ESTABLISHED 1907

MUSWELLBROOK COAL COMPANY

2025 ANNUAL ENVIRONMENTAL MANAGEMENT REPORT

Name of Leaseholder:	**Muswellbrook Coal Company Limited**
Name of Mine:	**Muswellbrook Coal**
Titles/Mining Leases:	**Consolidated Coal Lease 713** **Mining Lease 1304** **Mining Lease 1562**
AEMR Commencement Date: AEMR End Date:	**1 January 2025** **31 December 2025**
Reporting Officer:	**Allan Hogeveen**
Title:	**Head of Technical Services**
Signature:	*Allan Hogeveen*
Date:	**27 March 2026**

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

Muswellbrook Coal Company (MCC) is a wholly owned subsidiary of Idemitsu Australia. MCC has a long association with coal mining at Muswellbrook, with underground coal mining commencing in 1907 and open cut operations in 1944. The mine is located on Muscle Creek Road, approximately 3 kilometres to the north-east of Muswellbrook.

On 1 September 2003, Development Consent for DA 205/2002 was granted by Muswellbrook Shire Council (MSC) to extend the former MCC No.1 Open Cut. The No.1 Open Cut Extension commenced operations in March 2005 and has a capacity to produce up to 2,000,000 tonnes coal per annum. This approval has subsequently been modified on several occasions with the latest modification granted in 2016 to allow mining in an area known as the "Continuation Project" and to extend the life of the mining operations to 2022. A modification to the approval was granted on 20 December 2022 to allow the storage, handling and transport of coal to continue until the end of March 2023. An additional modification to the consent was granted on 27 February 2024 to align rehabilitation requirements with updated mining lease conditions and other administrative changes.

The current mine life at MCC is zero years. Mining operations ceased in 2022, with coal storage, handling and transport continuing until the end of March 2023. Final rehabilitation of the mine was ongoing during 2025.

1.1 STRUCTURE OF THIS REPORT

The structure of this report incorporates the reporting requirements stipulated in the MCC Development Consent, specifically Condition 42. This report also incorporates the reporting requirements in MCC's water licences.

As required by Condition 42, MCC consulted with MSC during preparation of this report. MSC requested the following inclusions:

- A description of the rehabilitation works (including photographs), as well as the current condition and status of buildings and key infrastructure (refer to **Section 5.0**), and
- A report on spontaneous combustion, including any residual risks, their location, current status, monitoring outcomes, and management measures implemented (refer to **Section 3.16**).

This Annual Environmental Management Report (AEMR) provides a summary of activities, environmental management and performance at MCC from 1 January 2025 to 31 December 2025 (herein referred to as the 'reporting period').

In accordance with the Development Consent, copies of this AEMR will be made available to:

- Muswellbrook Shire Council (MSC),
- NSW Department of Climate Change, Energy, the Environment, and Water (DCCEEW),
- NSW Department of Planning, Housing and Infrastructure (DPHI), and
- NSW Environment Protection Authority (EPA).

DA 205/2002 also requires a copy to be provided to the MCC Community Consultative Committee (CCC). This has occurred in previous years, however, as the CCC ceased in November 2025, a copy of the AEMR will not be provided to the CCC.

A copy of the report is also available on MCC's website.

1.2 CONSENTS, LEASES AND LICENCES

MCC operates under Development Consent DA 205/2002 issued by MSC.

Mining activities at MCC were carried out wholly within Consolidated Coal Lease 713 (CCL 713), Mining Lease 1562 (ML 1562) and Mining Lease 1304 (ML 1304).

The area of the proposed Muswellbrook Bypass was relinquished from CCL 713 and ML 1562 during the reporting period. Acquisition of the land by Transport for NSW is expected to occur in 2026. Once completed, the boundary of DA 205/2002 will change to remove this area.

In addition to the above approvals MCC operates under the following licences:

- Environment Protection Licence (EPL) 656 issued under the Protection of the Environment Operations Act 1997.
- Water Licences WAL39806, WAL41503, and WAL41521, issued under the Water Management Act 2000.

During the reporting period, MSC approved the relinquishment of historical consents DA 78-92 (No. 2 Open Cut Extension) and DA 18-88 (Coal Haul Road, Coal Haulage and Rail Bridge Upgrades).

Relevant consents, authorisations and licences are summarised in **Table 1**.

Table 1: Consents, Authorisations and Licences

Approval	Description	Consent Authority	Date Granted	Expiry/ Renewal Date
DA 205/2002 (MSC)	Approval for Extension of MCC Open Cut 1	Muswellbrook Shire Council	1 Sep 2003	Mining to 31 Dec 2022 and storage, handling and transport to end of March 2023 No end date to approval
DA 205/2002 (MSC) – Amendment to Condition 1.1	Power line relocation and additions to Workshop	Muswellbrook Shire Council	19 Dec 2005	
DA 205/2002 (MSC) Amendment to 1.1 and 11.3	Relocate office buildings, workshop and bathhouse	Muswellbrook Shire Council	13 July 2009	
DA 205/2002 (MSC) Amendment to 11.1	Extension of mining into Area C	Muswellbrook Shire Council	23 Dec 2010	
DA 205/2002 (MSC) Amendment to 1.1(a), 31, 33, 39, 45 and 58.	Revision to Mining Infrastructure Building Requirements and Rehabilitation Plan Revision to permit the continuation of mining operations for an additional 5 years.	Muswellbrook Shire Council	29 Oct 2013	

Approval	Description	Consent Authority	Date Granted	Expiry/ Renewal Date
DA 205/2002 (MSC) Amendment to 1.1, 1.2 & 6.3.2 and additional conditions 59 & 60.	Modification to Permit the Continuation of Mining Operations at Muswellbrook Coal Mine for an Additional Five (5) Years- Multiple Allotments- Coal Road Muswellbrook.	Muswellbrook Shire Council	12 Dec 2013	
DA 205/2002 (MSC) General revision of consent conditions	Modification to allow mining operations to mine additional areas and to extend the mine life to 2022.	Muswellbrook Shire Council	26 Oct 2016	
DA 205/2002 Conditions 2, 4 and 8 and Appendix A	Modification to allow the storage, handling and transportation of coal until the end of March 2023	Muswellbrook Shire Council	20 Dec 2022	
DA 205/2002 Conditions 2, 10, 14, 15, 17, 18, 19, 19A, 20, 23, 30, 33, 35, 40, 41, 47 and 49	Modification to align rehabilitation requirements with updated mining lease conditions, to allow the removal of land associated with the Muswellbrook Bypass and other administrative changes	Muswellbrook Shire Council	27 February 2024	
Consolidated Coal Lease 713	Mining Lease	NSW Resources Regulator	5 May 1990	24 Nov 2034
Mining Lease 1304	Mining Lease	NSW Resources Regulator	12 Jan 1993	24 Nov 2034
Mining Lease 1562	Mining Lease	NSW Resources Regulator	16 Feb 2005	16 Feb 2026
Environment Protection Licence 656	Environmental Licence	Environment Protection Authority	6 Dec 2000	Not applicable
WAL39806	Water Licence	WaterNSW	3 Nov 2016	Not applicable
WAL41503	Water Licence	WaterNSW	25 Oct 2017	Not applicable
WAL41521	Water Licence	WaterNSW	4 Nov 2019	Not applicable

1.3 EMPLOYEE LEVELS

At the end of the reporting period, there were no employees or full-time equivalent contractors at the site, with the remaining personnel finishing in mid-December 2025. A comparison of staffing to the numbers of personnel in previous reporting periods is provided in **Table 2**. Environmental and community matters are now managed by Idemitsu Australia.

Table 2: Employee Levels

Year	Employees	Full-Time Equivalent Contractors
2025	1	0
2024	6	111
2023	6	57
2022	8	32
2021	55	71
2020	62	82
2019	65	93
2018	67	77

1.4 ACTIONS REQUIRED FROM PREVIOUS AEMR REVIEW

There are no actions arising from the previous AEMR.

1.5 COMPLIANCE STATUS

1.5.1 REPORTABLE INCIDENTS

One reportable incident occurred during the reporting period. On 3rd August 2025, a sediment dam, referred to on site as the “Final Settling Dam”, overflowed after significant rainfall resulting in water discharging off site. As MCC does not have authority to discharge water off site, the discharge was reported to the EPA, who acknowledged receipt of the report.

1.5.2 COMPLIANCE REVIEW

In accordance with the requirements of Condition 42 (a) of the development consent, a detailed compliance review of the performance of the project against conditions of this consent and statutory approvals was undertaken at the end of the reporting period. MCC were compliant with the conditions of consent and statutory approvals during the reporting period.

Two inspections were undertaken by the NSW Resources Regulator during 2025 as part of their routine Targeted Assessment Programs (TAPs). Several observations and recommendations were made which resulted in MCC providing an action plan to the NSW Resources Regulator. MCC maintains regular communication with the NSW Resources Regulator regarding these matters.

2.0 ACTIVITIES DURING THE REPORTING PERIOD

2.1 EXPLORATION

Previous exploration has provided a good understanding of the resources in the area. For this reason, no additional drilling or other exploration activities were undertaken during the reporting period. No further exploration is planned at MCC.

2.2 LAND PREPARATION

To allow for the continuation and repair of the rehabilitation, some limited disturbance of historical rehabilitation and small areas of remnant pasture were undertaken during the

reporting period. This was primarily to facilitate dam desilting and rehabilitation as well as erosion and contour repair.

2.2.1 TOPSOIL MANAGEMENT

The volume of stockpiled topsoil remaining is very limited and has not been used in rehabilitation activities this reporting period. Any topsoil cleared in historical rehabilitation areas is not reused in rehabilitation activities due to the presence of *Acacia Saligna* seed in the topsoil. *Acacia Saligna* was previously used in rehabilitation activities, however, due to concerns with this species outcompeting other species, it is no longer used in rehabilitation seed mixes.

2.3 CONSTRUCTION

During the reporting period no construction activities occurred.

2.4 MINING

Coal mining at MCC was completed in November 2022 and coal haulage from site was completed in March 2023. No further coal mining activities are proposed at MCC.

Activities on site during this reporting period have focused on rehabilitation of the site.

The status of the operations at the end of the reporting period is shown in **Figure 1**.

2.5 MINERAL PROCESSING

Coal processing at MCC was finalised during December 2022. Demolition of the CHPP was completed during 2023. No further coal processing activities are proposed at MCC.

2.6 WASTE MANAGEMENT

The site continued to separate and recycle waste materials, when possible, to assist in reducing the amount of waste going to the local landfill. **Table 3** shows the amount of waste that was removed from site during the reporting period. The variable monthly waste profile is a result of the status of the site and discrete projects being undertaken a different times, such as demolition of infrastructure. Waste generation is expected to be much less in the next reporting period.

Table 3: Waste Stream Generation

Month	Total Waste Removed (tonnes)	Total Waste to Landfill (tonnes)	Percentage Reused/Recycled
January	78.0	1.2	60.0%
February	169.1	2.5	98.5%
March	27.9	1.5	94.8%
April	65.7	3.1	95.2%
May	62.3	1.1	98.3%
June	67.6	4.6	93.2%
July	5.5	1.1	79.9%
August	423.4	12.6	97.0%
September	156.7	4.2	97.3%
October	4.4	4.4	0.0%
November	150.9	46.5	69.2%
December	64.3	2.8	95.6%
Total	**1275.9**	**85.6**	**81.6%**

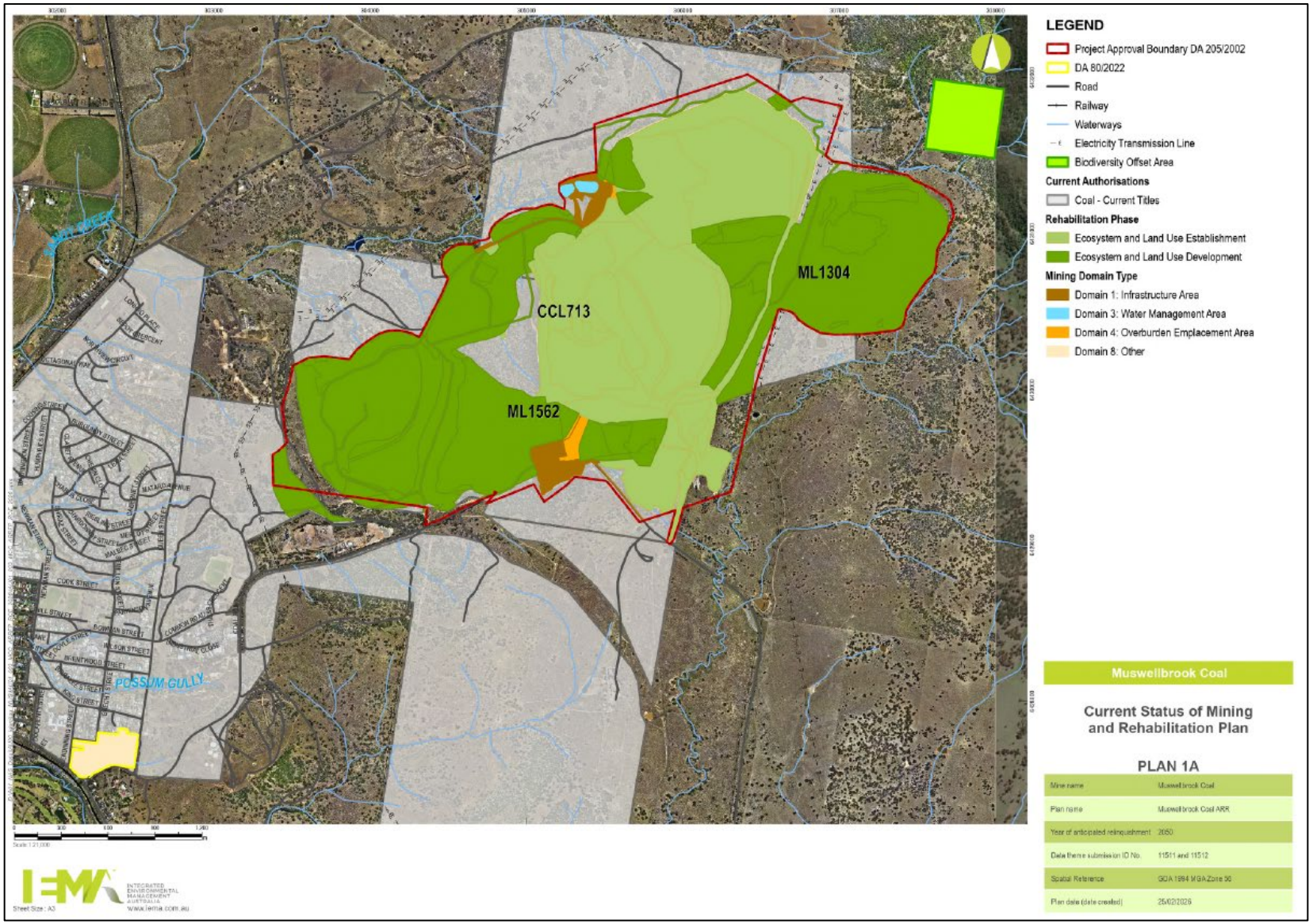

Figure 1: Status of Mining and Rehabilitation at End of Reporting Period

2.7 PRODUCT COAL AND TRANSPORT

The last product coal was transported off site in March 2023. No further coal transport activities are proposed at MCC.

2.8 PRODUCTION SUMMARY

The key production milestones and material production achieved during the reporting period are shown in **Table 4**.

Table 4: Key Production Milestones/Material Production

Material	Unit	This Report
Stripped topsoil	m^3	0.00
Overburden moved for coal production	m^3	0.00
ROM coal extracted	Mt	0.00
Reject material	Mt	0.00
Product	Mt	0.00

2.9 HAZARDOUS MATERIALS MANAGEMENT

2.9.1 FUEL STORAGE

Until October 2025, diesel fuel was stored in three Class C1 above ground, self-bunded tanks, with a capacity of 105,000L each. These tanks were decommissioned in October 2025 with only a 10,000L diesel tank remaining at the end of the reporting period.

2.9.2 EXPLOSIVES

Blasting activities at MCC were completed during the previous reporting period and the blasting related infrastructure has been decommissioned and removed from site.

2.10 WATER MANAGEMENT

The primary objective of the Water Management Plan (WMP) is to enable the effective management of on-site water to minimise the impact of mining operations on surface and ground water resources, both on and adjacent to the mine site. As mining has now been completed, some of the water management infrastructure is no longer required (e.g. water no longer needs to be supplied for coal processing) or needs to be relocated to allow rehabilitation activities to progress. During the reporting period water management infrastructure continued to be decommissioned and/or relocated to address updated water management requirements.

The objectives of the WMP are to:

- Meet the water supply needs of the project,
- Separate clean water runoff produced by undisturbed catchments from dirty (sediment-laden) and contaminated runoff from disturbed catchments,
- Use appropriate sedimentation controls for dirty water,
- Where possible, recycle and reuse dirty and contaminated mine water for dust suppression and wash down activities,
- Allow clean water to flow through the catchment,
- Where possible, and where mine safety permits, use disused open cuts and underground mines as mine water storages,
- Have nil discharge of saline mine water by containing all saline mine water on site and minimising the risk of accidental off-site discharge,
- Monitoring of surface and groundwater to determine significant impacts to water quality or beneficial use and undertaking remedial action where required, and
- Monitoring the surface water and groundwater to support mine closure planning.

2.10.1 GROUNDWATER EXTRACTION

MCC holds three licences to extract ground water. The volumes of groundwater extracted in this reporting period are shown **Table 5**. No new bores were constructed during the reporting period. No changes were made to groundwater extraction entitlements during the reporting period. As mining activities and coal processing have finished at MCC, groundwater extraction for use in the operations has decreased significantly. The groundwater extracted this reporting period was used for dust suppression and minor spontaneous combustion management.

Monitoring at WAL41503 (large borehole) ceased in September 2025 as the site was decommissioned whilst the pump at WAL39806 (small borehole) was removed in October 2025.

Table 5: Groundwater Extraction

Licence No.	Source	Water Sharing Plan	Volume Extracted (ML)	Extraction Entitlement (ML)
WAL39806 (small borehole)	Sydney Basin-North Coast Groundwater Source	North Coast Fractured and Porous Rock Groundwater Sources 2016	46.0	1,000
WAL41503 (large borehole)	Sydney Basin-North Coast Groundwater Source	North Coast Fractured and Porous Rock Groundwater Sources 2016	99.4	2,200
WAL41521 (open cut voids)	Sydney Basin-North Coast Groundwater Source	North Coast Fractured and Porous Rock Groundwater Sources 2016	99.6	1,400

2.10.2 WATER BALANCE

The calculated water balance for the reporting period is provided in **Table 6**. The water balance indicates a water surplus for the year. Extra water has been stored in on-site surface and underground water storages.

The water balance model was last updated in 2015 as part of the DA modification received in 2016. Each year inputs and outputs are measured or estimated based on the water balance developed for the site. There are no predictions from the 2016 SEE to compare the water balance data to, however the SEE notes that the site generally operated in water deficit up until the 2014 water balance. The water balance is now generally in surplus due to lower volumes of water being used for dust suppression and spontaneous combustion management as the operational areas are condensed into smaller areas. Water is no longer required for coal washing, as this process is no longer occurring on site.

Table 6: Site Water Balance

INPUTS	ML/year
Ground Water Seepage	100.0
Surface Water Runoff and Dam Capture	137.7
Entrainment in Coal	0.0
Potable Water	2.0
Underground Workings – Dewatering Bores	53.1
TOTAL	**292.8**
OUTPUTS	**ML/year**
Entrainment in Coal	0.0
Discharge Off Site	0.0
Spontaneous Combustion Management – water infusion and sprays	16.7
Dust Suppression – water carts	13.3
Evaporation from Dams	113.3
Septic Pump Out	0.4
TOTAL	**143.7**
Balance	**149.1**

2.11 OTHER INFRASTRUCTURE MANAGEMENT

MCC maintains Muscle Creek Road as per the requirements of the Development Consent and in accordance with a Routine Maintenance Annual Plan (RMAP), which has been approved by MSC. During the previous reporting period, MCC completed the required final maintenance work. Several site inspections have been completed with MSC, with planned sign off and handback of the road to MSC planned for 2026.

3.0 ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

3.1 ENVIRONMENTAL MANAGEMENT

To measure compliance with the management plans, the development consent and various licences, MCC undertakes a range of environmental monitoring. Details on the individual monitoring programs are provided in the following sections.

3.2 METEOROLOGICAL

During the reporting period, MCC continued to maintain a Meteorological Monitoring Station (MMS) on rehabilitated land to the immediate west of Open Cut 1. The MMS provides 10m elevation wind speed and direction, 2m and 10m elevation air temperature, rainfall, humidity, barometric pressure, sigma theta and stability class.

Meteorological data provided in this report was sourced from the MMS. Wind data, rainfall and temperature results are summarised below. Data recovery for the monitoring period was 100%.

3.2.1 WIND SPEED AND DIRECTION

Quarterly wind roses are provided in **Figure 2**. These results are generally consistent with the predominant wind patterns in the Hunter Valley.

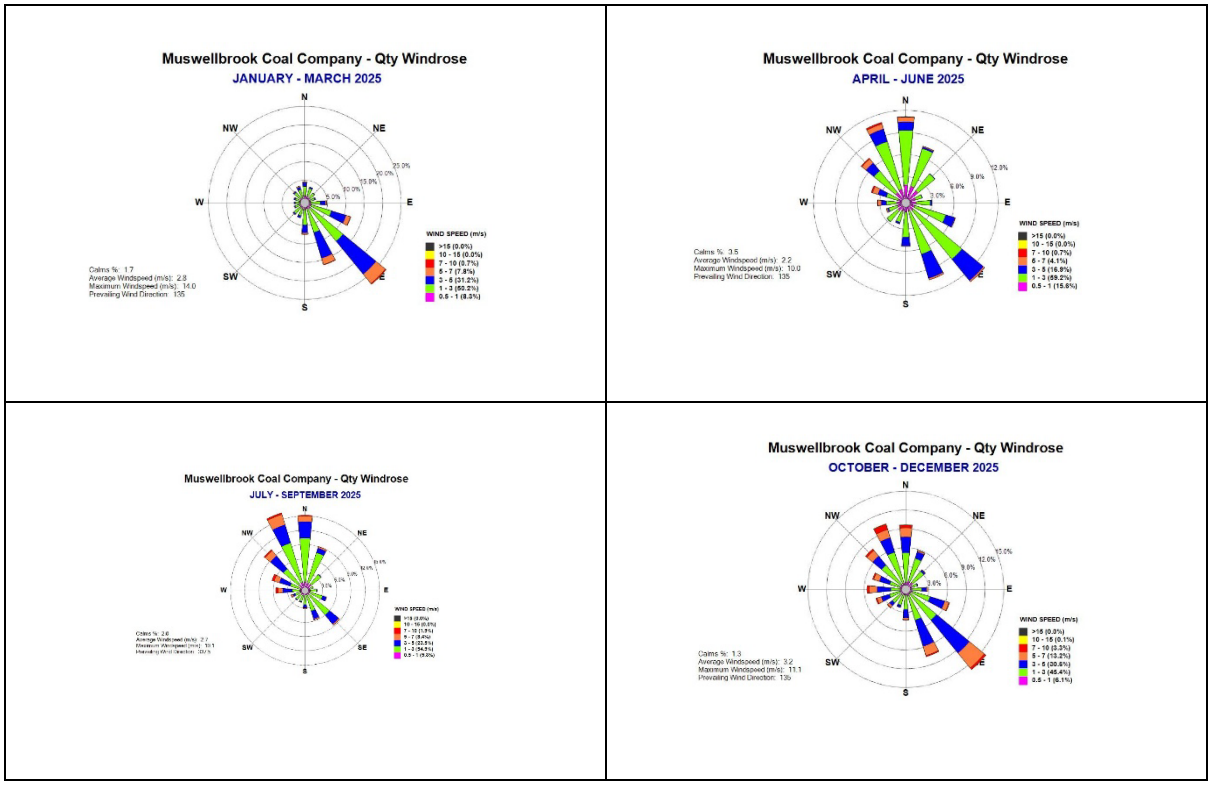

Figure 2: Quarterly Wind Roses

3.2.2 RAINFALL

Total rainfall recorded during the reporting period was 866.8mm, which is above the long-term average recorded onsite since 2005 of 621.7mm. A summary of rainfall during the reporting period, compared to the long-term average recorded onsite since 2005, is provided in **Table 7** and **Figure 3**.

Table 7: Rainfall Data

Month	Muswellbrook Coal Actual (mm)	Muswellbrook Coal Average (mm)
January	95.8	60.1
February	58.4	69.5
March	142.2	70.9
April	51.4	40.5
May	179.4	27.9
June	19.8	56.1
July	45.8	37.5
August	160.6	36.1
September	24.0	35.0
October	23.2	48.3
November	38.8	76.7
December	27.4	63.2
Total	**866.8**	**621.7**

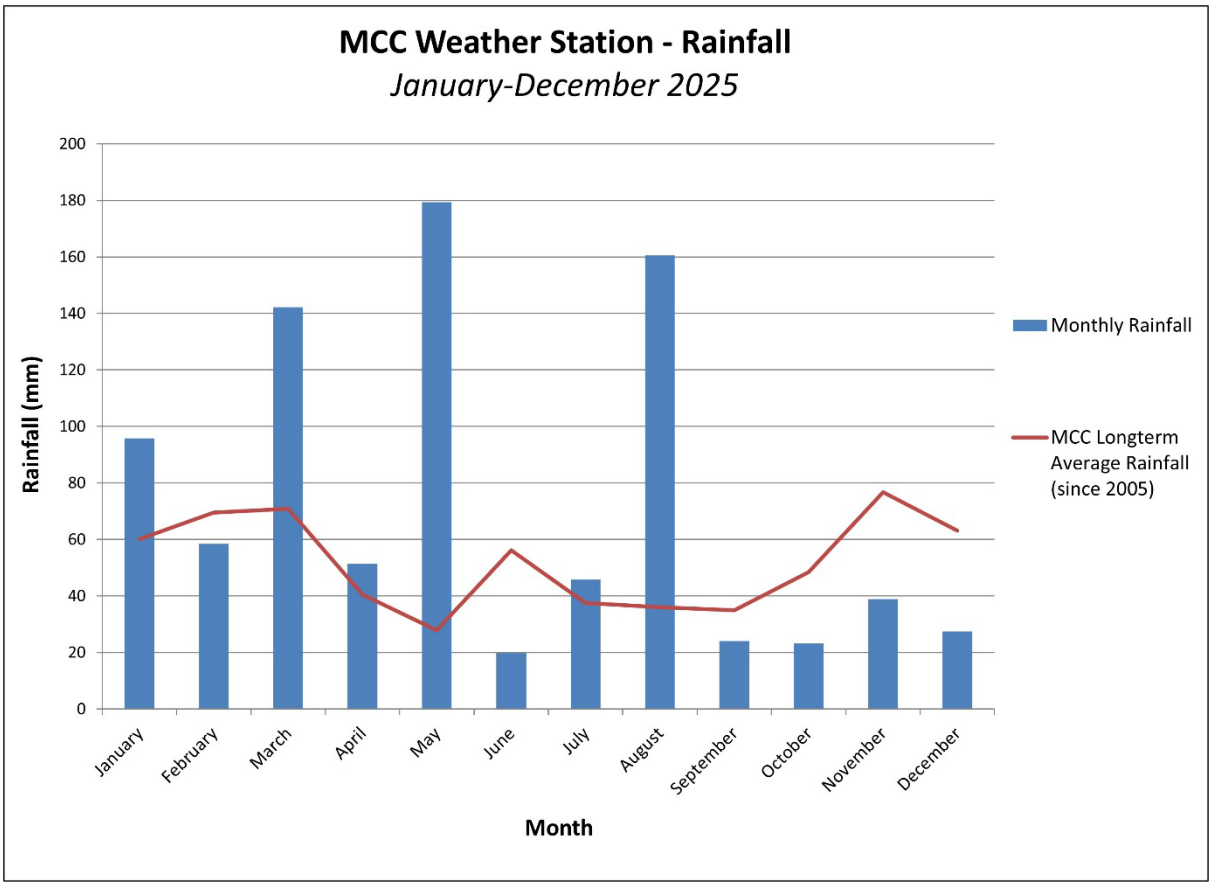

Figure 3: Rainfall Graph

3.2.3 TEMPERATURE

Maximum temperature recorded during the reporting period was 41.2°C and the minimum recorded was -1.8°C. A summary of minimum, maximum and average monthly temperatures during the reporting period is provided in **Table 8** and **Figure 4**.

Table 8: Temperature Data

Month	Minimum Temperature (°C)	Average Temperature (°C)	Maximum Temperature (°C)
January	12.2	22.9	39.4
February	11.2	22.9	38.0
March	13.2	21.8	36.4
April	6.8	17.7	29.0
May	6.0	14.5	24.8
June	-1.8	9.7	20.8
July	-0.8	10.6	20.8
August	0.2	11.4	23.6
September	2.8	15.4	29.4
October	5.6	19.7	36.2
November	5.2	21.7	37.2
December	8.4	23.2	41.2
Summary	**-1.8**	**17.6**	**41.2**

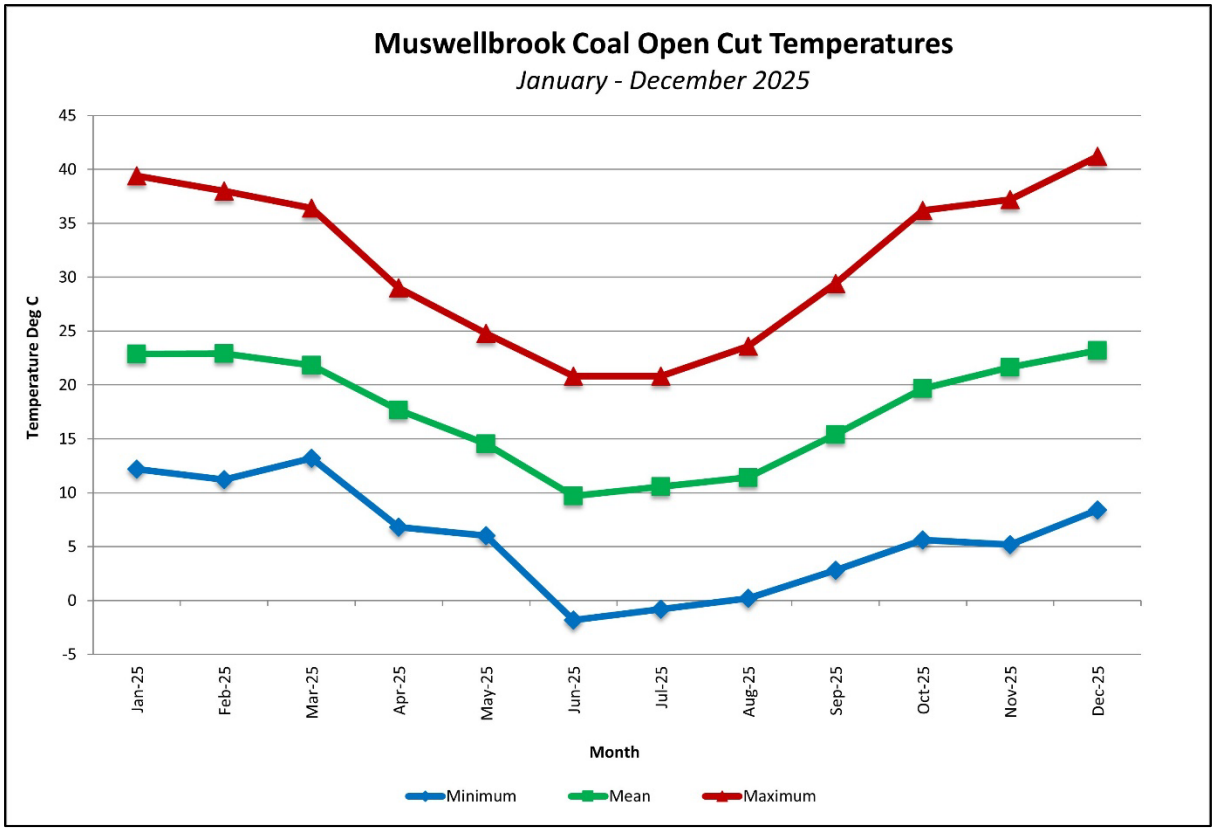

Figure 4: Temperature Graph

3.3 AIR QUALITY MANAGEMENT

3.3.1 ACTIVITIES THIS REPORTING PERIOD

During the reporting period MCC continued to operate in accordance with the approved Air Quality Management Plan (AQMP), until MSC approved retirement of the plan. The primary objective of air quality management at MCC was to manage and minimise the impact of dust from the operations on the environment and nearby residences. MCC utilised a daily dust forecasting tool to assist with managing dust emissions from the site.

During the previous reporting period, MCC updated the AQMP following the consent modification to confirm the management and monitoring requirements associated with the rehabilitation of the site. The updated AQMP was approved by MSC. As part of the approval of the AQMP, MSC accepted the removal of the gas monitoring requirements as they are no longer required now that mining has ceased. MCC required the approval of the EPA as well to remove this equipment, and this approval was issued during the reporting period as part of an EPL variation.

3.3.2 AIR QUALITY MONITORING

The air quality criteria that applied to MCC are shown in **Table 9** to **Table 11**. The air quality monitoring sites are displayed in **Figure 5**.

Table 9: Long Term Particulate Matter Criteria

Pollutant	Criterion
Particulate Matter <10µg (PM_{10})	30µg/m^3 (annual mean)

Table 10: Short Term Particulate Matter Goal

Pollutant	Criterion
Particulate Matter <10µm (PM_{10})	50µg/m^3 (24-hour average)

Table 11 and 12 Note: • Total impact (i.e., incremental increase in concentrations due to the development plus background concentrations due to all other sources); • Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, (but not Spontaneous Combustion within the mine) or any other activity agreed by Council.

Table 11: Atmospheric Gas Content Criteria

Pollutant	Criterion	
Sulphur Dioxide (SO_2)	20ppb (24-hour average)	100ppb (1 hour average)
Hydrogen Sulphide (H_2S)	100ppb (24-hour average)	500ppb (1 hour average)

Note:

- *Total impact (i.e., incremental increase in concentrations due to the development plus background concentrations due to all other sources).*
- *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, (but not Spontaneous Combustion within the mine) or any other activity agreed by Council*

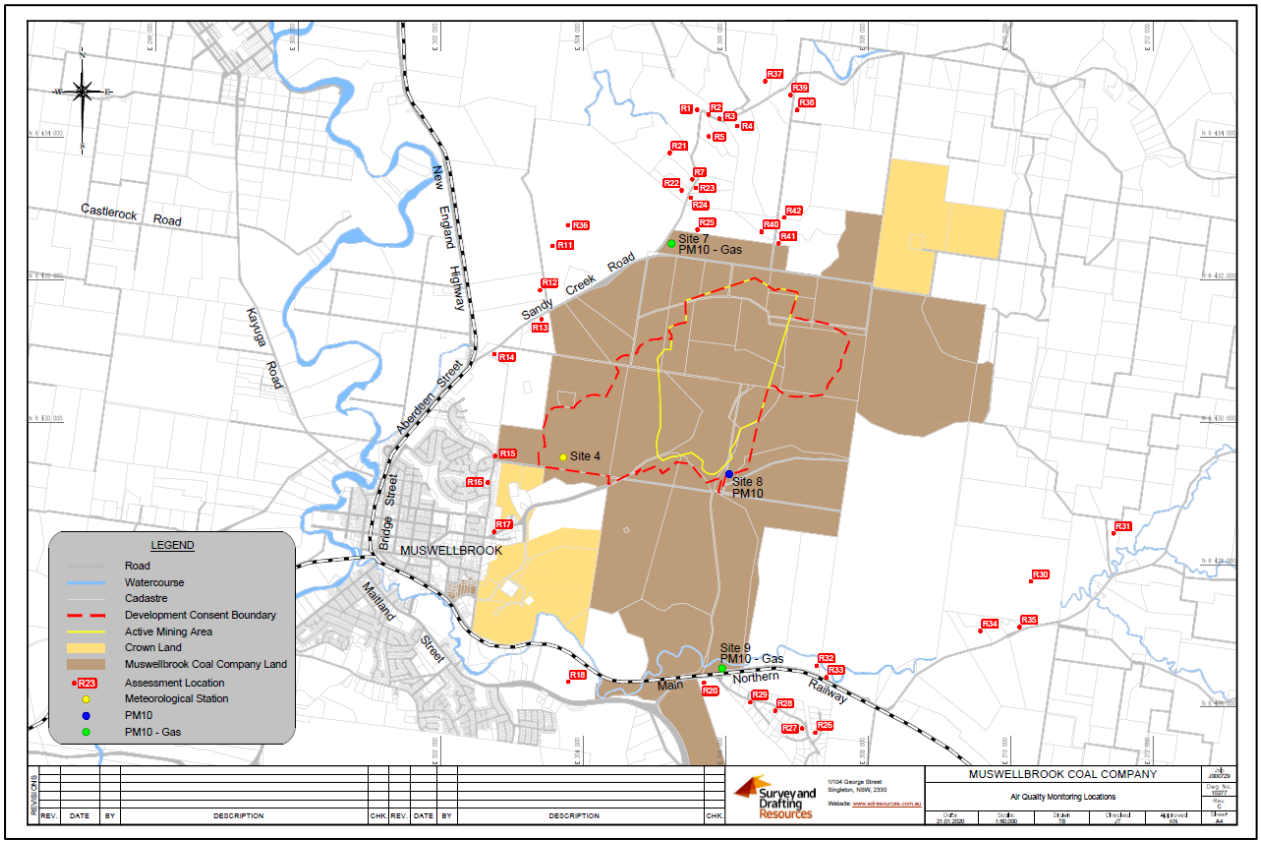

Figure 5: Air Quality Monitoring Locations

Particulate Matter <10µg (PM_{10})

MCC operated three real-time PM_{10} monitoring units with all three units continuously relaying data to a password protected website.

The PM_{10} units were continuous electronic monitoring systems that were subject to equipment faults, communication losses, power outages and maintenance downtime. High data recovery is considered essential and data recovery levels obtained during the reporting period were

93.6% across the three units. The losses of data were due to power supply interruptions, equipment calibrations and minor malfunctions.

The criteria in the development consent apply to PM_{10} levels at residential locations and, as monitoring location Site 8 is used as a management tool, it is not subject to the criteria in the development consent. There was one day during the reporting period where the 24-hour PM_{10} result was above the 24-hour criteria of 50µg/m^3 at the compliance-based monitoring locations (84.21µg/m^3 at Site 7 and 83.87µg/m^3 at Site 9 on 27 May 2025). The elevated results correspond with a regional dust storm.

The annual average PM_{10} did not exceed the 30µg/m^3 annual criteria during the reporting period. **Table 12** displays the average PM_{10} value at each site during the reporting period with the results graphically presented in **Figure 6** to **Figure 8**. A table of comprehensive PM_{10} results is provided in **Appendix 1**.

Table 12: Real-Time PM_{10} Averages

Site Number	Annual Average PM_{10} Concentration (µg/m^3)	Annual Average Criteria (µg/m^3)	Data Recovery %
7	12.9	30	99.4
8	14.7	NA	91.5
9	13.9	30	97.0

Table 13 compares the results from Sites 7 and 9 for this reporting period, background results and predictions made in the 2016 Statement of Environmental Effects (SEE). The results this reporting period are lower than the background levels and the predicted results in the SEE.

Table 13: Comparison of Real-Time PM_{10} Results (Sites 7 and 9)

Year	Monitoring Results (µg/m^3)		Background Results (µg/m^3)		SEE Predicted Results (µg/m^3)	
	Site 7	Site 9	Site 7	Site 9	Site 7	Site 9
2025	12.9	13.9	16.9	16.9	23.0	17.0
2024	14.4	14.3	16.9	16.9	23.0	17.0
2023	14.5	15.8	16.9	16.9	23.0	17.0
2022	13.1	13.1	16.9	16.9	23.0	17.0
2021	13.1	14.1	16.9	16.9	23.0	17.0
2020	17.1	18.1	16.9	16.9	23.0	17.0
2019	26.7	24.2	16.9	16.9	23.0	17.0

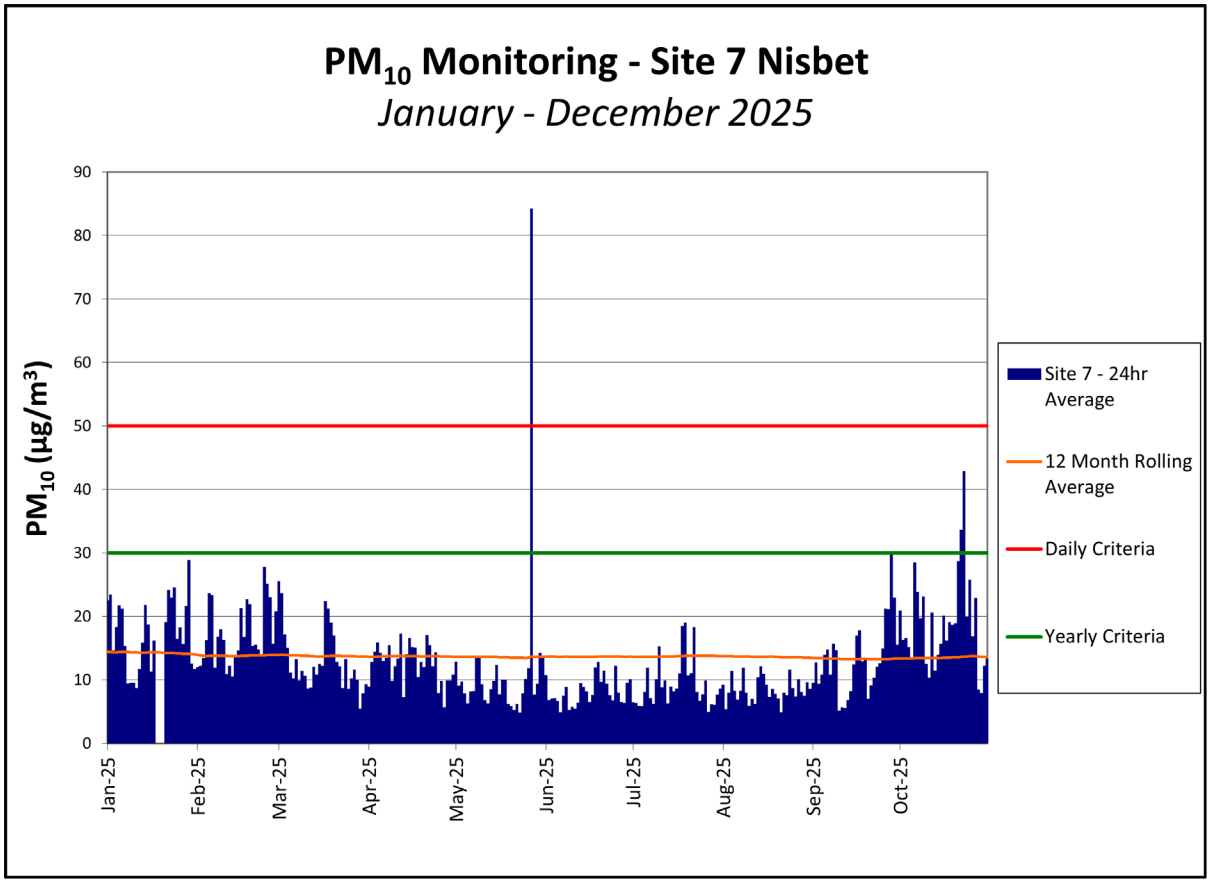

Figure 6: Site 7 PM_{10} Results

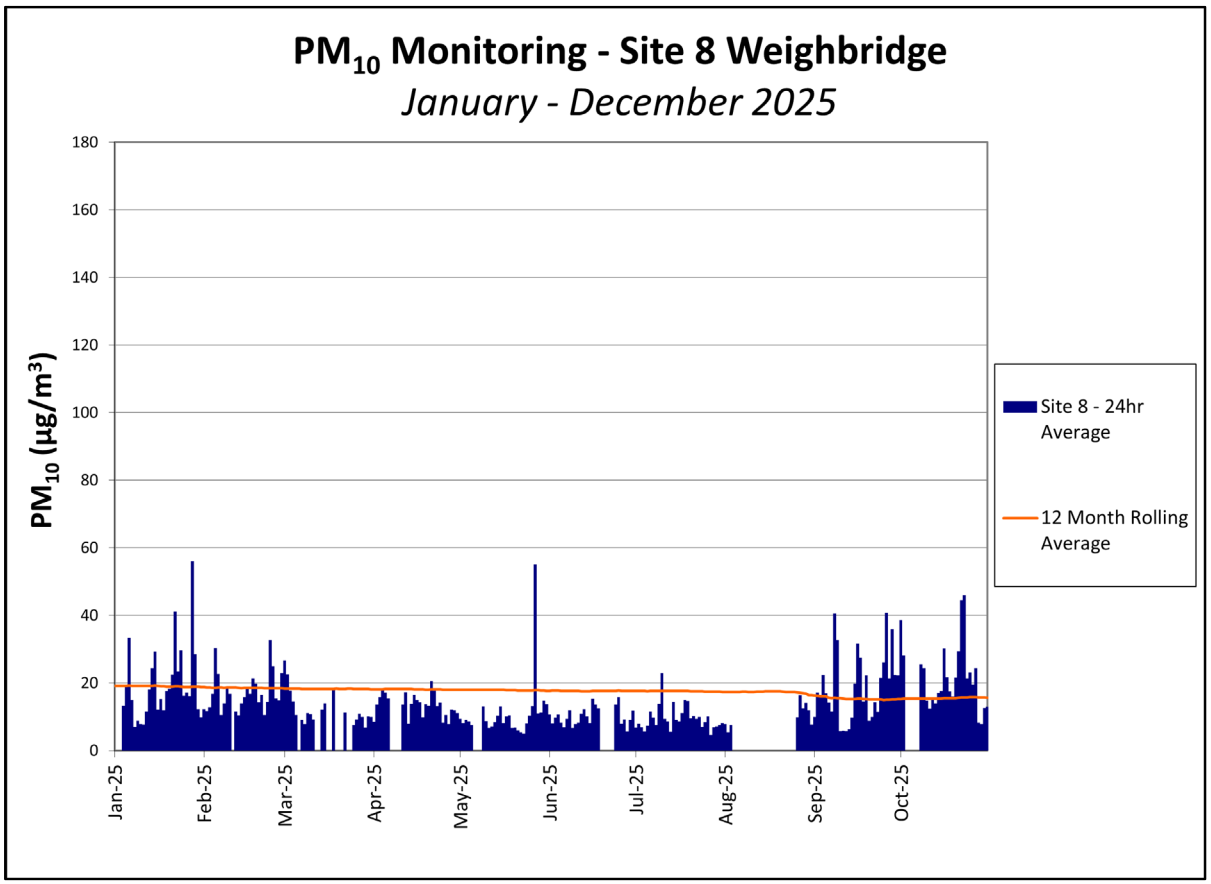

Figure 7: Site 8 PM_{10} Results

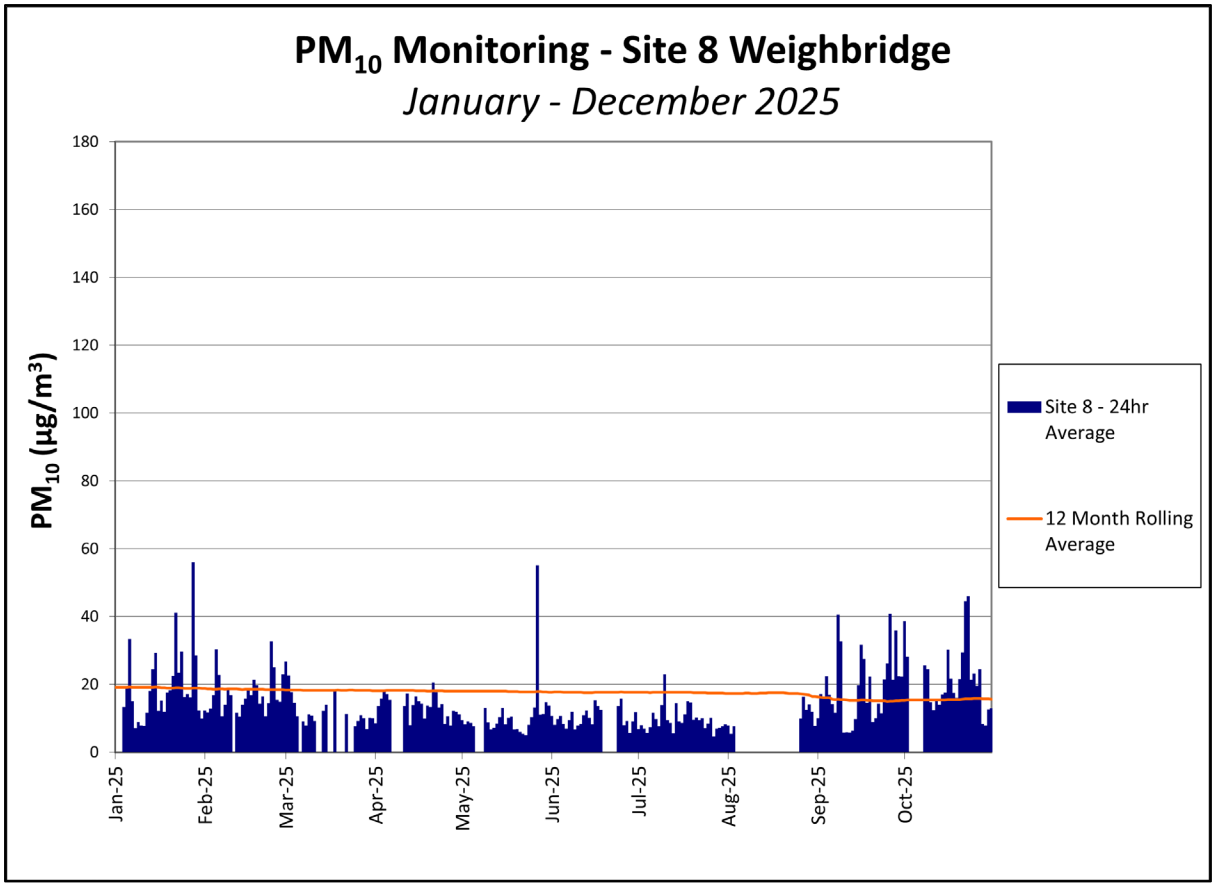

Figure 8: Site 9 PM_{10} Results

Gas Monitoring (Hydrogen Sulphide and Sulphur Dioxide)

MCC operated two real-time gas monitors for part of the reporting period that measured Hydrogen Sulphide (H_2S) and Sulphur Dioxide (SO_2). Monitoring ceased at the end of April 2025, following an EPL variation. The locations of these monitors are shown in **Figure 5**.

The criteria for H_2S and SO_2 are shown in **Table 11**. A summary of the monitoring results is shown in **Table 14** and this shows that there were no results above these criteria during the reporting period. The 24-hour results did not exceed the criteria during the reporting period.

Table 14: Summary of Gas Data Results

Month	Highest H_2S 1-hour result (ppb)	Highest H_2S 24-hour result (ppb)	Highest SO_2 1-hour result (ppb)	Highest SO_2 24-hour result (ppb)
Site 7 – Nisbet				
January	7.1	5.2	23.2	5.4
February	7.9	5.1	33.8	7.2
March	8.7	5.6	9.9	5.4
April	7.1	5.3	22.6	4.8
Site 9 – Muscle Creek				
January	43.1	8.0	48.2	7.7
February	24.8	6.5	22.7	6.4
March	12.7	3.6	13.2	3.5
April	26.8	5.2	29.7	5.4

3.3.3 ACTIVITIES NEXT REPORTING PERIOD

No air quality monitoring is proposed in the next reporting period.

3.4 GREENHOUSE GAS

No methane drainage or ventilation issues were associated with the Open Cut operations during this reporting period. Several boreholes intersect the underground workings that are used for gas and water monitoring. These boreholes are capped and opened only for monitoring purposes.

MCC supply data to Idemitsu Australia for their corporate reporting requirements for the National Greenhouse and Energy Reporting (NGER's) process.

3.5 EROSION AND SEDIMENT CONTROL

3.5.1 ACTIVITIES THIS REPORTING PERIOD

During the reporting period MCC continued to manage erosion and sediment in accordance with the approved Water Management Plan (WMP) prepared in accordance with condition 25 of the DA.

The key considerations for erosion and sediment control at MCC include:

- restricting the extent of disturbance to the minimum that is practical and in accordance with the Rehabilitation Management Plan,
- progressive rehabilitation of disturbed land, where possible, and the construction of drainage controls to improve the stability of rehabilitated land,
- protection of natural drainage lines and watercourses by the construction of erosion control devices such as diversion banks and channels and sediment retention dams as necessary,
- restriction of access to rehabilitated areas,
- management of erosion and sediment control of affected surface watercourses/water bodies, including creek lines within or adjacent to the development consent boundary,
- regular inspection of dams to monitor their efficiency and any required maintenance, and
- inspection and maintenance, if required, of sediment and erosion controls including dams and drainage lines following storm events.

Two main natural catchments exist around the site, associated with Muscle and Sandy Creeks. The area contains undisturbed land surfaces that drain towards Sandy Creek. However, some of the runoff is captured by dams. Water from undisturbed catchments is diverted around the operations by diversion banks and channelled into adjacent watercourses.

All disturbed or newly rehabilitated areas contain diversion banks (major and minor graded banks) to control the flow of water from catchment areas and to contain dirty runoff on the mine site.

With the progress of the rehabilitation of the site, new contour drains and drop structures have been installed to manage water flow across the site.

3.5.2 EROSION AND SEDIMENT CONTROL MONITORING

Erosion and sediment control monitoring is conducted as part of the surface water monitoring program. Surface water monitoring is discussed in **Section 3.6**.

3.5.3 ACTIVITIES NEXT REPORTING PERIOD

During the next reporting period, MCC will continue to manage and monitor erosion, and sediment impacts in accordance with the WMP. Earthworks will be undertaken to repair erosion and extend the rock-lined drop structure in Open Cut 2.

3.6 SURFACE WATER MANAGEMENT

3.6.1 ACTIVITIES THIS REPORTING PERIOD

During the reporting period MCC continued to manage surface water impacts in accordance with the approved Water Management Plan (WMP) prepared in accordance with condition 25 of the DA.

The trigger values for water quality in Muscle Creek are presented in **Table 15**. If monitored conditions are outside the upper or lower trigger levels for 3 continuous monthly results, MCC will investigate the results. There are no surface water quality limits defined in the EPL.

Table 15: Trigger Values for Muscle Creek Water Quality

Site	pH 20th/80th Percentile Trigger Values	EC (µS/cm) 80th Percentile Trigger Values	TSS (mg/L) 80th Percentile Trigger Values
SW07 – Muscle Creek – Upstream	7.7–8.0	4,048	13
SW08 – Muscle Creek – Downstream	7.8–8.0	5,136	10

3.6.2 SURFACE WATER MONITORING

MCC undertake a surface water monitoring program that consists of monthly and quarterly monitoring. The locations of the surface water monitoring sites are shown in **Figure 9**. The monthly surface water monitoring results are provided in **Appendix 2**.

pH

The pH levels at surface water monitoring sites were generally within the recommended ecosystem pH levels of 6.5–9.5 throughout the reporting period (**Figure 10**). As shown in **Figure 11,** the results from this reporting period are consistent with the results from previous reporting periods. There are no predictions to compare these results to.

Electrical Conductivity (EC)

Typically, EC levels for mine water are greater than 4,000µS/cm (**Figure 12**). EC levels in water courses surrounding the operation are influenced by rainfall and runoff. They are lower during periods of high rainfall and higher during periods of low rainfall. All sites had lower EC in June and August 2025 following significantly higher than normal rainfall during that period.

A comparison of EC results from the reporting period to previous reporting periods is shown in **Figure 13**. There are no predictions to compare these results to.

Total Suspended Solids (TSS)

The results from this reporting period are shown in **Figure 14.** A comparison of TSS results from the reporting period to previous reporting periods is shown in **Figure 15**. TSS results can be highly variable with runoff from heavy rainfall causing short-term increases before conditions return to normal. There are no predictions to compare these results to.

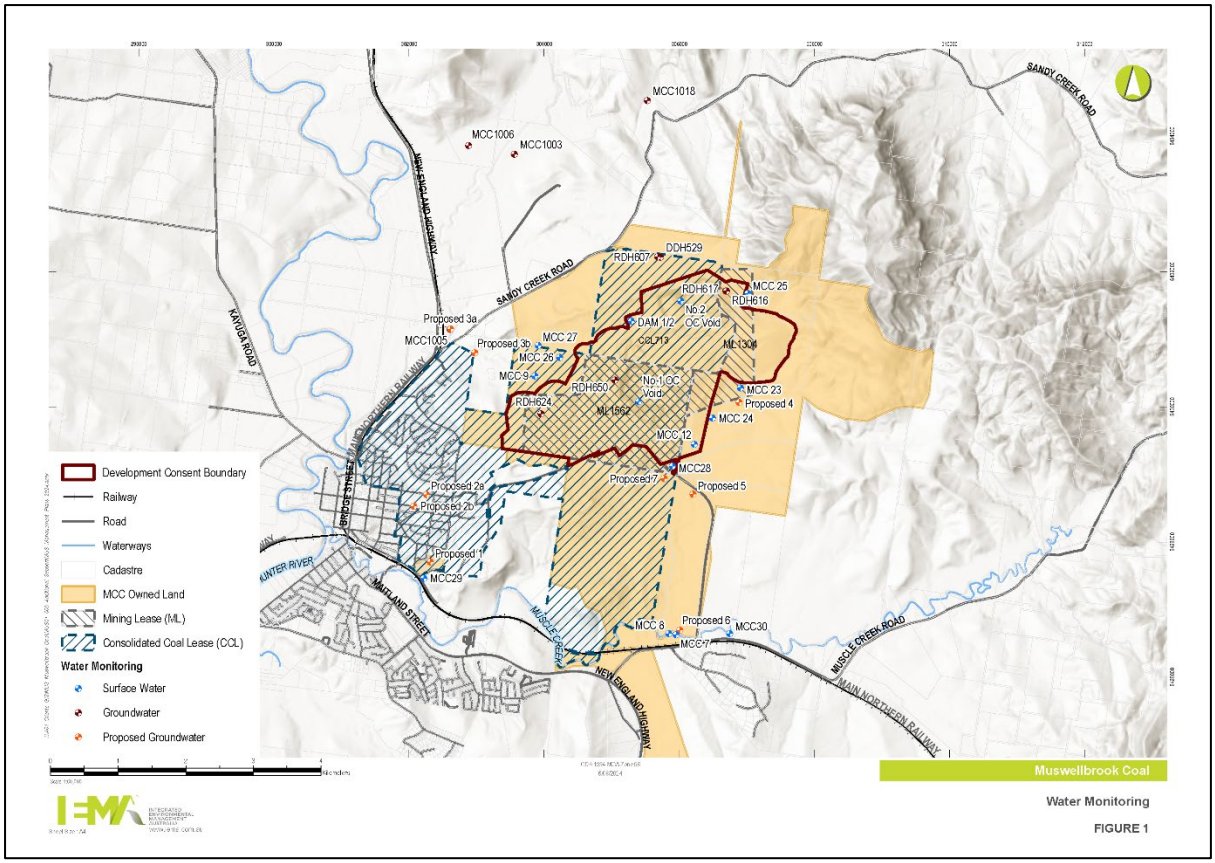

Figure 9: Water Monitoring Locations

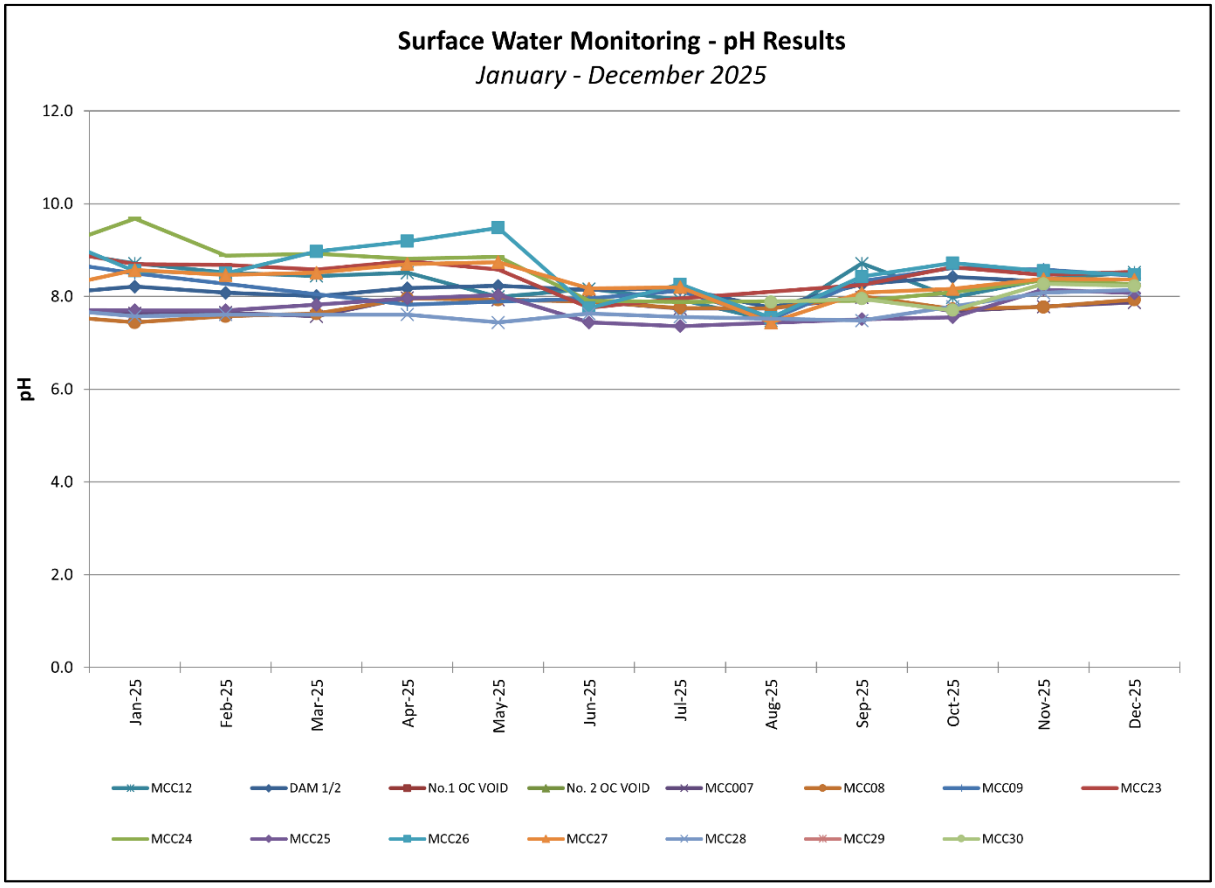

Figure 10: Surface Water Monitoring Results – pH

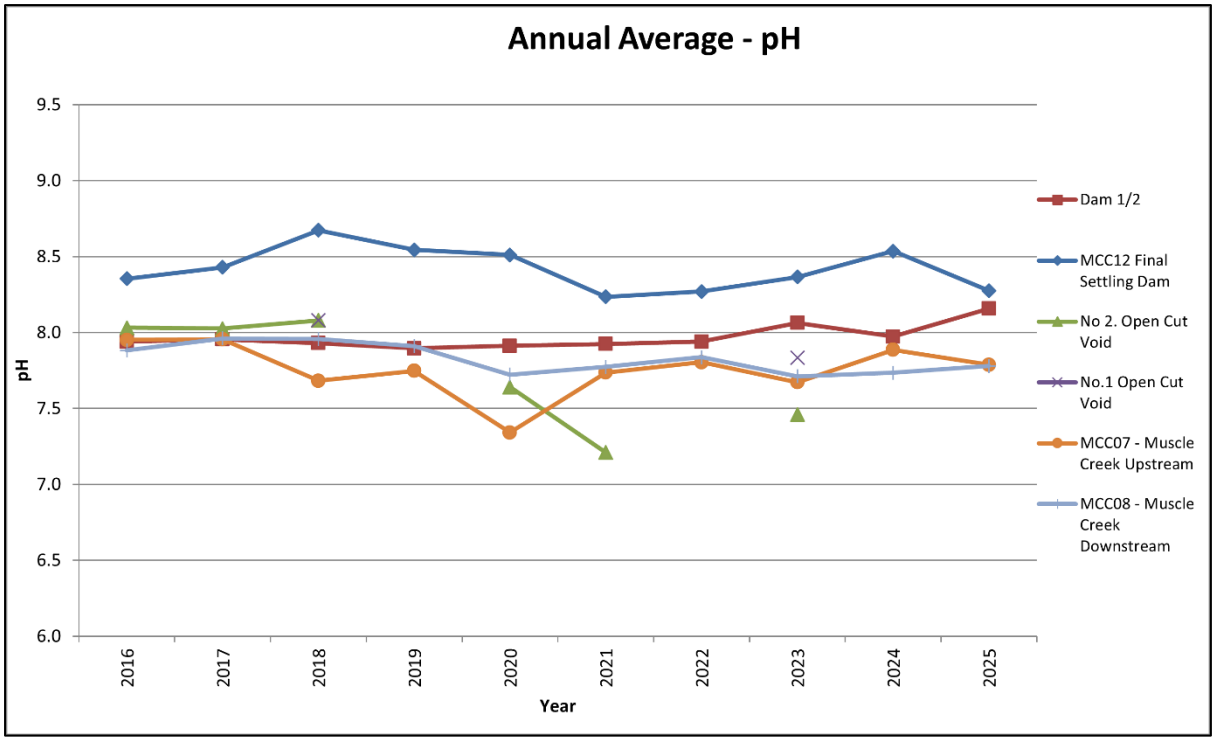

Figure 11: Comparison of pH results to Historical Results

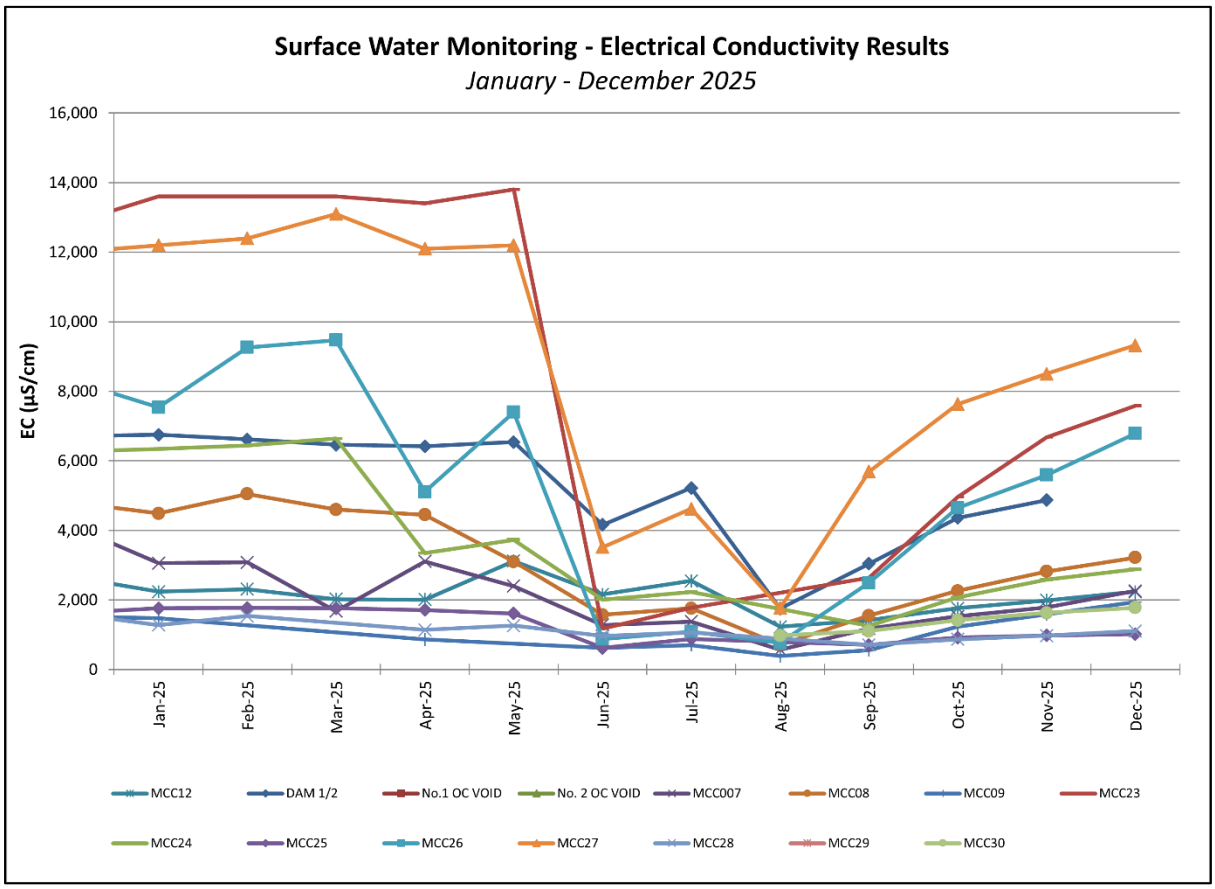

Figure 12: Surface Water Results – Electrical Conductivity

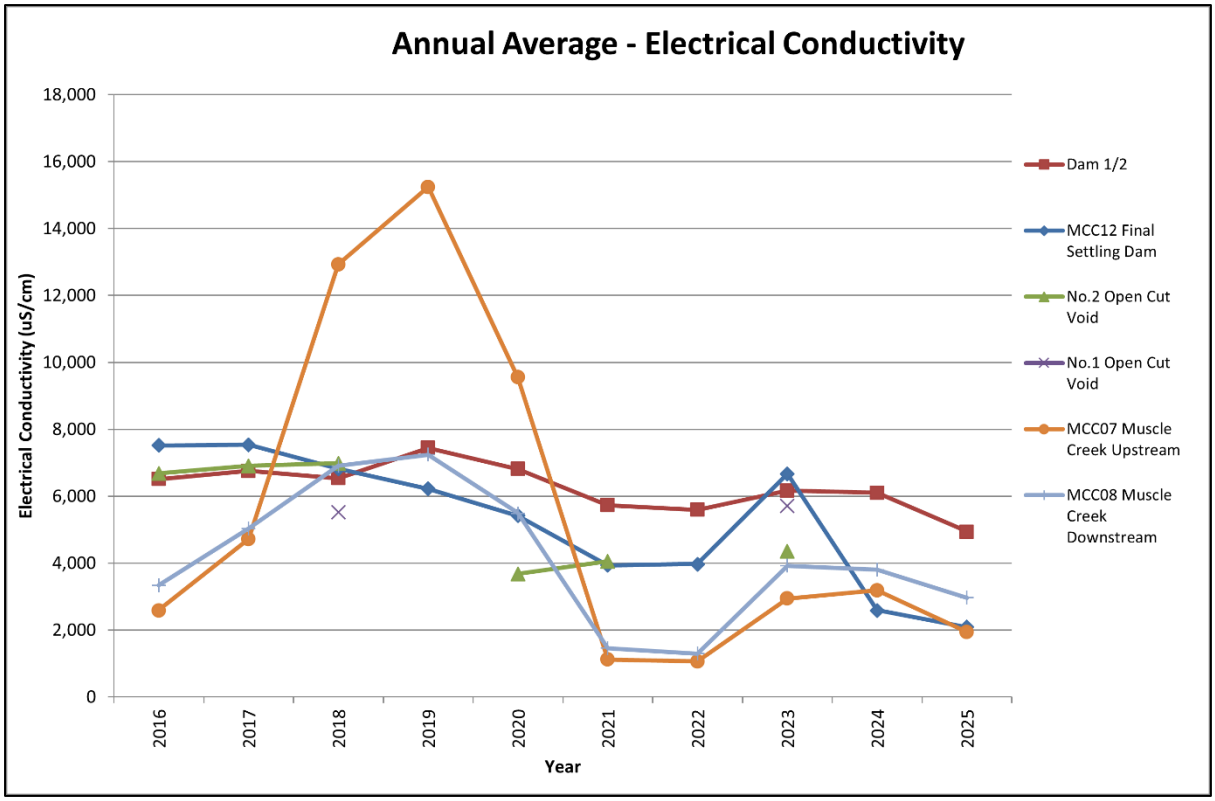

Figure 13: Comparison of EC results to Historical Results

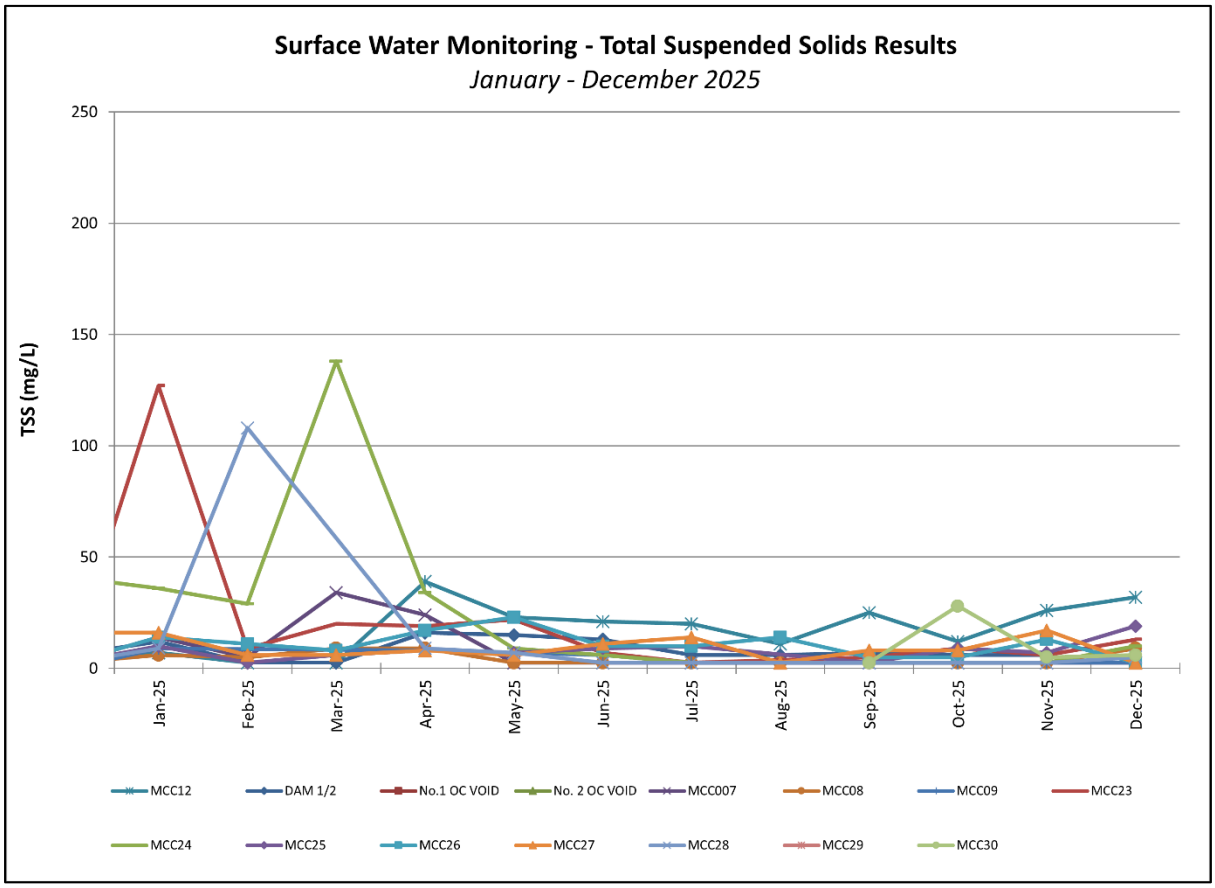

Figure 14: Surface Water Results – Total Suspended Solids

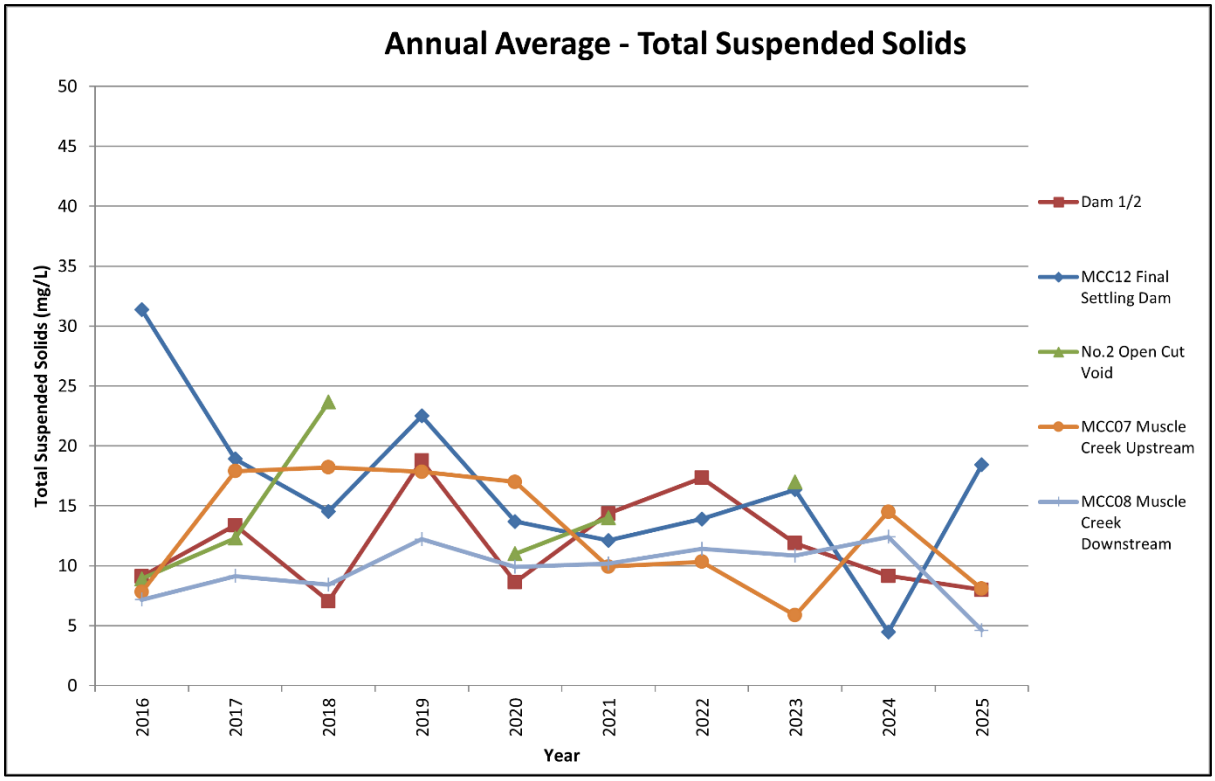

Figure 15: Comparison of TSS results to Historical Results

3.6.3 ACTIVITIES NEXT REPORTING PERIOD

During the next reporting period, MCC will continue to manage and monitor surface water quality impacts in accordance with the WMP.

3.7 GROUNDWATER MANAGEMENT

3.7.1 ACTIVITIES THIS REPORTING PERIOD

During the reporting period MCC continued to manage groundwater impacts in accordance with the approved Water Management Plan (WMP) prepared in accordance with condition 25 of the DA.

Groundwater trigger levels have been established for selected sites with the trigger levels shown in **Table 16**. If monitored conditions are outside the upper or lower trigger levels for 3 continuous monthly results, MCC will investigate the results.

Table 16: Groundwater Monitoring Trigger Levels

WATER LEVELS			
Bore/Well	**Aquifer**	**Lower Trigger Level (m) BTOC**	**Lower Trigger Level (m) AHD**
MCC1003	Alluvial	8.6	146.5
MCC1006	Alluvial	10.3	144.6
MCC1017	Hardrock	18.1	180.7
MCC1018	Hardrock	19.0	181.9
pH			
Bore/Well	**Aquifer**	**Lower Trigger pH**	**Upper Trigger pH**
MCC1003	Alluvial	7.1	7.3
MCC1006	Alluvial	7.1	7.4
ELECTRICAL CONDUCTIVITY			
Bore/Well	**Aquifer**	**Upper Trigger EC**	
MCC1003	Alluvial	1,666	
MCC1006	Alluvial	1,152	

3.7.2 GROUNDWATER MONITORING

MCC undertakes a groundwater monitoring program in accordance with the WMP. The locations of the groundwater monitoring sites are shown in **Figure 9**.

As shown in **Table 17** the levels in the underground workings, and the pH and Electrical Conductivity results from this reporting period are generally consistent with previous years. The lower-than-normal annual average for EC is influenced by lower EC results in November and December 2025 at RDH650, which were both 1,250 µS/cm compared to results normally above 6,000. This change coincides with the removal of the pump in October 2025. There are no predictions to compare these results to.

Table 17: Comparison of Underground Working Results

Year	Average pH	Average EC *(µS/cm)*	Relative Level (RL) *(AHD metres)*
2025	7.3	4,910	111
2024	7.0	6,778	114
2023	7.2	6,158	107
2022	7.0	6,338	107
2021	7.0	6,306	106
2020	7.1	6,098	106
2019	7.3	6,265	104
2018	7.0	5,965	107
2017	7.5	6,455	114

The water level, pH and Electrical Conductivity of the groundwater data for this reporting period are shown in **Figure 16, Figure 17** and **Figure 18**.

The groundwater monitoring results are provided in **Appendix 2**.

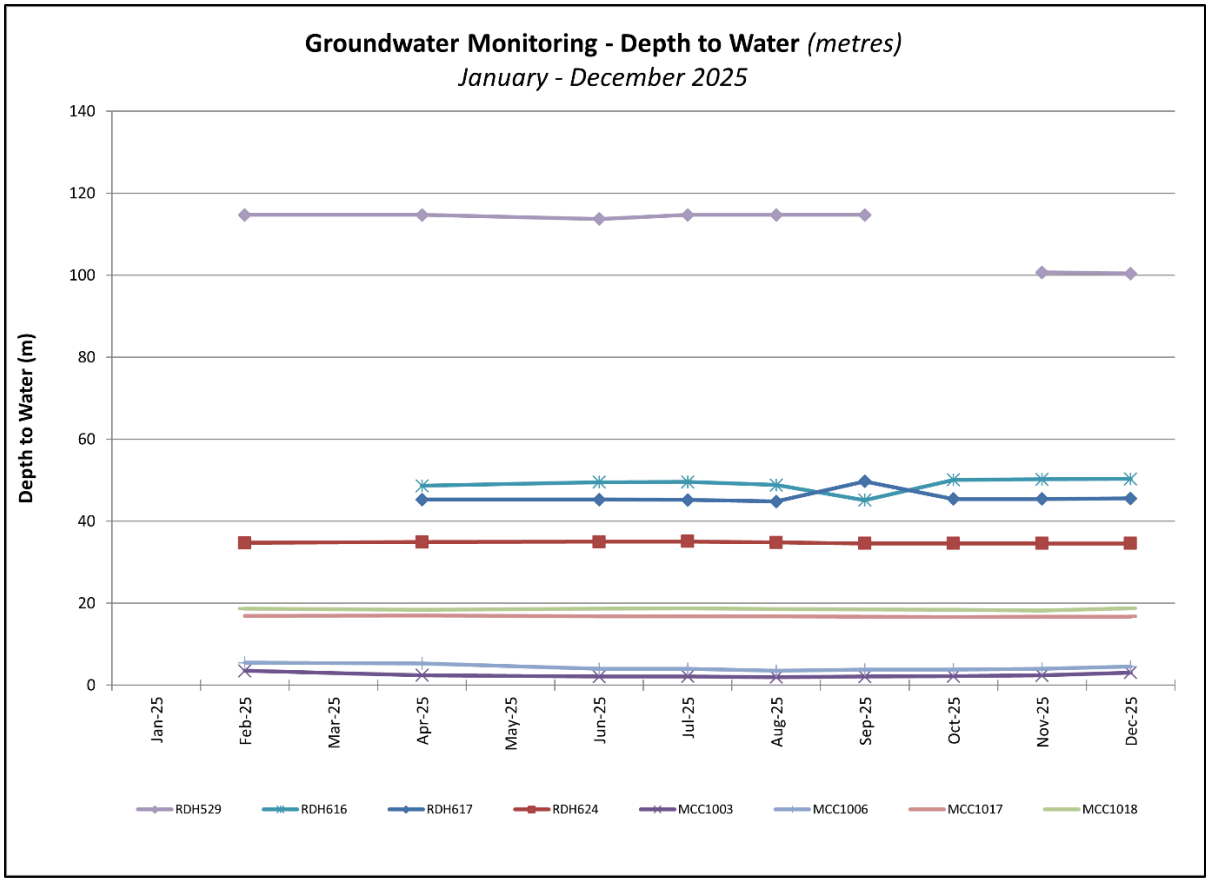

Figure 16: Groundwater Monitoring Results – Depth to Water

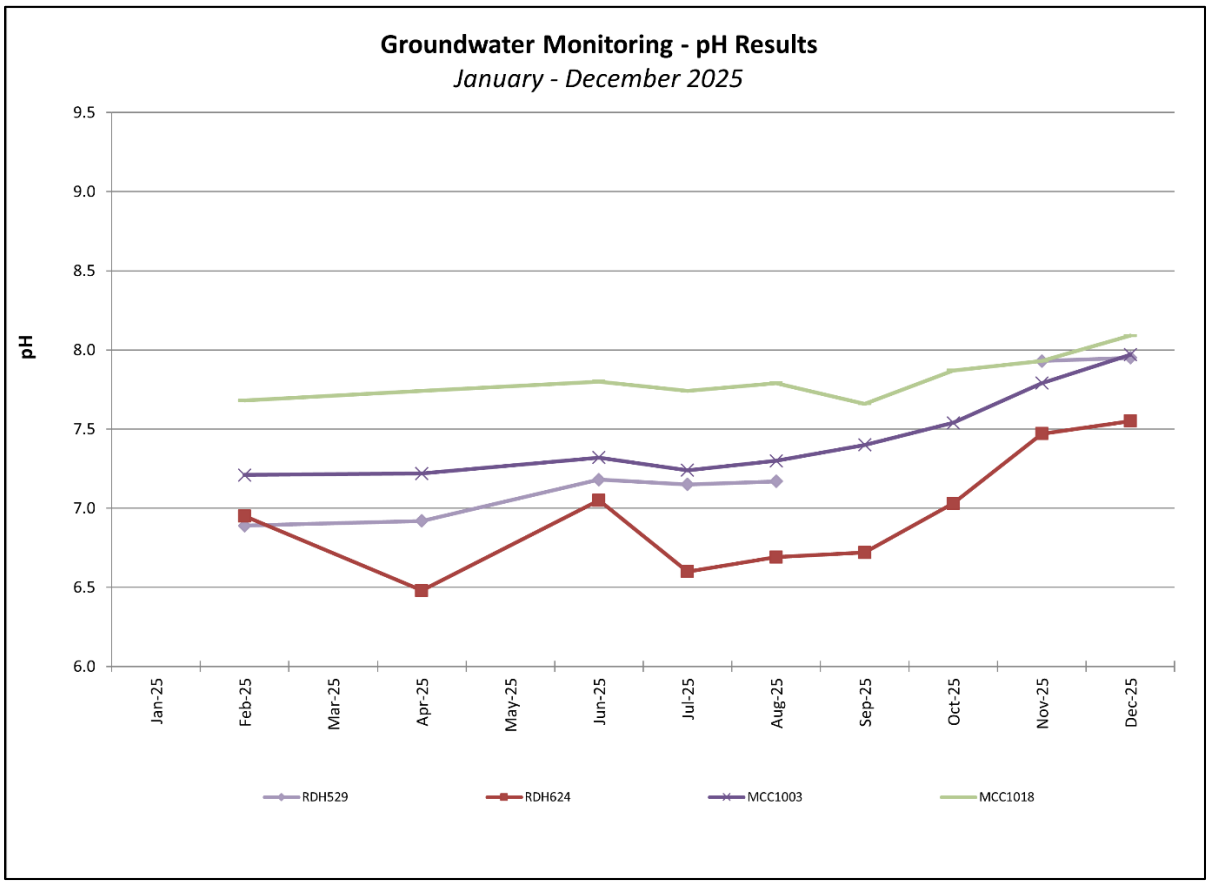

Figure 17: Groundwater Monitoring Results – pH

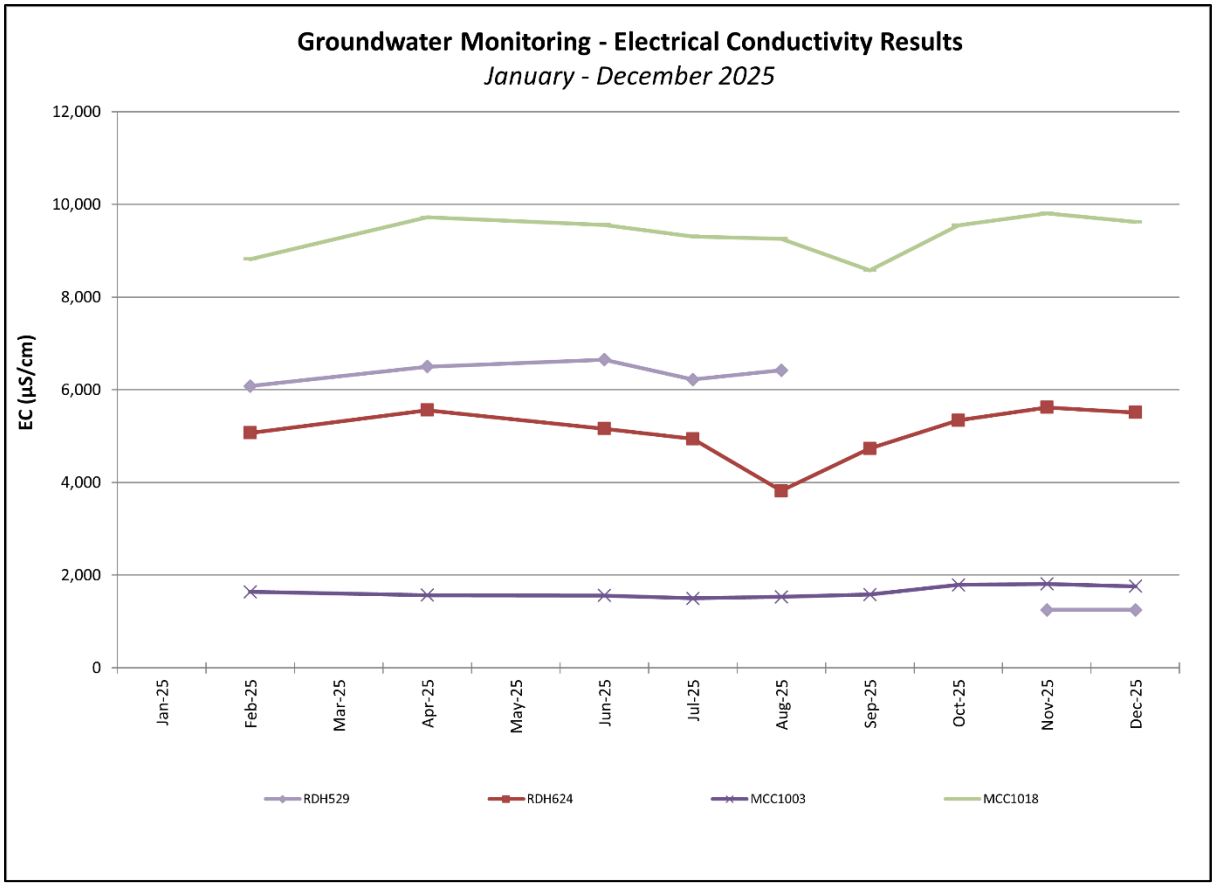

Figure 18: Groundwater Monitoring Results – Electrical Conductivity

As shown in **Figure 19** to **Figure 21**, the results from this reporting period are generally consistent with the results from previous reporting periods. There are no predictions to compare these results to.

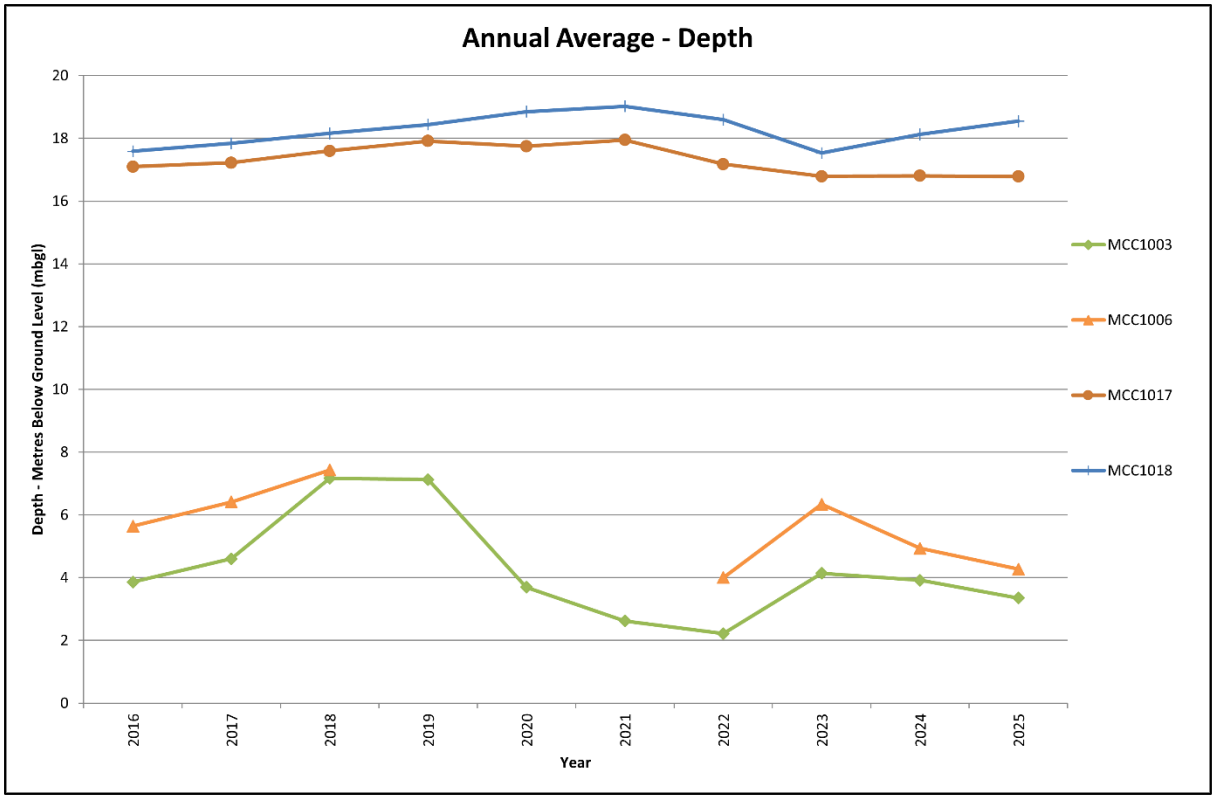

Figure 19: Comparison of Depth to Historical Results

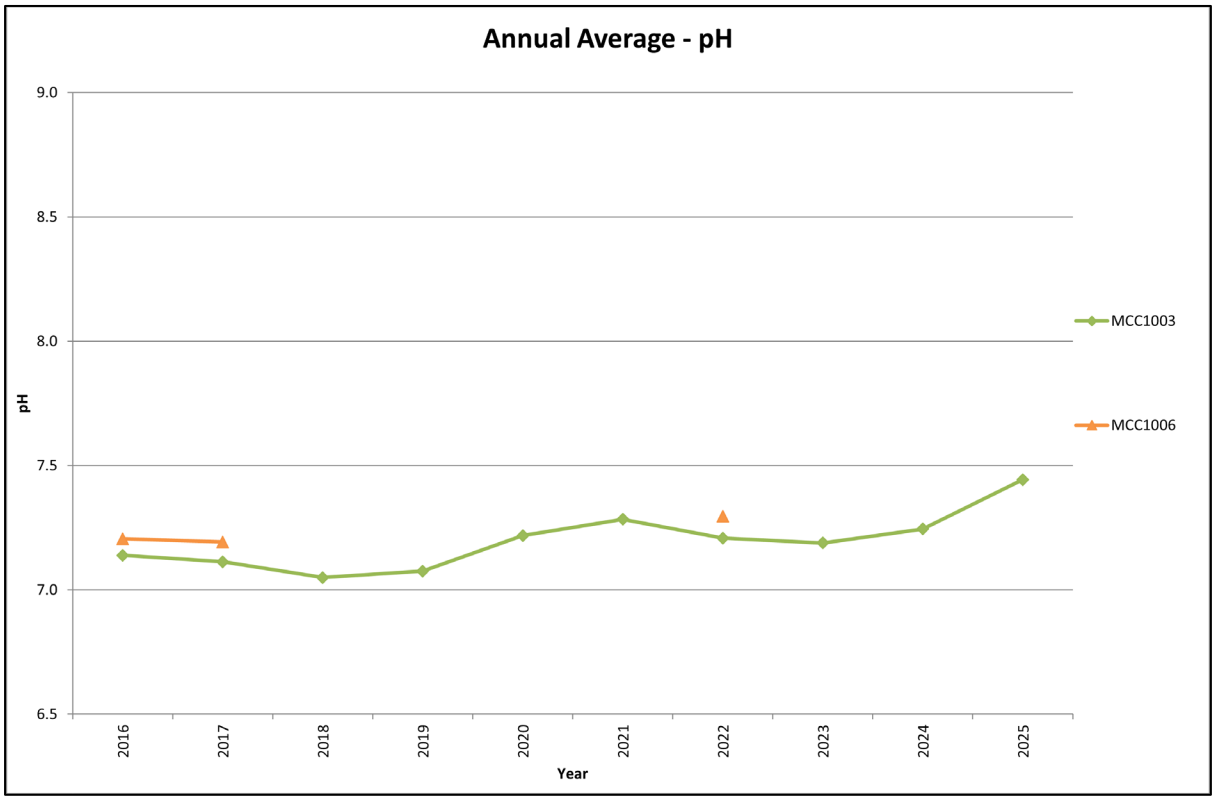

Figure 20: Comparison of pH Results to Historical Results

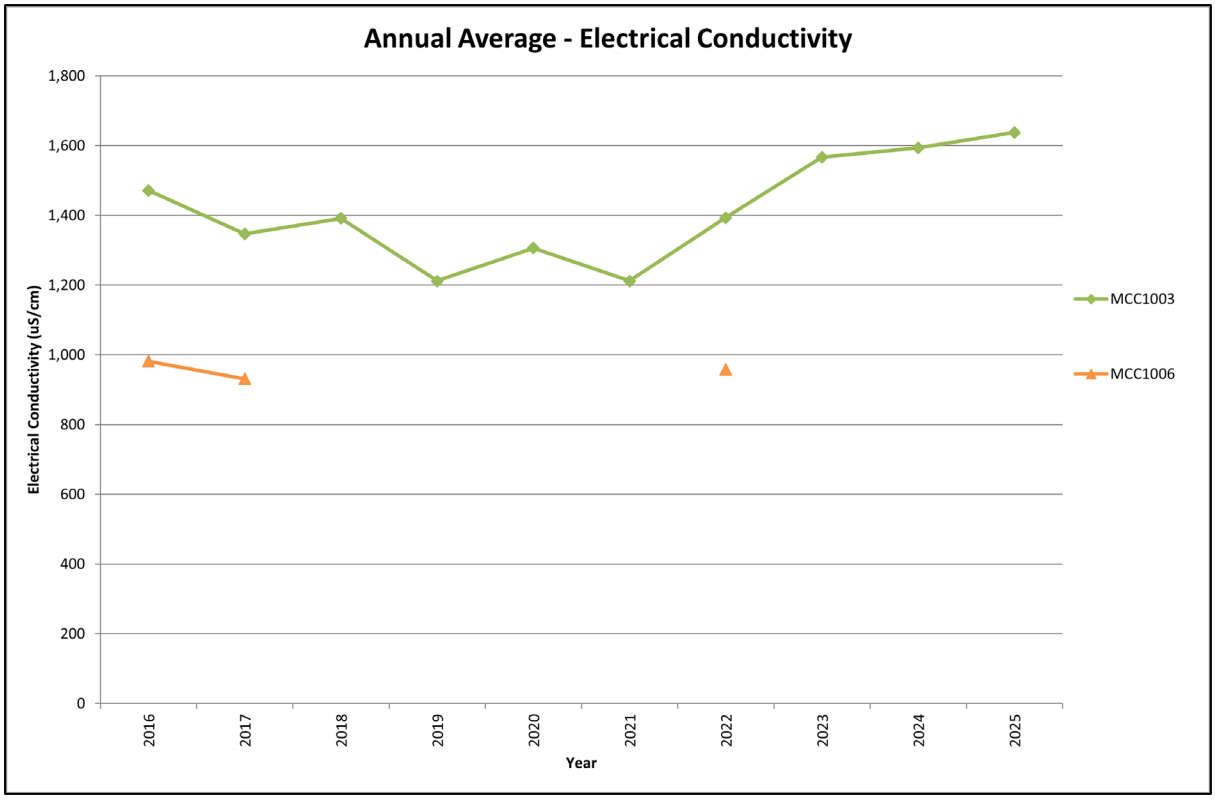

Figure 21: Comparison of Electrical Conductivity Results to Historical Results

3.7.3 ACTIVITIES NEXT REPORTING PERIOD

During the next reporting period, MCC will continue to manage and monitor groundwater quality impacts in accordance with the WMP. This will include the installation of additional groundwater monitoring wells to assist with informing the site's groundwater model and to monitor/validate groundwater recovery following the completion of activities at MCC. MCC will update the WMP to include the final locations of these groundwater monitoring wells and information based on the recommendations in the updated groundwater model which is nearing completion.

3.8 CONTAMINATED LAND

During the reporting period detailed contamination assessments continued to be undertaken across the site as part of rehabilitation of the site. The assessments have focused on areas that are no longer required on site. These reports have identified that for most of the areas assessed there is no contamination remediation work that needs to be undertaken.

Contamination assessments will continue to be undertaken as part of closure works and remediation undertaken if necessary.

3.9 FLORA AND FAUNA MANAGEMENT

MCC continues to manage impacts on flora and fauna in accordance with the Rehabilitation Management Plan.

MCC is set amongst an area of existing disturbed and mined land. The area is extensively altered from its natural state through current and past mining operations.

Five vegetation communities have been identified within the DA boundary at MCC. These are:

- Hunter Floodplain Red Gum Woodland,

- Central Hunter Grey Box-Ironbark Woodland,
- Regenerating Central Hunter Grey Box-Ironbark Woodland,
- Aquatic Forbland, and
- Mine Rehabilitation.

No threatened flora species have been identified at MCC. The area that was disturbed was not considered important habitat for threatened fauna. The area was also not considered critical habitat.

3.10 WEEDS, PEST AND FERAL ANIMALS

MCC continues to manage weeds, pest and feral animals on site.

Weed Control

Weed control and eradication techniques used at MCC include:

- Promotion of vigorous pasture growth to out-compete weeds,
- Minimisation of area available for weed infestation, through prompt revegetation of bare areas,
- Spraying with selective herbicides, and
- Physical removal by chipping/slashing.

Feral Animal Control

Feral animal control will be undertaken by licenced contractors if periodic inspections and monitoring detect problematic species.

3.11 BLASTING

3.11.1 ACTIVITIES THIS REPORTING PERIOD

No blasting occurred during the reporting period.

3.11.2 BLAST MONITORING

No blast monitoring was undertaken during the reporting period as no blasting occurred.

3.11.3 ACTIVITIES NEXT REPORTING PERIOD

There will be no blasting activities in the next reporting period.

3.12 NOISE MANAGEMENT

3.12.1 ACTIVITIES THIS REPORTING PERIOD

During the reporting period, MCC continued to operate in accordance with the approved Noise Management Plan (NMP) prepared in accordance with condition 39 of the DA. MSC approved removal of the NMP from the EMS in September 2025 given the status of operations at the site.

The main objective of the NMP was to manage and minimise the impact of noise from operations on the environment and nearby residences.

3.12.2 NOISE MONITORING

The noise monitoring network in place for part of the reporting period is provided in **Table 18** and locations are displayed in **Figure 22**.

Table 18: Noise Monitoring Network

Location	Description
R13	Sandy Creek Road
R15	Queen St
R17	Queen St
R25	Sandy Creek Road
R32	Muscle Creek Road

Monitoring was conducted at these sites monthly until it was approved to cease from the end of September 2025. Monthly attended monitoring allowed for a variety of operating configurations, weather conditions and seasonal variations to be measured. The noise consultant scheduled the monitoring to occur at times unknown to MCC and they determined the intervals between surveys and the time of measurement. Each attended noise survey was conducted during night periods only.

All noise surveys were performed in accordance with the EPA "NSW Noise Policy for Industry", the Periodic Noise Monitoring programme and Australian Standard 1055 "Acoustics, Description and Measurement of Environmental Noise" as specified in the NMP.

Measurements were taken in third-octave bands with an instrument that has Type 1 characteristics as defined in AS1259-1990 "Acoustics – Sound Level Meters". The instrument had a current calibration as per manufacturer's instructions and calibration was also confirmed prior to and at the completion of measurements with a Sound Level Calibrator. The LA_{eq} (15-minute) noise emission levels, at each monitoring site, were determined.

The actual noise level received at individual residences may have varied due to:

- The location of equipment,
- The elevation of equipment,
- Impacts from other noise sources, and
- Prevailing meteorological conditions.

A summary of the results are shown in **Appendix 3** and **Figure 23** to **Figure 27.** The noise criteria was not exceeded during any monitoring event.

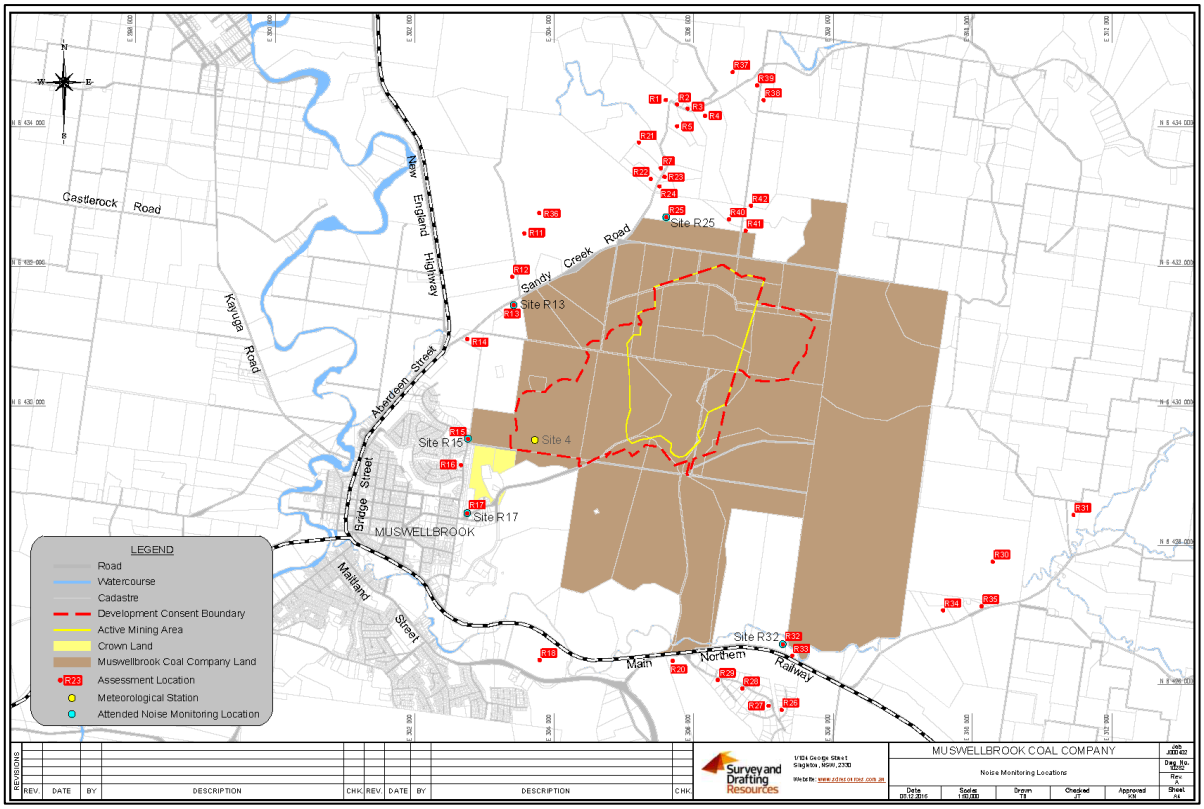

Figure 22: Noise Monitoring Locations

Table 19 and **Table 20** compare the average noise monitoring results for this reporting period, historical monitoring results, and predictions made in the 2016 Statement of Environmental Effects (SEE). The results are below the predicted results in the SEE.

Table 19: Comparison of Average LA_{eq} Noise Results

Year	R13 Sandy Creek Road		R15 Queen Street		R17 Queen Street		R25 Sandy Creek Road		R32 Muscle Creek Road	
	Actual	Predicted	Actual	Predicted	Actual	Predicted	Actual	Predicted	Actual	Predicted
2025	25	40	21	37	20	34	25	41	16	32
2024	21	40	20	37	23	34	25	41	18	32
2023	30	40	23	37	19	34	30	41	18	32
2022	23	40	20	37	20	34	24	41	17	32
2021	24	40	22	37	18	34	27	41	25	32
2020	27	40	24	37	22	34	25	41	26	32
2019	29	40	25	37	24	34	29	41	20	32
2018	29	40	29	37	31	34	30	41	24	32

Table 20: Comparison of Average LA_{max} Noise Results

Year	R13 Sandy Creek Road		R15 Queen Street		R17 Queen Street		R25 Sandy Creek Road		R32 Muscle Creek Road	
	Actual	Predicted	Actual	Predicted	Actual	Predicted	Actual	Predicted	Actual	Predicted
2025	29	37	23	33	21	31	27	40	18	32
2024	22	37	22	33	25	31	27	40	19	32
2023	32	37	24	33	20	31	34	40	18	32
2022	25	37	22	33	22	31	26	40	19	32
2021	28	37	28	33	22	31	33	40	29	32
2020	31	37	28	33	26	31	28	40	29	32
2019	33	37	29	33	28	31	33	40	23	32
2018	34	37	34	33	37	31	35	40	26	32

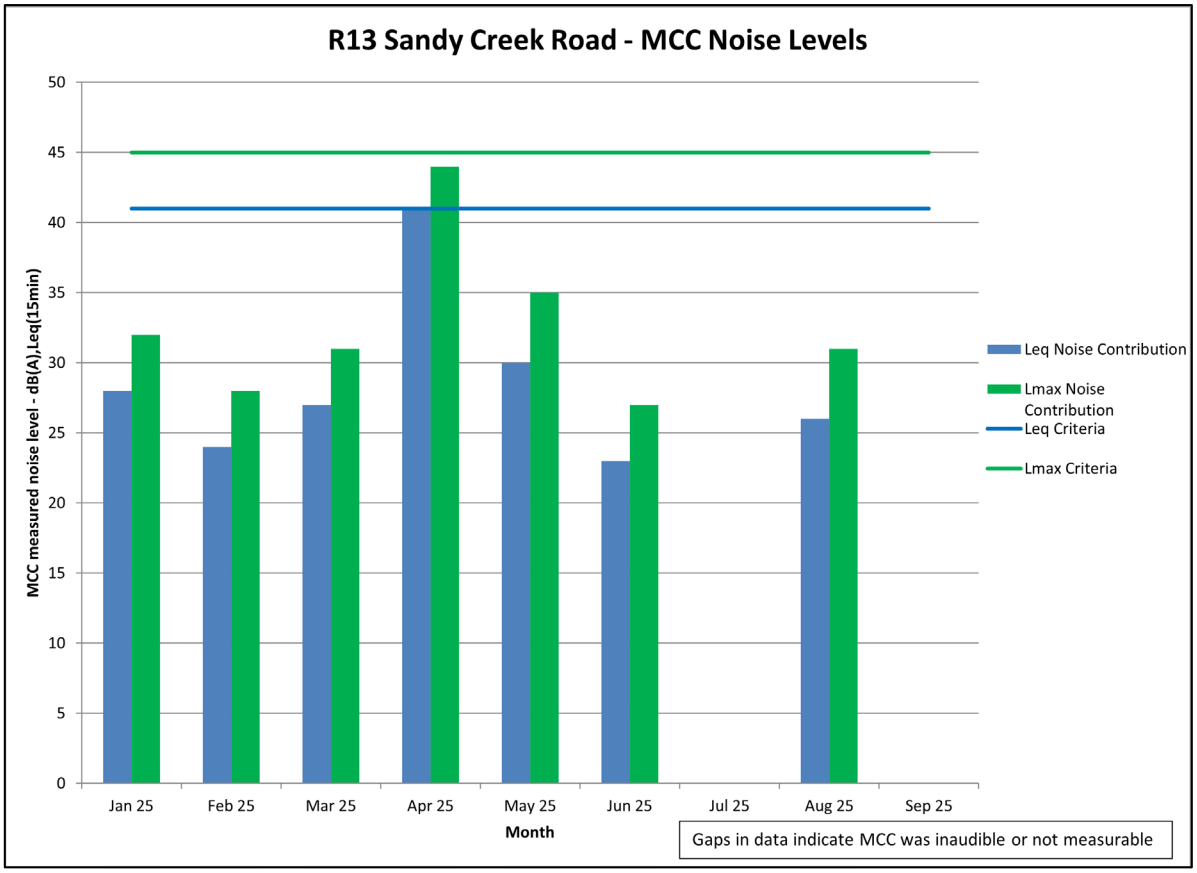

Figure 23: R13 Sandy Creek Road Noise Monitoring Results

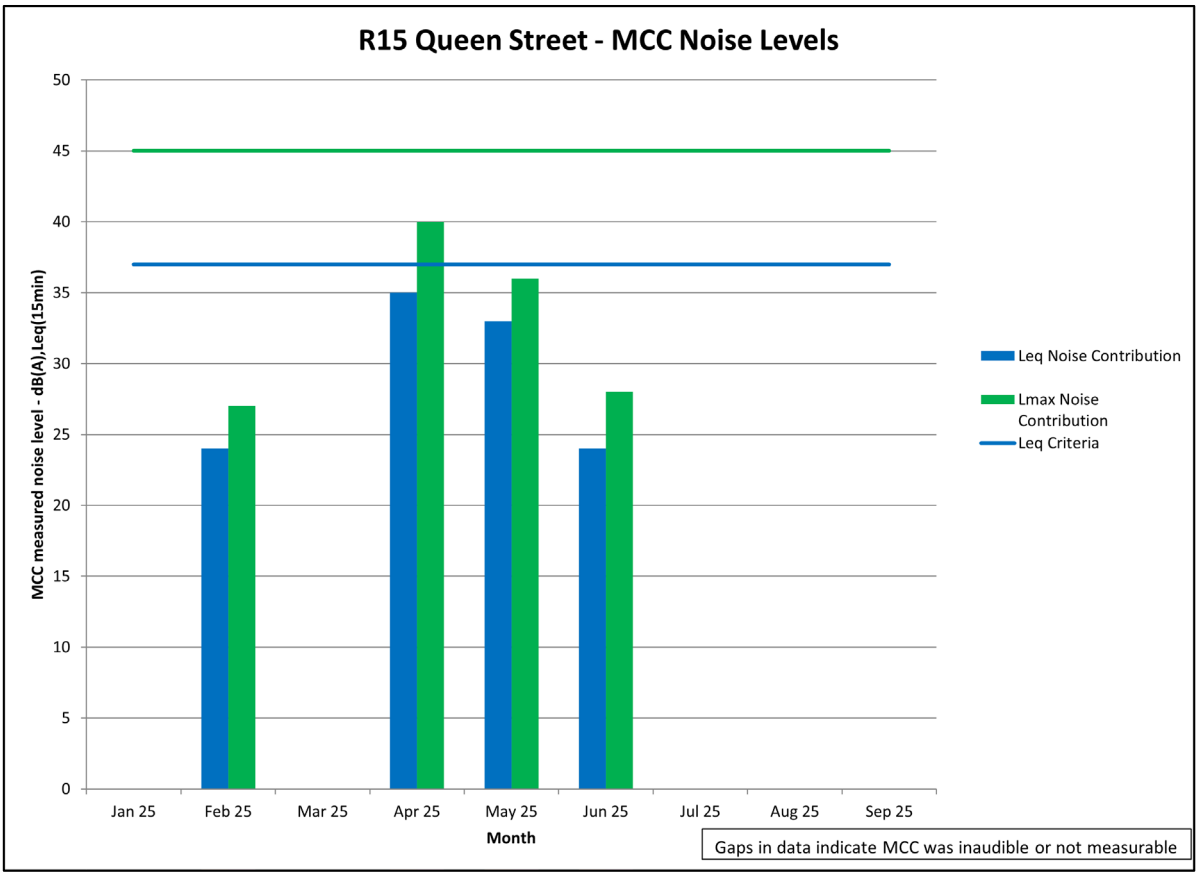

Figure 24: R15 Queen Street Noise Monitoring Results

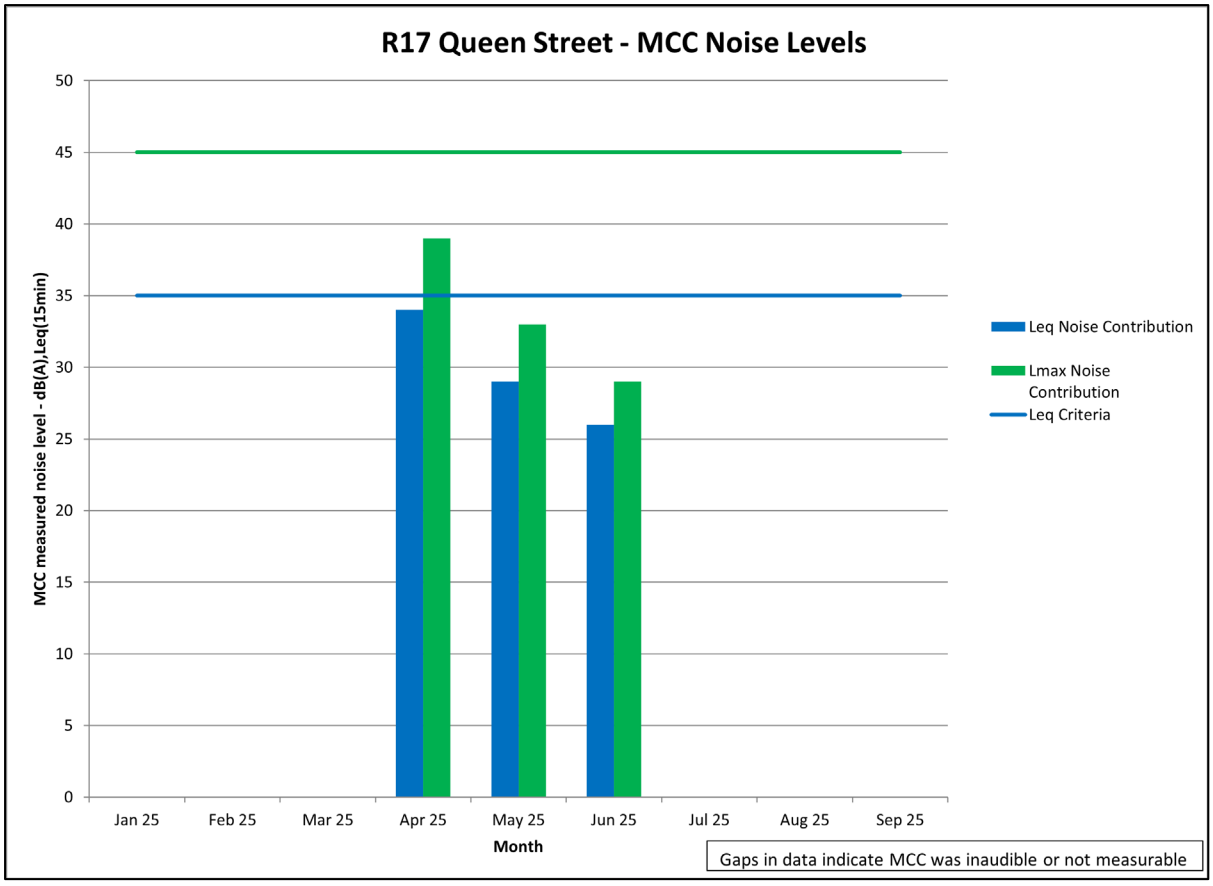

Figure 25: R17 Queen Street Noise Monitoring Results

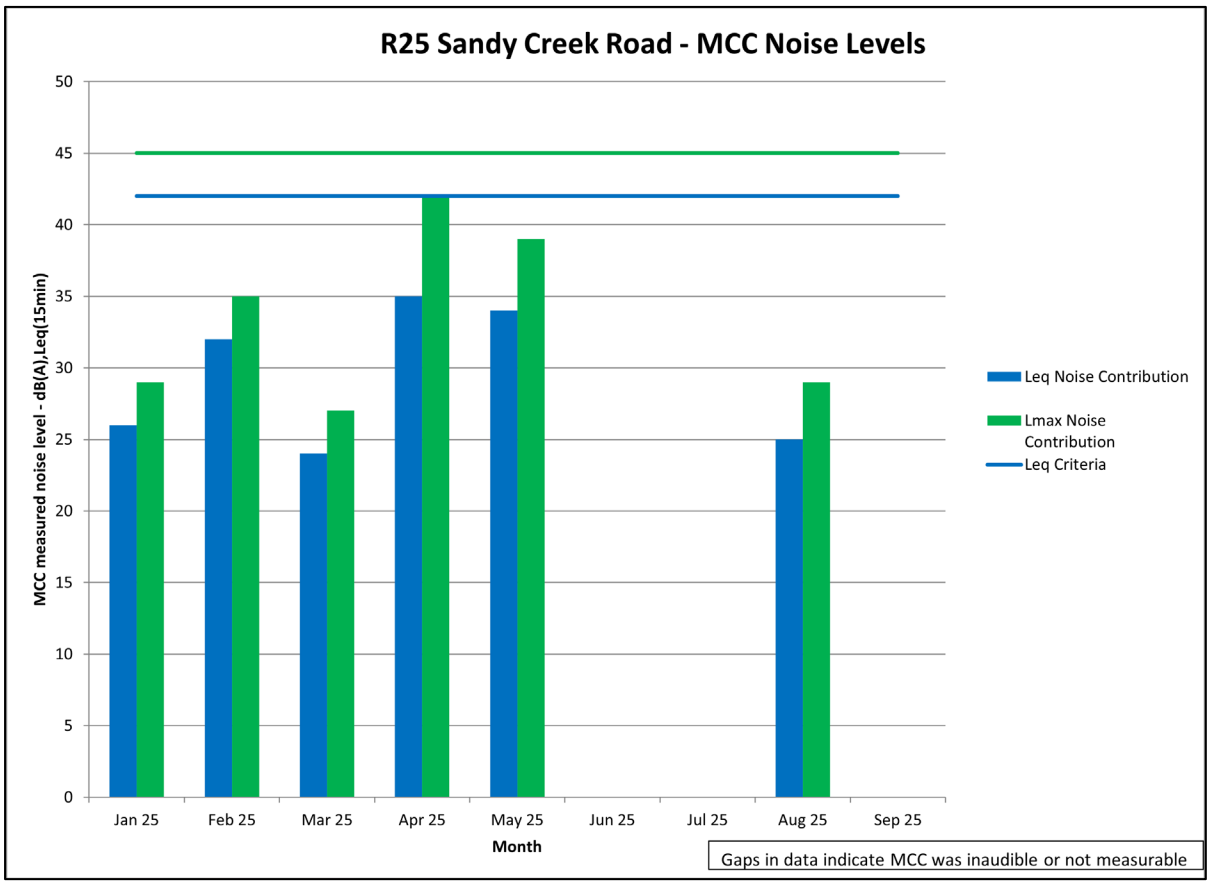

Figure 26: R25 Sandy Creek Road Noise Monitoring Results

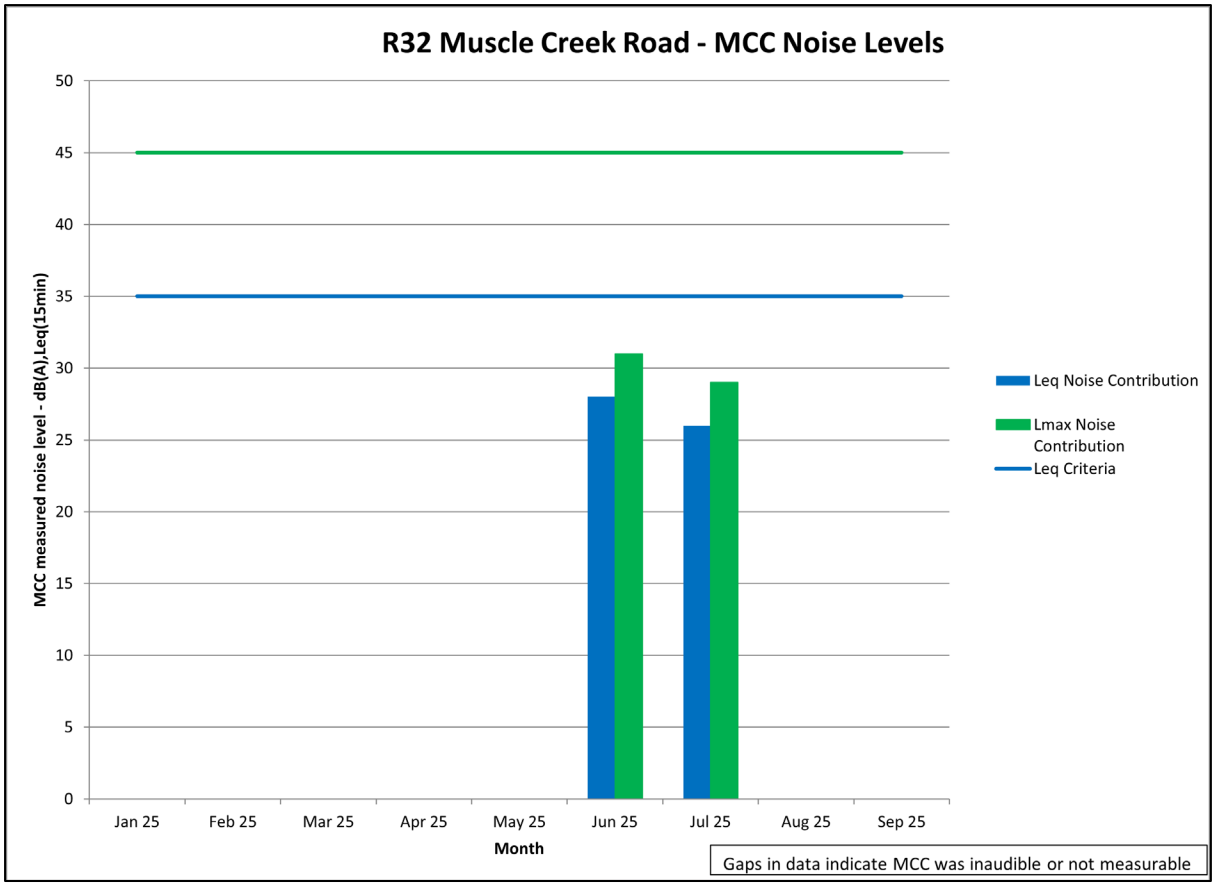

Figure 27: R32 Muscle Creek Road Noise Monitoring Results

3.12.3 ACTIVITIES NEXT REPORTING PERIOD

No noise monitoring is proposed in the next reporting period.

3.13 VISUAL AMENITY, LIGHTING AND LANDSCAPING

During the reporting period MCC continued to operate in accordance with the approved Visual Amenity, Lighting and Landscaping Management Plan (VALLMP) prepared in accordance with condition 22 of the DA. In 2024, MCC updated the VALLMP following the development consent modification to confirm the management requirements associated with the rehabilitation of the site. The VALLMP was approved by MSC during the reporting period.

The primary objectives of the VALLMP are to implement visual reduction strategies to minimise the visual amenity, lighting and landscape impact on the community and meet the development consent requirements.

During the next reporting period MCC will continue to manage visual amenity, lighting and landscaping in accordance with the VALLMP.

3.14 ABORIGINAL HERITAGE

During the reporting period, no ground disturbance operations required consultation with Aboriginal groups.

MCC has successfully completed salvage operations and continues to maintain and protect one Aboriginal cultural site located within the mine lease boundary. The site is fenced, and sign posted to prevent disturbance by mine personnel but is outside the area to be disturbed

for site activities. MCC has no ongoing requirement to protect the site in perpetuity. Once rehabilitation has been completed, the fencing and signage will be removed.

3.15 EUROPEAN HERITAGE

There are no European Heritage sites located at MCC that require ongoing management.

3.16 SPONTANEOUS COMBUSTION

3.16.1 ACTIVITIES THIS REPORTING PERIOD

During the reporting period MCC continued to operate in accordance with the approved Spontaneous Combustion Management Plan (SCMP) prepared in accordance with condition 31 of the DA. The latest revision of the SCMP was approved by MSC in September 2025.

The main objective of the SCMP is to minimise the occurrence and manage the effect from spontaneous combustion in rehabilitation areas across the site. The SCMP details incident, complaint and reporting procedures for spontaneous combustion events.

Regular spontaneous combustion reports have historically been provided to both RR and EPA. These ceased in Q1 2025 due to the status of the site.

3.16.2 ACTIVITIES NEXT REPORTING PERIOD

During the next reporting period MCC will continue to manage spontaneous combustion in accordance with the SCMP. There were no ongoing spontaneous combustion events at the end of the reporting period. Periodic inspections and thermal imaging will continue to be undertaken to monitor activity.

3.17 BUSHFIRE

Management of bushfire risks are undertaken in accordance with the approved Fire Management Plan (FMP) prepared in accordance with condition 23 of the DA. The FMP was developed by a bushfire consultant and in consultation with the NSW Rural Fire Service.

The primary objective of this FMP is to provide mitigation measures addressing the following:

- To prevent the potential ignition and spread of bushfires from MCC landholdings to neighbouring properties and minimise the risk to fire fighters and the public from bush fires;
- The protection of life and safety of personnel and broader community on MCC operations, landholdings, and surrounding area;
- To protect MCC infrastructure, continued operations and the environment from the effects of bushfire;
- To understand the environmental and cultural constraints and opportunities regarding bushfire management; and
- To identify and demonstrate how MCC is meeting its legislative requirements with regards to bushfire management.

There were no bushfire outbreaks within the development consent area during the reporting period. Annual inspections are conducted of the access tracks and powerline easements. These are slashed regularly to maintain access and reduce fuel loads. Weeds are sprayed in asset protection zones across the site.

During the next reporting period MCC will continue bushfire management in accordance with the FMP.

3.18 HYDROCARBON CONTAMINATION

Hydrocarbon storage facilities were constructed as part of the workshop, stores and blasting facilities. These storage facilities complied with the requirements of *AS1940 – The storage and handling of flammable and combustible liquids*. Activities undertaken on site to reduce the risk of hydrocarbon contamination included:

- Above ground fuel storage tanks that are self-bunded to contain any spillage which may occur,
- Waste oil from the workshop stored in a bunded waste oil tank and removed as required,
- Oily water runoff from the re-fuelling bay drained into an above ground sump which was fully bunded, and
- Runoff from the hardstand wash-down bay passed through a three-staged silt trap and an oil/water separator and the collected silt was routinely cleaned out.

As discussed in **Section 2.9.1**, until October 2025, diesel fuel was stored in three Class C1 above ground, self-bunded tanks, with a capacity of 105,000L each. These tanks were decommissioned in October 2025 with only a 10,000L diesel tank remaining at the end of the reporting period.

The mine infrastructure area will be removed in the next reporting period, with no hydrocarbon storage expected to be remaining at the end of 2026.

3.19 METHANE DRAINAGE/VENTILATION

As no underground mining occurred at MCC during the reporting period, no methane drainage or ventilation was required.

3.20 PUBLIC SAFETY

During the reporting period, public safety was managed in accordance with current MCC procedures. Fences surrounding the operational areas and along property boundaries were inspected and maintained.

A security patrol is conducted by a local security firm when the site is not manned. A series of security cameras are established around the site to monitor access to the site.

3.21 OTHER ISSUES AND RISKS

No incidents of unauthorised damage to surface infrastructure were recorded during this reporting period.

4.0 COMMUNITY RELATIONS

4.1 ENVIRONMENTAL COMPLAINTS

MCC operates a toll free 24-hour Environmental Contact Line where community members can communicate their concerns. On receiving a complaint, MCC representatives investigate the complaint, take action to reduce impact as required and report back to the complainant with the findings. The recording of environmental complaints and the operation of the Environmental Contact Line is conducted in accordance with the MCC Development Consent and Environment Protection Licence conditions.

Three complaints were received during the reporting period. Two of these related to remediation activities at the Old Pit Top, which are occurring under a separate consent

(Development Application 2022/80). These complaints have been excluded from reporting in the AEMR, which relates to DA 205/2002 only.

The complaint applicable to DA 205/2002 was received on the 4 February 2025. The complainant noted visual smoke from the site with large fire having a potent smell. The site's OCE liaised with the complainant explaining the rehabilitation works in progress and the management measures being implemented for the heated material. The complainant thanked the OCE for the response and information and no further action was required.

The number of complaints recorded in 2025 is the lowest recorded since 2005, which is reflective of the status of the site.

The complaint history chart is shown in **Figure 28**.

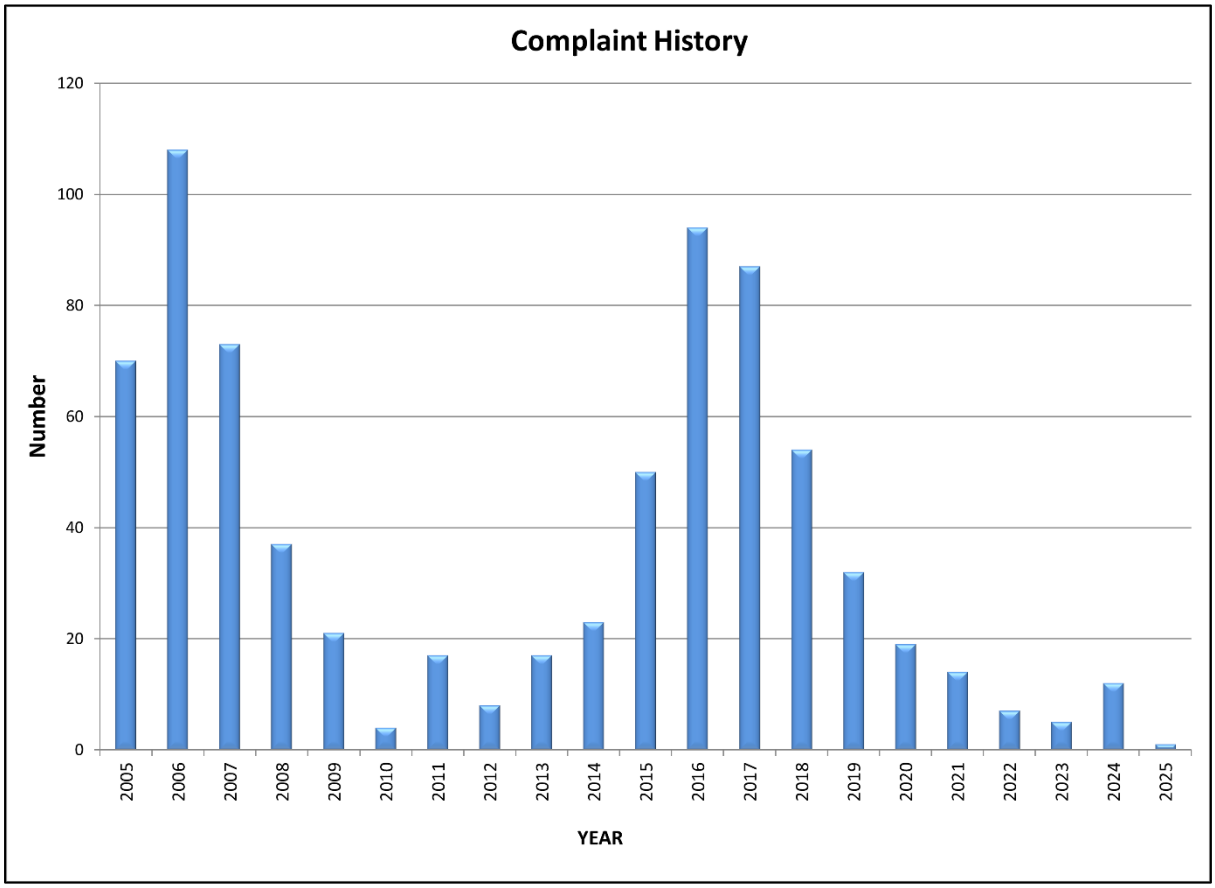

Figure 28: Complaint History

4.2 COMMUNITY LIAISON, SPONSORSHIPS AND DONATIONS

Community support throughout the reporting period included donations to the following organisations:

- Muswellbrook Netball Association;
- MCC Muswellbrook Community Engagement at the Muswellbrook Race Club; and
- Christmas Food and Toy Appeal.

4.3 COMMUNITY CONSULTATIVE COMMITTEE

During its mining operations, MCC maintained an independent Community Consultative Committee (CCC). The CCC was comprised of one Councillor, one council staff

representative, five community representatives (including Wanaruah Local Aboriginal Lands Council), a representative from Thiess and two MCC representatives.

The CCC was provided regular information on the mine operations, and the views of residents, local businesses, and community groups were considered in decision-making processes where the community had the potential to be impacted. Members were involved in the review of environmental monitoring data and were kept up to date on mining operations and rehabilitation activities through presentations and site visits.

With the completion of mining operations and major rehabilitation activities, MCC held its last meeting of the CCC in November 2025.

Minutes of CCC meetings are publicly available on the MCC website.

5.0 ANNUAL REHABILITATION REPORT

Please refer to the 2025 Annual Rehabilitation Report for details of the rehabilitation undertaken during the reporting period. A copy of the report is available on MCC's website: https://www.idemitsu.com.au/operations/muswellbrook-coal/approvals-plans-reports/

Figure 29 provides an aerial photograph of the site in December 2025, which shows significant progression with site rehabilitation.

6.0 REHABILITATION FORWARD PROGRAM

Please refer to the 2026-2028 Forward Program for details of the rehabilitation proposed to be undertaken during the next reporting period. A copy of the report is available on MCC's website:
https://www.idemitsu.com.au/operations/muswellbrook-coal/approvals-plans-reports/

7.0 ACTIVITIES PROPOSED IN THE NEXT AEMR PERIOD

During the next reporting period, the following activities are planned:

- Complete the erosion repair works and extension of the rock-lined drop structure in Open Cut 2.
- Continue to implement obligations in the Environmental Management Plans including the Rehabilitation Management Plan.
- Continue rehabilitation activities as committed to in the Forward Program.
- Continue with detailed environmental studies associated with the closure of the site.

Figure 29: December 2025 Aerial Photo

Appendix 1: Air Quality Monitoring Results

REAL-TIME PM_{10} MONITORING RESULTS

January 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-Jan-25	22.5	No Data	22.4
02-Jan-25	23.4	No Data	23.4
03-Jan-25	14.6	No Data	18.7
04-Jan-25	18.3	13.3	19.7
05-Jan-25	21.8	19.0	24.1
06-Jan-25	21.2	33.4	24.8
07-Jan-25	15.3	15.0	17.9
08-Jan-25	9.4	7.0	9.6
09-Jan-25	9.6	8.9	9.5
10-Jan-25	9.5	7.8	10.2
11-Jan-25	8.7	7.8	9.5
12-Jan-25	11.7	11.6	12.5
13-Jan-25	15.8	18.1	17.7
14-Jan-25	21.8	24.4	31.5
15-Jan-25	18.8	29.4	23.5
16-Jan-25	11.3	12.2	13.0
17-Jan-25	16.2	15.2	16.9
18-Jan-25	No Data	11.9	12.1
19-Jan-25	No Data	17.6	18.9
20-Jan-25	No Data	18.3	19.5
21-Jan-25	19.1	22.5	21.4
22-Jan-25	24.2	41.1	23.1
23-Jan-25	23.0	23.4	24.1
24-Jan-25	24.6	29.7	25.1
25-Jan-25	16.4	16.2	17.7
26-Jan-25	18.2	17.2	18.5
27-Jan-25	15.7	16.2	13.8
28-Jan-25	21.6	56.0	25.2
29-Jan-25	28.9	28.5	30.5
30-Jan-25	12.6	12.3	13.1
31-Jan-25	11.7	9.9	17.1

February 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-Feb-25	12.0	12.3	14.5
02-Feb-25	12.2	11.8	14.5
03-Feb-25	13.4	12.8	11.3
04-Feb-25	16.3	16.8	14.9
05-Feb-25	23.7	30.4	18.5
06-Feb-25	23.4	22.8	29.0
07-Feb-25	11.9	10.5	No Data
08-Feb-25	16.8	14.0	15.8
09-Feb-25	18.0	18.7	19.8
10-Feb-25	16.3	16.8	15.9
11-Feb-25	10.9	No Data	11.2
12-Feb-25	12.2	11.6	12.4
13-Feb-25	10.5	10.4	11.8
14-Feb-25	13.6	14.0	12.4
15-Feb-25	14.6	15.8	16.4
16-Feb-25	21.2	18.5	16.0
17-Feb-25	16.8	16.8	14.9
18-Feb-25	22.7	21.4	17.8
19-Feb-25	21.9	19.8	17.5
20-Feb-25	15.4	14.3	12.9
21-Feb-25	15.6	16.5	15.9
22-Feb-25	14.8	10.6	10.7
23-Feb-25	13.8	14.5	15.4
24-Feb-25	27.8	32.7	24.2
25-Feb-25	25.1	25.0	22.8
26-Feb-25	23.0	15.4	14.3
27-Feb-25	15.7	14.9	14.8
28-Feb-25	20.8	23.0	20.7
01-Mar-25	25.5	26.8	25.4

March 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-Mar-25	25.5	26.8	25.4
02-Mar-25	23.7	22.6	21.2
03-Mar-25	17.2	17.7	18.1
04-Mar-25	15.1	14.5	15.6
05-Mar-25	11.2	10.6	11.7
06-Mar-25	10.2	No Data	12.3
07-Mar-25	13.3	9.1	16.6
08-Mar-25	9.9	7.8	10.3
09-Mar-25	11.4	11.1	14.6
10-Mar-25	10.7	10.8	11.4
11-Mar-25	8.7	9.2	10.8
12-Mar-25	8.8	No Data	10.9
13-Mar-25	12.1	No Data	11.6
14-Mar-25	10.8	12.1	12.8
15-Mar-25	12.5	14.0	14.0
16-Mar-25	12.2	No Data	13.7
17-Mar-25	22.4	No Data	22.8
18-Mar-25	21.2	18.2	21.7
19-Mar-25	19.1	No Data	15.4
20-Mar-25	17.0	No Data	18.4
21-Mar-25	12.8	No Data	14.1
22-Mar-25	12.2	11.2	14.2
23-Mar-25	8.7	No Data	9.6
24-Mar-25	13.3	No Data	11.6
25-Mar-25	8.6	7.6	9.9
26-Mar-25	10.2	9.2	11.4
27-Mar-25	11.6	10.9	13.3
28-Mar-25	10.0	10.0	11.0
29-Mar-25	5.4	6.8	6.7
30-Mar-25	7.8	10.1	10.4
31-Mar-25	9.3	10.0	11.3

April 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-Apr-25	8.9	8.5	10.0
02-Apr-25	12.8	13.7	17.4
03-Apr-25	14.5	15.8	16.2
04-Apr-25	15.9	17.9	17.9
05-Apr-25	14.3	17.2	17.8
06-Apr-25	13.0	15.4	18.6
07-Apr-25	13.5	No Data	15.1
08-Apr-25	15.4	No Data	15.6
09-Apr-25	9.9	No Data	10.1
10-Apr-25	12.1	No Data	12.5
11-Apr-25	13.3	13.7	14.1
12-Apr-25	17.3	17.2	18.6
13-Apr-25	7.3	7.9	8.9
14-Apr-25	14.0	13.8	14.7
15-Apr-25	16.6	16.5	17.1
16-Apr-25	15.1	15.0	16.1
17-Apr-25	15.1	14.4	15.6
18-Apr-25	10.5	9.9	9.5
19-Apr-25	12.8	13.8	14.8
20-Apr-25	12.0	13.3	14.2
21-Apr-25	17.0	20.6	18.0
22-Apr-25	15.5	17.7	15.5
23-Apr-25	12.2	13.2	13.3
24-Apr-25	14.3	14.2	15.7
25-Apr-25	7.9	8.3	8.1
26-Apr-25	9.9	10.6	11.5
27-Apr-25	5.7	7.8	7.3
28-Apr-25	9.9	12.2	10.4
29-Apr-25	9.9	11.9	11.1
30-Apr-25	10.8	11.1	11.2

May 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-May-25	12.9	9.4	13.7
02-May-25	9.1	8.1	10.9
03-May-25	9.7	9.1	9.1
04-May-25	7.8	8.6	10.2
05-May-25	6.3	7.6	7.1
06-May-25	8.2	No Data	10.4
07-May-25	8.2	No Data	10.3
08-May-25	13.6	No Data	15.2
09-May-25	13.7	13.0	15.4
10-May-25	9.3	8.8	10.6
11-May-25	6.9	6.7	7.5
12-May-25	6.3	7.2	8.7
13-May-25	8.5	8.4	8.8
14-May-25	9.8	10.4	10.3
15-May-25	12.4	13.0	13.8
16-May-25	7.7	8.2	8.4
17-May-25	10.0	10.1	9.8
18-May-25	10.0	10.5	11.8
19-May-25	6.2	6.7	6.5
20-May-25	5.9	6.8	7.6
21-May-25	5.3	6.0	6.3
22-May-25	6.2	5.4	6.1
23-May-25	4.9	5.0	5.3
24-May-25	7.9	8.1	8.2
25-May-25	10.1	10.4	10.4
26-May-25	11.8	13.2	13.2
27-May-25	84.2	55.1	83.9
28-May-25	7.7	11.1	8.4
29-May-25	9.4	11.3	10.2
30-May-25	14.3	14.8	15.4
31-May-25	13.9	13.8	14.1

June 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-Jun-25	10.8	10.7	11.1
02-Jun-25	6.8	8.1	7.5
03-Jun-25	7.1	9.7	8.7
04-Jun-25	7.1	10.7	9.7
05-Jun-25	6.7	8.3	7.5
06-Jun-25	4.9	7.0	6.5
07-Jun-25	7.5	9.5	10.0
08-Jun-25	8.9	11.9	11.9
09-Jun-25	5.2	6.7	7.0
10-Jun-25	5.7	7.9	10.6
11-Jun-25	5.5	8.3	8.5
12-Jun-25	6.4	11.0	10.8
13-Jun-25	9.5	12.3	10.1
14-Jun-25	8.9	10.2	10.1
15-Jun-25	8.1	8.1	10.6
16-Jun-25	6.5	15.3	7.4
17-Jun-25	7.6	13.7	9.9
18-Jun-25	12.0	12.5	11.1
19-Jun-25	12.8	No Data	14.9
20-Jun-25	9.7	No Data	12.3
21-Jun-25	11.5	No Data	10.7
22-Jun-25	9.4	No Data	9.9
23-Jun-25	7.5	No Data	8.8
24-Jun-25	6.8	13.6	8.2
25-Jun-25	12.2	15.8	13.7
26-Jun-25	8.0	8.0	6.6
27-Jun-25	6.5	9.3	10.9
28-Jun-25	6.3	5.7	6.9
29-Jun-25	9.5	9.1	10.8
30-Jun-25	10.1	11.8	12.7

July 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-Jul-25	6.5	6.9	6.3
02-Jul-25	6.4	7.9	7.6
03-Jul-25	5.9	6.9	7.3
04-Jul-25	5.9	5.7	5.7
05-Jul-25	8.1	7.4	9.3
06-Jul-25	11.9	11.6	12.2
07-Jul-25	7.2	9.7	8.8
08-Jul-25	6.2	7.6	3.9
09-Jul-25	10.1	13.8	4.1
10-Jul-25	15.3	23.0	17.0
11-Jul-25	8.8	9.5	8.4
12-Jul-25	9.9	8.7	8.7
13-Jul-25	6.3	5.6	5.5
14-Jul-25	9.0	14.5	10.5
15-Jul-25	8.2	9.1	11.3
16-Jul-25	8.7	8.6	7.0
17-Jul-25	11.0	11.1	11.1
18-Jul-25	18.5	15.0	16.1
19-Jul-25	19.0	14.6	11.2
20-Jul-25	10.7	9.6	11.8
21-Jul-25	11.1	10.3	10.5
22-Jul-25	18.3	9.5	7.9
23-Jul-25	8.1	10.1	9.2
24-Jul-25	6.7	7.1	6.7
25-Jul-25	7.7	8.4	9.4
26-Jul-25	9.9	10.1	9.5
27-Jul-25	5.0	4.6	5.0
28-Jul-25	6.2	7.0	10.4
29-Jul-25	6.0	7.1	7.4
30-Jul-25	7.7	7.6	8.8
31-Jul-25	8.6	8.2	9.2

August 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-Aug-25	9.3	7.8	9.5
02-Aug-25	5.4	5.5	5.9
03-Aug-25	8.0	7.6	7.5
04-Aug-25	11.4	No Data	9.7
05-Aug-25	8.3	No Data	7.6
06-Aug-25	6.9	No Data	7.0
07-Aug-25	8.3	No Data	8.9
08-Aug-25	11.9	No Data	12.6
09-Aug-25	8.0	No Data	8.6
10-Aug-25	6.0	No Data	6.9
11-Aug-25	7.0	No Data	7.6
12-Aug-25	6.2	No Data	5.9
13-Aug-25	10.4	No Data	10.5
14-Aug-25	12.1	No Data	11.5
15-Aug-25	11.0	No Data	10.8
16-Aug-25	9.2	No Data	12.5
17-Aug-25	7.3	No Data	10.3
18-Aug-25	8.6	No Data	10.2
19-Aug-25	7.8	No Data	9.2
20-Aug-25	7.1	No Data	7.8
21-Aug-25	4.9	No Data	5.2
22-Aug-25	8.0	No Data	7.7
23-Aug-25	7.6	No Data	7.9
24-Aug-25	11.6	No Data	10.2
25-Aug-25	8.7	No Data	9.4
26-Aug-25	7.4	9.9	7.6
27-Aug-25	10.1	16.4	13.4
28-Aug-25	8.1	12.5	11.5
29-Aug-25	7.5	14.1	7.9
30-Aug-25	9.6	12.0	14.0
31-Aug-25	8.6	7.7	9.2

September 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-Sep-25	9.6	10.0	11.6
02-Sep-25	12.8	17.2	13.5
03-Sep-25	9.3	15.8	12.9
04-Sep-25	10.8	22.4	12.7
05-Sep-25	14.0	16.9	16.9
06-Sep-25	14.8	14.2	14.9
07-Sep-25	10.8	11.6	11.1
08-Sep-25	15.7	40.6	17.0
09-Sep-25	14.7	32.8	15.2
10-Sep-25	5.2	5.8	5.4
11-Sep-25	5.7	6.0	7.2
12-Sep-25	5.6	5.8	6.7
13-Sep-25	6.8	6.4	6.7
14-Sep-25	8.2	9.7	8.7
15-Sep-25	12.5	19.7	13.4
16-Sep-25	17.0	31.7	16.5
17-Sep-25	17.8	27.5	20.4
18-Sep-25	12.9	14.5	12.3
19-Sep-25	13.1	22.3	14.6
20-Sep-25	7.0	8.9	9.8
21-Sep-25	9.1	10.0	11.5
22-Sep-25	10.3	14.3	12.4
23-Sep-25	12.1	11.5	10.7
24-Sep-25	12.6	21.4	18.7
25-Sep-25	14.9	26.2	19.6
26-Sep-25	21.2	40.8	23.3
27-Sep-25	21.2	21.4	22.0
28-Sep-25	30.1	35.9	30.4
29-Sep-25	23.0	22.3	21.5
30-Sep-25	15.5	22.2	16.3

October 2025			
SAMPLE DATE	SITE 7	SITE 8	SITE 9
01-Oct-25	20.9	38.6	24.5
02-Oct-25	16.3	28.2	20.1
03-Oct-25	16.6	No Data	19.7
04-Oct-25	15.2	No Data	13.6
05-Oct-25	13.5	No Data	12.7
06-Oct-25	28.5	No Data	27.3
07-Oct-25	23.9	No Data	24.9
08-Oct-25	19.7	25.5	22.8
09-Oct-25	23.1	24.4	23.3
10-Oct-25	12.5	14.8	15.6
11-Oct-25	10.3	12.4	17.1
12-Oct-25	20.6	15.5	17.9
13-Oct-25	11.5	13.9	15.4
14-Oct-25	14.0	17.0	20.8
15-Oct-25	15.7	17.6	17.8
16-Oct-25	20.1	30.3	24.5
17-Oct-25	16.2	21.7	18.7
18-Oct-25	19.1	17.4	No Data
19-Oct-25	18.7	16.1	15.8
20-Oct-25	18.9	21.6	20.4
21-Oct-25	28.7	29.4	29.5
22-Oct-25	33.7	44.6	34.8
23-Oct-25	42.9	46.0	46.8
24-Oct-25	20.0	21.4	29.7
25-Oct-25	25.8	23.2	24.9
26-Oct-25	16.8	19.5	19.9
27-Oct-25	22.9	24.4	23.4
28-Oct-25	8.5	8.3	10.2
29-Oct-25	7.9	7.8	9.6
30-Oct-25	12.2	12.6	17.0
31-Oct-25	13.7	13.0	16.3

Appendix 2: Water Monitoring Results

SURFACE WATER MONITORING RESULTS – pH

Date	Dam 1/2	MCC12	No.2 Open Cut Void	No.1 Open Cut Void	MCC07	MCC08	MCC09	MCC23	MCC24	MCC25	MCC26	MCC27	MCC28	MCC29	MCC30
January	8.21	8.71	No access	Dry	7.64	7.44	8.05	8.70	9.68	7.70	8.55	8.57	7.57	Dry	
February	8.08	8.51			7.65	7.57	Dry	8.68	8.88	7.70	8.50	8.46	7.61	Dry	
March	8.01	8.44			7.57	7.63	Dry	8.58	8.92	7.82	8.97	8.51	Dry	Dry	
April	8.18	8.51			7.97	7.96	7.82	8.76	8.81	7.96	9.19	8.70	7.61	Dry	
May	8.23	7.99			7.93	7.93	Dry	8.58	8.85	8.03	9.48	8.74	7.44	Dry	
June	8.14	8.16			7.89	7.89	7.96	7.76	7.91	7.44	7.75	8.17	7.63	Dry	
July	8.17	7.93			7.74	7.75	8.12	7.96	7.88	7.36	8.26	8.20	7.56	Dry	
August	7.76	7.48			7.74	7.74	7.51	No access	No access	No access	7.54	7.44	No access	Dry	7.88
September	8.26	8.71			7.98	8.01	8.33	8.25	7.91	7.51	8.43	8.08	7.48	Dry	7.95
October	8.42	7.98			7.68	7.73	8.61	8.63	8.09	7.55	8.72	8.16	7.78	Dry	7.70
November	8.32	8.36			7.78	7.77	8.58	8.46	8.35	8.15	8.55	8.38	8.08	Dry	8.27
December	Dry	8.52			7.87	7.93	8.45	8.53	8.26	8.07	8.47	8.36	8.14	Dry	8.23

SURFACE WATER MONITORING RESULTS – ELECTRICAL CONDUCTIVITY (µS/cm)

Date	Dam 1/2	MCC12	No.2 Open Cut Void	No.1 Open Cut Void	MCC07	MCC08	MCC09	MCC23	MCC24	MCC25	MCC26	MCC27	MCC28	MCC29	MCC30
January	6750	2240	No access	Dry	3060	4490	1480	13600	6340	1760	7540	12200	1280	Dry	
February	6620	2310			3080	5050	Dry	13600	6440	1770	9260	12400	1540	Dry	
March	6460	2020			1680	4600	Dry	13600	6640	1760	9470	13100	Dry	Dry	
April	6420	2010			3110	4450	866	13400	3350	1710	5110	12100	1140	Dry	
May	6540	3120			2400	3100	Dry	13800	3730	1610	7400	12200	1260	Dry	
June	4160	2160			1280	1570	626	1180	2010	622	875	3520	967	Dry	
July	5220	2550			1380	1760	702	1780	2230	880	1090	4620	1070	Dry	
August	1750	1230			568	712	388	No access	No access	No access	764	1770	No access	Dry	976
September	3040	1420			1180	1550	557	2640	1250	711	2490	5690	711	Dry	1110
October	4360	1760			1530	2260	1230	4960	2070	922	4650	7630	871	Dry	1420
November	4870	1990			1790	2820	1590	6680	2580	981	5590	8500	975	Dry	1630
December	Dry	2240			2260	3220	1940	7580	2880	1020	6790	9320	1110	Dry	1780

SURFACE WATER MONITORING RESULTS – TOTAL SUSPENDED SOLIDS (mg/L)

Date	Dam 1/2	MCC12	No.2 Open Cut Void	No.1 Open Cut Void	MCC07	MCC08	MCC09	MCC23	MCC24	MCC25	MCC26	MCC27	MCC28	MCC29	MCC30
January	12	7	No access	Dry	14	6	9	127	36	10	14	16	9	Dry	
February	<5	<5			5	5	Dry	9	29	<5	11	6	108	Dry	
March	<5	<5			34	9	Dry	20	138	6	8	6		Dry	
April	16	39			24	9	8	19	34	8	17	8	9	Dry	
May	15	23			<5	<5	Dry	22	9	7	23	6	7	Dry	
June	13	21			<5	<5	6	7	6	9	10	11	<5	Dry	
July	6	20			<5	<5	<5	<5	<5	10	10	14	<5	Dry	
August	6	11			<5	<5	<5	No access	No access	No access	14	<5		Dry	6
September	7	25			<5	<5	<5	5	<5	<5	5	8	<5	Dry	<5
October	6	12			<5	<5	<5	9	<5	9	5	8	<5	Dry	28
November	6	26			<5	<5	<5	6	<5	7	13	17	<5	Dry	5
December	Dry	32			<5	9	<5	13	10	19	<5	<5	5	Dry	6

Extra analysis for quarterly surface water data is available from MCC on request.

GROUND WATER MONITORING RESULTS – DEPTH TO WATER (mbgl)

Date	RDH529	RDH616	RDH617	RDH624	MCC1003	MCC1006	MCC1017	MCC1018
February	114.7	No access	No access	34.71	3.50	5.45	16.90	18.67
April	114.7	48.66	45.28	34.92	2.43	5.30	17.02	18.43
June	113.7	49.51	45.28	35.00	2.12	3.99	16.84	18.67
July	114.7	49.55	45.18	35.06	2.17	4.00	16.76	18.73
August	114.7	48.85	44.82	34.82	1.98	3.51	16.76	18.56
September	114.7	45.15	49.72	34.58	2.13	3.78	16.67	18.46
October	No access	50.10	45.40	34.58	2.19	3.82	16.64	18.42
November	100.69	50.25	45.42	34.58	2.40	4.01	16.69	18.22
December	100.41	50.34	45.54	34.59	3.09	4.54	16.74	18.75

GROUND WATER MONITORING RESULTS – pH

Date	RDH529	RDH616	RDH617	RDH624	MCC1003	MCC1006	MCC1017	MCC1018
February	6.89			6.95	7.21			7.68
April	6.92			6.48	7.22			7.74
June	7.18			7.05	7.32			7.8
July	7.15			6.60	7.24			7.74
August	7.17	Depth only	Depth only	6.69	7.30	Depth only	Depth only	7.79
September	No access			6.72	7.40			7.66
October	No access			7.03	7.54			7.87
November	7.93			7.47	7.79			7.93
December	7.95			7.55	7.97			8.09

GROUND WATER MONITORING RESULTS – Electrical Conductivity

Date	RDH529	RDH616	RDH617	RDH624	MCC1003	MCC1006	MCC1017	MCC1018
February	6080			5070	1640			8820
April	6500			5560	1570			9720
June	6650			5160	1560			9560
July	6220			4940	1500			9310
August	6420	Depth only	Depth only	3820	1530	Depth only	Depth only	9260
September	No access			4730	1580			8580
October	No access			5340	1790			9550
November	1250			5620	1810			9810
December	1250			5510	1760			9620

Extra analysis for bi-monthly groundwater data is available from MCC on request.

Appendix 3: Noise Monitoring

Noise Monitoring Results – MCC Contribution LA_{eq}

Month	R13 Sandy Creek Rd	Criteria	R15 Queen St	Criteria	R17 Queen St	Criteria	R25 Sandy Creek Rd	Criteria	R32 Muscle Creek Rd	Criteria
Jan 25	28	41	Inaudible	37	Inaudible	35	26	42	Inaudible	35
Feb 25	24	41	24	37	Inaudible	35	32	42	Inaudible	35
Mar 25	27	41	Inaudible	37	Inaudible	35	24	42	Inaudible	35
Apr 25	41	41	35	37	34	35	35	42	Inaudible	35
May 25	30	41	33	37	29	35	34	42	Inaudible	35
Jun 25	23	41	24	37	26	35	Inaudible	42	28	35
Jul 25	Inaudible	41	Inaudible	37	Inaudible	35	Inaudible	42	26	35
Aug 25	26	41	Inaudible	37	Inaudible	35	25	42	Inaudible	35
Sep 25	Inaudible	41	Inaudible	37	Inaudible	35	Inaudible	42	Inaudible	35

Noise Monitoring Results – MCC Contribution $LA1_{1min}$

Month	R13 Sandy Creek Rd	R15 Queen St	R17 Queen St	R25 Sandy Creek Rd	R32 Muscle Creek Rd	Criteria
Jan 25	32	Inaudible	Inaudible	29	Inaudible	45
Feb 25	28	27	Inaudible	35	Inaudible	45
Mar 25	31	Inaudible	Inaudible	27	Inaudible	45
Apr 25	44	40	39	42	Inaudible	45
May 25	35	36	33	39	Inaudible	45
Jun 25	27	28	29	Inaudible	31	45
Jul 25	Inaudible	Inaudible	Inaudible	Inaudible	29	45
Aug 25	31	Inaudible	Inaudible	29	Inaudible	45
Sep 25	Inaudible	Inaudible	Inaudible	Inaudible	Inaudible	45