



Hail Creek Open Cut

Groundwater Monitoring Network and Compliance Trigger Level Development

Hail Creek Coal Holdings Pty Limited

Level 44, 1 Macquarie Pl
Sydney NSW 2000

Prepared by: John Barlow

SLR Consulting Australia Pty Ltd

SLR Project No.: 626.30128.00000

12 November 2025

Revision: v2.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	3 November 2025	John Barlow	Emma Williams	Emma Williams
2.0	12 November 2025	John Barlow	Emma Williams	Emma Williams

Basis of Report

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Hail Creek Coal Holdings Pty Limited (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.



Table of Contents

Basis of Report	i
1.0 Introduction and Scope	1
2.0 Hail Creek Groundwater Monitoring	2
2.1 Introduction	2
2.2 HCOC Groundwater Monitoring Network	2
2.3 Proposed Compliance Monitoring	2
3.0 Groundwater Level Trigger Level Development	8
3.1 Introduction	8
3.2 Reference Levels	8
3.3 Proposed Trigger Levels	11
4.0 References.....	13

Tables

Table 2-1 Hail Creek Groundwater Monitoring Network.....	3
Table 2-2 Proposed Compliance and Interpretation Monitoring Bores for the Revised EA.....	6
Table 3-1 Proposed Compliance Bore Reference Levels and Trigger Level Elevations	12

Figures

Figure 2-1 HCOC Groundwater Monitoring Network.....	5
Figure 3-1 Proposed Rewan Formation Compliance Monitoring Bores.....	9
Figure 3-2 Proposed FCCM Compliance Monitoring Bores	10
Figure 3-3 Proposed MCM Compliance Monitoring Bores	11



1.0 Introduction and Scope

SLR Consulting Australia Pty Ltd (SLR) prepared a groundwater impact assessment for Hail Creek Open Cut (HCOC) in 2025 (SLR, 2025a, 2025b). The assessment was in support of an Environmental Authority (EA) Amendment application for the Eastern Margin Extension Project (the Project). SLR has now been engaged by Hail Creek Coal Holdings Pty Limited (HCC) to address a number of requests for further groundwater related information from the Department of the Environment, Tourism, Science and Innovation (DETSI) in response to the EA Amendment application.

This report forms part of that response and details the following tasks relating to the DETSI Information Request (IR) dated 31st July 2025 and items requested by HCC:

- Review of compliance monitoring bores – As part of their IR, DETSI proposed a revised list of compliance monitoring bores for HCOC. These have been reviewed based on the site hydrogeology, groundwater monitoring objectives, and the current status of the monitoring bore network. Following this review, a revised list of compliance monitoring bores has been proposed.
- Groundwater level trigger limit development – Groundwater level trigger limits have been developed for the proposed set of groundwater levels compliance bores based on historical groundwater level monitoring and numerical modelling predictions of mining related drawdown impacts.

Details of the geology, hydrogeology, and potential groundwater receptors as well as the potential hydrogeological impacts associated with HCOC are presented in the following reports prepared to support the EA Amendment:

- SLR, 2025. Hail Creek Open Cut Eastern Margin Extension, Groundwater Impact Assessment. Reference 626.30128 v8.0.
- SLR, 2025. Hail Creek Open Cut Eastern Margin Extension, Groundwater Modelling Technical Report. Reference 626.30128 v4.0.



2.0 Hail Creek Groundwater Monitoring

2.1 Introduction

This section presents details of the groundwater monitoring network at HCOC and the proposed designation of these bores in terms of compliance monitoring bores and interpretation bores. This proposed designation considers the DETSI's suggestions contained within their recent information request, the current status of the monitoring bore network, the monitoring data gathered to date and the hydrogeology of the site.

2.2 HCOC Groundwater Monitoring Network

Details of the HCOC Groundwater monitoring bores are presented in Table 2-1 and the location of these bores is shown on **Figure 2-1**.

. HCC have provided advice on the current status of bores within the monitoring network which has changed for several bores since the monitoring network status was presented in the groundwater impact assessment for the Project (SLR, 2025a). The key changes to the monitoring network are:

- **Mined out:** bores GWMB02, GWMB03 screened across the Rewan Formation, and GWMB20A and GWMB20B screened across the RCM Elphinstone and Hynds seams respectively have now been mined out.
- **GWMB57:** this is a new bore installed within the Rangal Coal Measures to the south of Ramp 0 in early 2025. It currently has a very limited monitoring record.

2.3 Proposed Compliance Monitoring

Table 2-2 lists the currently active bores in the HCOC groundwater monitoring network as well as their designation in the current EA and their proposed EA designation as either compliance monitoring bores or interpretation bores. The table includes the monitoring rationale for the bores and identifies bores proposed for compliance either with groundwater level triggers or groundwater quality triggers. Consideration has been given to all the bores proposed by DETSI in the recent IR, excluding bores which have been mined out. Some bores have been designated as suitable just for water level compliance monitoring and some for just water quality compliance monitoring due to their locations and monitoring rationale. The active bores in the network not proposed as compliance bores will continue to be monitored as "interpretation bores" providing useful monitoring data to inform the understanding of the site hydrogeology.

The bores designated for compliance monitoring in the current EA are limited to four alluvial bores along Hail Creek. It is proposed that these should become interpretation bores as the alluvium is often dry making these bores unsuitable for compliance monitoring. The proposed compliance network identifies a total of 12 bores for compliance monitoring against the water level and/or water quality triggers. Whilst this report deals with the development of groundwater level trigger limits it is noted that DETSI may condition the provision of groundwater quality trigger level thresholds at a later date.

The bores proposed for future compliance monitoring provide a broad spread across HCOC at key locations including along Hail Creek to the east of Western Pit and in the north-east around Brumby Waterhole (BWH) close to two of the proposed extension pits on the eastern margin. The monitoring objectives for the compliance bores are described in **Table 2-2**.



Table 2-1 Hail Creek Groundwater Monitoring Network

Bore	Easting ¹	Northing ¹	Ground Level (mAHD)	Top of Casing (mAHD)	Screen (mbGL)	Screened Formation	Status	Water Level Record	Water Quality Record
GWMB12A	646671	7622088	247.55	248.27	5 - 11	Hail Creek alluvium	Active	May-05 to Jul-25	Jun-14 to Oct-17
GWMB13A	645118	7623907	254.76	255.30	10 - 16	Hail Creek alluvium	Active	Nov-03 to Jul-25	Jun-14 to Jul-20
GWMB14A	644760	7624679	257.73	258.35	14 - 20	Hail Creek alluvium	Active	Nov-03 to Jul-25	May-14 to Oct-24
GWMB22A	642816	7629814	281.6	282.15	9.5 - 12.4	Hail Creek alluvium	Active	Jun-15 to Oct-24	Apr-16 to Jan-20
GWMB32	646655	7617498	240.56**	241.16**	11 - 14	Hail Creek alluvium	Active	Oct-13 to Oct-24	Jan-19 to Jan-20
GWMB02	647565	7625381	268.86	269.45	24 - 30	Rewan Formation	Mined out	Nov-03 to Oct-21	Oct-19 to Nov-23
GWMB03	647109	7627796	290.14	290.77	39 - 45	Rewan Formation	Mined out	Apr-05 to Oct-21	May-14 to Oct-21
GWMB04	644670	7625093	258.88	259.48	34 - 40	Rewan Formation	Active	Nov-03 to Apr-25	Nov-03 to Oct-21
GWMB12B	646671	7622088	247.55	248.27	34 - 40	Rewan Formation	Active	Nov-03 to Apr-25	Nov-03 to Oct-24
GWMB13B	645110	7623906	254.94	255.45	34 - 40	Rewan Formation	Active	Dec-03 to Apr-25	Nov-03 to Oct-24
GWMB14B	644760	7624679	257.73	258.35	34 - 40	Rewan Formation	Active	Nov-03 to Apr-25	Nov-03 to Oct-24
GWMB22B	642808	7629815	281.55	282.17	30 - 39	Rewan Formation	Active	Jun-15 to Apr-25	Jun-13 to Oct-2016
GWMB01	651737	7619452	255.8	256.38	42 - 48	RCM	Active	Dec-03 to Apr-25	Jul-14 to Nov-23
GWMB20A	647546	7625396	269.16	269.80	47 - 53	RCM - Elphinstone seam	Mined out	Dec-14 to Nov-23	Oct-21 to Nov-23
GWMB20B	647553	7625405	269.28	269.82	97 - 103	RCM - Hynds seam	Mined out	Dec-14 to Nov-23	Oct-21 to Nov-23
GWMB23A	644789	7630059	297.12	297.74	72.5 - 76.5	RCM - Elphinstone seam	Active	Jul-15 to Apr-25	Oct-21 to Oct-24
GWMB23B	644781	7630060	297.27	297.87	128 - 134	RCM - Hynds seam	Active	Jul-15 to Apr-25	Oct-21 to Oct-24
GWMB05	639670	7628657	310.68	311.32	34 - 40	FCCM	Active	Nov-03 to Oct-21	Nov-03 to Oct-22
GWMB10	640396	7619940	283.25	283.91	42 - 48	FCCM	Active	Nov-03 to Oct-21	Oct-14 to Oct-21
GWMB24A	644731	7630816	309.83	310.34	17 - 19	FCCM	Active	Jun-13 to Apr-25	Oct-14 to Oct-21
GWMB24B	644721	7630808	309.59	310.17	27 - 30	FCCM	Active	Jun-13 to Jul-25	Jun-13 to Aug-16
GWMB25A	644840	7630738	308.38	308.87	18 - 24	FCCM	Active	Jun-13 to Jul-25	Oct-14 to Apr-25



Bore	Easting ¹	Northing ¹	Ground Level (mAHD)	Top of Casing (mAHD)	Screen (mbGL)	Screened Formation	Status	Water Level Record	Water Quality Record
GWMB25B	644834	7630737	308.38	308.86	30 - 36	FCCM	Active	Jun-13 to Jul-25	Jun-13 to Apr-25
GWMB26	645003	7630611	308.26*	308.86	20 - 23	FCCM	Active	Feb-17 to Jul-25	May-17 to Jan-24
GWMB27A	645096	7630697	310.92*	311.52	23 - 26	FCCM	Active	Feb-17 to Jul-25	May-17 to Apr-25
GWMB27B	645092	7630706	310.78*	311.38	66 - 69	FCCM	Active	Feb-17 to Jul-25	Nov-18 to Apr-25
GWMB28A	644778	7630866	311.12*	311.72	27 - 30	FCCM	Active	Feb-17 to Jul-25	Jan-25
GWMB29	644580	7630968	310.02*	310.62	32 - 35	FCCM	Active	Feb-17 to Jul-25	May-17 to Apr-25
GWMB30B	644633	7631029	316.66*	317.26	63 - 69	FCCM	Active	Feb-17 to Jul-25	Nov-18 to Apr-25
SENTINEL_21-1	644784	7630465	303.95	304.55^	30 - 37	FCCM - FC1, FC2, FC3, Coal FC4.	Active	Jul-22 to Jul-25	Jul-22 to Jul-25
SENTINEL_21-2	644773	7630468	303.93	304.53^	46.1 - 49.1	FCCM - FC5, Basement Sandstone	Active	Jul-22 to Jul-25	Jul-22 to Jul-25
GWMB06	640287	7624805	301.4	302.01	18 - 24	MCM	Active	Nov-03 to Apr-25	Jul-14 to Oct-24
GWMB07	640307	7624734	292.92	293.46	15 - 21	MCM	Active	Nov-03 to Oct-24	Oct-14 to Oct-24
GWMB08	640280	7624669	299.35	299.98	20 - 26	MCM	Active	Nov-03 to Apr-25	Nov-03 to Oct-24
GWMB09	640066	7621443	305.95	306.55	49 - 55	MCM	Active	Nov-03 to Apr-25	Nov-03 to Oct-24
GWMB57	646826	7618146	239.02	239.77	78 - 84	RCM	Active	Jan-25 to Jul-25	Jan-25 to Jul-25

Notes: 1 GDA2020, zone 55
mAHD = elevation in metres with respect to the Australian Height Datum
mbGL = metres below ground level
* GL was estimated from the Top of Casing elevation minus 0.6 m
** GL was estimated from LiDAR and ToC was estimated as LiDAR GL +0.6 m
^ ToC was estimated as surveyed GL +0.6 m
RCM – Rangal Coal Measures
FCCM – Fort Cooper Coal Measures
MCM – Moranbah Coal Measures







Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:50,000 at A3
Project Number:	626.030128.0003
Date:	28-Oct-2025
Drawn by:	AS



Groundwater Monitoring Network

Monitored Formation	Bore Designation
 Alluvium	 Proposed Compliance Bore
 FCCM	 Compliance Bore in Current EA
 MCM	 Interpretation Bore
 RCM	 Mined Out
 Rewan	

 Major Watercourse	 Brumby Waterhole
 Minor Watercourse	
 Mining Lease	
Pit Shell	
 Approved	
 Proposed	

HAIL CREEK GROUNDWATER COMPLIANCE MONITORING

HAIL CREEK GROUNDWATER MONITORING NETWORK

FIGURE 2-1

Table 2-2 Proposed Compliance and Interpretation Monitoring Bores for the Revised EA

Bore	Aquifer	Current EA Designation	Proposed EA Designation		Monitoring Rationale
			Water level	Water quality	
GWMB12A	Alluvium (Hail Creek)	Interpretation	Interpretation	Interpretation	These bores are installed to the base of the alluvium and are intermittently dry with a recent prolonged dry spell. Impacts from current mining is possibly apparent at some bores. As there is frequently no or insufficient water to sample (i.e. the alluvium is dry) they are considered unsuitable as compliance bores but will continue to be monitored as interpretation bores although they are largely beyond the influence of predicted impacts from mining on the eastern margin and the Project.
GWMB13A	Alluvium (Hail Creek)	Compliance	Interpretation	Interpretation	
GWMB14A	Alluvium (Hail Creek)	Compliance	Interpretation	Interpretation	
GWMB22A	Alluvium (Hail Creek)	Compliance	Interpretation	Interpretation	
GWMB32	Alluvium (Bee Creek)	Compliance	Interpretation	Interpretation	
GWMB04	Rewan	-	Compliance	Compliance	Potential mining impact along Hail Creek east of Western Pit
GWMB12B	Rewan	-	Compliance	Compliance	Potential mining impact along Hail Creek east of Western Pit
GWMB13B	Rewan	-	Compliance	Compliance	Potential mining impact along Hail Creek east of Western Pit
GWMB14B	Rewan	-	Compliance	Compliance	Potential mining impact along Hail Creek east of Western Pit
GWMB22B	Rewan	-	Interpretation	Compliance	Potential mining impact along upper reach of Hail Creek in vicinity of Kemmis / Homevale / Exevale North. Insufficient baseline groundwater level data to develop compliance trigger level.
GWMB01	RCM	-	Interpretation	Interpretation	Potential mining impact at southern end of Carrinyah. The bore lies within the proposed Carrinyah extension footprint and will be mined out by the Project.
GWMB23A	RCM - Elphinstone	-	Interpretation	Interpretation	Potential mining impacts north of Exevale. These bores sit within the footprint of the proposed Exevale North extension and will be mined out by the Project.
GWMB23B	RCM - Hynds	-	Interpretation	Interpretation	
GWMB57	RCM	-	Interpretation	Interpretation	New bore to the south of Ramp 0 - insufficient baseline data.
GWMB05	FCCM	-	Compliance	Compliance	Largely a control location to the west of Western Pit and Kemmis not anticipated to be significantly impacted by future mining or the Project but included as a control location although significantly elevated ammonia has been recorded in samples from this bore.
GWMB10	FCCM	-	Interpretation	Interpretation	Located to the west of Western Pit beyond the likely reach of drawdown impacts from approved mining or the Project.



Bore	Aquifer	Current EA Designation	Proposed EA Designation		Monitoring Rationale
			Water level	Water Quality	
GWMB24B	FCCM	-	Compliance	Interpretation	Potential groundwater level impacts north-east of proposed extension pits Homevale and Exevale North close to BWH. The four bores closest to BWH have been selected as they are considered the most appropriate for groundwater level compliance monitoring.
GWMB25B	FCCM	-	Compliance	Interpretation	
GWMB29	FCCM	-	Compliance	Interpretation	
GWMB30B	FCCM	-	Compliance	Interpretation	
GWMB24A	FCCM	-	Interpretation	Interpretation	All the monitoring bores installed around the BWH are up hydraulic gradient of mining activities and so direct groundwater quality impacts from mining activities are not anticipated. Consequently, none of the Brumby Waterhole bores have been designated as compliance bores for groundwater quality.
GWMB25A	FCCM	-	Interpretation	Interpretation	
GWMB26	FCCM	-	Interpretation	Interpretation	
GWMB27A	FCCM	-	Interpretation	Interpretation	
GWMB27B	FCCM	-	Interpretation	Interpretation	Most of the shallower BWH monitoring bores have minimum levels close to the bottom of the bore screen and are therefore not considered suitable as compliance bores.
GWMB28A	FCCM	-	Interpretation	Interpretation	
SENTINEL_21-1	FCCM	-	Interpretation	Interpretation	The two "sentinel" bores currently have very limited monitoring records and it is considered that there is currently insufficient data to define appropriate groundwater reference levels and trigger levels for these bores.
SENTINEL_21-2	FCCM	-	Interpretation	Interpretation	
GWMB06	MCM	-	Interpretation	Interpretation	These three bores are located over 1 km west of Western Pit on the down gradient (eastern) side of a surface water dam. Not anticipated to be significantly impacted by mining related drawdown. Levels likely to be more influenced by dam leakage and so not considered suitable as water level compliance points. The shallowest of the three bores has been selected for water quality compliance monitoring.
GWMB07	MCM	-	Interpretation	Interpretation	
GWMB08	MCM	-	Interpretation	Compliance	
GWMB09	MCM	-	Interpretation	Compliance	Shallow groundwater monitoring at the mine camp. Not anticipated to be significantly impacted by mining related drawdown but selected for water quality compliance monitoring.



3.0 Groundwater Level Trigger Level Development

3.1 Introduction

The development of groundwater level triggers for the proposed compliance bores involved two key components, the derivation of reference groundwater levels based on an assessment of the hydrographs and the monitoring record for each compliance bore, and the derivation of groundwater level triggers using the numerical groundwater model for HCOC (SLR, 2025b). These two components are combined to provide a groundwater elevation compliance trigger:

- Reference Level

The bore specific groundwater elevation that future groundwater level measurements will be compared to for the purpose of assessing groundwater drawdown. Reference levels have been derived from historic groundwater level monitoring data and are the minimum observed groundwater levels at a monitoring location that do not appear to have been impacted by mining.

- Trigger Level

The bore specific groundwater elevation which reflects the currently anticipated maximum drawdown at the compliance bore location below the reference level. The trigger level has been derived from the predictive numerical groundwater model (SLR, 2025b). An exceedance of the proposed trigger level would potentially indicate greater mining related drawdown at the compliance bore than predicted and initiate an investigation.

Hydrographs for the DETSI suggested list of groundwater level compliance bores are presented in Figure 3-1 to Figure 3-3 and are discussed below for each bore by hydrostratigraphic unit. The available groundwater level data has been plotted together with the cumulative rainfall departure (CRD) from mean rainfall, to provide climatic context. Not all the bores suggested by DETSI have been proposed as groundwater level compliance bores following review of the data and the monitoring rationale for each bore, but the data for each suggested bore is discussed.

The proposed reference levels and trigger level elevations for the proposed groundwater level compliances bore are presented in **Table 3-1**.

3.2 Reference Levels

Figure 3-1 presents the groundwater level data for the proposed compliance bores installed within the Rewan Formation along Hail Creek to the east of Western Pit (**Figure 2-1**).

Bores GWMB04, GWMB12B, GWMB13B and GWMB014B show very similar hydrograph trends with initially low levels at the end of the Millennium Drought in late 2006 followed by steady increases in the order of 5-7 m in response to the significant recharge from 2007 through to mid-2013. Maximum levels are seen in these bores between 2012 and 2015 before they start to recede under more typical (lower) rainfall/recharge conditions. Minimum levels in these bores are observed in 2024-25 and are considered to be slightly impacted by mining related drawdown.

Mining at HCOC started in 2003 in the west of Western Pit and it is considered that the minimum levels recorded in these bores in 2006 at the end of the Millennium Drought are unimpacted by early mining on the western margin of Western Pit. This is due to the relatively shallow depth and distance of early mining in Western Pit from these bores at this time. It is therefore proposed to use minimum levels observed during this early monitoring period as reference levels for these bores.

Bore GWMB22B has only been monitored from late 2015 when groundwater levels were at maximums. In addition, there was no monitoring between early 2018 and the latest level recorded in April 2025. The level in this bore has declined in elevation by approximately 10 m since initial measurements in mid-2015. It is considered likely that much of this decline is due to natural



recession from the period of significant recharge from 2007 through to mid-2013 although based on the observations in the other Rewan monitoring bores along Hail Creek it is possible that some of the decline may be related to mining impacts. It is considered that there is insufficient monitoring data, including a period of natural minimum levels, from which to derive a suitable reference level for GWMB22B and therefore a trigger limit cannot be developed. Even with more frequent monitoring it may not be possible to derive a trigger limit for this bore if mining related drawdown has already occurred at this location.

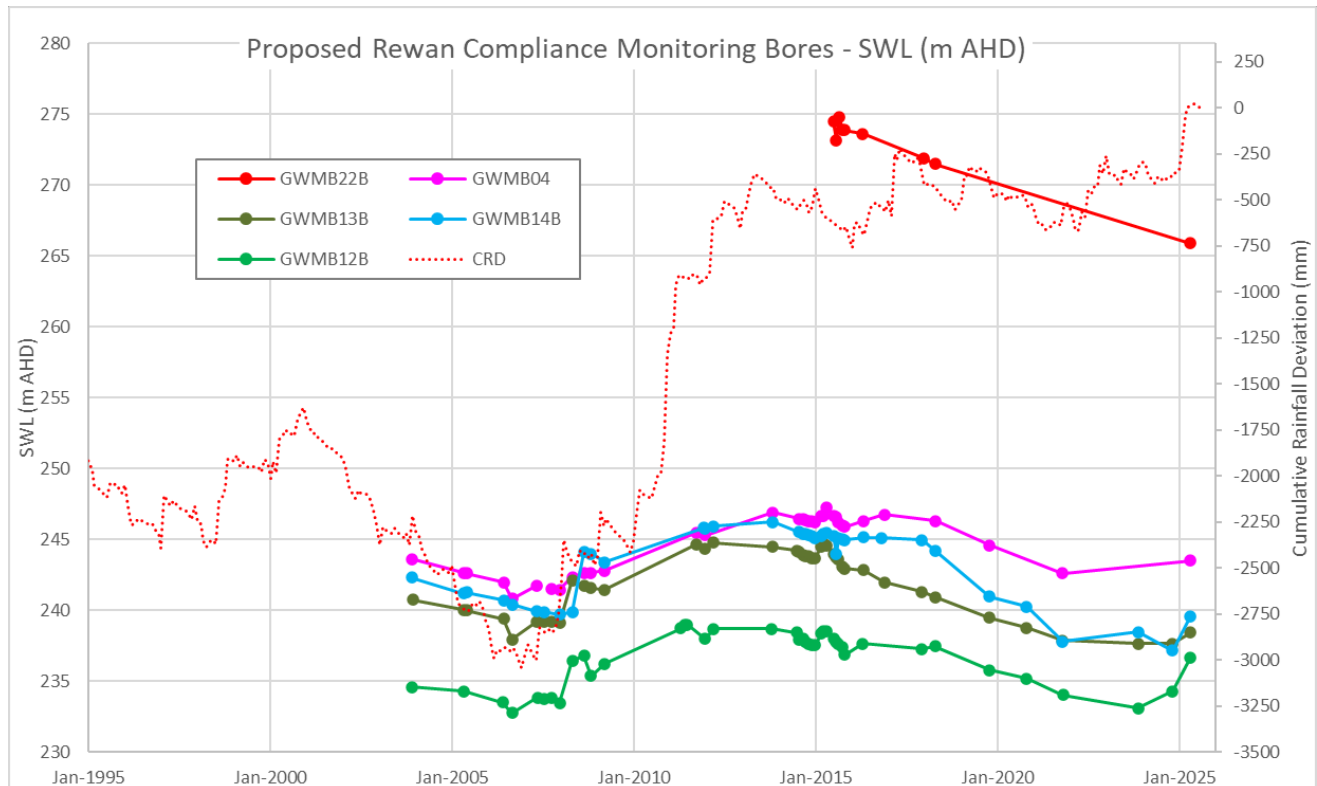


Figure 3-1 Proposed Rewan Formation Compliance Monitoring Bores

Figure 3-2 presents the groundwater level data for the DETSI suggested groundwater level compliance bores installed within the Fort Cooper Coal Measures (FCCM). Eight of these bores are situated in the north-east of the mining lease around BWH, north-east of the proposed extension pits Homevale and Exeale North. The monitoring record for some of these bores is limited but many of these bores are relatively shallow and some clearly show short term responses to rainfall. There appears to be a general groundwater level recession in these bores following the period of significant recharge ending in 2013 although most of the bores were installed after this time.

Development of the southern end of Exeale Pit started in 2022 approximately 2-3 km from these monitoring bores and it is considered unlikely they would currently be showing significant impacts from mining. Consequently, the minimum levels for these bores will be selected as reference levels.

GWMB05 is located to the west of Kemmis Pit and the northern end of Western Pit and has a record that goes back to the start of mining at HCOC. The hydrograph shows little variation up to the major recharge event in 2007-2013 when an increase in the order of 5.5 m is observed followed by a long recession back to levels recorded at the end of the Millennium Drought. Minimum recorded levels for this bore will be used as the reference level.

The four bores closest to BWH are proposed as groundwater level compliance bores.



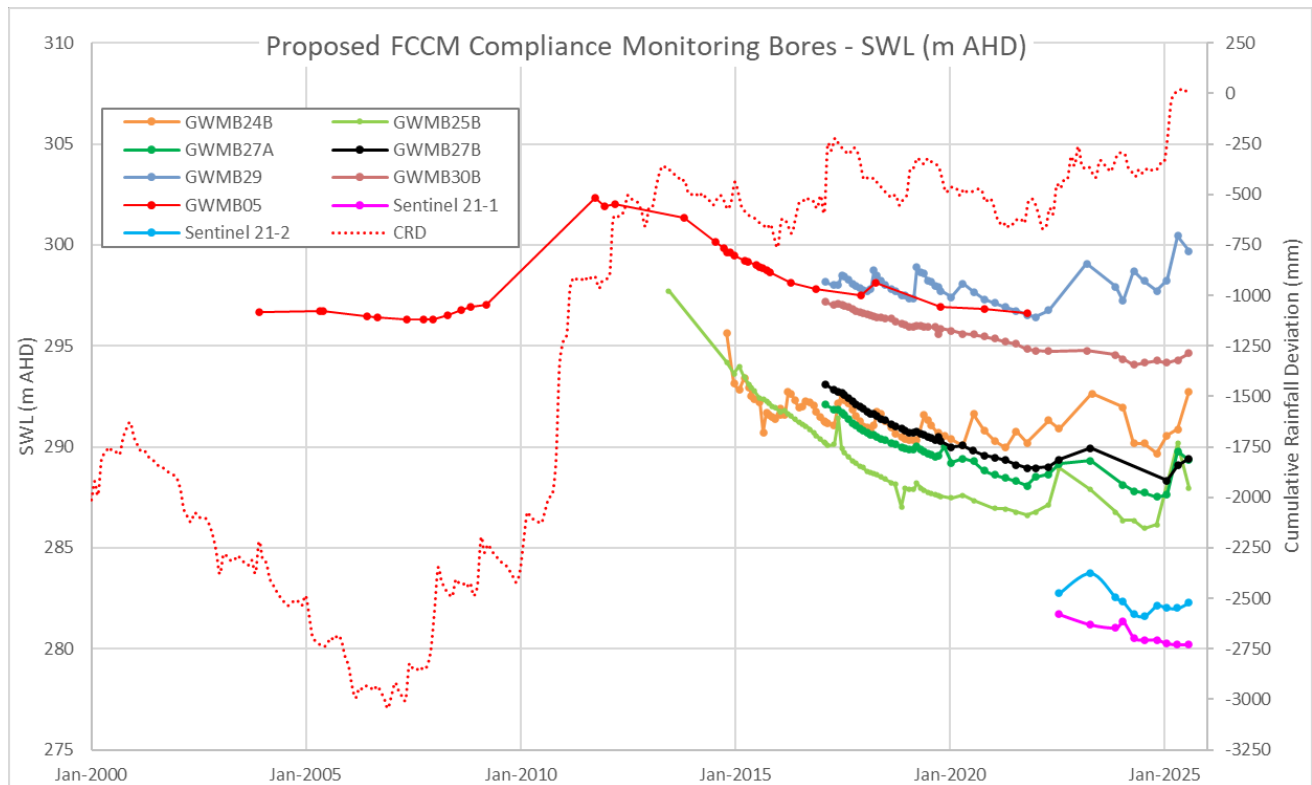


Figure 3-2 Proposed FCCM Compliance Monitoring Bores

Figure 3-3 presents the groundwater level data for the DETSI suggested groundwater level compliance bores installed within the Moranbah Coal Measures (MCM). Both bores are located to the west of Western Pit largely beyond the likely influence of mining related drawdown impacts.

GWMB08 is one of three bores located immediately east of a water storage dam located approximately 1.5 km west of mining activity in Western Pit. The hydrograph for this bore shows similar responses to the two other bores at this location and a poor correlation with the CRD although there is some evidence of response to rainfall events. This bore is outside the zone of significant mining related drawdown impacts and is more likely to be influenced by dam seepage / pressure loading as dam storage levels vary. Its relevance as a compliance bore is more related to groundwater quality and given that its level may be more influenced by dam storage than mining it is not considered useful as a groundwater level compliance monitoring bore.

GWMB09 is located at the mine camp over 2 km west of active mining in Western Pit. The hydrograph for this bore shows an increase of 8-9 m through the period of very high rainfall that ended the Millennium Drought with only a short term, relatively rapid decrease in 2011 to a new stable level approximately 5.5 m higher than levels at the end of the Millennium Drought. Like GWMB08 this bore is outside the zone of significant mining related drawdown impacts and its relevance as a compliance bore is more related to groundwater quality than groundwater levels. Given the nature of the hydrograph for this bore and that it is beyond the predicted influence of mining related drawdown it is not considered an appropriate groundwater level compliance bore.



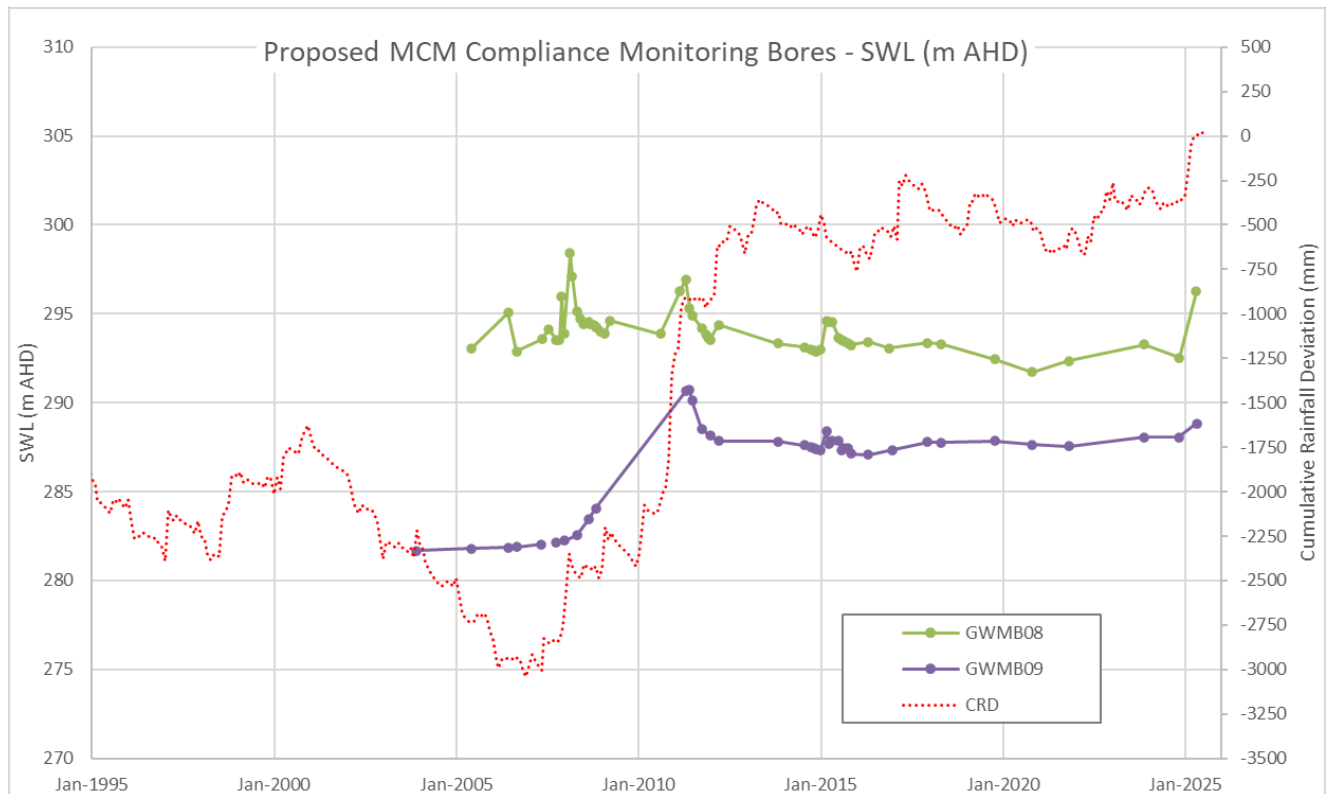


Figure 3-3 Proposed MCM Compliance Monitoring Bores

3.3 Proposed Trigger Levels

A proposed groundwater level trigger elevation has been derived for each proposed compliance bore using the HCOC numerical groundwater model predictions (SLR, 2025b). The maximum predicted drawdown in the model layer representing the formation in which the bore is screened, at the bore location has been extracted from the best calibrated model realisation. The trigger level elevation is derived by subtracting the predicted maximum drawdown from the reference level for the bore.

The list of bores suggested for groundwater level compliance monitoring by DETSI is presented in **Table 3-1**. However, as described in the preceding section not all of these are considered suitable for groundwater level compliance monitoring. Reference levels and trigger level elevations are presented in **Table 3-1** for the proposed groundwater level compliance bores.



Table 3-1 Proposed Compliance Bore Reference Levels and Trigger Level Elevations

DETSI Suggested Compliance Bore	Formation monitored	Reference level (mAHD)	Base of Screen (mAHD)	Maximum Predicted Drawdown (m)	Proposed Trigger Level Elevation (mAHD)	Comment
GWMB04	Rewan	240.82	218.9	6.1	234.72	
GWMB12B	Rewan	232.74	207.6	2.1	230.64	
GWMB13B	Rewan	237.95	214.9	5.9	232.05	
GWMB14B	Rewan	239.68	217.7	8.0	231.68	
GWMB05	FCCM	296.29	270.7	0.2	296.09	Regarded largely as a control bore as minimal drawdown is predicted at this location. The trigger level may be exceeded if natural minimums have not been recorded in the current dataset.
GWMB24B	FCCM	289.67	279.6	2.3	287.37	
GWMB25B	FCCM	285.96	272.4	2.5	283.46	
GWMB29	FCCM	296.43	275.0	1.0	295.43	
GWMB30B	FCCM	294.06	247.7	0.8	293.26	
GWMB22B	Rewan	-	242.6	4.6		Insufficient baseline data to develop trigger level
GWMB27A	FCCM	-	284.9	1.5		No groundwater level trigger proposed – monitoring / compliance rationale is covered by four other bores closer to BWH. 27A has a limited depth between the bottom of the bore and the minimum recorded groundwater level.
GWMB27B	FCCM	-	241.8	1.4		
SENTINEL_21-1	FCCM	-	267.0	6.8	-	Limited monitoring record from which to derive reliable reference levels.
SENTINEL_21-2	FCCM	-	254.8	6.8	-	
GWMB08	MCM	-	273.4	0.2	-	No trigger level proposed. This bore is located adjacent to and downgradient of a water storage dam. Minimal drawdown is predicted at this location and levels in this bore may be more influenced by dam water levels. This bore is considered appropriate for quality compliance monitoring but not for water level compliance.
GWMB09	MCM	-	251.0	0.0	-	No trigger level proposed. No drawdown is predicted at this location. A step water level increase of ~5.5 m in this bore during the wet period from 2008-2013 has not receded. The reference level is taken from the period prior to this step increase. The bore is located at the mine camp, and its primary compliance role is water quality monitoring.

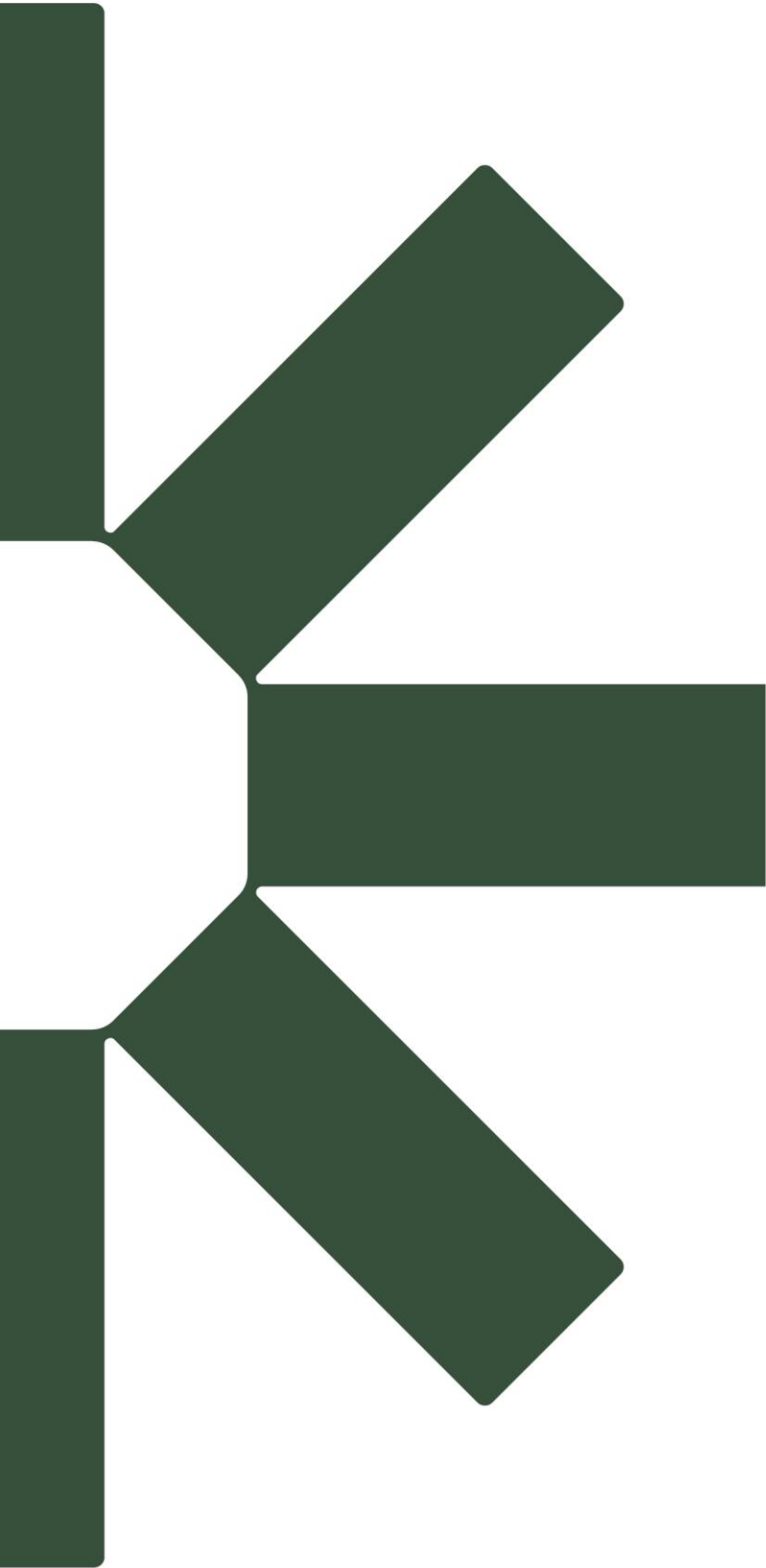


4.0 References

SLR, 2025a. Hail Creek Open Cut Eastern Margin Extension, Groundwater Impact Assessment. Reference 626.30128 v8.0.

SLR, 2025b. Hail Creek Open Cut Eastern Margin Extension, Groundwater Modelling Technical Report. Reference 626.30128 v4.0.





Making Sustainability Happen