Mackenzie North Quarterly Air and Noise Report January – March 2026

JELLINBAH COAL MINE

PREPARED FOR
Jellinbah Mining Pty Ltd

April 2026

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Abbreviations

AARC	AARC Environmental Solutions Pty Ltd
AQMP	Air Quality Management Plan
AS	Australian Standard
AV	Adjustment Value
BAM	Beta-Attenuation Monitor
bg	background noise level
CV	Critical Value
dBA, dB(A)	Decibel measurement according to the "A"- weighted scale.
EA	Environmental Authority
GDA94	Geodetic Datum of Australia 1994
Hz	Hertz
Jellinbah	Jellinbah Mining Pty Ltd
L_1	Noise level which is exceeded for 1% of the measurement period
L_{10}	Noise level which is exceeded for 10% of the measurement period
L_{90}	Noise level which is exceeded for 90% of the measurement period
L_{Aeq}	Equivalent continuous 'A-weighted' sound
L_{Amin}	Minimum 'A-weighted' noise level
$L_{A1,adj,15min}$	'A-weighted' noise level which is exceeded for 1% of the 15-minute measurement period
$L_{Aeq,adj,15min}$	Equivalent Continuous Sound Level recorded over the 15-minute measurement period
m/s	metres per second
$mg/m^2/day$	milligrams per square metre per day
ML	Mining Lease
NATA	National Association of Testing Authorities
NMP	Noise Management Plan
PM_{10}	Particulate Matter with an aerodynamic diameter less than 10 micrometres (µm)
TARP	Trigger Action Response Plan

Executive Summary

This quarterly analysis report for the Mackenzie North mining operations assesses the air quality and noise monitoring data during the January to March 2026 monitoring period. Dust deposition sample data was collected between 1st of December and 6th of February 2026. Noise monitoring was conducted in February 2026 as part of the six-monthly noise monitoring program.

Jellinbah will continue to implement mitigation measures where required in response to elevated particulate matter, dust or noise levels, following the Air Quality and Noise management plans.

Air quality monitoring

Jellinbah monitors PM_{10} dust impacts at sensitive receptors in real-time using the BAM unit. During the monitoring period, the PM_{10} dust concentrations recorded by the BAM unit did not exceed the EA limit of 50 µg/m^3.

Dust deposition analysis was also completed via the dust deposition gauges set up at various locations surrounding Mackenzie North. No samples were collected in January and March due to wet weather conditions. February monitoring results indicate that dust levels for insoluble solids remained below the EA limit at both sensitive receptor monitoring sites (J3 and J6).

Noise monitoring

Noise monitoring was conducted in February 2026 for the six-monthly noise monitoring assessment. The full noise assessment report is provided in Appendix B. Of the four (4) locations specified in the current NMP, access was limited to two (2) locations due to recent heavy rainfall and associated flooding, and the Jellinbah 1 and 2 homesteads were inaccessible.

The assessment determined that some L_{eq} and L_1 noise measurements were significantly influenced by extraneous sources, including insects, cattle, wind, and noise from Yarrabee Mine. Following the exclusion of extraneous noise, all nine measurements were compliant with both L_{Aeq} and L_{A1} criteria, with no exceedances recorded. Accordingly, notification to the administering authority is not required.

It is understood that there have not been any noise complaints during the current review period since the last noise measurements conducted in August 2024. Jellinbah has advised that the noise level exceedances were not due to operational emergencies, incidents or exceptions and therefore notification to the administrating authority is not required.

In accordance with EA Condition E5 and the NMP, Jellinbah is to continue to implement noise abatement measures so that emissions of noise from the activity do not result in environmental nuisance.

1 Introduction

This report has been prepared by AARC Environmental Solutions Pty Ltd (AARC) on behalf of Jellinbah Mining Pty Ltd (Jellinbah). The purpose of this report is to present a regular (quarterly) review of all air quality monitoring results and provide a summary of the noise assessment results when available, to ensure best practice management and compliance with the Environmental Authority (EA) EPML00516813 (effective 6 March 2026) conditions and associated management plans. Noise monitoring is conducted every six months, and when scheduled, this report will include the noise assessment report as an appendix.

The monitoring period for this quarterly assessment is from January to March 2026. The data collected will contribute to Jellinbah's internal monitoring and reporting systems, as outlined in the Air Quality and Noise management plans. Should any complaint of environmental nuisance at any sensitive or commercial place be received, the report can be made available to the administering authority if an investigation is requested, potentially assisting with result contributions for EA Condition B2 and E2, when required.

1.1 Objectives

The objective of this report is to assess compliance with air quality (dust and particulate matter) and noise requirements contained in the EA, which reference the Air Quality Management Plan (AQMP) and Noise Management Plan (NMP). The report will also outline any recommendations, where required, for mitigation measures to prevent elevated dust and noise levels.

Mitigation measures are recommended using a risk-based approach following the AQMP and the NMP. These measures are also based on the commitments made to landholders in Jellinbah's signed 2014 affidavit[1], which stem from noise and vibration assessments completed by ASK Consulting Engineers (2013 and 2014) and an air quality assessment report from Katestone (2013 and 2014).

The air and noise EA conditions are attached in Appendix A. EA Condition B3 states that the EA holder *"shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust particulate emissions generated by the mining activities do not cause exceedances …. at any sensitive or commercial place. If the EA holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of condition B1".* Additionally, EA Condition B6 requires an AQMP which addresses monitoring of particulate matter on a *"regular basis"*. The monitoring presented and assessed in this quarterly report is considered to satisfy these EA conditions.

EA Condition E7 requires an NMP that addresses noise monitoring on a regular basis (as defined in the NMP). The NMP defines a regular basis as every six months. Noise monitoring was conducted during this quarterly reporting period. The full noise assessment report is provided in Appendix B. The next attended monitoring is scheduled for August 2026.

[1] Land Court of Queensland, Affidavit of Ian Alfred Cooper (GM and SSE of Jellinbah Central Mine) signed 15-9-2014

1.2 Project background

The Mackenzie North Mine is an extension of the Jellinbah Coal Mine project, north of the Mackenzie River. The Mackenzie North operational area consists of four mining leases (MLs): ML 70445, ML 70446, ML 70448, and ML 70449. The open-cut mine has replaced the production from the finished Jellinbah Plains pit, thus maintaining overall mine production rates at currently approved levels.

Activities that have occurred during the reporting period at the Mackenzie North Mine include:

- stripping and stockpiling of topsoil ahead of mining;
- overburden removal ahead of mining in the pit;
- mining of coal seams in pit;
- crushing and hauling of coal material; and
- progressive rehabilitation activities.

1.3 Sensitive receptors

Sensitive receptors are residences or commercial locations that have the potential to be impacted by air quality or noise impacts arising from the activities at Jellinbah Coal Mine. The key sensitive receptors for potential dust and noise emissions from Mackenzie North are listed in Table 1 and shown in Figure 1.

Table 1: List of Mackenzie North Sensitive Receptors

Name	Approximate Distance to Mackenzie North Mining Lease Area (km)	Easting (GDA94 Z55)	Northing (GDA94 Z55)
Jellinbah 1 (Old Jellinbah Homestead)	6	688715	7429754
Jellinbah 2 (Jellinbah Homestead)	8	697280	7439294
Tarcoola	10	704858	7434955
Scrubee	5	701434	7428272

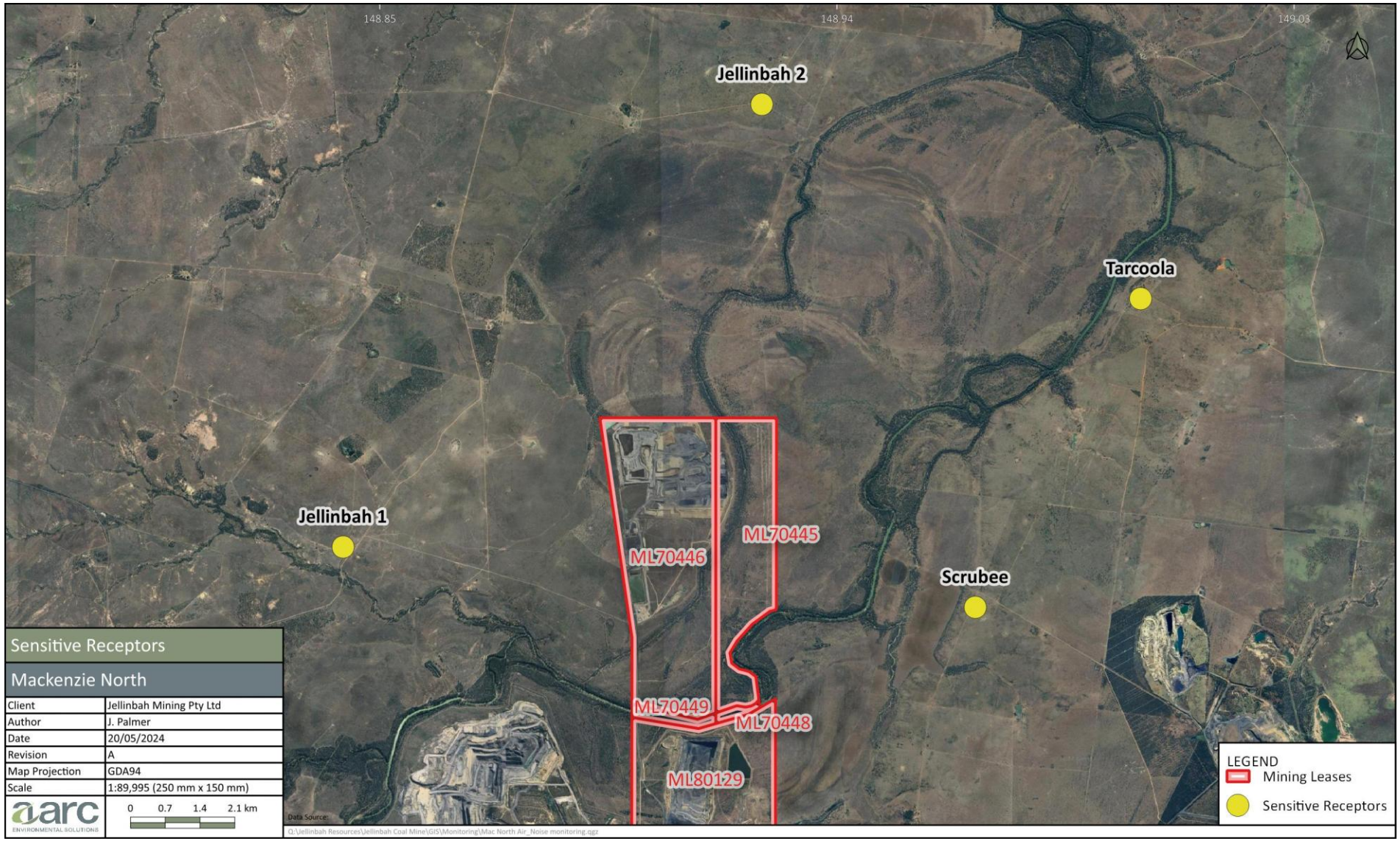

Figure 1: Mackenzie North sensitive receptors

2 Air quality monitoring

2.1 Beta-Attenuation Monitor (BAM)

2.1.1 Equipment and methodology

In late July 2020 Jellinbah commissioned and installed a solar-powered Beta-Attenuation Monitor (BAM) to monitor PM_{10} dust levels at sensitive receptors surrounding the Mackenzie North Mine. BAM units are considered a 'best-practice' methodology to undertake monitoring for PM_{10} dust and are considered more reliable than DustTrak units.

The BAM unit is solar-powered and mounted on a trailer to enable it to be moved regularly between the sensitive receptors. Using the BAM unit, Jellinbah can monitor PM_{10} dust levels in real-time via an online portal. The unit has alarms set up to notify key personnel when dust levels are approaching, or exceeding, the limits defined in the EA or when adverse meteorological conditions are encountered (i.e. high wind speeds and when the wind is blowing in the direction of a sensitive receptor).

During the monitoring period spanning between January to March 2026, the BAM unit was located at Jellinbah 1 in January and February and subsequently relocated to Jellinbah 2 in March in accordance with the monitoring schedule proposed in the AQMP. The AQMP (AARC 2024) includes a revised BAM location schedule based on a review of local prevailing wind directions, and historical onsite and regional PM_{10} level monitoring. On the basis of the dominating easterly wind direction and the PM_{10} results; the recommended schedule includes rotationally moving the BAM unit at Jellinbah 1 and Jellinbah 2 sites as they are expected to be most affected by the mine. The periods at each location are as follows:

- September to February (Spring, Summer): Jellinbah 1 (west of mine)
- March to August (Autumn, Winter): Jellinbah 2 (north of mine)

The monitoring location may be modified in the future based on data collected, complaints received, or a change in prevailing meteorological conditions. The proposed schedule may be considered for future quarterly monitoring periods.

2.1.2 Meteorological station

Jellinbah operates a meteorological station at Mackenzie North that records rainfall, temperature, wind direction, and wind speed to identify periods when nearby sensitive receivers are at risk of elevated dust levels. Access to frequent and real-time meteorological data, with alarms set on the BAM unit, means that Jellinbah can quickly alter operations (if required) to reduce the potential for impacts at sensitive receptors, in accordance with the dust management Trigger Action Response Plan (TARP). Rainfall recorded during the quarterly monitoring period is shown in Figure 2.

Prevailing wind direction was obtained from the Mackenzie North Station. Figure 3 shows the recurrence frequency, by cumulative percentage, in which the hourly wind direction at each velocity range repeatedly occurs over the analysed period of January to March 2026. During this period, the prevailing winds were from the east (E) direction.

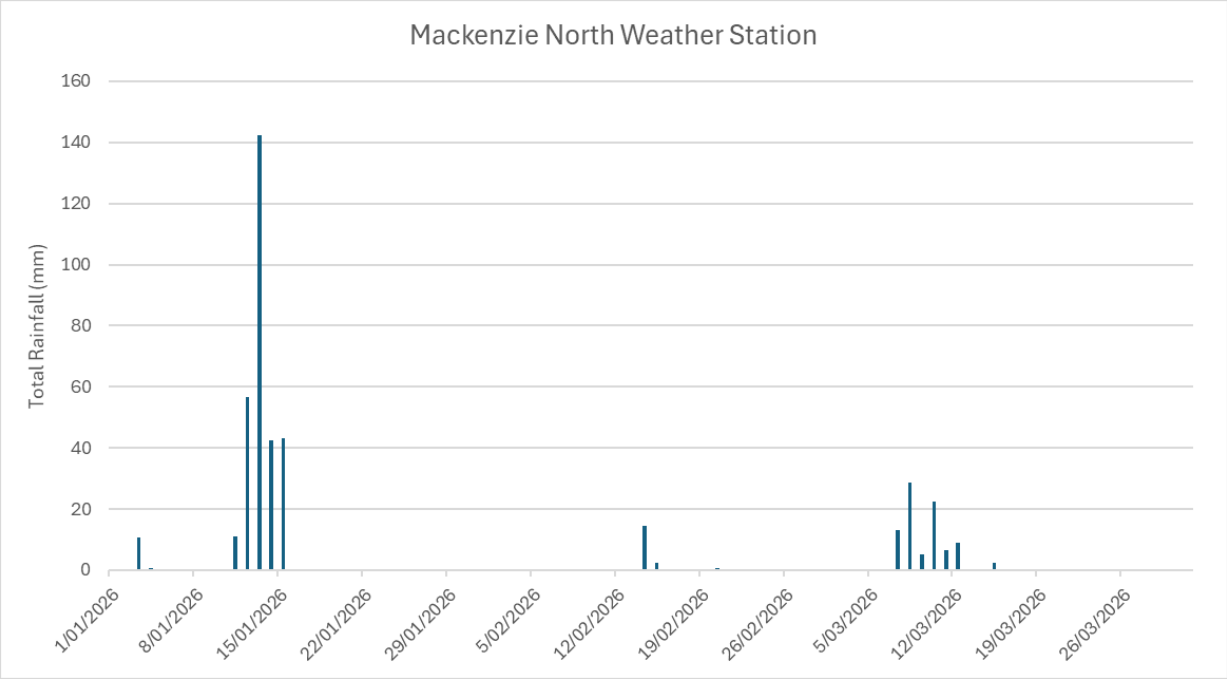

Figure 2: Daily rainfall (mm) from January to March 2026

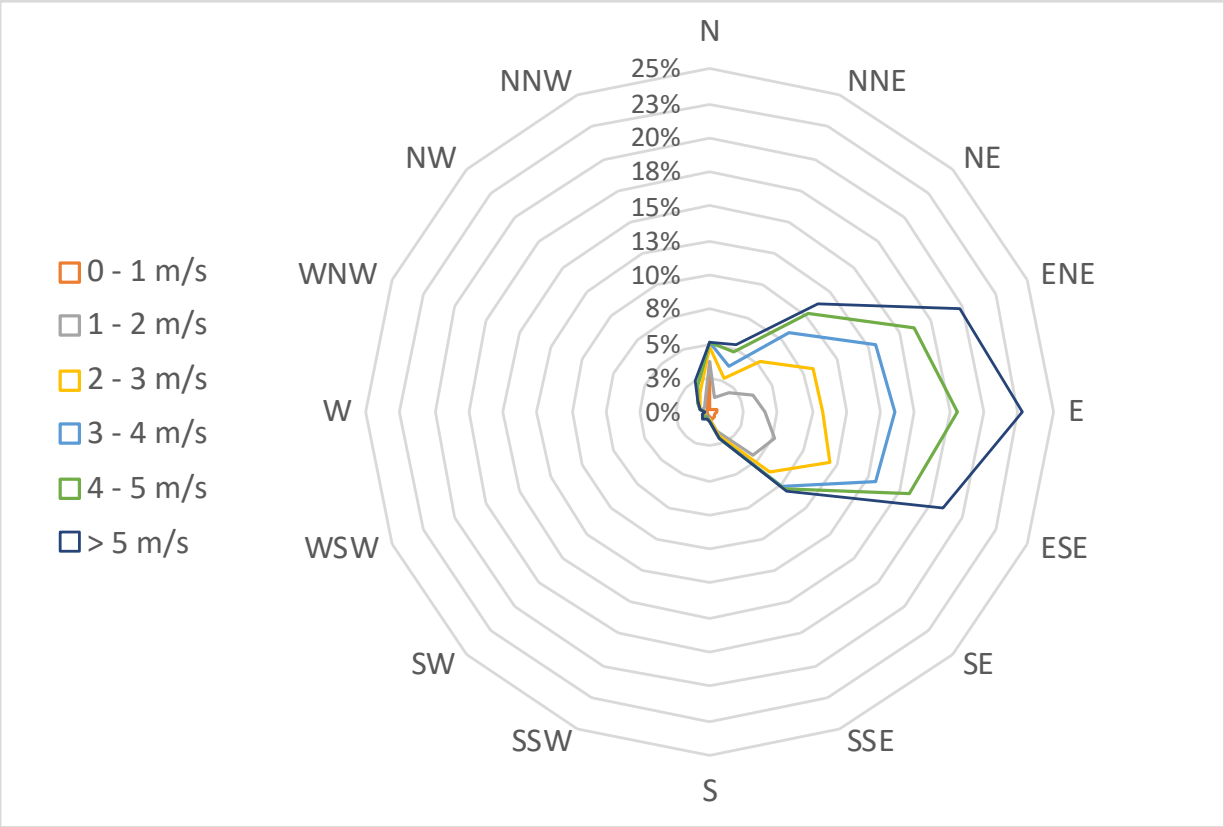

Figure 3: Wind rose graph from Jellinbah Mackenzie North station (January to March 2026).

2.1.3 PM_{10} monitoring results

As per EA condition B3, the concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (µm) (PM10) suspended in the atmosphere should not exceed 50 micrograms per cubic meter over a 24-hour averaging time at any sensitive receptor downwind of operations.

The monitoring data recorded from 1st January to 31st March 2026 is presented in Figure 5

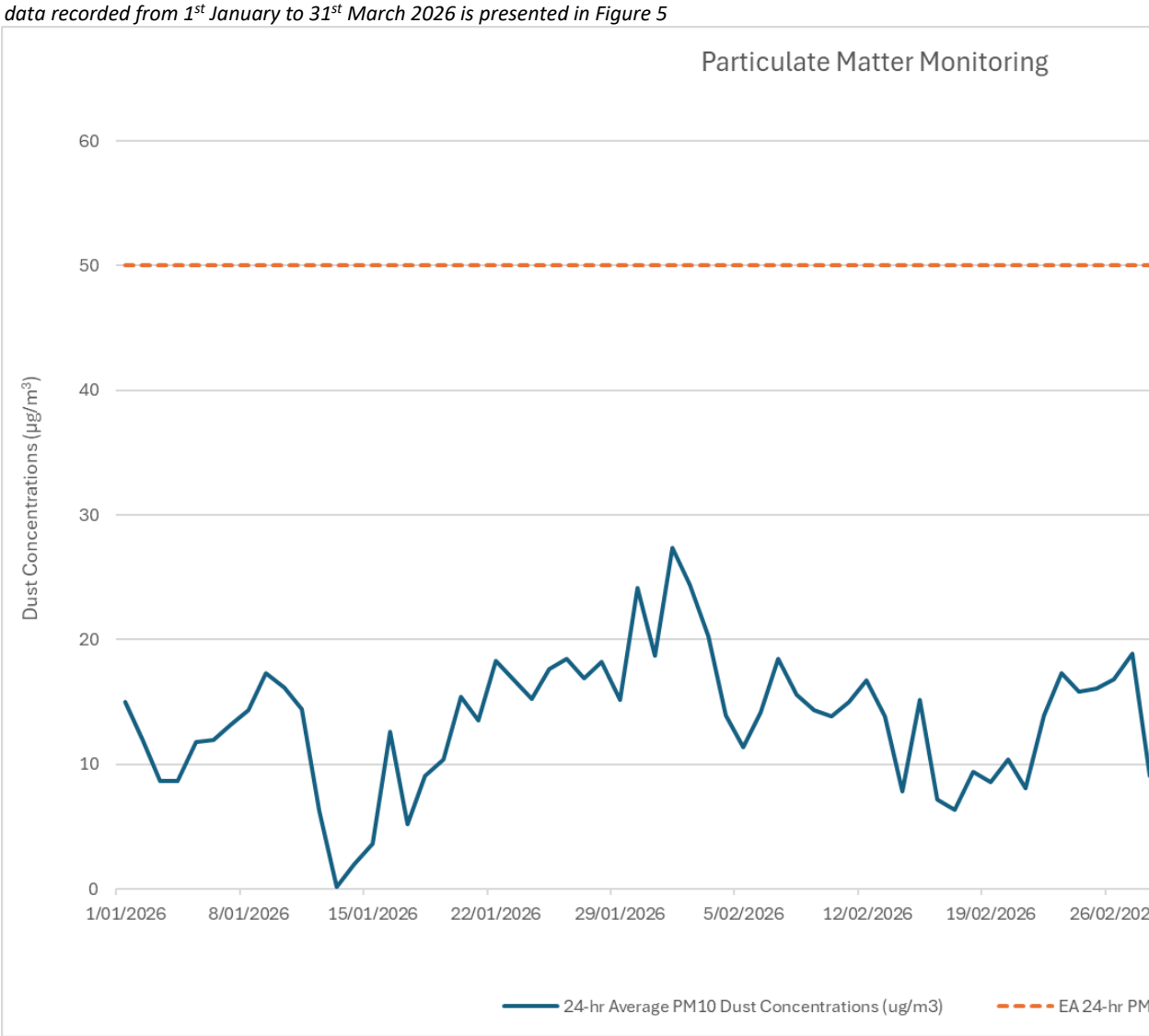

Figure 4. During this period, 24-hour average particulate matter concentrations ranged from 0.16 to 40.83 µg/m³, with all recorded PM_{10} concentrations remaining below the EA limit of 50 µg/m³.

Further, an analysis of rainfall data (Figure 2) suggests that wet weather conditions during the quarterly review period correlated with PM_{10} concentrations remaining below trigger limits in the local region.

A review of historical data indicates that elevated PM_{10} levels at Jellinbah are infrequent, with the most recent exceedances of the 24-hour average EA PM_{10} limit recorded between 1 and 4 October 2025. These exceedances were attributable to external influences, including significant fire back-burning activities in the surrounding environment. However, no such exceedances were recorded during the current quarterly period, suggesting that management and mitigation measures at Mackenzie North are being implemented effectively.

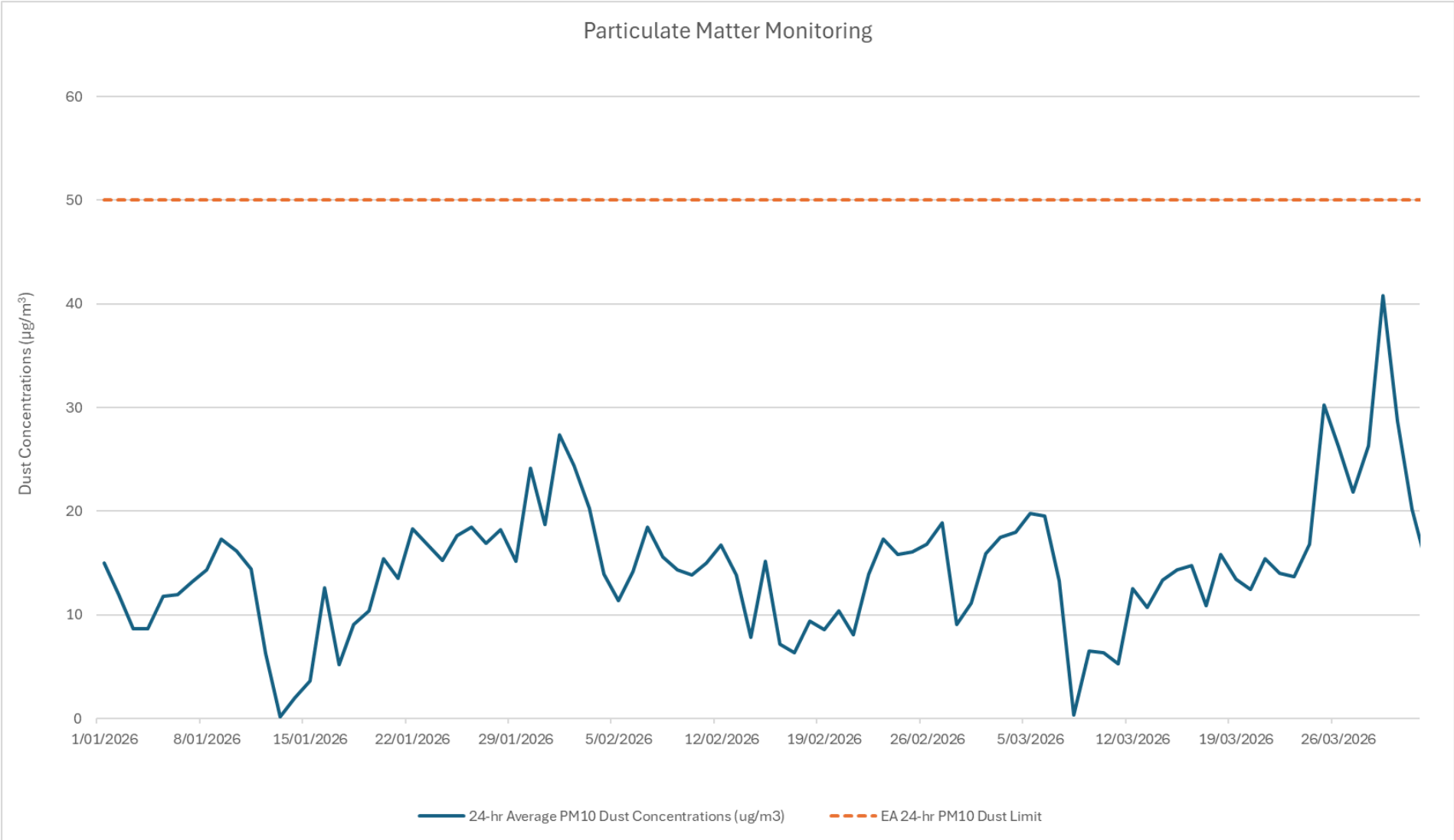

Figure 4: 24-hr average PM10 dust concentrations between January to March 2026

2.2 Dust deposition monitoring

2.2.1 Equipment and methodology

Dust deposition monitoring has been undertaken at various locations surrounding the Mackenzie North Mine since February 2018. The dust deposition monitoring program monitors Jellinbah's compliance with the EA, whereby Jellinbah must ensure that dust particulate emissions generated by mining activities do not exceed the limit specified in the EA (120 mg/m^2/day, averaged over one month) at any sensitive receptor.

The dust deposition gauges/bottles are intended to collect larger dust fall out particles than what is collected with the BAM unit. The dust deposition bottles are collected approximately every 30 days and sent to a NATA accredited laboratory, where the samples are analysed for ash content, combustible matter, total soluble matter, total insoluble matter, and total solids, in order to assist in determining the potential source of dust emissions.

It is worth noting that as the dust deposition bottles are sent off and analysed on a monthly basis, it is difficult to implement immediate mitigation measures in response to a single elevated level of dust deposition. Jellinbah is able to implement mitigation measures if it becomes apparent that dust deposition levels are significantly elevated upon receiving the previous month's data. This includes a review of the associated meteorological factors (such as wind direction) which may have since changed, potentially reducing the need for additional mitigation measures or significant changes to the current level of mitigation measures being applied.

The dust deposition monitoring locations surrounding Mackenzie North are listed in Table 2 and can be seen in Figure 6.

Table 2: Location of Mackenzie North dust deposition gauges

Site ID	Sensitive Receptor	Easting (GDA94 Z55)	Northing (GDA94 Z55)	Description
J2	-	696930	7434336	Approximately 2 km north of the Mackenzie North Mining Leases.
J3	Yes	688933	7429662	Old Jellinbah Homestead (Jellinbah 1).
J4	-	691714	7429806	Approximately 3 km east of Old Jellinbah Homestead and J3.
J5	-	690525	7427550	Approximately 3 km south-east of Old Jellinbah Homestead and J3. Approximately 1 km north of Curragh mine.
J6	Yes	697497	7439274	Jellinbah Homestead (Jellinbah 2).
J7	-	699159	7429044	Approximately 3 km west of Scrubee (across Mackenzie River).
J8	-	696412	7429438	Eastern side of Mackenzie River Anabranch (within the Mackenzie North Mining Leases (ML 70445).

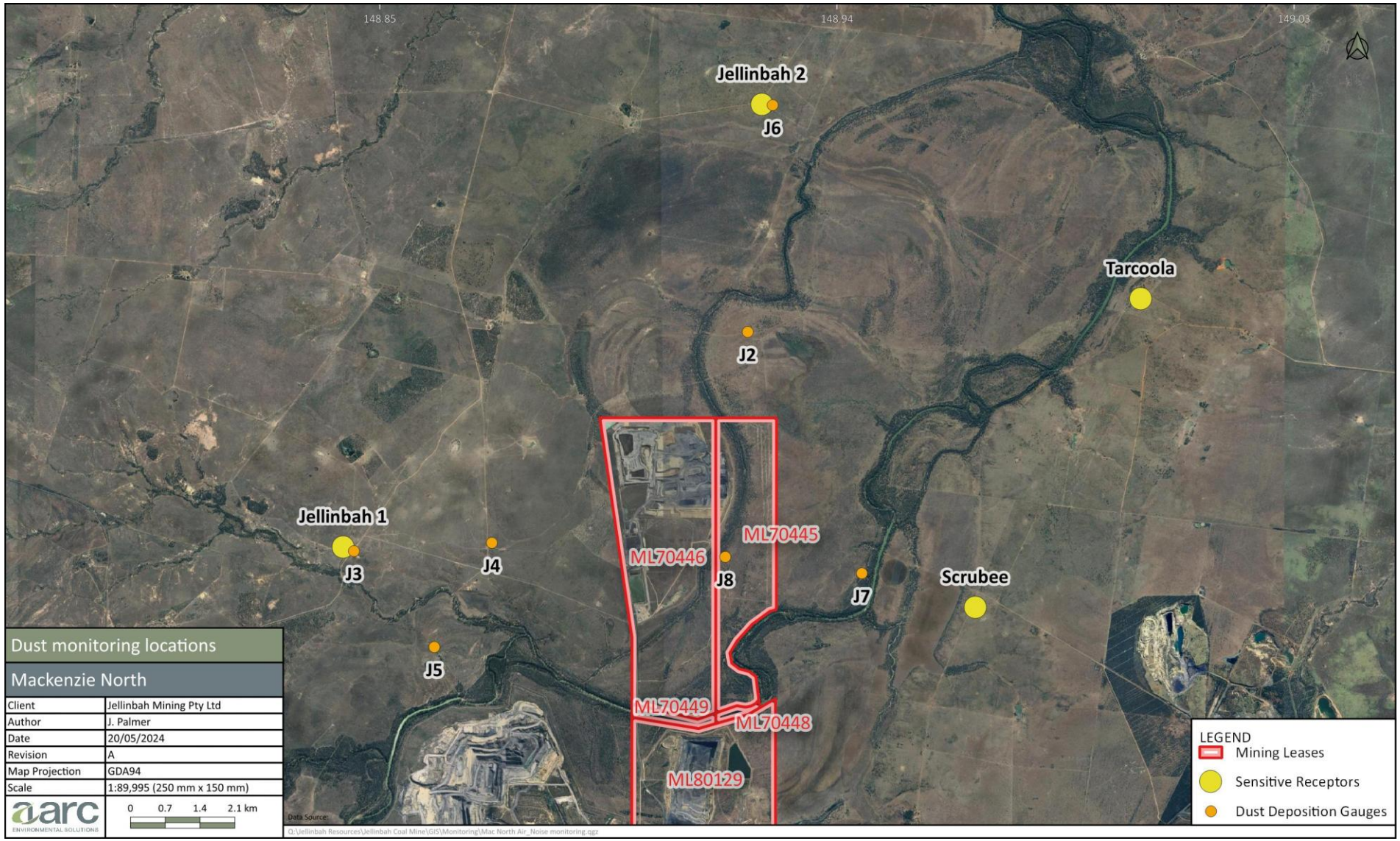

Figure 5: Mackenzie North dust deposition monitoring sites

2.2.2 Dust deposition monitoring results

Dust Deposition monitoring data collected for the locations in Table 2 during the reporting period can be seen in Figure 6. Dust bottles are collected mid-month, and the last collection was on 6th of February 2026.

No samples were collected in January and March due to wet weather conditions limiting site access. Accordingly, Figure 6 presents results for the December to February sampling period based on available collection dates. Field records indicate that in February, samples from two interpretation sites (J2 and J8) were not collected as rainfall resulted in impassable track conditions, restricting access to these locations.

Dust deposition gauges J3 and J6 monitor dust impacts at sensitive receptors. Dust deposition results greater than the EA specified limit identified at these locations may require a management action. Dust deposition gauges J2, J4, J5, J7 and J8 are for interpretational purposes only and are not located at sensitive receptors. Elevated dust levels (>120 mg/m^2/day) at J2, J4, J5, J7 and J8 are not considered exceedance events.

The insoluble solids concentrations at all sampling sites during the quarterly monitoring period, as presented in Figure 6, indicated that no concentrations exceeded the EA limit at any monitoring location.

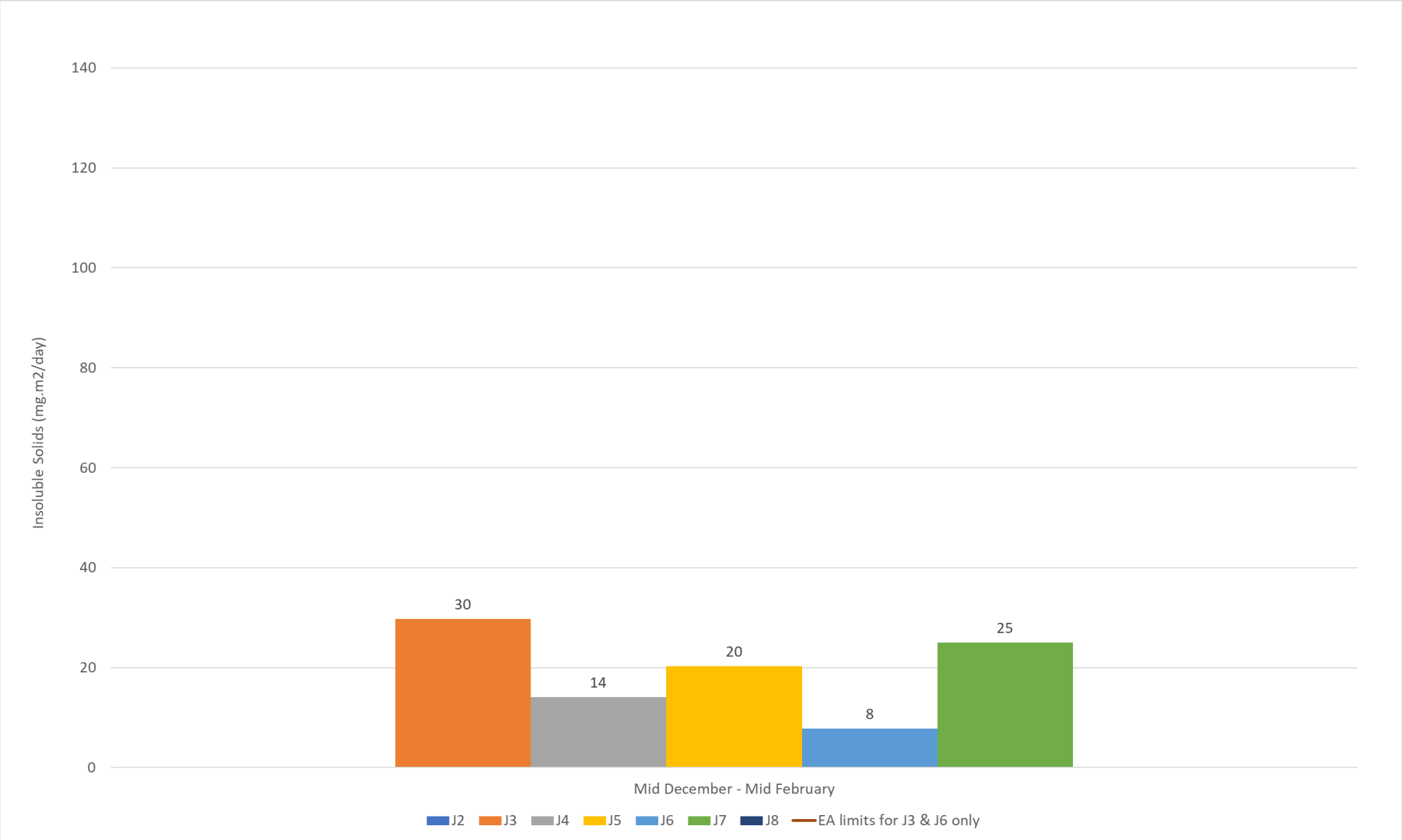

Figure 6: Dust deposition data recorded between the 1st of December and 6th of February 2026

3 Noise monitoring assessment

Noise assessment was to investigate any exceedances of the EA noise limits in relation to the Mackenzie North mine. The assessment also considers the extent to which the mine operations contribute to noise levels in comparison to surrounding mines such as Curragh and Yarrabee. Noise monitoring was conducted on the night of 19th to 20th February 2026 between 10:28 pm and 2:01 am. The full noise assessment report is provided in Appendix B.

The current monitoring methodology to quantify noise emissions from Jellinbah Mine consists of attended night-time noise monitoring survey of 15 minutes duration undertaken at four (4) sensitive receptors, and simultaneous unattended noise logging at two (2) locations near the neighbouring mines to assist with noise source identification (as shown in Table 3 and Figure 7).

However, during the February 2026 monitoring survey, access to the Jellinbah 1 and 2 homesteads was not available due to recent heavy rainfall and associated flooding, with Blackwater–Cooroorah Road closed at Bedford Weir. An alternative access route was attempted, however, the uncertainty of the road condition at night, additional travel time and lack of phone reception prevented access due to scheduling and safety concerns.

In addition to attended noise monitoring, unattended noise loggers were intended to be setup at two locations to assist with identifying the amount of contribution of mine noise from Curragh North mine (to west, nearer Jellinbah 1 and 2 receptors), and Yarrabee mine (to the east, nearer Scrubee and Tarcoola receptors). As noise monitoring was not possible at Jellinbah 1 and 2 due to the aforementioned flooding, only one noise logger was deployed near Yarrabee mine. Attended measurements at Scrubee and Tarcoola were undertaken by an AARC field Scientist.

Table 3: Noise Monitoring Locations

#	Nearest receptor	Monitoring location	Coordinates (UTM)[1]	
			Easting (m)	Northing (m)
Sensitive locations				
A	Jellinbah 1 (Old Jellinbah Homestead)	Located beside the dirt track which merges with the dirt track between Jellinbah 1 and 2 sites. This site was chosen as representative of the homestead but removed from mechanical noise occurring at the homestead itself. Approximately 250 metres east of the homestead.	689016	7429800
B	Jellinbah 2 (Jellinbah Homestead)	Located beside the dirt track on the western side of the property, approximately 200 metres west of the nearest residence.	696996	7439286
C	Scrubee	Located on the northern side of an intersection of dirt tracks, approximately 400 metres east of the homestead.	701877	7428401
D	Tarcoola	Located on the southern side of an intersection of dirt tracks, approximately 850 metres south-east of the homestead.	705637	7434470
Additional monitoring locations				
L1	Curragh North Mine	Located in a triangular fenced site beside a dirt track, approximately 700 metres north of the Curragh North mine disturbance area. This site is accessed via a north-south track on the southern side of the dirt track between Mackenzie North mine and Jellinbah 1.	691165	7426631
L2	Yarrabee Mine	Located beside a bend in the dirt track leading to Scrubee homestead, approximately 900 metres west of the Yarrabee mine disturbance area.	703972	7426930

Note: 1: Recorded coordinates were indicated to be +/- 5 metres accuracy according to the phone GPS application

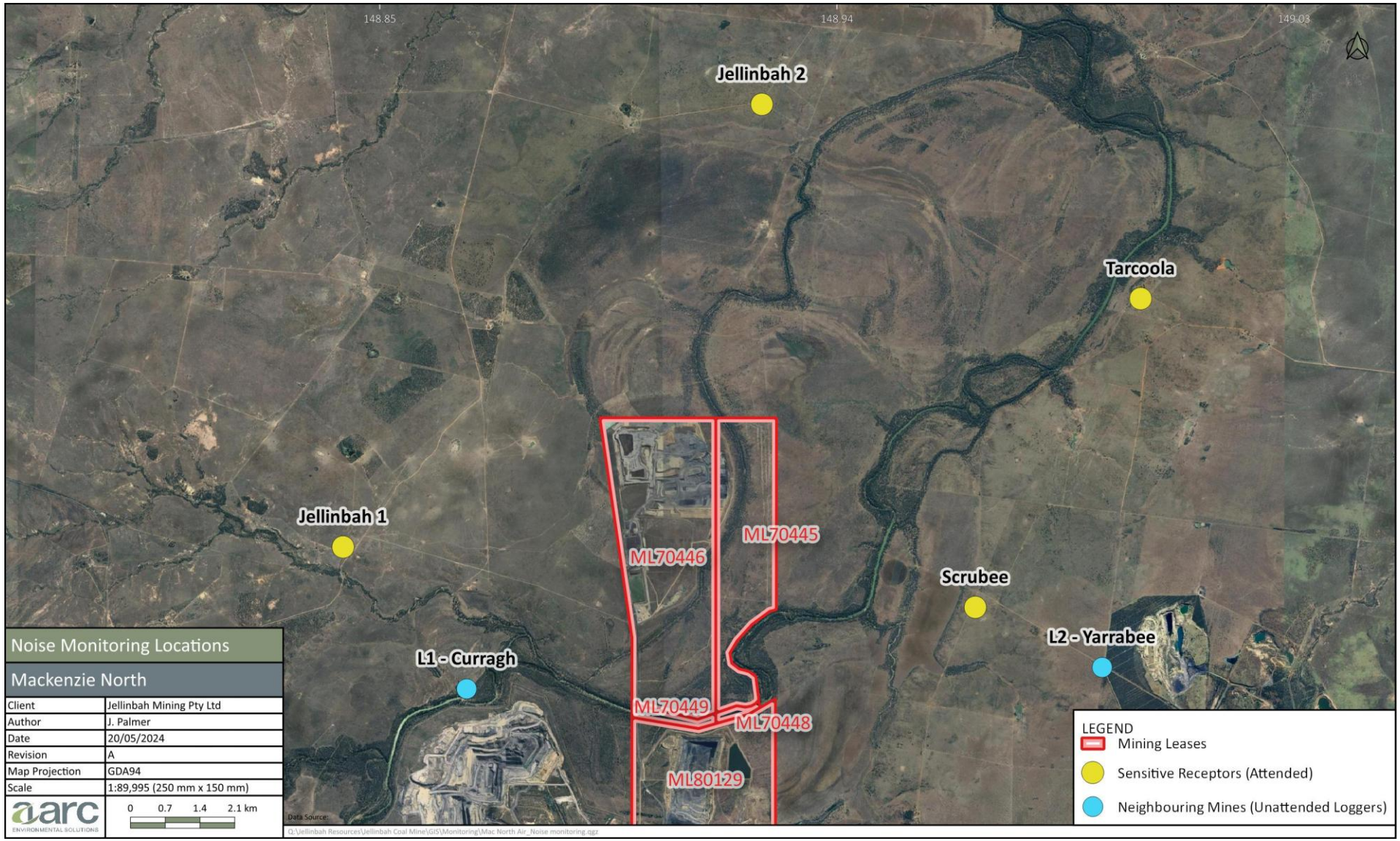

Figure 7: Mackenzie North noise monitoring site

3.1 Methodology

The noise monitoring methodology can be summarised for the monitoring period as follows:

- four (4) type 1 (as per Australian Standards) sound level meters with 1/3 octave centre band frequency and audio recording capabilities were used for the monitoring;
- measurements were undertaken during the night period to capture the noise environment while Jellinbah Mine is operating, and to minimise contamination by extraneous noise sources;
- unattended noise loggers were setup at two locations to assist with identifying the amount of contribution of mine noise from the Curragh and Yarrabee mines;
- multiple attended 15-minute noise measurements were completed at the following locations during the night-time period:
    - Scrubee; and
    - Tarcoola

During the February 2026 monitoring survey, access to the Jellinbah 1 and 2 homesteads was not available due to recent heavy rainfall and associated flooding. All attended measurement data was analysed and tabulated alongside weather conditions obtained from the meteorological station at Mackenzie North. This station records rainfall, temperature, wind direction and wind speed to identify periods when nearby sensitive receivers are at risk of elevated noise levels.

3.2 Sensitive receptor noise limits

Sensitive receptor noise limits developed from the Jellinbah EA (Table E1) are shown in Table 4.

Table 4: Sensitive Receptor Noise Criteria

Sensitive Receptor Noise Criteria (dBA)						
Noise level dB(A) measured as:	***Monday to Saturday***			***Sunday and Public Holidays***		
	7am – 6pm	***6pm – 10pm***	***10pm – 7am***	***9am – 6pm***	***6pm – 10pm***	***10pm – 9am***
$L_{Aeq,\ adj,\ 15min}$	*CV = 50* *AV = 5*	*CV = 45* *AV = 5*	*CV = 40* *AV = 0*	*CV = 45* *AV = 5*	*CV = 40* *AV = 5*	*CV = 35* *AV = 5*
$L_{A1,\ adj,\ 15min}$	*CV = 55* *AV = 10*	*CV = 50* *AV = 10*	*CV = 45* *AV = 5*	*CV = 50* *AV = 10*	*CV = 45* *AV = 10*	*CV = 40* *AV = 5*

Note:

CV = critical value
AV = adjustment value
c) To calculate noise limits in Table E1:
i) If bg < (CV – AV): Noise limit = bg + AV.
ii) If (CV – AV) < bf < CV: Noise limit = CV.
iii) If bg > CV: Noise limit = bg = 0.
d) In the event that measurement bg ($L_{A90,adj,15min}$) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level.
e) Bg = background noise level ($L_{A90,adj,15min}$) measured over 3 – 5 days at the nearest sensitive receptor.

It is noted that the EA does not include fixed noise limits but rather provides noise criteria where the limits are to be derived from background noise levels (i.e. noise levels measured in the absence of the mining noise). Background noise levels are reviewed in Noise Management Plan (NMP) (AARC 2023). On the basis of these background noise levels and the EA noise criteria in Table 4, the proposed limits presented in the NMP have been determined and are presented as follows in Table 5.

Table 5: Noise limits at a noise sensitive place

Sensitive Receptor Noise Criteria (dBA)						
Noise level dBA measured as:	***Monday to Saturday***			***Sunday and Public Holidays***		
	7am – 6pm	***6pm – 10pm***	***10pm – 7am***	***9am – 6pm***	***6pm – 10pm***	***10pm – 9am***
Jellinbah 1 (Old Jellinbah Homestead)						
$L_{Aeq,adj,15min}$	38	35	30	38	35	35
$L_{A1,adj,15min}$	43	40	35	43	40	35
Jellinbah 2 (Jellinbah Homestead)						
$L_{Aeq,adj,15min}$	35	35*	30	35	35*	35
$L_{A1,adj,15min}$	40	40*	35	40	40*	35
Scrubee						
$L_{Aeq,adj,15min}$	38	38*	30	38	38*	35
$L_{A1,adj,15min}$	43	43*	35	43	43*	35
Tarcoola						
$L_{Aeq,adj,15min}$	35	35*	30	35	35*	35
$L_{A1,adj,15min}$	40	40*	35	40	40*	35

Note: * these evening noise limits have been capped at day limits as discussed above.

The sensitive receptor noise limits apply to noise from Jellinbah mining activities only (as recorded at the relevant sensitive receptor) and not recorded total or cumulative noise levels. That is, extraneous noise, including noise from other mines, should be removed from noise measurement results prior to assessment against the EA noise criteria.

The following comments are provided regarding the calculated noise limits in Table 5:

- The L_1 noise limits are only 0 to 5 dB higher than the L_{eq} noise limits. The L_1 acoustic quality objectives within the Environmental Protection (Noise) Policy are 10 dB above the corresponding L_{eq} limits, and thus the L_1 limits are conservative with respect to the L_{eq} noise limits.
- The noise limits are to be adjusted ('adj') for tonality and impulsiveness. Generally, the noise from coal mines is not tonal or impulsive when considered over a 15-minute period, however, this will be considered further when monitoring results are presented.
- It is understood that the Land Court has generally enforced noise limits around 40 to 42 dBA L_{Aeq} in the daytime, and 35 dBA L_{Aeq} at night, and that these limits are commonly proposed for recent mining applications. Therefore, the EA noise criteria for this mine could be considered to result in conservative (strict) noise criteria, particularly for sensitive receptors that are not subject to cumulative noise impacts due to other nearby mines.

3.3 Attended noise monitoring results

The attended noise monitoring results, associated weather data, and the L_{eq} noise spectra associated with the measurements are detailed in Appendix B. The assessment considers nine (9) 15-minute attended noise measurements across two (2) sites (Scrubee and Tarcoola) and associated weather data. The mining noise from Jellinbah was estimated after removing extraneous noise by filtering sound frequencies (e.g. removing higher frequencies affected by insect noise).

The L_{eq} and L_{A1} levels due to mining noise are listed in Table 6 along with the weather data. Exceedances or potential exceedances are shaded blue.

Table 6: Summary assessment of mining noise levels

Location	Start time	Mining noise levels dBA		Jellinbah mining noise levels dBA		Mining noise limits dBA		Exceedance?		Weather (from onsite weather station)			
		L_{Aeq}	L_{A1}	L_{Aeq}	L_{A1}	L_{Aeq}	L_{A1}	L_{Aeq}	L_{A1}	Temp °C	RH%	Wind speed m/s	Wind dir'n deg
Tarcoola	10:28 PM	NM[1]	NM[1]	NM[2]	NM[2]	30	35	no	no	25	76	4.6	31
Tarcoola	10:51 PM	NM[1]	NM[1]	NM[2]	NM[2]	30	35	no	no	25	78	4.2	26
Tarcoola	11:14 PM	NM[1]	NM[1]	NM[2]	NM[2]	30	35	no	no	24	78	4.9	30
Scrubee	12:07 AM	36	42	NM[2]	NM[2]	30	35	no	no	23	79	3.1	19
Scrubee	12:27 AM	35	41	NM[2]	NM[2]	30	35	no	no	23	79	2.5	354
Scrubee	12:47 AM	39	44	NM[2]	NM[2]	30	35	no	no	23	85	2.6	318
Scrubee	01:06 AM	42	46	NM[2]	NM[2]	30	35	no	no	23	84	2.8	327
Scrubee	01:27 AM	38	43	NM[2]	NM[2]	30	35	no	no	22	83	2.3	319
Scrubee	01:46 AM	38	45	NM[2]	NM[2]	30	35	no	no	22	82	2.1	307

Note: [1]: Noise from mining was inaudible or barely audible and was not measurable (NM).
[2]: Noise from Jellinbah/ Mackenzie North mine was inaudible or barely audible and was not measurable (NM).

The assessment of the attended noise levels has determined that all nine (9) measurements were compliant for both LAeq and L_{A1} parameters, with no exceedances.

3.4 Unattended noise monitoring results

Unattended noise loggers are used to assist with determining the contribution of other mines to the overall mine levels in the attended noise measurements. The other mines being Curragh North mine to the west, nearer Jellinbah 1 and 2 receptors, and Yarrabee mine to the east, nearer Scrubee and Tarcoola receptors.

When Jellinbah mining noise levels determined from attended measurements are found to be compliant with the noise limits, it is not necessary to provide the additional noise source analysis using unattended noise monitoring results. As this was the case for this monitoring period, noise logging data has not been presented.

3.5 Conclusions and recommendations

The February 2026 noise monitoring assessment considers attended noise measurements across only two (2) sites (Scrubee and Tarcoola) as access was not possible to the two Jellinbah residences (Jellinbah 1 and Jellinbah 2) due to recent heavy rain and flooding.

It is understood that there have not been any recent noise complaints since the last noise measurements were conducted in August 2025. Jellinbah has advised that the noise level exceedances were not due to operational emergencies, incidents or exceptions and therefore notification to the administrating authority is not required.

In accordance with EA Condition E5 and the Noise Management Plan, Jellinbah is to continue to implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance. The following recommendations are proposed:

- Review meteorological conditions at time of exceedances and historically, to determine which conditions are more likely to result in exceedances. This information should be considered in conjunction with meteorological conditions noted in the NMP Trigger Action Response Plan (TARP).
- Review equipment utilisation across the night, to determine if there was an increase in equipment quantity, or whether equipment was moved to a location which would likely result in the higher noise levels measured later in the night. Review this data in comparison to future equipment expectations to understand potential future noise levels.

As a result of the above reviews, propose and implement measures to reduce noise levels in accordance with the EA and NMP.

Appendix A. Air, Noise and Vibration EA conditions

Schedule B: Air	
Condition number	**Condition**
B1	Subject to conditions **B2** and **B3** the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
B2	When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.
B3	**Dust and Particulate Matter Monitoring** The environmental authority holder shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust particulate emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place. If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of condition **B1**: (a) dust deposition of one-hundred and twenty (120) milligrams per square metre per day, averaged over **one (1) month**, when monitored in accordance with *AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method;* (b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM_{10}) suspended in the atmosphere of one-hundred and fifty (50) micrograms per cubic metre over a twenty four (24) hour averaging time, at a sensitive or commercial place downwind of the operational land, when monitored in accordance with; (i) particulate matter - Determination of suspended particulate PM_{10} high-volume sampler with size-selective inlet - Gravimetric method, when monitored in accordance with *AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM(sub)10 high volume sampler with size-selective inlet - Gravimetric method of 1990*; or (ii) Australian Standard *AS3580.9.9 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 low volume sampler – Gravimetric method.*
B4	If monitoring indicates exceedance of the relevant limits in condition **B3**, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; and (b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.
B5	The holder of the environmental authority must develop and implement an Air Quality Management Plan prior to the commencement of mining activities within ML70445, ML70446, ML70448 and ML70449.

B6	The Air Quality Management Plan (as required under condition **B5**) must address, as a minimum, the following: (a) a procedure for routine monitoring of real time meteorological conditions (rainfall, temperature, wind direction and wind speed) at Mackenzie North to identify periods when nearby sensitive receivers are at risk of elevated dust levels; (b) implementation of a Trigger Action Response Plan, which will identify and initiate appropriate air quality mitigation measures, for periods when adverse meteorological conditions combine with high mining intensity at Mackenzie North; (c) monitoring of particular matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM_{10}) suspended in the atmosphere on a regular basis (as defined within the Air Quality Management Plan) to be undertaken in accordance with either: (i) Australian Standard *AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM(sub)10 high volume sampler with size-selective inlet - Gravimetric method of 1990*; or (ii) any alternative method of sampling PM_{10}, which may be permitted by the *Air Quality Sampling Manual* as published from time to time by the administering authority.

Schedule E: Noise and Vibration	
Condition number	**Condition**
E1	**Noise Nuisance** The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in **Table E1 Noise limits at a noise sensitive place** to be exceeded at a sensitive place or commercial place.
E2	When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.
E3	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's *Noise Measurement Manual*.
E4	If the environmental authority holder can provide evidence through monitoring that the limits defined in **Table E1 Noise limits at a noise sensitive place**, are not being exceeded then the holder is not in breach of condition **E1**. Monitoring must include: (a) $L_{A1, adj, 15 mins}$; (b) $L_{Aeq, adj, 15 mins}$; and (c) the level and frequency of occurrence of impulsive or tonal noise.
E5	If monitoring indicates exceedance of the limits in **Table E1 Noise limits at a noise sensitive place**, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; and (b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.
E6	The holder of this environmental authority must develop a Noise Management Plan prior to the commencement of mining activities within ML70445, ML70448 and ML70449.

E7	The Noise Management Plan (as required under condition **E6**) must address, as a minimum, the following: (a) a procedure for routine monitoring of real time meteorological conditions (rainfall, temperature, wind direction and wind speed) at Mackenzie North to identify periods when nearby sensitive receivers are at risk of elevated noise levels; (b) implementation of a Trigger Action Response Plan, which will identify and initiate appropriate noise mitigation measures, for periods when adverse meteorological conditions combine with high mining intensity at Mackenzie North; (c) noise monitoring and recording on a regular basis (as defined within the Noise Management Plan) must include the following descriptor characteristics and matters: (i) LA1, adj, 15 mins; (ii) LAeq, adj, 15 mins; (iii) the level and frequency of occurrence of impulsive or tonal noise; and (iv) atmospheric conditions including wind speed and direction, location, date and time of recording.
E8	**Vibration Nuisance** Subject to conditions E9 and E10, vibration from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
E9	When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.
E10	If the environmental authority holder can provide evidence through monitoring that the limits defined in **Table E2 Vibration limits at a noise sensitive place** are not being exceeded then the holder is not in breach of condition **E8**. Monitoring must include: (a) location of the blast(s) within the mining area (including which bench level); (b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and (c) location, date and time of recording.
E11	If monitoring indicates exceedance of the relevant limits in **Table E2 Vibration limits at a noise sensitive place**, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required (b) immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance.

Table E1: Noise limits at a noise sensitive place

Sensitive Place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sunday and Public Holidays**		
	7am – 6pm	**6pm – 10pm**	**10pm – 7am**	**9am – 6pm**	**6pm – 10pm**	**10pm – 9am**
$L_{Aeq, adj, 15 mins}$	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 5
$L_{A1, adj, 15 mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

Note:

a) CV = Critical Value.
b) AV = Adjustment Value.
c) To calculate noise limits in Table E1:
  i) If bg ≤ (CV – AV): Noise limit = bg + AV.
  ii) If (CV – AV) < bf ≤ CV: Noise limit = CV.
  iii) If bg > CV: Noise limit = bg = 0.
d) In the event that measurement bg ($L_{A90, adj, 15 mins}$) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level.
e) Bg = background noise level ($L_{A90, adj, 15 mins}$) measured over 3 – 5 days at the nearest sensitive receptor.

Table E2: Vibration limits at a noise sensitive place

Blasting noise limits	**Sensitive or commercial place blasting noise limits**	
	7am to 6pm Monday to Friday* and 9am to 5pm Saturdays, Sundays and Public Holidays*	**All other times**
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time.	No blasting
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10mm/second peak particle velocity at any time.	No blasting

*Except in cases where measures need to be taken to ensure the mine area is safe and stable.

Appendix B. Noise Monitoring Assessment