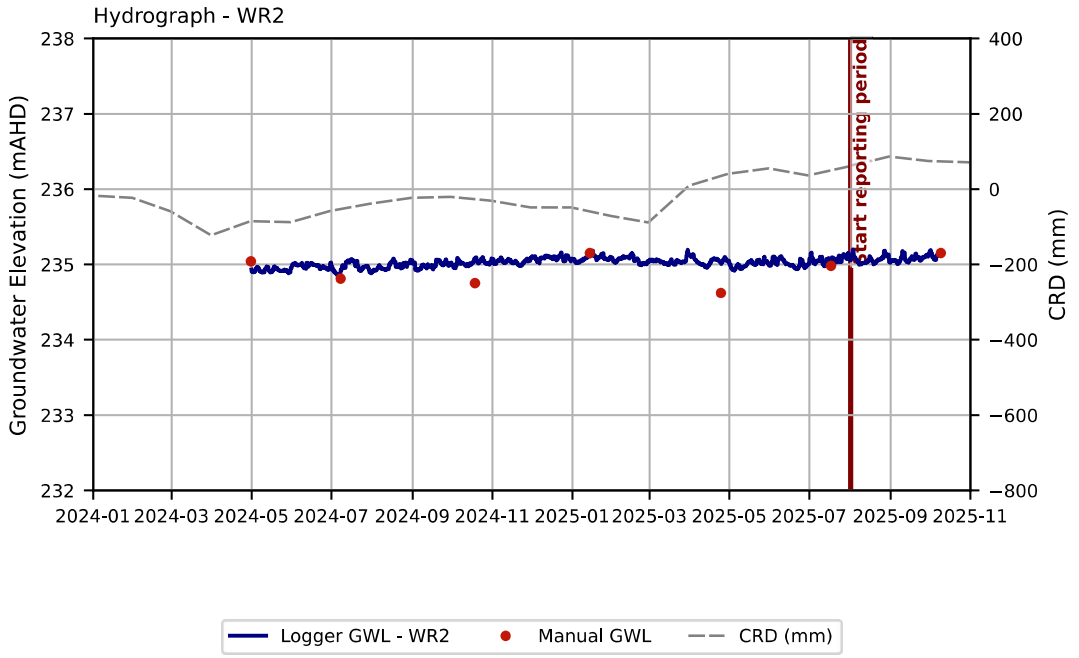

Hydrograph - VS056
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS056-100m
Logger GWL - VS056-25m
CRD (mm)


Hydrograph - VS058
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS058-159m
Logger GWL - VS058-88m
CRD (mm)
Logger GWL - VS058-18m


Hydrograph - VS059
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS059-113m
Logger GWL - VS059-65m
CRD (mm)
Logger GWL - VS059-30m


Hydrograph - VS062
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - VS062
CRD (mm)


Hydrograph - WR1
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - WR1
Manual GWL
CRD (mm)


Hydrograph - WR2
Groundwater Elevation (mAHD)
CRD (mm)
Start reporting period
Logger GWL - WR2
Manual GWL
CRD (mm)

Appendix C Groundwater Quality Results

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review August 2025 – October 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

19 December 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 - WaterNSW locked bore
GW030052	-	-	-	-	-	-	-	-	No access - WaterNSW 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	Sulfer 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 faecal 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_2S
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	H2S; 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 odour, 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_2S 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 H2S 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 H2S
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 H2S
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 unknown?
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	
GW-11	07-10-2025 12:45	7	4790	23.1	-68	NIL	Clear	Orange	
GW-13	03-10-2025 11:55	7.26	858	23	-125	NIL	Clear	Orange	
GW-14	03-10-2025 10:30	6.79	4230	22.2	-26	NIL	Clear	Colourless	

GW-11	07-10-2025 12:45	7	4790	23.1	-68	NIL	Clear	Orange	
GW-2	03-10-2025 11:00	6.99	1386	22.1	74	NIL	Clear	Colourless	
GW-6	03-10-2025 11:45	-	-	-	-	-	-	-	NO ACCESS - CROPPED
GW-7	09-10-2025 11:07	8.26	3960	22.1	90	NIL	Clear	Colourless	
GW-8	09-10-2025 10:28	7.19	3370	22	-138	Slight	-	-	Slight unknown
GW-9	07-10-2025 13:38	7.31	403	21.7	-128	NIL	Clear	Orange	
GW01	01-10-2025 13:14	7.27	914	23.6	-23	NIL	Clear	Colourless	Suspended black particles
GW02	01-10-2025 9:01	7.38	981	22.7	203	NIL	Clear	Colourless	
GW03	01-10-2025 10:43	7.28	896	22.6	130	NIL	Clear	Black	
MD01	02-10-2025 11:15	8.45	1737	23.5	-252	Slight	Slightly Turbid	Colourless	Grout odour
MD02	02-10-2025 11:47	6.84	1347	23	-45	NIL	Clear	Colourless	
SB01	01-10-2025 11:12	7.25	1702	22.4	-41	NIL	Clear	Colourless	
MD03	01-10-2025 14:20	7.25	4880	24.3	22	NIL	Clear	Colourless	
SB02	01-10-2025 13:35	7.29	7020	24.3	-88	NIL	Clear	Colourless	
SB04	01-10-2025 9:59	7.45	2067	23.3	-37	NIL	Clear	Colourless	
SB05	01-10-2025 12:02	7.8	3540	24.4	-34	NIL	Clear	Colourless	
SB06	01-10-2025 12:21	7.91	2550	22.9	-132	NIL	Turbid	Grey	Too turbid to filter/lab to filter
SB07	01-10-2025 9:32	7.45	951	24.6	199	NIL	Clear	Colourless	Shown as TR7
SB08	01-10-2025 10:11	7.52	1041	21.6	99	NIL	Clear	Colourless	
SB09	01-10-2025 11:27	7.62	1045	22	11	NIL	Clear	Black	Black particulate
SB10	01-10-2025 11:48	7.44	1681	22.7	-31	NIL	Clear	Colourless	
SB11	01-10-2025 12:37	7.73	1159	25.1	95	NIL	Clear	Colourless	
SB15	01-10-2025 13:35	7.35	1087	23.7	127	NIL	Clear	Colourless	
TR18	02-10-2025 13:35	6.83	1352	21.8	13	NIL	Turbid	Black	
TR26	01-10-2025 15:20	6.86	7040	23.9	137	NIL	Slightly Turbid	Black	
TR35	02-10-2025 14:15	6.93	16950	22.4	134	NIL	Clear	Colourless	
TR7	01-10-2025 15:40	6.95	15510	21.9	96	NIL	Slightly Turbid	Grey	Too turbid to filter/lab to filter
VKY035C	03-10-2025 8:41	6.95	3340	21	-44	NIL	-	-	
VKY036C	03-10-2025 9:05	7.1	5920	22.4	-85	NIL	Clear	Grey	
VKY042C	03-10-2025 9:40	6.64	5780	21.9	-6	NIL	Clear	Colourless	
VKY034C	03-10-2025 8:05	7.06	3870	18	21	NIL	Turbid	Grey	
VKY041C	01-10-2025 14:53	-	-	-	-	-	-	-	
VKY041C	01-10-2025 14:55	-	-	-	-	-	-	-	
VKY043C	02-10-2025 13:53	7.7	3060	22.1	-53	NIL	Clear		
VKY33C	03-10-2025 7:09	-	-	-	-	-	-	-	
VKY33C	03-10-2025 7:09	-	-	-	-	-	-	-	
VKY3053C									Removed by mining process
VNW223	07-10-2025 12:29	7.34	4550	25	137	NIL	Clear	Colourless	Blocked at approx. 2 meters?
VNW390	02-10-2025 8:55	6.91	2276	20.1	-87	NIL	Clear	Colourless	
VNW391	02-10-2025 9:42	7.33	2490	22.6	-160	NIL	Clear	Colourless	Suspended vegetable matter
VNW392	02-10-2025 10:15	6.77	3580	21.9	-74	NIL	Clear	Colourless	
VNW393	02-10-2025 8:24	7.17	3210	20.4	-66	NIL	Clear	Colourless	
VNW394	02-10-2025 7:58	6.62	5190	17.6	-25	NIL	Clear	Grey	

GW-11	07-10-2025 12:45	7	4790	23.1	-68	NIL	Clear	Orange	
VNW395	02-10-2025 9:28	7.49	2580	19.8	-272	Slight	Clear	Colourless	No logger installed, suspended vegetable matter
VS048	02-10-2025 10:55	-	-	-	-	-	-	-	
VS054	02-10-2025 11:35	-	-	-	-	-	-	-	
VS056	02-10-2025 11:10	-	-	-	-	-	-	-	
VS056	02-10-2025 11:12	-	-	-	-	-	-	-	
VS058	01-10-2025 13:55	-	-	-	-	-	-	-	
VS059	01-10-2025 14:05	-	-	-	-	-	-	-	
VS062	01-10-2025 9:39	-	-	-	-	-	-	-	
WR-1	09-10-2025 12:03	6.52	23500	22.7	110	NIL	Clear	Colourless	
WR-2	09-10-2025 11:38	6.54	22900	21.6	-38	NIL	Clear	Grey	
GW036459									WaterNSW bore, no access
GW030051									WaterNSW bore, no access
GW030052									WaterNSW bore, no access
GW-4	03-10-2025 11:20	7.97	2960	21.7	-163	NIL	Clear	Colourless	
GW-10	02-10-2025 14:55	8.37	1950	23.6	54	NIL	Slightly Turbid	Orange	
GW-15	02-10-2025 12:45	9.15	754	21.6	-59	NIL	Clear	Colourless	
GW971614	09-10-2025 8:30	6.87	562	20.4	60	NIL	Clear	Colourless	
GW971400	05-11-2025 7:15	6.71	2420	23.8	168	NIL	Clear	Colourless	No access. James B. away. Re-visited in November 2025
VKY GW Duplicate 1 - GW-15	02-10-2025 12:45	9.16	748	21.5	-58	NIL	Clear	Colourless	
VKY GW Duplicate 2 - GW-11	07-10-2025 12:45	7	4790	23.1	-68	NIL	Clear	Orange	
VKY GW Blank	02-10-2025 8:30	8.72	43.8	21.4	6	NIL	Clear	Colourless	
VKY GW Lab Split Dup 1 - GW-15	02-10-2025 12:45	9.16	758	21.4	-48	NIL	Clear	Colourless	
VKY GW Lab Split Dup 2 - VKY042C	03-10-2025 9:40	6.71	5840	23.2	-9	NIL	Clear	Colourless	

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

CERTIFICATE OF ANALYSIS

Work Order	: **EN2517435**	Page	: 1 of 35
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: All Deliverables	Contact	:
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 02 6571 3334	Telephone	: +61 2 4014 2500
Project	: Vickery Quarterly Groundwaters	Date Samples Received	: 13-Oct-2025 16:00
Order number	: ----	Date Analysis Commenced	: 15-Oct-2025
C-O-C number	: ----	Issue Date	: 21-Oct-2025 17:34
Sampler	: CBased Environmental		
Site	: Vickery		
Quote number	: SYBQ/403/21v5 and PLANNED EVENTS		
No. of samples received	: 51		
No. of samples analysed	: 51		

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
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	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.
- EG035: Positive Mercury result EN2517435 #50 has been confirmed by reanalysis.
- ED093: Positive result for sample EN2517435-#040 has been confirmed by reanalysis.
- EG020/ED093: Results for sample EN2517435-#041 have been confirmed by reanalysis.
- TDS by method EA-015 various samples may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- It has been noted that Dissolved Total P is greater than Total P, however this difference is within the limits of experimental variation on various samles
- EK057G: It has been noted that Nitrite is greater than NOX on sample 5, however this difference is within the limits of experimental variation.
- EN055: Ionic Balance out of acceptable limits for sample EN2517435-#041 due to analytes not quantified in this report.
- 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)

Compound	CAS Number	LOR	Unit	Sample ID	GW-11 WJMRB2EQ-1	GW-13 WJMRB2EQ-2	GW-14 WJMRB2EQ-3	GW-2 WJMRB2EQ-4	GW-7 WJMRB2EQ-6
				Sampling date / time	07-Oct-2025 12:45	03-Oct-2025 11:55	03-Oct-2025 10:30	03-Oct-2025 11:00	09-Oct-2025 11:07
					EN2517435-001	EN2517435-002	EN2517435-003	EN2517435-004	EN2517435-005
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.06**	**7.67**	**7.31**	**7.42**	**8.42**
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**4270**	**1740**	**3560**	**1210**	**3980**
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**3780**	**1190**	**2650**	**866**	**2960**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	**52**
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**49**	**592**	**556**	**525**	**1100**
Total Alkalinity as CaCO3	----	1	mg/L		**49**	**592**	**556**	**525**	**1150**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<1	**30**	**394**	**24**	**331**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**1450**	**280**	**793**	**108**	**665**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**192**	**44**	**186**	**92**	**7**
Magnesium	7439-95-4	1	mg/L		**47**	**32**	**87**	**32**	**145**
Sodium	7440-23-5	1	mg/L		**654**	**316**	**545**	**152**	**594**
Potassium	7440-09-7	1	mg/L		**10**	**8**	**2**	**2**	**311**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	**0.001**	**0.002**	**0.002**	<0.001
Barium	7440-39-3	0.001	mg/L		**0.107**	**0.092**	**0.040**	**0.197**	**0.016**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	**0.003**	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	**0.001**	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW-11 WJMRB2EQ-1	GW-13 WJMRB2EQ-2	GW-14 WJMRB2EQ-3	GW-2 WJMRB2EQ-4	GW-7 WJMRB2EQ-6
				Sampling date / time	07-Oct-2025 12:45	03-Oct-2025 11:55	03-Oct-2025 10:30	03-Oct-2025 11:00	09-Oct-2025 11:07
					EN2517435-001	EN2517435-002	EN2517435-003	EN2517435-004	EN2517435-005
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		**0.002**	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.713**	**0.264**	**0.005**	**0.001**	**0.038**
Molybdenum	7439-98-7	0.001	mg/L		**0.001**	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	**0.003**	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**3.33**	**1.30**	**2.83**	**0.943**	**0.103**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.024**	**0.019**	**0.035**	**0.009**	**0.008**
Boron	7440-42-8	0.05	mg/L		**0.13**	**0.08**	<0.05	<0.05	**0.19**
Iron	7439-89-6	0.05	mg/L		**4.05**	**7.69**	<0.05	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**1.80**	**0.71**	**0.13**	**0.02**	**1.15**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	**0.01**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	<0.01	**0.85**	**0.32**	<0.01
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	<0.01	**0.85**	**0.32**	<0.01
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.03**	**0.68**	**0.08**	**0.06**	**0.05**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.04**	**0.57**	**0.06**	**0.08**	**0.04**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW-11 WJMRB2EQ-1	GW-13 WJMRB2EQ-2	GW-14 WJMRB2EQ-3	GW-2 WJMRB2EQ-4	GW-7 WJMRB2EQ-6
				Sampling date / time	07-Oct-2025 12:45	03-Oct-2025 11:55	03-Oct-2025 10:30	03-Oct-2025 11:00	09-Oct-2025 11:07
Compound	CAS Number	LOR	Unit		EN2517435-001	EN2517435-002	EN2517435-003	EN2517435-004	EN2517435-005
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**41.9**	**20.4**	**41.7**	**14.0**	**48.6**
ø Total Cations	----	0.01	meq/L		**42.2**	**18.8**	**40.2**	**13.9**	**46.1**
ø Ionic Balance	----	0.01	%		**0.32**	**4.02**	**1.81**	**0.53**	**2.70**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.4**	**7.4**	**8.2**	**9.1**	**7.9**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW-8 WJMRB2EQ-7	GW-9 WJMRB2EQ-8	GW01 WJMRB2EQ-9	GW02 WJMRB2EQ-10	GW03 WJMRB2EQ-11
				Sampling date / time	09-Oct-2025 10:28	07-Oct-2025 13:38	01-Oct-2025 13:14	01-Oct-2025 09:01	01-Oct-2025 10:43
					EN2517435-006	EN2517435-007	EN2517435-008	EN2517435-009	EN2517435-010
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.58	7.49	7.48	7.79	7.57
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		3440	373	862	934	856
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		2280	526	608	664	588
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		792	135	342	381	425
Total Alkalinity as CaCO3	----	1	mg/L		792	135	342	381	425
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		53	23	85	78	54
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		808	28	44	47	22
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		108	26	50	43	79
Magnesium	7439-95-4	1	mg/L		69	5	33	23	33
Sodium	7440-23-5	1	mg/L		608	51	106	147	75
Potassium	7440-09-7	1	mg/L		8	6	2	3	1
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	0.16	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		0.238	0.024	0.054	0.042	0.086
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW-8 WJMRB2EQ-7	GW-9 WJMRB2EQ-8	GW01 WJMRB2EQ-9	GW02 WJMRB2EQ-10	GW03 WJMRB2EQ-11
				Sampling date / time	09-Oct-2025 10:28	07-Oct-2025 13:38	01-Oct-2025 13:14	01-Oct-2025 09:01	01-Oct-2025 10:43
					EN2517435-006	EN2517435-007	EN2517435-008	EN2517435-009	EN2517435-010
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		<0.001	**0.002**	<0.001	**0.020**	**0.004**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.107**	**0.559**	**0.153**	**0.002**	**0.004**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	**0.002**	**0.001**	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**2.75**	**0.490**	**1.06**	**0.627**	**0.977**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	**0.016**	<0.005	**0.013**	<0.005
Boron	7440-42-8	0.05	mg/L		**0.07**	<0.05	**0.06**	**0.07**	**0.06**
Iron	7439-89-6	0.05	mg/L		**9.63**	**0.76**	**0.08**	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.87**	**0.49**	**0.10**	**0.01**	**0.02**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	<0.01	**0.20**	**1.13**	**0.22**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	<0.01	**0.20**	**1.13**	**0.22**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.13**	**0.10**	**0.15**	**0.21**	**0.27**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.15**	**0.28**	**0.20**	**0.20**	**0.28**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW-8 WJMRB2EQ-7	GW-9 WJMRB2EQ-8	GW01 WJMRB2EQ-9	GW02 WJMRB2EQ-10	GW03 WJMRB2EQ-11
				Sampling date / time	09-Oct-2025 10:28	07-Oct-2025 13:38	01-Oct-2025 13:14	01-Oct-2025 09:01	01-Oct-2025 10:43
Compound	CAS Number	LOR	Unit		EN2517435-006	EN2517435-007	EN2517435-008	EN2517435-009	EN2517435-010
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**39.7**	**3.97**	**9.84**	**10.6**	**10.2**
ø Total Cations	----	0.01	meq/L		**37.7**	**4.08**	**9.87**	**10.5**	**9.95**
ø Ionic Balance	----	0.01	%		**2.58**	**1.42**	**0.15**	**0.25**	**1.44**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**6.6**	**7.6**	**8.2**	**9.0**	**8.2**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	MD01 WJMRB2EQ-12	MD02 WJMRB2EQ-13	SB01 WJMRB2EQ-14	MD03 WJMRB2EQ-15	SB02 WJMRB2EQ-16
				Sampling date / time	02-Oct-2025 11:15	02-Oct-2025 11:47	01-Oct-2025 11:12	01-Oct-2025 14:20	01-Oct-2025 13:35
					EN2517435-011	EN2517435-012	EN2517435-013	EN2517435-014	EN2517435-015
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		8.24	7.14	7.61	7.62	7.66
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		1680	1230	1620	4260	6990
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		986	854	1040	2840	4710
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		322	543	564	456	899
Total Alkalinity as CaCO3	----	1	mg/L		322	543	564	456	899
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		54	28	165	139	928
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		363	98	175	1170	1290
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		23	77	95	122	74
Magnesium	7439-95-4	1	mg/L		14	53	65	81	68
Sodium	7440-23-5	1	mg/L		272	134	209	774	1530
Potassium	7440-09-7	1	mg/L		19	8	1	8	2
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		0.02	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	0.001	0.002	0.005
Barium	7440-39-3	0.001	mg/L		0.086	0.243	0.118	0.520	0.033
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	0.004	0.002	0.002

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	MD01 WJMRB2EQ-12	MD02 WJMRB2EQ-13	SB01 WJMRB2EQ-14	MD03 WJMRB2EQ-15	SB02 WJMRB2EQ-16
				Sampling date / time	02-Oct-2025 11:15	02-Oct-2025 11:47	01-Oct-2025 11:12	01-Oct-2025 14:20	01-Oct-2025 13:35
					EN2517435-011	EN2517435-012	EN2517435-013	EN2517435-014	EN2517435-015
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.009**	**0.052**	**0.449**	**0.441**	**0.788**
Molybdenum	7439-98-7	0.001	mg/L		**0.007**	**0.002**	<0.001	**0.004**	**0.004**
Nickel	7440-02-0	0.001	mg/L		**0.003**	**0.013**	<0.001	**0.004**	**0.002**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.782**	**1.26**	**2.27**	**5.22**	**2.38**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.010**	<0.005	<0.005	<0.005	<0.005
Boron	7440-42-8	0.05	mg/L		<0.05	<0.05	**0.09**	**0.13**	**0.16**
Iron	7439-89-6	0.05	mg/L		<0.05	**1.06**	**0.23**	<0.05	**1.76**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**21.2**	**0.28**	**0.10**	**0.39**	**0.15**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	**0.06**	<0.01	<0.01	<0.01
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	**0.06**	<0.01	<0.01	<0.01
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.42**	**0.02**	**0.14**	**0.14**	**0.32**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.44**	**0.04**	**0.15**	**0.15**	**0.34**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MD01 WJMRB2EQ-12	MD02 WJMRB2EQ-13	SB01 WJMRB2EQ-14	MD03 WJMRB2EQ-15	SB02 WJMRB2EQ-16
				Sampling date / time	02-Oct-2025 11:15	02-Oct-2025 11:47	01-Oct-2025 11:12	01-Oct-2025 14:20	01-Oct-2025 13:35
Compound	CAS Number	LOR	Unit		EN2517435-011	EN2517435-012	EN2517435-013	EN2517435-014	EN2517435-015
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**17.8**	**14.2**	**19.6**	**45.0**	**73.7**
ø Total Cations	----	0.01	meq/L		**14.6**	**14.2**	**19.2**	**46.6**	**75.9**
ø Ionic Balance	----	0.01	%		**9.81**	**0.14**	**1.12**	**1.76**	**1.48**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**4.7**	**7.9**	**7.6**	**7.5**	**7.9**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB04 WJMRB2EQ-17	SB05 WJMRB2EQ-18	SB06 WJMRB2EQ-19	SB07 WJMRB2EQ-20	SB08 WJMRB2EQ-21
				Sampling date / time	01-Oct-2025 09:59	01-Oct-2025 12:02	01-Oct-2025 12:21	01-Oct-2025 09:32	01-Oct-2025 10:11
					EN2517435-016	EN2517435-017	EN2517435-018	EN2517435-019	EN2517435-020
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.71**	**8.05**	**7.95**	**7.69**	**7.72**
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**2020**	**3260**	**2290**	**903**	**997**
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**1380**	**2430**	**2310**	**644**	**662**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**569**	**751**	**343**	**387**	**390**
Total Alkalinity as CaCO3	----	1	mg/L		**569**	**751**	**343**	**387**	**390**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**226**	**463**	**304**	**71**	**75**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**278**	**496**	**463**	**40**	**65**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**71**	**26**	**17**	**50**	**60**
Magnesium	7439-95-4	1	mg/L		**55**	**22**	**18**	**25**	**34**
Sodium	7440-23-5	1	mg/L		**338**	**791**	**494**	**136**	**126**
Potassium	7440-09-7	1	mg/L		**1**	<1	<1	**1**	<1
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	**0.004**	**0.003**	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		**0.080**	**0.056**	**0.065**	**0.045**	**0.047**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	**0.001**	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB04 WJMRB2EQ-17	SB05 WJMRB2EQ-18	SB06 WJMRB2EQ-19	SB07 WJMRB2EQ-20	SB08 WJMRB2EQ-21
				Sampling date / time	01-Oct-2025 09:59	01-Oct-2025 12:02	01-Oct-2025 12:21	01-Oct-2025 09:32	01-Oct-2025 10:11
					EN2517435-016	EN2517435-017	EN2517435-018	EN2517435-019	EN2517435-020
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	**0.024**	**0.004**	**0.002**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.106**	**0.441**	**0.510**	**0.006**	**0.001**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	**0.003**	**0.006**	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	**0.003**	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**1.60**	**0.695**	**0.608**	**0.687**	**0.964**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.017**	<0.005	<0.005	**0.014**	<0.005
Boron	7440-42-8	0.05	mg/L		**0.09**	**0.16**	**0.10**	**0.07**	**0.07**
Iron	7439-89-6	0.05	mg/L		<0.05	**0.12**	<0.05	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.02**	**0.09**	**0.14**	**0.01**	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	**0.02**	<0.01	**0.33**	**0.17**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	**0.02**	<0.01	**0.33**	**0.17**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.14**	**0.33**	**0.64**	**0.12**	**0.11**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.20**	**0.33**	**1.23**	**0.11**	**0.10**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SB04 WJMRB2EQ-17	SB05 WJMRB2EQ-18	SB06 WJMRB2EQ-19	SB07 WJMRB2EQ-20	SB08 WJMRB2EQ-21
				Sampling date / time	01-Oct-2025 09:59	01-Oct-2025 12:02	01-Oct-2025 12:21	01-Oct-2025 09:32	01-Oct-2025 10:11
Compound	CAS Number	LOR	Unit		EN2517435-016	EN2517435-017	EN2517435-018	EN2517435-019	EN2517435-020
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**23.9**	**38.6**	**26.2**	**10.3**	**11.2**
ø Total Cations	----	0.01	meq/L		**22.8**	**37.5**	**23.8**	**10.5**	**11.3**
ø Ionic Balance	----	0.01	%		**2.39**	**1.47**	**4.84**	**0.74**	**0.38**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**7.8**	**8.0**	**7.0**	**8.7**	**8.9**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB09 WJMRB2EQ-22	SB10 WJMRB2EQ-23	SB11 WJMRB2EQ-24	SB15 WJMRB2EQ-25	TR18 WJMRB2EQ-26
				Sampling date / time	01-Oct-2025 11:27	01-Oct-2025 11:48	01-Oct-2025 12:37	01-Oct-2025 12:57	02-Oct-2025 13:35
					EN2517435-021	EN2517435-022	EN2517435-023	EN2517435-024	EN2517435-025
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.86	7.82	7.89	7.68	7.36
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		944	1610	1060	1020	13100
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		622	1050	742	690	9430
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		451	580	470	453	727
Total Alkalinity as CaCO3	----	1	mg/L		451	580	470	453	727
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		66	162	84	91	602
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		29	143	38	37	4250
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		45	43	32	72	244
Magnesium	7439-95-4	1	mg/L		30	36	24	44	317
Sodium	7440-23-5	1	mg/L		150	297	196	117	2340
Potassium	7440-09-7	1	mg/L		1	<1	1	<1	11
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	0.001	<0.001
Barium	7440-39-3	0.001	mg/L		0.061	0.066	0.055	0.073	0.068
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	SB09 WJMRB2EQ-22	SB10 WJMRB2EQ-23	SB11 WJMRB2EQ-24	SB15 WJMRB2EQ-25	TR18 WJMRB2EQ-26
				Sampling date / time	01-Oct-2025 11:27	01-Oct-2025 11:48	01-Oct-2025 12:37	01-Oct-2025 12:57	02-Oct-2025 13:35
					EN2517435-021	EN2517435-022	EN2517435-023	EN2517435-024	EN2517435-025
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	**0.002**	**0.008**	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.722**	**0.446**	**0.014**	**0.020**	**0.098**
Molybdenum	7439-98-7	0.001	mg/L		**0.001**	**0.001**	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	**0.010**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.963**	**1.05**	**0.798**	**1.43**	**7.19**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.005**	**0.006**	<0.005	<0.005	**0.008**
Boron	7440-42-8	0.05	mg/L		**0.08**	**0.09**	**0.08**	**0.06**	**0.07**
Iron	7439-89-6	0.05	mg/L		<0.05	**0.06**	<0.05	<0.05	**0.43**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.14**	**0.15**	<0.01	**0.02**	**0.25**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	<0.01	**0.30**	**0.16**	**0.03**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	<0.01	**0.30**	**0.16**	**0.03**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.22**	**0.16**	**0.08**	**0.09**	**0.24**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.27**	**0.13**	**0.15**	**0.10**	**0.53**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SB09 WJMRB2EQ-22	SB10 WJMRB2EQ-23	SB11 WJMRB2EQ-24	SB15 WJMRB2EQ-25	TR18 WJMRB2EQ-26
				Sampling date / time	01-Oct-2025 11:27	01-Oct-2025 11:48	01-Oct-2025 12:37	01-Oct-2025 12:57	02-Oct-2025 13:35
Compound	CAS Number	LOR	Unit		EN2517435-021	EN2517435-022	EN2517435-023	EN2517435-024	EN2517435-025
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**11.2**	**19.0**	**12.2**	**12.0**	**147**
ø Total Cations	----	0.01	meq/L		**11.3**	**18.0**	**12.1**	**12.3**	**140**
ø Ionic Balance	----	0.01	%		**0.27**	**2.61**	**0.36**	**1.29**	**2.30**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.5**	**8.2**	**8.2**	**8.3**	**7.2**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	TR26 WJMRB2EQ-27	TR35 WJMRB2EQ-28	TR7 WJMRB2EQ-29	VKY0035C WJMRB2EQ-30	VKY0036C WJMRB2EQ-31
				Sampling date / time	01-Oct-2025 15:20	02-Oct-2025 14:15	01-Oct-2025 15:40	03-Oct-2025 08:41	03-Oct-2025 09:05
					EN2517435-026	EN2517435-027	EN2517435-028	EN2517435-029	EN2517435-030
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.61**	**7.34**	**7.38**	**7.56**	**7.70**
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**6760**	**16200**	**14700**	**2950**	**5740**
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**4290**	**12800**	**11200**	**2100**	**3770**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**1250**	**747**	**762**	**928**	**1350**
Total Alkalinity as CaCO3	----	1	mg/L		**1250**	**747**	**762**	**928**	**1350**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**180**	**611**	**517**	**278**	**168**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**1490**	**5570**	**5130**	**541**	**1080**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**151**	**308**	**290**	**49**	**45**
Magnesium	7439-95-4	1	mg/L		**164**	**519**	**354**	**45**	**36**
Sodium	7440-23-5	1	mg/L		**1210**	**2790**	**2640**	**652**	**1300**
Potassium	7440-09-7	1	mg/L		**10**	**20**	**14**	**7**	**7**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	**0.003**	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	**0.003**	**0.008**
Barium	7440-39-3	0.001	mg/L		**0.131**	**0.092**	**0.105**	**0.080**	**0.255**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	**0.0006**	**0.0002**	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	**0.001**	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	**0.007**	**0.004**	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	TR26 WJMRB2EQ-27	TR35 WJMRB2EQ-28	TR7 WJMRB2EQ-29	VKY0035C WJMRB2EQ-30	VKY0036C WJMRB2EQ-31
				Sampling date / time	01-Oct-2025 15:20	02-Oct-2025 14:15	01-Oct-2025 15:40	03-Oct-2025 08:41	03-Oct-2025 09:05
					EN2517435-026	EN2517435-027	EN2517435-028	EN2517435-029	EN2517435-030
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		<0.001	**4.67**	**1.25**	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.073**	**0.769**	**0.228**	**0.315**	**0.154**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	**0.006**	**0.001**	**0.008**	**0.003**
Nickel	7440-02-0	0.001	mg/L		**0.002**	**0.075**	**0.020**	**0.008**	**0.005**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**4.27**	**8.52**	**10.2**	**0.896**	**0.849**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.009**	**0.033**	**0.018**	**0.006**	<0.005
Boron	7440-42-8	0.05	mg/L		**0.10**	**0.09**	**0.07**	<0.05	**0.10**
Iron	7439-89-6	0.05	mg/L		<0.05	<0.05	**0.08**	**0.60**	**0.98**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.04**	**0.10**	**0.05**	**0.94**	**1.19**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.09**	**0.19**	<0.01	<0.01	<0.01
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.09**	**0.19**	<0.01	<0.01	<0.01
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.13**	**0.10**	**0.19**	**0.18**	**0.63**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.29**	**0.12**	**0.23**	**0.18**	**0.65**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	TR26 WJMRB2EQ-27	TR35 WJMRB2EQ-28	TR7 WJMRB2EQ-29	VKY0035C WJMRB2EQ-30	VKY0036C WJMRB2EQ-31
				Sampling date / time	01-Oct-2025 15:20	02-Oct-2025 14:15	01-Oct-2025 15:40	03-Oct-2025 08:41	03-Oct-2025 09:05
Compound	CAS Number	LOR	Unit		EN2517435-026	EN2517435-027	EN2517435-028	EN2517435-029	EN2517435-030
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**70.8**	**185**	**171**	**39.6**	**60.9**
ø Total Cations	----	0.01	meq/L		**73.9**	**180**	**159**	**34.7**	**61.9**
ø Ionic Balance	----	0.01	%		**2.19**	**1.32**	**3.61**	**6.60**	**0.81**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.0**	**7.7**	**8.0**	**7.7**	**7.1**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VKY0042C WJMRB2EQ-32	VKY0034C WJMRB2EQ-33	VKY0043C WJMRB2EQ-34	GW-4 WJMRB2EQ-35	GW-10 WJMRB2EQ-36
				Sampling date / time	03-Oct-2025 09:40	03-Oct-2025 08:05	02-Oct-2025 13:53	03-Oct-2025 11:20	02-Oct-2025 14:55
					EN2517435-031	EN2517435-032	EN2517435-033	EN2517435-034	EN2517435-035
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.31	7.68	8.11	8.35	8.47
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		5560	3570	2720	2730	1480
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		3750	2700	1960	1920	1130
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	28	38
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		821	1380	1140	1130	747
Total Alkalinity as CaCO3	----	1	mg/L		821	1380	1140	1150	785
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		304	94	<1	<1	<1
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		1230	533	376	364	46
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		183	20	10	5	29
Magnesium	7439-95-4	1	mg/L		208	29	4	6	23
Sodium	7440-23-5	1	mg/L		735	893	712	718	314
Potassium	7440-09-7	1	mg/L		21	7	5	4	21
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	0.005
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	0.002	0.003
Barium	7440-39-3	0.001	mg/L		0.131	0.154	0.314	0.404	0.054
Cadmium	7440-43-9	0.0001	mg/L		0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VKY0042C WJMRB2EQ-32	VKY0034C WJMRB2EQ-33	VKY0043C WJMRB2EQ-34	GW-4 WJMRB2EQ-35	GW-10 WJMRB2EQ-36
				Sampling date / time	03-Oct-2025 09:40	03-Oct-2025 08:05	02-Oct-2025 13:53	03-Oct-2025 11:20	02-Oct-2025 14:55
					EN2517435-031	EN2517435-032	EN2517435-033	EN2517435-034	EN2517435-035
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		**0.010**	<0.001	<0.001	<0.001	**0.118**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.212**	**0.004**	**0.016**	**0.008**	**0.066**
Molybdenum	7439-98-7	0.001	mg/L		<0.001	**0.001**	<0.001	<0.001	**0.002**
Nickel	7440-02-0	0.001	mg/L		**0.003**	**0.002**	<0.001	<0.001	**0.004**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**3.58**	**0.544**	**0.400**	**0.187**	**0.682**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.037**	**0.020**	<0.005	<0.005	**0.070**
Boron	7440-42-8	0.05	mg/L		**0.06**	**0.05**	**0.07**	**0.14**	**0.12**
Iron	7439-89-6	0.05	mg/L		**1.07**	<0.05	<0.05	**0.58**	**0.11**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.79**	**0.80**	**0.36**	**0.69**	**0.13**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.05**	<0.01	<0.01	<0.01	<0.01
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.05**	<0.01	<0.01	<0.01	<0.01
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.07**	**0.31**	**0.07**	**0.18**	**0.66**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.05**	**0.65**	**0.12**	**0.18**	**0.67**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	VKY0042C WJMRB2EQ-32	VKY0034C WJMRB2EQ-33	VKY0043C WJMRB2EQ-34	GW-4 WJMRB2EQ-35	GW-10 WJMRB2EQ-36
				Sampling date / time	03-Oct-2025 09:40	03-Oct-2025 08:05	02-Oct-2025 13:53	03-Oct-2025 11:20	02-Oct-2025 14:55
Compound	CAS Number	LOR	Unit		EN2517435-031	EN2517435-032	EN2517435-033	EN2517435-034	EN2517435-035
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**57.4**	**44.6**	**33.4**	**33.2**	**17.0**
ø Total Cations	----	0.01	meq/L		**58.8**	**42.4**	**31.9**	**32.1**	**17.5**
ø Ionic Balance	----	0.01	%		**1.14**	**2.48**	**2.23**	**1.79**	**1.60**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**7.8**	**6.4**	**5.9**	**7.5**	**7.5**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	GW-15 WJMRB2EQ-37	GW971614 WJMRB2EQ-38	VKY GW Duplicate 1 WJMRB2EQ-39	VKY GW Duplicate 2 WJMRB2EQ-40	VKY-GW-Blank WJMRB2EQ-41
			Sampling date / time	02-Oct-2025 12:45	09-Oct-2025 08:30	02-Oct-2025 12:45	07-Oct-2025 12:45	02-Oct-2025 08:30
Compound	CAS Number	LOR	Unit	EN2517435-036	EN2517435-037	EN2517435-038	EN2517435-039	EN2517435-040
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**8.92**	**7.43**	**8.93**	**7.17**	**6.95**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**741**	**615**	**711**	**4320**	**37**
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**470**	**376**	**454**	**3530**	**23**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	**43**	<1	**44**	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**273**	**258**	**272**	**49**	**5**
Total Alkalinity as CaCO3	----	1	mg/L	**316**	**258**	**316**	**49**	**5**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**34**	**34**	**34**	<1	<1
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**32**	**36**	**30**	**1340**	**8**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**5**	**55**	**5**	**198**	<1
Magnesium	7439-95-4	1	mg/L	**2**	**23**	**2**	**48**	<1
Sodium	7440-23-5	1	mg/L	**170**	**50**	**167**	**650**	**8**
Potassium	7440-09-7	1	mg/L	**4**	**1**	**4**	**10**	<1
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L	**0.020**	**0.021**	**0.020**	**0.108**	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	GW-15 WJMRB2EQ-37	GW971614 WJMRB2EQ-38	VKY GW Duplicate 1 WJMRB2EQ-39	VKY GW Duplicate 2 WJMRB2EQ-40	VKY-GW-Blank WJMRB2EQ-41
				Sampling date / time	02-Oct-2025 12:45	09-Oct-2025 08:30	02-Oct-2025 12:45	07-Oct-2025 12:45	02-Oct-2025 08:30
					EN2517435-036	EN2517435-037	EN2517435-038	EN2517435-039	EN2517435-040
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	**0.002**	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.007**	**0.002**	**0.008**	**0.739**	<0.001
Molybdenum	7439-98-7	0.001	mg/L		**0.003**	<0.001	**0.003**	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.209**	**0.598**	**0.201**	**3.42**	<0.001
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	<0.005	**0.021**	<0.005
Boron	7440-42-8	0.05	mg/L		<0.05	<0.05	<0.05	**0.11**	<0.05
Iron	7439-89-6	0.05	mg/L		<0.05	<0.05	<0.05	**4.50**	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.01**	<0.01	**0.02**	**1.79**	**0.05**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	**0.25**	<0.01	<0.01	<0.01
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	**0.25**	<0.01	<0.01	<0.01
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.13**	**0.08**	**0.13**	**0.04**	<0.01
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.13**	**0.06**	**0.13**	**0.06**	<0.01
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW-15 WJMRB2EQ-37	GW971614 WJMRB2EQ-38	VKY GW Duplicate 1 WJMRB2EQ-39	VKY GW Duplicate 2 WJMRB2EQ-40	VKY-GW-Blank WJMRB2EQ-41
				Sampling date / time	02-Oct-2025 12:45	09-Oct-2025 08:30	02-Oct-2025 12:45	07-Oct-2025 12:45	02-Oct-2025 08:30
Compound	CAS Number	LOR	Unit		EN2517435-036	EN2517435-037	EN2517435-038	EN2517435-039	EN2517435-040
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**7.92**	**6.88**	**7.87**	**38.8**	**0.32**
ø Total Cations	----	0.01	meq/L		**7.91**	**6.84**	**7.78**	**42.4**	**0.35**
ø Ionic Balance	----	0.01	%		**0.08**	**0.29**	**0.56**	**4.41**	**----**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.0**	**8.4**	**7.9**	**7.8**	**9.8**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VKY GW Lab Split Dup 1 WJMRB2EQ-42	VKY GW Lab Split Dup 2 WJMRB2EQ-43	VNW223/P-3 WJMRB2EQ-44	VNW390 WJMRB2EQ-45	VNW391 WJMRB2EQ-46
				Sampling date / time	02-Oct-2025 13:45	03-Oct-2025 09:40	07-Oct-2025 12:29	02-Oct-2025 08:55	02-Oct-2025 09:42
					EN2517435-041	EN2517435-042	EN2517435-043	EN2517435-044	EN2517435-045
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		8.92	7.42	7.82	7.54	7.68
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		725	5700	4110	2140	2230
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		465	3700	2830	1440	1510
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		43	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		274	819	870	613	618
Total Alkalinity as CaCO3	----	1	mg/L		317	819	870	613	618
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		34	298	322	87	97
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		31	1220	831	406	435
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		<1	191	80	180	177
Magnesium	7439-95-4	1	mg/L		<1	216	94	44	58
Sodium	7440-23-5	1	mg/L		161	740	802	274	267
Potassium	7440-09-7	1	mg/L		3	22	6	11	12
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	0.002	0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	0.001	<0.001
Barium	7440-39-3	0.001	mg/L		0.003	0.131	0.084	0.124	0.181
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	0.002	<0.001

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VKY GW Lab Split Dup 1 WJMRB2EQ-42	VKY GW Lab Split Dup 2 WJMRB2EQ-43	VNW223/P-3 WJMRB2EQ-44	VNW390 WJMRB2EQ-45	VNW391 WJMRB2EQ-46
				Sampling date / time	02-Oct-2025 13:45	03-Oct-2025 09:40	07-Oct-2025 12:29	02-Oct-2025 08:55	02-Oct-2025 09:42
					EN2517435-041	EN2517435-042	EN2517435-043	EN2517435-044	EN2517435-045
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		**0.001**	**0.006**	**0.010**	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.001**	**0.221**	**0.032**	**0.224**	**0.275**
Molybdenum	7439-98-7	0.001	mg/L		**0.005**	<0.001	<0.001	**0.006**	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	**0.002**	**0.004**	**0.011**	**0.002**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**0.037**	**3.76**	**1.92**	**2.06**	**1.81**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	**0.047**	**0.034**	<0.005	<0.005
Boron	7440-42-8	0.05	mg/L		<0.05	**0.06**	**0.07**	**0.12**	**0.11**
Iron	7439-89-6	0.05	mg/L		<0.05	**1.06**	<0.05	**1.05**	**5.49**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.03**	**0.81**	**0.01**	**0.60**	**0.56**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	**0.01**	**0.04**	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.01**	**0.06**	**2.19**	<0.01	**0.20**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.01**	**0.07**	**2.23**	<0.01	**0.20**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.10**	**0.03**	**0.15**	**0.10**	**0.18**
EK067G: Total Phosphorus as P by Discrete Analyser									

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	VKY GW Lab Split Dup 1 WJMRB2EQ-42	VKY GW Lab Split Dup 2 WJMRB2EQ-43	VNW223/P-3 WJMRB2EQ-44	VNW390 WJMRB2EQ-45	VNW391 WJMRB2EQ-46
				Sampling date / time	02-Oct-2025 13:45	03-Oct-2025 09:40	07-Oct-2025 12:29	02-Oct-2025 08:55	02-Oct-2025 09:42
					EN2517435-041	EN2517435-042	EN2517435-043	EN2517435-044	EN2517435-045
					Result	Result	Result	Result	Result
EK067G: Total Phosphorus as P by Discrete Analyser - Continued									
Total Phosphorus as P	----	0.01	mg/L		**0.12**	**0.07**	**0.15**	**0.11**	**0.18**
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**7.92**	**57.0**	**47.5**	**25.5**	**26.6**
ø Total Cations	----	0.01	meq/L		**7.08**	**60.0**	**46.8**	**24.8**	**25.5**
ø Ionic Balance	----	0.01	%		**5.58**	**2.63**	**0.81**	**1.41**	**2.13**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**8.3**	**8.0**	**8.2**	**8.0**	**7.4**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VNW392 WJMRB2EQ-47	VNW393 WJMRB2EQ-48	VNW394 WJMRB2EQ-49	VNW395 WJMRB2EQ-50	WR1 WJMRB2EQ-51
				Sampling date / time	02-Oct-2025 10:15	02-Oct-2025 08:24	02-Oct-2025 07:58	02-Oct-2025 09:28	09-Oct-2025 12:03
					EN2517435-046	EN2517435-047	EN2517435-048	EN2517435-049	EN2517435-050
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.47**	**7.87**	**7.63**	**8.18**	**7.54**
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**3160**	**2830**	**5580**	**2290**	**24800**
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**2410**	**1920**	**3660**	**1640**	**22100**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**637**	**380**	**372**	**778**	**614**
Total Alkalinity as CaCO3	----	1	mg/L		**637**	**380**	**372**	**778**	**614**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**285**	**178**	**582**	**18**	**1100**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**680**	**707**	**1250**	**440**	**8520**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**289**	**166**	**204**	**58**	**1040**
Magnesium	7439-95-4	1	mg/L		**91**	**36**	**83**	**38**	**818**
Sodium	7440-23-5	1	mg/L		**345**	**448**	**900**	**441**	**3760**
Potassium	7440-09-7	1	mg/L		**17**	**6**	**7**	**7**	**11**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Antimony	7440-36-0	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	7440-38-2	0.001	mg/L		**0.001**	<0.001	**0.004**	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L		**0.121**	**0.055**	**0.057**	**0.057**	**0.109**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	**0.0003**
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	7440-48-4	0.001	mg/L		**0.003**	<0.001	**0.002**	<0.001	**0.002**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	VNW392 WJMRB2EQ-47	VNW393 WJMRB2EQ-48	VNW394 WJMRB2EQ-49	VNW395 WJMRB2EQ-50	WR1 WJMRB2EQ-51
				Sampling date / time	02-Oct-2025 10:15	02-Oct-2025 08:24	02-Oct-2025 07:58	02-Oct-2025 09:28	09-Oct-2025 12:03
					EN2517435-046	EN2517435-047	EN2517435-048	EN2517435-049	EN2517435-050
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	**0.564**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.270**	**0.192**	**0.287**	**0.086**	**0.176**
Molybdenum	7439-98-7	0.001	mg/L		**0.001**	**0.002**	**0.002**	<0.001	**0.001**
Nickel	7440-02-0	0.001	mg/L		**0.004**	**0.003**	**0.004**	**0.002**	**0.026**
Selenium	7782-49-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Strontium	7440-24-6	0.001	mg/L		**3.06**	**2.41**	**3.18**	**0.731**	**25.9**
Tin	7440-31-5	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	<0.005	<0.005	**0.010**
Boron	7440-42-8	0.05	mg/L		**0.09**	**0.09**	**0.08**	**0.06**	**0.16**
Iron	7439-89-6	0.05	mg/L		**2.20**	**0.53**	**0.78**	<0.05	<0.05
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	**0.0051**
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.54**	**0.49**	**0.15**	**19.3**	**0.07**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	<0.01	**0.01**	**0.08**	**0.02**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	<0.01	**0.01**	**0.08**	**0.02**
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.06**	**0.08**	**0.27**	**2.17**	**0.14**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.06**	**0.08**	**0.29**	**2.30**	**0.16**
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	VNW392 WJMRB2EQ-47	VNW393 WJMRB2EQ-48	VNW394 WJMRB2EQ-49	VNW395 WJMRB2EQ-50	WR1 WJMRB2EQ-51
				Sampling date / time	02-Oct-2025 10:15	02-Oct-2025 08:24	02-Oct-2025 07:58	02-Oct-2025 09:28	09-Oct-2025 12:03
Compound	CAS Number	LOR	Unit		EN2517435-046	EN2517435-047	EN2517435-048	EN2517435-049	EN2517435-050
					Result	Result	Result	Result	Result
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**37.8**	**31.2**	**54.8**	**28.3**	**276**
ø Total Cations	----	0.01	meq/L		**37.4**	**30.9**	**56.3**	**25.4**	**283**
ø Ionic Balance	----	0.01	%		**0.65**	**0.57**	**1.37**	**5.49**	**1.35**
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**7.4**	**8.2**	**7.9**	**1.8**	**7.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	WR2 WJMRB2EQ-52	----	----	----	----
				Sampling date / time	09-Oct-2025 11:38	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2517435-051	--------	--------	--------	--------
					Result	----	----	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.34**	----	----	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**24300**	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**21600**	----	----	----	----
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		**549**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**549**	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**1340**	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**8560**	----	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**1060**	----	----	----	----
Magnesium	7439-95-4	1	mg/L		**690**	----	----	----	----
Sodium	7440-23-5	1	mg/L		**3860**	----	----	----	----
Potassium	7440-09-7	1	mg/L		**20**	----	----	----	----
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	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Barium	7440-39-3	0.001	mg/L		**0.158**	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		**0.001**	----	----	----	----
Cobalt	7440-48-4	0.001	mg/L		**0.010**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	WR2 WJMRB2EQ-52	----	----	----	----
				Sampling date / time	09-Oct-2025 11:38	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2517435-051	--------	--------	--------	--------
					Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		**0.002**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		**1.06**	----	----	----	----
Molybdenum	7439-98-7	0.001	mg/L		**0.004**	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.039**	----	----	----	----
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		**24.0**	----	----	----	----
Tin	7440-31-5	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
Boron	7440-42-8	0.05	mg/L		**0.12**	----	----	----	----
Iron	7439-89-6	0.05	mg/L		**1.67**	----	----	----	----
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		**0.62**	----	----	----	----
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		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser									
Filtered Total Phosphorus as P	----	0.01	mg/L		**0.69**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.79**	----	----	----	----
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	WR2 WJMRB2EQ-52	----	----	----	----
				Sampling date / time	09-Oct-2025 11:38	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2517435-051	--------	--------	--------	--------
					Result	----	----	----	----
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**280**	----	----	----	----
ø Total Cations	----	0.01	meq/L		**278**	----	----	----	----
ø Ionic Balance	----	0.01	%		**0.40**	----	----	----	----
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	----	----	----	----
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**7.2**	----	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EG020F: Dissolved Metals by ICP-MS
(WATER) EP025: Oxygen - Dissolved (DO)
(WATER) EG035F: Dissolved Mercury by FIMS
(WATER) EK067FG: Filtered Total Phosphorus as P by Discrete Analyser
(WATER) EA005P: pH by PC Titrator
(WATER) ED093F: Dissolved Major Cations
(WATER) EN055: Ionic Balance
(WATER) ED045G: Chloride by Discrete Analyser
(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA
(WATER) ED037P: Alkalinity by PC Titrator
(WATER) EK055G: Ammonia as N by Discrete Analyser
(WATER) EA010P: Conductivity by PC Titrator
(WATER) EA015: Total Dissolved Solids dried at 180 ± 5 °C
(WATER) EP020: Oil and Grease (O&G)
(WATER) EK057G: Nitrite as N by Discrete Analyser
(WATER) EK058G: Nitrate as N by Discrete Analyser
(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser
(WATER) EK067G: Total Phosphorus as P by Discrete Analyser

CHAIN OF CUSTODY DOCUMENTATION

EUROFINS

CLIENT: CBased Environmental Pty Ltd

POSTAL ADDRESS: PO Box 245 CESSNOCK NSW 2325

monitoringresults@cbased.com.au,
AQuiroz@whitehavencoal.com.au, SEND INVOICE TO: accounts@cbased.com.au

DATA NEEDED BY: 5 working days REPORT NEEDED BY: 5 working days

PROJECT ID: Vickery Qtrly GW QUOTE NO.: **CBased-20230316-13**

P.O. NO.: COMMENTS/SPECIAL HANDLING/STORAGE OR DIPOSAL:

FOR LAB USE ONLY
COOLER SEAL
Yes ..... No .....
Broken ..... Intact .....
COOLER TEMP: deg.C

Metals are field filtered unless indicated

LABORATORY BATCH NO.:

SAMPLERS:

PHONE: 0265713334 E-MAIL: monitoringresults@cbased.com.au

REPORT FORMAT: HARD: Yes FAX: DISK: BULLETIN BOARD: E-MAIL: Yes

QC LEVEL: QCS1: QCS2: QCS3: Yes QCS4:

SAMPLE DATA				CONTAINER DATA		ANALYSIS REQUIRED																				
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH	EC	TDS	B11C	B11E	B19B	Ammonia	Total P	Oil & Grease	M12	B, Co, Mn (diss)	Ba, Sb, Sr (diss)	Al, Fe (diss)								NOTES
VKY Lab Split Dup 1 Eurofins	Water	2.10.25		1x 500mL GP, 1x PP, 1x PG, 1x RP(filt)	4	X	X	X	X	X	X	X	X	X	X	X	X	X								
VKY Lab Split Dup 2 Eurofins	Water	3.10.25		1x 500mL GP, 1x PP, 1x PG, 1x RP(filt)	4	X	X	X	X	X	X	X	X	X	X	X	X	X								
				TOTAL BOTTLES:																						

RELINQUISHED BY:

NAME: M Blake DATE: 16. 10. 25

OF: CBased Environmental TIME:

NAME: DATE: 1433

OF: TIME:

RECEIVED BY

NAME: Nicole Smith DATE: 16/10/25

OF: TIME: 340PM

NAME: DATE:

OF: TIME:

METHOD OF SHIPMENT

CONSIGNMENT NOTE NO.

TRANSPORT CO. NAME.

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinced Jar; S = Solvent Washed Acid Rinced Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; O = Other.

4.6°C

#1281033

Cbased Environmental Pty Ltd
Unit 3, 2 Enterprise Crescent
Singleton
NSW 2330

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Marni Blake**

Report **1281033-W**
Project name VICKERY QTRLY GW
Received Date Oct 16, 2025

Client Sample ID			**VKY Lab Split Dup 1 Eurofins**	**VKY Lab Split Dup 2 Eurofins**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**N25-Oc0049950**	**N25-Oc0049951**
Date Sampled			**Oct 02, 2025**	**Oct 03, 2025**
Test/Reference	LOR	Unit		
Ammonia (as N)	0.01	mg/L	0.11	0.89
Chloride	1	mg/L	29	2000
Conductivity (at 25 °C)	10	uS/cm	760	5800
Oil & Grease (HEM)	10	mg/L	< 10	< 10
pH (at 25 °C)	0.1	pH Units	9.2	6.9
Phosphate total (as P)	0.01	mg/L	0.26	0.15
Sulphate (as SO4)	2	mg/L	30	420
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	430	3300
Alkalinity (speciated)				
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	250	780
Carbonate Alkalinity (as CaCO3)	20	mg/L	45	< 20
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	300	780
Eurofins Suite B19B: NO3/NO2/NOx				
Nitrate & Nitrite (as N)	0.05	mg/L	< 0.05	0.08
Nitrate (as N)	0.02	mg/L	< 0.02	0.06
Nitrite (as N)	0.02	mg/L	< 0.02	0.02
Heavy Metals				
Aluminium (filtered)	0.05	mg/L	< 0.05	< 0.05
Antimony (filtered)	0.005	mg/L	< 0.005	< 0.005
Arsenic	0.001	mg/L	< 0.001	< 0.001
Barium (filtered)	0.02	mg/L	< 0.02	0.13
Boron (filtered)	0.05	mg/L	< 0.05	0.07
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001
Cobalt (filtered)	0.001	mg/L	< 0.001	< 0.001
Copper	0.001	mg/L	0.003	0.028
Iron (filtered)	0.05	mg/L	< 0.05	0.14
Lead	0.001	mg/L	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.008	0.21
Mercury	0.0001	mg/L	< 0.0001	< 0.0001
Molybdenum	0.005	mg/L	< 0.005	< 0.005
Nickel	0.001	mg/L	< 0.001	0.005
Selenium	0.001	mg/L	< 0.001	< 0.001
Silver	0.005	mg/L	< 0.005	< 0.005

Client Sample ID			VKY Lab Split Dup 1 Eurofins	VKY Lab Split Dup 2 Eurofins
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**N25-Oc0049950**	**N25-Oc0049951**
Date Sampled			**Oct 02, 2025**	**Oct 03, 2025**
Test/Reference	LOR	Unit		
Heavy Metals				
Strontium (filtered)	0.001	mg/L	0.20	3.3
Tin	0.005	mg/L	< 0.005	< 0.005
Zinc	0.005	mg/L	0.013	0.091
Eurofins Suite B11C: Na/K/Ca/Mg				
Calcium	0.5	mg/L	4.0	180
Magnesium	0.5	mg/L	1.9	210
Potassium	0.5	mg/L	4.0	22
Sodium	0.5	mg/L	160	730

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Ammonia (as N)	Sydney	Oct 22, 2025	28 Days
- Method: LTM-INO-4200 Ammonia by Discrete Analyser			
Conductivity (at 25 °C)	Newcastle	Oct 17, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Oil & Grease (HEM)	Melbourne	Oct 22, 2025	28 Days
- Method: LTM-INO-4180 Oil and Grease			
pH (at 25 °C)	Newcastle	Oct 17, 2025	6 Hours
- Method: LTM-GEN-7090 pH by ISE			
Phosphate total (as P)	Sydney	Oct 22, 2025	28 Days
- Method: E052 Total Phosphate (as P)			
Eurofins Suite B19B: NO3/NO2/NOx	Melbourne	Oct 20, 2025	14 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Heavy Metals (filtered)	Sydney	Oct 22, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Metals IWRG 621 : Metals M12	Sydney	Oct 22, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11C: Na/K/Ca/Mg	Sydney	Oct 22, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Sydney	Oct 22, 2025	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Sulphate (as SO4)	Sydney	Oct 22, 2025	28 Days
- Method: In-house method LTM-INO-4270 Sulphate by Ion Chromatograph			
Alkalinity (speciated)	Sydney	Oct 22, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Sydney	Oct 22, 2025	7 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			

eurofins

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NATA# 2377
Site# 2370 & 2554

Company Name: Cbased Environmental Pty Ltd
Address: Unit 3, 2 Enterprise Crescent
Singleton
NSW 2330

Project Name: VICKERY QTRLY GW

Order No.:
Report #: 1281033
Phone: 02 6571 3334
Fax:

Received: Oct 16, 2025 3:40 PM
Due: Oct 23, 2025
Priority: 5 Day
Contact Name: Marni Blake

Eurofins Analytical Services Manager : Irem Haskara

Sample Detail						Aluminium (filtered)	Ammonia (as N)	Antimony (filtered)	Barium (filtered)	Boron (filtered)	Cobalt (filtered)	Conductivity (at 25 °C)	Iron (filtered)	Manganese (filtered)	Oil & Grease (HEM)	pH (at 25 °C)	Phosphate total (as P)	Strontium (filtered)	Metals IWRG 621 : Metals M12	Eurofins Suite B19B: NO3/NO2/NOx	Eurofins Suite B11E: Cl/SO4/Alkalinity	Eurofins Suite B11C: Na/K/Ca/Mg	Total Dissolved Solids Dried at 180 °C ± 2 °C
Melbourne Laboratory - NATA # 1261 Site # 1254															X					X			
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X		X	X			X	X	X		X	X	X
Mayfield West Laboratory - NATA # 1261 Site # 25079												X				X							X
External Laboratory																							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																		
1	VKY Lab Split Dup 1 Eurofins	Oct 02, 2025		Water	N25-Oc0049950	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	VKY Lab Split Dup 2 Eurofins	Oct 03, 2025		Water	N25-Oc0049951	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Test Counts						2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

eurofins | Environment Testing

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Oil & Grease (HEM)	mg/L	< 10			10	Pass	
Phosphate total (as P)	mg/L	< 0.01			0.01	Pass	
Sulphate (as SO4)	mg/L	< 2			2	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Eurofins Suite B19B: NO3/NO2/NOx							
Nitrate & Nitrite (as N)	mg/L	< 0.05			0.05	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Nitrite (as N)	mg/L	< 0.02			0.02	Pass	
Method Blank							
Heavy Metals							
Iron (filtered)	mg/L	< 0.05			0.05	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Molybdenum	mg/L	< 0.005			0.005	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Selenium	mg/L	< 0.001			0.001	Pass	
Silver	mg/L	< 0.005			0.005	Pass	
Tin	mg/L	< 0.005			0.005	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Method Blank							
Eurofins Suite B11C: Na/K/Ca/Mg							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
LCS - % Recovery							
Ammonia (as N)	%	109			70-130	Pass	
Chloride	%	105			70-130	Pass	
Conductivity (at 25 °C)	%	100			70-130	Pass	
Oil & Grease (HEM)	%	91			70-130	Pass	
Phosphate total (as P)	%	98			70-130	Pass	
Sulphate (as SO4)	%	105			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	102			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Eurofins Suite B19B: NO3/NO2/NOx							
Nitrate & Nitrite (as N)	%	91			70-130	Pass	
Nitrate (as N)	%	91			70-130	Pass	
Nitrite (as N)	%	83			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Iron (filtered)	%	99			80-120	Pass	
Manganese (filtered)	%	103			80-120	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Total Alkalinity (as CaCO3)	%	99			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	96			80-120	Pass	
Cadmium	%	97			80-120	Pass	
Chromium	%	92			80-120	Pass	
Copper	%	90			80-120	Pass	
Lead	%	94			80-120	Pass	
Mercury	%	92			80-120	Pass	
Molybdenum	%	102			80-120	Pass	
Nickel	%	91			80-120	Pass	
Selenium	%	96			80-120	Pass	
Silver	%	96			80-120	Pass	
Tin	%	95			80-120	Pass	
Zinc	%	92			80-120	Pass	
LCS - % Recovery							
Eurofins Suite B11C: Na/K/Ca/Mg							
Calcium	%	94			80-120	Pass	
Magnesium	%	97			80-120	Pass	
Potassium	%	96			80-120	Pass	
Sodium	%	99			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Ammonia (as N)	S25-Oc0047576	NCP	%	n/a			70-130	Fail	Q05
Chloride	N25-Oc0049950	CP	%	99			70-130	Pass	
Phosphate total (as P)	N25-Oc0049950	CP	%	76			70-130	Pass	
Sulphate (as SO4)	N25-Oc0049950	CP	%	102			70-130	Pass	
Spike - % Recovery									
Eurofins Suite B19B: NO3/NO2/NOx				Result 1					
Nitrate & Nitrite (as N)	M25-Oc0050260	NCP	%	95			70-130	Pass	
Nitrate (as N)	M25-Oc0050260	NCP	%	92			70-130	Pass	
Nitrite (as N)	M25-Oc0050260	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Iron (filtered)	S25-Oc0048967	NCP	%	100			75-125	Pass	
Manganese (filtered)	W25-Oc0050555	NCP	%	86			75-125	Pass	
Spike - % Recovery									
Eurofins Suite B11C: Na/K/Ca/Mg				Result 1					
Calcium	S25-Oc0044481	NCP	%	116			75-125	Pass	
Magnesium	S25-Oc0044481	NCP	%	73			75-125	Fail	Q05
Potassium	S25-Oc0044481	NCP	%	99			75-125	Pass	
Sodium	S25-Oc0044481	NCP	%	567			75-125	Fail	Q05

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	S25-Oc0047575	NCP	mg/L	24	24	<1	30%	Pass	
Chloride	S25-Oc0049161	NCP	mg/L	150	150	<1	30%	Pass	
Sulphate (as SO4)	S25-Oc0049161	NCP	mg/L	110	120	4.0	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	N25-Oc0049950	CP	mg/L	430	400	8.0	30%	Pass	
Duplicate									
Eurofins Suite B19B: NO3/NO2/NOx				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	M25-Oc0052623	NCP	mg/L	0.19	0.19	1.0	30%	Pass	
Nitrate (as N)	M25-Oc0052623	NCP	mg/L	0.19	0.19	1.0	30%	Pass	
Nitrite (as N)	M25-Oc0052623	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium (filtered)	N25-Oc0049950	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Antimony (filtered)	N25-Oc0049950	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Arsenic	W25-Oc0050806	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Barium (filtered)	N25-Oc0049950	CP	mg/L	< 0.02	0.02	1.0	30%	Pass	
Boron (filtered)	N25-Oc0049950	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Cadmium	W25-Oc0050806	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	W25-Oc0050806	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cobalt (filtered)	N25-Oc0049950	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	W25-Oc0050806	NCP	mg/L	< 0.001	0.001	83	30%	Fail	Q15
Iron (filtered)	N25-Oc0049950	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Lead	W25-Oc0050806	NCP	mg/L	< 0.001	0.001	130	30%	Fail	Q15
Manganese (filtered)	N25-Oc0049950	CP	mg/L	0.008	0.008	2.0	30%	Pass	
Mercury	W25-Oc0050806	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Molybdenum	W25-Oc0050806	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nickel	W25-Oc0050806	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Selenium	W25-Oc0050806	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Silver	W25-Oc0050806	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Strontium (filtered)	N25-Oc0049950	CP	mg/L	0.20	0.20	<1	30%	Pass	
Tin	W25-Oc0050806	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Zinc	W25-Oc0050806	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Eurofins Suite B11C: Na/K/Ca/Mg				Result 1	Result 2	RPD			
Calcium	W25-Oc0050806	NCP	mg/L	< 0.5	< 0.5	<1	30%	Pass	
Magnesium	W25-Oc0050806	NCP	mg/L	< 0.5	< 0.5	<1	30%	Pass	
Potassium	W25-Oc0050806	NCP	mg/L	< 0.5	< 0.5	<1	30%	Pass	
Sodium	W25-Oc0050806	NCP	mg/L	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Phosphate total (as P)	N25-Oc0049951	CP	mg/L	0.15	0.11	32	30%	Fail	Q15
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	N25-Oc0049951	CP	mg/L	780	730	6.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	N25-Oc0049951	CP	mg/L	< 20	< 20	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	N25-Oc0049951	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	N25-Oc0049951	CP	mg/L	780	730	6.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q05	The matrix spike concentration is less than five times the background concentration in the sample - therefore the spike recovery cannot be determined
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Nileshni Goundar	Analytical Services Manager
Dilani Samarakoon	Senior Analyst-Inorganic
Kirra Bailey	Senior Analyst-Inorganic
Luke Holt	Senior Analyst-Inorganic
Mickael Ros	Senior Analyst-Metal
Ryan Phillips	Senior Analyst-Inorganic

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

CERTIFICATE OF ANALYSIS

Work Order	: **EN2519136**	Page	: 1 of 5
Client	: **CBASED ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: All Deliverables	Contact	:
Address	: Unit 3 2 Enterprise Cres Singleton NSW 2330	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 02 6571 3334	Telephone	: +61 2 4014 2500
Project	: Vickery Quarterly Groundwaters	Date Samples Received	: 11-Nov-2025 16:10
Order number	: ----	Date Analysis Commenced	: 12-Nov-2025
C-O-C number	: ----	Issue Date	: 14-Nov-2025 16:03
Sampler	: CBased Environmental		
Site	: Vickery		
Quote number	: SYBQ/403/21v5 and PLANNED EVENTS		
No. of samples received	: 1		
No. of samples analysed	: 1		

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.
- TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- 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	GW971400 YYNUVVJT-1	----	----	----	----
				Sampling date / time	05-Nov-2025 07:15	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2519136-001	--------	--------	--------	--------
					Result	----	----	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.26**	----	----	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**2420**	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**1650**	----	----	----	----
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		**444**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**444**	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**437**	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**377**	----	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**173**	----	----	----	----
Magnesium	7439-95-4	1	mg/L		**75**	----	----	----	----
Sodium	7440-23-5	1	mg/L		**283**	----	----	----	----
Potassium	7440-09-7	1	mg/L		**2**	----	----	----	----
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	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Barium	7440-39-3	0.001	mg/L		**0.047**	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Cobalt	7440-48-4	0.001	mg/L		<0.001	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW971400 YYNUVVJT-1	----	----	----	----
				Sampling date / time	05-Nov-2025 07:15	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2519136-001	--------	--------	--------	--------
					Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS - Continued									
Copper	7440-50-8	0.001	mg/L		**0.002**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		**0.009**	----	----	----	----
Molybdenum	7439-98-7	0.001	mg/L		**0.001**	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.019**	----	----	----	----
Selenium	7782-49-2	0.010	mg/L		<0.010	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Strontium	7440-24-6	0.001	mg/L		**1.50**	----	----	----	----
Tin	7440-31-5	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
Boron	7440-42-8	0.05	mg/L		<0.05	----	----	----	----
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		<0.01	----	----	----	----
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		**2.09**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**2.09**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.07**	----	----	----	----
EK071FG: Dissolved Reactive Phosphorus as P by DA									
Dissolved Reactive Phosphorus as P	----	0.01	mg/L		**0.02**	----	----	----	----
EN055: Ionic Balance									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	GW971400 YYNUVVJT-1	----	----	----	----
				Sampling date / time	05-Nov-2025 07:15	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2519136-001	--------	--------	--------	--------
					Result	----	----	----	----
EN055: Ionic Balance - Continued									
ø Total Anions	----	0.01	meq/L		**28.6**	----	----	----	----
ø Total Cations	----	0.01	meq/L		**27.2**	----	----	----	----
ø Ionic Balance	----	0.01	%		**2.58**	----	----	----	----
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	----	----	----	----
EP025: Oxygen - Dissolved (DO)									
Dissolved Oxygen	----	0.1	mg/L		**9.9**	----	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) ED037P: Alkalinity by PC Titrator
(WATER) ED093F: Dissolved Major Cations
(WATER) EN055: Ionic Balance
(WATER) ED045G: Chloride by Discrete Analyser
(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA
(WATER) EK067G: Total Phosphorus as P by Discrete Analyser
(WATER) EG020F: Dissolved Metals by ICP-MS
(WATER) EG035F: Dissolved Mercury by FIMS
(WATER) EK057G: Nitrite as N by Discrete Analyser
(WATER) EK058G: Nitrate as N by Discrete Analyser
(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser
(WATER) EP020: Oil and Grease (O&G)
(WATER) EA015: Total Dissolved Solids dried at 180 ± 5 °C
(WATER) EK071FG: Dissolved Reactive Phosphorus as P by DA
(WATER) EK055G: Ammonia as N by Discrete Analyser
(WATER) EP025: Oxygen - Dissolved (DO)
(WATER) EA010P: Conductivity by PC Titrator
(WATER) EA005P: pH by PC Titrator

Appendix D Quality Trigger Level Anlaysis

Vickery Extension Project Groundwater Monitoring Report

Quarterly Review August 2025 – October 2025

Whitehaven Coal Ltd

SLR Project No.: 640.031099.00001

19 December 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	Oct-25
GW01	6.90	8.30	7.33	7.20	7.14	7.2	7.16	7.10	7.33	7.00	7.27
GW02	7.20	8.60	7.59	7.79	7.14	7.23	7.42	6.63	7.74	7.17	7.38
GW03	6.10	8.10	7.19	7.16	7.05	7.36	7.22	7.08	7.17	7.17	7.28
GW-10	6.70	8.40	no data	no data	no data	no data	7.57	7.36	7.92	7.71	8.37
GW-11	7.00	9.30	7.36	6.93	6.55	6.09	7.17	7.03	7.15	6.62	7.00
GW-13	6.70	8.40	no data	no data	no data	no data	7.35	7.30	7.24	7.27	7.26
GW-14	6.90	8.30	no data	no data	no data	no data	6.95	6.53	6.94	6.99	6.79
GW-15	6.90	8.30	no data	no data	no data	no data	8.97	8.85	8.96	8.88	9.15
GW-2	6.90	8.30	no data	no data	6.85	no data	6.84	6.45	6.86	6.87	6.99
GW-4	6.70	8.40	no data	no data	no data	no data	7.92	7.84	8.11	7.83	7.97
GW-6	6.70	8.40	no data	no data	no data	no data	7.73	7.52	7.60	7.60	no data
GW-7	7.70	8.50	8.89	8.82	8.79	8.67	8.3	7.76	8.91	8.25	8.26
GW-8	6.70	8.40	7.11	7.03	6.95	6.49	7.0	6.62	5.28	7.14	7.19
GW-9	6.60	8.20	7.94	6.68	6.81	6.76	6.68	5.40	7.52	7.07	7.31
GW971400	6.90	8.30	no data	no data	no data	no data	6.8	7.08*	6.25	no data	6.71
GW971614	6.90	8.30	no data	no data	no data	no data	6.65	7.08	7.42	6.99	6.87
MD01	6.70	8.40	11.58	11.69	10.73	9.59	8.33	8.84	8.67	8.22	8.45
MD02	6.70	8.40	6.84	6.78	6.59	6.57	6.72	6.81	6.80	6.71	6.84
SB01	6.90	8.30	7.44	7.31	7.20	7.21	7.23	7.12	7.30	7.19	7.25
SB02	6.90	8.30	7.28	7.28	7.14	7.2	7.23	7.22	7.48	7.08	7.29
SB04	6.90	8.30	7.29	7.43	7.27	7.12	7.21	7.04	7.15	7.11	7.45
SB05	6.90	8.30	2.09	7.73	7.63	7.58	7.71	7.52	7.70	7.64	7.80

Bore	Trigger Level		Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
SB06	6.90	8.30	7.35	7.61	7.42	7.56	7.7	7.42	8.12	7.63	7.91
SB07	6.90	8.30	7.35	7.47	7.28	7.22	7.58	7.29	7.32	7.18	7.45
SB08	6.90	8.30	7.24	7.39	7.17	7.29	7.27	7.27	7.22	7.39	7.52
SB09	6.90	8.30	3.32	7.56	7.27	7.52	7.44	7.40	7.55	7.47	7.62
SB10	6.90	8.30	7.43	7.47	7.28	7.5	7.38	7.25	7.49	7.37	7.44
SB11	6.90	8.30	7.26	7.70	7.45	7.77	7.51	7.39	7.61	7.46	7.73
SB15	6.90	8.30	7.29	7.23	7.17	7.3	7.24	7.41	6.84	6.99	7.35
TR18	6.70	8.40	6.58	6.85	6.69	6.64	6.79	6.68	6.93	6.74	6.83
TR26	6.70	8.40	7.06	7.16	7.11	6.69	6.93	6.85	7.09	7.03	6.86
TR35	6.70	8.40	6.66	6.75	6.72	6.75	6.73	6.54	6.96	6.72	6.93
TR7	7.40	7.80	6.53	7.05	6.71	6.82	6.63	6.51	6.93	6.69	6.95
VKY034C	6.70	8.40	7.30	6.94	7.05	7.25	7.25	7.16	7.21	7.06	7.06
VKY035C	6.70	8.40	7.10	7.01	6.88	6.9	7.09	6.93	7.01	6.96	6.95
VKY036C	6.70	8.40	7.08	6.79	6.80	7.19	7.21	7.06	7.30	7.12	7.10
VKY042C	6.70	8.40	6.75	6.72	6.61	6.65	6.72	6.64	6.71	6.70	6.64
VKY043C	6.70	8.40	7.72	7.80	7.65	7.85	7.7	7.50	7.84	7.76	7.70
VNW223	6.90	7.40	7.25	no data	no data	no data	7.17	7.07	7.14	7.00	7.34
VNW390	6.70	8.40	6.92	7.13	6.59	6.84	6.81	6.96	6.84	6.84	6.91
VNW391	6.70	8.40	7.04	7.31	7.06	6.81	7.1	7.02	7.03	6.96	7.33
VNW392	6.70	8.40	6.74	6.74	6.66	6.51	6.74	6.47	6.67	6.71	6.77
VNW393	6.70	8.40	7.36	7.56	7.20	7.13	7.16	6.94	7.11	7.17	7.17
VNW394	6.90	8.30	7.13	6.92	6.94	6.62	7.07	6.87	6.84	6.76	6.62
VNW395	6.90	8.30	7.47	7.77	7.77	7.61	7.56	7.58	7.31	7.30	7.49

Bore	Trigger Level		Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
WR1	6.90	8.30	no data	no data	6.70	6.47	6.5	6.95	6.96	6.63	6.52
WR2	6.90	8.30	no data	no data	6.57	6.52	6.36	6.41	6.99	6.39	6.54

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	Oct-25
GW01	10,083	1,042	1,265	1,384	1,052	738	1,244	244	1,388	914
GW02	969	731	971	926	1,065	1,016	992	872	936	981
GW03	811	862	888	862	947	1,004	983	872	909	896
GW-10	12,315	no data	no data	no data	no data	1,438	1,423	1,808	1,806	1,950
GW-11	4,912	4,360	4,340	4,520	4,760	4,760	4,310	4,750	4,570	4,790
GW-13	12,315	no data	no data	no data	no data	1,647	1,570	822	1,009	858
GW-14	10,083	no data	no data	no data	no data	3,840	4,260	3,360	3,710	4,230
GW-15	10,083	no data	no data	no data	no data	638	644	680	740	754
GW-2	10,083	no data	no data	1,218	no data	1,226	1,339	1,191	1,254	1,386
GW-4	12,315	no data	no data	no data	no data	2,980	2,970	2,990	2,920	2,960
GW-6	12,315	no data	no data	no data	no data	1,459	1,256	1,388	1,453	no data
GW-7	5,378	4,300	4,490	4,560	4,710	4,470	4,690	4,470	4,410	3,960
GW-8	12,315	4,290	3,950	4,000	4,100	3,930	4,350	4,200	4,690	3,370
GW-9	12,740	6,110	3,320	5,630	1,591	1,099	1,544	487	714	403
GW971400	10,083	no data	no data	no data	no data	2,458	2,810*	2,159	no data	2420.00
GW971614	10,083	no data	no data	no data	no data	651	608	681	769	562
MD01	12,315	1,799	1,786	1,283	1,505	1,787	1,519	1,438	1,969	1,737
MD02	12,315	1,195	1,306	1,210	1,224	1,279	1,381	1,232	1,250	1,347
SB01	10,083	1,541	1,716	1,698	1,756	1,869	1,851	1,788	1,729	1,702
SB02	10,083	7,330	7,330	7,210	6,860	7,250	6,990	6,870	7,120	7,020
SB04	10,083	2,680	3,360	1,868	2,390	2,289	3,420	2,184	2,790	2,067
SB05	10,083	3,740	3,690	3,680	3,490	3,790	3,660	3,300	3,500	3,540

Bore	Trigger Level	Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
SB06	10,083	3,280	3,460	3,410	3,440	2,790	3,160	2,930	3,240	2,550
SB07	10,083	770	919	934	978	1,042	1,009	908	925	951
SB08	10,083	983	1,115	1,039	1,088	388	1,154	1,035	1,153	1,041
SB09	10,083	949	1,014	973	1,013	1,130	1,045	1,054	1,027	1,045
SB10	10,083	1,880	1,972	1,859	1,928	2,200	2,086	1,839	2,066	1,681
SB11	10,083	1,080	1,021	1,048	461	1,266	1,209	1,144	1,172	1,159
SB15	10,083	1,019	1,070	972	1,049	1,143	1,163	1,052	962	1,087
TR18	12,315	13,400	13,640	12,730	15,350	13,820	13,810	13,620	14,060	13,520
TR26	12,315	6,290	8,380	5,180	7,330	6,090	6,170	7,290	7,010	7,040
TR35	12,315	15,300	17,330	16,740	17,260	16,690	18,320	16,180	17,160	16,950
TR7	12,970	14,800	15,390	14,410	15,380	14,840^	15,520	15,350	15,020	15,510
VKY034C	12,315	3,590	3,850	4,030	4,170	3,970	3,910	3,840	3,950	3,870
VKY035C	12,315	3,110	3,340	3,230	3,290	3,330	3,220	3,170	3,300	3,340
VKY036C	12,315	5,600	5,810	5,780	5,830	6,020	2,980	5,720	5,810	5,920
VKY042C	12,315	5,420	5,430	5,480	5,990	5,850	5,590	5,510	5,550	5,780
VKY043C	12,315	2,990	3,410	3,410	3,290	3,050	3,240	3,510	3,050	3,060
VNW223	10,120	5,940	no data	no data	no data	5,360	4,390	4,570	4,060	4,550
VNW390	12,315	2,300	2,376	2,291	2,473	2,431	2,629	2,330	2,460	2,276
VNW391	12,315	2,530	2,471	2,352	2,458	2,424	2,550	2,308	2,420	2,490
VNW392	12,315	3,690	3,310	3,480	3,510	3,410	3,480	3,340	3,480	3,580
VNW393	12,315	2,740	2,830	2,840	3,090	3,140	3,210	3,100	3,190	3,210
VNW394	10,083	5,520	5,410	5,400	5,620	5,420	5,480	5,520	5,440	5,190
VNW395	10,083	463	1,395	1,681	1,832	1,834	2,153	2,280	2,440	2,580

Bore	Trigger Level	Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
WR1	10,083	no data	no data	26,500	26,800	26,800	25,400	27,300	25,580	23,500
WR2	10,083	no data	no data	25,340	26,600	26,600	27,900	26,100	26,800	22,900

Note: Reported as field EC value in µS/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 µS/cm to 14,840 µS/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/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
GW01	365	96	171	132	54	111	132	28	210	85
GW02	365	77	74	81	102	79	91	89	80	78
GW03	365	52	56	58	46	54	53	62	55	54
GW-10	86	no data	no data	no data	no data	7	21	<10	41	<1
GW-11	365	<1	1	<1	1	<1	3	<1	<1	<1
GW-13	86	no data	no data	no data	no data	24	26	<10	15	30
GW-14	365	no data	no data	no data	no data	435	462	483	383	394
GW-15	365	no data	no data	no data	no data	28	28	34	34	34
GW-2	365	no data	no data	23	no data	26	23	22	22	24
GW-4	86	no data	no data	no data	no data	15	<1	<1	1	<1
GW-6	86	no data	no data	no data	no data	<1	<1	<1	<1	no data
GW-7	86	364	385	399	380	396	414	354	362	331
GW-8	86	no data	100	109	72	82	109	77	112	53
GW-9	86	102	128	51	25	28	<1	40	59	23
GW971400	365	no data	no data	no data	no data	425	477	355	no data	437
GW971614	365	no data	no data	no data	no data	32	30	31	31	34
MD01	86	22	23	26	36	14	33	32	37	54
MD02	86	28	29	28	29	29	28	33	27	28
SB01	365	182	183	190	148	193	216	180	182	165
SB02	365	1,120	no data	1,160	741	1,110	1,280	1,110	1,080	928
SB04	365	284	394	220	195	208	413	269	263	226
SB05	365	735	551	520	595	496	447	380	400	463

Bore	Trigger Level	Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
SB06	365	372	362	362	324	307	366	359	414	304
SB07	365	74	74	78	66	71	89	85	72	71
SB08	365	86	87	88	79	74	97	77	80	75
SB09	365	71	63	70	62	67	78	59	74	66
SB10	365	190	188	196	168	198	238	172	197	162
SB11	365	85	72	93	80	85	106	76	89	84
SB15	365	90	79	95	53	98	119	84	95	91
TR18	86	702	620	592	622	626	630	552	644	602
TR26	86	194	230	180	198	195	229	217	211	180
TR35	86	660	651	622	624	624	526	562	631	611
TR7	365	508	714	501	518	563	458	507	702	517
VKY034C	86	123	185	116	98	90	115	117	138	94
VKY035C	86	87	77	88	73	68	83	77	80	278
VKY036C	86	244	294	281	100	174	190	174	149	168
VKY042C	86	302	309	312	283	326	307	316	314	304
VKY043C	86	<1	<1	<1	<1	<1	<1	<1	<1	<1
VNW223	365	97	no data	no data	no data	164	91	266	308	322
VNW390	86	95	95	106	55	104	107	106	102	87
VNW391	86	88	88	96	52	86	101	97	101	97
VNW392	86	no data	284	296	263	314	300	266	313	285
VNW393	86	179	185	200	165	202	205	212	197	178
VNW394	365	no data	551	560	574	591	498	535	573	582
VNW395	365	14	61	143	91	131	147	151	128	18

Bore	Trigger Level	Oct/Nov-23	Jan-24	Apr-24	Jul-24	Oct-24	Jan-25	Apr-25	Jul-25	Oct-25
WR1	365	no data	no data	1,320	901	1,280	1,490	1120	1,250	1,100
WR2	365	no data	no data	1,540	1,120	1,670	1,790	1250	1,480	1,340

Note: Sulfate as SO_4 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
GW01	Oct-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.153	<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
GW02	Oct-25	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	0.02	<0.001	0.002	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.013
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
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
GW03	Oct-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	0.004	<0.001	0.004	<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-10	Oct-25	<0.01	0.005	0.003	0.12	<0.0001	<0.001	<0.001	0.118	<0.001	0.066	<0.0001	0.002	0.004	<0.01	<0.001*	0.07
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-11	Oct-25	<0.01	<0.001	<0.001	0.13	<0.0001	<0.001	<0.001	0.002	<0.001	0.713	<0.0001	0.001	<0.001	<0.01	<0.001*	0.024
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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-13	Oct-25	<0.01	<0.001	0.001	0.08	<0.0001	<0.001	0.001	<0.001	<0.001	0.264	<0.0001	<0.001	0.003	<0.01	<0.001*	0.019
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-14	Oct-25	<0.01	<0.001	0.002	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.005	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.035
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
GW-15	Oct-25	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.007	<0.0001	0.003	<0.001	<0.01	<0.001*	<0.005
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-2	Oct-25	<0.01	<0.001	0.002	<0.05	<0.0001	0.003	<0.001	<0.001	<0.001	0.001	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.009
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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-4	Oct-25	<0.01	<0.001	0.002	0.14	<0.0001	<0.001	<0.001	<0.001	<0.001	0.008	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
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-7	Oct-25	<0.01	<0.001	<0.001	0.19	<0.0001	<0.001	<0.001	<0.001	<0.001	0.038	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.008
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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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-8	Oct-25	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.107	<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
GW-9	Oct-25	0.16	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	0.002	<0.001	0.559	<0.0001	<0.001	0.002	<0.01	<0.001*	0.016
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
GW971400	Oct-25	<0.01	<0.001	<0.001	<0.05	<0.0001	0.001	<0.001	0.002	<0.001	0.009	<0.0001	0.001	0.019	<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
GW971614	Oct-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
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
MD01	**Jan-24**	0.58	0.001	<0.001	0.04	<0.0001	<0.001	<0.001	0.02	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
MD01	**Oct-25**	0.02	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.009	<0.0001	0.007	0.003	<0.01	<0.001*	0.01
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
MD02	**Oct-25**	<0.01	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.001	0.052	<0.0001	0.002	0.013	<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
MD03	**Oct-25**	<0.01	<0.001	0.002	0.13	<0.0001	<0.001	0.002	<0.001	<0.001	0.441	<0.0001	0.004	0.004	<0.01	<0.001*	<0.005
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
SB01	Oct-25	<0.01	<0.001	0.001	0.09	<0.0001	<0.001	0.004	<0.001	<0.001	0.449	<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
SB02	Oct-25	<0.01	<0.001	0.005	0.16	<0.0001	<0.001	0.002	<0.001	<0.001	0.788	<0.0001	0.004	0.002	<0.01	<0.001*	<0.005
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
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	<).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
SB04	Oct-25	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.106	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.017

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
SB05	Oct-25	<0.01	<0.001	0.004	0.16	<0.0001	<0.001	<0.001	<0.001	<0.001	0.441	<0.0001	0.003	<0.001	<0.01	<0.001*	<0.005
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
SB06	Oct-25	<0.01	<0.001	0.003	0.1	<0.0001	<0.001	0.001	0.024	<0.001	0.51	<0.0001	0.006	0.003	<0.01	<0.001*	<0.005
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
SB07	**Oct-25**	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	0.004	<0.001	0.006	<0.0001	<0.001	<0.001	<0.01	<0.001*	0.014
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
SB08	**Oct-25**	<0.01	<0.001	<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*	<0.005
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
SB09	**Oct-25**	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	<0.001	<0.001	0.722	<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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
SB10	Oct-25	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.446	<0.0001	0.001	<0.001	<0.01	<0.001*	0.006
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
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
SB11	Oct-25	<0.01	<0.001	<0.001	0.08	<0.0001	<0.001	<0.001	0.002	<0.001	0.014	<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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
SB15	Oct-25	<0.01	<0.001	0.001	0.06	<0.0001	<0.001	<0.001	0.008	<0.001	0.02	<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	0.02	<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
TR18	Oct-25	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.098	<0.0001	<0.001	0.01	<0.01	<0.001*	0.008
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
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
TR26	Oct-25	<0.01	<0.001	<0.001	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.073	<0.0001	<0.001	0.002	<0.01	<0.001*	0.009
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	0.01	1.73	<0.001	1.76	<0.0001	0.017	0.558	<0.01	<0.001*	0.03
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
TR35	Oct-25	<0.01	0.003	<0.001	0.09	0.0006	<0.001	0.007	4.67	<0.001	0.769	<0.0001	0.006	0.075	<0.01	<0.001*	0.033
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
TR7	Oct-25	<0.01	<0.001	<0.001	0.07	0.0002	<0.001	0.004	1.25	<0.001	0.228	<0.0001	0.001	0.02	<0.01	<0.001*	0.018
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	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
VKY034C	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
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
VKY034C	Oct-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	0.002	<0.01	<0.001*	0.02
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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	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
VKY035C	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
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
VKY035C	Oct-25	<0.01	<0.001	0.003	<0.05	<0.0001	0.001	<0.001	<0.001	<0.001	0.315	<0.0001	0.008	0.008	<0.01	<0.001*	0.006
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	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
VKY036C	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
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
VKY036C	Oct-25	<0.01	<0.001	0.008	0.1	<0.0001	<0.001	<0.001	<0.001	<0.001	0.154	<0.0001	0.003	0.005	<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	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
VKY042C	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

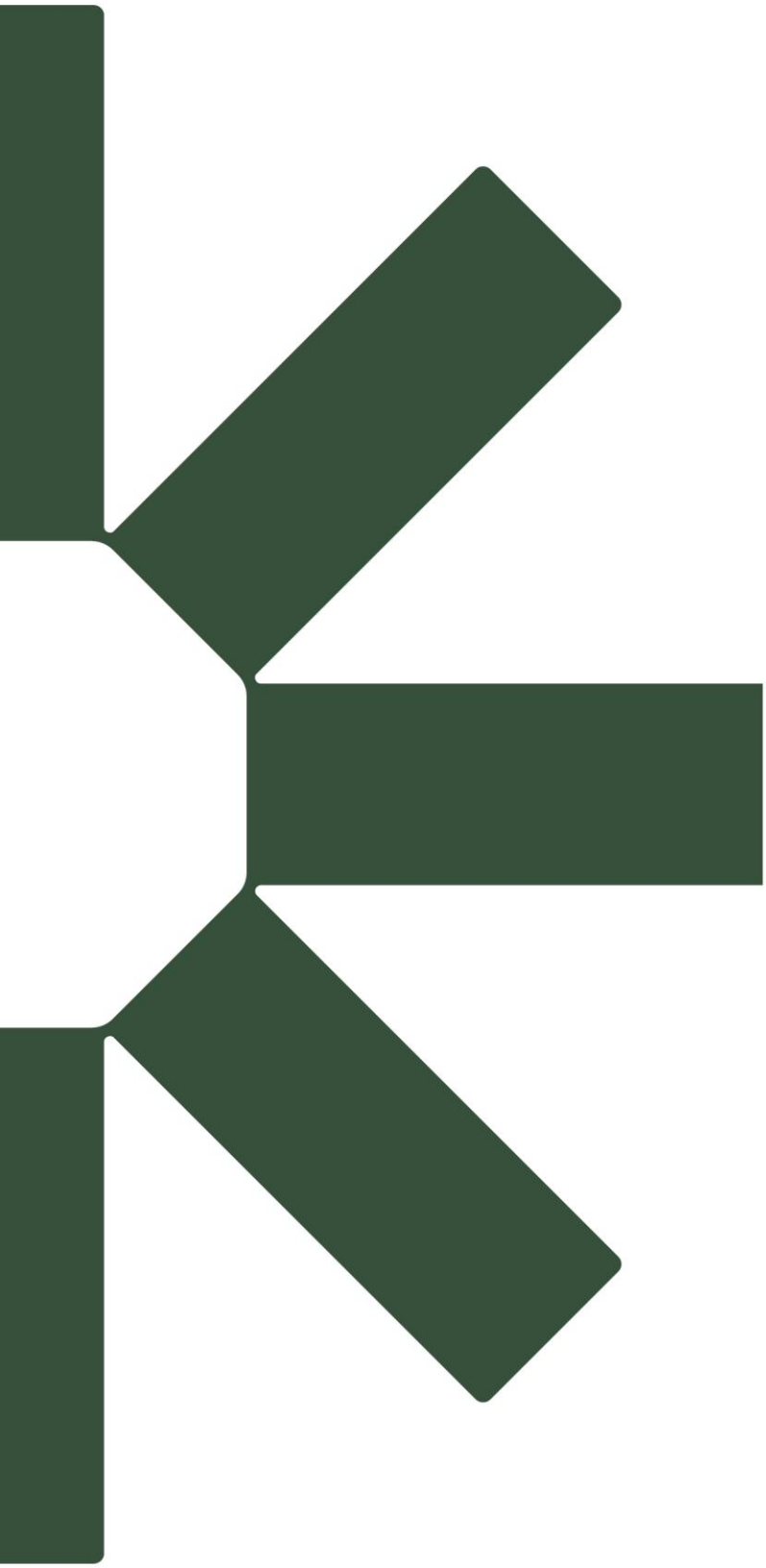
Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
VKY042C	Jul-25	<0.01	<0.001	<0.001	0.05	<0.0001	<0.001	<0.001	0.002	<0.001	0.202	<0.0001	<0.001	0.001	<0.01	<0.001*	0.006
VKY042C	Oct-25	<0.01	<0.001	<0.001	0.06	0.0001	<0.001	<0.001	0.01	<0.001	0.212	<0.0001	<0.001	0.003	<0.01	<0.001*	0.037
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
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	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
VKY043C	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
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
VKY043C	Oct-25	<0.01	<0.001	<0.001	0.07	<0.0001	<0.001	<0.001	<0.001	<0.001	0.016	<0.0001	<0.001	<0.001	<0.01	<0.001*	<0.005
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
VNW223	Oct-25	<0.01	0.001	<0.001	0.07	<0.0001	<0.001	<0.001	0.01	<0.001	0.032	<0.0001	<0.001	0.004	<0.01	<0.001*	0.034
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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
VNW390	**Oct-25**	<0.01	<0.001	0.001	0.12	<0.0001	0.002	<0.001	<0.001	<0.001	0.224	<0.0001	0.006	0.011	<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
VNW391	**Oct-25**	<0.01	<0.001	<0.001	0.11	<0.0001	<0.001	<0.001	<0.001	<0.001	0.275	<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
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
VNW392	**Oct-25**	<0.01	<0.001	0.001	0.09	<0.0001	<0.001	0.003	<0.001	<0.001	0.27	<0.0001	0.001	0.004	<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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
VNW393	Oct-25	<0.01	<0.001	<0.001	0.09	<0.0001	<0.001	<0.001	<0.001	<0.001	0.192	<0.0001	0.002	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
VNW394	Oct-25	<0.01	<0.001	0.004	0.08	<0.0001	<0.001	0.002	<0.001	<0.001	0.287	<0.0001	0.002	0.004	<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
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
VNW395	Oct-25	<0.01	<0.001	<0.001	0.06	<0.0001	<0.001	<0.001	<0.001	<0.001	0.086	<0.0001	<0.001	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

Bore ID	Date	Aluminium	Antimony	Arsenic	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Zinc
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
WR1	**Oct-25**	<0.01	<0.001	<0.001	0.16	0.0003	<0.001	0.002	0.564	<0.001	0.176	0.0051	0.001	0.026	<0.01	<0.001*	0.01
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
WR2	**Oct-25**	<0.01	<0.001	<0.001	0.12	<0.0001	0.001	0.01	0.002	<0.001	1.06	<0.0001	0.004	0.039	<0.01	<0.001*	<0.005

*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