

# New Acland Coal Mine Stage 3 Project

## Air, Noise and Vibration Report May 2023

New Acland Mine



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## 1. Introduction

### 1.1. Purpose

This document (**Report**) is issued by New Acland Coal Pty Ltd (**New Acland Coal/NAC**) in respect of the New Acland Coal Mine Stage 3 project (**New Acland Mine or Project**).

The purpose of this Report is to make publicly available environmental monitoring reports from air, noise and vibration monitoring that has been conducted at and around the New Acland Mine in accordance with environmental authority EPML00335713 (**Environmental Authority / EA**).

This Report exclusively covers the period commencing on 1 May 2023 and ending on 31 May 2023 (**Monitoring Period**).

This report is intended to satisfy the requirements of Condition 3 of the Co-ordinator General's Imposed Conditions applicable to the Project.<sup>1</sup>

### 1.2. Overview of operations during the Monitoring Period

During the Monitoring Period, pre-mining related activities commenced in the Manning Vale East pits but did not progress into the Willeroo or Manning Vale West pits.

The pre-mining activities included vegetation clearing, and topsoil extraction in Manning Vale East, and pre-drilling for blast preparation. No blasting or coal extraction occurred within the Monitoring Period.

### 1.3. Independent Review of Noise Compliance Monitoring

In accordance with EA Condition F13, for the first 12 months of the Stage 3 Mine, the monthly Compliance Noise Monitoring Report must be reviewed by an appropriately qualified independent acoustic consultant. This independent acoustic consultant must prepare their own (independent) report/memorandum, within two weeks of receiving the draft report, stating the process they have used to review the noise monitoring, analysis and findings and their acceptance (or otherwise) of the monthly noise monitoring report.

This review has been completed by AARC consulting, a third-party independent entity, and the report can be reviewed in Appendix 3 – Third-Party External Reports. The review of the report determined the following:

- The process that SLR has used to determine mine noise levels from the attended and unattended noise measurements is considered to be appropriate in that extraneous noise was considered to be removed to an acceptable standard.
- It is noted that during the May 2023 monitoring period, there were only brief periods when mining activities occurred outside of daytime hours (7am to 6pm). Compliance is often more difficult in the evening and night, when noise limits reduce and when mine noise levels can be higher at residences due to meteorological conditions that favour noise propagation. Therefore, it is expected that compliance will be more challenging in future reporting months when the mine operates 24 hour/day.
- It is also noted that there were no rail activities during this monitoring period, and therefore the rail noise limits in the EA did not require consideration.

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<sup>1</sup> As last stated in the New Acland Coal Mine Stage 3 project Coordinator-General's change report No. 4 – amendment to stated conditions following Land Court (2021) proceedings released on 26 May 2022.

- It is not clear if the LA<sub>max</sub> night-time noise limit within the EA, applied to mining noise, is intended to refer to the overall maximum noise level in a 30 minute period, or, an average maximum noise level over the 30 minute period. The SLR report assumes the former and that is a more conservative approach (i.e. more stringent) and is acceptable for this report. It is not critical to this report given the limited night-time mining activities in May.

Based on the recommendations by AARC, corrections have been made to the monthly compliance monitoring report as needed. All monitoring data collected over the Monitoring Period has been assessed against the compliance limits of the relevant Environmental Authority conditions. These relevant Environmental Authority conditions are reproduced in Appendix 4 and the applicable Environmental Authority limits have been reproduced in Table 8 to Table 10 which are set out in Appendix 5.

## 2. Environmental Monitoring

During the Monitoring Period, the following monitoring was undertaken:

- Air Quality Monitoring (refer to Section 2.1)
  - Total suspended particles (TSP) using TEOMs.
  - PM<sub>2.5</sub> using TEOMs.
  - PM<sub>10</sub> using TEOMs.
  - Insoluble solids.
- Noise Monitoring (Section 2.2)
  - Continuous performance monitoring.
  - Attended and unattended sensitive receptor monitoring.
- Vibration Monitoring
  - Blast and vibration results at sensitive receptors.

All environmental monitoring described in this Report was conducted by suitably qualified and experienced personnel as required under schedule B of the Environmental Authority and using equipment / instruments maintained in accordance with schedule F of the Environmental Authority.

### 2.1. Air Quality Monitoring Locations and Parameters

Air quality monitoring was performed at six (6) locations during the Monitoring Period.

These monitoring locations are outlined in Table 1 and shown in Figure 1.

It is noted that certain location descriptions outlined below deviate from the ones outlined in the Environmental Authority conditions with the rationale for such deviations being set out in New Acland Coal's Air Emissions Management Plan.

**Table 1: Air quality monitoring sites and parameters**

Parameter	Site ID					
	1 - Acland	2 - North	3a - West	5 - Southwest	6 - East	7 - East
PM <sub>2.5</sub> TEOM			✓			✗
PM <sub>2.5</sub> background	✗	✗	✓	✗	✓	✗
PM <sub>10</sub> TEOM	✓	✓	✓	✓	✓	✓
TSP TEOM	✓	✓**	✓**	✓**	✓**	✓**
Dust gauge – insoluble solids	✓	✓	✓	✓	✓	✓

## 2.2. Noise Monitoring Parameters and Locations

Noise monitoring was performed at various locations during the Monitoring Period. These monitoring locations are outlined in Table 2 and shown in Figure 2 and Figure 3.

For further information on the noise monitoring strategy please refer to the Noise and Vibration Management Plan.

**Table 2: Noise monitoring sites and parameters**

Parameter	Locations									
Performance Monitoring – Directional Noise Compass*2	Northern Compass					Acland Compass				
Unattended Noise Monitoring	1	4	8	10	11	15	19	34	35	38
Attended Noise Monitoring	1	4	8	10	11	15	19	34	35	38

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2 \* Noise performance monitoring includes correlated noise compasses based on mining progression.



### 3. Data and Results

Data collected over the course of this Monitoring Period have been summarised and presented in the following sections in comparison to the limits prescribed by the Environmental Authority.

#### 3.1. Air Quality Monitoring

New Acland Coal collected real-time dust monitoring and monthly depositional dust data during the Monitoring Period to inform any offsite impacts. This included monitoring for total suspended particles (TSP), fine particulate matter (PM<sub>2.5</sub>, PM<sub>10</sub>), and insoluble solids.

A summary of the data has been presented in Table 3 below. For the entire results please refer to the appendices of this document. A month-to-month summary is also available online, [Real-Time Air Quality and Noise Performance Monitoring Data](#) dashboard. Interpretation of compliance is undertaken by comparing the EA nuisance limit to the 24-hour average.

The data has been compared to the relevant Environmental Authority limits to determine compliance and outlined in the Table 3 below.

##### 3.1.1. Negative Values

Table 3 below includes negative minimum values occurring during the Monitoring Period. This is a result of the filter dynamics occurring during sample collection, when particles are collected by the monitoring device (Tapered element oscillating microbalance, TEOM). During particulate collection in the TEOM, the particles are influenced by other airborne gases, other particles, or the filter media.

This dynamic may result in fluctuating sample concentrations up to -10 µg/m<sup>3</sup>; typically observed in rainfall events where the filter becomes heavy from moisture. These values are considered “clean” conditions and reported in accordance with the US Environmental Protection Agency (EPA) ‘Standard Operating Procedure for the Continuous Measurement of Particulate Matter’<sup>3</sup>. Variations outside of this range is considered to be inaccurate and excluded from the data as likely attributed to from equipment malfunction or scheduled calibration events.

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<sup>3</sup> Reference: US EPA, 2009, Standard Operating Procedure for the Continuous Measurement of Particulate Matter, Thermo Scientific TEOM® 1405-DF Dichotomous Ambient Particulate Monitor with FDMS®, Federal Equivalent Method EQPM-0609-181,chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://www.epa.gov/sites/default/files/2021-03/documents/8500c\_fdms\_sop\_draft.pdf.

**Table 3: Compliance air quality monitoring data collected during the Monitoring Period.**

Location	Units	EA Limits (24 hour)	Data points (Count only)	1-hour Maximum	1-hour Minimum	24-hour Average
<b>Total Suspended Particles (TSP)</b>						
Location 1- Acland	µg/m3	Annual Air Quality Limit – 90	693.00	82.70	0.00	12.38
Location 2 – North	µg/m3		714.00	70.60	-1.50	11.76
Location 3a – West	µg/m3		696.00	68.40	-6.30	12.34
Location 5 – Southwest	µg/m3	Nuisance Limit** – 80	648.00	52.10	-6.20	11.67
Location 6 – East	µg/m3		692.00	82.80	-4.60	11.27
<b>PM 2.5</b>						
Location 1 – Acland	µg/m3	24-hour Avg 25	717	64.9	-7.4	2.37
<b>PM 10</b>						
Location 1- Acland	µg/m3	24-hour Avg 50	693.00	60.10	-0.50	8.42
Location 2 – North	µg/m3		711.00	68.80	-1.50	10.29
Location 3a – West	µg/m3		719.00	61.70	-7.50	9.75
Location 5 – Southwest	µg/m3		648.00	45.80	-4.30	9.90
Location 6 – East	µg/m3		719.00	74.50	-5.40	9.81

Total Insoluble solids						
Location 1– Acland (AD16)	mg/m 2/day	120	1 (29-day monitoring period)^	--	--	3
Location 2 – North (AD03)	mg/m 2/day		1 (29-day monitoring period)	--	--	3
Location 3a – West (AD24)	mg/m 2/day		1 (29-day monitoring period)	--	--	40
Location 5 – Northwest (AD44)	mg/m 2/day		1 (29-day monitoring period)	--	--	10
Location 6 – East (AD18)	mg/m 2/day		1 (29-day monitoring period)	--	--	3
Location 7- East (AD31)	mg/m 2/day		1 (29-day monitoring period)	--	--	33

\*\*Environmental Nuisance under schedule 15 of the Environmental Protection Act 1994 is define as unreasonable interference or likely interference with an environmental value caused by air contaminants, visual conditions, or other ways as prescribed by regulation.

^ Monitoring period of 29 days have been included as per dust depositional standards, AS/NZS 2850.10.1.2016.

### 3.2. Noise Performance and Quality Monitoring

New Acland Coal has collated and presented the noise monitoring data that has been collected in accordance with the Environmental Authority, as described in section 2.2 above. A summary of the data has been presented in Table 4 below; for the entire results please refer to the appendices of this document. A month-to-month summary is also available online, on the [Real-Time Air Quality and Noise Performance Monitoring Data](#) dashboard. The data has been compared to the relevant EA limits to determine compliance and outlined in Table 4 below. Noise limits for NAC mine change based on the hours of operation and are more conservative during night shift (10PM to 7AM), Sundays, and Public Holidays. Please refer to Appendix 5 for further information.

Lmax data has not been included in this report as they were no night-time operations occurring in this period.

**3.2.1. Noise Exclusions**

New Acland Coal's Noise and Vibration Management Plan outlines the process of data exclusions and inclusions based on extraneous noise collected by the compasses. The data presented in Table 4 below is all noise data collected by the compasses and includes instances of external noise generation that would have been excluded during usual operations.

**Table 4: Compliance noise monitoring data collected during the Monitoring Period.**

Location	Units	EA Limits	Data points (Count only)	Maximum	Minimum	Average
Attended Monitoring						
Refer to Appendix 3 – Third-Party External Reports for outcomes of the monitoring event.						
Unattended Monitoring						
Refer to Appendix 3 – Third-Party External Reports for outcomes of the monitoring event.						
Performance Monitoring – Leq 15 minutes (7AM – 6PM)*						
Acland Noise Compass	dB	42	469	41.98	19.21	33.64
North Noise Compass	dB		887.00	39.57	20.05	30.28

\*It is noted that performance noise monitoring is undertaken onsite at the New Acland Mine and is not used to determine compliance with relevant Environmental Authority conditions.

**3.2.2. Blast and Vibration Quality Monitoring**

No blasting works were undertaken at the New Acland Mine in the Monitoring Period, and as such, no vibration monitoring has been collected or reported.

#### **4. Compliance Review and Conclusion**

During the Monitoring Period there was no recorded noncompliance against the EA limits.

## Appendix 1 – Monitoring Locations

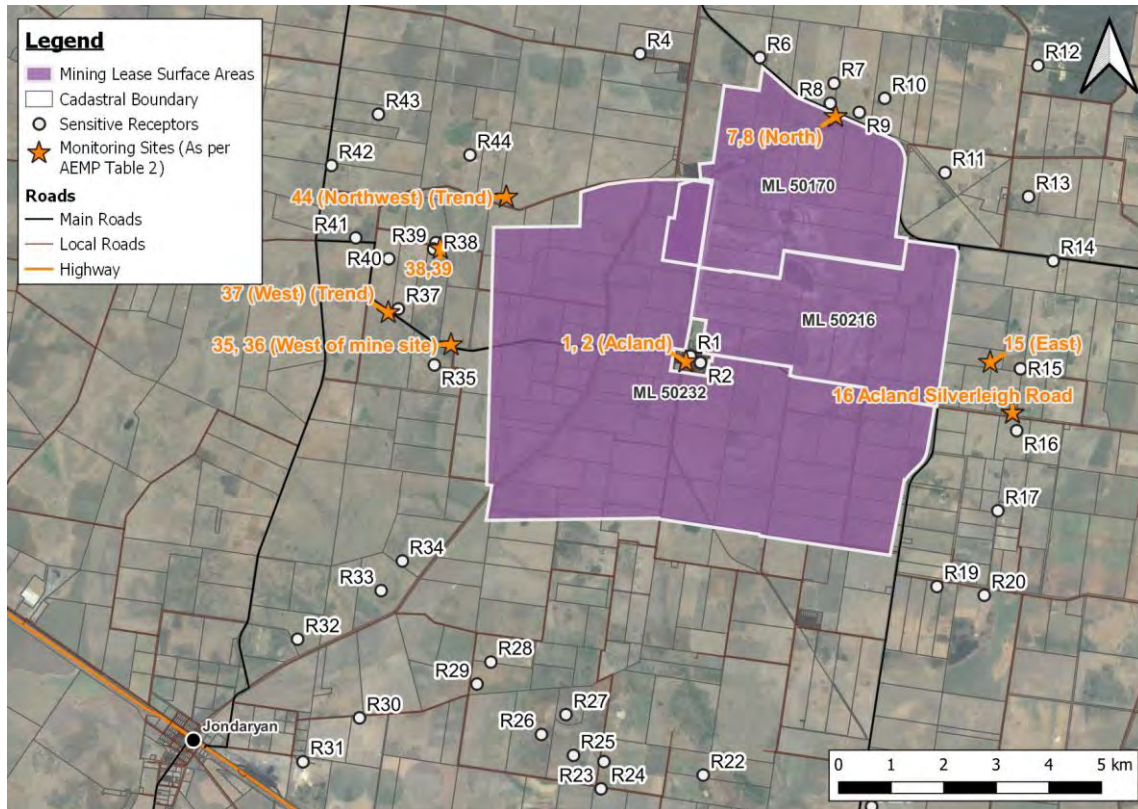
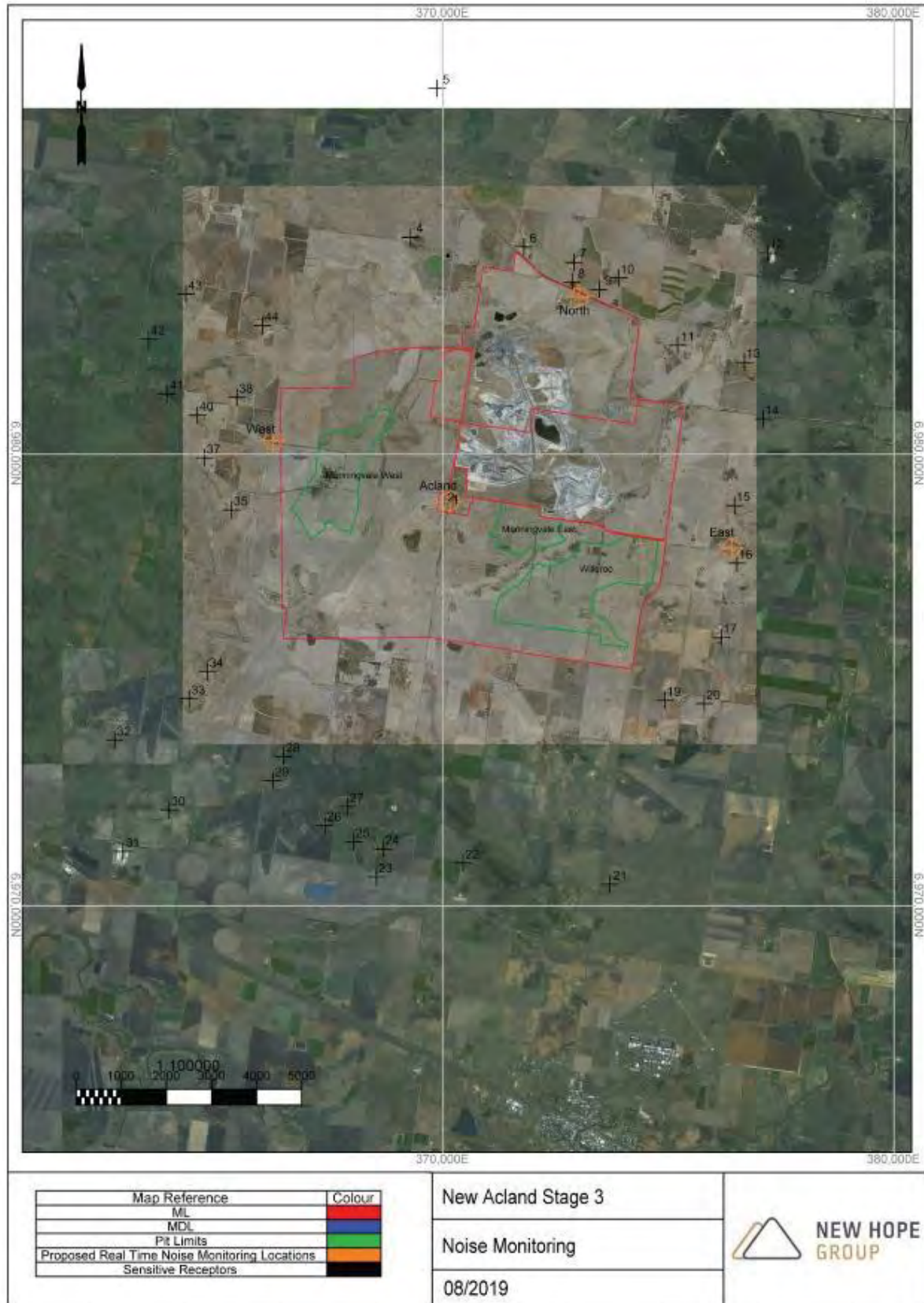


Figure 1: NAC Stage 3 air quality and meteorological monitoring sites



**Figure 2: Stage 3 Real-Time Noise Performance Monitoring Locations.**

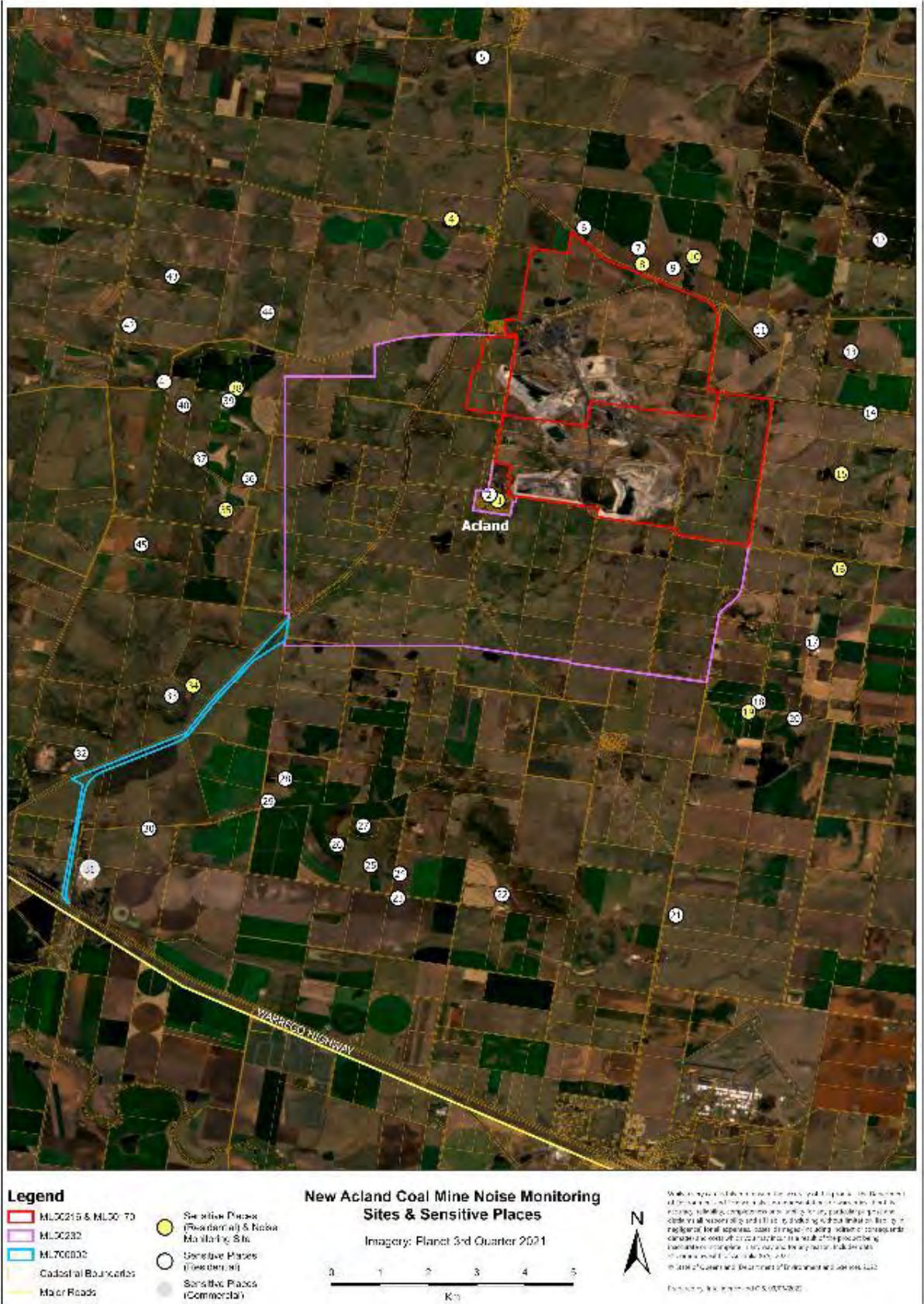


Figure 3: NAC Sensitive Places and Noise Monitoring Locations



## Appendix 2 – Environmental Monitoring Data

Table 5: New Acland Coal's Air Quality Monitoring for Total Suspended Particles (TSP), PM10, and PM2.5.

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
01/05/2023	2:00:00	4.2	1.8	5.6	2.5	2.8	7.7	2.7	4.1	3.9	6	6.8
01/05/2023	3:00:00	3.2	0.2	5.6	2.6	1.1	6.3	3.1	7.9	10.9	7.6	8.5
01/05/2023	4:00:00	4.2	0.8	5	1.5	1.7	6.9	2.7	7.5	6.3	5.2	6.2
01/05/2023	5:00:00	4.8	0.6	6.8	3.6	0.9	4.6	3	8.1	7.3	8.2	8.5
01/05/2023	6:00:00	5.9	1.8	7.8	5.8	8.3	6.6	3.8	8.2	10	7.2	8
01/05/2023	7:00:00	7.1	1.5	8.2	8.6	13	8.2	8.3	10.2	11.8	8.7	8.8
01/05/2023	8:00:00	14.7	1.3	13.9	-41.1	27.8	9.1	13.2	14.3	15.9	10.1	11.2
01/05/2023	9:00:00	4.3	1.8	8.6	-61	31.8	7.3	13.4	7	12.7	6.4	5.9
01/05/2023	10:00:00	1.5	-0.5	3	-56.6	-17.7	3.3	0.5	-2.8	-6.2	0.8	1.3
01/05/2023	11:00:00	6.7	-0.4	7.6	-9.6	2.8	7.9	1.5	4.7	8.3	7.7	11.5
01/05/2023	12:00:00	5.2	1.4	9.9	2.2	12.6	5.8	1.8	5.3	8.9	9.1	14.2
01/05/2023	13:00:00	4.7	2.7	8.6	0.6	6.1	5	3.1	6	6.6	7.4	10.6
01/05/2023	14:00:00	5.4	2	8.1	2.9	11.2	5.1	1.9	6.3	6.8	6	7.5
01/05/2023	15:00:00	5.5	-0.4	8.4	2.9	7.6	10.6	4.6	7.6	9	7.1	9
01/05/2023	16:00:00	6.5	1.5	7.2	8.5	11.8	6	6.1	9.4	10.1	6.9	7.9
01/05/2023	17:00:00	9.3	0.6	8.3	6.3	11	8.8	6.9	8.4	10.6	9.1	11.2
01/05/2023	18:00:00	5.6	2.9	9.1	7.7	12.3	10.1	11.8	9.8	16.2	6.8	7.3
01/05/2023	19:00:00	7.4	-0.3	11.9	8.9	12	12.9	13.1	12.7	14	6.6	7.5
01/05/2023	20:00:00	6.8	1.8	11.5	5.3	8	9.3	10.7	7.5	8.5	7.4	8.2
01/05/2023	21:00:00	5.5	3	10.4	5.2	7	7.4	6.2	7.1	7.2	6.7	7.6
01/05/2023	22:00:00	5.8	3.2	9.1	5.4	7.4	8	6.4	8	7.7	7.8	8

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
01/05/2023	23:00:00	6.3	1	7.9	5.3	9.4	6.6	6.7	6.7	7.6	8.3	9.4
02/05/2023	0:00:00	6.2	2.2	9.3	5.6	7.1	8.1	7.2	8	10.1	5.7	7.2
02/05/2023	1:00:00	5.6	1	9.3	5.2	6.3	6.6	7.1	8.5	8.5	7.3	8.8
02/05/2023	2:00:00	5.2	1.2	9.9	6.9	10.7	8.5	8.7	7.7	7.9	8.3	9.5
02/05/2023	3:00:00	4.6	3.3	10.1	6.5	6.6	7	8.7	7.8	8.4	5.8	7.9
02/05/2023	4:00:00	6.9	-2.6	10.8	6.9	9.4	8.3	8.9	7.6	8.6	9.3	9.2
02/05/2023	5:00:00	8	-1.3	11.2	9.2	10.1	9.2	10.5	9.8	11.6	9	11.2
02/05/2023	6:00:00	8.3	4	10.6	8.8	9	7.3	10.1	9.1	9.5	10.6	11.3
02/05/2023	7:00:00	7.9	3.9	11.7	9.1	10.7	15.3	18.5	10.1	11.1	7.9	9.9
02/05/2023	8:00:00	10.9	3.4	15.6	14.8	24.5	8.9	12.6	10.7	15.9	13.1	14.5
02/05/2023	9:00:00	8.3	1.8	15.3	13.2	15.8	10.5	13.8	9.4	10.2	9.5	11.5
02/05/2023	10:00:00	7.3	1.7	11.6	5.1	4.3	9.4	13.1	7.4	9	11.1	14.3
02/05/2023	11:00:00	3.6	3.2	9.6	4.9	6.2	6.6	10.6	7.7	8.5	6.5	8.2
02/05/2023	12:00:00	5.4	2	8.9	5.8	7.4	7.4	10.6	9.1	13.4	6.7	7.1
02/05/2023	13:00:00	4.1	2.9	10.9	9.6	11.3	11.8	10.8	10.7	15.8	9.3	12.5
02/05/2023	14:00:00	4.8	4	9.8	7.9	9.2	5.1	10.3	9.5	10.7	8.4	9.7
02/05/2023	15:00:00	6.8	0.9	10	9.1	12.3	11.7	11	10.2	11.9	8.1	10.8
02/05/2023	16:00:00	10.3	-5.6	11	9.3	11.6	7.8	7.5	7.4	10	10.8	12.3
02/05/2023	17:00:00	5.8	1	12.3	11.4	13.8	10.6	12.2	9.9	12	9.1	12.3
02/05/2023	18:00:00	10	2	14.5	14.4	19.6	14.7	21.5	10.6	13.2	12.3	13.5
02/05/2023	19:00:00	8.4	3.6	14.5	15.3	18.3	13.8	20.4	13.2	17.9	9.3	11.8
02/05/2023	20:00:00	6.9	1.9	19.2	11.3	9.7	12.7	17.5	13.2	15.4	10.2	12.8
02/05/2023	21:00:00	8.7	-1.7	14.1	9.8	10	13.2	14	11.1	15	10.6	12.3
02/05/2023	22:00:00	5.7	-1.5	11.2	11.6	13.2	8.7	10.2	10.3	11.1	8.3	9.6

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
02/05/2023	23:00:00	6.3	0.1	12.2	12.4	12.9	10.3	6.9	10.3	12.6	7.6	8.7
03/05/2023	0:00:00	8.3	-3.6	15.9	15.3	11.7	12.3	11.9	11.7	11.3	9.6	10.2
03/05/2023	1:00:00	9.4	5.1	15.5	21.5	17	8.6	9.8	9.7	12.4	11.4	12.7
03/05/2023	2:00:00	8.5	9.6	14.5	20.7	13.3	10.5	11.2	9.7	10.8	8	10.1
03/05/2023	3:00:00	8.7	7.4	15.8	19.1	13.4	9.1	11.8	9.7	10.3	7.9	10.8
03/05/2023	4:00:00	6.2	4.8	13.8	14	8.5	9.2	11.7	7.8	8.6	9	11.2
03/05/2023	5:00:00	7.3	4.5	14.4	14.5	9.4	9.8	10.8	8.5	11.5	11.7	14.2
03/05/2023	6:00:00	8.7	3.1	14.5	16.9	11.5	10.8	13	11.3	11.4	10.1	13.1
03/05/2023	7:00:00	7.5	3.8	13	18.1	13.3	16.7	20.6	10.8	13	15.2	22.3
03/05/2023	8:00:00	10.8	1	15.7	16.9	17.4	11.9	19.6	15.3	17.8	14.9	16.2
03/05/2023	9:00:00	9.8	-3.7	15.7	19.5	27.6	15.4	16.8	11.2	14.4	13	16.2
03/05/2023	10:00:00	7.9	1.4	16.7	17.8	18	6.2	18.2	12.5	15.1	15.2	19.2
03/05/2023	11:00:00	6.5	2.6	15.4	13.2	13.8	8.9	16.9	10.7	11.8	11.2	16.9
03/05/2023	12:00:00	-0.5	-1.1	8.4	4.4	2.7	5.5	13	6.4	8.6	4.7	7.7
03/05/2023	13:00:00	3.5	0.5	6.1	3.7	9.4	5.6	9.1	2.8	4.9	5.9	8.2
03/05/2023	14:00:00	5.9	1.5	7.1	6	6.7	6.6	8.6	6.6	7.6	5.5	8
03/05/2023	15:00:00	5.7	0.4	8.2	5.9	4.7	9.1	9.7	6.9	10.1	7.1	10.8
03/05/2023	16:00:00	6.8	0.8	12.3	14.2	18.6	9.3	12.4	10.3	13	9.4	13.3
03/05/2023	17:00:00	9.9	2.6	10.8	16.2	15.1	9.5	11.4	9	10.8	12.7	15.6
03/05/2023	18:00:00	10.3	3.3	12.3	20	18.2	12.3	14.5	8.7	13.1	14	16.3
03/05/2023	19:00:00	9.1	1.1	13	18.2	16.3	10.4	15.6	9.2	11.5	10.7	13.8
03/05/2023	20:00:00	9	1.5	17.7	15.7	13.3	9.2	11.5	9.4	12.2	13.3	16.3
03/05/2023	21:00:00	6.5	0.4	19.5	15.7	13.7	11.6	13.1	12.7	15.3	11.4	14.8
03/05/2023	22:00:00	7.4	0	19.2	15.3	12.6	9.8	11.1	13.2	14.4	11.5	13.7

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
03/05/2023	23:00:00	6.1	3.3	17	11.4	8.6	5.6	8	5.6	7.1	7	7.8
04/05/2023	0:00:00	6.1	1.9	12.8	13.8	8.4	6.3	7.8	6.4	5.4	5.1	6.8
04/05/2023	1:00:00	3.5	1.3	9.5	10.2	6.7	6.4	7.4	5.9	9.2	5	6.8
04/05/2023	2:00:00	2.2	0.3	9.6	7.6	5.7	6.6	9.9	6.7	5.7	5.2	7.2
04/05/2023	3:00:00	2.3	0.2	9.1	8.1	5.7	6.3	8.4	3.9	6.6	6.3	8
04/05/2023	4:00:00	5.2	-0.5	10.3	9	8	4.7	8.7	6.6	9.5	7.8	10.1
04/05/2023	5:00:00	5.3	0	9.5	7.8	7.7	8.4	10.3	6.7	7.9	7.2	9.7
04/05/2023	6:00:00	8.1	1.5	10.4	9.9	10	6.7	10.5	7.7	8.9	7.8	10.2
04/05/2023	7:00:00	7.6	0.4	10.5	11.3	10	15.4	20.9	7.3	11	10.2	11.4
04/05/2023	8:00:00	7.4	-0.2	14.1	9.9	12.6	9.3	16	10.9	13.7	13.8	19.4
04/05/2023	9:00:00	8.4	8.6	15.5	8.7	13.4	13.1	14.2	5.9	8.5	10.9	15.5
04/05/2023	10:00:00	5.2	1.9	11.3	7.9	12.1	5.9	15.1	9.5	13.5	12.3	15.1
04/05/2023	11:00:00	4.7	1.3	8.6	7.6	6.2	8.3	12.7	9.4	12.2	10	13.5
04/05/2023	12:00:00	2.4	0.2	7.2	4.2	5.9	6.6	9.4	6.6	8.4	3.1	4.6
04/05/2023	13:00:00	4.7	0.4	7.6	6.4	4.9	5.5	6.2	2.9	5.5	5.4	8.3
04/05/2023	14:00:00	6	-0.4	10.6	4.8	6	7.8	5	8	10.4	6.5	10.5
04/05/2023	15:00:00	6.1	1.2	9.7	9.2	6.7	7.3	4.5	4.5	8.1	11.3	15
04/05/2023	16:00:00	6.5	1.5	10.7	7.2	11.3	7.8	5	7.8	8	10.8	15.2
04/05/2023	17:00:00	4.6	1.9	12.2	13.1	17.4	8.9	7.8	9.1	10	12.2	19.4
04/05/2023	18:00:00	13.7	2.4	18.4	24.7	28.8	13.4	12.3	9.2	13.5	14.9	26.7
04/05/2023	19:00:00	6.8	1	17.9	19.6	19.6	14.7	18	11.5	16.8	8.8	13.4
04/05/2023	20:00:00	0	0	0.1	0.2	0.1	15.3	18.9	15.3	17	0	0
04/05/2023	21:00:00	14	0.4	26.7	22	22	13.8	17.3	14.1	18.2	18.9	23.4
04/05/2023	22:00:00	12.2	6	28.5	32.2	36	14.7	20.2	17.6	22.5	33.7	37.2

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
04/05/2023	23:00:00	0	0	0	34.3	26.3	23.4	28.8	26.9	34.3	23.3	25.6
05/05/2023	0:00:00	0	0	0.1	29.2	26.5	21.1	31.7	25.8	26.6	19.8	22.5
05/05/2023	1:00:00	8.9	1.8	21.8	23.2	23.9	15.2	25.6	19.1	20.7	15.2	16.7
05/05/2023	2:00:00	9.8	7.9	27.7	18	14.3	12.5	23.6	13.2	12.8	13.7	14.8
05/05/2023	3:00:00	9.2	4.6	31.7	19.3	19.1	10.6	21	12.2	17.1	14.8	16.4
05/05/2023	4:00:00	8.6	1.1	24.5	15.4	13	11.6	19.2	10.6	10.9	13.6	15.3
05/05/2023	5:00:00	8.4	3.3	17.7	16.7	16.3	8.4	16.1	9.5	14.2	14	15.2
05/05/2023	6:00:00	6.8	7.6	11.8	12.7	9.1	10.4	14.1	7.4	6.8	13.4	13.9
05/05/2023	7:00:00	10.9	4.5	15.2	14.3	15.4	8.5	15.2	8.4	11.9	16.1	17.2
05/05/2023	8:00:00	17.1	2	30.9	35	45.7	18.7	32.3	24.8	33	18.9	20.7
05/05/2023	9:00:00	8.9	1.3	22.7	11.3	14	15.5	38.9	18.4	23.1	18.4	19.4
05/05/2023	10:00:00	10.3	3	17.9	7.7	9.6	17.5	22.5	8.1	3.6	15.7	18.7
05/05/2023	11:00:00	6.7	5.2	13.7	9.3	8.9	2.8	14	8.2	9.4	12.8	15.3
05/05/2023	12:00:00	5.8	3.7	12.9	3.9	-3	10.1	13.6	7	5.9	6.4	6.4
05/05/2023	13:00:00	5.4	4.1	8.3	2.1	3.4	9.8	9.6	7.5	9.9	7.3	7.9
05/05/2023	14:00:00	7.7	2.8	10.9	5.9	3.9	10.1	8.1	6.9	7.8	5.6	6.9
05/05/2023	15:00:00	7.7	3.2	13.3	12.2	18.8	11	12.3	11	12.7	12.4	15.3
05/05/2023	16:00:00	9.8	4.2	21	14.9	17.8	13.5	15.9	15.8	17.8	17.8	24.9
05/05/2023	17:00:00	10.6	3.7	18.8	14.1	14.7	18.3	19.3	15.9	18	14.4	17.8
05/05/2023	18:00:00	10.4	3.9	26.7	17.7	15.4	14	16.3	16.7	18.7	15.3	17.4
05/05/2023	19:00:00	11.5	3.7	22.4	22.8	28.9	15.2	17.3	18.6	24.1	15.9	19.1
05/05/2023	20:00:00	12.4	4.1	24.2	28.1	31.6	19.2	26.1	21.2	25.1	25.6	27.9
05/05/2023	21:00:00	10.4	4.5	23.8	24	24.4	18.1	28.7	23.1	23.2	16.9	18.7
05/05/2023	22:00:00	8.4	1.2	17.8	15.4	13	13.7	21.2	16	14.7	12.3	13.7

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
05/05/2023	23:00:00	6.9	2.7	14.9	12.6	11.6	11.3	15.3	11.1	12.9	11.4	12
06/05/2023	0:00:00	7.4	2	13.2	11.3	11.9	11	15.7	9.4	10.6	9.2	10.1
06/05/2023	1:00:00	6.4	3	12.8	11.3	11.7	6.7	13.2	9.8	11	6.7	8
06/05/2023	2:00:00	5.1	-0.5	12.4	10.5	12.4	8.6	11.8	5.2	8.4	8.8	10.3
06/05/2023	3:00:00	7.1	0.3	12.6	12.3	12.7	8.3	12.1	6.1	5.2	10	12.4
06/05/2023	4:00:00	3.9	4	7.8	10.4	9.9	5	9	6.1	8.4	7.2	8.9
06/05/2023	5:00:00	4.4	0.2	8.6	8.8	7.7	7.9	9	0.8	0.2	9.9	12.9
06/05/2023	6:00:00	5.4	2.9	7.5	9.1	8.5	2.2	3.7	4.4	5.8	9.1	11.3
06/05/2023	7:00:00	3.5	0.3	6.6	10.6	14.2	5.6	6.5	4.9	9.4	8.8	10.5
06/05/2023	8:00:00	14.1	-2.7	19.9	15.3	29.8	13.1	20.7	18.8	22.2	22.8	27.8
06/05/2023	9:00:00	7.2	3.2	15.7	8.4	11.5	9.7	24.2	24.6	26.5	9.3	5
06/05/2023	10:00:00	10.8	2.1	13.6	6.9	4.9	8.6	15.5	-4.3	-5.7	9.7	10
06/05/2023	11:00:00	6	2.3	13.1	5	4.5	7.4	13.9	5.9	7.8	6.5	6.7
06/05/2023	12:00:00	2.4	3	6.6	-1.5	-12.1	6.6	-1	2.5	2.4	6.6	8.8
06/05/2023	13:00:00	5.1	2.6	9.7	3.5	-0.1	6.6	3.7	3.9	7.9	4.4	4.8
06/05/2023	14:00:00	6.9	2.5	11.3	6.9	12.6	11.4	11	9.6	12.1	7.2	9
06/05/2023	15:00:00	5.8	3.5	12.5	7.8	9.1	12.2	12.9	12.7	13.4	8.3	10.7
06/05/2023	16:00:00	8.9	3.3	15.5	11.5	16.7	10	13.8	11.2	13.1	12.6	18.3
06/05/2023	17:00:00	9.8	1.8	18	22.5	33.2	14.3	15.7	12.9	19.1	11.3	14.7
06/05/2023	18:00:00	9	6.3	20.1	20.2	27.1	26.1	28.6	13.1	18	27.3	36.9
06/05/2023	19:00:00	15.9	4.7	43.8	21.7	20.3	47.8	68.4	21.8	26.8	14.3	18.7
06/05/2023	20:00:00	8.2	2.4	17.9	11.7	8.7	15.3	25.7	15.4	13.4	12	14.2
06/05/2023	21:00:00	11.7	4.1	15.1	16.4	24.7	16.2	20.5	12.6	15.2	18	22.4
06/05/2023	22:00:00	8.9	2.8	19.5	18.2	19.6	21	29.4	18.4	21.3	18.8	20.5

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
06/05/2023	23:00:00	9.5	4.8	16.8	17.8	18.4	14.3	20	14.9	14.7	20.8	22.2
07/05/2023	0:00:00	11.5	6.3	18.9	18.9	21.3	14.1	19.7	14.2	15.5	14.5	15
07/05/2023	1:00:00	6.5	2.5	12.7	13	9.6	9.9	15.3	10	10.5	15.7	17.4
07/05/2023	2:00:00	7.1	3.4	11.1	10.7	9.5	7.5	9.3	7.6	7.6	17.7	17.5
07/05/2023	3:00:00	6.4	1.7	11.1	11.4	8.2	7.8	8.4	7.6	8.6	17.5	19.1
07/05/2023	4:00:00	8.1	4.7	12.5	9.5	9.2	9.8	9.7	9.4	12.5	12.2	12.9
07/05/2023	5:00:00	8.2	3.6	16.5	13.3	13.8	13.9	14.1	13	14.5	12.6	14.9
07/05/2023	6:00:00	7.9	1.4	15.5	15.3	17.4	12.1	15.9	13.3	13.3	13.5	14.4
07/05/2023	7:00:00	9.7	1.8	19.7	13.2	9.7	10.5	15.5	11.9	14.1	11.5	11.6
07/05/2023	8:00:00	10.3	3.4	19.6	12.1	18	12.7	17.8	14.2	17.1	10.2	10.6
07/05/2023	9:00:00	8.1	-1	18.7	3.8	4.5	11	18.4	11.6	11.4	10.1	11.6
07/05/2023	10:00:00	8.6	1.3	12.8	8.7	17.3	18.4	19.9	11.5	13.6	13.2	14.8
07/05/2023	11:00:00	10.2	3.1	17.4	15.6	23.2	5.6	15.8	12.5	16.4	18.9	24.9
07/05/2023	12:00:00	8.4	1.8	19.9	19.7	23.3	14.6	22.4	18.3	21.1	20.2	24.4
07/05/2023	13:00:00	11.2	4.2	20.9	21.5	28.7	15.9	25.9	20.9	21.1	21.6	24.4
07/05/2023	14:00:00	7.4	4.6	14.6	17.7	13	13	19	10.1	12.3	14.1	16.5
07/05/2023	15:00:00	8.4	3.7	11.9	6.1	-2.2	12.4	6.9	8.4	8.2	11.5	9.4
07/05/2023	16:00:00	5.4	4.2	10	2	-10.2	10.5	1	5.2	9.3	2.4	2.9
07/05/2023	17:00:00	11.7	3	18.5	23.3	31.7	21.5	12.8	18.6	24.1	16	22.6
07/05/2023	18:00:00	10.5	3.2	21.9	27.1	28	20.7	23.5	23.1	31.8	23.3	29.6
07/05/2023	19:00:00	14.8	2.9	24.4	25.1	23.6	21	25	20.8	28.8	15.6	20
07/05/2023	20:00:00	10	1.1	20.5	20.2	17.2	16.2	18.8	19.2	22.6	16.5	24
07/05/2023	21:00:00	7.7	1.6	14.9	15	8.3	11.3	11.9	11.5	12.6	11.1	12.8
07/05/2023	22:00:00	4.7	-2.8	10	9.5	0.6	9.7	4.9	6.4	9.4	3.8	5.3

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
07/05/2023	23:00:00	5.5	-0.3	9	5.1	1.5	6.4	1.6	7.2	7.3	3.5	6.9
08/05/2023	0:00:00	3.1	0.4	9.1	4.7	4.7	7.3	1.5	6.7	7	6.6	8.2
08/05/2023	1:00:00	5.4	-0.8	10.7	5.4	5.7	8.2	4.7	7.5	10	6.8	9.1
08/05/2023	2:00:00	5	-0.4	8.9	6.4	8	7.6	-6.3	8.9	11.4	8.8	10.6
08/05/2023	3:00:00	4.6	2.1	10.5	7.1	8.8	9.4	6.2	8	10.6	8.7	10.9
08/05/2023	4:00:00	5.5	5.1	12.4	6.3	10.5	8.6	7	7.9	10.7	6.7	9.3
08/05/2023	5:00:00	5.4	2.7	18.5	6.8	9.2	6.8	5	7.6	9	8.5	10.2
08/05/2023	6:00:00	5.7	1.3	11.5	7.8	9.3	8.1	5.1	10.2	9.9	8	10.1
08/05/2023	7:00:00	7.3	1.1	14.1	9.3	10.9	9.9	7.4	8.9	15.1	10.5	13.2
08/05/2023	8:00:00	7.6	3.1	17.1	14.9	15.8	12.4	13.5	11.7	14	12.2	14
08/05/2023	9:00:00	9.3	2.4	17	15.5	15.6	11	15.7	12	15.7	12.1	14.1
08/05/2023	10:00:00	4.9	0	14.4	13.9	12.3	12.6	17.3	6.2	11.4	7.8	11.3
08/05/2023	11:00:00	6.9	0.9	11.3	15	16.7	13.3	20.4	10.5	16	13.9	20.5
08/05/2023	12:00:00	0.4	0.5	11	14.2	19.2	9.3	13.4	8.2	11.1	7.7	12.4
08/05/2023	13:00:00	4.5	1.2	14.9	13.9	18.8	10.4	11.1	7.6	13.5	7.6	13.2
08/05/2023	14:00:00	3.5	1.4	13.9	12	18.4	5.6	9.3	9	12.5	13.1	22
08/05/2023	15:00:00	7.8	0.2	15.1	16	23.1	9.1	11.3	10.4	12.8	13.9	17.2
08/05/2023	16:00:00	7.7	0.1	18.1	17.9	21.3	12.5	13.9	12.4	15.7	15.3	21.9
08/05/2023	17:00:00	9.7	0.5	13.8	17.7	18.7	10.2	17	12.2	14.7	10.4	15
08/05/2023	18:00:00	7.4	1.3	12.7	15.6	16.8	19.9	23.3	13.5	22.1	12.5	18.7
08/05/2023	19:00:00	8.3	-1.1	16.3	11.8	14.8	13.7	18.1	18.8	27.3	11	13.1
08/05/2023	20:00:00	8	1	17.2	11.5	15.2	13.4	18	16.2	19.1	11.9	16.3
08/05/2023	21:00:00	10.4	1.4	20.5	13.9	17.7	14.1	16.3	14	17.1	12.8	15.5
08/05/2023	22:00:00	8.9	0.2	20.2	11.9	14.8	9.7	13.5	11.2	13	11.4	16



Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
08/05/2023	23:00:00	5.1	-1.5	15.7	9	10.6	11.1	11.8	10	11.7	10.4	12
09/05/2023	0:00:00	6.2	-7.4	14.1	9.2	12.4	11.1	12.8	12.3	14.3	9.2	11.6
09/05/2023	1:00:00	5.7	-4.7	15	6.3	9.8	9	13.1	10.1	11.6	10.9	14.4
09/05/2023	2:00:00	4.2	-0.9	13.7	7.9	10.7	8.4	11.7	7.8	14	9.4	11.6
09/05/2023	3:00:00	4.3	2.5	14.7	7.6	9.7	9.5	11.1	8.5	8.2	8.1	11.7
09/05/2023	4:00:00	5.9	-0.1	14.6	8.3	11	9.6	12.7	8.8	14.2	10.6	13
09/05/2023	5:00:00	5.7	-2.9	14.8	8.3	10.6	10	12.7	11.3	13.9	9.4	12.5
09/05/2023	6:00:00	6.7	3.4	14.8	10.6	12.8	9.9	12.8	10.2	12.4	9.3	12.2
09/05/2023	7:00:00	7.1	0.3	15.9	12.2	13.5	11.7	19.6	11.8	12.8	11.9	13.5
09/05/2023	8:00:00	9.5	-1.1	20.1	16.3	18.2	14.3	18.8	15.3	17.1	14.3	16.6
09/05/2023	9:00:00	10.5	1.2	18.9	15.6	18.5	11.3	18.5	9.8	14.9	15.1	16.3
09/05/2023	10:00:00	9.2	-0.2	18.3	15.9	18.1	14	18.5	13.3	20.2	12.7	15.7
09/05/2023	11:00:00	6.6	1.1	15.5	14.9	12	14.2	19.6	13	18.3	10.9	13.6
09/05/2023	12:00:00	7.4	1.1	14.4	9.8	16.8	12.3	19.2	12.2	15.8	10.2	14.3
09/05/2023	13:00:00	3	1.6	11.4	6.5	9.5	16.6	21.1	12.6	17.7	7.4	9.8
09/05/2023	14:00:00	7.3	0	12.1	6.5	6.6	7.9	16.4	11.4	13.7	6.3	8.6
09/05/2023	15:00:00	8.4	0.1	12.7	8.7	14.1	13.2	14.1	10.4	13.2	11.1	16.3
09/05/2023	16:00:00	6.8	0.6	15.5	10.5	19	8.2	13.5	12.8	14.6	11.6	15.7
09/05/2023	17:00:00	7.5	0.1	15.1	16.6	20.7	14.4	17.2	12.9	18.6	12.1	16.6
09/05/2023	18:00:00	13	1.8	20.4	19.9	23.6	13.4	18.2	13.9	21.9	8.6	17
09/05/2023	19:00:00	49.8	15.2	53.9	41.6	57.3	61.7	61.5	42.6	52.1	74.5	82.8
09/05/2023	20:00:00	60.1	64.9	82.7	68.8	70.6	44.2	56.3	45.8	47	37.6	41.6
09/05/2023	21:00:00	29.4	45.4	47.7	35.8	36	25.8	31.3	33.4	33.5	41	44.8
09/05/2023	22:00:00	21.6	26.1	37.9	26.8	30.4	24.3	29.7	24.8	26.4	24.7	30.5

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
09/05/2023	23:00:00	21.8	21.4	33.8	29.1	33.2	22.4	27.4	22	24.4	28	29.7
10/05/2023	0:00:00	22.5	23.5	34.8	26.7	28	27.1	31.3	24	27.3	24.4	28.3
10/05/2023	1:00:00	17.1	22.3	30.4	21.2	24.3	29	36.1	29.9	33.5	18.2	20.2
10/05/2023	2:00:00	16.2	18.1	25.8	19.6	24.2	29.8	33.5	28.7	30.1	14.6	17.8
10/05/2023	3:00:00	16.7	14.6	27.4	20.3	23.9	22.9	29.3	25.1	28.6	13.1	15.6
10/05/2023	4:00:00	16.3	12.9	27	17.2	19.4	20.5	26	21.1	26.7	15.3	19.6
10/05/2023	5:00:00	14.7	11.3	23.4	18.8	21.4	19.9	24	19.4	20.4	16.2	17.7
10/05/2023	6:00:00	14.1	9.9	21.9	18.1	18.4	18.3	23.7	19.3	24.1	15.4	17.9
10/05/2023	7:00:00	16.1	14.5	23.2	17.5	28	20.3	26.3	20.4	21.6	20.4	22.1
10/05/2023	8:00:00	16.2	11.4	26.4	29.3	31.6	20.2	27.4	24.5	29.6	20.6	23.1
10/05/2023	9:00:00	14.4	5.2	29	14.7	12.8	17.8	27.7	16.7	19.4	14.7	16.3
10/05/2023	10:00:00	5.7	4.4	21.3	11.2	8.7	8.9	21.2	9.8	10.9	12.8	14.4
10/05/2023	11:00:00	5.3	3.4	9.1	9.1	4.1	10.2	15.2	4.9	5	5.4	5.7
10/05/2023	12:00:00	0.2	-0.5	8.8	6.1	2.7	2.4	8.5	3.7	6.1	7.2	7.8
10/05/2023	13:00:00	2.8	-0.4	7.5	4.7	6.2	5.4	7.6	3.9	5.7	6.6	9.5
10/05/2023	14:00:00	5.3	0.3	10.6	9.2	12.6	7.1	10.4	7.1	9.9	8.2	10.2
10/05/2023	15:00:00	5.6	1.6	11.1	7.9	9.7	9.3	12.9	10.2	11.5	8.9	15.7
10/05/2023	16:00:00	8	0.8	12.2	8.5	11.9	9.9	10.5	12.4	10.6	11.4	15.1
10/05/2023	17:00:00	9.1	0.1	12.1	9.5	10.1	13.5	13.6	12	14.2	11.3	14.2
10/05/2023	18:00:00	11.3	-0.1	17.2	11.2	17.3	11.8	15.3	10.7	14.2	28.9	43.7
10/05/2023	19:00:00	11.3	3.9	31.7	16.2	21.8	20.9	26.9	15.6	19.5	15.3	20.2
10/05/2023	20:00:00	10.4	3.2	18	15.2	19	12.7	20.6	15	16.3	17	21.5
10/05/2023	21:00:00	13.4	3.3	21.4	24.6	38	29.7	39.9	18.6	23.8	20.2	23.6
10/05/2023	22:00:00	12	5.1	26.6	23.9	33	23.9	39.7	22.6	21.4	17.1	21

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
10/05/2023	23:00:00	7.9	3	19.8	17.5	19.6	14.5	26.5	13	16	19.3	20.8
11/05/2023	0:00:00	9.6	5.7	21.6	14.8	17	13.7	23.2	13.9	15.7	19.5	20.1
11/05/2023	1:00:00	7.1	4.9	17.9	13.1	11.3	14	24.7	17.8	23.1	12.9	13.3
11/05/2023	2:00:00	6.8	3	11.9	8.7	7.6	11.3	16.5	9.5	9.7	9.9	10.3
11/05/2023	3:00:00	6	4.5	11	11.4	13	8.7	14.7	9.8	10	11.3	11.1
11/05/2023	4:00:00	5.6	1.5	11.3	11.6	12.9	9	11.8	8.7	9.4	12.3	13.1
11/05/2023	5:00:00	6.2	3.4	12.1	11.4	12.8	9.3	12.2	10.6	12.2	10.3	10.4
11/05/2023	6:00:00	9.8	-1.1	15.4	12.8	14.3	12.1	17	12.6	15.2	14.1	13.7
11/05/2023	7:00:00	10.1	3.6	15.2	13.4	14	14.1	18.3	13.5	15.1	13.8	14.3
11/05/2023	8:00:00	8.8	0	16.7	16.2	18	12.1	20.7	15.7	19.4	16	16.2
11/05/2023	9:00:00	11	-3.1	21.2	16.9	18.9	13.7	21.5	15	15.4	17.6	17.5
11/05/2023	10:00:00	7.4	1.3	20.2	14.7	14.7	15.2	22.6	13.9	14.6	13.6	14.1
11/05/2023	11:00:00	10.4	2.2	19.6	12.5	10.3	8.7	18.3	11	11.7	11.2	12.8
11/05/2023	12:00:00	1.2	1.1	15	9.4	11.3	10.2	17.1	9.4	9.6	21.5	27.8
11/05/2023	13:00:00	5.8	1.3	11.7	7.2	9.2	3.8	10.8	9	7.2	10.5	12
11/05/2023	14:00:00	6.3	1.6	12.3	7.8	7.6	9	14	7.1	8.5	6.4	7
11/05/2023	15:00:00	7.3	3.5	11.8	9.8	12.3	11.9	14	9.3	9.1	13.1	15.4
11/05/2023	16:00:00	6.3	1.6	15.2	9.6	11.3	5.8	12.6	9.6	12.1	11.4	13.6
11/05/2023	17:00:00	11.4	4.1	19.8	10.9	15.7	13.8	19.4	13.9	16	16.5	20.5
11/05/2023	18:00:00	12.3	2.8	20.6	12.6	17.7	11	18.9	15.4	17.1	17.3	20.9
11/05/2023	19:00:00	11.3	2.5	20	13.4	15.2	14.4	20.8	15	18.2	12.5	13.7
11/05/2023	20:00:00	12.1	7.9	22	15.6	22.6	15.4	21.6	14.1	16.7	16	18.2
11/05/2023	21:00:00	8.8	3.8	18.9	11.7	12.3	11.2	18.4	15.2	15.9	16.1	17.8
11/05/2023	22:00:00	7.5	3.3	12.8	8.9	10.4	9.1	16.6	10.2	11.9	9.2	10.1

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
11/05/2023	23:00:00	4.1	1.2	10	9.6	11.2	9.2	13.3	8.2	8.7	7.5	7.8
12/05/2023	0:00:00	3.7	0.3	7.7	8.4	9.5	6.5	12.3	8.6	7.8	7.4	7.3
12/05/2023	1:00:00	3.7	0.5	7.8	8.1	7.9	7.3	12.4	5.2	5.7	7.6	7.8
12/05/2023	2:00:00	1.4	-1.4	4.8	6	5.8	7.7	10.4	6.1	7.3	6.7	7.4
12/05/2023	3:00:00	3.6	1.3	6.6	6.1	6	5.3	9.7	6.9	6.4	5.7	6.5
12/05/2023	4:00:00	2.1	0.2	4.6	6.1	6.4	7.4	8.2	3.1	4.8	5.9	6.1
12/05/2023	5:00:00	1.8	-0.4	5	8.3	10.4	5.1	8	6.3	6.4	8.1	8.6
12/05/2023	6:00:00	6.6	-1.4	11.3	10.5	12.7	9.8	11.6	10.7	12.5	10.1	11.2
12/05/2023	7:00:00	6	-0.9	8.4	11.9	13.6	9.3	13.3	7.2	6.7	11.1	11.6
12/05/2023	8:00:00	14.6	-1.3	22.2	15.5	18.3	8.3	15.5	13.3	22.2	14.5	16
12/05/2023	9:00:00	4.1	-1.4	18.1	14.7	14.3	11.8	16.1	13.4	8.1	13.6	12.3
12/05/2023	10:00:00	7.6	2.2	12.6	12.7	10.9	13.7	15.1	9.2	10.8	12.9	11.8
12/05/2023	11:00:00	9.7	1.7	18.8	12.7	10.4	8.8	10.9	10	11.1	12.9	13.3
12/05/2023	12:00:00	3.7	3.3	14.5	8.4	4.3	9.9	9.9	9.2	9.4	7.7	7.3
12/05/2023	13:00:00	5.2	3	10.4	0.7	-2.9	6.4	3.8	3.6	3.1	3.2	3
12/05/2023	14:00:00	7.3	3	15.3	8.3	12.7	6.4	6.9	9.4	10.6	10.6	12.7
12/05/2023	15:00:00	5.9	0.5	14.2	9.3	8.2	9.6	9.1	10.8	8.2	6.7	7
12/05/2023	16:00:00	8.3	1.4	14.1	10.7	16.3	10.9	9.3	8.5	12.3	14.6	17.5
12/05/2023	17:00:00	10.1	1.6	26	15.8	23.5	17.6	19.1	20	20.6	17.6	20
12/05/2023	18:00:00	11.2	2.8	18	10.1	9.4	10	17.2	15.4	14.9	11	12.3
12/05/2023	19:00:00	9.5	2.2	14.7	12.4	14.3	12	15	12.5	16.1	13.3	15.6
12/05/2023	20:00:00	9.8	3	16.2	10.8	12.3	11.9	12.8	13	12.7	15.5	16.3
12/05/2023	21:00:00	6.6	5.4	15.1	12.3	16.8	12.4	13.1	12.3	13.5	14.2	15.6
12/05/2023	22:00:00	8.8	4.7	14.3	12.9	16.3	10.1	14.8	13.5	15.8	13.3	14.4

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
12/05/2023	23:00:00	4.9	1	11.6	8.6	8.4	9.8	12.7	10.8	9.3	8.9	8.8
13/05/2023	0:00:00	2.9	2.4	8.7	8.2	8.8	8.4	10.6	8.1	8.1	7.3	8.2
13/05/2023	1:00:00	3.3	0.8	7.4	6.3	6.3	5.6	8.9	6.4	8.1	5.9	6
13/05/2023	2:00:00	2.9	-0.8	7.4	7.1	8.1	7.3	7.6	5.5	4.6	5.7	6
13/05/2023	3:00:00	2.8	1.9	6.2	5	3.5	3.5	5.8	5	6.6	6.5	6.8
13/05/2023	4:00:00	4.2	0.3	6.9	3.7	3.6	5	5.1	5.8	6.8	7.1	7.7
13/05/2023	5:00:00	3.9	-1.7	6.4	6.6	8.4	3.8	3.5	6.6	7.5	7.6	7.9
13/05/2023	6:00:00	5.8	0.6	9.7	8.4	10.7	6.2	7.9	6.3	8.2	7.2	7.4
13/05/2023	7:00:00	5.9	0.2	9.4	8.7	10.4	9.3	11.5	10.7	12.2	7.2	7.4
13/05/2023	8:00:00	11.9	1.7	16.1	13.2	16.7	10.3	18.8	11.9	20	11.7	12.5
13/05/2023	9:00:00	3.4	3.9	14.7	9.9	8.6	8.6	12.5	7.6	2.7	11.9	11.3
13/05/2023	10:00:00	8.9	1	18.7	6.7	6.7	8.3	9.7	6.7	7.6	7.3	6.3
13/05/2023	11:00:00	7.2	1.4	19.3	10.5	7.7	4	8.8	8.5	7.8	9.6	10.4
13/05/2023	12:00:00	4.3	1.3	14.2	5.1	4.8	5.3	5.8	5.7	4.9	6.4	6.6
13/05/2023	13:00:00	3.7	1.5	7.8	2.2	0.4	4.7	3.9	1.8	5.6	7.7	7.3
13/05/2023	14:00:00	5.2	2.3	15	5.5	9.8	6.1	6.5	8.4	6.5	9.1	9.6
13/05/2023	15:00:00	7	2.5	16.6	8	7	9.3	8.9	5.4	16.7	9	11
13/05/2023	16:00:00	7.8	1.2	16.9	8.8	9.7	7.5	11.1	12.4	11.1	11.1	12.3
13/05/2023	17:00:00	8.1	1.4	19.3	10.3	11.3	15.9	15	12.2	15.5	13.2	14.5
13/05/2023	18:00:00	9.8	1.8	20	9.7	10.1	9.9	13	11.8	14.5	15.7	20.2
13/05/2023	19:00:00	6.3	1.4	23.6	10	13	11.9	13	13.3	14.8	16.9	18.8
13/05/2023	20:00:00	6.3	1.8	18.1	10	10.3	11	13.3	14	15.2	13.3	14
13/05/2023	21:00:00	6.7	-0.1	14.4	10.7	14.2	9.9	11.7	11	13.3	10.9	11.1
13/05/2023	22:00:00	7.9	1.4	17.4	10.9	13	11.1	12.8	12.9	13.6	12.2	12.2

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
13/05/2023	23:00:00	5.8	5.8	14.2	10	12.4	11.7	12	12.5	13.4	10.5	10.8
14/05/2023	0:00:00	5.9	4.5	9.7	9.1	9.9	7.2	10	8.8	9.6	8.3	8.4
14/05/2023	1:00:00	4.4	2.2	9	6.8	7.2	6.7	8.3	8.3	7.4	7.6	7.9
14/05/2023	2:00:00	4.7	-2.1	8.1	6.8	7.9	8	7.9	7.1	8	6.4	6.5
14/05/2023	3:00:00	5.3	-3	7	5.5	5.2	4.3	7	5.7	6.5	5.3	5
14/05/2023	4:00:00	4.7	-1.8	6.5	5.8	6.3	6.8	6.8	7.1	7.1	6.6	6.5
14/05/2023	5:00:00	4.5	2.6	7.5	6.3	7.2	6.7	7.8	7	7.9	6.9	6.5
14/05/2023	6:00:00	5.2	4	8	7.3	8.3	5.2	8.1	7	8	7.7	7.9
14/05/2023	7:00:00	5.8	-1.8	10	8.1	9	8.3	9.3	9.2	8.8	8.2	8
14/05/2023	8:00:00	7.1	0.2	10.1	9.1	10.8	9.1	10	8.5	8.9	8.4	8.8
14/05/2023	9:00:00	6.4	-0.7	10.4	9.9	10.5	6.6	9.9	8.3	10.3	10.7	11.3
14/05/2023	10:00:00	5.3	0.8	10	8.9	9.9	7.9	10	7.8	6.2	7.6	7.5
14/05/2023	11:00:00	6.3	0.4	15.4	7.1	8.3	6.3	10.2	6.4	6.4	7	7.5
14/05/2023	12:00:00	6.3	-0.3	22	7.4	10.3	4.2	12.1	8.8	9.3	7.5	7.3
14/05/2023	13:00:00	4.8	-1.3	11.3	5.4	3.6	10.4	9.3	5.2	5.5	7.5	7.9
14/05/2023	14:00:00	6.6	0.1	23.2	8.7	9.4	4	11.7	10.6	10.9	12.7	14.7
14/05/2023	15:00:00	3.8	0.9	8.5	7.2	13.6	4.6	8.6	8.3	8.1	14.2	14.6
14/05/2023	16:00:00	7.1	1.9	14.1	15.2	21.6	12.1	15.1	9.3	13.5	13.5	15.8
14/05/2023	17:00:00	8	0.7	11.9	9.9	9.3	8.3	16.3	11.4	11.5	8.9	9.1
14/05/2023	18:00:00	5.3	-0.5	10.8	6.6	6.6	8.1	15	10.2	8.4	7.7	7.1
14/05/2023	19:00:00	5.2	-1.5	6.6	6	4.9	7	11.8	6.8	8	4.6	4.9
14/05/2023	20:00:00	3.7	1.2	5.5	4.5	3	5.8	8.1	6	7.3	5.6	5
14/05/2023	21:00:00	5.2	-0.3	6.3	5.7	7.2	6	7.5	5.9	5	7.2	7.5
14/05/2023	22:00:00	4.3	0.6	6.6	5.1	5.5	5.3	9	7.8	7.4	4.2	3.5

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
14/05/2023	23:00:00	3.5	0.5	6.3	5.7	5.8	4.1	8	5.4	7.2	5	6.1
15/05/2023	0:00:00	4.1	1.7	7.3	4.7	5.4	6.2	8.9	6.1	7.2	7.5	7.9
15/05/2023	1:00:00	2.8	0.6	5.5	5.3	6.2	6.2	8.2	6.7	5.8	4.6	4.5
15/05/2023	2:00:00	3.2	1.2	5.1	4.8	3.6	5.1	6.4	5.3	5.5	5.2	4.3
15/05/2023	3:00:00	2.4	1.6	4.7	2.9	2	2	5.2	3.9	6	3.3	3
15/05/2023	4:00:00	3	3.1	4.4	3.5	3.9	3.5	4	4.2	3	4.6	4.6
15/05/2023	5:00:00	4.8	-1.8	5.8	5.8	7.1	6.6	6	6.5	7.2	5.8	6.5
15/05/2023	6:00:00	4.7	1	6.8	6.4	7.5	5.5	7.5	6.6	8.1	7	7
15/05/2023	7:00:00	5	-2.9	7.2	7.6	8.5	5.4	8.1	6.7	7.3	7.1	7.6
15/05/2023	8:00:00	5.7	2.4	8	9	10.2	7.4	7.7	8.1	6.7	7.6	7.2
15/05/2023	9:00:00	4.9	0.8	9.2	8	12.2	6.9	9.1	6.6	6.4	6.1	6.9
15/05/2023	10:00:00	6.1	-0.1	10.3	11.2	12.2	7.6	12.2	7.6	9.5	10	10.5
15/05/2023	11:00:00	4.4	2.2	9.7	13.4	13.1	8.7	11.2	8.5	8.2	11.8	9.6
15/05/2023	12:00:00	1.6	4	9.7	9	8.7	6.5	9.1	10.9	9.6	8.6	6.8
15/05/2023	13:00:00	0	4.2	0	8.7	9.5	14.1	9.5	9.4	8.4	9	8.2
15/05/2023	14:00:00		7.7		10.8	12.9	5.8	8.5	11	11.2	9.3	9.1
15/05/2023	15:00:00		6		10.7	12.6	10.7	12.2	16	16.4	12.3	13.5
15/05/2023	16:00:00		5.9		14	20	10.9	15.5	12.9	15.1	13.2	14.4
15/05/2023	17:00:00		6.6		9.5	9.1	10.5	17	12.2	10.6	7.3	6.8
15/05/2023	18:00:00		2.6		6.7	7.5	7.8	12.1	6.5	7.7	8.3	9.4
15/05/2023	19:00:00		-3		7	7	6.7	10.6	7	6.5	5.9	4.5
15/05/2023	20:00:00		-0.2		6.9	7.6	6.6	10.1	6.4	6.4	5.2	6.2
15/05/2023	21:00:00		0.8		5.4	5	3.3	7	4.9	4.7	6	5.5
15/05/2023	22:00:00		3.2		1.9	1.1	1.4	4	1.5	0.7	-0.4	-0.8

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
15/05/2023	23:00:00		9.6		-0.1	-2.2	1.2	1.3	1.4	2.4	1.1	0.8
16/05/2023	0:00:00		7.6		-0.4	-1.1	2.2	-0.7	0.7	-0.7	1.7	0.4
16/05/2023	1:00:00		7.5		1.8	0.9	4.3	1.5	1.5	3.9	1.2	2.3
16/05/2023	2:00:00		2		1.5	1	0.6	3.1	1.9	0.6	3.7	2.6
16/05/2023	3:00:00		2.7		0.8	1.3	1.4	2.3	1.1	2.4	-0.2	0.7
16/05/2023	4:00:00		0.3		2.7	3.8	2.8	2.9	2.9	2.8	3.1	4.1
16/05/2023	5:00:00		-0.1		2.6	2.2	3	3.1	2.5	1.9	3.2	2.4
16/05/2023	6:00:00		-1.1		6.2	8.8	4.7	4.2	3.5	4.3	4.5	4.7
16/05/2023	7:00:00		-0.3		1.7	-2.9	3.8	2.8	3.3	1.9	2.6	2.9
16/05/2023	8:00:00		1.6		2.2	3.3	1	1.2	3.2	3.7	1.7	2
16/05/2023	9:00:00		-2		2.8	1.2	11.2	3.6	4.9	4.6	3.5	2.7
16/05/2023	10:00:00		2.3		-1	-5.4	-2.5		-0.6	-1.4	-0.6	-4.6
16/05/2023	11:00:00		0.7		-0.4	-2.1	0.2		1.7	3.7	9.6	0
16/05/2023	12:00:00		0.3		1.1	0.5	0.5		0.9	-0.1	-5.4	
16/05/2023	13:00:00		-1.2		1.7	3.2	0.6		0.9	2.9	3.1	
16/05/2023	14:00:00		-1.7		2.3	0.1	2.4		3.6	3.7	3.3	
16/05/2023	15:00:00		-1.4		6.3	13.9	7.7		6.4	6.2	6.8	
16/05/2023	16:00:00	3.8	-0.5	3	5.5	0.4	4.8		2.8	2.5	2.8	
16/05/2023	17:00:00	4.9	0.3	5.9	3.1	5.7	7.4		5.9	5.9	5	
16/05/2023	18:00:00	6.2	-0.1	6.8	6.3	7.1	5.1		8.1	9.7	7.2	
16/05/2023	19:00:00	7.6	1.1	7.3	7.3	9.4	6.8		8.7	7.7	8.8	
16/05/2023	20:00:00	6.7	2.6	6.6	5.5	3.9	7.7		5.4	6.5	7.5	
16/05/2023	21:00:00	5.8	1.4	6.5	5.4	7.7	4.3		7.6	7.4	7.1	
16/05/2023	22:00:00	6.2	1.4	6.8	5.2	4.1	6.3		4.6	5.1	5.4	



Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
16/05/2023	23:00:00	5	2.9	4.9	1.3	1.3	4.4		4	4	4.8	
17/05/2023	0:00:00	4.9	4.6	6.2	3.6	3.4	5.9		7.8	7.9	5.9	
17/05/2023	1:00:00	4.8	-0.4	5.9	-0.3	-5.5	5		3.6	5.7	6.9	
17/05/2023	2:00:00	6.1	3.2	7.2	1.1	0	5.1		5.6	4.4	4.9	
17/05/2023	3:00:00	5.6	4.4	5.9	2.5	3.5	4.4		3.3	3.4	5.4	
17/05/2023	4:00:00	4.7	6	5.7	1.5	11	4.4		4.2	3.6	4.8	
17/05/2023	5:00:00	3.3	0	3.7	-0.8	-1.6	4.3		5.8	6.4	2.3	
17/05/2023	6:00:00	4.7	1.8	4.8	1.6	0.2	5.5		3.7	3.3	4.6	
17/05/2023	7:00:00	7.2	3.3	7.7	4	5.1	6.1		7.2	7.1	6.8	
17/05/2023	8:00:00	-0.4	2.4	8.7	27.2	44.6	12		14	25.7	19.4	
17/05/2023	9:00:00	10.4	2.4	10.4	20.8	31.6	25.7	9.1	21.2	13.9	12.8	
17/05/2023	10:00:00	8.2	4.1	8.7	3.5	16.6	0	0	-1.5	0.1	-0.3	
17/05/2023	11:00:00	6.7	3.4	5.8	0.7	-32.9	-7.5	0.3	1.2	5.3	4.5	
17/05/2023	12:00:00	5.9	0.5	6.1	-0.1	-1.3	0.6	0.1	5.4	3.8	8.5	
17/05/2023	13:00:00	5.6	1	6.7	4.2	8.5	1.7	7.3	4.9	7	0	
17/05/2023	14:00:00	6	0.3	7.9	4	0.5	0.7	3.5	8.5	8.8	3.4	
17/05/2023	15:00:00	8.3	0.6	8.6	6.6	13.2	5.2	9.6	7.8	8	0	0.1
17/05/2023	16:00:00	8.7	0.4	10.2	9.9	14.9	9.6	10.8	8.1	8.6	2.1	9.6
17/05/2023	17:00:00	10.4	1.1	9.6	8.8	13.1	7.1	12	13.3	16.4	7.6	9.2
17/05/2023	18:00:00	12.4	1.9	12.6	14.2	21.7	6.8	10.4	9.8	8.5	6.8	10.8
17/05/2023	19:00:00	10.6	1.4	11	6.3	0.6	7.3	9.4	7.3	9.7	9.8	9.7
17/05/2023	20:00:00	9.3	2.6	10.2	11.8	15.4	7.5	9.6	12.1	13.3	7	10.9
17/05/2023	21:00:00	9	3.1	8.4	6.3	4.3	5.8	7.8	10.1	8.4	5.8	8.5
17/05/2023	22:00:00	7.1	2.5	7.1	7.3	10.6	7.9	8.4	8	7.9	6.8	7.6

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
17/05/2023	23:00:00	7.5	2.5	8.4	7	7.8	5.6	7.1	7.2	8.4	6.6	8.2
18/05/2023	0:00:00	7.8	3.1	7.6	8.4	9.3	6.2	8.5	9.3	9.7	6.5	9
18/05/2023	1:00:00	7	4.4	7.2	5.7	5.3	5.2	7	7	7.2	8.6	9.2
18/05/2023	2:00:00	7.3	0.7	7.3	7.6	11	5.1	7.3	7.8	7.5	8.5	8.5
18/05/2023	3:00:00	8	0.8	8.7	7.4	8.8	6.3	8.5	6.7	7.7	5.6	6.5
18/05/2023	4:00:00	8.2	0.1	8.9	6.6	6.5	5.9	8.1	9.2	9.5	3.5	6.3
18/05/2023	5:00:00	6.9	1.4	6.8	5.2	3.6	7.4	9.9	5.3	4.7	7.3	6.6
18/05/2023	6:00:00	7.1	1	6.8	4.8	3.7	6.9	8.5	6	5.9	5	6.6
18/05/2023	7:00:00	6.2	0.3	5.5	5.9	8.8	7.7	9.1	5.7	6.5	6.9	7
18/05/2023	8:00:00	6.6	1.5	7.3	26.9	37	7.3	7.8	16.8	27.1	6.3	7
18/05/2023	9:00:00	8.1	0.9	12.9	5.6	13.6	6.7	8.8	9.3	1.9	6.3	6.4
18/05/2023	10:00:00	6.6	1.2	4.8	3.4	-6.3	9.6	9.5	3.5	7.6	4	6.4
18/05/2023	11:00:00	0.7	-869.5	0	6.4	5.4	4.5	6.3	8.7	11.2	6.1	6.9
18/05/2023	12:00:00	11.2	-2421.2	0	8.3	8.9	7.1	9.1	8.5	7.3	7.1	7.3
18/05/2023	13:00:00	5.8	0.6	5.9	5.3	-8.8	4	5.4	1.3	-0.8	1.8	3.9
18/05/2023	14:00:00	4.6	1.2	8			6.8	7.6	2.6	6.5	5.2	4.4
18/05/2023	15:00:00	9.1	2.8	10.2			6.2	8.4	15.8	14.7	6.7	6.3
18/05/2023	16:00:00	11.1	4.8	11.1			9.9	10.8	10.7	11.6	9.7	9.8
18/05/2023	17:00:00	9.3	3.4	11.4			8.6	10.6	10.1	11.2	10.3	8.7
18/05/2023	18:00:00	8.7	3.2	7.8	6.6	5.9	9.7	12.7	9.3	12.8	4.7	6.3
18/05/2023	19:00:00	9	3.7	7.5	6.5	5.7	6.9	7	8.4	8.8	8.3	9.3
18/05/2023	20:00:00	7.7	0.8	7.5	5.1	3.8	5.7	6.8	8.6	8.8	6.6	8.4
18/05/2023	21:00:00	7	0.3	6.5	4.6	4.3	6.2	6.4	6.6	6.1	4.6	6.8
18/05/2023	22:00:00	5.5	-0.1	5.8	3.8	3.1	3.9	5.1	4	4	6.9	6.2

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
18/05/2023	23:00:00	5	-1	5.4	3.2	3	5.3	6.6	4.5	4.8	4.7	5.7
19/05/2023	0:00:00	4.3	0.1	5.4	3.4	2.8	3.5	4.7	4.4	4.1	3.9	5.7
19/05/2023	1:00:00	5.4	1	5.1	2.7	4.4	5.3	6.8	5.5	6.7	5.7	4.7
19/05/2023	2:00:00	5.1	2.4	4.9	2.7	1.9	4.3	5.4	6	5.5	3.1	4.7
19/05/2023	3:00:00	4.7	0.4	4.8	2.5	3.4	4.2	5.1	4.9	4.1	5.5	4.8
19/05/2023	4:00:00	5.5	0	5.2	3.3	3.2	4.3	5.3	5.2	5.6	5.2	5.7
19/05/2023	5:00:00	5.7	3.7	5.6	4.3	4.3	4.8	6.9	5.8	5.4	6.6	6.3
19/05/2023	6:00:00	6.5	2	6.6	4.5	4.7	5.8	6	6.2	6.7	6.6	6.7
19/05/2023	7:00:00	6.9	1.4	7.2	5.1	6.4	6.1	7.4	7.6	9.3	7.3	7.1
19/05/2023	8:00:00	6.4	0.3	8.3	6.1	9.1	7.3	7.2	12.4	19.4	6.5	7.2
19/05/2023	9:00:00	9.2	2.8	11.1	5.7	10	7.7	10.8	9.9	11	8.9	9.1
19/05/2023	10:00:00	8.7	2.2	9.7	5.7	9.4	7.9	8.8	5.5	7.8	7.8	7.4
19/05/2023	11:00:00	4.7	1	8	5.6	6.2	7.6	9.6	3.5	6.8	4	6.5
19/05/2023	12:00:00	8.3	2	7.9	6.4	7.7	5	6.8	7.8	12.7	7.1	7.5
19/05/2023	13:00:00	9.4	0.7	8.5	6.6	8	8.4	6.4			7.8	7.5
19/05/2023	14:00:00	9.9	2.8	9.5	7.8	9	11	0.1			1.9	2.1
19/05/2023	15:00:00	10.6	3.4	12.2	9.1	11.2	7.3	9.7			3.6	0.1
19/05/2023	16:00:00	10.5	4	10.8	11.3	11.9	9.1	10.2			6.6	11
19/05/2023	17:00:00	10.8	4.2	14	12.6	12.6	9.5	11			6.6	9.3
19/05/2023	18:00:00	11.2	3.4	11.3	14.6	15.3	10	9.7			6.4	9.8
19/05/2023	19:00:00	11.2	3.3	10.9	12.9	14.2	9.6	11.2			7.8	11.4
19/05/2023	20:00:00	11.1	3.8	11.3	10.3	11.1	11.5	11.8			11.3	13.6
19/05/2023	21:00:00	10.6	4.2	11.2	10	11.3	11.3	12.2			9	11.9
19/05/2023	22:00:00	10.1	3.4	10.3	10.2	10.1	10.6	13			9.1	10.6

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
19/05/2023	23:00:00	9.9	3.3	10.7	9.3	10	10.5	11.1			6.8	9.9
20/05/2023	0:00:00	9.8	3	10	8.7	8.8	9	10.6			9.6	9.3
20/05/2023	1:00:00	8.7	3.7	9.4	8.5	9.5	10.2	10.5			6.2	8.4
20/05/2023	2:00:00	9.1	2.8	9.7	9.1	9.1	8.5	9.8			9	9.4
20/05/2023	3:00:00	8.7	4.4	9.8	9	9.8	8.7	10.1			10.6	9.4
20/05/2023	4:00:00	9.2	5.2	9.7	8.9	9.1	7.8	9.4			6.9	9.2
20/05/2023	5:00:00	9.9	4.6	10.2	9	10.4	9.2	10.5			9.4	9.1
20/05/2023	6:00:00	10.2	4.3	10.5	10	10.2	8.9	9.6			9.7	10
20/05/2023	7:00:00	10.2	3.8	11.1	10	11.8	10.7	10.6			9	10.5
20/05/2023	8:00:00	10.2	4.7	12.4	12.4	14.6	10.3	9.8			10.4	11
20/05/2023	9:00:00	10.7	4.9	13.2	8.8	12.7	11.3	13.2			11.3	10.9
20/05/2023	10:00:00	11.7	6.1	13.2	9.5	12.8	11.7	13			13.7	14.4
20/05/2023	11:00:00	9.4	5.1	10.8	9.4	8.9	11.3	11.6			6.6	8.9
20/05/2023	12:00:00	9.5	5.2	9.1	7.8	7.1	7.2	8.4			7.4	7.6
20/05/2023	13:00:00	9.1	2.8	8.3	7.9	8.8	6.8	7.9			6.9	7.4
20/05/2023	14:00:00	8.5	3.5	9.9	7.9	10.1	8.8	10.4			6.6	7.1
20/05/2023	15:00:00	8.2	3.4	8.7	7.9	9.2	7.1	9.2			8.6	7.4
20/05/2023	16:00:00	10.2	2.7	10.2	8.8	10.2	10.2	11.5			8.5	8.1
20/05/2023	17:00:00	10	2.8	13.8	11.8	10.9	9.2	10			6.3	7.8
20/05/2023	18:00:00	9.7	1.3	9.4	11.6	13.1	11.3	12			8.7	8
20/05/2023	19:00:00	10.5	1.5	9.3	12.7	14.3	10.1	11.3			8.3	9
20/05/2023	20:00:00	10.6	1.8	10.3	10.7	11.1	11.1	11.8			10.3	8.9
20/05/2023	21:00:00	11.2	3.1	10.9	10.8	11.2	11.1	10.5			9	9.8
20/05/2023	22:00:00	10.2	3.6	9.5	9.4	10.6	9.6	11.1			10.3	9.2

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
20/05/2023	23:00:00	9.4	3.5	10	9.4	10.6	10.3	10.4			8.3	9.1
21/05/2023	0:00:00	10.2	2.4	11.3	9.5	11.3	9.8	10.8			10.1	9.7
21/05/2023	1:00:00	10	3.4	10.4	9.1	10.2	10	11.4			9.5	8.9
21/05/2023	2:00:00	9.6	3.1	10.4	9.3	9.5	8.5	10.3			7.3	9.2
21/05/2023	3:00:00	9.3	2.8	10.3	8.7	8.7	9.5	9.5			9.1	9.1
21/05/2023	4:00:00	9	4	10.5	8	10	7.8	10.6			8.3	8.4
21/05/2023	5:00:00	10.5	1.3	11.5	9.6	10.7	10.8	11.6			8.6	9.6
21/05/2023	6:00:00	11.4	3.6	11.8	10.6	12.8	10.1	11.9			11.2	10.2
21/05/2023	7:00:00	10.5	3.1	11.8	10.8	11.2	10.3	10.4			8.7	10.1
21/05/2023	8:00:00	10.2	2.5	12.8	11.5	12.5	10.3	9.7			9.4	10.1
21/05/2023	9:00:00	9.9	0.7	12.5	9	12.3	10.6	11.6			11.6	10.7
21/05/2023	10:00:00	8.8	1.5	9.5	6.6	9.8	7.5	9			9.2	9.5
21/05/2023	11:00:00	8.3	1.5	10.3	8.1	12.5	6.1	8			7.9	8.9
21/05/2023	12:00:00	9	3.4	10.4	12.5	17.1	6.1	7.5			9.1	12.6
21/05/2023	13:00:00	7.8	0.8	7.2	9.9	11.2	6.3	7.7			8.8	10.2
21/05/2023	14:00:00	6.8	1.4	9.1	8.3	12.2	6	7.2			6.6	8
21/05/2023	15:00:00	8	2.1	9.3	8.7	11.3	6.2	7.6			8.6	8.2
21/05/2023	16:00:00	8.5	1.1	11.2	10.5	12.6	7.1	8.4			7.1	8.5
21/05/2023	17:00:00	8.2	0.9	8	12	11.7	6.4	7.7			7.2	8.6
21/05/2023	18:00:00	6.4	4.7	7.4	9.1	8.8	7.8	8.7			6.9	6.8
21/05/2023	19:00:00	8	0.1	7.7	9.4	11.3	6.8	8.4			6.8	6.9
21/05/2023	20:00:00	6.8	1.3	7.8	6.4	6.8	6.8	7.9			5	6.2
21/05/2023	21:00:00	7.3	-1.6	7.5	6.7	8	6	8			7.2	6.9
21/05/2023	22:00:00	7	-1.5	8.5	6.1	7.6	7	7.9			5	6.3

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
21/05/2023	23:00:00	7.2	-0.5	8.7	7	7.9	6.9	8.6			6.5	6.3
22/05/2023	0:00:00	7.1	1.4	7.9	7	8.8	6.8	9.8			7.1	7.6
22/05/2023	1:00:00	6.9	0.5	8.3	6.6	7.6	6.9	7.1			5	6.3
22/05/2023	2:00:00	7.1	1.8	8.3	6.3	6.4	5.9	7.3			7.6	6.9
22/05/2023	3:00:00	7	2.7	8.3	6.4	7	7.5	9.2			5.6	7.5
22/05/2023	4:00:00	6.6	2.4	7.7	6.1	7	5.9	7			5.8	7.4
22/05/2023	5:00:00	7	1.1	7.6	6.5	7	7.4	9.7			8.7	9.8
22/05/2023	6:00:00	6.6	1	7.8	6.1	8	6.1	8.2			5.2	8
22/05/2023	7:00:00	7.4	1.4	9.1	7.1	9.2	8	9.4			9.1	9.6
22/05/2023	8:00:00	8.5	-0.1	11.9	11	15.2	8.8	10.2			9.7	9.9
22/05/2023	9:00:00	8.6	0.8	11.5	7.7	11.6	9.4	11.4			8.7	10
22/05/2023	10:00:00	8.7	-0.9	14.3	5.8	8.7	9.5	11.8			9.5	9.2
22/05/2023	11:00:00	10.7	0.7	10.2	7.5	7.1	6.4	8.5			6.1	8
22/05/2023	12:00:00	8.9	0.6	10.1	6.2	7.1	10.3	11.8	7.3	9.7	6.8	6.8
22/05/2023	13:00:00	6.4	0.8	8.3	5.2	6.2	2.9	5.2	6.4	7.4	7.7	7.9
22/05/2023	14:00:00	6.1	0.5	6.9	6.3	9.3	6.2	7.2	5.1	6.4	5	5.9
22/05/2023	15:00:00	6.2	0.9	9	7	7.6	6.8	7.2	5.7	7.6	7	8.2
22/05/2023	16:00:00	7.5	0.3	8.2	7.2	9.1	5.5	7.5	8.2	8.5	7.2	8
22/05/2023	17:00:00	7.7	0.7	10.1	10	10.1	9	9.1	6.5	9.6	9.5	9.8
22/05/2023	18:00:00	10.4	0.1	13.2	12.4	15.1	7.1	9.5	9.3	10.9	10.7	11.3
22/05/2023	19:00:00	13.9	3.3	17.3	14.4	17	10.6	14.3	9.9	13.8	12.4	11.6
22/05/2023	20:00:00	13.4	-1	15.4	11.9	12.6	12.9	15.2	11.9	14.2	9	11.2
22/05/2023	21:00:00	11.3	1	11.6	9.7	10.4	9.6	13	11.5	12.4	10.9	9.6
22/05/2023	22:00:00	9.6	2.6	9.7	8.6	8.9	9.8	11.4	10.3	12.7	6.9	8.5

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
22/05/2023	23:00:00	9.4	2	8.6	8	8.6	11.4	13.6	10.3	10.9	9.3	8.5
23/05/2023	0:00:00	9.2	3	9.6	8.6	9.2	10.3	13.4	8.2	12.8	8.2	9.3
23/05/2023	1:00:00	9.8	0.7	10	8.4	9.2	10.5	10.6	12.5	12.6	9.2	8.8
23/05/2023	2:00:00	7.8	1.4	8.7	8	8.1	7.5	8.7	8.1	9.4	7.5	8
23/05/2023	3:00:00	7.8	1.7	8.1	7.6	8.4	8.2	8.9	8.7	8.2	10.5	9.6
23/05/2023	4:00:00	7.6	4.1	7.2	7.6	7.9	6.4	7.6	7.4	8	7.7	9.2
23/05/2023	5:00:00	6.7	2.4	6.6	8.3	9.1	7.8	9.7	6.8	8.1	10.9	9.7
23/05/2023	6:00:00	6.4	3.3	7.1	8.6	10.8	6.8	8.9	6.7	8.7	7.8	9.6
23/05/2023	7:00:00	6.2	-1.7	7.7	8.6	9.6	7.9	8.7	5.8	9.2	10.4	10.4
23/05/2023	8:00:00	9.5	2.3	12.5	10.8	15.5	9.1	9.3	7.2	10.5	11.8	11.1
23/05/2023	9:00:00	8.9	-0.1	11.5	14.5	24.8	11.1	13.1	7.8	9.8	11.9	11.2
23/05/2023	10:00:00	8.7	-0.6	13	15.8	22	8.2	10.4	9.6	10.7	8.6	11
23/05/2023	11:00:00	9	0.7	4.1	9.1	6.3	4.6	5.1	5.8	6.8	5.9	5.9
23/05/2023	12:00:00	6.9	1.5	8.8	5	4.2	6.2	6.3	6.5	8.2	9.4	8.7
23/05/2023	13:00:00	5.9	1.1	7.7	5.7	8.6	6	6.5	6.7	7.9	7.4	8
23/05/2023	14:00:00	6.1	3.5	6.7	7.2	10.1	4.2	4.8	6.4	7.7	5.8	6.6
23/05/2023	15:00:00	8.6	3.1	9	9.5	13.8	5.4	6.7	4.6	5.5	6.5	7.6
23/05/2023	16:00:00	7.3	2.3	8.4	9.7	12.1	7.2	9.1	6.1	8.4	8.3	9.3
23/05/2023	17:00:00	8.2	0.7	12	12.8	17.4	9.7	11.5	5.5	7.7	12.7	15.4
23/05/2023	18:00:00	10.3	2.5	14.2	17.1	20.2	7.1	10.4	7.4	11.4	6.7	11.6
23/05/2023	19:00:00	9	3.7	9.6	12.7	15.6	12.7	16	10.3	13.6	12	11
23/05/2023	20:00:00	12.4	5.6	12.7	16	16.9	13.8	16.5	11.5	12.9	8.5	9.2
23/05/2023	21:00:00	12.4	6.6	10.8	9.8	9.7	11.4	13	13.1	14.1	8.7	7.8
23/05/2023	22:00:00	10.4	2	10.5	8.2	8	8.8	10	10	10.3	9.4	8.2

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
23/05/2023	23:00:00	10.5	4.2	11.2	8	8.3	9.5	10.2	10.1	10.3	6.4	8
24/05/2023	0:00:00	10.2	4.2	10.5	7	7.8	8.2	9.5	8.8	10.7	7.7	7.5
24/05/2023	1:00:00	8.9	3.1	9.6	7.3	8	7.5	9.2	8.6	9.2	9.9	8.3
24/05/2023	2:00:00	8.4	1.2	8.8	9.5	11.1	12.5	12.7	7.3	9.8	8.8	9.3
24/05/2023	3:00:00	8.4	2.1	8.7	10.8	11.7	8.5	9.8	8.5	9.1	12.2	10.6
24/05/2023	4:00:00	7.3	2.1	7.8	9.8	9.9	7.5	8.2	7.1	8.4	10	10.4
24/05/2023	5:00:00	7.9	3.7	8.3	10.9	12	7.7	8.2	8.7	10.6	13.5	11.8
24/05/2023	6:00:00	9	2.5	10	12	13.2	10.1	11.6	9.8	11.6	10.9	11.7
24/05/2023	7:00:00	9.5	2.5	10	14	15.7	10.1	10.7	9.8	11.9	14.9	13.3
24/05/2023	8:00:00	13.5	1.7	16.7	15.2	20.8	11.5	12	8	12.8	13.2	12.9
24/05/2023	9:00:00	13.7	4.8	17.2	12.5	17.7	15.4	19.5	13.7	16.2	15.7	15.1
24/05/2023	10:00:00	14.9	3.4	15.7	10.9	12.5	13.9	13.7	12.3	12.8	12	12.2
24/05/2023	11:00:00	12.1	4.3	12	10.5	7.8	5.5	7.9	9	9.6	9.6	10.9
24/05/2023	12:00:00	7.2	2.8	7.8	6.3	7.6	6.2	7.3	6.5	8.4	7.5	7.5
24/05/2023	13:00:00	7.2	2.3	7.4	5.1	6.2	5.5	5.6	6.5	7.9	5.7	6.5
24/05/2023	14:00:00	9.1	1.5	10.3	7.8	10.6	7	8.3	7.5	10.7	9.9	9.9
24/05/2023	15:00:00	9.5	2.4	14.1	9.1	11.2	8.1	9.7	8.9	11	11.2	13
24/05/2023	16:00:00	11.7	1.7	13.6	13.5	17	10.1	12.2	8.6	11.6	10.6	13.1
24/05/2023	17:00:00	8.3	3	12.2	12.5	14.9	11.3	13.4	7.4	11.3	8.6	13
24/05/2023	18:00:00	8.3	1	13	17.3	24.9	8.8	12.1	7	9.9	15.6	16.1
24/05/2023	19:00:00	20	2.6	25.1	20.4	27	12	15.8	12.3	16.2	13.6	16.1
24/05/2023	20:00:00	16.2	4.8	15	20.2	19.8	16.3	18.7	17	20	12.4	13
24/05/2023	21:00:00	14.9	7.3	14	12.7	13	23.3	32.8	17.9	21.6	12.5	11.7
24/05/2023	22:00:00	12.4	2.7	12	11.7	13	22.3	29.3	16.3	16.8	11.8	11.6



Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
24/05/2023	23:00:00	11.4	4.4	11.4	17.1	20.9	12.6	14.9	12.7	13.4	16.3	15.2
25/05/2023	0:00:00	10.9	3.6	12	21.5	23.2	10	12.7	10.6	13	17.1	16.8
25/05/2023	1:00:00	13.4	3.9	14.3	17.2	16.2	12.8	14.6	10.6	13.2	16.2	16.5
25/05/2023	2:00:00	13.7	6.3	14.4	14.7	15	15	16	14.9	16.8	14	13.5
25/05/2023	3:00:00	13	6.1	13.5	17.6	19.7	13.6	15.3	15	17.1	12.7	13.5
25/05/2023	4:00:00	11.8	6.9	11.6	19.2	20.5	14.4	14.4	14.6	16.5	16.6	14.8
25/05/2023	5:00:00	9.7	4.8	9.9	20.6	21.4	13.9	14.9	13.9	14.3	13.5	14.6
25/05/2023	6:00:00	8.7	6.9	8.8	16.8	16.7	14.4	14.3	10.7	11.9	16.9	15.2
25/05/2023	7:00:00	10.7	5.5	9.8	16.8	17.4	13.6	13.4	8.9	10.6	17.6	16.7
25/05/2023	8:00:00	17.7	8.2	20.3	22.5	26.8	19.8	19.1	12.4	22.4	19	17.5
25/05/2023	9:00:00	22.2	10	24.6	16.1	22.8	22.2	26.8	25.6	27.4	20.2	18.5
25/05/2023	10:00:00	11.8	7.3	11.7	12.2	11	21.1	20.8	12.8	12.4	9.7	10.5
25/05/2023	11:00:00	12.9	6.4	12	12	10	6	8.2	11.6	13.4	11.4	10.6
25/05/2023	12:00:00	6	5.2	9.6	6.8	5.4	10.1	11.6	10.8	12.4	12	11.9
25/05/2023	13:00:00	7.5	2.3	10.1	5.3	7.5	10.5	11.3	10	12.3	9.2	10.9
25/05/2023	14:00:00	11.2	5.4	13	9	14.2	10.6	12.3	12	13.2	8.2	9.4
25/05/2023	15:00:00	11.4	4	14.3	13.3	19.4	14.2	15.6	13.3	17.1	10.3	10.6
25/05/2023	16:00:00	13.6	5	14.7	12.4	17	13.2	15.1	15.8	20.9	10.8	12.2
25/05/2023	17:00:00	15.8	6.6	18.9	17.5	19.3	26	35.4	15.1	17.1	12.2	14
25/05/2023	18:00:00	14.8	7.3	17.5	20.6	22.8	22.9	43.1	14.4	19.8	9	12
25/05/2023	19:00:00	19.7	4.6	22.3	17.5	22.9	17.6	19.9	15.6	18	13.7	13.8
25/05/2023	20:00:00	25.4	4.1	30.1	11	10.7	16.4	19.6	18.3	21.2	7.1	9.1
25/05/2023	21:00:00	18.3	1.1	28.2	8.9	9.5	13.8	14.1	13.8	14.9	9.2	8.4
25/05/2023	22:00:00	11.3	-1.3	10.6	9	10.2	8	9.3	10.6	9.1	8.6	8.9

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
25/05/2023	23:00:00	8.4	3.1	9	7.9	8.6	9.4	9.5	8.1	9.9	8	8.6
26/05/2023	0:00:00	8.6	2.1	10.1	8	9.7	7.1	8.2	7.1	8.3	8.9	10.2
26/05/2023	1:00:00	12.1	5.4	11.2	10.5	13.1	9.6	10.8	11.1	11.8	11.8	11.3
26/05/2023	2:00:00	11.5	2	10.9	10.5	12.2	11.3	11.1	11	12.6	11	11.1
26/05/2023	3:00:00	9.8	1.7	9.9	9.1	9.7	8	9.3	9.5	8.3	8.3	9.4
26/05/2023	4:00:00	9.7	5.9	8.5	9.4	11.4	11.1	10.8	10.3	11	9.4	9.3
26/05/2023	5:00:00	7.4	5.8	7.4	7.5	7.8	9.2	9.2	7.1	10.1	6.6	7.3
26/05/2023	6:00:00	8.5	5.2	9.2	7	8.2	8.4	8.8	9.9	9.8	6.7	7
26/05/2023	7:00:00	9.4	2.2	9.2	7.5	8.7	10.2	9.8	9	12.1	9.3	8.2
26/05/2023	8:00:00	9.4	5	10.1	11.6	16.7	11.7	10.7	9.5	8.9	7.5	8
26/05/2023	9:00:00	10.2	1.7	13.7	7.8	14.9	19.1	16.9	10.5	15.2	11.3	9.2
26/05/2023	10:00:00	18.4	11.1	15.9	12.6	14.7	8.8	17.7	19.1	23.6	18.2	16
26/05/2023	11:00:00	20.6	9.5	20.1	18.4	25.5	17.5	28.3	24.7	28.7	20.7	19.8
26/05/2023	12:00:00	18	7.4	23.8	25.3	31.3	16.1	21.2	20.5	23.4	22.1	22.8
26/05/2023	13:00:00	16.6	5.8	17.1	23.1	27.7	12.5	16	15.9	20.8	13.2	18.2
26/05/2023	14:00:00	14.8	1.3	17.8	22.8	27.9	14.6	19.7	14.8	18.3	15.8	17.2
26/05/2023	15:00:00	20.5	1.9	24.2	23.4	30.1	18.9	22.8	21.2	30.8	19.1	19.5
26/05/2023	16:00:00	19	2.7	23.5	24.4	28.6	22.2	22.5	19.4	25.1	18.7	18.8
26/05/2023	17:00:00	20.9	2.7	22.5	25.7	27.9	19.8	23.9	20.2	24.2	21.4	21.9
26/05/2023	18:00:00	18.8	3.1	20.4	20.5	22.6	18.4	21.8	18.6	23.5	18.3	18.9
26/05/2023	19:00:00	19	1.3	21.2	21.7	26.2	18.3	24.5	19.6	23.9	19.6	19.9
26/05/2023	20:00:00	15.8	2.3	18.4	15.4	18.1	16.4	19.3	15.5	18.5	13.8	17
26/05/2023	21:00:00	12.5	0	15.1	13.4	16.6	11.7	16.1	13.3	20.1	14.7	15.7
26/05/2023	22:00:00	11.6	-1.3	12.5	11.4	12	13	15.6	12	13	9.2	11.7

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
26/05/2023	23:00:00	8.9	-0.8	10	8.6	9.7	6.7	10	8.9	10.7	9.1	8.9
27/05/2023	0:00:00	6.7	0	7.5	6.9	7.5	7.9	9.2	6.9	9.1	5.2	6.6
27/05/2023	1:00:00	6.4	1.9	6.4	5.8	7	4.8	6.9	6.9	7.2	5.9	5.9
27/05/2023	2:00:00	5.8	1	5.9	4.7	4.7	6.6	7.2	7.1	5.6	4.7	4.8
27/05/2023	3:00:00	5.3	2.8	5.7	5.2	5.8	3.6	4.2	3.7	5.4	4.2	4.8
27/05/2023	4:00:00	5.7	-0.4	6.1	4.8	3.7	6.1	6.4	7.6	7.2	5.3	5.7
27/05/2023	5:00:00	6.5	2.9	6.4	5.6	5.9	7.1	6.9	5.2	7.7	6.8	5.9
27/05/2023	6:00:00	6.9	-0.9	6.8	6.5	8.3	5.5	7.7	7.3	7.5	5.5	6.2
27/05/2023	7:00:00	7.1	2.6	7.7	6.4	7.4	6.8	6.6	7.9	8.6	7.7	6.9
27/05/2023	8:00:00	7.2	2.4	9.1	10.3	14	8.3	9	6.6	10.4	8.3	7.8
27/05/2023	9:00:00	7.1	-0.9	10.1	8.1	9.9	7.4	11.6	6.1	8.5	8.5	8.3
27/05/2023	10:00:00	7.7	1.2	10.3	5.9	12.6	10.3	13.7	6.9	9.3	8	7.7
27/05/2023	11:00:00	7.3	2.4	7.2	6.1	7.6	9.3	10.7	7.7	8.3	6.9	7.1
27/05/2023	12:00:00	7.1	2.2	7.4	6.7	7	10.7	18	5.5	6	6.3	6.4
27/05/2023	13:00:00	7.5	1.3	6.9	5.4	7	4.8	6.5	7.4	8.7	5.7	5.7
27/05/2023	14:00:00	8.4	2.6	7.8	8.7	14.1	4.1	6.7	12	13.2	6.1	7
27/05/2023	15:00:00	6.8	2.6	10	17.4	20.2	10.4	8.8	8	8.8	6.8	6.7
27/05/2023	16:00:00	7.9	2.5	7.6	8.3	8.6	5.4	6.9	8.2	12.1	7.2	7.5
27/05/2023	17:00:00	10	3.1	11.8	12.1	11.5	7.8	9.3	9.8	11	8.4	9.4
27/05/2023	18:00:00	8.6	1.9	10	10.6	12.8	8.8	9.1	8.1	10.8	6.2	7.6
27/05/2023	19:00:00	9.6	-0.4	9.7	10.9	12.9	9.4	10.9	9.4	10.8	10.1	8.1
27/05/2023	20:00:00	9.3	2.3	9.7	9.6	10	9.3	9.7	9.6	10.7	7.8	8.7
27/05/2023	21:00:00	9	3.2	9.3	9	9.7	8	8.3	8.8	10.3	9.4	9.2
27/05/2023	22:00:00	8.5	0.7	9.3	9	9.7	8.2	8.2	9.9	9.4	7.1	8.4

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
27/05/2023	23:00:00	9.1	0.2	10.1	8.2	8.7	8.2	10.1	11	11.4	9.2	9.1
28/05/2023	0:00:00	8.7	0.9	9.3	7.6	8.5	9.5	9.5	9.6	10.8	7.1	8.9
28/05/2023	1:00:00	8.1	1.4	8.8	7.5	8.1	10.4	11.1	8.2	11.5	10.8	10.1
28/05/2023	2:00:00	8.6	2.7	9.2	7.5	8.6	7.4	10.5	9.8	10.4	10.3	10.1
28/05/2023	3:00:00	9.1	1.5	10.4	7.9	9.6	10.1	10.7	8.6	9.8	8.6	9.9
28/05/2023	4:00:00	8.9	2.9	9.3	7.2	8.6	8.1	10.2	8.7	11	9.7	9.3
28/05/2023	5:00:00	8.2	5.5	9.3	7.9	9.1	7.4	9.1	8.3	8.1	9.3	8.7
28/05/2023	6:00:00	9.5	1.3	10.5	8.7	12.4	9.4	10.1	9.2	10.3	8.8	9.1
28/05/2023	7:00:00	10.1	0.1	10.6	9.7	10.3	10.2	10.2	10	12.1	10.6	9.7
28/05/2023	8:00:00	9.1	3.9	11.7	12.4	16.1	7.8	10.1	8.6	14.4	9.8	9.8
28/05/2023	9:00:00	10.9	3.5	14.5	9	16	11.4	13.3	8.5	10.4	12	11.3
28/05/2023	10:00:00	10	2.2	11.4	7.5	7.2	9.8	12.7	9.2	11.3	11.3	11.1
28/05/2023	11:00:00	8.2	3.6	10.7	5.9	6.9	10	11.7	9	9.9	13.8	17.9
28/05/2023	12:00:00	7.3	3.8	7.3	6.5	6.4	10.1	9.9	7.5	9.4	4	5.9
28/05/2023	13:00:00	8.7	4.3	8.1	6.6	7.7	4.9	8.3	8.1	10	7.7	7.5
28/05/2023	14:00:00	7.7	1.3	8.9	6.2	7.4	7.6	8.8	7	7	7	7.9
28/05/2023	15:00:00	11	-0.7	15.7	5.9	7.9	5.3	8.2	8.1	9.7	8.3	8.7
28/05/2023	16:00:00	7.4	2.3	7.8	5.6	6.2	7.3	8.2	6.2	7.2	8.6	8.3
28/05/2023	17:00:00	7.7	1.9	10.5	9.1	7.9	7.5	8.9	7.5	10.2	6	7.2
28/05/2023	18:00:00	11.6	-0.9	8.8	8.8	12.1	9.8	10.2	9.3	11.5	10.1	10.4
28/05/2023	19:00:00	10.8	-2.6	11	9.9	11.6	9.3	10.9	12.7	13.8	9.3	10.7
28/05/2023	20:00:00	11.8	-0.1	11.9	9.6	11.1	11.6	12.2	12.1	14.9	11.5	10.6
28/05/2023	21:00:00	9.9	2.1	10.7	9	10.3	8.7	10.1	9.1	9.6	8.4	9.4
28/05/2023	22:00:00	8.3	2.9	9.3	7.6	7.6	8.9	9.1	8.6	9	8.6	8.6

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
28/05/2023	23:00:00	7.3	1.8	8.8	6.9	8.9	7.7	8.8	7.8	10.1	7.4	7.7
29/05/2023	0:00:00	7.2	1	9.4	7.2	8.6	8	8.9	7.5	10.1	6.3	7.5
29/05/2023	1:00:00	7.9	1.4	9.4	7.3	8	7.4	8.8	8	8.6	7.8	7.1
29/05/2023	2:00:00	7.6	2	8.4	6.9	7.9	6.5	8.6	8.9	8.3	7.1	7.8
29/05/2023	3:00:00	7.1	0.3	8.7	6.6	7.4	8	7.7	8.1	8.5	6.3	7.3
29/05/2023	4:00:00	6.9	3.1	7.8	6.7	7.7	5.4	6.6	6.3	7.8	6.9	6.6
29/05/2023	5:00:00	6.9	1.9	7.7	6.4	8.4	7.2	8.5	7.5	7.1	6.3	6.2
29/05/2023	6:00:00	8.4	1	9.3	7.2	7.4	10.1	11.1	8.7	9.8	7.9	8.1
29/05/2023	7:00:00	7.8	3.5	7.8	7.2	8.8	14.1	20.7	7	9.1	8.2	7.4
29/05/2023	8:00:00	7.2	0.8	9	10.5	13.2	12.1	16.6	7.3	9.6	7.5	8.1
29/05/2023	9:00:00	8.5	0.9	12.4	7.1	10.6	6.3	8.5	5.2	8.2	9.1	8.5
29/05/2023	10:00:00	8.5	2	11.8	6	13	7	7.6	8.7	12	7.9	7.6
29/05/2023	11:00:00	6.4	0.8	6.3	6.5	12.8	13.6	18.1	8.4	10	8.9	10.6
29/05/2023	12:00:00	4.9	1.6	6.3	7.5	8	6.4	8.8	6.5	8.3	4.7	7.2
29/05/2023	13:00:00	5.4	2.7	6.1	6.9	9	7.9	8.2	5.9	7.6	6.2	8.1
29/05/2023	14:00:00	7.6	0.9	6.5	7.3	9.7	3.6	6.2	5.8	9.4	6.3	6.9
29/05/2023	15:00:00	9.5	-0.3	9.6	9.4	13.2	12.3	13.8	9.7	12.4	8.7	9.6
29/05/2023	16:00:00	8.7	1.1	12.2	11.7	13.9	12.4	14.8	8.5	11.2	8.2	10.3
29/05/2023	17:00:00	9.3	0.5	12.6	12.6	12.9	7.9	12.4	9.6	11.4	10.3	12.4
29/05/2023	18:00:00	12.9	3.6	12.5	18.6	26.4	9.1	12	10	14.8	12.8	15
29/05/2023	19:00:00	12	3.3	13.3	13.4	14.9	13.1	15.2	13.8	16.8	11.2	13.3
29/05/2023	20:00:00	12.5	1.1	15.3	11.3	13.3	12.2	17.3	15.5	18.8	10.4	11.9
29/05/2023	21:00:00	13.8	2.7	16	12	16	12.8	15.3	13	17.3	10.6	11.1
29/05/2023	22:00:00	11.8	3	15.9	10.6	13.6	10	14.7	11.7	15.5	8.5	10

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
29/05/2023	23:00:00	12	4.8	13.3	8.9	10.2	10.3	12.3	11.9	12.9	8.5	9.3
30/05/2023	0:00:00	11.1	1.9	12.5	9	9.9	11.1	13.7	10	12.4	8.9	8.9
30/05/2023	1:00:00	8.8	2.4	10.4	7.6	8.7	8.7	11.1	9.9	11.4	6.1	7.3
30/05/2023	2:00:00	7.2	0.7	8.3	5.8	6	9.6	11.4	8.6	10.2	6.4	5.9
30/05/2023	3:00:00	7.5	2.5	8.2	6.3	5.6	8	10.5	9.2	10.7	5.9	6.7
30/05/2023	4:00:00	6.8	-1.7	7.6	5.2	5.7	7.8	8.8	8.8	10.2	5.4	6.1
30/05/2023	5:00:00	6.9	0.9	7.8	5.8	7.3	9.3	10.5	8.8	8.1	7.3	7.2
30/05/2023	6:00:00	6.2	4.8	6.2	6.2	8.6	7.2	10.1	7.6	9.4	5.8	6.9
30/05/2023	7:00:00	5.9	0.6	6.2	7.1	6.7	15.4	24	8.6	10.6	7.6	7.4
30/05/2023	8:00:00	9.9	-3.2	14.4	10.4	15.5	10.3	12.2	9.7	17.4	9.4	8.7
30/05/2023	9:00:00	8.7	-4.3	10.5	6.5	8.6	7.8	11	10.1	10	9.1	9.3
30/05/2023	10:00:00	7.1	-1.3	11.5	5.2	13.7	7.2	9.6	6.8	9.4	9.5	9.2
30/05/2023	11:00:00	8.6	0.8	6.9	13.9	20.8	12.5	11.4	8.4	12	7.1	8.2
30/05/2023	12:00:00	9.8	0.3	9.9	11.9	11.7	3.8	8.8	9.4	10.7	10.5	12.4
30/05/2023	13:00:00	6.5	-0.2	10.5	8	9.3	8.5	9.6	5.2	8	5.9	7.8
30/05/2023	14:00:00	6.6	-1.2	8.5	7.7	11.5	2.2	5.5	4.9	6.9	7.2	8.3
30/05/2023	15:00:00	6.3	-5.3	9.2	6.8	10.2	8	9.5	4.8	7.8	7.5	8.7
30/05/2023	16:00:00	7.5	1.3	10.5	6.5	10.4	10.3	12.1	7.8	13.1	8.2	10.3
30/05/2023	17:00:00	11.4	3.4	14.3	10.7	11.2	8.8	11.5	8.2	12.7	12.4	17
30/05/2023	18:00:00	10.8	0.5	15.5	18.1	32.7	7.8	10.7	9.5	13.7	10.7	15.2
30/05/2023	19:00:00	14	1.6	19.1	17.3	21.8	12.4	16	11.2	15.3	13.1	15.7
30/05/2023	20:00:00	15.6	2.7	19.8	14	15.3	9.7	13.5	10.5	14.5	15.3	15.8
30/05/2023	21:00:00	14.3	3.5	16.8	11.4	12.8	9.6	10.6	9.7	11.1	11.2	12.7
30/05/2023	22:00:00	14.2	1.8	15.3	10	11	12.3	15.1	10.8	11.7	9.9	10

Date	Time	Location 1 - Acland PM10	Location 1 - Acland PM2.5	Location 1 - Acland TSP	Location 2 - North PM10	Location 2 - North TSP	Location 3a - West PM10	Location 3a - West TSP	Location 5 - South West PM10	Location 5 - South West TSP	Location 6 - East PM10	Location 6 - East TSP
30/05/2023	23:00:00	13.2	2.1	15.2	9	11.2	12.4	12.8	10.1	12.7	8.9	9.7
31/05/2023	0:00:00	11.2	2.4	12.6	8.4	8.9	10.2	12	12.4	12.8	9.3	9.1

Table 6: NAC Noise Compass Data (dB) for Acland and Northern Compasses

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
01/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
01/05/2023	7:15:00 AM	Non-mine noise	Non-mine noise
01/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
01/05/2023	7:45:00 AM	Non-mine noise	Non-mine noise
01/05/2023	8:00:00 AM	Non-mine noise	36.67
01/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
01/05/2023	8:30:00 AM	Non-mine noise	37.76
01/05/2023	8:45:00 AM	27.65	Non-mine noise
01/05/2023	9:00:00 AM	Non-mine noise	Non-mine noise
01/05/2023	9:15:00 AM	Non-mine noise	29.85
01/05/2023	9:30:00 AM	Non-mine noise	32.23
01/05/2023	9:45:00 AM	Non-mine noise	34.79
01/05/2023	10:00:00 AM	Non-mine noise	34.17
01/05/2023	10:15:00 AM	Non-mine noise	34.79
01/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
01/05/2023	10:45:00 AM	Non-mine noise	Non-mine noise
01/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
01/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
01/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
01/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
01/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
01/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise
01/05/2023	12:30:00 PM	Non-mine noise	Non-mine noise
01/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
01/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
01/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise



Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
01/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
01/05/2023	1:45:00 PM	34.68	34.97
01/05/2023	2:00:00 PM	34.57	35.37
01/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
01/05/2023	2:30:00 PM	Non-mine noise	35.12
01/05/2023	2:45:00 PM	33.15	Non-mine noise
01/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
01/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
01/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
01/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
01/05/2023	4:00:00 PM	Non-mine noise	Non-mine noise
01/05/2023	4:15:00 PM	Non-mine noise	Non-mine noise
01/05/2023	4:30:00 PM	Non-mine noise	30.63
01/05/2023	4:45:00 PM	Non-mine noise	33.27
01/05/2023	5:00:00 PM	29.73	Non-mine noise
01/05/2023	5:15:00 PM	Non-mine noise	Non-mine noise
01/05/2023	5:30:00 PM	28.11	Non-mine noise
01/05/2023	5:45:00 PM	Non-mine noise	Non-mine noise
01/05/2023	6:00:00 PM	25.81	Non-mine noise
02/05/2023	7:00:00 AM	28.99	Non-mine noise
02/05/2023	7:15:00 AM	37.74	Non-mine noise
02/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
02/05/2023	7:45:00 AM	Non-mine noise	33.07
02/05/2023	8:00:00 AM	Non-mine noise	Non-mine noise
02/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
02/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
02/05/2023	8:45:00 AM	Non-mine noise	31.39
02/05/2023	9:00:00 AM	Non-mine noise	36.38

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
02/05/2023	9:15:00 AM	Non-mine noise	Non-mine noise
02/05/2023	9:30:00 AM	Non-mine noise	35.72
02/05/2023	9:45:00 AM	Non-mine noise	35.40
02/05/2023	10:00:00 AM	34.63	35.92
02/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
02/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
02/05/2023	10:45:00 AM	32.07	28.52
02/05/2023	11:00:00 AM	Non-mine noise	31.27
02/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
02/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
02/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
02/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
02/05/2023	12:15:00 PM	Non-mine noise	31.83
02/05/2023	12:30:00 PM	32.21	31.53
02/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
02/05/2023	1:00:00 PM	32.59	Non-mine noise
02/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
02/05/2023	1:30:00 PM	31.59	32.74
02/05/2023	1:45:00 PM	Non-mine noise	31.67
02/05/2023	2:00:00 PM	30.06	32.55
02/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
02/05/2023	2:30:00 PM	30.16	33.48
02/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
02/05/2023	3:00:00 PM	Non-mine noise	29.50
02/05/2023	3:15:00 PM	Non-mine noise	31.59
02/05/2023	3:30:00 PM	28.23	29.21
02/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
02/05/2023	4:00:00 PM	Non-mine noise	30.57

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
02/05/2023	4:15:00 PM	Non-mine noise	31.07
02/05/2023	4:30:00 PM	Non-mine noise	Non-mine noise
02/05/2023	4:45:00 PM	Non-mine noise	33.11
02/05/2023	5:00:00 PM	Non-mine noise	Non-mine noise
02/05/2023	5:15:00 PM	Non-mine noise	34.35
02/05/2023	5:30:00 PM	Non-mine noise	Non-mine noise
02/05/2023	5:45:00 PM	31.33	33.99
02/05/2023	6:00:00 PM	28.83	Non-mine noise
03/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
03/05/2023	7:15:00 AM	Non-mine noise	38.25
03/05/2023	7:30:00 AM	Non-mine noise	38.79
03/05/2023	7:45:00 AM	34.30	35.92
03/05/2023	8:00:00 AM	30.48	33.00
03/05/2023	8:15:00 AM	Non-mine noise	32.71
03/05/2023	8:30:00 AM	34.41	Non-mine noise
03/05/2023	8:45:00 AM	Non-mine noise	32.99
03/05/2023	9:00:00 AM	Non-mine noise	34.59
03/05/2023	9:15:00 AM	34.93	31.81
03/05/2023	9:30:00 AM	Non-mine noise	Non-mine noise
03/05/2023	9:45:00 AM	Non-mine noise	30.48
03/05/2023	10:00:00 AM	Non-mine noise	Non-mine noise
03/05/2023	10:15:00 AM	Non-mine noise	27.04
03/05/2023	10:30:00 AM	34.27	30.20
03/05/2023	10:45:00 AM	33.84	30.46
03/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
03/05/2023	11:15:00 AM	Non-mine noise	33.11
03/05/2023	11:30:00 AM	31.92	31.49
03/05/2023	11:45:00 AM	Non-mine noise	32.22

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
03/05/2023	12:00:00 PM	Non-mine noise	35.04
03/05/2023	12:15:00 PM	Non-mine noise	31.14
03/05/2023	12:30:00 PM	37.57	32.12
03/05/2023	12:45:00 PM	Non-mine noise	34.07
03/05/2023	1:00:00 PM	Non-mine noise	30.35
03/05/2023	1:15:00 PM	32.26	30.40
03/05/2023	1:30:00 PM	Non-mine noise	30.24
03/05/2023	1:45:00 PM	33.85	34.15
03/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
03/05/2023	2:15:00 PM	Non-mine noise	31.34
03/05/2023	2:30:00 PM	Non-mine noise	Non-mine noise
03/05/2023	2:45:00 PM	Non-mine noise	33.91
03/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
03/05/2023	3:15:00 PM	33.47	30.03
03/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
03/05/2023	3:45:00 PM	34.35	31.93
03/05/2023	4:00:00 PM	Non-mine noise	29.65
03/05/2023	4:15:00 PM	32.90	32.74
03/05/2023	4:30:00 PM	30.06	30.57
03/05/2023	4:45:00 PM	26.90	26.47
03/05/2023	5:00:00 PM	Non-mine noise	30.15
03/05/2023	5:15:00 PM	30.48	30.41
03/05/2023	5:30:00 PM	Non-mine noise	33.96
03/05/2023	5:45:00 PM	29.52	34.49
03/05/2023	6:00:00 PM	Non-mine noise	36.26
04/05/2023	7:00:00 AM	30.04	Non-mine noise
04/05/2023	7:15:00 AM	35.86	35.64
04/05/2023	7:30:00 AM	Non-mine noise	36.58

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
04/05/2023	7:45:00 AM	41.98	37.17
04/05/2023	8:00:00 AM	Non-mine noise	36.47
04/05/2023	8:15:00 AM	Non-mine noise	35.64
04/05/2023	8:30:00 AM	33.08	Non-mine noise
04/05/2023	8:45:00 AM	Non-mine noise	Non-mine noise
04/05/2023	9:00:00 AM	Non-mine noise	30.91
04/05/2023	9:15:00 AM	Non-mine noise	26.77
04/05/2023	9:30:00 AM	Non-mine noise	25.00
04/05/2023	9:45:00 AM	Non-mine noise	25.88
04/05/2023	10:00:00 AM	Non-mine noise	28.71
04/05/2023	10:15:00 AM	Non-mine noise	31.95
04/05/2023	10:30:00 AM	Non-mine noise	32.55
04/05/2023	10:45:00 AM	Non-mine noise	31.91
04/05/2023	11:00:00 AM	35.80	32.21
04/05/2023	11:15:00 AM	36.06	29.57
04/05/2023	11:30:00 AM	35.48	28.15
04/05/2023	11:45:00 AM	34.61	30.55
04/05/2023	12:00:00 PM	34.49	30.41
04/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise
04/05/2023	12:30:00 PM	Non-mine noise	33.11
04/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
04/05/2023	1:00:00 PM	34.08	28.89
04/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
04/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
04/05/2023	1:45:00 PM	33.22	28.82
04/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
04/05/2023	2:15:00 PM	37.23	28.75
04/05/2023	2:30:00 PM	34.22	28.50

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
04/05/2023	2:45:00 PM	Non-mine noise	28.97
04/05/2023	3:00:00 PM	Non-mine noise	30.93
04/05/2023	3:15:00 PM	Non-mine noise	29.15
04/05/2023	3:30:00 PM	Non-mine noise	31.19
04/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
04/05/2023	4:00:00 PM	Non-mine noise	26.53
04/05/2023	4:15:00 PM	Non-mine noise	29.71
04/05/2023	4:30:00 PM	Non-mine noise	28.07
04/05/2023	4:45:00 PM	36.24	24.28
04/05/2023	5:00:00 PM	31.52	27.44
04/05/2023	5:15:00 PM	Non-mine noise	27.62
04/05/2023	5:30:00 PM	Non-mine noise	30.68
04/05/2023	5:45:00 PM	Non-mine noise	36.65
04/05/2023	6:00:00 PM	31.61	34.43
05/05/2023	7:00:00 AM	34.80	Non-mine noise
05/05/2023	7:15:00 AM	Non-mine noise	30.99
05/05/2023	7:30:00 AM	Non-mine noise	33.10
05/05/2023	7:45:00 AM	33.65	32.90
05/05/2023	8:00:00 AM	Non-mine noise	25.85
05/05/2023	8:15:00 AM	36.63	30.69
05/05/2023	8:30:00 AM	Non-mine noise	27.22
05/05/2023	8:45:00 AM	Non-mine noise	29.72
05/05/2023	9:00:00 AM	Non-mine noise	33.53
05/05/2023	9:15:00 AM	41.14	Non-mine noise
05/05/2023	9:30:00 AM	40.51	32.82
05/05/2023	9:45:00 AM	Non-mine noise	31.26
05/05/2023	10:00:00 AM	41.72	31.81
05/05/2023	10:15:00 AM	38.01	26.86

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
05/05/2023	10:30:00 AM	38.23	30.38
05/05/2023	10:45:00 AM	Non-mine noise	28.10
05/05/2023	11:00:00 AM	Non-mine noise	32.35
05/05/2023	11:15:00 AM	Non-mine noise	30.57
05/05/2023	11:30:00 AM	41.60	26.61
05/05/2023	11:45:00 AM	41.02	31.28
05/05/2023	12:00:00 PM	37.05	29.70
05/05/2023	12:15:00 PM	36.07	26.42
05/05/2023	12:30:00 PM	Non-mine noise	29.90
05/05/2023	12:45:00 PM	Non-mine noise	27.38
05/05/2023	1:00:00 PM	Non-mine noise	30.12
05/05/2023	1:15:00 PM	Non-mine noise	29.46
05/05/2023	1:30:00 PM	Non-mine noise	30.40
05/05/2023	1:45:00 PM	38.00	30.37
05/05/2023	2:00:00 PM	41.72	25.42
05/05/2023	2:15:00 PM	37.05	30.08
05/05/2023	2:30:00 PM	Non-mine noise	30.08
05/05/2023	2:45:00 PM	Non-mine noise	29.45
05/05/2023	3:00:00 PM	Non-mine noise	31.20
05/05/2023	3:15:00 PM	Non-mine noise	34.13
05/05/2023	3:30:00 PM	Non-mine noise	32.74
05/05/2023	3:45:00 PM	Non-mine noise	31.34
05/05/2023	4:00:00 PM	Non-mine noise	33.72
05/05/2023	4:15:00 PM	Non-mine noise	32.32
05/05/2023	4:30:00 PM	Non-mine noise	32.61
05/05/2023	4:45:00 PM	40.10	33.78
05/05/2023	5:00:00 PM	Non-mine noise	32.10
05/05/2023	5:15:00 PM	39.04	33.35

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
05/05/2023	5:30:00 PM	40.02	31.01
05/05/2023	5:45:00 PM	Non-mine noise	32.14
05/05/2023	6:00:00 PM	37.85	36.49
06/05/2023	7:00:00 AM	30.79	32.05
06/05/2023	7:15:00 AM	33.55	30.61
06/05/2023	7:30:00 AM	Non-mine noise	29.24
06/05/2023	7:45:00 AM	39.97	26.54
06/05/2023	8:00:00 AM	Non-mine noise	28.22
06/05/2023	8:15:00 AM	36.60	24.84
06/05/2023	8:30:00 AM	39.02	27.34
06/05/2023	8:45:00 AM	Non-mine noise	28.20
06/05/2023	9:00:00 AM	38.48	29.29
06/05/2023	9:15:00 AM	37.41	25.76
06/05/2023	9:30:00 AM	Non-mine noise	24.51
06/05/2023	9:45:00 AM	32.31	26.32
06/05/2023	10:00:00 AM	Non-mine noise	26.76
06/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
06/05/2023	10:30:00 AM	35.95	25.69
06/05/2023	10:45:00 AM	Non-mine noise	23.89
06/05/2023	11:00:00 AM	31.09	27.95
06/05/2023	11:15:00 AM	30.60	26.60
06/05/2023	11:30:00 AM	31.61	20.88
06/05/2023	11:45:00 AM	35.80	20.05
06/05/2023	12:00:00 PM	33.39	21.63
06/05/2023	12:15:00 PM	30.53	26.78
06/05/2023	12:30:00 PM	Non-mine noise	22.10
06/05/2023	12:45:00 PM	35.06	21.04
06/05/2023	1:00:00 PM	Non-mine noise	23.00



Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
06/05/2023	1:15:00 PM	35.53	24.37
06/05/2023	1:30:00 PM	33.95	22.27
06/05/2023	1:45:00 PM	33.56	23.73
06/05/2023	2:00:00 PM	30.66	30.27
06/05/2023	2:15:00 PM	31.68	23.24
06/05/2023	2:30:00 PM	35.05	20.45
06/05/2023	2:45:00 PM	37.29	21.46
06/05/2023	3:00:00 PM	36.11	21.10
06/05/2023	3:15:00 PM	40.48	22.39
06/05/2023	3:30:00 PM	Non-mine noise	24.66
06/05/2023	3:45:00 PM	Non-mine noise	24.18
06/05/2023	4:00:00 PM	Non-mine noise	25.65
06/05/2023	4:15:00 PM	Non-mine noise	25.54
06/05/2023	4:30:00 PM	33.23	22.85
06/05/2023	4:45:00 PM	36.47	30.24
06/05/2023	5:00:00 PM	33.67	30.28
06/05/2023	5:15:00 PM	36.37	35.18
06/05/2023	5:30:00 PM	39.10	34.77
06/05/2023	5:45:00 PM	Non-mine noise	26.81
06/05/2023	6:00:00 PM	38.71	33.78
07/05/2023	7:00:00 AM	31.03	26.13
07/05/2023	7:15:00 AM	34.98	21.21
07/05/2023	7:30:00 AM	39.21	28.18
07/05/2023	7:45:00 AM	41.57	26.45
07/05/2023	8:00:00 AM	40.84	22.89
07/05/2023	8:15:00 AM	37.29	21.93
07/05/2023	8:30:00 AM	33.93	24.39
07/05/2023	8:45:00 AM	29.28	24.44

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
07/05/2023	9:00:00 AM	33.58	23.68
07/05/2023	9:15:00 AM	30.82	26.60
07/05/2023	9:30:00 AM	31.42	24.96
07/05/2023	9:45:00 AM	35.29	30.45
07/05/2023	10:00:00 AM	34.24	31.50
07/05/2023	10:15:00 AM	Non-mine noise	29.24
07/05/2023	10:30:00 AM	Non-mine noise	33.01
07/05/2023	10:45:00 AM	38.45	36.32
07/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
07/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
07/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
07/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
07/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
07/05/2023	12:15:00 PM	Non-mine noise	32.40
07/05/2023	12:30:00 PM	Non-mine noise	Non-mine noise
07/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
07/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
07/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
07/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
07/05/2023	1:45:00 PM	Non-mine noise	Non-mine noise
07/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
07/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
07/05/2023	2:30:00 PM	Non-mine noise	35.43
07/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
07/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
07/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
07/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
07/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
07/05/2023	4:00:00 PM	Non-mine noise	Non-mine noise
07/05/2023	4:15:00 PM	Non-mine noise	Non-mine noise
07/05/2023	4:30:00 PM	Non-mine noise	Non-mine noise
07/05/2023	4:45:00 PM	Non-mine noise	Non-mine noise
07/05/2023	5:00:00 PM	Non-mine noise	35.73
07/05/2023	5:15:00 PM	40.51	31.63
07/05/2023	5:30:00 PM	38.93	32.65
07/05/2023	5:45:00 PM	Non-mine noise	34.71
07/05/2023	6:00:00 PM	36.65	37.16
08/05/2023	7:00:00 AM	Non-mine noise	33.26
08/05/2023	7:15:00 AM	Non-mine noise	35.83
08/05/2023	7:30:00 AM	Non-mine noise	33.30
08/05/2023	7:45:00 AM	Non-mine noise	33.88
08/05/2023	8:00:00 AM	34.27	37.95
08/05/2023	8:15:00 AM	Non-mine noise	34.73
08/05/2023	8:30:00 AM	Non-mine noise	37.09
08/05/2023	8:45:00 AM	Non-mine noise	Non-mine noise
08/05/2023	9:00:00 AM	38.12	36.18
08/05/2023	9:15:00 AM	Non-mine noise	Non-mine noise
08/05/2023	9:30:00 AM	Non-mine noise	34.75
08/05/2023	9:45:00 AM	Non-mine noise	Non-mine noise
08/05/2023	10:00:00 AM	Non-mine noise	36.99
08/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
08/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
08/05/2023	10:45:00 AM	Non-mine noise	Non-mine noise
08/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
08/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
08/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
08/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
08/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
08/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise
08/05/2023	12:30:00 PM	Non-mine noise	Non-mine noise
08/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
08/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
08/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
08/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
08/05/2023	1:45:00 PM	Non-mine noise	Non-mine noise
08/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
08/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
08/05/2023	2:30:00 PM	Non-mine noise	Non-mine noise
08/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
08/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
08/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
08/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
08/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
08/05/2023	4:00:00 PM	Non-mine noise	Non-mine noise
08/05/2023	4:15:00 PM	Non-mine noise	Non-mine noise
08/05/2023	4:30:00 PM	Non-mine noise	Non-mine noise
08/05/2023	4:45:00 PM	39.09	37.11
08/05/2023	5:00:00 PM	Non-mine noise	Non-mine noise
08/05/2023	5:15:00 PM	Non-mine noise	32.49
08/05/2023	5:30:00 PM	Non-mine noise	31.11
08/05/2023	5:45:00 PM	28.11	32.42
08/05/2023	6:00:00 PM	38.00	32.26
09/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
09/05/2023	7:15:00 AM	Non-mine noise	Non-mine noise

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
09/05/2023	7:30:00 AM	Non-mine noise	35.86
09/05/2023	7:45:00 AM	Non-mine noise	38.15
09/05/2023	8:00:00 AM	Non-mine noise	36.64
09/05/2023	8:15:00 AM	Non-mine noise	36.41
09/05/2023	8:30:00 AM	Non-mine noise	37.59
09/05/2023	8:45:00 AM	Non-mine noise	32.15
09/05/2023	9:00:00 AM	Non-mine noise	26.89
09/05/2023	9:15:00 AM	Non-mine noise	29.55
09/05/2023	9:30:00 AM	Non-mine noise	33.27
09/05/2023	9:45:00 AM	Non-mine noise	26.95
09/05/2023	10:00:00 AM	Non-mine noise	31.61
09/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
09/05/2023	10:30:00 AM	36.97	31.18
09/05/2023	10:45:00 AM	35.19	27.39
09/05/2023	11:00:00 AM	35.08	29.03
09/05/2023	11:15:00 AM	Non-mine noise	29.33
09/05/2023	11:30:00 AM	Non-mine noise	30.85
09/05/2023	11:45:00 AM	Non-mine noise	30.19
09/05/2023	12:00:00 PM	30.64	23.50
09/05/2023	12:15:00 PM	Non-mine noise	25.56
09/05/2023	12:30:00 PM	33.01	29.95
09/05/2023	12:45:00 PM	34.12	26.52
09/05/2023	1:00:00 PM	36.01	28.62
09/05/2023	1:15:00 PM	Non-mine noise	25.82
09/05/2023	1:30:00 PM	Non-mine noise	24.49
09/05/2023	1:45:00 PM	Non-mine noise	24.56
09/05/2023	2:00:00 PM	37.30	27.08
09/05/2023	2:15:00 PM	Non-mine noise	28.03

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
09/05/2023	2:30:00 PM	Non-mine noise	27.45
09/05/2023	2:45:00 PM	Non-mine noise	29.59
09/05/2023	3:00:00 PM	Non-mine noise	31.48
09/05/2023	3:15:00 PM	Non-mine noise	28.01
09/05/2023	3:30:00 PM	Non-mine noise	30.56
09/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
09/05/2023	4:00:00 PM	Non-mine noise	Non-mine noise
09/05/2023	4:15:00 PM	Non-mine noise	27.61
09/05/2023	4:30:00 PM	Non-mine noise	25.83
09/05/2023	4:45:00 PM	Non-mine noise	29.31
09/05/2023	5:00:00 PM	Non-mine noise	28.97
09/05/2023	5:15:00 PM	Non-mine noise	33.55
09/05/2023	5:30:00 PM	Non-mine noise	32.55
09/05/2023	5:45:00 PM	Non-mine noise	28.20
09/05/2023	6:00:00 PM	28.40	30.51
10/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
10/05/2023	7:15:00 AM	38.27	Non-mine noise
10/05/2023	7:30:00 AM	Non-mine noise	32.53
10/05/2023	7:45:00 AM	37.34	Non-mine noise
10/05/2023	8:00:00 AM	Non-mine noise	Non-mine noise
10/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
10/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
10/05/2023	8:45:00 AM	Non-mine noise	Non-mine noise
10/05/2023	9:00:00 AM	Non-mine noise	Non-mine noise
10/05/2023	9:15:00 AM	Non-mine noise	34.08
10/05/2023	9:30:00 AM	Non-mine noise	32.05
10/05/2023	9:45:00 AM	Non-mine noise	Non-mine noise
10/05/2023	10:00:00 AM	Non-mine noise	Non-mine noise

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
10/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
10/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
10/05/2023	10:45:00 AM	38.82	26.32
10/05/2023	11:00:00 AM	Non-mine noise	24.73
10/05/2023	11:15:00 AM	Non-mine noise	27.22
10/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
10/05/2023	11:45:00 AM	Non-mine noise	26.42
10/05/2023	12:00:00 PM	40.45	27.21
10/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise
10/05/2023	12:30:00 PM	Non-mine noise	26.05
10/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
10/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
10/05/2023	1:15:00 PM	39.37	28.90
10/05/2023	1:30:00 PM	Non-mine noise	27.67
10/05/2023	1:45:00 PM	40.02	29.47
10/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
10/05/2023	2:15:00 PM	Non-mine noise	32.61
10/05/2023	2:30:00 PM	Non-mine noise	28.38
10/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
10/05/2023	3:00:00 PM	Non-mine noise	30.12
10/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
10/05/2023	3:30:00 PM	Non-mine noise	25.86
10/05/2023	3:45:00 PM	Non-mine noise	31.92
10/05/2023	4:00:00 PM	Non-mine noise	29.37
10/05/2023	4:15:00 PM	Non-mine noise	Non-mine noise
10/05/2023	4:30:00 PM	Non-mine noise	Non-mine noise
10/05/2023	4:45:00 PM	Non-mine noise	Non-mine noise
10/05/2023	5:00:00 PM	Non-mine noise	33.06

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
10/05/2023	5:15:00 PM	Non-mine noise	32.85
10/05/2023	5:30:00 PM	Non-mine noise	Non-mine noise
10/05/2023	5:45:00 PM	Non-mine noise	Non-mine noise
10/05/2023	6:00:00 PM	Non-mine noise	Non-mine noise
11/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
11/05/2023	7:15:00 AM	38.69	34.24
11/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
11/05/2023	7:45:00 AM	Non-mine noise	Non-mine noise
11/05/2023	8:00:00 AM	Non-mine noise	Non-mine noise
11/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
11/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
11/05/2023	8:45:00 AM	Non-mine noise	34.77
11/05/2023	9:00:00 AM	Non-mine noise	32.78
11/05/2023	9:15:00 AM	Non-mine noise	Non-mine noise
11/05/2023	9:30:00 AM	Non-mine noise	Non-mine noise
11/05/2023	9:45:00 AM	Non-mine noise	34.92
11/05/2023	10:00:00 AM	Non-mine noise	34.73
11/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
11/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
11/05/2023	10:45:00 AM	Non-mine noise	Non-mine noise
11/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
11/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
11/05/2023	11:30:00 AM	Non-mine noise	35.75
11/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
11/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
11/05/2023	12:15:00 PM	Non-mine noise	35.89
11/05/2023	12:30:00 PM	Non-mine noise	Non-mine noise
11/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise



Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
11/05/2023	1:00:00 PM	Non-mine noise	34.55
11/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
11/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
11/05/2023	1:45:00 PM	Non-mine noise	Non-mine noise
11/05/2023	2:00:00 PM	Non-mine noise	30.94
11/05/2023	2:15:00 PM	Non-mine noise	34.19
11/05/2023	2:30:00 PM	Non-mine noise	Non-mine noise
11/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
11/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
11/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
11/05/2023	3:30:00 PM	Non-mine noise	34.43
11/05/2023	3:45:00 PM	Non-mine noise	32.32
11/05/2023	4:00:00 PM	Non-mine noise	33.14
11/05/2023	4:15:00 PM	37.72	33.24
11/05/2023	4:30:00 PM	Non-mine noise	33.16
11/05/2023	4:45:00 PM	Non-mine noise	33.66
11/05/2023	5:00:00 PM	Non-mine noise	Non-mine noise
11/05/2023	5:15:00 PM	Non-mine noise	Non-mine noise
11/05/2023	5:30:00 PM	Non-mine noise	Non-mine noise
11/05/2023	5:45:00 PM	Non-mine noise	Non-mine noise
11/05/2023	6:00:00 PM	Non-mine noise	Non-mine noise
12/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
12/05/2023	7:15:00 AM	39.25	32.72
12/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
12/05/2023	7:45:00 AM	40.53	32.93
12/05/2023	8:00:00 AM	39.39	30.33
12/05/2023	8:15:00 AM	Non-mine noise	35.07
12/05/2023	8:30:00 AM	Non-mine noise	34.19

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
12/05/2023	8:45:00 AM	Non-mine noise	34.30
12/05/2023	9:00:00 AM	Non-mine noise	Non-mine noise
12/05/2023	9:15:00 AM	Non-mine noise	36.22
12/05/2023	9:30:00 AM	Non-mine noise	33.96
12/05/2023	9:45:00 AM	Non-mine noise	36.46
12/05/2023	10:00:00 AM	Non-mine noise	35.59
12/05/2023	10:15:00 AM	Non-mine noise	35.99
12/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
12/05/2023	10:45:00 AM	Non-mine noise	34.52
12/05/2023	11:00:00 AM	Non-mine noise	35.49
12/05/2023	11:15:00 AM	Non-mine noise	35.42
12/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
12/05/2023	11:45:00 AM	Non-mine noise	35.95
12/05/2023	12:00:00 PM	Non-mine noise	34.25
12/05/2023	12:15:00 PM	Non-mine noise	34.70
12/05/2023	12:30:00 PM	Non-mine noise	Non-mine noise
12/05/2023	12:45:00 PM	Non-mine noise	34.62
12/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
12/05/2023	1:15:00 PM	Non-mine noise	33.13
12/05/2023	1:30:00 PM	Non-mine noise	35.35
12/05/2023	1:45:00 PM	Non-mine noise	34.14
12/05/2023	2:00:00 PM	Non-mine noise	33.15
12/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
12/05/2023	2:30:00 PM	Non-mine noise	34.45
12/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
12/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
12/05/2023	3:15:00 PM	Non-mine noise	28.99
12/05/2023	3:30:00 PM	Non-mine noise	34.54

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
12/05/2023	3:45:00 PM	Non-mine noise	33.09
12/05/2023	4:00:00 PM	Non-mine noise	35.72
12/05/2023	4:15:00 PM	Non-mine noise	33.94
12/05/2023	4:30:00 PM	Non-mine noise	35.60
12/05/2023	4:45:00 PM	Non-mine noise	35.18
12/05/2023	5:00:00 PM	Non-mine noise	33.28
12/05/2023	5:15:00 PM	Non-mine noise	Non-mine noise
12/05/2023	5:30:00 PM	Non-mine noise	31.73
12/05/2023	5:45:00 PM	Non-mine noise	35.07
12/05/2023	6:00:00 PM	Non-mine noise	Non-mine noise
13/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
13/05/2023	7:15:00 AM	36.62	29.86
13/05/2023	7:30:00 AM	34.81	26.73
13/05/2023	7:45:00 AM	36.87	30.05
13/05/2023	8:00:00 AM	37.61	Non-mine noise
13/05/2023	8:15:00 AM	36.35	33.69
13/05/2023	8:30:00 AM	Non-mine noise	34.68
13/05/2023	8:45:00 AM	Non-mine noise	35.01
13/05/2023	9:00:00 AM	Non-mine noise	Non-mine noise
13/05/2023	9:15:00 AM	Non-mine noise	36.13
13/05/2023	9:30:00 AM	Non-mine noise	Non-mine noise
13/05/2023	9:45:00 AM	Non-mine noise	Non-mine noise
13/05/2023	10:00:00 AM	Non-mine noise	36.79
13/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
13/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
13/05/2023	10:45:00 AM	Non-mine noise	36.66
13/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
13/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
13/05/2023	11:30:00 AM	Non-mine noise	35.68
13/05/2023	11:45:00 AM	Non-mine noise	35.06
13/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
13/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise
13/05/2023	12:30:00 PM	Non-mine noise	33.58
13/05/2023	12:45:00 PM	Non-mine noise	33.43
13/05/2023	1:00:00 PM	Non-mine noise	31.82
13/05/2023	1:15:00 PM	Non-mine noise	32.94
13/05/2023	1:30:00 PM	Non-mine noise	32.27
13/05/2023	1:45:00 PM	Non-mine noise	Non-mine noise
13/05/2023	2:00:00 PM	Non-mine noise	31.33
13/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
13/05/2023	2:30:00 PM	Non-mine noise	33.50
13/05/2023	2:45:00 PM	Non-mine noise	31.86
13/05/2023	3:00:00 PM	Non-mine noise	35.07
13/05/2023	3:15:00 PM	Non-mine noise	33.98
13/05/2023	3:30:00 PM	Non-mine noise	33.23
13/05/2023	3:45:00 PM	Non-mine noise	33.59
13/05/2023	4:00:00 PM	38.99	Non-mine noise
13/05/2023	4:15:00 PM	38.65	28.62
13/05/2023	4:30:00 PM	37.86	33.94
13/05/2023	4:45:00 PM	Non-mine noise	31.07
13/05/2023	5:00:00 PM	Non-mine noise	31.78
13/05/2023	5:15:00 PM	Non-mine noise	32.76
13/05/2023	5:30:00 PM	37.66	31.61
13/05/2023	5:45:00 PM	35.53	Non-mine noise
13/05/2023	6:00:00 PM	Non-mine noise	35.27
14/05/2023	7:00:00 AM	40.41	32.08

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
14/05/2023	7:15:00 AM	38.78	32.69
14/05/2023	7:30:00 AM	37.49	30.71
14/05/2023	7:45:00 AM	35.76	26.49
14/05/2023	8:00:00 AM	34.79	30.77
14/05/2023	8:15:00 AM	36.03	31.24
14/05/2023	8:30:00 AM	38.84	32.21
14/05/2023	8:45:00 AM	32.72	33.04
14/05/2023	9:00:00 AM	36.65	34.58
14/05/2023	9:15:00 AM	35.53	31.53
14/05/2023	9:30:00 AM	38.47	33.31
14/05/2023	9:45:00 AM	Non-mine noise	34.76
14/05/2023	10:00:00 AM	37.22	32.78
14/05/2023	10:15:00 AM	Non-mine noise	34.21
14/05/2023	10:30:00 AM	Non-mine noise	34.26
14/05/2023	10:45:00 AM	Non-mine noise	36.99
14/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
14/05/2023	11:15:00 AM	Non-mine noise	32.95
14/05/2023	11:30:00 AM	Non-mine noise	33.32
14/05/2023	11:45:00 AM	39.29	33.45
14/05/2023	12:00:00 PM	39.65	34.09
14/05/2023	12:15:00 PM	37.47	33.49
14/05/2023	12:30:00 PM	40.49	29.96
14/05/2023	12:45:00 PM	39.36	32.42
14/05/2023	1:00:00 PM	Non-mine noise	33.36
14/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
14/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
14/05/2023	1:45:00 PM	Non-mine noise	30.33
14/05/2023	2:00:00 PM	Non-mine noise	30.30

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
14/05/2023	2:15:00 PM	Non-mine noise	31.43
14/05/2023	2:30:00 PM	39.90	31.71
14/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
14/05/2023	3:00:00 PM	Non-mine noise	34.19
14/05/2023	3:15:00 PM	41.02	34.14
14/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
14/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
14/05/2023	4:00:00 PM	39.95	29.23
14/05/2023	4:15:00 PM	41.12	28.75
14/05/2023	4:30:00 PM	37.12	31.73
14/05/2023	4:45:00 PM	36.64	32.32
14/05/2023	5:00:00 PM	Non-mine noise	32.35
14/05/2023	5:15:00 PM	39.30	29.05
14/05/2023	5:30:00 PM	38.98	30.09
14/05/2023	5:45:00 PM	37.42	28.32
14/05/2023	6:00:00 PM	34.63	32.31
15/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
15/05/2023	7:15:00 AM	Non-mine noise	Non-mine noise
15/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
15/05/2023	7:45:00 AM	Non-mine noise	34.77
15/05/2023	8:00:00 AM	Non-mine noise	Non-mine noise
15/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
15/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
15/05/2023	8:45:00 AM	Non-mine noise	33.83
15/05/2023	9:00:00 AM	38.77	32.30
15/05/2023	9:15:00 AM	Non-mine noise	31.80
15/05/2023	9:30:00 AM	40.12	34.11
15/05/2023	9:45:00 AM	39.61	35.91

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
15/05/2023	10:00:00 AM	Non-mine noise	35.92
15/05/2023	10:15:00 AM	Non-mine noise	33.72
15/05/2023	10:30:00 AM	39.16	Non-mine noise
15/05/2023	10:45:00 AM	Non-mine noise	35.57
15/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
15/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
15/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
15/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
15/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
15/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise
15/05/2023	12:30:00 PM	Non-mine noise	34.94
15/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
15/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
15/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
15/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
15/05/2023	1:45:00 PM	Non-mine noise	Non-mine noise
15/05/2023	2:00:00 PM	38.86	Non-mine noise
15/05/2023	2:15:00 PM	39.96	Non-mine noise
15/05/2023	2:30:00 PM	Non-mine noise	Non-mine noise
15/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
15/05/2023	3:00:00 PM	Non-mine noise	34.59
15/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
15/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
15/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
15/05/2023	4:00:00 PM	Non-mine noise	Non-mine noise
15/05/2023	4:15:00 PM	Non-mine noise	32.29
15/05/2023	4:30:00 PM	Non-mine noise	Non-mine noise
15/05/2023	4:45:00 PM	Non-mine noise	31.01

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
15/05/2023	5:00:00 PM	Non-mine noise	33.09
15/05/2023	5:15:00 PM	Non-mine noise	Non-mine noise
15/05/2023	5:30:00 PM	Non-mine noise	Non-mine noise
15/05/2023	5:45:00 PM	Non-mine noise	Non-mine noise
15/05/2023	6:00:00 PM	33.99	23.30
16/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
16/05/2023	7:15:00 AM	33.38	33.65
16/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
16/05/2023	7:45:00 AM	Non-mine noise	Non-mine noise
16/05/2023	8:00:00 AM	Non-mine noise	Non-mine noise
16/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
16/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
16/05/2023	8:45:00 AM	Non-mine noise	Non-mine noise
16/05/2023	9:00:00 AM	Non-mine noise	Non-mine noise
16/05/2023	9:15:00 AM	Non-mine noise	Non-mine noise
16/05/2023	9:30:00 AM	Non-mine noise	Non-mine noise
16/05/2023	9:45:00 AM	Non-mine noise	Non-mine noise
16/05/2023	10:00:00 AM	Non-mine noise	Non-mine noise
16/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
16/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
16/05/2023	10:45:00 AM	Non-mine noise	Non-mine noise
16/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
16/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
16/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
16/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
16/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
16/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise
16/05/2023	12:30:00 PM	Non-mine noise	34.21



Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
16/05/2023	12:45:00 PM	38.41	28.73
16/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
16/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
16/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
16/05/2023	1:45:00 PM	Non-mine noise	Non-mine noise
16/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
16/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
16/05/2023	2:30:00 PM	Non-mine noise	29.22
16/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
16/05/2023	3:00:00 PM	Non-mine noise	33.34
16/05/2023	3:15:00 PM	Non-mine noise	32.24
16/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
16/05/2023	3:45:00 PM	Non-mine noise	31.97
16/05/2023	4:00:00 PM	Non-mine noise	32.05
16/05/2023	4:15:00 PM	31.39	30.84
16/05/2023	4:30:00 PM	28.83	29.95
16/05/2023	4:45:00 PM	Non-mine noise	29.20
16/05/2023	5:00:00 PM	Non-mine noise	27.55
16/05/2023	5:15:00 PM	27.37	Non-mine noise
16/05/2023	5:30:00 PM	Non-mine noise	32.37
16/05/2023	5:45:00 PM	29.52	33.46
16/05/2023	6:00:00 PM	28.42	32.03
17/05/2023	7:00:00 AM	32.32	30.20
17/05/2023	7:15:00 AM	32.28	33.43
17/05/2023	7:30:00 AM	39.59	31.51
17/05/2023	7:45:00 AM	35.75	36.51
17/05/2023	8:00:00 AM	31.45	30.89
17/05/2023	8:15:00 AM	31.29	33.44

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
17/05/2023	8:30:00 AM	Non-mine noise	34.31
17/05/2023	8:45:00 AM	35.70	34.58
17/05/2023	9:00:00 AM	35.11	34.66
17/05/2023	9:15:00 AM	Non-mine noise	32.06
17/05/2023	9:30:00 AM	33.25	30.46
17/05/2023	9:45:00 AM	Non-mine noise	31.06
17/05/2023	10:00:00 AM	Non-mine noise	36.62
17/05/2023	10:15:00 AM	36.66	26.68
17/05/2023	10:30:00 AM	33.67	29.61
17/05/2023	10:45:00 AM	35.81	34.39
17/05/2023	11:00:00 AM	Non-mine noise	37.13
17/05/2023	11:15:00 AM	32.02	32.61
17/05/2023	11:30:00 AM	35.28	31.09
17/05/2023	11:45:00 AM	32.31	23.65
17/05/2023	12:00:00 PM	29.96	29.40
17/05/2023	12:15:00 PM	25.84	26.21
17/05/2023	12:30:00 PM	33.04	25.99
17/05/2023	12:45:00 PM	28.09	26.01
17/05/2023	1:00:00 PM	31.33	29.94
17/05/2023	1:15:00 PM	Non-mine noise	26.62
17/05/2023	1:30:00 PM	36.02	25.07
17/05/2023	1:45:00 PM	40.36	25.40
17/05/2023	2:00:00 PM	Non-mine noise	32.27
17/05/2023	2:15:00 PM	37.20	28.11
17/05/2023	2:30:00 PM	Non-mine noise	33.59
17/05/2023	2:45:00 PM	34.70	31.78
17/05/2023	3:00:00 PM	Non-mine noise	33.18
17/05/2023	3:15:00 PM	35.13	27.48

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
17/05/2023	3:30:00 PM	38.66	34.60
17/05/2023	3:45:00 PM	Non-mine noise	34.66
17/05/2023	4:00:00 PM	34.42	31.55
17/05/2023	4:15:00 PM	Non-mine noise	26.91
17/05/2023	4:30:00 PM	Non-mine noise	29.78
17/05/2023	4:45:00 PM	Non-mine noise	29.95
17/05/2023	5:00:00 PM	Non-mine noise	30.49
17/05/2023	5:15:00 PM	28.76	32.15
17/05/2023	5:30:00 PM	Non-mine noise	33.47
17/05/2023	5:45:00 PM	30.41	31.32
17/05/2023	6:00:00 PM	27.18	34.02
18/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
18/05/2023	7:15:00 AM	35.84	33.19
18/05/2023	7:30:00 AM	40.52	35.01
18/05/2023	7:45:00 AM	Non-mine noise	34.19
18/05/2023	8:00:00 AM	36.81	33.37
18/05/2023	8:15:00 AM	39.19	35.20
18/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
18/05/2023	8:45:00 AM	32.33	36.11
18/05/2023	9:00:00 AM	35.11	32.89
18/05/2023	9:15:00 AM	30.40	32.26
18/05/2023	9:30:00 AM	30.86	32.22
18/05/2023	9:45:00 AM	30.87	31.01
18/05/2023	10:00:00 AM	34.60	30.16
18/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
18/05/2023	10:30:00 AM	29.37	29.95
18/05/2023	10:45:00 AM	33.34	29.86
18/05/2023	11:00:00 AM	31.66	27.41

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
18/05/2023	11:15:00 AM	28.55	28.43
18/05/2023	11:30:00 AM	32.31	29.03
18/05/2023	11:45:00 AM	33.66	28.88
18/05/2023	12:00:00 PM	31.67	27.01
18/05/2023	12:15:00 PM	Non-mine noise	29.89
18/05/2023	12:30:00 PM	28.83	29.68
18/05/2023	12:45:00 PM	31.15	29.68
18/05/2023	1:00:00 PM	33.02	26.78
18/05/2023	1:15:00 PM	28.72	30.16
18/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
18/05/2023	1:45:00 PM	28.45	31.04
18/05/2023	2:00:00 PM	Non-mine noise	29.19
18/05/2023	2:15:00 PM	32.51	30.98
18/05/2023	2:30:00 PM	36.24	32.29
18/05/2023	2:45:00 PM	Non-mine noise	29.28
18/05/2023	3:00:00 PM	Non-mine noise	29.33
18/05/2023	3:15:00 PM	34.86	30.53
18/05/2023	3:30:00 PM	Non-mine noise	26.85
18/05/2023	3:45:00 PM	Non-mine noise	29.42
18/05/2023	4:00:00 PM	32.25	29.18
18/05/2023	4:15:00 PM	Non-mine noise	32.34
18/05/2023	4:30:00 PM	Non-mine noise	30.71
18/05/2023	4:45:00 PM	21.89	29.83
18/05/2023	5:00:00 PM	30.53	29.02
18/05/2023	5:15:00 PM	30.61	34.91
18/05/2023	5:30:00 PM	27.55	36.76
18/05/2023	5:45:00 PM	31.80	32.02
18/05/2023	6:00:00 PM	Non-mine noise	33.26

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
19/05/2023	7:00:00 AM	Non-mine noise	30.80
19/05/2023	7:15:00 AM	Non-mine noise	32.74
19/05/2023	7:30:00 AM	Non-mine noise	34.51
19/05/2023	7:45:00 AM	Non-mine noise	33.72
19/05/2023	8:00:00 AM	30.10	34.78
19/05/2023	8:15:00 AM	32.01	31.56
19/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
19/05/2023	8:45:00 AM	34.69	32.35
19/05/2023	9:00:00 AM	30.30	31.04
19/05/2023	9:15:00 AM	34.13	30.91
19/05/2023	9:30:00 AM	31.68	27.78
19/05/2023	9:45:00 AM	Non-mine noise	32.40
19/05/2023	10:00:00 AM	29.77	29.51
19/05/2023	10:15:00 AM	Non-mine noise	27.70
19/05/2023	10:30:00 AM	30.74	24.88
19/05/2023	10:45:00 AM	Non-mine noise	26.31
19/05/2023	11:00:00 AM	30.39	31.96
19/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
19/05/2023	11:30:00 AM	Non-mine noise	29.21
19/05/2023	11:45:00 AM	31.07	26.49
19/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
19/05/2023	12:15:00 PM	31.50	35.53
19/05/2023	12:30:00 PM	32.75	26.76
19/05/2023	12:45:00 PM	29.17	27.77
19/05/2023	1:00:00 PM	Non-mine noise	30.97
19/05/2023	1:15:00 PM	Non-mine noise	29.63
19/05/2023	1:30:00 PM	29.80	28.71
19/05/2023	1:45:00 PM	31.49	29.68

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
19/05/2023	2:00:00 PM	32.68	31.13
19/05/2023	2:15:00 PM	Non-mine noise	31.38
19/05/2023	2:30:00 PM	Non-mine noise	33.27
19/05/2023	2:45:00 PM	31.82	32.55
19/05/2023	3:00:00 PM	Non-mine noise	33.21
19/05/2023	3:15:00 PM	30.29	29.02
19/05/2023	3:30:00 PM	34.07	28.28
19/05/2023	3:45:00 PM	31.26	27.27
19/05/2023	4:00:00 PM	31.63	28.31
19/05/2023	4:15:00 PM	29.26	28.41
19/05/2023	4:30:00 PM	35.33	27.02
19/05/2023	4:45:00 PM	24.97	29.47
19/05/2023	5:00:00 PM	Non-mine noise	27.30
19/05/2023	5:15:00 PM	28.13	31.35
19/05/2023	5:30:00 PM	Non-mine noise	33.68
19/05/2023	5:45:00 PM	Non-mine noise	32.32
19/05/2023	6:00:00 PM	38.82	32.78
20/05/2023	7:00:00 AM	25.18	Non-mine noise
20/05/2023	7:15:00 AM	37.05	32.77
20/05/2023	7:30:00 AM	40.81	30.54
20/05/2023	7:45:00 AM	38.53	Non-mine noise
20/05/2023	8:00:00 AM	32.49	Non-mine noise
20/05/2023	8:15:00 AM	33.65	34.73
20/05/2023	8:30:00 AM	31.21	33.83
20/05/2023	8:45:00 AM	32.57	37.18
20/05/2023	9:00:00 AM	28.54	36.35
20/05/2023	9:15:00 AM	26.38	32.68
20/05/2023	9:30:00 AM	28.05	31.05

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
20/05/2023	9:45:00 AM	31.84	28.51
20/05/2023	10:00:00 AM	30.92	25.60
20/05/2023	10:15:00 AM	28.83	27.44
20/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
20/05/2023	10:45:00 AM	34.30	30.71
20/05/2023	11:00:00 AM	33.89	26.32
20/05/2023	11:15:00 AM	Non-mine noise	30.97
20/05/2023	11:30:00 AM	Non-mine noise	26.66
20/05/2023	11:45:00 AM	31.04	27.79
20/05/2023	12:00:00 PM	32.70	28.28
20/05/2023	12:15:00 PM	28.93	29.46
20/05/2023	12:30:00 PM	Non-mine noise	Non-mine noise
20/05/2023	12:45:00 PM	27.61	29.23
20/05/2023	1:00:00 PM	29.40	28.61
20/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
20/05/2023	1:30:00 PM	30.61	26.86
20/05/2023	1:45:00 PM	31.32	28.29
20/05/2023	2:00:00 PM	29.40	26.95
20/05/2023	2:15:00 PM	Non-mine noise	29.35
20/05/2023	2:30:00 PM	30.83	27.34
20/05/2023	2:45:00 PM	32.24	28.53
20/05/2023	3:00:00 PM	34.73	28.37
20/05/2023	3:15:00 PM	Non-mine noise	29.37
20/05/2023	3:30:00 PM	34.78	Non-mine noise
20/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
20/05/2023	4:00:00 PM	33.67	32.97
20/05/2023	4:15:00 PM	Non-mine noise	27.81
20/05/2023	4:30:00 PM	27.38	26.75

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
20/05/2023	4:45:00 PM	Non-mine noise	Non-mine noise
20/05/2023	5:00:00 PM	31.94	28.60
20/05/2023	5:15:00 PM	29.39	33.96
20/05/2023	5:30:00 PM	26.04	30.74
20/05/2023	5:45:00 PM	30.38	31.21
20/05/2023	6:00:00 PM	23.23	33.78
21/05/2023	7:00:00 AM	Non-mine noise	27.35
21/05/2023	7:15:00 AM	32.44	Non-mine noise
21/05/2023	7:30:00 AM	28.95	35.99
21/05/2023	7:45:00 AM	29.17	Non-mine noise
21/05/2023	8:00:00 AM	29.04	37.39
21/05/2023	8:15:00 AM	29.16	37.57
21/05/2023	8:30:00 AM	28.43	Non-mine noise
21/05/2023	8:45:00 AM	31.35	Non-mine noise
21/05/2023	9:00:00 AM	Non-mine noise	37.14
21/05/2023	9:15:00 AM	34.73	35.10
21/05/2023	9:30:00 AM	34.42	34.28
21/05/2023	9:45:00 AM	Non-mine noise	Non-mine noise
21/05/2023	10:00:00 AM	35.72	Non-mine noise
21/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
21/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
21/05/2023	10:45:00 AM	Non-mine noise	Non-mine noise
21/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
21/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
21/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
21/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
21/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
21/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise



Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
21/05/2023	12:30:00 PM	Non-mine noise	Non-mine noise
21/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
21/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
21/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
21/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
21/05/2023	1:45:00 PM	Non-mine noise	Non-mine noise
21/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
21/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
21/05/2023	2:30:00 PM	Non-mine noise	Non-mine noise
21/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
21/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
21/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
21/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
21/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
21/05/2023	4:00:00 PM	Non-mine noise	Non-mine noise
21/05/2023	4:15:00 PM	Non-mine noise	Non-mine noise
21/05/2023	4:30:00 PM	Non-mine noise	Non-mine noise
21/05/2023	4:45:00 PM	36.49	37.08
21/05/2023	5:00:00 PM	Non-mine noise	34.63
21/05/2023	5:15:00 PM	33.07	31.28
21/05/2023	5:30:00 PM	30.15	33.62
21/05/2023	5:45:00 PM	29.39	33.72
21/05/2023	6:00:00 PM	23.28	33.83
22/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
22/05/2023	7:15:00 AM	41.48	Non-mine noise
22/05/2023	7:30:00 AM	Non-mine noise	33.82
22/05/2023	7:45:00 AM	39.41	31.31
22/05/2023	8:00:00 AM	Non-mine noise	Non-mine noise

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
22/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
22/05/2023	8:30:00 AM	Non-mine noise	29.58
22/05/2023	8:45:00 AM	35.44	27.76
22/05/2023	9:00:00 AM	38.12	28.07
22/05/2023	9:15:00 AM	32.39	25.15
22/05/2023	9:30:00 AM	38.89	26.25
22/05/2023	9:45:00 AM	40.45	30.57
22/05/2023	10:00:00 AM	Non-mine noise	29.63
22/05/2023	10:15:00 AM	Non-mine noise	31.37
22/05/2023	10:30:00 AM	40.84	26.99
22/05/2023	10:45:00 AM	40.59	26.22
22/05/2023	11:00:00 AM	38.54	28.05
22/05/2023	11:15:00 AM	39.62	30.49
22/05/2023	11:30:00 AM	35.79	29.86
22/05/2023	11:45:00 AM	Non-mine noise	26.85
22/05/2023	12:00:00 PM	35.82	27.25
22/05/2023	12:15:00 PM	33.60	26.60
22/05/2023	12:30:00 PM	32.46	31.16
22/05/2023	12:45:00 PM	32.57	Non-mine noise
22/05/2023	1:00:00 PM	Non-mine noise	32.12
22/05/2023	1:15:00 PM	35.03	27.32
22/05/2023	1:30:00 PM	39.93	24.69
22/05/2023	1:45:00 PM	36.60	30.90
22/05/2023	2:00:00 PM	37.41	27.54
22/05/2023	2:15:00 PM	35.50	23.21
22/05/2023	2:30:00 PM	36.05	26.57
22/05/2023	2:45:00 PM	Non-mine noise	23.20
22/05/2023	3:00:00 PM	Non-mine noise	27.52

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
22/05/2023	3:15:00 PM	37.81	27.36
22/05/2023	3:30:00 PM	38.39	24.58
22/05/2023	3:45:00 PM	Non-mine noise	27.93
22/05/2023	4:00:00 PM	41.92	25.02
22/05/2023	4:15:00 PM	41.25	26.55
22/05/2023	4:30:00 PM	Non-mine noise	31.19
22/05/2023	4:45:00 PM	41.44	29.16
22/05/2023	5:00:00 PM	Non-mine noise	33.34
22/05/2023	5:15:00 PM	Non-mine noise	Non-mine noise
22/05/2023	5:30:00 PM	Non-mine noise	33.64
22/05/2023	5:45:00 PM	Non-mine noise	Non-mine noise
22/05/2023	6:00:00 PM	37.24	31.39
23/05/2023	7:00:00 AM	32.20	Non-mine noise
23/05/2023	7:15:00 AM	Non-mine noise	34.90
23/05/2023	7:30:00 AM	Non-mine noise	29.68
23/05/2023	7:45:00 AM	Non-mine noise	33.90
23/05/2023	8:00:00 AM	Non-mine noise	33.47
23/05/2023	8:15:00 AM	Non-mine noise	32.10
23/05/2023	8:30:00 AM	Non-mine noise	30.80
23/05/2023	8:45:00 AM	Non-mine noise	29.78
23/05/2023	9:00:00 AM	Non-mine noise	28.87
23/05/2023	9:15:00 AM	Non-mine noise	28.31
23/05/2023	9:30:00 AM	Non-mine noise	30.88
23/05/2023	9:45:00 AM	Non-mine noise	24.52
23/05/2023	10:00:00 AM	32.77	30.19
23/05/2023	10:15:00 AM	34.51	23.75
23/05/2023	10:30:00 AM	35.98	24.46
23/05/2023	10:45:00 AM	Non-mine noise	Non-mine noise

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
23/05/2023	11:00:00 AM	Non-mine noise	21.01
23/05/2023	11:15:00 AM	Non-mine noise	23.98
23/05/2023	11:30:00 AM	Non-mine noise	24.01
23/05/2023	11:45:00 AM	Non-mine noise	29.02
23/05/2023	12:00:00 PM	Non-mine noise	24.48
23/05/2023	12:15:00 PM	Non-mine noise	23.77
23/05/2023	12:30:00 PM	Non-mine noise	24.53
23/05/2023	12:45:00 PM	29.79	29.25
23/05/2023	1:00:00 PM	Non-mine noise	31.38
23/05/2023	1:15:00 PM	Non-mine noise	25.40
23/05/2023	1:30:00 PM	Non-mine noise	25.39
23/05/2023	1:45:00 PM	Non-mine noise	30.15
23/05/2023	2:00:00 PM	Non-mine noise	25.71
23/05/2023	2:15:00 PM	34.88	27.62
23/05/2023	2:30:00 PM	Non-mine noise	27.50
23/05/2023	2:45:00 PM	33.75	28.52
23/05/2023	3:00:00 PM	Non-mine noise	30.31
23/05/2023	3:15:00 PM	Non-mine noise	29.30
23/05/2023	3:30:00 PM	Non-mine noise	26.72
23/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
23/05/2023	4:00:00 PM	26.78	24.39
23/05/2023	4:15:00 PM	Non-mine noise	24.77
23/05/2023	4:30:00 PM	27.38	26.10
23/05/2023	4:45:00 PM	Non-mine noise	25.20
23/05/2023	5:00:00 PM	Non-mine noise	28.23
23/05/2023	5:15:00 PM	Non-mine noise	30.00
23/05/2023	5:30:00 PM	26.50	31.30
23/05/2023	5:45:00 PM	30.76	32.51

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
23/05/2023	6:00:00 PM	23.73	31.34
24/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
24/05/2023	7:15:00 AM	Non-mine noise	Non-mine noise
24/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
24/05/2023	7:45:00 AM	Non-mine noise	Non-mine noise
24/05/2023	8:00:00 AM	41.18	34.77
24/05/2023	8:15:00 AM	Non-mine noise	31.73
24/05/2023	8:30:00 AM	Non-mine noise	29.29
24/05/2023	8:45:00 AM	Non-mine noise	28.12
24/05/2023	9:00:00 AM	28.50	Non-mine noise
24/05/2023	9:15:00 AM	35.37	30.57
24/05/2023	9:30:00 AM	Non-mine noise	26.95
24/05/2023	9:45:00 AM	27.90	26.22
24/05/2023	10:00:00 AM	Non-mine noise	Non-mine noise
24/05/2023	10:15:00 AM	Non-mine noise	30.66
24/05/2023	10:30:00 AM	29.71	27.34
24/05/2023	10:45:00 AM	Non-mine noise	28.54
24/05/2023	11:00:00 AM	Non-mine noise	21.57
24/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
24/05/2023	11:30:00 AM	Non-mine noise	30.35
24/05/2023	11:45:00 AM	Non-mine noise	25.58
24/05/2023	12:00:00 PM	Non-mine noise	22.76
24/05/2023	12:15:00 PM	27.43	Non-mine noise
24/05/2023	12:30:00 PM	Non-mine noise	26.57
24/05/2023	12:45:00 PM	Non-mine noise	26.75
24/05/2023	1:00:00 PM	32.10	28.32
24/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
24/05/2023	1:30:00 PM	Non-mine noise	26.09

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
24/05/2023	1:45:00 PM	Non-mine noise	27.46
24/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
24/05/2023	2:15:00 PM	Non-mine noise	28.07
24/05/2023	2:30:00 PM	Non-mine noise	26.82
24/05/2023	2:45:00 PM	Non-mine noise	27.88
24/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
24/05/2023	3:15:00 PM	Non-mine noise	27.02
24/05/2023	3:30:00 PM	28.42	29.04
24/05/2023	3:45:00 PM	Non-mine noise	30.57
24/05/2023	4:00:00 PM	Non-mine noise	Non-mine noise
24/05/2023	4:15:00 PM	29.17	25.18
24/05/2023	4:30:00 PM	Non-mine noise	26.11
24/05/2023	4:45:00 PM	Non-mine noise	28.96
24/05/2023	5:00:00 PM	Non-mine noise	Non-mine noise
24/05/2023	5:15:00 PM	Non-mine noise	28.93
24/05/2023	5:30:00 PM	35.05	Non-mine noise
24/05/2023	5:45:00 PM	Non-mine noise	Non-mine noise
24/05/2023	6:00:00 PM	34.64	Non-mine noise
25/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
25/05/2023	7:15:00 AM	Non-mine noise	Non-mine noise
25/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
25/05/2023	7:45:00 AM	Non-mine noise	Non-mine noise
25/05/2023	8:00:00 AM	Non-mine noise	32.64
25/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
25/05/2023	8:30:00 AM	32.31	31.04
25/05/2023	8:45:00 AM	Non-mine noise	Non-mine noise
25/05/2023	9:00:00 AM	Non-mine noise	29.86
25/05/2023	9:15:00 AM	Non-mine noise	26.64

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
25/05/2023	9:30:00 AM	Non-mine noise	30.48
25/05/2023	9:45:00 AM	Non-mine noise	27.91
25/05/2023	10:00:00 AM	Non-mine noise	26.88
25/05/2023	10:15:00 AM	35.14	Non-mine noise
25/05/2023	10:30:00 AM	Non-mine noise	28.46
25/05/2023	10:45:00 AM	Non-mine noise	27.36
25/05/2023	11:00:00 AM	31.58	Non-mine noise
25/05/2023	11:15:00 AM	28.73	26.57
25/05/2023	11:30:00 AM	31.16	24.84
25/05/2023	11:45:00 AM	Non-mine noise	28.48
25/05/2023	12:00:00 PM	38.15	28.88
25/05/2023	12:15:00 PM	Non-mine noise	22.73
25/05/2023	12:30:00 PM	37.27	23.38
25/05/2023	12:45:00 PM	36.28	26.23
25/05/2023	1:00:00 PM	37.81	24.85
25/05/2023	1:15:00 PM	37.03	25.18
25/05/2023	1:30:00 PM	35.70	Non-mine noise
25/05/2023	1:45:00 PM	36.75	25.06
25/05/2023	2:00:00 PM	Non-mine noise	25.91
25/05/2023	2:15:00 PM	Non-mine noise	28.01
25/05/2023	2:30:00 PM	Non-mine noise	24.70
25/05/2023	2:45:00 PM	Non-mine noise	26.50
25/05/2023	3:00:00 PM	Non-mine noise	28.10
25/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
25/05/2023	3:30:00 PM	Non-mine noise	24.92
25/05/2023	3:45:00 PM	Non-mine noise	26.47
25/05/2023	4:00:00 PM	Non-mine noise	26.79
25/05/2023	4:15:00 PM	32.51	23.46

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
25/05/2023	4:30:00 PM	Non-mine noise	27.52
25/05/2023	4:45:00 PM	Non-mine noise	27.27
25/05/2023	5:00:00 PM	Non-mine noise	Non-mine noise
25/05/2023	5:15:00 PM	Non-mine noise	30.33
25/05/2023	5:30:00 PM	Non-mine noise	Non-mine noise
25/05/2023	5:45:00 PM	Non-mine noise	Non-mine noise
25/05/2023	6:00:00 PM	Non-mine noise	31.01
26/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
26/05/2023	7:15:00 AM	Non-mine noise	Non-mine noise
26/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
26/05/2023	7:45:00 AM	Non-mine noise	Non-mine noise
26/05/2023	8:00:00 AM	Non-mine noise	33.77
26/05/2023	8:15:00 AM	Non-mine noise	32.50
26/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
26/05/2023	8:45:00 AM	Non-mine noise	Non-mine noise
26/05/2023	9:00:00 AM	Non-mine noise	Non-mine noise
26/05/2023	9:15:00 AM	Non-mine noise	Non-mine noise
26/05/2023	9:30:00 AM	Non-mine noise	Non-mine noise
26/05/2023	9:45:00 AM	Non-mine noise	Non-mine noise
26/05/2023	10:00:00 AM	Non-mine noise	Non-mine noise
26/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
26/05/2023	10:30:00 AM	Non-mine noise	Non-mine noise
26/05/2023	10:45:00 AM	Non-mine noise	Non-mine noise
26/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
26/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
26/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
26/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
26/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise



Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
26/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise
26/05/2023	12:30:00 PM	Non-mine noise	Non-mine noise
26/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
26/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
26/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
26/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
26/05/2023	1:45:00 PM	Non-mine noise	Non-mine noise
26/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
26/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
26/05/2023	2:30:00 PM	Non-mine noise	Non-mine noise
26/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
26/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
26/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
26/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
26/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
26/05/2023	4:00:00 PM	Non-mine noise	Non-mine noise
26/05/2023	4:15:00 PM	Non-mine noise	Non-mine noise
26/05/2023	4:30:00 PM	Non-mine noise	Non-mine noise
26/05/2023	4:45:00 PM	Non-mine noise	Non-mine noise
26/05/2023	5:00:00 PM	Non-mine noise	Non-mine noise
26/05/2023	5:15:00 PM	Non-mine noise	Non-mine noise
26/05/2023	5:30:00 PM	Non-mine noise	Non-mine noise
26/05/2023	5:45:00 PM	35.06	38.06
26/05/2023	6:00:00 PM	35.40	Non-mine noise
27/05/2023	7:00:00 AM	31.88	Non-mine noise
27/05/2023	7:15:00 AM	Non-mine noise	Non-mine noise
27/05/2023	7:30:00 AM	31.91	Non-mine noise
27/05/2023	7:45:00 AM	Non-mine noise	33.56

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
27/05/2023	8:00:00 AM	31.52	37.54
27/05/2023	8:15:00 AM	Non-mine noise	39.10
27/05/2023	8:30:00 AM	27.70	31.37
27/05/2023	8:45:00 AM	24.02	Non-mine noise
27/05/2023	9:00:00 AM	Non-mine noise	30.23
27/05/2023	9:15:00 AM	29.73	30.25
27/05/2023	9:30:00 AM	Non-mine noise	Non-mine noise
27/05/2023	9:45:00 AM	Non-mine noise	28.55
27/05/2023	10:00:00 AM	27.50	25.58
27/05/2023	10:15:00 AM	Non-mine noise	27.26
27/05/2023	10:30:00 AM	Non-mine noise	25.20
27/05/2023	10:45:00 AM	Non-mine noise	Non-mine noise
27/05/2023	11:00:00 AM	Non-mine noise	27.79
27/05/2023	11:15:00 AM	Non-mine noise	26.27
27/05/2023	11:30:00 AM	Non-mine noise	26.56
27/05/2023	11:45:00 AM	22.80	24.51
27/05/2023	12:00:00 PM	28.14	27.27
27/05/2023	12:15:00 PM	Non-mine noise	25.58
27/05/2023	12:30:00 PM	Non-mine noise	23.07
27/05/2023	12:45:00 PM	30.28	25.28
27/05/2023	1:00:00 PM	Non-mine noise	22.16
27/05/2023	1:15:00 PM	Non-mine noise	26.35
27/05/2023	1:30:00 PM	Non-mine noise	27.45
27/05/2023	1:45:00 PM	Non-mine noise	29.94
27/05/2023	2:00:00 PM	30.49	29.57
27/05/2023	2:15:00 PM	Non-mine noise	23.90
27/05/2023	2:30:00 PM	29.17	26.11
27/05/2023	2:45:00 PM	30.90	25.75

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
27/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
27/05/2023	3:15:00 PM	26.83	24.44
27/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
27/05/2023	3:45:00 PM	29.03	25.24
27/05/2023	4:00:00 PM	Non-mine noise	30.06
27/05/2023	4:15:00 PM	Non-mine noise	28.91
27/05/2023	4:30:00 PM	Non-mine noise	26.69
27/05/2023	4:45:00 PM	Non-mine noise	26.08
27/05/2023	5:00:00 PM	Non-mine noise	25.33
27/05/2023	5:15:00 PM	27.91	Non-mine noise
27/05/2023	5:30:00 PM	Non-mine noise	28.40
27/05/2023	5:45:00 PM	21.42	Non-mine noise
27/05/2023	6:00:00 PM	Non-mine noise	Non-mine noise
28/05/2023	7:00:00 AM	30.20	28.11
28/05/2023	7:15:00 AM	34.24	27.16
28/05/2023	7:30:00 AM	28.78	26.98
28/05/2023	7:45:00 AM	Non-mine noise	29.93
28/05/2023	8:00:00 AM	32.81	31.38
28/05/2023	8:15:00 AM	31.99	Non-mine noise
28/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
28/05/2023	8:45:00 AM	Non-mine noise	37.92
28/05/2023	9:00:00 AM	Non-mine noise	Non-mine noise
28/05/2023	9:15:00 AM	Non-mine noise	Non-mine noise
28/05/2023	9:30:00 AM	Non-mine noise	30.15
28/05/2023	9:45:00 AM	29.89	28.17
28/05/2023	10:00:00 AM	Non-mine noise	27.24
28/05/2023	10:15:00 AM	Non-mine noise	25.06
28/05/2023	10:30:00 AM	Non-mine noise	25.79

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
28/05/2023	10:45:00 AM	26.72	27.77
28/05/2023	11:00:00 AM	Non-mine noise	28.95
28/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
28/05/2023	11:30:00 AM	24.27	Non-mine noise
28/05/2023	11:45:00 AM	28.32	28.74
28/05/2023	12:00:00 PM	Non-mine noise	27.66
28/05/2023	12:15:00 PM	Non-mine noise	29.14
28/05/2023	12:30:00 PM	30.00	27.99
28/05/2023	12:45:00 PM	29.32	27.05
28/05/2023	1:00:00 PM	31.77	30.05
28/05/2023	1:15:00 PM	Non-mine noise	Non-mine noise
28/05/2023	1:30:00 PM	32.51	31.73
28/05/2023	1:45:00 PM	Non-mine noise	30.28
28/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
28/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
28/05/2023	2:30:00 PM	Non-mine noise	30.29
28/05/2023	2:45:00 PM	Non-mine noise	30.75
28/05/2023	3:00:00 PM	Non-mine noise	31.08
28/05/2023	3:15:00 PM	33.37	29.61
28/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
28/05/2023	3:45:00 PM	Non-mine noise	28.77
28/05/2023	4:00:00 PM	Non-mine noise	32.54
28/05/2023	4:15:00 PM	Non-mine noise	29.10
28/05/2023	4:30:00 PM	29.61	31.01
28/05/2023	4:45:00 PM	Non-mine noise	Non-mine noise
28/05/2023	5:00:00 PM	Non-mine noise	32.52
28/05/2023	5:15:00 PM	29.18	30.81
28/05/2023	5:30:00 PM	21.62	29.84

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
28/05/2023	5:45:00 PM	19.21	Non-mine noise
28/05/2023	6:00:00 PM	27.83	Non-mine noise
29/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
29/05/2023	7:15:00 AM	Non-mine noise	35.74
29/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
29/05/2023	7:45:00 AM	Non-mine noise	Non-mine noise
29/05/2023	8:00:00 AM	Non-mine noise	Non-mine noise
29/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
29/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
29/05/2023	8:45:00 AM	30.38	Non-mine noise
29/05/2023	9:00:00 AM	Non-mine noise	Non-mine noise
29/05/2023	9:15:00 AM	Non-mine noise	Non-mine noise
29/05/2023	9:30:00 AM	Non-mine noise	32.35
29/05/2023	9:45:00 AM	Non-mine noise	Non-mine noise
29/05/2023	10:00:00 AM	Non-mine noise	Non-mine noise
29/05/2023	10:15:00 AM	Non-mine noise	Non-mine noise
29/05/2023	10:30:00 AM	Non-mine noise	34.13
29/05/2023	10:45:00 AM	Non-mine noise	Non-mine noise
29/05/2023	11:00:00 AM	Non-mine noise	Non-mine noise
29/05/2023	11:15:00 AM	Non-mine noise	Non-mine noise
29/05/2023	11:30:00 AM	Non-mine noise	Non-mine noise
29/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise
29/05/2023	12:00:00 PM	Non-mine noise	Non-mine noise
29/05/2023	12:15:00 PM	Non-mine noise	Non-mine noise
29/05/2023	12:30:00 PM	Non-mine noise	Non-mine noise
29/05/2023	12:45:00 PM	Non-mine noise	Non-mine noise
29/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
29/05/2023	1:15:00 PM	33.38	34.30

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
29/05/2023	1:30:00 PM	Non-mine noise	Non-mine noise
29/05/2023	1:45:00 PM	Non-mine noise	Non-mine noise
29/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
29/05/2023	2:15:00 PM	Non-mine noise	Non-mine noise
29/05/2023	2:30:00 PM	Non-mine noise	Non-mine noise
29/05/2023	2:45:00 PM	Non-mine noise	Non-mine noise
29/05/2023	3:00:00 PM	Non-mine noise	Non-mine noise
29/05/2023	3:15:00 PM	Non-mine noise	Non-mine noise
29/05/2023	3:30:00 PM	Non-mine noise	Non-mine noise
29/05/2023	3:45:00 PM	Non-mine noise	Non-mine noise
29/05/2023	4:00:00 PM	Non-mine noise	Non-mine noise
29/05/2023	4:15:00 PM	Non-mine noise	30.08
29/05/2023	4:30:00 PM	Non-mine noise	29.56
29/05/2023	4:45:00 PM	31.60	28.73
29/05/2023	5:00:00 PM	29.72	32.22
29/05/2023	5:15:00 PM	30.85	32.72
29/05/2023	5:30:00 PM	28.51	34.58
29/05/2023	5:45:00 PM	32.45	Non-mine noise
29/05/2023	6:00:00 PM	21.77	32.88
30/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
30/05/2023	7:15:00 AM	35.27	Non-mine noise
30/05/2023	7:30:00 AM	Non-mine noise	Non-mine noise
30/05/2023	7:45:00 AM	33.13	Non-mine noise
30/05/2023	8:00:00 AM	32.81	39.57
30/05/2023	8:15:00 AM	Non-mine noise	Non-mine noise
30/05/2023	8:30:00 AM	Non-mine noise	Non-mine noise
30/05/2023	8:45:00 AM	31.40	Non-mine noise
30/05/2023	9:00:00 AM	Non-mine noise	Non-mine noise

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
30/05/2023	9:15:00 AM	Non-mine noise	Non-mine noise
30/05/2023	9:30:00 AM	Non-mine noise	29.81
30/05/2023	9:45:00 AM	33.69	Non-mine noise
30/05/2023	10:00:00 AM	33.13	Non-mine noise
30/05/2023	10:15:00 AM	32.56	26.84
30/05/2023	10:30:00 AM	30.62	26.49
30/05/2023	10:45:00 AM	32.44	26.63
30/05/2023	11:00:00 AM	33.83	28.62
30/05/2023	11:15:00 AM	Non-mine noise	28.22
30/05/2023	11:30:00 AM	29.81	27.98
30/05/2023	11:45:00 AM	Non-mine noise	29.49
30/05/2023	12:00:00 PM	Non-mine noise	29.33
30/05/2023	12:15:00 PM	30.28	28.32
30/05/2023	12:30:00 PM	Non-mine noise	31.98
30/05/2023	12:45:00 PM	Non-mine noise	28.82
30/05/2023	1:00:00 PM	Non-mine noise	Non-mine noise
30/05/2023	1:15:00 PM	31.42	27.68
30/05/2023	1:30:00 PM	29.17	27.44
30/05/2023	1:45:00 PM	Non-mine noise	24.83
30/05/2023	2:00:00 PM	Non-mine noise	Non-mine noise
30/05/2023	2:15:00 PM	Non-mine noise	28.10
30/05/2023	2:30:00 PM	Non-mine noise	29.68
30/05/2023	2:45:00 PM	33.97	27.73
30/05/2023	3:00:00 PM	Non-mine noise	28.41
30/05/2023	3:15:00 PM	Non-mine noise	26.22
30/05/2023	3:30:00 PM	Non-mine noise	28.46
30/05/2023	3:45:00 PM	Non-mine noise	27.47
30/05/2023	4:00:00 PM	32.73	26.51

Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
30/05/2023	4:15:00 PM	Non-mine noise	25.07
30/05/2023	4:30:00 PM	Non-mine noise	28.14
30/05/2023	4:45:00 PM	Non-mine noise	26.90
30/05/2023	5:00:00 PM	Non-mine noise	31.85
30/05/2023	5:15:00 PM	Non-mine noise	33.75
30/05/2023	5:30:00 PM	Non-mine noise	Non-mine noise
30/05/2023	5:45:00 PM	30.09	Non-mine noise
30/05/2023	6:00:00 PM	Non-mine noise	33.65
31/05/2023	7:00:00 AM	Non-mine noise	Non-mine noise
31/05/2023	7:15:00 AM	Non-mine noise	33.02
31/05/2023	7:30:00 AM	Non-mine noise	35.32
31/05/2023	7:45:00 AM	40.06	31.11
31/05/2023	8:00:00 AM	41.75	28.61
31/05/2023	8:15:00 AM	Non-mine noise	32.32
31/05/2023	8:30:00 AM	32.74	33.93
31/05/2023	8:45:00 AM	26.95	30.37
31/05/2023	9:00:00 AM	26.56	27.29
31/05/2023	9:15:00 AM	Non-mine noise	26.94
31/05/2023	9:30:00 AM	Non-mine noise	26.99
31/05/2023	9:45:00 AM	29.52	24.42
31/05/2023	10:00:00 AM	34.31	25.32
31/05/2023	10:15:00 AM	32.36	26.16
31/05/2023	10:30:00 AM	30.71	26.37
31/05/2023	10:45:00 AM	28.68	33.83
31/05/2023	11:00:00 AM	34.77	30.70
31/05/2023	11:15:00 AM	28.22	26.78
31/05/2023	11:30:00 AM	38.80	33.01
31/05/2023	11:45:00 AM	Non-mine noise	Non-mine noise



Date	Time	Location 1 - Acland Leq	Location 2 - North Compass Leq
31/05/2023	12:00:00 PM	31.75	Non-mine noise
31/05/2023	12:15:00 PM	31.10	30.39
31/05/2023	12:30:00 PM	Non-mine noise	28.98
31/05/2023	12:45:00 PM	Non-mine noise	37.80
31/05/2023	1:00:00 PM	Non-mine noise	29.89
31/05/2023	1:15:00 PM	41.39	34.29
31/05/2023	1:30:00 PM	35.91	27.73
31/05/2023	1:45:00 PM	25.34	29.59
31/05/2023	2:00:00 PM	34.38	27.95
31/05/2023	2:15:00 PM	38.41	28.80
31/05/2023	2:30:00 PM	Non-mine noise	27.60
31/05/2023	2:45:00 PM	30.52	28.00
31/05/2023	3:00:00 PM	34.36	26.31
31/05/2023	3:15:00 PM	34.46	29.97
31/05/2023	3:30:00 PM	30.84	31.56
31/05/2023	3:45:00 PM	Non-mine noise	33.77
31/05/2023	4:00:00 PM	37.51	31.47
31/05/2023	4:15:00 PM	26.44	29.69
31/05/2023	4:30:00 PM	31.31	30.31
31/05/2023	4:45:00 PM	30.92	30.24
31/05/2023	5:00:00 PM	Non-mine noise	31.22
31/05/2023	5:15:00 PM	33.18	33.82
31/05/2023	5:30:00 PM	29.00	30.70
31/05/2023	5:45:00 PM	36.91	29.94
31/05/2023	6:00:00 PM	41.10	30.41

## **Appendix 3 – Third-Party External Reports**



# New Acland Coal – Stage 3 Noise Survey May 2023

New Acland Coal Pty Ltd

Muldu Road  
Acland QLD 4401

Prepared by:

SLR Consulting Australia Pty Ltd

Level 16, 175 Eagle Street, Brisbane, QLD, Australia,  
4000

SLR Project No.: 620.10963.00350

4 July 2023

Revision: 1.0

## Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	4 July 2023	Glyn Cowie	Shane Elkin	Glyn Cowie

## Basis of Report

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

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

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



## Executive Summary

SLR Consulting Australia Pty Ltd (SLR) was engaged by New Acland Coal Pty Ltd (NAC) to conduct monthly noise monitoring and assessment for the New Acland Coal Mine (NAC mine) during the 12-month period of May 2023 to April 2024 to satisfy Conditions F4, F6 and Table F2 of the NAC Environmental Authority (EA) EPML00335713 dated 14 November 2022, and Section 6 of the Department of Environment and Science (DES) approved NAC Noise and Vibration Management Plan. This report presents the noise monitoring results for May 2023 ('the May 2023 monitoring period').

In undertaking this noise survey during the month of May 2023, the following points are noted and provide context to the overall noise survey, analysis and assessment:

- Official NAC start and stop times at the time of the monitoring were 7:00 am to 6:30 pm daily. This predominately covers the day-time period which forms the basis for this analysis and assessment.
- The NAC rail spur is yet to be constructed, therefore an assessment against rail noise limits is not applicable.

For this May 2023 monitoring period, noise monitoring was undertaken between 15 and 31 May 2023, at the eleven (11) locations detailed in the EA Table F2 Compliance noise monitoring locations and frequency and Figure F1 – Noise monitoring locations and sensitive places. In accordance with Table F2 of the EA, analysis was undertaken on seven (7) selected days which, where possible, included days where there were adverse weather conditions (ie morning/late afternoon temperature inversions, and/or light source to receiver wind directions) and/or normal to peak mine operations. The dates below represent the start of each assessed daily period (assessment period being 6:45 am to 6:30 pm):

- NML1, NML4, NML10, NML11, NML15, NML18, NML34, NML38 – 17 to 23 May 2023 (inclusive)
- NML8, NML16, NML35 – 25 to 31 May 2023 (inclusive).

Attended noise measurements completed at the eleven (11) monitoring locations concluded that for those 15-minute attended noise measurements completed for this monitoring period where NAC was detectable (ie audible and/or measurable), all NAC mine attributable noise levels were below the day-time 42 dBA  $L_{Aeq,15min,adj}$  noise limit. The highest measured NAC attributable noise level was at NML1 with a level of 35 dBA  $L_{Aeq,adj,15min}$  occurring at 7:45 am on 18 May 2023, which is below the day-time 42 dBA  $L_{Aeq,adj,15min}$  noise limit. NAC attributable noise was audible/measurable during 13 of the 33 (15-minute) attended measurement periods, and undetectable (inaudible or unmeasurable) during the remaining attended measurements.

Detailed analysis of the unattended noise monitoring data captured from the monitoring locations has also been completed as part of this assessment. The detailed analysis has utilised observations made through attended noise measurements, as well as appropriate analysis of the logged one-third octave statistical noise levels and high-quality audio data.

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 17 and 31 May 2023 from each of eleven (11) monitoring locations. Following the unattended analysis methodology presented in this report, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals were below 42 dBA  $L_{Aeq,15min}$  (or below 35 dBA  $L_{Aeq,15min}$  for the evening and night-time periods). Those 15-minute intervals above this level (or above 35 dBA  $L_{Aeq,15min}$  for the evening and night periods) were determined to be a result of road traffic, aircraft, wind generated noise or other noted extraneous sources, and NAC mine attributable noise could not be detected.

The most noteworthy day for noise monitoring occurred at NML1 on 22 May 2023 whereby drilling (for blast preparation) works were being conducted approximately 1.2 km east of NML1, from approximately 6:58 am until 6:00 pm. Attributable noise levels were determined at 41 dBA  $L_{Aeq,15min,adj}$  for two (2) 15-minute periods occurring during this daytime period, with the remaining



daytime period NAC mine attributable noise levels on this day being 39 dBA  $L_{Aeq,15min\ adj}$  or less, therefore below the day-time 42 dBA  $L_{Aeq,15min\ adj}$  noise limit. The NAC mine attributable  $L_{Amax}$  noise level for the period of operations prior to 7:00 am was determined to be approximately 43 dBA, which achieved the 50 dBA  $L_{Amax}$  noise limit.

NAC mine attributable noise was detected (during the daytime period) within the unattended noise monitoring data at four (4) other locations, namely NML4, NML 10, NML 15 and NML 16, at up to 36 dBA  $L_{Aeq,15min\ adj}$  which was less than the day-time 42 dBA  $L_{Aeq,15min\ adj}$  noise limit. NAC mine attributable noise could not be detected in the unattended noise monitoring data at the remaining noise monitoring locations, however it was concluded that at times, ambient noise sources likely masked contributions from NAC mine preventing further detection.

As required by Condition F6 of the EA, noise monitoring was also completed at a representative Background Location during this assessment. A review of the unattended noise monitoring data from this Background Location indicated Rating Background Levels (RBLs) typical of a rural environment with ambient noise sources such as bird song, wind noise, aircraft noise (from Oakey Air Base and small light aircraft) and distant road traffic noise being the predominant sources. No periods from this Background Location were considered to have NAC mine attributable noise audible and/or measurable during the May 2023 monitoring period.



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## Acronyms and Abbreviations

dBA	Decibels, A-weighted
CHPP	Coal handling and preparation plant
Daytime	The time period of 7:00 am to 6:00 pm
DES	Department of Environment and Science
EA	Environmental Authority
Evening	The time period of 6:00 pm to 10:00 pm
ML	Mine lease
NAC	New Acland Coal
Night-time	The time period of 10:00 pm to 7:00 am
NML	Noise monitoring location
NMM	DES Noise Measurement Manual (2020)
NVMP	Noise and Vibration Management Plan
RBL	Rating Background Level
RoM	Run-of-Mine
RTN	Road traffic noise



## 1.0 Introduction

The New Acland Coal (NAC) mine is located to the northeast of Acland in Queensland and is operated by NAC. The current mining activities consist of overburden and topsoil removal in Manning Vale East pit and rehabilitation of Stage 2 areas (Centre, South, and West pits), and drilling for blast preparations in Manning Vale East. Current forecasts have NAC extracting Stage 3 coal in October 2023, at which point export coal is transported by road haul trucks along Jondaryan-Muldu Road to a coal stock yard southeast of Jondaryan adjacent to the Warrego Highway and processing plants being restarted. Export coal is loaded onto trains, at the Jondaryan Rail Loadout Facility (JRLF), to transport to Port of Brisbane. Since NAC has been in care and maintenance since 2020, there has been no activity at the JRLF. Therefore, no noise associated with rail corridors have been assessed in this report.

The NAC mine is operated under Environmental Authority (EA) EPML00335713 dated 14 November 2022. The noise levels in Schedule F – Table F1 of the EA apply at noise sensitive receptors and vary depending on the daytime or evening and night-time periods.

This report details environmental noise levels measured during the month of May 2023 to satisfy Conditions F4, F6 and Table F2 of the EA EPML00335713, and Section 6 of the DES approved NAC Noise and Vibration Management Plan (reference '20221125\_NAC03 – Noise and Vibration Management Plan-Ver-01', dated 27 April 2023, referred to herein as the NVMP). Where measured noise levels have been determined to be attributable to NAC mining activities, those noise levels have been assessed against the noise levels prescribed in the EA.

In undertaking this noise survey during the month of May 2023, the following points are noted and provide context to the overall noise survey, analysis and assessment:

- Official NAC start and stop times at the time of the monitoring were 7:00 am to 6:30 pm daily. This predominately covers the day-time period which forms the basis for this analysis and assessment.
- The NAC rail spur is yet to be constructed, therefore an assessment against rail noise limits is not applicable.

The term 'noise' is commonly understood as unwanted sound but commonly used when discussing all sound within our environment. In this report, the term 'noise' refers to all sound pressure levels irrespective of whether it would be defined as 'unwanted'. The report uses specialist acoustic terminology and an explanation of common terms is provided in Appendix A.

## 2.0 EA EPML00335713 and NVMP Requirements

### 2.1 EA Noise Limits

Schedule F of NAC EA EPML00335713 contains noise<sup>1</sup> conditions relevant to mining operations occurring within the mining leases referenced under the EA. The EA noise conditions relevant to this monitoring and assessment are reproduced below (either in full, or in-part as noted).

- F1: The environmental authority holder must ensure that noise generated by the mining activities does not cause the criteria in Table F1 – Noise Limits (includes construction activities) [Table 1] to be exceeded at a noise sensitive place.

The measurement of noise for a noise sensitive place is either:

- a) At that place (if measured there); or
- b) At the monitoring location to which the noise sensitive place is correlated (where there is not measure at the noise sensitive place).

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<sup>1</sup> Schedule F also contains conditions related to blasting, however these are not applicable to this monitoring and assessment.



Table 1 Table F1: Noise Limits (includes construction activities)

Noise level dBA measured as	All days		
	7:00 am – 6:00 pm	6:00 pm - 10:00 pm	10:00 pm – 7:00 am
Noise measured at a 'Noise sensitive place'			
L <sub>Aeq</sub> , adj, 15min <sup>1</sup>	42	35	35
L <sub>Amax</sub>	-	-	50
L <sub>Amax</sub> rail spur <sup>2</sup>	-	-	56
L <sub>Aeq</sub> (24hour) rail spur <sup>2</sup>	-	-	50
NOTE:			
1 All noise other than that which is distinguishable as train noise			
2 Only for noise distinguishable as train noise			

F4: A Noise Monitoring Program must be developed by a suitably qualified and experienced person in relation to noise and implemented for all stages of mining to monitor compliance with Table F1 – Noise limits (includes construction noise) [Table 1] at the frequency and locations in Table F2 – Compliance noise monitoring locations and frequency and shown in Figure F1 – Noise monitoring locations and sensitive places [Figure 1].

The Noise Monitoring Program must include a figure which identifies noise monitoring locations and sensitive places. [Figure 1]

[The remaining part of Condition F4 is not directly applicable to this monitoring and assessment]

F6: Compliance noise monitoring and recording required by conditions F4, F5, F6, F7 and F8 must be conducted in accordance with the administering authority's Noise Measurement Manual and include the following:

- a) LA01, adj, 15 min - day, evening & night; LA10, adj, 15 min - day, evening & night; LAeq, adj, 15min - day, evening & night and LA90, adj, 15 min - day, evening & night;
- b) background noise LA90;
- c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels;
- d) atmospheric conditions including temperature, relative humidity and wind speed and directions;
- e) effects due to any extraneous factors such as traffic noise and natural sources (e.g. insects, birds and wind);
- f) location, date and time of monitoring;
- g) if a complaint concerns low frequency noise and where permitted by the owner or occupier of the noise sensitive place: LLINeq 10 min (internal), LAeq 10 min (internal) and one third octave band measurements in LLINeq 10 min (internal) for centre frequencies in the 10 – 200 Hz range;
- h) maximum (L<sub>Amax</sub>) noise levels – night (for a minimum of 30 min); and
- i) 1/3 octave band spectrums



Table 2 Table F2 – Compliance noise monitoring locations and frequency

Monitoring Locations	Frequency
1 (Acland)	Monthly
34 (rail spur), 35 and 38 (or alternative noise sensitive places identified in the Noise Monitoring Program developed pursuant to condition F4, F5, F6, F7 and F8)	Monthly
4, 8 and 10 (or alternative noise sensitive places identified in the Noise Monitoring Program developed pursuant to condition F4, F5, F6, F7 and F8)	Monthly
11, 15, 16 (if occupied) and 19 (or alternative noise sensitive places identified in the Noise Monitoring Program developed pursuant to condition F4, F5, F6, F7 and F8)	Monthly
Seven (7) days unattended monitoring at the above noise sensitive places or alternate locations identified in the Noise Monitoring Program developed pursuant to condition F4.	Monthly for the first 12 months

Note: Monitoring locations are presented on Figure 1.

## 2.2 NVMP Requirements

Section 3.2 ‘Detailed Description of the Noise Management System’ from the NVMP states the following relevant details to this assessment and reporting:

Monthly Compliance Noise Monitoring – In accordance with EA Conditions F4, F6 and F12, NAC will undertake monthly compliance noise measurements at the nominated residential locations contained in Table F2 of the EA.

This monthly compliance monitoring is additional to the continuous performance monitoring and is to be undertaken as a series of short-term, operator attended noise measurements by an appropriately qualified acoustic consultant.

Section 6 provides a detailed description of the monthly noise compliance monitoring methodology for the Stage 3 Mine.

Section 7 contains the protocol that NAC will employ throughout the life of the Stage 3 Mine’s operations to determine exceedances of the EA noise limits.

Section 6 ‘Monthly Compliance Noise Monitoring, Assessment and Reporting’ of the NVMP states the following relevant details to this assessment and reporting:

### 6.1. Compliance Monitoring Locations and Frequency

In accordance with EA Condition F12 and Table F2 – Compliance Noise Monitoring Locations and Frequency, the monthly compliance noise monitoring will be undertaken at the locations stated in Table 6-1 [Table 3].

Table 3 Table 6-1: Compliance Monitoring Locations for the Stage 3 Mine.

Monitoring Locations	Frequency
1 (Acland)	Monthly
34 (rail spur), 35 and 38 (or alternative noise sensitive places identified in the Noise Monitoring Program developed pursuant to EA Condition F4)	Monthly
4, 8 and 10 (or alternative noise sensitive places identified in the Noise Monitoring Program developed pursuant to EA Condition F4)	Monthly
11, 15 and 19 (or alternative noise sensitive places identified in the Noise Monitoring Program developed pursuant to EA Condition F4)	Monthly
Seven (7) days unattended monitoring at the above noise sensitive places or alternate locations identified in the Noise Monitoring Program developed pursuant to condition F4.	Monthly for the first 12 months

The relevance of the noise monitoring locations outlined in Table 6-1 [Table 3] will be reviewed on an annual basis. If any changes to the noise monitoring locations are required, a brief



report/memorandum will be produced and submitted to DES for their review and approval prior to any changes to the Noise Monitoring Program being implemented.

## 6.2. Compliance Monitoring Equipment and Methodology

The compliance noise monitoring methodology and reporting will be undertaken as follows (subject to the review comments/feedback from the independent acoustic consultant appointed to review the compliance noise monitoring for the first 12 months of the Stage 3 Mine).

- Noise measurements will be undertaken by an appropriately qualified acoustic consultant.
- On a monthly basis, a minimum of three (3) 15-minute operator-attended noise measurements will be undertaken in a random order across all ten (10) locations stated in Table 6-1 [Table 3].
- All attended measurements will ideally be undertaken within 50m of the residence (but not closer than 3.5m). However, if (a) access is not obtainable to enter the property or (b) domestic noise sources (e.g. air-conditioning, barking dogs, etc.) prevent measurements being undertaken close to each residence, then measurements must be undertaken as close as practically possible to the residence to allow a judgement/calculation to be made as to what the corresponding noise levels would have been at the residence.
- Ideally one (1) measurement will be taken during each of the day (7am to 6pm), evening (6pm to 10pm) and night (10pm to 7am) periods. However, if mining operations are unmeasurable during the day period (due to non-adverse weather and/or the presence of other ambient extraneous noise sources), then the three (3) measurements must be undertaken during the evening and/or night periods.
- All measurements will be undertaken using a NATA-calibrated Type-1 sound level meter (compliant with AS IEC 61672.1-2019 "Electroacoustics - Sound Level Meters").
- All measurements and subsequent analysis will be undertaken in strict accordance with EA EPML00335713 (most notably condition F6) and DES's Noise Measurement Manual (DEHP 2013).
- Within 14 days of completion of the compliance noise monitoring, a Compliance Noise Monitoring Report will be prepared.
- In addition to the above, for the first 12 months, seven days of unattended noise monitoring will also be undertaken at the noise monitoring locations outlined in Table 6-1 [Table 3]. At the completion of the unattended noise monitoring, the data will be downloaded, analysed and reported in the Compliance Noise Monitoring Report (in conjunction with the roving short-term attended measurements).

Section 7 'Protocol for Determining Exceedances of the EA Noise Conditions' of the NVMP states the following relevant details to this assessment and reporting:

Exceedances of the EA noise conditions can only be determined from the monthly compliance noise monitoring or any additional compliance noise monitoring requested by DES. However, the note in Condition F7 states "The performance monitoring required under this condition is to be used for performance management and can be used by the administering authority to assess compliance with Table F1 – Noise limits (includes construction activities)".

All exceedances of the EA noise conditions determined from either form of compliance noise monitoring (monthly or DES requested) will be documented in either the monthly Compliance Noise Monitoring Report, which will then be published publicly, or in a stand-alone report provided to DES in response to a specific request to undertake compliance noise monitoring.

All noise monitoring equipment and methodology used to determine whether any exceedances have occurred during compliance noise monitoring will be undertaken in accordance with EA Condition F6, Section 6.2 and DES's Noise Measurement Manual (DEHP 2013) and Australian Standard (AS) 1055.



In accordance with EA Condition F2, if noise monitoring indicates the potential for an exceedance of the EA noise conditions, NAC will immediately implement noise abatement measures upon receiving those results to avoid exceeding the EA noise conditions.

### 3.0 Mine Operations During the May 2023 Monitoring Period

NAC has provided the following explanation of mine operations during this noise monitoring assessment period. This explanation is supported with additional information contained with Appendix B of this report.

The primary noise generating departments at NAC mine are:

- Removal of overburden,
- Progressive rehabilitation, and
- Heavy vehicle workshop.

NAC operate mobile mining equipment as listed in Table 4 at any one time. The mobile plant are the most significant noise generators at NAC for this reporting period.

Production workers generally operate a combination of the mobile plant to achieve its schedule across a combination of active pits. Burden material from these active pits is transferred to relatively local dumping points.

Production workers are scheduled to operate a combination of the mobile plant listed in Table 4 across the following roster:

- Monday to Sunday – official NAC start and stop times are 7:00 am to 6:30 pm daily, however may start before, or run later than these times where noise permits (ie actively monitoring their performance noise monitoring system), and deemed safe. The heavy vehicle workshop operates from 6:30 am to 6:30 pm.

Through a review of available operational logs (see Appendix B), recorded actions relating to start and stop times were generally within these official start and stop times. The exceptions were start times on a number of mornings occurring several minutes before 7:00 am (6:56 am start time being the earliest recorded start time). On this basis, detailed analysis of the unattended noise monitoring data has been completed for the period of 6:45 am to 6:30 pm for the seven (7) days outlined in Section 4.2.

Table 4 NAC Mobile Mining Equipment List

Unit Number	Machine Type	Unit Number	Machine Type
	Excavators		Dozer
EX107	Hitachi EX1800	DZ609	Caterpillar D10T
EX109 <sup>1</sup>	Hitachi EX470	DZ610M	Caterpillar D11R
EX110 <sup>1</sup>	Hitachi EX3600	DZ611	Caterpillar D11R
	Wheel Loaders	DZ612	Caterpillar D11T
WL208	Caterpillar 992G	DZ613	Caterpillar D11T
WL211	Caterpillar 992G	DZ618	Caterpillar D10T
WL214 <sup>1</sup>	Le Tourneau L1150	DZ622	Caterpillar D11R
WL216 <sup>1</sup>	Le Tourneau L1350	DZ625 <sup>1</sup>	Caterpillar D11T
	Haul Trucks	DZ626 <sup>1</sup>	Caterpillar D11T



Unit Number	Machine Type	Unit Number	Machine Type
RD310	Caterpillar 785 Volumax		Wheel Dozer
RD311	Caterpillar 785 Rock Body	WD802	Caterpillar 854G
RD312	Caterpillar 785 Volumax	WD803 <sup>1</sup>	Caterpillar 854G
RD314 <sup>2</sup>	Caterpillar 785 Coal Tray		Grader
RD316 <sup>2</sup>	Caterpillar 785 Coal Tray	GR703	Caterpillar 16G
RD317 <sup>2</sup>	Caterpillar 785 Volumax	GR704	Caterpillar 24H
RD318 <sup>1</sup>	Caterpillar 785 Coal Tray	GR706	Caterpillar 24H
RD319 <sup>1</sup>	Caterpillar 785 Volumax Coal		Water Truck
RD320 <sup>1</sup>	Caterpillar 785 Volumax Coal	WT004	Caterpillar 773B
RD406 <sup>1</sup>	Caterpillar 789C	WT006 <sup>1</sup>	Caterpillar 785C Watertruck
RD407 <sup>1</sup>	Caterpillar 789C	WT008 <sup>1</sup>	Caterpillar 789C Watertruck
RD408 <sup>1</sup>	Caterpillar 789C		Drill
RD409 <sup>1</sup>	Caterpillar 789C	DR991	Atlas Copco DML
RD410 <sup>1</sup>	Caterpillar 789C		Service Trucks
RD411 <sup>1</sup>	Caterpillar 789D	ST004	Ford Louisville Service Truck
RD412 <sup>1</sup>	Caterpillar 789D	ST006	Mack Service Truck
RD413 <sup>1</sup>	Caterpillar 789D	ST007	Mack Service Truck Granite
RD414 <sup>1</sup>	Caterpillar 789D	ST012	Caterpillar 773F ST
RD415 <sup>1</sup>	Caterpillar 789D		
RD501 <sup>1</sup>	Caterpillar 793F		
RD502 <sup>1</sup>	Caterpillar 793F		
RD503 <sup>1</sup>	Caterpillar 793F		
RD504 <sup>1</sup>	Caterpillar 793F		
RD505 <sup>1</sup>	Caterpillar 793F		

Note: This is mobile mining equipment only and does not include ancillary equipment such as lighting plants, pumps etc.

Note 1: Fully noise attenuated mobile mining equipment.

Note 2: Partially noise attenuated mobile mining equipment

The heavy vehicle workshop is scheduled to operate between 6:30 am and 6:30 pm, and includes one (1) service truck operator, and five (5) fitters spread between the field and workshop as needed. Additional and other tradespersons are contracted as required. Servicing consists of a variety of noise generating activities, some more significant than others.

NAC are scheduled to start mining coal in quarter 3 of 2023. Accordingly, during the monitoring period, there were no mobile equipment assigned to excavating Run-of-Mine (ROM) coal, nor were either of the coal handling and preparation plants (CHPPs) operating.

The NAC rail spur is yet to be constructed, therefore an assessment against rail noise is not applicable to this monitoring period.

The exception to the above is NAC's operational constraints; agreed shift times, human resources (absenteeism/overtime), weather, unscheduled maintenance, unscheduled delays for performance management relating to noise at sensitive receptor locations, and emergencies. Attached as Appendix B are details of unscheduled activities and other 'noise events' during this noise monitoring assessment period that are considered typical of normal mining operations.





## 4.0 Noise Monitoring Methodology

This assessment has been conducted through a combination of long-term unattended noise measurements and the short-term operator attended noise measurement. The monitoring and analysis methodology detailed in the following subsections have been conducted in a manner to be in general accordance with DES's Noise Measurement Manual (NMM) and address the requirements of EA Condition F6.

### 4.1 Monitoring Locations




The noise monitoring locations are detailed in Table 5 and shown in Figure 1. Each location was selected to minimise influences from extraneous noise sources (eg optimum placement of the monitors away from air-conditioners, dogs, rustling trees etc.), but remaining near enough to be representative of the sensitive receptor in general accordance with the requirements of the NVMP.

Table 5 Noise Monitoring Location Details




Location	Coordinates (GDA 94, Zone 56)	Description	Representative Photo
NML1	370,385 m E 6,979,192 m S	Located at historical noise monitoring location representing this sensitive receptor, which is approx. 25 m northeast of the residence at Allen Street, Acland.  Location approx. 360 m southwest of NAC's Stage 2 West Pit.	
NML4	369,336 m E 6,984,857 m S	Located on opposite side of Balgowan Road to the NML4 residence to the southwest.  Location approx. 2.7 km northwest of NAC admin building.	








Location	Coordinates (GDA 94, Zone 56)	Description	Representative Photo
NML8	373,015 m E 6,983,968 m S	Located in front yard, 20 m south of the residence façade. Location approx. 2.0 km northwest of NAC admin building.	
NML10	374,031m E 6,984,060 m S	Noise monitor located at representative location 35 m southwest of sensitive receptor. Approximately 3.0 km northeast from NAC admin building	
NML11	375,169 m E 6,982,676 m S	Noise monitor located approximately 40 m southwest of sensitive receptor at representative location. Location approx. 3.9 km east of NAC admin building.	



Location	Coordinates (GDA 94, Zone 56)	Description	Representative Photo
NML15	376,603 m E 6,978,865 m S	Noise monitor located at representative location 70 m southwest of sensitive receptor. Approximately 2.7 km east from NAC	
NML16	376,661 m E 6,977,960 m S	Noise monitor located at representative location 70 m northwest of sensitive receptor. Approximately 3 km southeast from NAC	
NML18	375,194 m E 6,974,907 m S	Noise monitor located at representative location 70 m southwest of sensitive receptor. Approximately 4.4 km southeast from NAC	

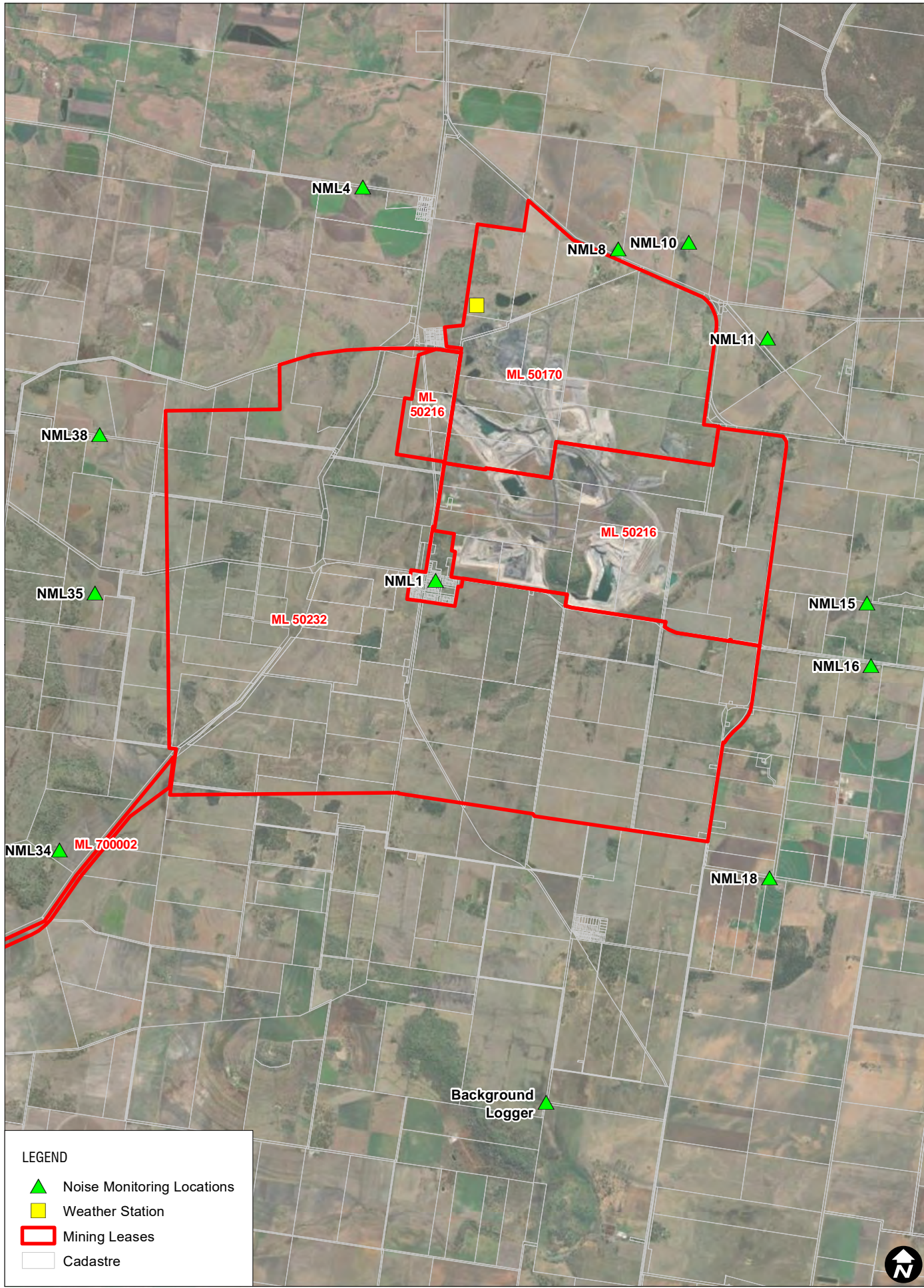


Location	Coordinates (GDA 94, Zone 56)	Description	Representative Photo
NML34	364,969 m E 6,975,304 m S	Noise monitor located at representative location 35 m northeast of sensitive receptor. Approximately 7.1 km southwest from NAC	
NML35	365,482 m E 6,979,010 m S	Noise monitor located at representative location 12 m east of sensitive receptor. Approximately 5 km southwest from NAC	
NML38	365,549 m E 6,981,292 m S	Noise monitor located at representative location approximately 50 m to the southeast of the sensitive receptor. Location approx. 5.0 km west of NAC.	



Location	Coordinates (GDA 94, Zone 56)	Description	Representative Photo
Background	371,979 m E 6,971,669 m S	Located in field, approximately 7 km southeast of NAC and 1.7 km west of Oakey Cooyar Road.	





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## 4.2 Monitoring Dates

For this May 2023 monitoring period, noise monitoring was undertaken between 15 and 31 May 2023. In accordance with the EA and NVMP requirements (see Section 2.0), analysis was undertaken on seven (7) selected days which, where possible, included days where there were adverse weather conditions (ie morning/late afternoon temperature inversions, and/or light source to receiver wind directions) and/or normal to peak mine operations. The dates below represent the start of each assessed daily period (assessment period being 6:45 am to 6:30 pm):

- NML1, NML4, NML10, NML11, NML15, NML18, NML34, NML38 – 17 to 23 May 2023 (inclusive)
- NML8, NML16, NML35 – 25 to 31 May 2023 (inclusive).

Targeted attended noise measurements were undertaken at each monitoring location and conducted during the dates and times within the monitoring period. In accordance with the NVMP requirements, a total of three (3) 15-minute attended noise measurements were conducted at each monitoring location, and occurred during the NAC operating period.

## 4.3 Noise Monitoring Equipment

Table 6 details the noise monitoring equipment used for unattended and attended noise monitoring. To also ensure suitable analysis could be completed on the unattended noise monitoring data, audio data, one-third octave frequency data, and fast and impulsive L<sub>max</sub> data were captured by the noise logger at each location.

All unattended noise loggers were set to log data in 15-minute intervals (in accordance with Condition F6 of EA EPML00335713). The Background location was also set to log 15-minute intervals (representing a standard background monitoring location/program). The primary logging profile for each unattended noise logger was set to log A-weighted and fast response continuous noise levels.

All acoustic instrumentation employed throughout the noise monitoring survey was designed to comply with the requirements of AS IEC 61672.1-2019 “Electroacoustics - Sound Level Meters” and carried current manufacturer calibration certificates. Instrument calibration was checked in the field before and after each measurement survey, with the variation in calibrated levels not exceeding the acceptable variation of ±1.0 dBA.

Table 6 Unattended and Attended Noise Monitoring Equipment – May 2023

Location	Noise Monitoring Equipment
NML1	SVAN 977 SN: 69720
NML4	SVAN 977 SN: 69756
NML8	SVAN 977 SN:69507
NML10	SVAN 977 SN: 99032
NML11	SVAN 977 SN: 98419
NML15	SVAN 977 SN:69507
NML16	NGARA SN: 8781DD
NML18	SVAN 977 SN: 99035
NML34	NGARA SN: 8781CD
NML35	SVAN 977 SN: 99032
NML38	NGARA SN: 8781DD
Background	NGARA SN: 8781C7
All	Brüel & Kjær 2250 Sound Level Meter SN: 3004710



Location	Noise Monitoring Equipment
	Brüel & Kjær 2250 Sound Level Meter SN: 3004638
All	G.R.A.S 42AG SN:279052 SV30A SN:24573

## 4.4 Meteorological Conditions

Weather data during the May 2023 monitoring period was obtained from a permanent weather station located approximately 300 m northwest of NAC’s main administration building (see Figure 1) and was considered representative of the study area (ie all monitoring locations are within 11 km of this permanent weather station without any major intervening terrain with the potential to impact the local weather). The meteorological data from the weather station was filtered for any periods of rainfall and periods where wind speeds were in excess of 5.0 m/s (18 km/h) and noise levels were excluded where these periods occurred. Comments have also been included where elevated wind noise and/or rainfall was observed during unattended logging or operator attended noise measurements but where the recorded weather conditions were compliant with DES’s NMM.

## 4.5 Analysis Methodology

The attended and unattended analysis methodology utilised for this May 2023 monitoring period is outlined in the following sub-sections. It is noted that this methodology may be reviewed and revised for future monitoring rounds (including when mine operations move to 24-hour operations and rail activities commence), however it is not proposed to reanalyse historical data if and when such conditions change.

### 4.5.1 Attended Noise Data

For those attended measurements where NAC mine attributable noise was audible and/or measurable, analysis of the attended noise measurements was completed through re-reviewing the LAeq,15 min data file to remove periods of noted extraneous noise (ie traffic passbys, wind/tree noise, bird song etc). This was completed via the following steps (which are similar to those completed for the unattended analysis outlined in Section 4.5.2):

- Extract the 1-second LAeq overall noise levels and one-third octave band data.
- Identify periods of extraneous noise and remove the corresponding 1-second data periods (this identification process was undertaken through reviewing the measurement notes and listening back to the captured audio data to confirm start/stop times of sources).
- Recalculate the LAeq based on the remaining 1-second data and confirm NAC attributable noise level.
- Unlike the unattended analysis outlined in Section 4.5.2, the attended analysis has not used frequency filters and corresponding correction factors. As such, all one-third octave bands have been considered in the recalculate LAeq.
- Where bird song was observed throughout the 15-minute measurement period, and could not be excluded through the 1-second data (ie because bird song was continuous through the 15-minute period), this source was excluded via manually adjusting the recalculated LAeq one-third octave band spectra in the bands dominated by bird song to levels more representative of the observed mining contribution).
- For periods where mine noise was only observed for a brief period within the overall 15-minute measurement period, only this period was further analysed and an NAC attributable noise level derived from that data period.

With the removal of those extraneous sources, the LAeq,15 min was calculated to a level attributable to NAC mine noise. During this review, where practicable, the resulting LAFmax,15 min and corresponding LAImax,15 min attributable to NAC mine noise were compared to determine whether



any impulsive corrections were warranted in accordance with the NMM. Similarly, if tonal characteristics were measured/audible, the  $L_{Aeq,15\text{ min}}$  noise level calculated to a level attributable to NAC noise was reviewed and adjusted via the following method outlined in the NMM:

- 1 Confirm the  $L_{Aeq,15\text{ min}}$  A-weighted one-third octave band noise level exceeds the neighbouring bands by 5 dB
- 2 Add 5 dB to the tonal one-third octave band noise level
- 3 Logarithmically sum all A-weighted one-third octave bands, including the adjusted band
- 4 The arithmetic difference between the logarithmically summed noise level determined in point 3 and the original overall A-weighted noise level becomes the tonal correction.

If NAC attributable noise was determined to be inaudible and/or unmeasurable during the attended measurement, the above re-review was not performed and an NAC mine attributable noise level was not presented. Similarly, in instances where short durations (less than 30 seconds) of NAC mine attributable noise was discernible yet significantly below ambient noise levels, such that accurate quantification was not possible, an estimated upper limit for the noise contribution has been presented and a full re-review was not performed.

As no attended measurements were conducted during the night-time period for the May 2023 monitoring period, due to predominately day-time mine operations, the attended noise data has not been analysed and assessed against the  $L_{Amax}$  50 dBA night-time noise limit.

#### 4.5.2 Unattended Noise Data

The analysis of the unattended noise monitoring data captured from each monitoring location (excluding the Background location) has been completed via the following methodology. The methodology outlined below has been undertaken in order to identify the NAC mine attributable noise level, where it is in fact audible and/or measurable (ie acoustically detectable<sup>2</sup>). In a lot of instances, due to the prominence of ambient noise sources, prevailing weather condition, and/or extent of mining activities, NAC mine noise could either not be detected or only 'just' detectable via the methodology outlined below and an exact NAC attributable noise level has not been possible to determine. In these cases, the results presented in Appendix E represent 'ambient' noise levels where NAC mine attributable noise, if just detected, is less than the reported value. If NAC noise was not detected, the results solely represent 'ambient' noise levels.

- 1 For this May 2023 assessment, SLR has been advised that the official NAC start and stop times are 7:00 am to 6:30 pm daily, however they may start before, or run later than these times where noise permits (ie actively monitoring their performance noise monitoring system), and deemed safe<sup>3</sup>. As noted in Section 3.0, through a review of available operational logs (see Appendix B), recorded actions relating to start and stop times were generally within these official start and stop times. The exceptions were start times on a number of mornings occurring several minutes before 7:00 am (6:56 am start time being the earliest recorded start time). On this basis, detailed analysis of the unattended noise monitoring data has been completed for the period of 6:45 am to 6:30 pm for the seven (7) days outlined in Section 4.2.

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<sup>2</sup> The phrases 'acoustically detectable/detected' and 'audible and measurable' are used in this report to refer to measurements where the key noise source (i.e. NAC mine operations) was able to be measured by an appropriate sound level meter (measurable in one or more one-third octave band), and/or was audible to a suitably qualified acoustic consultant. In some instances, the key source was measurable but not audible due to, for example, either being acoustically 'masked' by other sources (such as constant wind noise) or at the edge of or below the range of typical human hearing. Conversely, in some instances the key sources were audible but difficult to measure due to, for example, either being acoustically 'masked' by other sources (such as constant wind noise or traffic noise), or a complex noise environment was observed where multiple other noise sources were detected which contributed to the overall measured noise level elevated above the key source's contribution.

<sup>3</sup> These operational times and corresponding assessment times are applicable to this May 2023 monitoring period. NAC will in time transition to 24-hour operations whereby the noise monitoring and analysis will also cover the 24 hour period.





- 2 Through detailed analysis of selected 'mine dominant' attended noise measurements associated with the performance monitoring station correlation survey in April and May 2023<sup>4</sup>, (see analysis in Appendix C), it was determined that the difference in mine noise contribution for the frequency range of 20 Hz to 630 Hz and separately the 20 Hz to 1 kHz one-third octave bands (inclusive) when compared to the total mine noise (20 Hz to 20 kHz) were as follows:

- Acland performance monitoring station:
  - $\leq 630$  Hz filter: missed mine noise energy = +2.3 dBA.
  - $\leq 1$  kHz filter: missed mine noise energy = +0.7 dBA.
- Northern performance monitoring station:
  - $\leq 630$  Hz filter: missed mine noise energy = +1.6 dBA.
  - $\leq 1$  kHz filter: missed mine noise energy = +0.7 dBA.

Due to the prominence of extraneous noise sources above 630 Hz or 1 kHz (ie bird song, traffic passbys, depending on the time of day), these frequency band filters have been applied to all logged unattended noise data. This was applied via logarithmically summing the LAeq 20 Hz to 630 Hz and 20 Hz to 1 kHz one-third octave bands for each 15-minute logged interval.

The  $\leq 630$  Hz one-third octave band forms the primary filter for all compliance monitoring locations due to mine noise generally been detectable within this frequency range (or theoretically detectable) noting the distance many locations are setback from NAC. The exception is NML1 where both filters have been considered due to the proximity of this location to NAC operations and that mine noise can be clearly measured at contributing noise levels in the frequency range of 800 Hz and 1 kHz and not solely  $\leq 630$  Hz.

The corrections have been applied to the following grouping:

- Acland performance monitoring station frequency filter corrections – applied to NML1, NML15, NML16, NML18, NML34, NML35, NML38:
  - Northern performance monitoring station frequency filter corrections – applied to NML4, NML8, NML10, NML11.
- 3 Periods where the LAeq,15 min value was greater than the corresponding time period noise level conditioned within Schedule F – Table F1 (day – 42 dBA, evening – 35 dBA, night-time – 35 dBA, as applicable), with the addition of the frequency filter corrections noted in Point 2, were conditionally formatted to automatically highlight. The conditional formatting is:
- Day (>42 dBA) – pink cells in Appendix E
  - Evening (>35 dBA) – peach cells in Appendix E
  - Night-time (>35 dBA) – peach cells in Appendix E.
- 4 LAeq,15 min periods that were highlighted were reviewed to determine the contributing noise levels from NAC mine operations or whether extraneous noise sources interfered with that 15-minute period, including contributing the  $\leq 630$  Hz and/or  $\leq 1$  kHz one-third octave bands. This review was completed via the following logged data and other supporting information:
- Listen back to the logged audio data to determine audible noise sources.
  - One-third octave noise spectrum – either the total 15-minute spectrum or at a finer resolution of 1-minute interval data.

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<sup>4</sup> Correlation monitoring completed by SLR for NAC, and occurred at the Acland and Northern performance monitoring stations.



- Review of measured weather data and to eliminate noise monitoring periods that exceeded the prescribed wind speed and rainfall criteria stated in the NMM.
  - Review available mine operation logs to confirm mining activities occurred in highlighted periods.
- 5 In addition to the review of those periods that were highlighted through Point 4, 15-minute periods that were within 5 dBA of the relevant time period noise level limits prescribed in Schedule F - Table F1 were also reviewed to determine the contributing noise levels from NAC operations or whether extraneous noise sources interfered with that 15-minute period, including into the  $\leq 630$  Hz and/or  $\leq 1$  kHz one-third octave bands contributions. This accounted for periods where potential tonal or impulsive characteristics maybe present and warranted corrections being applied (thus increasing the reported NAC attributable noise level). 15-minute periods where the  $L_{Aeq}$  noise level was less than 5 dBA of the relevant time period noise level limit prescribed in Schedule F - Table F1 were generally not reviewed unless there was clear evidence of NAC attributable noise in the raw one-third octave band data or 15-minute periods before/after were within 5 dBA of the relevant time period noise level contained in Schedule F - Table F1.
- 6 This review identified the following common extraneous noise sources that were removed from the filtered results contained in this report:
- Traffic passbys,
  - Bird song,
  - Insects,
  - Wind,
  - Helicopters, and
  - Domestic noise.

The process for removing these extraneous sources were as follows:

- Traffic passbys, helicopters, domestic noise and wind noise that contained typically broadband energy well into the frequency filters – these type of extraneous sources were recorded during the assessed time periods, with certain times observing multiple events in a 15-minute period. They typically dominated the noise environment for 30-60 seconds per event, or longer if repetitive events occurred, sometimes dominating the full 15-minute period. Where these events were detected and determined to dominate a corresponding 1-minute period, that data was removed from the analysis. Where 1-minute periods were removed, the remaining 1-minute  $L_{Aeq}$ 's within that 15-minute period were logarithmically averaged to recalculate a corrected  $L_{Aeq, 15min}$ . Where more than 5-minutes of data was excluded, the full 15-minute period was excluded.
- Bird song – bird song was clearly audible and dominant for much of the monitoring period. Bird song is typically observed from just prior to sunrise to just after sunset, with bird song attributable noise levels most elevated during the morning and late afternoon periods. Typically, bird song dominated those frequencies above 1 kHz so were inherently excluded from this analysis through the  $\leq 630$  Hz /  $\leq 1$  kHz one-third octave band filters. At times however, bird song (typically from crows, roosters and pigeons) contaminated the 1 kHz one-third octave band, and observed within the 630 Hz and 800 Hz one-third octave bands, which required the removal of that contamination. Where the analysis clearly identified bird song contributing or dominating the  $\leq 1$  kHz filter, the  $\leq 630$  Hz filter was considered more appropriate over the  $\leq 1$  kHz filter for determining mine contributions (this is in part the key reason why the  $\leq 630$  Hz filter forms the primary filter for the majority of monitoring locations). If bird song was also identified as contributing to or dominating the  $\leq 630$  Hz filter, a similar process for correcting passbys, helicopters etc was adopted by removing the dominant 1-minute period/s. Where 1-minute period/s were removed, the remaining 1-minute  $L_{Aeq}$ 's within



- that 15-minute period were logarithmically averaged to recalculate a corrected  $L_{Aeq,15min}$ . Again, where more than 5-minutes of data was excluded, the full 15-minute period was excluded.
- Insects – insect noise, where observed, was always in a frequency range above 1 kHz (typically in the range of 2 kHz to 6.3 kHz), and therefore exceeded via both the 630 Hz and  $\leq 1$  kHz filters. Minute by minute data did not have to be removed to exclude insect noise.
- 7 Where extraneous noise sources have been removed from a  $L_{Aeq,15 min}$  and the noise level recalculated, that number has been presented in blue – see Appendix E. Where a 15-minute noise level was above the relevant time period noise level limit prescribed in Schedule F - Table F1, however considered to have been dominated by extraneous noise for the more than 5-minutes of the 15-minute period, a blue cell shading has been applied to the comment cell, and the 15-minute noise level is to be excluded.
  - 8 As part of this review, suitable analysis was completed on the reviewed periods to determine whether any tonal and/or impulsive characteristics were detected (in accordance with the NMM and Condition F6 of EA EPML00335713). Dozer track slaps and overburden/coal dumping were observed with a number of events satisfying SLR's interpretation of the NMM criterion for determining where impulsive corrections need be applied. Tonal characteristics from mining activities were also observed at times and again satisfying SLR's interpretation of the NMM criterion for determining where tonal corrections need be applied. Where tonal and/or impulsive characteristic correction has been applied to an  $L_{Aeq,15 min}$  noise level, that number has been presented in magenta – see Appendix E.
  - 9 As noted above, the NAC mine activity log indicated several mornings where operations commenced just prior to 7:00 am (ie within the 10:00 pm to 7:00 am night-time period). For these brief periods (ie of up to 4-minutes) and where NAC mine noise has been detected, NAC mine attributable  $L_{Amax}$  noise levels have been determined and assessed against the 50 dBA  $L_{Amax}$  noise limit.

Finally, as noted in Section 4.4, comments have also been included where elevated wind noise and/or rainfall was observed during unattended logging noise measurements but where the recorded weather conditions were compliant with the NMM. Where wind noise and/or rainfall has either effected or dominated the measurement, this has been noted accordingly including whether the 15-minute data is considered suitable for use or excluded due to wind/rain effects/dominance (see Appendix E).

## 5.0 Noise Monitoring Results

The following section documents the attended and unattended noise monitoring results completed as part of this assessment.

### 5.1 Attended Noise Results

As noted in Section 4.2, three (3) 15-minute attended noise measurements were conducted at each monitoring location, and occurred during the NAC mine operating period.

The results of that attended noise measurements, including the derived noise level attributable to NAC mine operations where NAC mine was detectable (audible and/or measurable), are detailed in Appendix D. A summary of the findings are presented below

- NML1: All three (3) attended measurements measured  $L_{Aeq,adj,15min}$  noise levels attributable to NAC mine below the respective noise limit. The highest measured NAC mine attributable noise level was 35 dBA  $L_{Aeq,15min adj}$  occurring at 7:45 am on 18 May 2023, which is below the day-time 42 dBA  $L_{Aeq,15min adj}$  noise limit.
- NML4: All three (3) attended measurements measured  $L_{Aeq,adj,15min}$  noise levels attributable to NAC mine below the respective noise limit. The highest measured NAC mine attributable



noise level was 31 dBA LAeq,15min adj occurring at 9:15 am on 17 May 2023, which is below the day-time 42 dBA LAeq,15min adj noise limit.

- NML8: All three (3) attended measurements measured LAeq,adj,15min noise levels attributable to NAC mine below the respective noise limit. The highest measured NAC mine attributable noise level was 33 dBA LAeq,15min adj occurring at 7:30 am on 17 May 2023, which is below the day-time 42 dBA LAeq,15min adj noise limit.
- NML10: Two (2) of the three (3) attended measurements measured LAeq,adj,15min noise levels attributable to NAC mine below the respective noise limit, NAC mine was inaudible and unmeasurable during the third measurement. The highest measured NAC mine attributable noise level was 33 dBA LAeq,15min adj occurring at 8:00 am on 17 May 2023, which is below the day-time 42 dBA LAeq,15min adj noise limit.
- NML11: NAC mine was inaudible and unmeasurable during all three (3) attended measurements.
- NML15: One (1) of the three (3) attended measurements measured LAeq,adj,15min noise levels attributable to NAC mine below the respective noise limit, NAC mine was inaudible and unmeasurable during the remaining measurements. The highest measured NAC mine attributable noise level was 26 dBA LAeq,15min adj occurring at 1:00 pm on 17 May 2023, which is below the day-time 42 dBA LAeq,15min adj noise limit.
- NML16: NAC mine was inaudible and unmeasurable during all three (3) attended measurements.
- NML18: NAC mine was inaudible and unmeasurable during all three (3) attended measurements.
- NML34: NAC mine was inaudible and unmeasurable during all three (3) attended measurements.
- NML35: One (1) of the three (3) attended measurements measured LAeq,adj,15min noise levels attributable to NAC mine below the respective noise limit, NAC mine was inaudible and unmeasurable during the remaining two (2) measurements. The measured NAC mine attributable noise level was <20 dBA LAeq,15min adj (only detected for approximately 10 seconds of the total 15-minute measurement period) occurring at 7:15 am on 18 May 2023, which is below the day-time 42 dBA LAeq,15min adj noise limit.
- NML38: NAC mine was inaudible and unmeasurable during all three (3) attended measurements.

NAC mine attributable noise was audible/measurable during 13 of the 33 (15-minute period) attended measurement, and inaudible/unmeasurable (ie undetectable) during the remaining attended measurements. For those 15-minute attended noise measurements completed for this monitoring period where NAC was audible and measurable, all NAC mine attributable noise levels were below the day-time 42 dBA LAeq,15min adj noise limit prescribed in Schedule F - Table F1 of NAC's EA.

## 5.2 Unattended Noise Results

A summary of each monitoring location's analysed noise logger data (statistical and audio) is contained within the following sections.

The detailed analysis results for each monitoring location during the May 2023 monitoring period is contained within Appendix E.

### 5.2.1 NML1

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 17 and 23 May 2023 at NML1, totalling 329 individual 15-minute intervals. Analysis showed that for all 15-minute intervals where NAC mine was detected (audible/measurable) following the unattended analysis



methodology presented in Section 4.5.2, the resulting NAC mine attributable noise levels were below the relevant time period noise level limits prescribed in Schedule F - Table F1 of NAC's EA.

Through the detailed analysis, impulsivity and tonal characteristics were identified, and the relevant corrections applied. Tonal characteristics were identified during six (6) 15-minute periods during the day-time period between 19 and 22 May 2023. Impulsive characteristics were identified during one (1) 15-minute period during the daytime period on the 22 May 2023. With the inclusion of appropriate impulsivity or tonal corrections, no  $L_{Aeq, adj, 15 min}$  noise level attributable to NAC mine was above the noise levels contained in Schedule F – Table F1.

The most noteworthy day for noise monitoring at NML1 was 22 May 2023 whereby drilling (for blast preparation) works were being conducted approximately 1.2 km east of NML1, from approximately 6:58 am until 6:00 pm. Attributable noise levels were determined at 41 dBA  $L_{Aeq, 15min adj}$  for two (2) 15-minute periods occurring during this daytime period, with the remaining daytime period NAC attributable noise levels on this day being 39 dBA  $L_{Aeq, 15min adj}$  or less, therefore below the day-time 42 dBA  $L_{Aeq, 15min adj}$  noise limit. The NAC mine attributable  $L_{Amax}$  noise level for the period of operations prior to 7:00 am was determined to be approximately 43 dBA, which achieved the 50 dBA  $L_{Amax}$  noise limit.

### 5.2.2 NML4

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 17 and 23 May 2023 at NML4, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise was rarely detected (audible or measurable) at this location. The daytime noise environment at NML4 was frequently dominated by aircraft noise (from Oakey Air Base and small light aircraft), bird song, wind generated noise and farming machinery. It is possible that at times, these ambient noise source masked contributions from NAC mine hindering detection in the unattended noise data.

NAC mine attributable noise was most notably detected during the morning period on 17 May 2023 (ie detected during two (2) attended noise measurement and via the unattended analysis process). Attributable noise levels were determined at up to 36 dBA  $L_{Aeq, 15min adj}$  during this morning period, therefore below the day-time 42 dBA  $L_{Aeq, 15min adj}$  noise limit.

Following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during 17 and 23 May 2023 period were below 42 dBA  $L_{Aeq, 15min}$ . Those 15-minute intervals above this level (or above 35 dBA  $L_{Aeq, 15min}$  for the evening and night periods) were determined to be a result of aircraft, wind generated noise or other noted extraneous sources, and NAC mine attributable noise could not be detected.

Through the detailed analysis, tonal characteristics were identified and the relevant correction applied. Tonal characteristics were identified during four (4) 15-minute periods during the daytime period on 17 May 2023. Impulsive characteristics were not identified during those periods where NAC mine attributable noise could be detected. With the inclusion of appropriate tonal corrections, no  $L_{Aeq, adj, 15 min}$  noise level attributable to NAC mine was above the noise level limits prescribed in Schedule F – Table F1.

### 5.2.3 NML8

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 25 and 31 May 2023 at NML8, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise was rarely detected (audible or measurable) at this location. The daytime noise environment at NML8 was frequently dominated by road traffic noise (being louder at this location than most other locations), aircraft noise (from Oakey Air Base and small light aircraft), bird song and wind generated noise. It is probable that these ambient noise source masked contributions from NAC mine hindering detection in the unattended noise data.

Following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during 25 and 31 May 2023 period



were below 42 dBA LAeq,15min. Those 15-minute intervals above this level (or above 35 dBA LAeq,15min for the evening and night periods) were determined to be a result of dominant road traffic, aircraft and wind generated noise, and NAC mine attributable noise could not be detected.

No tonal or impulsive NAC mine noise characteristics were detected during this period, therefore no adjustments were warranted.

Accordingly, for NML8, NAC mine attributable noise levels are considered to be below the relevant time period noise level limits prescribed in Schedule F - Table F1 of NAC's EA for the May monitoring period.

#### 5.2.4 NML10

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 17 and 23 May 2023 at NML10, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise was rarely detected (audible or measurable) at this location. The daytime noise environment at NML10 was frequently dominated by road traffic noise, aircraft noise (from Oakey Air Base and small light aircraft), bird song, wind generated noise, and motorbikes. It is possible that at times, these ambient noise sources masked contributions from NAC mine hindering detection in the unattended noise data.

NAC attributable noise was most notably detected during the morning period on 17 May 2023 (detected during two (2) attended noise measurements and via the unattended analysis process). Attributable noise levels were determined at up to 35 dBA LAeq,15min adj during this morning period, therefore below the day-time 42 dBA LAeq,15min adj noise limit.

Following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during 17 and 23 May 2023 period were below 42 dBA LAeq,15min. Those 15-minute intervals above this level (or above 35 dBA LAeq,15min for the evening and night periods) were determined to be a result of dominant road traffic, aircraft, bird song, wind generated noise or other noted extraneous sources, and NAC mine attributable noise could not be detected.

No tonal or impulsive NAC noise characteristics were detected during this period, therefore no adjustments were warranted.

Accordingly, for NML10, NAC mine attributable noise levels are considered to be below the relevant time period noise level limits prescribed in Schedule F - Table F1 of NAC's EA for the May monitoring period.

#### 5.2.5 NML11

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 17 and 23 May 2023 at NML4, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise was not detected (audible or measurable) at this location. The daytime noise environment at NML11 was frequently dominated by road traffic noise, aircraft noise (from Oakey Air Base and small light aircraft), bird song, wind generated noise, local machinery noise, cow bellows and dog barks. It is possible that at times, these ambient noise source masked contributions from NAC mine hindering detection in the unattended noise data.

Following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during 17 and 23 May 2023 period were below 42 dBA LAeq,15min. Those 15-minute intervals above this level (or above 35 dBA LAeq,15min for the evening and night periods) were determined to be a result of dominant road traffic, aircraft, bird song, wind generated noise or other noted extraneous sources, and NAC mine attributable noise could not be detected.

As NAC mine attributable noise could not be detected at NML18, an assessment for tonal or impulsive adjustments is not applicable.



Accordingly, for NML11, NAC mine attributable noise levels are considered to be below the relevant time period noise level limits prescribed in Schedule F - Table F1 of NAC's EA for the May monitoring period.

### 5.2.6 NML15

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 17 and 23 May 2023 at NML34, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise was infrequently detected (audible or measurable) at this location. The daytime noise environment at NML15 was frequently dominated by road traffic noise (in the same direction as the mine), aircraft noise (from Oakey Air Base and small light aircraft), bird song, and wind generated noise. Noting that NAC mine attributable noise was detected during one (1) attended noise measurement at NML15, and detected infrequently in the unattended data at low levels and other sources dominating the ambient environment at the same time, it is possible that at times these ambient noise source masked contributions from NAC mine.

Notwithstanding this point, following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during 17 and 23 May 2023 period were below 42 dBA LAeq,15min. Those 15-minute intervals above this level (or above 35 dBA LAeq,15min for the evening and night periods) were determined to be a result of dominant road traffic, aircraft, bird song, wind generated noise or other noted extraneous sources, and NAC mine attributable noise could not be detected.

No tonal or impulsive NAC mine noise characteristics were detected during this period, therefore no adjustments were warranted.

Accordingly, for NML15, NAC mine attributable noise levels are considered to be below the relevant time period noise levels contained in Schedule F - Table F1 of NAC's EA for the May monitoring period.

### 5.2.7 NML16

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 25 and 31 May 2023 at NML16, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise was rarely detected (audible or measurable) at this location. The daytime noise environment at NML16 was frequently dominated by road traffic noise, aircraft noise (from Oakey Air Base and small light aircraft), bird song and wind generated noise. It is possible that at times, these ambient noise sources masked contributions from NAC mine preventing further detection.

Low level machinery noise was detected during the morning period on 30 May 2023 (detected from approximately 7:30 am until 11:45 am) and believed to be attributable to NAC mine operations. This machinery noise was most dominate within the 63 and 80 Hz one-third octave band range. Attributable noise levels were determined at up to 33 dBA LAeq,15min adj during this time period, therefore below the day-time 42 dBA LAeq,15min adj noise limit. No tonal or impulsive noise characteristics were detected during this period, therefore no adjustments were warranted.

Following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during the 25 and 31 May 2023 period were below 42 dBA LAeq,15min. Those 15-minute intervals above this level (or above 35 dBA LAeq,15min for the evening and night periods) were determined to be a result of dominant traffic or wind generated noise, and NAC mine attributable noise could not be detected.

Accordingly, for NML16, NAC mine attributable noise levels are considered to be below the relevant time period noise level limits prescribed in Schedule F - Table F1 of NAC's EA for the May monitoring period.



### 5.2.8 NML18

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 17 and 23 May 2023 at NML18, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise could not be detected (audible or measurable) at this location. The daytime noise environment at NML18 was frequently dominated by road traffic noise, aircraft noise (namely from Oakey Air Base) and bird song.

Following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during 17 and 23 May 2023 period were below 42 dBA LAeq,15min. Those 15-minute intervals above this level (or above 35 dBA LAeq,15min for the evening and night periods) were determined to be a result of dominant traffic, aircraft, bird or wind generated noise, and NAC mine attributable noise could not be detected.

As NAC mine attributable noise could not be detected at NML18, an assessment for tonal or impulsive adjustments is not applicable.

Accordingly, for NML18, NAC mine attributable noise levels are considered to be below the relevant time period noise levels contained in Schedule F - Table F1 of NAC's EA for the May monitoring period.

### 5.2.9 NML34

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 17 and 23 May 2023 at NML34, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise could not be detected (audible or measurable) at this location. The daytime noise environment at NML34 was frequently dominated by road traffic noise, aircraft noise (from Oakey Air Base and small light aircraft), bird song (including pigeons dominating the 630 Hz band), localised mechanical noise, wind generated noise and domestic noise.

Following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during 17 and 23 May 2023 period were below 42 dBA LAeq,15min. Those 15-minute intervals above this level (or above 35 dBA LAeq,15min for the evening and night periods) were determined to be a result of dominant road traffic, aircraft, bird song, wind generated noise or other noted extraneous sources, and NAC mine attributable noise could not be detected.

As NAC mine attributable noise could not be detected at NML34, an assessment for tonal or impulsive adjustments is not applicable.

Accordingly, for NML34, NAC mine attributable noise levels are considered to be below the relevant time period noise level limits prescribed in Schedule F - Table F1 of NAC's EA for the May monitoring period.

### 5.2.10 NML35

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 25 and 31 May 2023 at NML35, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise could not be detected (audible or measurable) at this location. The daytime noise environment at NML35 was frequently dominated by aircraft noise (from Oakey Air Base and small light aircraft), bird song, distant mechanical noise, wind generated noise and isolated vehicle passbys.

Following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during 25 and 31 May 2023 period were below 42 dBA LAeq,15min. Those 15-minute intervals above this level (or above 35 dBA LAeq,15min for the evening and night periods) were determined to be a result of dominant wind generated noise, and NAC mine attributable noise could not be detected.

As NAC mine attributable noise could not be detected at NML35, an assessment for tonal or impulsive adjustments is not applicable.





Accordingly, for NML35, NAC mine attributable noise levels are considered to be below the relevant time period noise level limits prescribed in Schedule F - Table F1 of NAC's EA for the May monitoring period.

### 5.2.11 NML38

There was a total of seven (7) daily periods (6:45 am to 6:30 pm) analysed between 17 and 23 May 2023 at NML38, totalling 329 individual 15-minute intervals. Following the unattended analysis methodology presented in Section 4.5.2, NAC mine attributable noise could not be detected (audible or measurable) at this location. The daytime noise environment at NML38 was frequently dominated by aircraft noise (from Oakey Air Base and small light aircraft), background road traffic noise, bird song, farming equipment, and wind generated noise.

Following the unattended analysis methodology presented in Section 4.5.2, the resulting 630 Hz filtered noise levels for the majority of the 15-minute intervals during 17 and 23 May 2023 period were below 42 dBA LAeq,15min. Those 15-minute intervals above this level (or above 35 dBA LAeq,15min for the evening and night periods) were determined to be a result of dominant wind generated noise, farming equipment, vehicle passbys or bird song and NAC mine attributable noise could not be detected.

As NAC mine attributable noise could not be detected at NML38, an assessment for tonal or impulsive adjustments is not applicable.

Accordingly, for NML38, NAC mine attributable noise levels are considered to be below the relevant time period noise level limits prescribed in Schedule F - Table F1 of NAC's EA for the May monitoring period.

## 5.3 Unattended Noise Results – Background Location

To assist with this assessment, the unattended noise monitoring data from the Background Location has been analysed for the following:

- Determination of 'Rating Background Levels' (RBLs), and
- Conduct a high-level statistical and audio data review to confirm whether NAC mine noise was detected at this location and if so, to what noise level (if measurable).

The unattended ambient noise monitoring data was used to determine the RBL for day-time (7:00 am to 6:00pm), evening (6:00 pm to 10:00 pm) and night-time (10:00 pm to 7:00 am) periods, as presented in Table 7. With reference to the operational time periods for May 2023 (as stated in Section 3.0), limited NAC mine operations occurred during the evening and night-time periods, however the RBLs are still presented in Table 7 for completeness and transparency. The RBL is the median of the 10<sup>th</sup> percentile of the daily background (LA90) noise levels in each assessment period (day, evening and night) over the duration of the monitoring.

Table 7 Background Location RBL

Monitoring Month	RBL (dBA)		
	Daytime (7:00 am – 6:00 pm)	Evening (6:00 pm - 10:00 pm)	Night-time (10:00 pm – 7:00 am)
May 2023	26	26	24

A review of the data presented in Table 7 indicates that the RBLs are typical of a rural environment with ambient noise sources such as bird song, wind noise, aircraft noise (from Oakey Air Base and small light aircraft) and distant road traffic noise being the predominant sources.

A high-level review of the captured audio and statistical data (namely one-third octave band LAeq spectra) from the Background location was conducted to confirm whether NAC attributable noise was audible and/or measurable at this location. This review concluded that no periods were



considered to have NAC mine attributable noise audible and/or measurable during the May 2023 monitoring period.

## 6.0 Conclusion

This May 2023 monitoring period has confirmed through attended and unattended noise monitoring at the eleven (11) monitoring locations that no 15-minute period during the assessed seven (7) days contained NAC mine attributable noise levels that were above the relevant noise level limits prescribed in Schedule F - Table F1: Noise Limits (includes construction activities) of NAC's EA.

This May 2023 assessment is now complete and subject to no further noise monitoring.





# Appendix A Acoustic Terminology

New Acland Coal – Stage 3 Noise Survey May 2023

New Acland Coal Pty Ltd

SLR Project No.: 620.10963.00350

4 July 2023

## Sound Level (or Noise Level)

The terms sound and noise are almost interchangeable, except that in common usage noise is often used to refer to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure capable of evoking the sense of hearing. The human ear (and those of other species) responds to changes in sound pressure over a very wide range. The loudest sound pressure to which the human ear responds is ten million times greater than the softest. The decibel (dB or dBL) scale reduces this ratio to a more manageable size by the use of logarithms.

The symbols SPL, L or LP are commonly used to represent Sound Pressure Level. The symbol LA represents A-weighted Sound Pressure Level. The standard reference unit for Sound Pressure Levels expressed in decibels is  $2 \times 10^{-5}$  Pa.

## A-weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an 'A-weighting' filter. This is an electronic filter having a frequency response corresponding approximately to human hearing.

People's hearing is most sensitive to sounds at mid frequencies (500 Hz to 4,000 Hz), and less sensitive at lower and higher frequencies. Thus, the level of a sound in dBA is a good measure of the loudness of that sound. Different sources having the same dBA level generally sound about equally loud.

## Sound Power Level

The sound power of a source is the rate at which it emits acoustic energy. As with sound pressure, sound power levels (SWL) are expressed in dB units, but are identified by the symbols SWL.

The relationship between sound power and sound pressure may be likened to an electric radiator, which is characterised by a power rating but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature.

## Change in Sound Pressure Levels

For human perception, a change of 1 dBA or 2 dBA in the level of a sound is considered to be indiscernible, while a 3 dBA to 5 dBA change corresponds to a small but noticeable change in loudness. A 10 dBA change corresponds to an approximate doubling or halving in loudness.

## Typical Sound Pressure Levels

The table below lists examples of typical sound pressure levels.

Table A1 Examples of Typical Sound Pressure Levels

Sound Pressure Level (dBA)	Typical Example	Subjective (Human) Evaluation
130	Threshold of pain	Intolerable
120	Metal hammering	Extremely noisy
110	Grinding on steel	
100	Loud car horn at 3 metres (m)	Very noisy
90	Dog bark at 1 m	
80	Cicadas at 1 m	Loud
70	Noise level directly adjacent to a busy main road	
60	Ambient noise level in urban area close to main roads	Moderate to quiet
50	Typical rural environment with high insect noise or close to a main road	



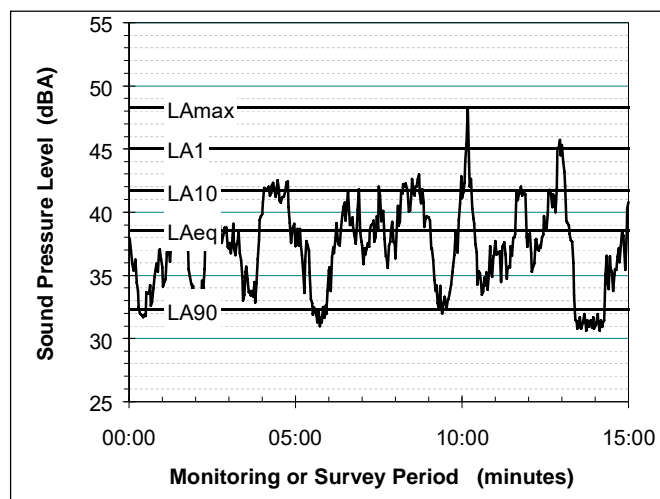
Sound Pressure Level (dBA)	Typical Example	Subjective (Human) Evaluation
40	Ambient noise level in a rural environment with light breezes and some noise from insects, birds and distant traffic	Quiet to very quiet
30	Ambient noise level in a typical rural noise environment in the absence of insect noise and wind	
20	Ambient noise level in remote and quiet rural environment away from main roads with no wind and no insect noise	Almost silent

### Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels (LAN), where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the LA1 is the noise level exceeded for 1% of the time and LA10 the noise exceeded for 10% of the time.

Figure A1 presents a hypothetical 15 minute noise measurement, illustrating various common statistical indices of interest.

Figure A1 Hypothetical 15 Minute Noise Measurement



Of particular relevance to this study, are:

- **LAmax** The A-weighted maximum sound pressure level of any given measurement period.
- **LA1** The A-weighted noise level exceeded for 1% during any given measurement period.
- **LA10** The A-weighted noise level exceeded for 10% during any given measurement period. This is commonly referred to as the average maximum noise level.
- **LA90** The A-weighted noise level exceeded for 90% during any given measurement period, often referred to as the 'background' noise level.
- **LAeq** The A-weighted equivalent noise level (basically the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.
- **LAeq, adj, 15min** The specific noise level measured as the A-weighted equivalent continuous noise level (LAeq) plus any adjustment for the character of the noise (tonal and/or impulsive) determined over a reference time period of 15-minutes.

### Noise Propagation

Provided the receptor is in the far-field of the noise source, noise levels will reduce as a receptor moves further away from the source. This is due to spreading of the noise source energy over



distance. For a simple point source (for example, a motor) the theoretical reduction in noise levels is 6 dBA per doubling of distance. For a line source (for example, a busy road) the theoretical reduction is 3 dBA per doubling of distance. In reality however other factors affect noise propagation. These include ground absorption, air absorption, acoustic screening and meteorological effects.

### Meteorological Effects

At distances over 500 m, meteorological affects (for example, local weather and atmospheric conditions) can substantially enhance or impair noise propagation. The most influential meteorological conditions on noise propagation are wind speed and direction and the occurrence of temperature inversions. Ambient air temperature and humidity and atmospheric pressure also affect noise propagation although to a lesser extent than wind and temperature inversions.

### Wind Conditions

Wind conditions enhance noise propagation when the wind is blowing from a noise source towards a receptor and therefore noise levels at the receptor will be higher under these conditions. The wind can be thought to carry the noise in the direction it is heading. Where winds blow from the receptor towards the source, the propagation of noise is impaired and therefore lower noise levels will be experienced at the receptor.

It is important to consider the effect of prevailing wind conditions when assessing noise propagation over larger distances. Wind roses, which graph long term variations in wind speed and direction, are a useful tool for analysing prevailing wind conditions where available.

### Temperature Inversions

Temperature inversions are a meteorological phenomenon where a layer of cold air is trapped at the ground surface under a layer of warmer air. Temperature inversions enhance noise propagation because sound travelling away from the ground is reflected back down from where the colder air meets the warmer air due to the change in pressure between the two layers.

Conditions that favour the development of a strong surface inversion are nights with calm winds and clear skies. Calm winds prevent warmer air above the surface from mixing down to the ground, and clear skies increase the rate of cooling at the Earth's surface. It is therefore important to consider the effect of temperature inversions when assessing noise propagation over larger distances and during night-time periods.

### Tonality

Tonal noise contains one or more prominent tones (i.e. distinct frequency components), and is normally regarded as more offensive than 'broad band' noise.

### Impulsive

An impulse noise is typified by a sudden rise time and a rapid sound decay. Impulse noise can be defined as having a high peak of short duration or a sequence of such peaks (bangs, clicks, clatters, or thumps).





# Appendix B NAC Mine Operations Supporting Documents – May 2023

New Acland Coal – Stage 3 Noise Survey May 2023

New Acland Coal Pty Ltd

SLR Project No.: 620.10963.00350

4 July 2023

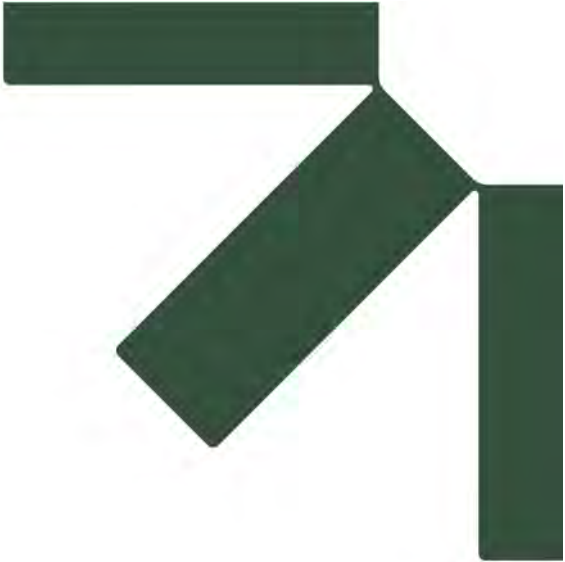
Time	Event Type	Message	Who
2023-05-17 10:51:14+1000	action	Drill starting in MVE	Anonymous
2023-05-17 10:58:08+1000	action	Drill stopped for maintenance.	Anonymous
2023-05-17 13:35:44+1000	action	Start 110, 410, 414, 415	Anonymous
2023-05-17 13:37:29+1000	action	start 216	Anonymous
2023-05-17 13:38:49+1000	action	Start 008	Anonymous
2023-05-17 13:39:28+1000	action	Start 214 in W/shop for testing	Anonymous
2023-05-17 13:44:08+1000	action	Pull up 611, 626, 706	Anonymous
2023-05-17 14:21:59+1000	action	Start 502	Anonymous
2023-05-17 14:22:19+1000	action	Start 412	Anonymous
2023-05-17 14:27:25+1000	action	Stop 611	Anonymous
2023-05-17 16:25:54+1000	action	Everything pulled up for crib	Anonymous
2023-05-17 17:21:38+1000	action	Everything back from crib	Anonymous
2023-05-17 17:27:00+1000	action	Walk 611 from MVE to S/pit	Anonymous
2023-05-18 07:06:33+1000	action	drill 23 idle up in mve	Anonymous
2023-05-18 07:24:12+1000	action	start drill in MVE	Anonymous
2023-05-18 07:34:30+1000	action	Start 625 on Dump 13	Anonymous
2023-05-18 07:50:43+1000	action	Start 216, 409, 410, 414	Anonymous
2023-05-18 08:22:26+1000	action	Start 110, 412, 502	Anonymous
2023-05-18 08:25:09+1000	action	Start 704, 706	Anonymous
2023-05-18 08:26:13+1000	action	Start 610, 611	Anonymous
2023-05-18 08:28:49+1000	action	Start 008	Anonymous
2023-05-18 08:39:10+1000	action	Start 626	Anonymous
2023-05-18 08:52:08+1000	action	Walk 609 to W/pit	Anonymous
2023-05-18 09:51:22+1000	action	706 to MVE drill pattern	Anonymous
2023-05-19 06:59:00+1000	action	Idle 408, 409, 410, 412, 413, 414	Anonymous
2023-05-19 07:11:11+1000	action	Start 609 on IPTC2	Anonymous
2023-05-19 07:12:47+1000	action	Start 626 in MVE westend	Anonymous
2023-05-19 07:14:07+1000	action	start 704 restricted from MVE	Anonymous
2023-05-19 07:15:26+1000	action	Start 216, 409,410, 414	Anonymous
2023-05-19 07:18:46+1000	action	Start 610, 625 dump 13	Anonymous
2023-05-19 07:19:02+1000	action	Start 611 MVE	Anonymous
2023-05-19 07:19:19+1000	action	Start 023 drill	Anonymous
2023-05-19 07:24:10+1000	action	Start 706 restricted from MVE	Anonymous
2023-05-19 07:27:18+1000	action	Strat 110, 408, 412, 413	Anonymous
2023-05-19 07:28:49+1000	action	023 drill first hole	Anonymous
2023-05-19 07:28:58+1000	action	Start 008	Anonymous
2023-05-19 07:35:22+1000	action	Start 109 in MVE	Anonymous
2023-05-19 07:37:48+1000	action	Start 415 from W/shop to brake test	Anonymous
2023-05-19 08:10:54+1000	action	W/plant start kanga	Anonymous
2023-05-19 08:17:16+1000	action	Kanga finished	Anonymous
2023-05-19 08:18:48+1000	action	Start 622 from build pad to wash bay	Anonymous
2023-05-19 08:58:33+1000	action	110 down	Anonymous
2023-05-19 09:23:13+1000	action	Swap 415 with 502	Anonymous
2023-05-19 13:19:56+1000	action	216 from MVE east to west	Anonymous
2023-05-19 13:20:20+1000	action	Start 211	Anonymous
2023-05-19 14:53:20+1000	action	Start 208 from ROM to c/pit	Anonymous
2023-05-19 17:51:08+1000	action	Park 216, 408, 409, 410, 414, 415	Anonymous
2023-05-20 07:01:52+1000	action	dr23 starting up	Anonymous
2023-05-20 07:39:46+1000	action	0715 - 216 and rdt,	Anonymous
2023-05-20 07:40:23+1000	action	0730 - 110 and rdt	Anonymous
2023-05-20 07:40:36+1000	action	0730 - 625	Anonymous
2023-05-20 07:40:52+1000	action	0735 - 008 and 626	Anonymous
2023-05-20 07:41:38+1000	action	0741 - 211 nand rtd	Anonymous
2023-05-21 06:53:08+1000	action	0649 - Birds	Anonymous
2023-05-21 07:01:30+1000	action	0700 - Drill warming up and to work	Anonymous
2023-05-21 07:02:27+1000	action	208 - Start work around Stone dump 3	Anonymous
2023-05-21 07:13:05+1000	action	0712 - Strating to drill	Anonymous
2023-05-21 07:19:16+1000	action	0717 - 216 starting and trucks	Anonymous
2023-05-21 07:19:39+1000	action	0718 - 109 starting	Anonymous
2023-05-21 07:22:08+1000	action	0721 - 110 trucks heading to digger	Anonymous
2023-05-21 07:22:34+1000	action	0722 - 0625, 626 to work	Anonymous
2023-05-21 07:25:08+1000	action	0724 - 318 to work	Anonymous
2023-05-21 07:30:02+1000	action	0730 - 008 and 706 to work	Anonymous
2023-05-21 08:11:15+1000	action	move 704 to MVE	Anonymous
2023-05-22 07:05:09+1000	action	0658 - Warming uo drill	Anonymous
2023-05-22 07:16:45+1000	action	0715 - Started drilling	Anonymous
2023-05-22 07:21:18+1000	action	0720 - Drill stopped	Anonymous
2023-05-22 07:45:41+1000	action	0745 - Graders to work	Anonymous
2023-05-22 07:46:43+1000	action	0746 - 208 and 318	Anonymous
2023-05-22 07:51:25+1000	action	0750 - 110, 502, 408 and 413 to work	Anonymous
2023-05-22 08:02:54+1000	action	0802 - Starting the drill	Anonymous
2023-05-22 08:10:47+1000	action	0810 - 216 and trucks go to work	Anonymous
2023-05-22 08:12:46+1000	action	0812 - 008 to work	Anonymous
2023-05-22 10:05:50+1000	action	stopped dr23	Anonymous
2023-05-22 10:16:58+1000	action	1016 - Started 216	Anonymous
2023-05-22 10:29:24+1000	action	1029 - Stopped 626	Anonymous
2023-05-22 10:30:23+1000	action	1029 - Started the drill to remove rods then parked up for pump maintenance	Anonymous



Time	Event Type	Message	Who
2023-05-22 10:46:47+1000	action	1046 - started 626	Anonymous
2023-05-22 11:02:38+1000	action	1102 - Testing on drill at low idle	Anonymous
2023-05-22 11:03:04+1000	action	1102 - 706 running after breakdown	Anonymous
2023-05-22 12:13:22+1000	action	1213 - Starting drill	Anonymous
2023-05-22 12:21:58+1000	action	1221 - Drill Stopped	Anonymous
2023-05-22 15:53:18+1000	action	1553 - Stopped drill	Anonymous
2023-05-22 16:05:21+1000	action	1605 - Started drill	Anonymous
2023-05-22 16:10:13+1000	action	1610 - Stopped drill	Anonymous
2023-05-22 16:20:21+1000	action	1620 - Started drill	Anonymous
2023-05-22 16:29:47+1000	action	1630 - Stopped drill	Anonymous
2023-05-22 16:32:31+1000	action	1632 - Started drill	Anonymous
2023-05-23 07:07:11+1000	action	drill 23 start up to idle	Anonymous
2023-05-23 07:24:39+1000	action	1815 - Everything shutdown	Anonymous
2023-05-23 07:36:55+1000	action	0736 - 626 Started	Anonymous
2023-05-23 07:38:33+1000	action	0738 - 626 First gear	Anonymous
2023-05-23 07:47:23+1000	action	0747 - 216 and trucks started	Anonymous
2023-05-23 07:57:52+1000	action	0757 - Stopped drill	Anonymous
2023-05-23 08:13:20+1000	action	0813 - Started drill	Anonymous
2023-05-23 08:15:11+1000	action	0815 - School bus	Anonymous
2023-05-23 08:28:28+1000	action	110 start up	Anonymous
2023-05-23 08:28:43+1000	action	625 start up	Anonymous
2023-05-23 08:33:16+1000	action	706 start up	Anonymous
2023-05-23 08:35:27+1000	action	0835 - 008 started	Anonymous
2023-05-23 09:49:56+1000	action	0945 - Started 109	Anonymous
2023-05-23 11:57:22+1000	action	208 mve clean up	Anonymous
2023-05-24 07:14:14+1000	action	Start 3 dozers, 2 trucks, idle 110 digger	Anonymous
2023-05-24 07:18:31+1000	action	704,706 graders started.	Anonymous
2023-05-24 07:22:20+1000	action	start 216 circuit.	Anonymous
2023-05-24 07:27:30+1000	action	start drill 23	Anonymous
2023-05-24 07:31:00+1000	action	stop all pit.	Anonymous
2023-05-24 07:32:54+1000	action	start drill 23	Anonymous
2023-05-24 07:37:31+1000	action	Swampy started back up.	Anonymous
2023-05-24 07:44:17+1000	action	walk drill 23	Anonymous
2023-05-24 07:59:24+1000	action	Drill stopped 7.43	Anonymous
2023-05-24 08:01:35+1000	action	Start 626 for testing and drill start 8.01	Anonymous
2023-05-24 08:06:27+1000	action	Drill stopped 8.06	Anonymous
2023-05-24 08:14:44+1000	action	Start 413 truck at 8.14	Anonymous
2023-05-24 08:15:34+1000	action	Drill start at 8015 stopped 626 dozer	Anonymous
2023-05-24 08:19:21+1000	action	DRILL AND TRUCK stopped 8.19	Anonymous
2023-05-24 08:20:21+1000	action	Swampy turned off 8.20	Anonymous
2023-05-24 08:31:33+1000	action	Start 110 at 8.31	Anonymous
2023-05-24 08:36:23+1000	action	Digger walking on to the bench 8.36	Anonymous
2023-05-24 08:39:41+1000	action	Start 110 trucks 8.39 one truck to go to the digger 8.39	Anonymous
2023-05-24 08:45:17+1000	action	110 start loading 8.45 and 2nd truck in place	Anonymous
2023-05-24 08:49:11+1000	action	110 circuit running 8.49	Anonymous
2023-05-24 08:58:13+1000	action	Drill start 8.58	Anonymous
2023-05-24 09:10:36+1000	action	Drill broken down 9.10	Anonymous
2023-05-24 09:11:25+1000	action	625 start at 9.11	Anonymous
2023-05-24 09:12:28+1000	action	216 circuit to start 9.12	Anonymous
2023-05-24 09:13:16+1000	action	704 start at 9.13 and 626	Anonymous
2023-05-24 09:14:15+1000	action	008 to start at 8.14	Anonymous
2023-05-24 09:47:22+1000	action	Drill start low idle 9.47	Anonymous
2023-05-24 10:16:24+1000	action	start 611	Anonymous
2023-05-24 10:36:24+1000	action	316 testing at ROM	Anonymous
2023-05-24 11:42:21+1000	action	units on crib about 11:30am	Anonymous
2023-05-24 11:57:47+1000	action	drill started for testing	Anonymous
2023-05-24 12:42:33+1000	action	413 moving from drill pattern to 110	Anonymous
2023-05-24 13:33:31+1000	action	start 23 drill low idle	Anonymous
2023-05-24 13:49:48+1000	action	drill 23 start work	Anonymous
2023-05-25 07:03:53+1000	action	Swamp dozer started	Anonymous
2023-05-25 07:05:15+1000	action	start 505 on drill pattern	Anonymous
2023-05-25 07:17:47+1000	action	start 625	Anonymous
2023-05-25 07:21:22+1000	action	Start drill	Anonymous
2023-05-25 07:26:53+1000	action	312 rom to workshop	Anonymous
2023-05-25 07:29:47+1000	action	start 611	Anonymous
2023-05-25 07:36:03+1000	action	start 110	Anonymous
2023-05-25 07:39:12+1000	action	Start 110 circuit.	Anonymous
2023-05-25 07:46:05+1000	action	Start 626	Anonymous
2023-05-25 07:52:04+1000	action	Start 609 dozer.	Anonymous
2023-05-25 07:59:51+1000	action	Start 008	Anonymous
2023-05-25 08:02:54+1000	action	start 216 with 1 truck	Anonymous
2023-05-25 08:18:55+1000	action	start 412, 409, 415	Anonymous
2023-05-25 08:21:04+1000	action	start 704	Anonymous
2023-05-25 08:34:52+1000	action	dozers 2nd gear reverse	Anonymous
2023-05-25 08:47:43+1000	action	all allocated machines running from 8:20am	Anonymous
2023-05-25 12:02:01+1000	action	drill starting back, 611 first gear	Anonymous
2023-05-25 12:18:15+1000	action	611 2nd gear reverse	Anonymous

Time	Event Type	Message	Who
2023-05-25 12:53:03+1000	action	611 1st gear @12:50	Anonymous
2023-05-25 14:07:08+1000	action	611 2nd gear reverse	Anonymous
2023-05-25 15:46:17+1000	action	All machines on crib break	Anonymous
2023-05-25 16:34:19+1000	action	All machines operational after crib	Anonymous
2023-05-25 17:55:49+1000	action	Manning Vale east machines shutdown 6pm	Anonymous
2023-05-25 18:15:13+1000	action	All units parked, shutdown and pit closed at 6:15pm	Anonymous
2023-05-26 07:01:41+1000	action	start 625,626,110 trucks,216,216 trucks	Anonymous
2023-05-26 07:12:25+1000	action	start 706,008	Anonymous
2023-05-26 07:16:09+1000	action	Start 110 circuit.	Anonymous
2023-05-26 07:33:40+1000	action	start drill.	Anonymous
2023-05-26 07:47:21+1000	action	Start 211	Anonymous
2023-05-26 08:25:24+1000	action	wind speed monitor not working	Anonymous
2023-05-26 09:27:56+1000	action	211 parked	Anonymous
2023-05-26 09:28:47+1000	action	start 611	Anonymous
2023-05-26 09:55:36+1000	action	611 parked	Anonymous
2023-05-26 11:35:39+1000	action	started 610	Anonymous
2023-05-26 11:37:53+1000	action	609 start	Anonymous
2023-05-26 11:40:11+1000	action	swampy started	Anonymous
2023-05-26 11:50:47+1000	action	004 started	Anonymous
2023-05-26 16:52:27+1000	action	211 tramming to centre pit	Anonymous
2023-05-26 17:11:30+1000	action	706 from workshop to manning vale east pit	Anonymous
2023-05-26 17:12:05+1000	action	211 starting to load centre pit	Anonymous
2023-05-26 18:02:56+1000	action	All units in manning vale east shutdown and parked	Anonymous
2023-05-26 18:19:06+1000	action	all units parked, shutdown and pit closed	Anonymous
2023-05-27 06:56:09+1000	action	Start truck and move into position on drill pattern and start drill. 625, swampy,	Anonymous
2023-05-27 07:31:34+1000	action	7:10 110 trucks warm up.	Anonymous
2023-05-27 07:33:20+1000	action	7:32 start 706	Anonymous
2023-05-27 07:36:32+1000	action	7:32 609 start instead of swampy.	Anonymous
2023-05-27 07:45:25+1000	action	Start 216 and 1 truck	Anonymous
2023-05-27 07:48:22+1000	action	216 start loading @7:48	Anonymous
2023-05-27 07:52:04+1000	action	start 110 circuit	Anonymous
2023-05-27 08:03:37+1000	action	stop 609, 216	Anonymous
2023-05-27 08:06:52+1000	action	stop 610,625	Anonymous
2023-05-27 08:08:48+1000	action	8:08 stop everything in pit except drill.	Anonymous
2023-05-27 08:14:55+1000	action	stop drill to confirm noise source	Anonymous
2023-05-27 08:17:03+1000	action	start drill	Anonymous
2023-05-27 08:18:51+1000	action	start 110 circuit	Anonymous
2023-05-27 08:20:47+1000	action	8:20 Drill broken down.	Anonymous
2023-05-27 08:22:41+1000	action	start 625	Anonymous
2023-05-27 08:25:26+1000	action	706, 610, 626 start	Anonymous
2023-05-27 08:30:14+1000	action	6:26 broken down	Anonymous
2023-05-27 08:31:54+1000	action	start 216 circuit and 609.	Anonymous
2023-05-27 08:42:10+1000	action	Start 409,410,412, 211 circuit start	Anonymous
2023-05-27 08:47:33+1000	action	704, 008 start	Anonymous
2023-05-27 08:49:21+1000	action	All allocated gear running except broken down drill.	Anonymous
2023-05-27 11:21:56+1000	action	units going on crib around 11:20	Anonymous
2023-05-27 11:22:38+1000	action	211 down grease issues.	Anonymous
2023-05-27 12:33:30+1000	action	12:20 ish units back from crib	Anonymous
2023-05-27 12:52:31+1000	action	12:40 Drill fixed and started drilling.	Anonymous
2023-05-27 16:04:06+1000	action	Units on crib 4:00 ish	Anonymous
2023-05-27 17:32:17+1000	action	008,706,704 to park by 6pm	Anonymous
2023-05-27 18:00:08+1000	action	Dozers starting to park up, 110 loading last truck and stopping, 216 loading last truck and	Anonymous
2023-05-27 18:12:53+1000	action	All units parked by 6:10	Anonymous
2023-05-27 18:18:19+1000	action	Pit closed by 6:15	Anonymous
2023-05-28 07:01:29+1000	action	start swampy	Anonymous
2023-05-28 07:02:51+1000	action	Start drill idling.	Anonymous
2023-05-28 07:08:47+1000	action	Stop drill and start 625	Anonymous
2023-05-28 07:15:08+1000	action	Start 109	Anonymous
2023-05-28 07:31:16+1000	action	Start drill	Anonymous
2023-05-28 07:40:51+1000	action	110 walk into position	Anonymous
2023-05-28 07:46:39+1000	action	110 circuit started	Anonymous
2023-05-28 07:52:21+1000	action	Start 706	Anonymous
2023-05-28 08:03:15+1000	action	704, 216 circuit start	Anonymous
2023-05-28 08:13:58+1000	action	Start 611 walking @ 8:10	Anonymous
2023-05-28 08:14:38+1000	action	Start 008	Anonymous
2023-05-28 08:16:46+1000	action	Start 626, All allocated units now running	Anonymous
2023-05-28 08:34:26+1000	action	Start 211	Anonymous
2023-05-28 08:38:46+1000	action	625, 626 stopped	Anonymous
2023-05-28 08:46:05+1000	action	Start 611,626	Anonymous
2023-05-28 11:39:59+1000	action	Units going on crib 11:30 ish	Anonymous
2023-05-28 17:11:14+1000	action	units went on crib @ 3:30 ish and back @ 4:20 ish. 110 broken down after crib.	Anonymous
2023-05-28 17:38:50+1000	action	Drill finished pattern.	Anonymous
2023-05-28 17:46:07+1000	action	All units except 110 circuit, 216 circuit and swampy parking up by 6pm.	Anonymous
2023-05-28 18:22:35+1000	action	All units parked by 6:15 and pit closed by 6:20.	Anonymous
2023-05-29 07:04:50+1000	action	drill not ready to start, start 008, 625, 109.	Anonymous
2023-05-29 07:08:15+1000	action	start drill @idle	Anonymous
2023-05-29 07:12:31+1000	action	stop all units except drill.	Anonymous

Time	Event Type	Message	Who
2023-05-29 07:18:17+1000	action	Start drill drilling. start 008,109	Anonymous
2023-05-29 07:20:35+1000	action	Start 110 trucks and 110 @ idle	Anonymous
2023-05-29 07:31:21+1000	action	Start 625 dozer	Anonymous
2023-05-29 07:39:48+1000	action	110 trucks to floor and 110 clear to walk into position.	Anonymous
2023-05-29 07:44:24+1000	action	Start 216 @ idle and Send 2 216 trucks to floor.	Anonymous
2023-05-29 07:48:35+1000	action	Start 216 loading	Anonymous
2023-05-29 07:53:06+1000	action	All 216 trucks running.	Anonymous
2023-05-29 08:00:30+1000	action	start 626,611 in 1st.	Anonymous
2023-05-29 08:10:24+1000	action	704, 706 started @ 8:00am	Anonymous
2023-05-29 08:12:01+1000	action	All units running @ 8am except 110 because of breakdown.	Anonymous
2023-05-29 08:29:41+1000	action	110 start loading	Anonymous
2023-05-29 08:48:24+1000	action	stop 611	Anonymous
2023-05-29 08:58:06+1000	action	Start 008 @8:55	Anonymous
2023-05-29 09:01:06+1000	action	Start 006 not 008	Anonymous
2023-05-29 09:21:53+1000	action	start 611 @ 917	Anonymous
2023-05-29 09:46:39+1000	action	9:14 110 start up again after breakdown.	Anonymous
2023-05-29 10:03:37+1000	action	dozers using 2nd gear.	Anonymous
2023-05-29 12:05:55+1000	action	start 609	Anonymous
2023-05-29 12:30:06+1000	action	Units on crib 11:30 ish and back 12.20 ish	Anonymous
2023-05-29 14:08:38+1000	action	1.20 006 parked 008 started	Anonymous
2023-05-29 14:10:34+1000	action	Orica starting bobcat on MVE shot.	Anonymous
2023-05-29 17:35:59+1000	action	Drill finished for the day.	Anonymous
2023-05-29 17:37:07+1000	action	All units parking by 6pm	Anonymous
2023-05-30 07:08:37+1000	action	Drill start @7 am, 7:08 216 started and walk into position.	Anonymous
2023-05-30 07:09:34+1000	action	Start 610	Anonymous
2023-05-30 07:11:16+1000	action	Start swampy	Anonymous
2023-05-30 07:13:13+1000	action	Start 625	Anonymous
2023-05-30 07:17:12+1000	action	Start 110 for running checks.	Anonymous
2023-05-30 07:38:11+1000	action	2 trucks 408, 412 sent to 216.	Anonymous
2023-05-30 07:42:47+1000	action	216 start loading	Anonymous
2023-05-30 07:48:23+1000	action	Last 2 216 trucks joined the circuit.	Anonymous
2023-05-30 07:52:52+1000	action	Stop 610, 625	Anonymous
2023-05-30 07:56:55+1000	action	Stop all units in pit	Anonymous
2023-05-30 08:02:32+1000	action	Start Drill, swampy, 216 circuit, orica bobcat.	Anonymous
2023-05-30 08:04:16+1000	action	start 626 walking.	Anonymous
2023-05-30 08:07:20+1000	action	Start 610	Anonymous
2023-05-30 08:31:42+1000	action	Start 625, 609	Anonymous
2023-05-30 08:39:30+1000	action	stop 625	Anonymous
2023-05-30 08:40:03+1000	action	609 not running	Anonymous
2023-05-30 08:48:43+1000	action	Start 625, 611	Anonymous
2023-05-30 08:56:08+1000	action	Truck removed from in front of drill.	Anonymous
2023-05-30 09:08:43+1000	action	Start 008 and 706	Anonymous
2023-05-30 09:14:15+1000	action	Start 008 and 706	Anonymous
2023-05-30 09:14:58+1000	action	802 started all allocated units running.	Anonymous
2023-05-30 09:15:53+1000	action	all dozers operate in 2nd	Anonymous
2023-05-30 10:11:32+1000	action	610 stop, 109 start	Anonymous
2023-05-30 12:12:39+1000	action	units on crib 11:20ish back 12.210 ish	Anonymous
2023-05-30 12:15:32+1000	action	crane going to 110 digger and 214 started testing.	Anonymous
2023-05-30 16:43:01+1000	action	3.30pm units on crib. Back at 4:20 ish	Anonymous
2023-05-30 16:59:39+1000	action	stop drill.	Anonymous
2023-05-30 17:02:53+1000	action	Start Drill .	Anonymous
2023-05-30 17:05:48+1000	action	stop drill	Anonymous
2023-05-30 17:08:40+1000	action	dozers back to 1st gear	Anonymous
2023-05-30 17:15:39+1000	action	start drill walking	Anonymous
2023-05-30 17:24:30+1000	action	Drill finished for the day	Anonymous
2023-05-30 17:44:20+1000	action	All units shutting down by 6pm.	Anonymous
2023-05-30 20:54:17+1000	action	started graded @ 8:30pm	Anonymous
2023-05-30 22:23:29+1000	action	706 grader parked and shut down	Anonymous
2023-05-31 07:13:22+1000	action	Dr23 started up	Anonymous
2023-05-31 07:14:59+1000	action	110 started up and RDT	Anonymous
2023-05-31 07:23:35+1000	action	216 & RDT ready up\	Anonymous
2023-05-31 09:34:05+1000	action	0900 rdt removed as barrier on drill pattern	Anonymous
2023-05-31 09:36:57+1000	action	0910 bobcat started on blast pattern.	Anonymous
2023-05-31 11:50:29+1000	action	1100 slashing in the nth	Anonymous



# Appendix C Attended Noise Analysis to Determine Mine Spectra Contribution

New Acland Coal – Stage 3 Noise Survey May 2023

New Acland Coal Pty Ltd

SLR Project No.: 620.10963.00350

4 July 2023

Historically, in conducting compliance noise survey's at NAC, SLR has undertaken frequency analysis from representative attended noise measurements where NAC mine noise has been clearly audible (or dominant) to determine those frequencies dominated by NAC contributions and assist in providing a suitable 'filter' for the analysis of the unattended noise logging. These historical attended measurements were typically during the night-time period with low or negligible ambient noise source contribution (ie wind noise, insects, traffic etc).

In-lieu of such attended measurement data being readily available for this May 2023 monitoring period, a frequency analysis was completed on the LAeq,1min one-third spectrums from a number of night-time attended noise measurements associated with the performance monitoring station correlation survey<sup>5</sup> that, via a detailed review of available one-third octave band data and audio recordings, were determined to represent mine dominant periods. A summary of this analysis is contained within Table C1 (Northern Noise Compass) and Table C2 (Acland Noise Compass).

Table C1 Frequency Analysis of Mine Noise – Northern Noise Compass

Logarithmic Sum of Frequency Range (LAeq,1min dBA)				
Total	20 Hz to 1.0 kHz	20 Hz to 630 kHz	Difference – Total to ≤ 1 kHz	Difference – Total to ≤ 630 Hz
41.8	41.5	40.7	0.3	1.1
30.6	29.7	28.5	0.9	2.1
35.3	34.8	34.2	0.5	1.1
37.8	37.5	36.7	0.3	1.1
38.2	37.9	37.3	0.3	0.9
38.3	37.9	37.3	0.4	1.0
34.9	34.6	34.1	0.3	0.8
37.2	37.0	36.5	0.2	0.7
30.1	29.5	28.5	0.6	1.6
30.4	29.9	29.1	0.5	1.3
30.5	29.7	28.8	0.8	1.7
28.5	27.6	26.4	0.9	2.1
29.4	28.6	27.6	0.8	1.8
25.9	24.0	23.0	1.9	2.9
26.6	25.1	24.2	1.5	2.4
27.5	26.1	25.0	1.4	2.5
32.0	31.5	30.4	0.5	1.6
35.3	35.0	34.2	0.3	1.1
39.6	38.9	37.1	0.7	2.5
37.3	36.6	34.9	0.7	2.4
43.6	43.2	41.9	0.4	1.7
Average			0.7	1.6

Note: Numbers have been reported to 1 decimal place to facilitate this frequency analysis discussion.

<sup>5</sup> The analysis undertaken for the performance monitoring station correlation surveys focused on total mine noise versus mine contribution in the range of 100 Hz to 630 Hz one-third octave band as this is the range that the directional components of the performance monitoring stations measure in. The data from these surveys has been reanalysed to cover the filters applicable to this current study (ie the inclusion of one-third octave bands below 100 Hz).



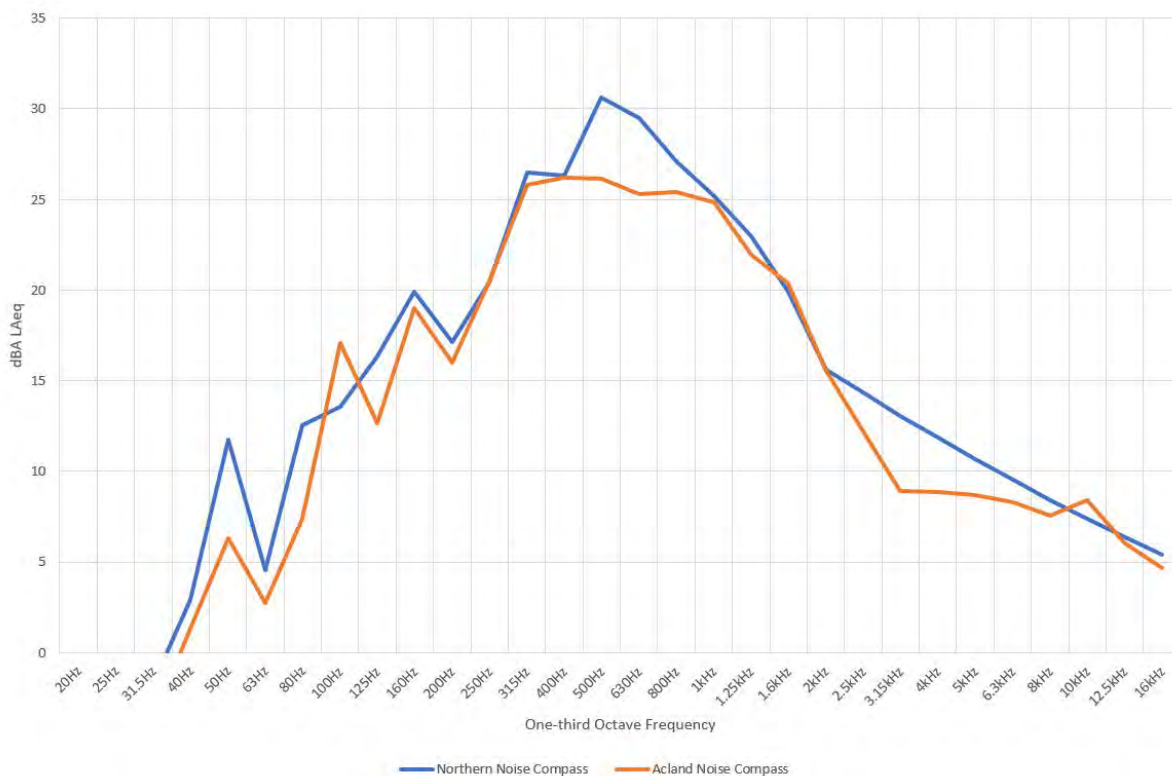
Table C2 Frequency Analysis of Mine Noise – Acland Noise Compass

Logarithmic Sum of Frequency Range (L <sub>Aeq,1min</sub> dBA)				
Total	20 Hz to 1.0 kHz	20 Hz to 630 kHz	Difference – Total to ≤ 1 kHz	Difference – Total to ≤ 630 Hz
33.6	33.1	29.3	0.5	4.3
27.0	26.1	23.3	0.9	3.7
28.6	27.9	24.9	0.7	3.7
28.3	26.9	25.2	1.4	3.1
30.1	29.0	27.0	1.1	3.1
37.5	36.8	34.9	0.7	2.6
33.1	32.7	31.0	0.4	2.1
36.7	35.9	34.5	0.8	2.2
31.1	30.4	28.6	0.7	2.5
30.5	29.8	28.6	0.7	1.9
32.5	31.9	30.3	0.6	2.2
33.6	33.2	30.9	0.4	2.7
33.0	32.5	31.2	0.5	1.8
33.0	32.5	30.7	0.5	2.3
33.9	32.7	30.5	1.2	3.4
34.0	33.4	32.1	0.6	1.9
33.9	32.3	30.9	1.6	3.0
41.0	40.5	39.7	0.5	1.3
33.7	33.0	31.9	0.7	1.8
40.9	40.6	39.6	0.3	1.3
28.2	27.2	26.5	1.0	1.7
30.1	29.3	28.3	0.8	1.8
31.3	30.5	29.2	0.8	2.1
33.6	33.1	31.9	0.5	1.7
34.4	33.7	32.4	0.7	2.0
37.8	37.4	36.0	0.4	1.8
36.1	35.6	34.9	0.5	1.2
30.2	29.5	28.6	0.7	1.6
31.8	31.2	30.4	0.6	1.4
34.7	34.1	33.0	0.6	1.7
Average			0.7	2.3

Note: Numbers have been reported to 1 decimal place to facilitate this frequency analysis discussion.



Figure C1 Frequency Analysis of Mine Noise – Average NAC Attributable Noise Spectrum (LAeq,1min) – Northern Noise Compass and Acland Noise Compass



Through the frequency analysis summarised in Table C1 and Table C2, and the above summation of Figure C1, it was considered that filters at  $\leq 630$  Hz or  $\leq 1$  kHz were suitable to initially filter all the unattended noise data to determine NAC attributable noise.

SLR notes that this current analysis is based on 1-minute LAeq noise levels, however is being applied to 15-minute LAeq noise levels. The range in 1-minute LAeq noise levels are however considered to be representative of the overall LAeq range of NAC attributable noise detected during this May 2023 monitoring round. Further, for generally steady-state mine operations, the 15-minute LAeq noise level would typically be close to the average noise level of the 1-minute LAeq (although with the LAeq being an 'energy equivalent', it becomes elevated above an average noise level where short, high energy events are detected).

To assist this analysis further, the following is noted based on the summaries provided in Table C1 and Table C2:

- There tends to be an inverse relationship between overall mine noise level and correction values for both filters – that is where higher mine components were measured, the corrections were lower, and conversely where lower mine components were measured, the corrections were higher. It is the former that indicates the correction values reported and used for this monitoring period as being conservative – as NAC mine attributable noise levels approach noise levels of 35 dBA and 42 dBA LAeq (ie the NAC mine noise limits), the correction values are typically at or lower than the average correction values used for this monitoring period.
- The correction values utilised in this monitoring period are based on an average of all individual 1-minute values. When all measured mine component noise levels for a compass location are averaged, and differences calculated (ie correction values), they are equal to or 0.1 dB less than the average of individual 1-minute correction values. This is likely due to negligible variations in rounding. However, when all measured mine component noise levels for a compass location are logarithmically-averaged, and differences calculated (ie correction values), the values are 0.1 dB to 0.4 dB lower than the average of individual



1-minute correction values. Therefore the average approach adopted is considered conservative as it results in higher correction values.

- If a 75<sup>th</sup> percentile correction value was to be adopted in-lieu of the currently used average, the  $\leq 630$  Hz correction values would increase by 0.4 dB to 0.5 dB depending on the referenced noise compass data set, while the  $\leq 1$  kHz correction values would be equal to, or increase by 0.1 dB depending on the referenced noise compass data set. With reference to NML1, being the monitoring location with highest NAC mine attributable noise levels detected for this monitoring period, these changes are not considered to materially change the noise levels, nor result in reported noise levels of up to 41 dBA  $L_{Aeq,15min,adj}$  exceeding the 42 dBA  $L_{Aeq,15min,adj}$  noise limit.

The  $\leq 630$  Hz one-third octave band forms the primary filter for all compliance monitoring locations due to mine noise has generally been detectable within this frequency range (or theoretically detectable) noting the distance many location are setback from NAC. The exception is NML1 where both filters have been considered due to the proximity of this location to NAC operations and that mine noise can be clearly measured at contributing noise levels in the frequency range of 800 Hz and 1 kHz and not solely  $\leq 630$  Hz.

In concluding this review, this analysis and associated frequency filter correction values may be reviewed and revised for future monitoring rounds (including when mine operations move to 24-hour operations and rail activities commence), however it is not proposed to reanalyse historical data if and when such conditions change.







# Appendix D Attended Noise Monitoring Summary

New Acland Coal – Stage 3 Noise Survey May 2023

New Acland Coal Pty Ltd

SLR Project No.: 620.10963.00350

4 July 2023

Table D1 Attended Noise Monitoring Results – May 2023

Sensitive Receptor Location	Start Date & Time	Measured Noise Level in dB, 15-min					NAC LAeq, adj 15min <sup>1</sup>	Description of Acoustic Environment
		L <sub>Amax</sub>	L <sub>A1</sub>	L <sub>A10</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>		
NML1	15/05/23 1:45 pm (DL)	57	49	45	37	42	34	NAC audible (haul truck engine/exhaust noise). Below noise levels contained in EA Schedule F - Table F1. Wind ENE at 2.5 m/s. Bird song. Gusts and tree movement causing noise up to 50 dBA.
	17/05/23 7:00 am (DL)	60	51	43	30	40	26	NAC audible (haul truck engine/exhaust noise). Below noise levels contained in EA Schedule F - Table F1. Calm wind conditions. Constant bird song, rooster from 630 Hz and up.
	18/05/23 7:45 am (BH)	62	54	44	35	43	35	NAC audible and dominant from 63-630 Hz frequency range (Dozer movement and haul truck). Below noise levels contained in EA Schedule F - Table F1. Bird song and constant rooster calls dominant. Propellor plane audible for 2 minute flyover event.
NML4	16/05/23 4:00 pm (BH)	67	55	53	46	50	<25	NAC occasionally audible in 63 – 125 Hz frequency bands (engine noise from haul trucks). Below noise levels contained in EA Schedule F - Table F1. Wind in trees, insects and birdsong dominant. Wind 3.5m/s SSW
	17/05/23 7:00 am (BH)	69	58	49	35	46	<25	NAC audible for brief 20 second period in 160-250 Hz frequency range. Below noise levels contained in EA Schedule F - Table F1. Birdsong dominant and constant RTN from Oakey-Cooyar Road (including low frequency trailer rumble) also audible.



Sensitive Receptor Location	Start Date & Time	Measured Noise Level in dB, 15-min					NAC LAeq, adj 15min <sup>1</sup>	Description of Acoustic Environment
		L <sub>Amax</sub>	L <sub>A1</sub>	L <sub>A10</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>		
								Intermittent cow calls audible.
	17/05/23 9:15 am (BH)	55	48	43	32	39	31	NAC audible for duration of measurement – steady state engine noise 63-630 Hz frequency range (haul trucks). Below noise levels contained in EA Schedule F - Table F1. Birdsong dominant. Intermittent dogs barking and helicopter flyover dominant for 2 minutes.
NML8	16/05/23 4:45 pm (BH)	68	60	51	32	48	<20	NAC audible for brief 20 second period in 100-500 Hz frequency range. Below noise levels contained in EA Schedule F - Table F1. RTN on Oakey-Cooyar Road dominant. Birdsong audible (constant). Intermittent broadband mechanical noise from pump audible for approximately 2 minutes in total. Wind 2 m/s, south
	17/05/23 7:30 am (BH)	61	58	51	35	47	33	NAC audible for brief periods between car passby events in 80 Hz to 800 Hz frequency range. Below noise levels contained in EA Schedule F - Table F1. RTN on Oakey-Cooyar Road dominant (including low frequency trailer rumble). Birdsong audible for duration of measurement.
	17/05/23 8:30 am (BH)	64	58	51	35	47	30	NAC audible for brief periods between car pass by events in 80 Hz to 630 Hz frequency range (Dozer and haul trucks). Below noise levels contained in EA Schedule F - Table F1. RTN on Oakey-Cooyar Road dominant (including low frequency trailer rumble).



Sensitive Receptor Location	Start Date & Time	Measured Noise Level in dB, 15-min					NAC LAeq, adj 15min <sup>1</sup>	Description of Acoustic Environment
		L <sub>Amax</sub>	L <sub>A1</sub>	L <sub>A10</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>		
								Plane flyover audible for 1 minute. Birdsong and resident in driveway audible.
NML10	15/05/23 10:30 am (DL)	74	53	50	39	47	Mine noise inaudible	NAC inaudible. Wind E at 3 m/s. Bird song, traffic noise (local Truck and car passby on Oakey Cooyar Road). Gusts and tree movement causing noise up to 52 dBA.
	17/05/23 8:00 am (BH)	68	58	48	37	46	33	NAC intermittently audible 80 – 250 Hz frequency range (Dozer and haul trucks). Below noise levels contained in EA Schedule F - Table F1. RTN on Oakey-Cooyar Road and Cockatoo calls co-dominant. Trailer rumble from trucks on Oakey-Cooyar road audible.
	17/05/23 10:00 am (BH)	71	55	48	35	45	<25	NAC just audible for brief 20 second period (haul trucks). Below noise levels contained in EA Schedule F - Table F1. Birds and RTN from Oakey-Cooyar Road dominant. Resident on motorbike audible for 2 minutes. Intermittent dog shaking collar and moving. Helicopter audible for 1 minute.
NML11	17/05/23 12:15 pm (BH)	65	53	47	30	44	Mine noise inaudible	NAC inaudible. Tractor in farm yard dominant first half of measurement. Intermittent cow bellows, RTN on Oakey-Cooyar Road and mulcher in APC land also audible. Plane flyover audible for 2 minutes.
	17/05/23 2:00 pm (BH)	74	48	42	31	43	Mine noise inaudible	NAC inaudible. RTN on Oakey-Cooyar Road dominant (including loud trucks accelerating uphill and trailer rumble).



Sensitive Receptor Location	Start Date & Time	Measured Noise Level in dB, 15-min					NAC LAeq, adj 15min <sup>1</sup>	Description of Acoustic Environment
		L <sub>Amax</sub>	L <sub>A1</sub>	L <sub>A10</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>		
								Intermittent cow bellows and dogs barking also audible. APC mulcher audible.
	18/05/23 9:15 am (BH)	59	51	45	33	42	Mine noise inaudible	NAC inaudible. RTN audible from Oakey-Cooyar Road, including low frequency trailer rumble from trucks. Constant cow bellows and intermittent dog barks dominate. Birds audible.
NML15	16/05/23 5:15 pm (DL)	47	44	40	34	38	Mine noise inaudible	NAC inaudible. Below noise levels contained in EA Schedule F - Table F1. Wind SW at 1 m/s. Bird song and insect noise. Traffic noise from Oakey Cooyar Rd @ 500 Hz and above.
	17/05/23 10:45 am (DL)	55	44	37	28	34	Mine noise inaudible	NAC inaudible. Calm wind conditions. Bird song and insect noise. Traffic noise from Oakey Cooyar Rd @ 500hz and above Constant noise from circling helicopters moving north, and east to south. Dominant in similar frequencies to NAC noise (31.5 Hz to 200 Hz).
	17/05/23 1:00 pm (DL)	57	42	34	28	33	26	NAC just audible (haul truck engine/exhaust noise). Below noise levels contained in EA Schedule F - Table F1. Calm wind conditions. Bird song and insect noise. Traffic noise from Oakey Cooyar Rd @ 500 Hz and above No helicopter movements.
NML16	15/05/23 11:45 am (DL)	63	53	48	39	45	Mine noise inaudible	NAC inaudible. Wind E at 3 m/s. Bird song, traffic noise (local Truck and car passby on Oakey Cooyar Road).



Sensitive Receptor Location	Start Date & Time	Measured Noise Level in dB, 15-min					NAC LAeq, adj 15min <sup>1</sup>	Description of Acoustic Environment
		L <sub>Amax</sub>	L <sub>A1</sub>	L <sub>A10</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>		
								Aircraft Passover at 11:57:20.
	17/05/23 10:15 am (DL)	60	45	38	30	36	Mine noise inaudible	NAC inaudible. Calm wind conditions. Bird song, traffic noise (local Truck and car passby on Oakey Cooyar Road). Constant noise from Oakey Air Base to the south. Dominant in similar frequencies to NAC noise (31.5 Hz to 200 Hz).
	17/05/23 11:15 am (DL)	77	68	50	26	53	Mine noise inaudible	NAC inaudible. Calm wind conditions. Bird song, traffic noise (local Truck and car passby on Oakey Cooyar Road). Constant noise from aviation centre to south. Dominant in similar frequencies to NAC noise (31.5 Hz to 200 Hz).
NML18	15/05/23 12:45 pm (DL)	53	47	41	35	39	Mine noise inaudible	NAC inaudible. Wind ENE at 3.5 m/s. Bird song, traffic noise (local Truck and car passby on Oakey Cooyar Road). Strong winds and tree movement causing regular broadband noise.
	17/05/23 9:45 am (DL)	77	72	49	39	56	Mine noise inaudible	NAC inaudible. Calm wind conditions. Bird song, traffic noise (local Truck and car passby on Oakey Cooyar Road). Constant noise from aviation centre to south. Dominant in similar frequencies to NAC noise (31.5 Hz to 200 Hz).
	17/05/23 11:45 am (DL)	88	70	44	27	63	Mine noise inaudible	NAC inaudible. Calm wind conditions. Bird song, traffic noise (local Truck and car passby on Oakey Cooyar Road). Constant noise from aviation centre to south. Dominant in similar frequencies to NAC noise (31.5 Hz to 200 Hz).



Sensitive Receptor Location	Start Date & Time	Measured Noise Level in dB, 15-min					NAC LAeq, adj 15min <sup>1</sup>	Description of Acoustic Environment
		L <sub>Amax</sub>	L <sub>A1</sub>	L <sub>A10</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>		
NML34	17/05/23 7:30 am (DL)	67	59	46	35	46	Mine noise inaudible	NAC inaudible. Distant RTN, constant insects and birds dominate background noise sources.
	17/05/23 8:30 am (DL)	57	50	42	33	40	Mine noise inaudible	NAC inaudible. Distant RTN, constant insects and birds dominate background noise sources. Constant quarry (Jondaryan Quarry) operational from the south west noise, dominant in low frequencies 60 Hz to 200 Hz.
	17/05/23 4:00 pm (DL)	63	48	42	32	39	Mine noise inaudible	NAC inaudible. Distant RTN and constant Pidgeon calls dominant. Insects audible above 4 kHz. Plane flyover dominant for 2 minutes, helicopter in distance audible for 3 minutes.
NML35	17/05/23 10:45 am (BH)	67	40	34	26	33	Mine noise inaudible	NAC inaudible. Bird song dominant. Distant helicopter movement audible for duration of measurement.
	17/05/23 2:45 pm (BH)	69	46	45	30	42	Mine noise inaudible	NAC inaudible. Insects and bird song dominant. Distant helicopter movement audible for duration of measurement. RTN audible intermittently (Jondaryan Nungil Road).
	18/05/23 7:15 am (BH)	53	48	42	30	38	<20	NAC just audible for 10 seconds in 80 Hz frequency band <20 dBA. Below noise levels contained in EA Schedule F - Table F1. RTN on Jondaryan Nungil Road audible for duration of measurement (including trailer rumble from trucks). Birds dominant. Occasional creaks from roof.



Sensitive Receptor Location	Start Date & Time	Measured Noise Level in dB, 15-min					NAC LAeq, adj 15min <sup>1</sup>	Description of Acoustic Environment
		L <sub>Amax</sub>	L <sub>A1</sub>	L <sub>A10</sub>	L <sub>A90</sub>	L <sub>Aeq</sub>		
NML38	17/05/23 11:15 am (BH)	67	52	40	26	39	Mine noise inaudible	NAC inaudible. Cows calling and intermittent car pass by events dominant. Jet audible overhead for 90 seconds. Movement from tractor in nearby paddock audible.
	17/05/23 3:15 pm (BH)	63	44	36	26	34	Mine noise inaudible	NAC inaudible. Car idling nearby during first minute. Bird song and intermittent cow bellows audible. Helicopter flyover dominant for 2 minutes.
	18/05/23 8:15 am (BH)	66	56	48	29	44	Mine noise inaudible	NAC inaudible. RTN on Jondaryan Nungil Road audible. Constant crow bellows dominate. Propeller plane flyover audible for 2 minutes.
Background Location	17/05/23 1:00 pm (BH)	66	55	39	27	42	Mine noise inaudible	NAC inaudible. Steady-state RTN on Oakey-Cooyar Road, insects and bird song audible. Several helicopter flyover events dominant.
	17/05/23 1:15 pm (BH)	85	76	54	30	62	Mine noise inaudible	NAC inaudible. Steady-state RTN on Oakey-Cooyar Road, insects and bird song audible. Several helicopter flyover events dominant (include 1x directly overhead).
	18/05/23 10:15 am (BH)	52	43	36	26	33	Mine noise inaudible	NAC inaudible. Steady state RTN on Oakey Cooyar Road audible. Insects and bird song dominant. Helicopters taxing at airbase audible for 5 minutes.

Note 1: This represents the corrected LAeq attributable to NAC noise including any corrections as noted. Where NAC was inaudible, a 'N/A' is noted in this cell.







# Appendix E Unattended Noise Monitoring Summary

New Acland Coal – Stage 3 Noise Survey May 2023

New Acland Coal Pty Ltd

SLR Project No.: 620.10963.00350

4 July 2023













End Time	Unit	Location	Logger	Main Section Data									Data Section 10 Station																																																																																																																																																																											
				Wind Speed (m/s)	Wind Dir (deg)	Battail level	Temp (C)	Humidity (%)	Rain (mm)	Lat	Lon	Alt (m)	Speed (m/s)	Dir (deg)																																																																																																																																																																										
				Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon																																																																																																																																																															
2025-02-20 18:30	WMA	WMAAN-FF-2896093	14	227	0	18	43	73	74	81	58	31	45	48	12	18	16	20	22	27	19	24	26	28	30	35	37	38	41	45	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
2025-02-20 18:30	WMA	WMAAN-FF-2896093	14	227	0	18	43	73	74	81	58	31	45	48	12	18	16	20	22	27	19	24	26	28	30	35	37	38	41	45	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
2025-02-20 18:30	WMA	WMAAN-FF-2896093	14	227	0	18	43	73	74	81	58	31	45	48	12	18	16	20	22	27	19	24	26	28	30	35	37	38	41	45	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200













































End Time	View Period	Location	Cage	Wind Weather Data				Sea Temperature Distribution Data												Current Direction	Avg. tSST (m)	Avg. tSST (m) (incl. +2.5 dB correction)	Sea Location (1/2 Grid)																											
				Wind Speed (km/h)	Wind Direction	Waves (cm)	Waves (%)	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon				Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon	Lat	Lon														
23-05-2023 15:45	Day	NMS 16	SIWAS 077 SW 000205	4.3	235	0	22	270	74	80	24	68	58	37	28	25	65	34	13	5	10	25	34	37	36	33	30	28	26	24	22	20	18	16	14	12	10	8	6											
23-05-2023 16:00	Day	NMS 16	SIWAS 077 SW 000205	4.2	235	0	22	270	77	77	22	69	59	38	29	27	63	34	13	5	10	25	34	37	36	33	30	28	26	24	22	20	18	16	14	12	10	8	6											
23-05-2023 16:15	Day	NMS 16	SIWAS 077 SW 000205	4.4	235	0	21	268	82	85	23	74	63	43	33	28	65	35	14	6	11	26	35	38	37	34	31	29	27	25	23	21	19	17	15	13	11	9	7											
23-05-2023 16:30	Day	NMS 16	SIWAS 077 SW 000205	4.3	235	0	21	270	80	80	24	70	60	40	30	28	68	35	14	6	11	26	35	38	37	34	31	29	27	25	23	21	19	17	15	13	11	9	7											
23-05-2023 16:45	Day	NMS 16	SIWAS 077 SW 000205	3.3	238	0	21	268	85	88	20	68	43	48	33	31	63	36	15	7	12	27	36	39	38	35	32	30	28	26	24	22	20	18	16	14	12	10	8	6										
23-05-2023 16:55	Day	NMS 16	SIWAS 077 SW 000205	4.1	235	0	21	268	82	85	20	68	44	48	33	31	65	36	15	7	12	27	36	39	38	35	32	30	28	26	24	22	20	18	16	14	12	10	8	6										
23-05-2023 17:15	Day	NMS 16	SIWAS 077 SW 000205	4.1	235	0	18	270	85	85	20	67	43	38	33	29	64	37	16	8	13	28	37	40	39	36	33	31	29	27	25	23	21	19	17	15	13	11	9	7										
23-05-2023 17:30	Day	NMS 16	SIWAS 077 SW 000205	2.5	233	0	18	270	83	84	21	64	40	38	33	28	62	38	17	9	14	29	38	41	40	37	34	32	30	28	26	24	22	20	18	16	14	12	10	8	6									
23-05-2023 17:45	Day	NMS 16	SIWAS 077 SW 000205	2.3	235	0	18	270	82	83	21	64	40	38	33	28	62	38	17	9	14	29	38	41	40	37	34	32	30	28	26	24	22	20	18	16	14	12	10	8	6									
23-05-2023 18:00	Day	NMS 16	SIWAS 077 SW 000205	2.3	234	0	16	270	85	85	20	58	45	47	41	40	60	40	18	10	15	30	39	42	41	38	35	33	31	29	27	25	23	21	19	17	15	13	11	9	7									
23-05-2023 18:15	Day	NMS 16	SIWAS 077 SW 000205	0.9	232	0	16	270	83	84	20	58	37	41	40	38	61	41	19	11	16	31	40	43	42	39	36	34	32	30	28	26	24	22	20	18	16	14	12	10	8									
23-05-2023 18:30	Evening	NMS 16	SIWAS 077 SW 000205	2.3	244	0	15	270	83	83	20	58	41	40	40	41	61	41	19	11	16	31	40	43	42	39	36	34	32	30	28	26	24	22	20	18	16	14	12	10	8									

Table with columns: End Time, Time Period, Location, Logger, Mine Weather Data (Wind Speed, Wind Direction, Rainfall, Temp, Humidity), Raw 15-minute Statistical Data (Lmax, L10, LAeq, etc.), Logsum LAeq, Raw LAeq 15min 1/3 Spectrum (20Hz to 16kHz), and Comments (dominant/notes/worthy sources).











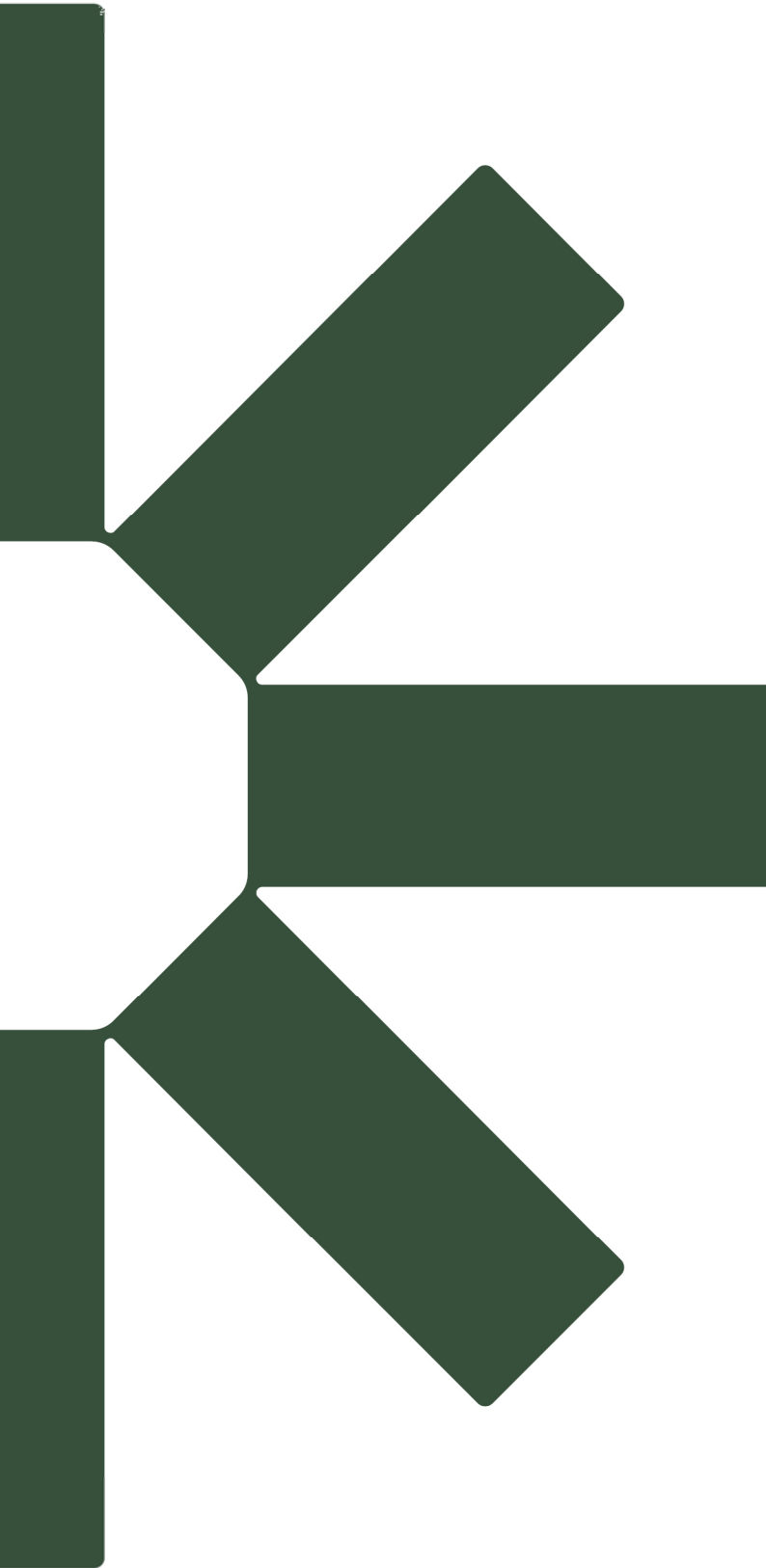












Making Sustainability Happen

30 June 2023

New Acland Coal Pty Ltd  
Level 16/175 Eagle Street  
Brisbane City QLD 4000  
MDugmore@newhopegroup.com.au

Attention: Marnie Dugmore

**Re: New Acland Coal Mine – Stage 3: May 2023 Noise Report – Independent Peer Review**

AARC Environmental Solutions Pty Ltd (AARC) has been commissioned by New Acland Coal Pty Ltd (NAC), part of the New Hope Group, to undertake a peer review of the monthly compliance noise monitoring reports for New Acland Coal Mine Stage 3.

### Introduction

The noise monitoring and monthly reports are to be undertaken and prepared by SLR Consulting Australia Pty Ltd (SLR) as per Environmental Authority (EA) EPML00335713 Conditions F4, F6 and Table F2. The EA refers to a noise monitoring program which is included in the NAC Noise and Vibration Management Plan (NVMP) (27/04/2023, Version 0, and labelled draft).

EA Condition F12(g) indicates that the monthly compliance report is subject to a peer review, and Condition F13 includes the following related requirement:

*The environmental authority holder must, at their own cost, appoint an independent acoustic consultant to review the monthly noise report format for a twelve (12) month period following the commencement of reporting.*

*The monthly reports must be submitted to the administering authority.*

*The monthly reports must be produced to present information from noise monitoring in a manner that is clear, open and unambiguous.*

The independent/peer review requirement is also included in Section 6.3 of the NVMP as follows:

*In accordance with EA Condition F13, for the first 12 months of the Stage 3 Mine, the monthly Compliance Noise Monitoring Report must be reviewed by an appropriately-qualified independent acoustic consultant. This independent acoustic consultant must prepare their own (independent) report/memorandum, within two weeks of receiving the draft report, stating the process they have used to review the noise monitoring, analysis and findings and their acceptance (or otherwise) of the monthly noise monitoring report.*

### Review history

The first monthly report addresses noise monitoring in May 2023 and was provided to AARC for review on 20/06/2023. AARC provided a review of that report to SLR and NAC on 23/06/2023. A revised report was subsequently provided to AARC on 30/06/2023. Brief comments on the revised report were provided to SLR on 30/06/2023.

The purpose of this report is to provide a peer review of the May 2023 SLR report (ref: 620.10963.00350, Revision: 0.1, dated 16/06/2023, revised 30/06/2023).



## Review

The following review comments are provided on the basis of the SLR report, a Teams meeting where SLR demonstrated the spreadsheets associated with the analysis, and discussions between AARC and SLR regarding the report and methodology.

The process that SLR has used to determine mine noise levels from the attended and unattended noise measurements is considered to be appropriate in that extraneous noise was considered to be removed to an acceptable standard.

It is noted that during the May 2023 monitoring period, there were only brief periods when mining activities occurred outside of daytime hours (7am to 6pm). Compliance is often more difficult in the evening and night, when noise limits reduce and when mine noise levels can be higher at residences due to meteorological conditions that favour noise propagation. Therefore, it is expected that compliance will be more challenging in future reporting months when the mine operates 24 hour/day.

It is also noted that there were no rail activities during this monitoring period, and therefore the rail noise limits in the EA did not require consideration.

It is not clear to this author if the  $L_{Amax}$  night-time noise limit within the EA, applied to mining noise, is intended to refer to the overall maximum noise level in a 30 minute period, or, an average maximum noise level over the 30 minute period. The SLR report assumes the former and that is a more conservative approach (i.e. more stringent) and is acceptable for this report. It is not critical to this report given the limited night-time mining activities in May.

However, the intent of the criterion should be considered further for future reporting. The following definitions are considered:

- 1) The definitions section of the EA defines  $L_{Amax}$  as the maximum level over a time period of not less than 15 minutes.
- 2) Section F6 of the EA refers to maximum ( $L_{Amax}$ ) noise levels – night (for a minimum of 30 min).
- 3) Section F6 of the EA also indicates that compliance monitoring must be in accordance with the administering authority's Noise Measurement Manual (NMM). The current NMM only defines  $L_{Amax,T}$ , which is to be "obtained by using 'fast' time response and arithmetically averaging the visual maximum levels of the noise under investigation". The NMM then shows a graph where the  $L_{max}$  is the overall maximum level, rather than an average.
- 4) The Coordinator-General's change report No. 4 – amendment to stated conditions following Land Court (2021) proceedings, dated May 2022, defines  $L_{Amax}$  as: means the maximum A-weighted sound pressure level measured over a time period of not less than 15 minutes, using Fast response.
- 5) Note 2: The Coordinator-General's evaluation report on the environmental impact statement, dated December 2014, defines  $L_{Amax}$  as: the maximum average A-weighted sound pressure measured over a specified period of time.

It is understood that conversations are ongoing regarding the intent of the  $L_{Amax}$  criterion. In the absence of knowing the intended approach, the current approach to applying the overall maximum is acceptable as it is the more conservative of the two options.

The SLR report concludes that noise levels during the May 2023 monitoring period were compliant with the NAC's EA. Upon review of the SLR report, AARC agree with this conclusion.

## Summary

Overall, AARC accept the May 2023 SLR report as being in accordance with the EA, and agree with the conclusion of the SLR report that NAC mine noise levels during the May 2023 monitoring period were compliant with the NAC EA.

The author of this review is Stephen Pugh, an Acoustic Engineer with over 25 years acoustics experience including in environmental and mine noise and vibration matters.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Stephen Pugh', with a stylized, flowing script.

Stephen Pugh  
Principal Engineer



## CERTIFICATE OF ANALYSIS

**Work Order** : **EN2305804**  
**Client** : **NEW HOPE CORPORATION LIMITED**  
**Contact** : REBECCA MURPHY  
**Address** : MULDU ROAD  
ACLAND QLD, AUSTRALIA 4401  
**Telephone** : ----  
**Project** : Routine dust deposition analysis - May 2023  
**Order number** : 4535895  
**C-O-C number** : ----  
**Sampler** : REBECCA MURPHY  
**Site** : ----  
**Quote number** : BN/356/17 V3  
**No. of samples received** : 27  
**No. of samples analysed** : 27

**Page** : 1 of 8  
**Laboratory** : Environmental Division Newcastle  
**Contact** :  
**Address** : 5/585 Maitland Road Mayfield West NSW Australia 2304  
**Telephone** : +61 2 4014 2500  
**Date Samples Received** : 06-Jun-2023 13:00  
**Date Analysis Commenced** : 15-Jun-2023  
**Issue Date** : 20-Jun-2023 17:13



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

### Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW



## General Comments

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

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.  
LOR = Limit of reporting  
^ = This result is computed from individual analyte detections at or above the level of reporting  
ø = ALS is not NATA accredited for these tests.  
~ = Indicates an estimated value.

- EA119: Visual Analysis of Dusts key to Descriptions;

EA119: Mineral Matter/Dirt - Subhedral to euhedral crystalline grains including fine sand, clay and other fine mineral particulates.

EA119: Coal - Black sharp angled grains with glossy conchoidal fractures or dull with cellular features.

EA119: Insects - Whole insects such as spiders, ants, moths or outer parts of insects including wings, legs and exoskeletons.

EA119: Vegetation - Plant debris and algae including trichomes, decomposed organic matter and charred particulates showing characteristic cellular plant structures.

EA119: Polysaccharide Slime - Slimy gelatinous material including decomposed soft body parts of insects and vegetation.

EA119: Copper Sludge - Blue to blue-green subhedral to euhedral crystalline salts characteristic of Copper salts, commonly precipitated from the copper sulphate algacide solution.

EA119: Sand - pale, yellowish brown loose granular substance resulting from the erosion of siliceous and other rocks.

- Analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in mg/m<sup>2</sup>.day as sampling data was provided by the client.
- No copper sulfate correction was applied to sample(s) 002-005, 009-013, 015, 016, 018, 020, 021, 024, 027
- EA119: Visual analysis of Dusts is not covered under the ALS scope of NATA accreditation. Percentages are based on the average estimated coverage of each identified component and are semi-quantitative only
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.



### Analytical Results

Sub-Matrix: DEPOSITIONAL DUST  
 (Matrix: AIR)

Sample ID

			AD02 24/04/23 - 25/05/23	AD10 24/04/23 - 25/05/23	AD11 24/04/23 - 25/05/23	AD14 24/04/23 - 25/05/23	AD18 24/04/23 - 25/05/23	
Sampling date / time			25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	
Compound	CAS Number	LOR	Unit	EN2305804-001	EN2305804-002	EN2305804-003	EN2305804-004	EN2305804-005
				Result	Result	Result	Result	Result
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	3	mg/m <sup>2</sup> /day(30)	90	10	140	63	3
Total Insoluble Matter (mg)	----	2	mg	50	6	77	35	2



### Analytical Results

Sub-Matrix: DEPOSITIONAL DUST  
 (Matrix: AIR)

Sample ID

			AD21 24/04/23 - 25/05/23	AD22 24/04/23 - 25/05/23	AD23 24/04/23 - 25/05/23	AD24 24/04/23 - 25/05/23	AD26 24/04/23 - 25/05/23	
Sampling date / time			25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	
Compound	CAS Number	LOR	Unit	EN2305804-006	EN2305804-007	EN2305804-008	EN2305804-009	EN2305804-010
				Result	Result	Result	Result	Result
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	3	mg/m2/day(30)	17	30	1590	40	7
Total Insoluble Matter (mg)	----	2	mg	10	16	872	22	3



### Analytical Results

Sub-Matrix: DEPOSITIONAL DUST  
 (Matrix: AIR)

Sample ID

			AD30 24/04/23 - 25/05/23	AD31 24/04/23 - 25/05/23	AD38 24/04/23 - 25/05/23	AD40 24/04/23 - 25/05/23	AD41 24/04/23 - 25/05/23	
Sampling date / time			25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	
Compound	CAS Number	LOR	Unit	EN2305804-011	EN2305804-012	EN2305804-013	EN2305804-014	EN2305804-015
				Result	Result	Result	Result	Result
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	3	mg/m <sup>2</sup> /day(30)	20	33	30	20	7
Total Insoluble Matter (mg)	----	2	mg	11	18	17	11	4



## Analytical Results

Sub-Matrix: DEPOSITIONAL DUST  
 (Matrix: AIR)

Sample ID

				AD43 24/04/23 - 25/05/23	AD03 24/04/23 - 25/05/23	AD04 24/04/23 - 25/05/23	AD16 24/04/23 - 25/05/23	AD27 24/04/23 - 25/05/23
Sampling date / time				25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00
Compound	CAS Number	LOR	Unit	EN2305804-016	EN2305804-017	EN2305804-018	EN2305804-019	EN2305804-020
				Result	Result	Result	Result	Result
<b>EA119: Visual Analysis of Dusts</b>								
∅ Deposition	----	5	-	----	Trace	Trace	Trace	Very Light
∅ Dirt	----	5	%	----	30	30	40	10
∅ Coal	----	5	%	----	30	20	30	10
∅ Insects	----	5	%	----	30	40	30	20
∅ Vegetation	----	5	%	----	<5	<5	<5	40
∅ Polysaccharide Slime	----	5	%	----	10	10	----	20
<b>EA120: Ash Content</b>								
Ash Content	----	3	mg/m2/day(30)	----	3	3	3	23
Ash Content (mg)	----	2	mg	----	2	2	2	13
<b>EA125: Combustible Matter</b>								
Combustible Matter	----	3	mg/m2/day(30)	----	<3	<3	<3	7
Combustible Matter (mg)	----	2	mg	----	<2	<2	<2	3
<b>EA139: Total Soluble Matter</b>								
Total Soluble Matter	----	3	mg/m2/day(30)	----	<3	76	<3	76
Total Soluble Matter (mg)	----	2	mg	----	<2	42	<2	42
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	3	mg/m2/day(30)	3	3	3	3	30
Total Insoluble Matter (mg)	----	2	mg	2	2	2	2	16
<b>EA142: Total Solids</b>								
Total Solids	----	3	mg/m2/day(30)	----	3	80	3	106
Total Solids (mg)	----	2	mg	----	2	44	2	58





## Analytical Results

Sub-Matrix: DEPOSITIONAL DUST  
 (Matrix: AIR)

Sample ID

				AD28 24/04/23 - 25/05/23	AD29 24/04/23 - 25/05/23	AD33 24/04/23 - 25/05/23	AD35 24/04/23 - 25/05/23	AD36 24/04/23 - 25/05/23
Sampling date / time				25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00
Compound	CAS Number	LOR	Unit	EN2305804-021	EN2305804-022	EN2305804-023	EN2305804-024	EN2305804-025
				Result	Result	Result	Result	Result
<b>EA119: Visual Analysis of Dusts</b>								
∅ Deposition	----	5	-	Trace	Trace	Very Light	Trace	Trace
∅ Dirt	----	5	%	30	40	30	30	25
∅ Coal	----	5	%	20	20	25	40	25
∅ Insects	----	5	%	30	40	40	30	30
∅ Vegetation	----	5	%	<5	<5	<5	<5	<5
∅ Polysaccharide Slime	----	5	%	20	----	5	----	20
<b>EA120: Ash Content</b>								
Ash Content	----	3	mg/m2/day(30)	17	3	10	10	3
Ash Content (mg)	----	2	mg	9	2	6	6	2
<b>EA125: Combustible Matter</b>								
Combustible Matter	----	3	mg/m2/day(30)	7	3	10	3	7
Combustible Matter (mg)	----	2	mg	3	2	5	2	4
<b>EA139: Total Soluble Matter</b>								
Total Soluble Matter	----	3	mg/m2/day(30)	86	<3	10	73	<3
Total Soluble Matter (mg)	----	2	mg	47	<2	6	40	<2
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	3	mg/m2/day(30)	23	7	20	13	10
Total Insoluble Matter (mg)	----	2	mg	12	4	11	8	6
<b>EA142: Total Solids</b>								
Total Solids	----	3	mg/m2/day(30)	110	7	30	86	10
Total Solids (mg)	----	2	mg	59	4	17	48	6



## Analytical Results

Sub-Matrix: DEPOSITIONAL DUST  
 (Matrix: AIR)

Sample ID

			AD37 24/04/23 - 25/05/23	AD44 24/04/23 - 25/05/23	----	----	----	
Sampling date / time			25-May-2023 00:00	25-May-2023 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	EN2305804-026	EN2305804-027	-----	-----	-----
				Result	Result	----	----	----
<b>EA119: Visual Analysis of Dusts</b>								
∅ Deposition	----	5	-	Medium	Trace	----	----	----
∅ Dirt	----	5	%	10	20	----	----	----
∅ Coal	----	5	%	20	20	----	----	----
∅ Insects	----	5	%	20	60	----	----	----
∅ Vegetation	----	5	%	<5	<5	----	----	----
∅ Polysaccharide Slime	----	5	%	50	----	----	----	----
<b>EA120: Ash Content</b>								
Ash Content	----	3	mg/m2/day(30)	43	7	----	----	----
Ash Content (mg)	----	2	mg	23	3	----	----	----
<b>EA125: Combustible Matter</b>								
Combustible Matter	----	3	mg/m2/day(30)	50	3	----	----	----
Combustible Matter (mg)	----	2	mg	28	3	----	----	----
<b>EA139: Total Soluble Matter</b>								
Total Soluble Matter	----	3	mg/m2/day(30)	10	100	----	----	----
Total Soluble Matter (mg)	----	2	mg	5	54	----	----	----
<b>EA141: Total Insoluble Matter</b>								
Total Insoluble Matter	----	3	mg/m2/day(30)	93	10	----	----	----
Total Insoluble Matter (mg)	----	2	mg	51	6	----	----	----
<b>EA142: Total Solids</b>								
Total Solids	----	3	mg/m2/day(30)	103	110	----	----	----
Total Solids (mg)	----	2	mg	56	60	----	----	----

## Appendix 4 – Extracted Conditions

Table 7: Regulatory conditions and requirements referred to in report.

Condition	Report section
<b>Environmental Authority</b>	
Air Quality	
<p>(B2) All air quality indicators listed in <b>Table B1 – Air quality monitoring requirements</b><sup>4</sup>, must be monitoring at the locations and at the frequency listed in <b>Table B1 – Air quality monitoring requirements</b> in accordance with the following methodologies:</p> <p>a) For dust deposition of 120 milligrams per square metre per day, averaged over 1-month, when monitored in accordance with the most recent version of Standards Australia AS/NZS 350.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method;</p> <p>b) For a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 50 micrograms per cubic metre e over a 24-hour averaging time<sup>1</sup> and 25 micrograms per cubic metre over a 1-year averaging time<sup>1</sup>, when monitored in accordance with the most recent version of either: (i) Standards Australia AS/NZS 3580.9.6 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 high volume sampler with size-selective inlet – Gravimetric method; or (ii) Standards Australia AS/NZS 3580.9.9 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 low volume sampler – Gravimetric method; or (iii) Standards Australia AS 3580.9.8 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 continuous direct mass method using tapered element oscillating microbalance analyser.</p> <p>c) For a concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 24-hour averaging time and 90 micrograms per cubic metre over a 1-year averaging time<sup>1</sup>, when monitored in accordance with the most recent version of AS/NZS 3580.9.3 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total suspended particulate matter (TSP) – High volume sampler gravimetric method.</p> <p>d) For a concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM2.5) suspended in the atmosphere of 25 micrograms per cubic meter over a 24-hour averaging time<sup>1</sup> and 8 micrograms per cubic meter over a 1-year averaging time<sup>1</sup> when monitored in accordance with:</p> <p>(i) The most recent version of Standards Australia AS/NZS 3580.9.12 Methods for sampling and analysis of ambient air, Determination of suspended particulate matter – PM2.5 beta attenuation monitors; or</p>	Sections 2.1, and 3.1

<sup>4</sup> Reproduced as Table 7 in Appendix 5 of this Report.

Condition	Report section
<p>(ii) The most recent version of <i>Standards Australia AS/NZS 3580.9.13 Methods of sampling and analysis of ambient air, Determination of suspended particulate matter – PM2.5 continuous direct mass method using a tapered element oscillating microbalance monitor</i>; or</p> <p>(iii) Another method as agreed to in writing by the administering authority.</p> <p>NOTE: 1 These limits are based upon relevant air quality objectives contained in the Environmental Protection (Air) Policy 2019 and may be automatically amended to reflect any amendment or replacement of the relevant air quality objective in the Environmental Protection (Air) Policy 2019.</p>	
<p>(B8) All continuously monitored parameters required by <b>Table B1 – Air quality monitoring requirements</b> and the forecasting system required by condition <b>B5</b> must be made publicly available online and in real-time, presented:</p> <p>a) Spatially; and</p> <p>b) Real-time rolling over 1-hour average across all sites that can be drilled into for each location to provide:</p> <p>(i) Real-time rolling over 1-hour average data on 24-hour basis;</p> <p>(ii) Links to historical data on one hour basis; and</p> <p>(iii) Links to historical 24-hour data.</p>	<p>Please see the <a href="#">Real-Time Air Quality and Noise Performance Monitoring Data</a> dashboard.</p>
Noise	
<p>(F1) The environmental authority holder must ensure that noise generated by the mining activities does not cause the criteria in <b>Table F1 – Noise Limits (includes construction activities)</b><sup>5</sup> to be exceeded at a noise sensitive place...</p>	<p>Section 3.2</p>
<p>(F3) The environmental authority holder must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in <b>Table F3 – Blasting noise limits</b><sup>6</sup> to be exceeded at a noise sensitive place.</p>	<p>Not applicable to this Report as no blasting was conducted in the period.</p>
<p>(F6) Compliance noise monitoring and recording required by conditions F4, F5, F6, F7 and F8 must be conducted in accordance with the administering authority's Noise Measurement Manual and include the following:</p> <p>a) LA01, adj, 15 min - day, evening &amp; night; LA10, adj, 15 min - day, evening &amp; night; LAeq, adj, 15 min - day, evening &amp; night and LA90, adj, 15 min - day, evening &amp; night;</p> <p>b) background noise LA90;</p> <p>c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels;</p> <p>d) atmospheric conditions including temperature, relative humidity and wind speed and directions;</p>	<p>Sections 2.2 and 3.2</p>

<sup>5</sup> Reproduced as Table 5 in Appendix 5 of this Report.

<sup>6</sup> Reproduced as Table 6 in Appendix 5 of this Report.

Condition	Report section
<p>e) effects due to any extraneous factors such as traffic noise and natural sources (e.g., insects, birds and wind);</p> <p>f) location, date and time of monitoring;</p> <p>g) if a complaint concerns low frequency noise and where permitted by the owner or occupier of the noise sensitive place: LLINeq 10 min (internal), LAeq 10 min (internal) and one third octave band measurements in LLINeq 10 min (internal) for centre frequencies in the 10 – 200 Hz range;</p> <p>h) maximum (LAMax) noise levels – night (for a minimum of 30 min); and</p> <p>i) 1/3 octave band spectrums.</p>	
<p>(F13) The environmental authority holder must, at their own cost, appoint an independent acoustic consultant to review the monthly noise report format for a <b>twelve (12) month</b> period following the commencement of reporting.</p> <p>The monthly reports must be submitted to the administering authority.</p> <p>The monthly reports must be produced to present information from noise monitoring in a manner that is clear, open and unambiguous.</p>	Section 1.3
<p>(F15) The environmental authority holder must develop and implement a blast monitoring program to monitor compliance with <b>Table F3 – Blasting noise limits</b> for:</p> <p>a) At least 90% of all blasts undertaken on this site in each year at the nearest noise sensitive place to the centroid of the blast; and</p> <p>b) All blasts conducted during any time period specified by the administering authority at the nearest noise sensitive place.</p> <p>Results of the blast monitoring program must be included in the monthly compliance monitoring report required by the coordinator-General's imposed condition 3.</p>	Section 3.2.2

## Appendix 5 – Environmental Authority Limits

Table 8: EA Noise Limits (including Construction).

Noise level dBA measured as	All days		
	7am – 6pm	6pm – 10pm	10pm – 7am
Noise measured at a 'Noise sensitive place'			
LAeq,adj,15min <sup>1</sup>	42	35	35
LAmax	-	-	50
LAmax - rail spur <sup>2</sup>	-	-	56
LAeq(24hr) - rail spur <sup>2</sup>	50		

Note:

1. All noise other than that which is distinguishable as train noise
2. Only for noise distinguishable as train noise

Table 9: EA Blasting Noise Limits.

Blasting noise limits	Sensitive place or commercial place blasting noise limits	
	Monday to Friday: 7am to 6pm Saturday: 9am to 1pm	Monday to Friday: 6pm to 7am. Saturday: 1pm to 9am. Sunday. Public Holidays.
Air blast 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 10 mm/second peak particle velocity at any time	No blasting

Table 10: Air quality limits and monitoring requirements

Location*	Air Quality Indicator	Instrument	Frequency	Air Quality Limit	Nuisance Limit
1, 2 (Acland)	PM2.5	TEOM	Continuous	25µg/m3 (24-hr avg) 8µg/m3 (annual)	
	PM10	TEOM	Continuous	50µg/m3 (24-hr avg) 25µg/m3 (annual)	
	TSP	Modified TEOM	Continuous	90µg/m3 (annual)	80µg/m3 (24-hr avg)
	Insoluble solids	Dust Gauge	Monthly	120mg/m2/day	120mg/m2/day
7,8 (or an alternative location to the north of the Stage 3 New Acland mine identified in the Air Emissions Management Plan developed pursuant to condition B4).	PM10	TEOM	Continuous	50µg/m3 (24-hr avg) 25µg/m3 (annual)	
	TSP	Modified TEOM	Continuous	90µg/m3 (annual)	
	Insoluble solids	Dust Gauge	Monthly	120mg/m2/day	
16 (East) Acland-Silverleigh Road	PM10	TEOM	Continuous	50µg/m3 (24-hr avg) 25µg/m3 (annual)	
	TSP	Modified TEOM	Continuous	90µg/m3 (annual)	80µg/m3 (24-hr avg)
	Insoluble solids	Dust Gauge	Monthly	120mg/m2/day	120mg/m2/day
38,39 (or an alternative location to the north-west of the Stage 3 New Acland mine identified in the Air Emissions Management Plan developed in pursuant to condition B4).	PM10	TEOM	Continuous	50µg/m3 (24-hr avg) 25µg/m3 (annual)	
	TSP	Modified TEOM	Continuous	90µg/m3 (annual)	80µg/m3 (24-hr avg)
	Insoluble solids	Dust Gauge	Monthly	120mg/m2/day	120mg/m2/day

15 (East)	PM10	TEOM	Continuous	50µg/m3 (24-hr avg) 25µg/m3 (annual)	
	TSP	Modified TEOM	Continuous	90µg/m3 (annual)	80µg/m3 (24-hr avg)
	Insoluble solids	Dust Gauge	Monthly	120mg/m2/day	120mg/m2/day
35,36 (west of mine site)	PM10	TEOM	Continuous	50µg/m3 (24-hr avg) 25µg/m3 (annual)	
	TSP	Modified TEOM	Continuous	90µg/m3 (annual)	80µg/m3 (24-hr avg)
	Insoluble solids	Dust Gauge	Monthly	120mg/m2/day	120mg/m2/day
37 (West)+ (trend monitoring at 37 or an alternative location to the west of Stage 3 New Acland mine identified in the Air Emissions Management Plan developed pursuant to condition B4).	PM10	TEOM	Continuous	50µg/m3 (24-hr avg) 25µg/m3 (annual)	
	TSP	Modified TEOM	Continuous	90µg/m3 (annual)	80µg/m3 (24-hr avg)
	Insoluble solids	Dust Gauge	Monthly	120mg/m2/day	120mg/m2/day
44 (northwest)+ (trend monitoring at 44 or an alternative location to the north-west of the Stage 3 New Acland mine identified in the Air Emissions Management Plan developed pursuant to condition B4).	PM10	TEOM	Continuous	50µg/m3 (24-hr avg) 25µg/m3 (annual)	
	TSP	Modified TEOM	Continuous	90µg/m3 (annual)	80µg/m3 (24-hr avg)
	Insoluble solids	Dust Gauge	Monthly	120mg/m2/day	120mg/m2/day