

Mount Pleasant Operation Monthly Environmental Monitoring Report

April 2024

1. Introduction

The Mount Pleasant Operation (MPO) is located within Upper Hunter Valley of New South Wales, approximately three kilometres (km) north-west of Muswellbrook and approximately 50 km north-west of Singleton. The villages of Aberdeen and Kayuga are located 12 km north-northeast and 3 km north of the operations, respectively.

The purpose of this report is to provide a monthly update of monitoring data in accordance with the requirements of NSW Environmental Protection Licence (EPL) 20850, Section 66(6) of the *Protection of the Environment Operations Act 1997 (POEO Act)*, the MPO Development Approval (DA 92/97) and the MPO Development Consent (SSD 10418).

Table 1-1 – Mount Pleasant Operation

Name of Operation	Mount Pleasant Operation
Name of Licensee	MACH Energy Australia Pty Ltd
Environmental Protection Licence	20850
Project Approval	DA 92/97 & SSD 10418
Reporting Period Start Date	1 April 2024
Reporting Period End Date	30 April 2024
Date All Data Received	11 June 2024

Links to three key regulatory documents are provided here:

- [MACH Energy Environment Protection Licence EPL 20850; and](#)
- [Mount Pleasant Operation Development Application Approval DA 92/97; and](#)
- [Mount Pleasant Operation Development Consent SSD 10418.](#)

2. Monitoring Requirements

The MPO EPL 20850 specifically requires the monitoring of:

- 2 x Palas Fidas Air Quality Monitoring sites.
- Noise monitoring.
- Blast monitoring; and
- Meteorological monitoring.

Monitoring of sites not required by the EPL are conducted in accordance with *MPO Environmental Monitoring Program (EMP)*, Project Approval (DA 92/97) and Development Consent (SSD 10418).

All monitoring is undertaken by suitably qualified and experienced person(s). The MPO Environmental Monitoring Network is shown in the following figures:

- **Figure 2-1** shows MPO attended noise monitoring locations and Noise Assessment Groups (NAGs).
- **Figure 2-2** shows the MPO Air Quality Monitoring network.
- **Figure 2-3** shows the MPO Blast Monitoring Locations.
- **Figure 2-4** shows the MPO Groundwater Monitoring network; and
- **Figure 2-5** shows the MPO Surface Water Monitoring network.

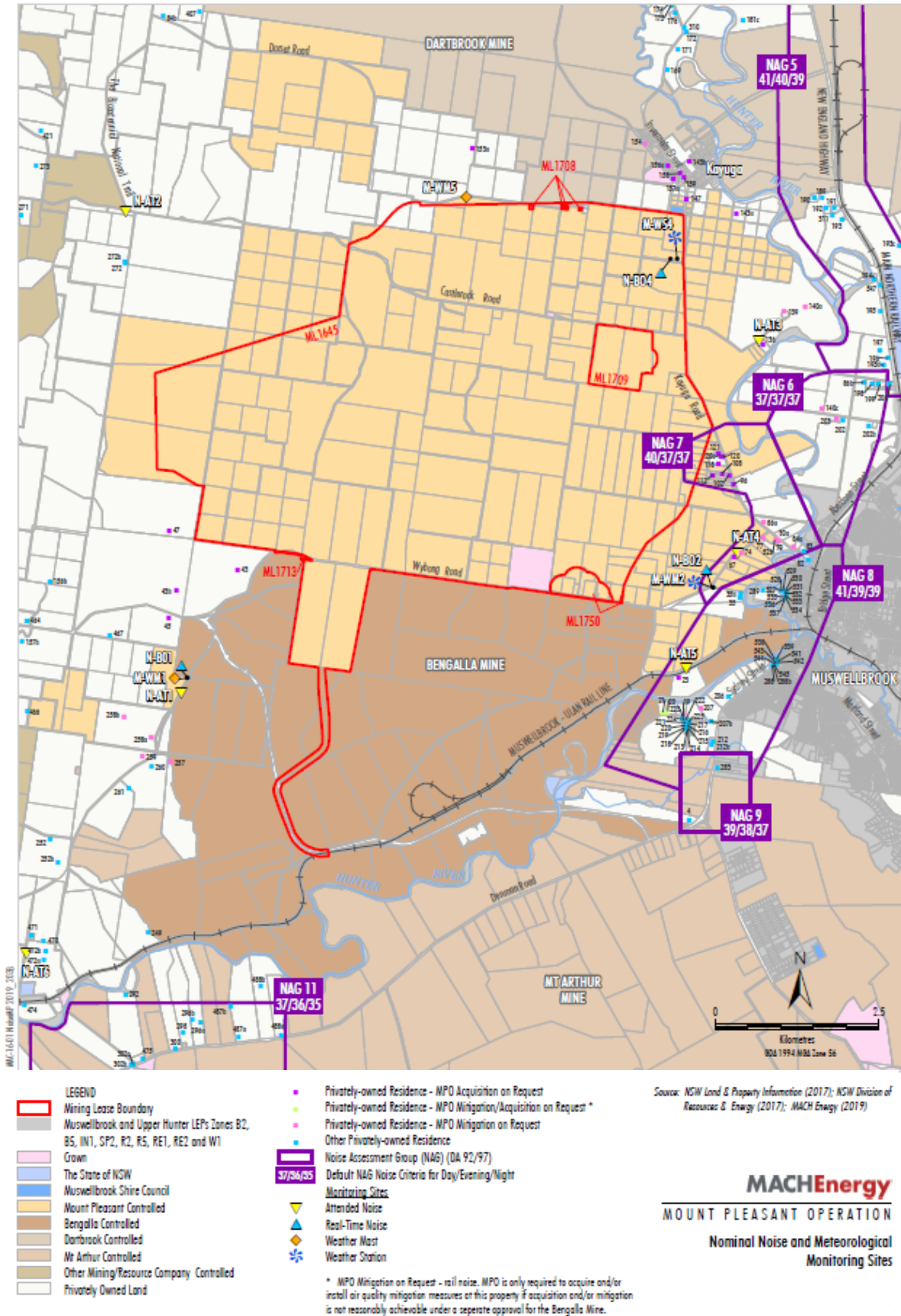


Figure 2-1 – MPO Attended Noise Monitoring Assessment Groups and Locations



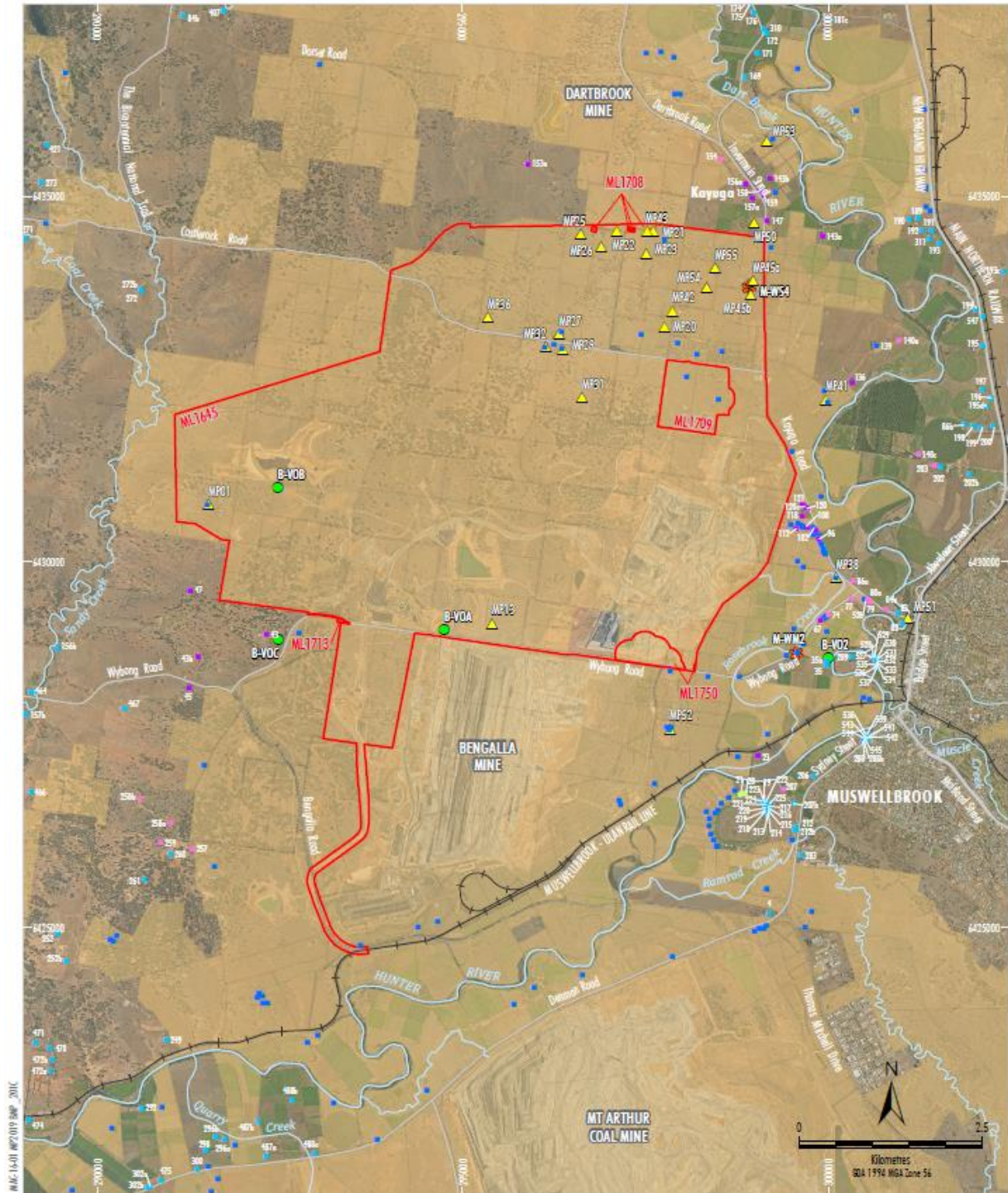
- LEGEND**
- Mining Lease Boundary
 - Mine Owned
 - Privately-owned Residence - MPO Acquisition on Request
 - Privately-owned Residence - MPO Mitigation/Acquisition on Request *
 - Privately-owned Residence - MPO Mitigation on Request
 - Other Privately-owned Residence
 - Monitoring Sites**
 - Air Quality - High Volume Sampler
 - Air Quality - Palas Fidas
 - Dust Deposition Gauge
 - Upper Hunter Air Quality Monitoring Network
 - Weather Mast
 - * Weather Station

* MPO Mitigation on Request - rail noise. MPO is only required to acquire and/or install air quality mitigation measures at this property if acquisition and/or mitigation is not reasonably achievable under a separate approval for the Bengalla Mine.

Source: NSW Land & Property Information (2017); NSW Division of Resources & Energy (2017); MACH Energy (2019)
 Orthophoto: MACH Energy (July 2018); NSW Department of Finance & Innovation (2018)

MACH Energy
MOUNT PLEASANT OPERATION
 Air Quality and Meteorological
 Monitoring Sites

Figure 2-2 – MPO Air Quality and Meteorological Monitoring Network



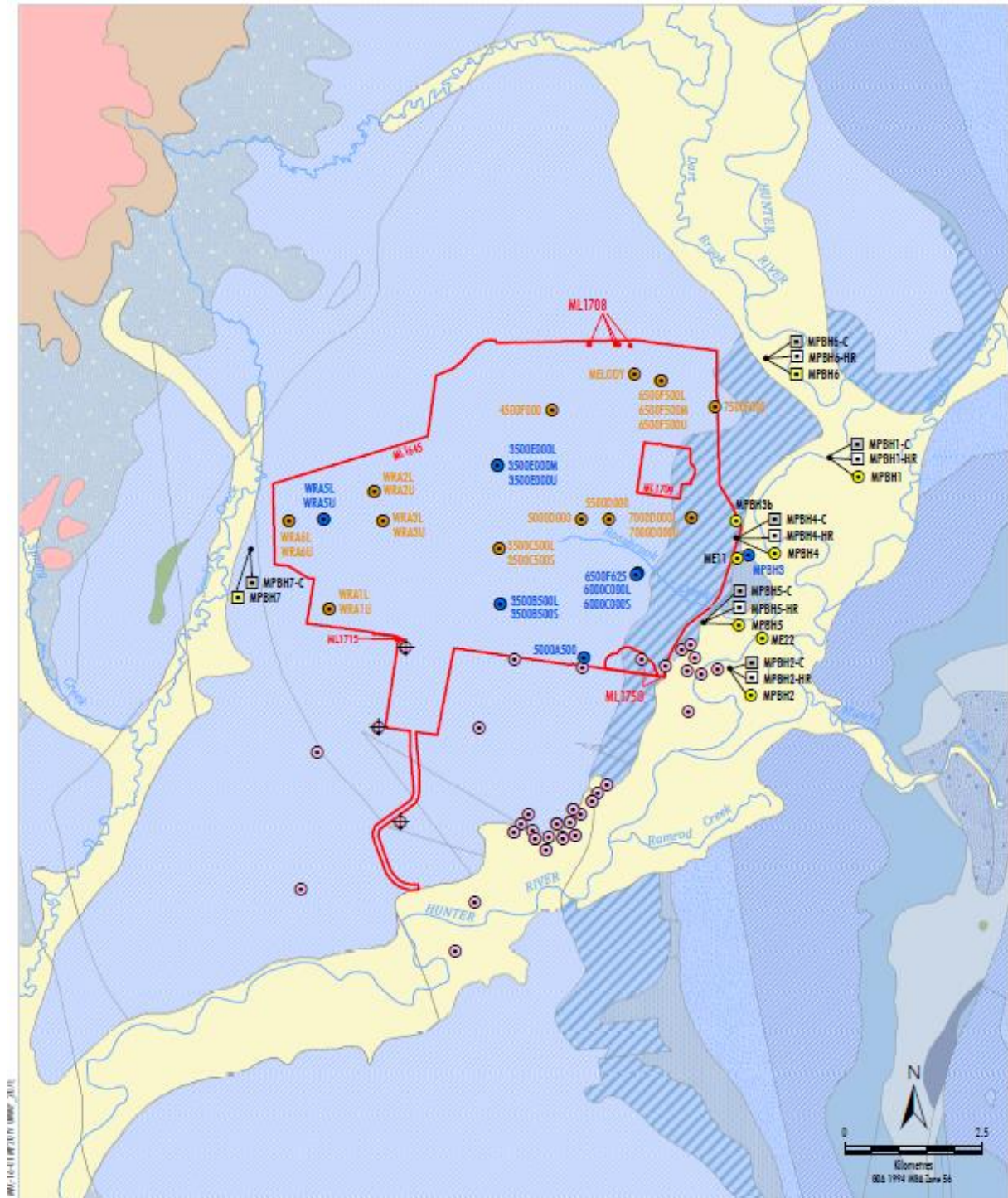
- LEGEND**
- Mining Lease Boundary
 - Mine-owned Land
 - Mine-owned Dwelling
 - Privately-owned Residence - MPO Acquisition on Request
 - Privately-owned Residence - MPO Mitigation/Acquisition on Request *
 - Privately-owned Residence - MPO Mitigation on Request
 - Other Privately-owned Residence
 - Blast Monitoring Site (Vibration/Overpressure)
 - ⊛ Weather Station
 - ▲ Historic Heritage Site Subject to Blast Criteria

* MPO Mitigation on Request - rail noise. MPO is only required to acquire and/or install air quality mitigation measures at this property if acquisition and/or mitigation is not reasonably achievable under a separate approval for the Bengalla Mine.

Source: MACH Energy (2020); NSW Spatial Services (2019)
Orthophoto: MACH Energy (Jan 2020)

MACH Energy
MOUNT PLEASANT OPERATION
Blast Monitoring Locations

Figure 2-3 – MPO Blast Monitoring Locations



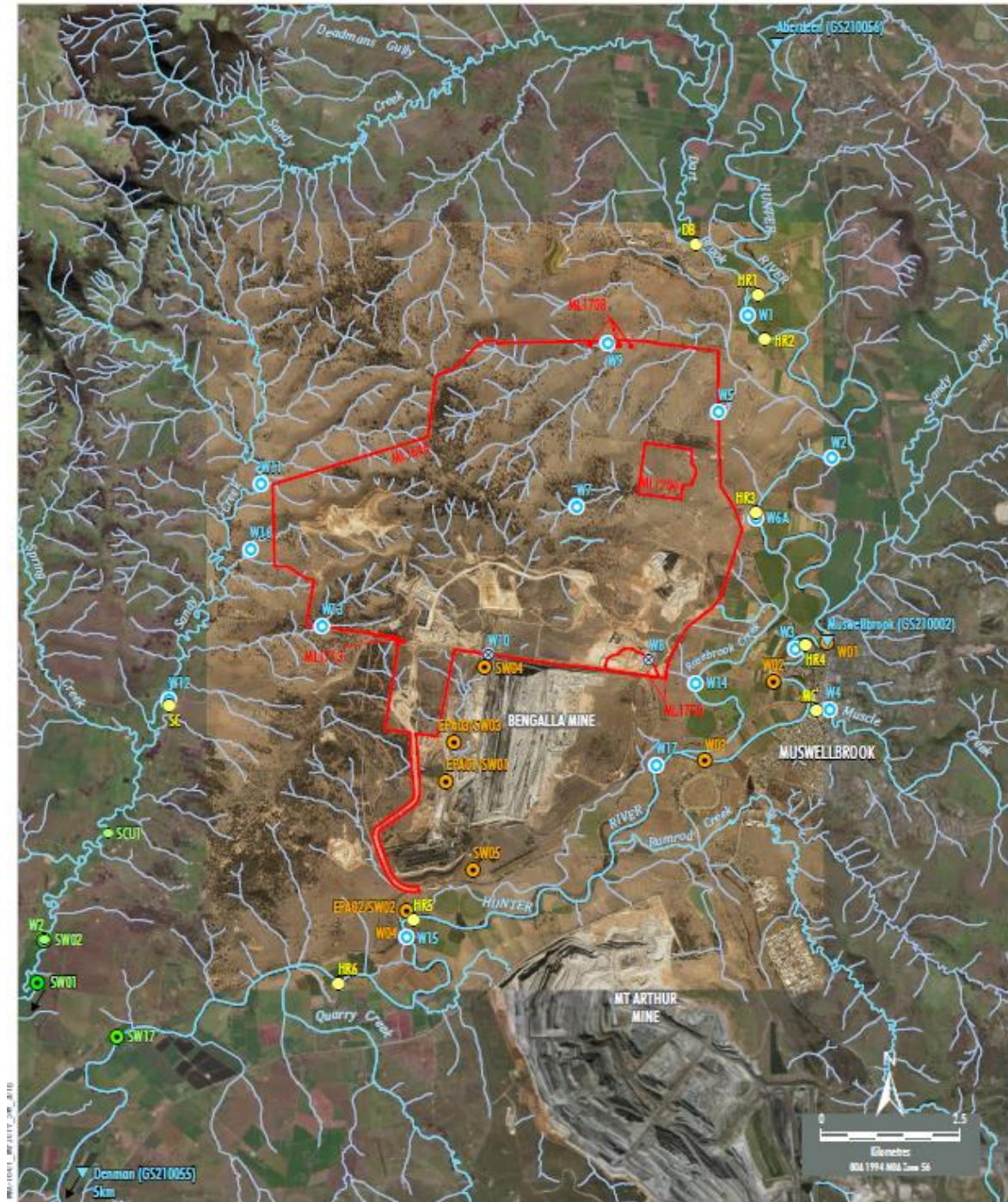
- LEGEND**
- Mining Lease Boundary
 - Mount Pleasant Monitoring**
 - Standpipe
 - Standpipe - Alluvium
 - Standpipe - Historical
 - Planned Mount Pleasant Monitoring**
 - Standpipe - Coal Seam
 - Standpipe - Interburden
 - Standpipe - Alluvium
 - **Benalla Monitoring**
 - Standpipe
 - ⊕ Vibrating Wire Piezometer

Source: NSW Land & Property Information (2019); NSW Division of Resources & Energy (2019); MACH Energy (2019)

Note: Refer Figure 3 for geology legend

MACHEnergy
MOUNT PLEASANT OPERATION
 Augmentations to the
 Groundwater Monitoring Network

Figure 2-4 – MPO Groundwater Monitoring Network



- LEGEND**
- Mining Lease Boundary
 - ▽ DPI Water Gauging Station
 - Mt Pleasant Monitoring
 - Surface Water Monitoring Site
 - ⊗ Historical Surface Water Monitoring Site
 - Stream Health Monitoring Site
 - Mangoola Monitoring
 - Surface Water Monitoring Site
 - Stream Health Monitoring Site
 - Bengalla Monitoring
 - Surface Water Monitoring Site

Source: NSW Land & Property Information (2019); NSW Division of Resources & Energy (2019); NSW Department of Primary Industries - Water (2016); Bengalla Mining Company (2015); Mangool Coal Operations Pty Ltd (2014)
 Orthophoto: MACH (Jul 2018); Esri, DigitalGlobe (2018)

MACH Energy
 MOUNT PLEASANT OPERATION
 Surface Water and Stream Health
 Monitoring Sites

Figure 2-5 – MPO Surface Water Monitoring Network

3. Meteorological Monitoring

Weather data is measured continuously at the Kayuga Road (M-WS4) and the Wybong Road (M-WS2) meteorological stations. In addition to air quality parameters (PM₁₀ and PM_{2.5}), the weather stations measure wind speed and direction, temperature (at 2 metres (m) and 10m), temperature inversion (using the sigma theta method), solar radiation, relative humidity, rainfall and atmospheric pressure.

Most meteorological data was captured at M-WS4 (>95.1%) during April 2024.

Throughout April 2024, there was 100.4mm and 99.8mm of rainfall recorded at M-WS2 and M-WS4, respectively.

4. Dust Depositional Monitoring

4.1 Methodology

Dust deposition was monitored according to the OEH's *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* (DECC 2007), which references *Australian Standard (AS)/New Zealand Standard (NZS) 3580.10.1:2016 Methods for Sampling and Analysis of Ambient Air: Determination of particulate matter – Deposited matter – Gravimetric Method*. The dust deposition monitoring network comprises of 13 dust deposition gauges (DDG). Details of the monitoring locations are shown in **Figure 2-2**.

DDG samples can be contaminated by a variety of means, notably by the presence of insects and bird droppings. Results for contaminated gauges were not included in the calculation of the annual averages as this would result in skewed or misleading results for the purpose of dust deposition assessment. The Australian Standard does not provide criteria for the determination of contamination of a DDG. AECOM determines a gauge sample to be contaminated only after reference to field observation sheets, historical monitoring location data, laboratory notes and results, prevailing atmospheric conditions, and feedback from field technicians. For example, a gauge sample with a statistically abnormally high insoluble solids result, a low ash residue result (indicating an elevated level of organic matter) and field notation that bird droppings or insects were present is likely to be considered contaminated.

While the new SSD 10418 doesn't explicitly mention dust deposition gauges, there's a notable shift in regulations towards embracing high volume air sampler results and continuous air quality monitoring programs, with a specific focus on total particulate matter, PM10, and PM2.5. These modern monitoring techniques offer a more comprehensive approach to environmental surveillance, furnishing real-time data and insights into air quality conditions. By harnessing these advanced methods, MPO can ensure the implementation of robust monitoring practices, effectively supplanting the older dust deposition gauges. This transition from the previous development consent DA92/97 (which is yet to be surrendered due date as of April 2025) to SSD 10418 signifies a proactive measure towards upholding environmental compliance. Therefore, Dust Depositional Monitoring will continue to be included in monthly reporting as per DA92/97 up until surrender where it will be discontinued.

4.2 Results

The dust deposition exposure period for gauges commenced on 28 March 2024. Sample collection was undertaken on 29 April 2024 by AECOM with sample analysis performed by ALS, a National Accreditation and Testing Authority (NATA) accredited laboratory. Results are summarised in **Table 4-1**. Annual rolling averages for April 2024 have been provided as an indication of performance between April 2023 – April 2024 and does not represent annual average results for 2024 as per Schedule 3, Condition 20 of DA 92/97 and Schedule 2, Condition B28 of SSD 10418.

Table 4-1: Dust Depositional Results – April 2024

Location	YTD Insoluble Solids (g/m ² .month)	Insoluble Solids Annual Rolling Average (g/m ² .month)
D1	1.8	1.8
D3a	1.3	1.8
D4	1.3	1.2
D5a	1.7	2.6
D6	1.8	2.4
D7b	10.1	9.9
D8	5.5	4.5
D9a	4.7	4.3
D10	1.2	1.1
D11	4.0	3.5
D12	1.2	1.0
D13	1.5	1.2
D14	3.1	3.2
Criterion	-	4

Notes:

Results in **bold** indicate an elevated measurement of adopted assessment criteria.

* Insufficient monthly results to calculate annual average

Contaminated results, as described in Section 4.1, are not included in the 12-month rolling average. Site D7b is located within close proximity to the northern boundary of a neighbouring mining operation and thus can be influenced by this site. D7b will continue to be monitored, however will not be used to assess compliance or to represent residential receivers in the area. Furthermore, there are no privately-owned receivers in the vicinity of D8, D9 and D14. Whilst these sites do not represent residence(s) on privately-owned land, they will continue to be monitored in accordance with the *MPO Air Quality and Greenhouse Gas Management Plan* (MACH Energy, 2019).

Field notes from the April sampling event noted that all the gauges contained insects, one contained vegetation and three contained bird droppings. Field notes indicated that D4 and D6 had parts of the plastic lid broken in the gauge. It was noted that the bird ring at D7b was absent and contents of the gauge were grey in colour and slightly turbid. All other April 2024 insoluble solid results were included in the annual rolling average calculations.

Figure 4-1 compares the monthly insoluble solids results to the annual averages for each dust gauge and the assessment criterion.

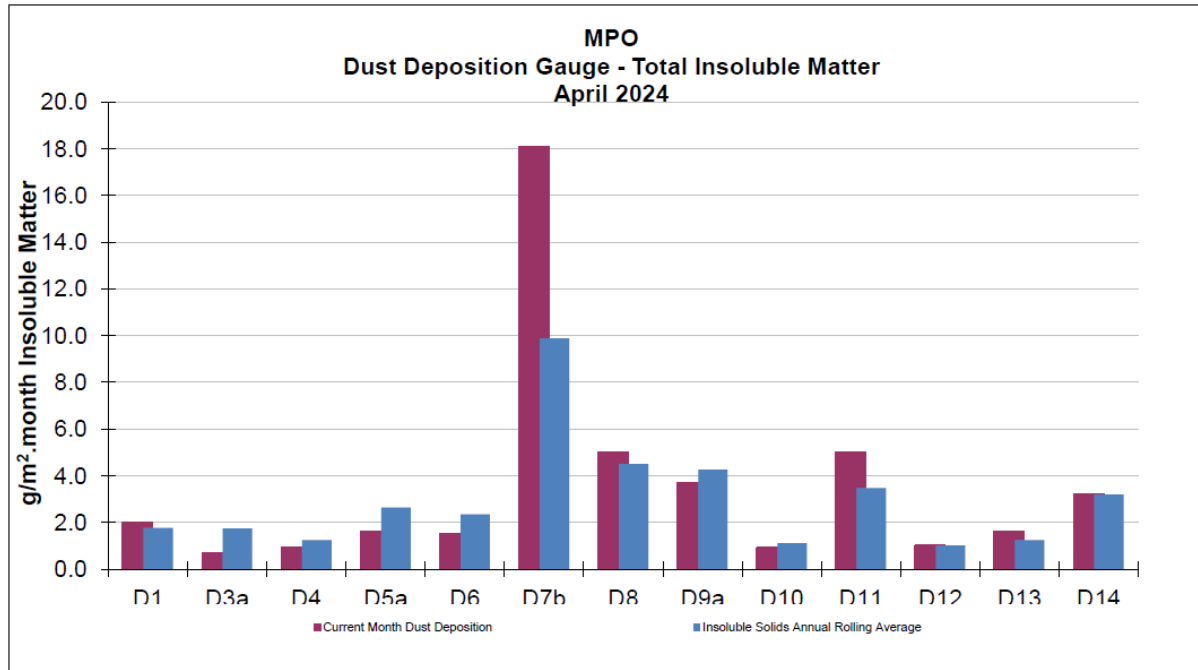


Figure 4-1: MPO Dust Deposition Monthly Results and Annual Rolling Average – April 2024

5. Total Suspended Particulates

All High-Volume Air Samplers (HVAS) are run for 24 hours every six days in accordance with *AM-15 of Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* (DECC, 2007), referencing *AS/NZS 3580.9.3:2015 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total suspended particulate matter (TSP) - High volume sampler gravimetric method*, for the monitoring of TSP.

Three TSP HVAS units are included in the MPO air quality monitoring network and are displayed in **Table 5-1** below. These units were commissioned in April 2017.

Table 5-1 Total Suspended Particulate Monitoring Sites

ID	Description
A-PF2	Reilly's
M-WS4	Kayuga Road Met Station
A-PF5	Athlone

5.1 Assessment Criteria

TSP is assessed against the guidelines defined in the *EPA Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA 2016), Project Approval DA 92/97 and Development Consent SSD 10418. The DA 92/97 and SSD 10418 both specify an annual average project contribution plus background criterion of 90 µg/m³.

5.2 Results

Sample collection was undertaken by AECOM with sample analysis performed by ALS, a NATA accredited laboratory. TSP results for the monitoring period are provided in **Table 5-2**. Annual rolling averages for April 2024 have been provided as an indication of performance between April 2023 – April 2024 and do not represent annual average results for 2024 as per Schedule 3, Condition 20 of DA 92/97 and Schedule 2, Condition B28 of SSD 10418.

Table 5-2 Total Suspended Particulate Monitoring Data – April 2024

Run Date	Assessment Criterion	TSP µg/m ³		
		HVAS A-PF2	HVAS A-PF5	HVAS M-WS4
5/04/2024	-	16.8	11.2	7.3
11/04/2024	-	22.8	66.6 [^]	22.1
17/04/2024	-	38.5	38.0	47.6
23/04/2024	-	33.9	39.6	27.6
29/04/2024	-	42.7	56.2	61.5
*Monthly Mean	-	30.9	36.2	33.2
Annual Rolling Average	90	58	57	39

Notes:

Results in **bold** indicate an elevated reading.

Results have been rounded to one decimal place for reporting purposes where applicable.

[^] Timer modification prevented the 11/04/24 run. Makeup run was performed on 12/04/24. Results for Makeup run were not included in the monthly mean or Annual Rolling Average.

5.3 Discussion

For the reporting period, the annual rolling average TSP data at all sites was below the annual average criterion of 90 µg/m³.

6. Real Time Air Quality Monitoring

Continuous particulate matter less than 10 µm (PM₁₀) and particulate matter less than 2.5 µm (PM_{2.5}) monitoring was conducted by three Palas Fidas units (one utilised for management only) at MPO during April 2024.

The EPA identification numbers 1 and 2 refer to Palas Fidas units installed on Wybong Road (A-PF2) and Dorset Road (A-PF5), respectively. In addition, a third unit (A-PF4) is installed on Kayuga Road with data used for management purposes only.

Real time PM₁₀ and PM_{2.5} 12-month rolling averages for April 2024 have been provided in Section 6.2 and 6.4 respectively, as an indication of performance during 2024 as per Schedule 3, Condition 20 of DA 92/97 and Schedule 2, Condition B28 of SSD 10418.

6.1 PM₁₀ Results – 24 Hour Rolling Average

In accordance with the DA 92/97 and SSD 10418 limit of 50 µg/m³ for the 24-hour daily average, there were no elevated readings in April 2024. Real time PM₁₀ 24 hour daily average results for April 2024 are presented in **Table 6-1**.

Table 6-1: MPO Palas Fidas PM₁₀ Data – April 2024

Date	A-PF2/EPA ID 1	A-PF4	A-PF5/EPA ID 2	Muswellbrook NW	A-PF2, A-PF4, A-PF5 24 Hour Average Limit (µg/m ³)
	24-hour Average Result				
1/04/2024	22	22	-	17.4	50
2/04/2024	20	19	-	18	50
3/04/2024	15	13	-	16	50
4/04/2024	13	10	-	9.1	50
5/04/2024	9	7	-	4.9	50
6/04/2024	-	7	-	4.8	50
7/04/2024	19	8	-	11.7	50
8/04/2024	15	10	-	12.4	50
9/04/2024	13	12	-	11.6	50
10/04/2024	12	14	-	12.2	50
11/04/2024	12	11	-	13	50
12/04/2024	16	17	-	16.9	50
13/04/2024	18	22	-	19.7	50
14/04/2024	26	29	-	23.6	50
15/04/2024	20	19	-	19.5	50
16/04/2024	-	25	-	20.7	50
17/04/2024	24	22	-	18.3	50
18/04/2024	14	14	-	11	50
19/04/2024	23	22	-	21.6	50
20/04/2024	10	11	-	9.3	50
21/04/2024	13	11	-	12	50
22/04/2024	12	13	-	10.9	50
23/04/2024	15	12	-	10.9	50
24/04/2024	17	13	-	16.8	50
25/04/2024	23	22	-	25.1	50
26/04/2024	17	19	-	14.9	50
27/04/2024	16	15	-	15.9	50
28/04/2024	17	19	-	14.7	50
29/04/2024	18	19	-	20.6	50
30/04/2024	16	20	-	17.3	50

Notes:

Results in **bold** indicate elevated readings during adverse weather conditions.

Results with "-" indicate dates where data was affected by maintenance or servicing (scheduled and unscheduled)

Figure 6-1 below shows the results of real-time PM₁₀ 24 hour daily average results at MPO air quality monitoring sites April 2024.

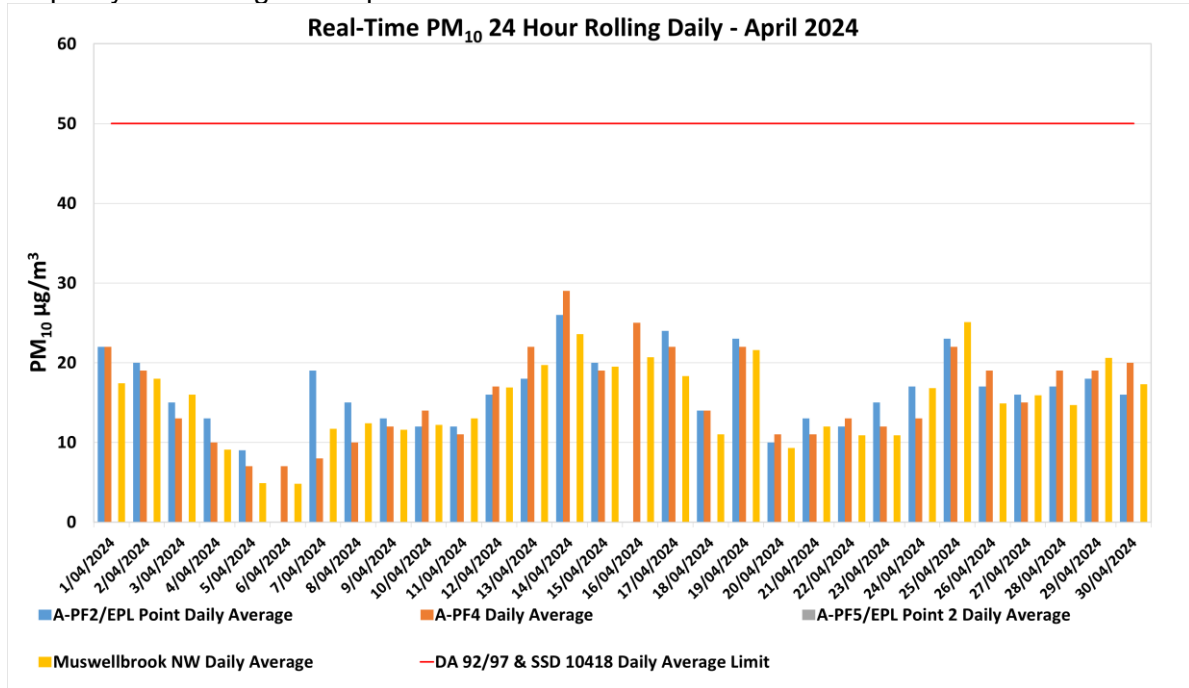


Figure 6-1: Real-time PM₁₀ 24 Daily Average Results for April 2024.

6.2 PM₁₀ Results – Annual Rolling Average

There was no exceedance of the PM₁₀ annual rolling average reported at MPO during April 2024. Real time PM₁₀ annual rolling averages during the reporting period are presented in Figure 6-2 below.

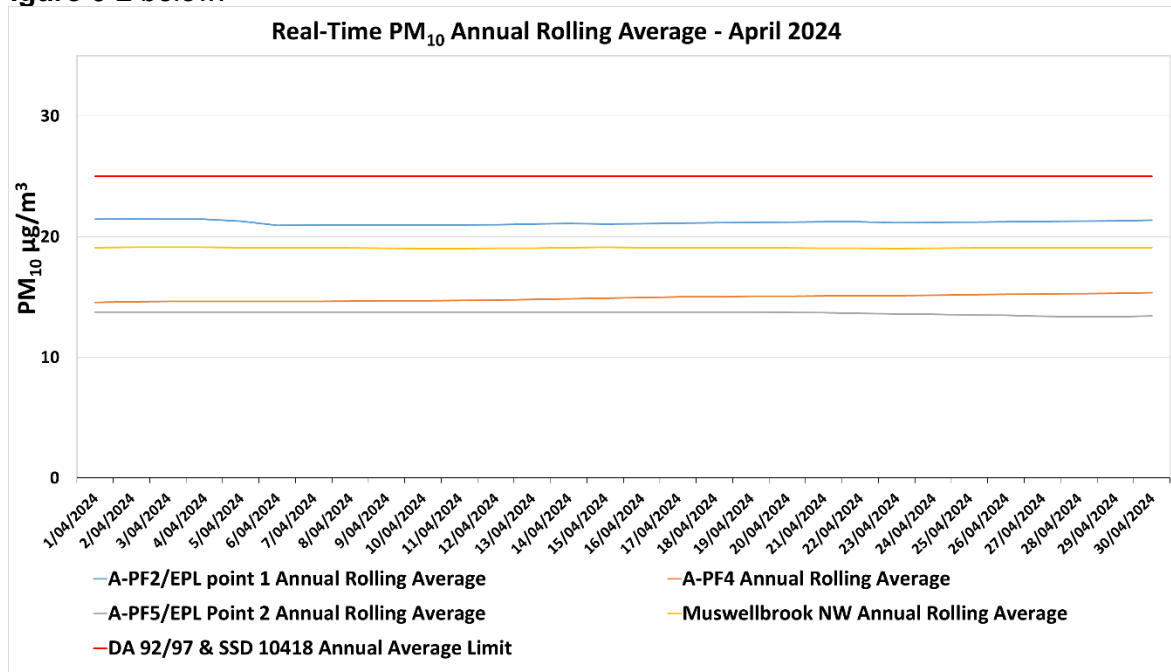


Figure 6-2: Real-time PM₁₀ Annual Rolling Average Results for April 2024.

6.3 PM_{2.5} Results – 24 Hour Daily Average

There was no exceedance of the PM_{2.5} annual rolling average reported at MPO during April 2024. Real time PM_{2.5} 24 hour rolling average results for April 2024 are presented in **Table 6-2**.

Table 6-2: MPO Palas Fidas PM_{2.5} Data – April 2024

Date	A-PF2/EPA ID 1	A-PF4	A-PF5/EPA ID 2	A-PF2, A-PF4, A-PF5 24 Hour Average Limit (µg/m ³)
	24-hour Average Result			
1/04/2024	8	8	-	25
2/04/2024	7	7	-	25
3/04/2024	5	5	-	25
4/04/2024	6	4	-	25
5/04/2024	4	3	-	25
6/04/2024	-	3	-	25
7/04/2024	5	4	-	25
8/04/2024	5	5	-	25
9/04/2024	5	5	-	25
10/04/2024	4	4	-	25
11/04/2024	4	4	-	25
12/04/2024	5	6	-	25
13/04/2024	6	7	-	25
14/04/2024	10	11	-	25
15/04/2024	7	7	-	25
16/04/2024	-	9	-	25
17/04/2024	10	9	-	25
18/04/2024	6	5	-	25
19/04/2024	7	8	-	25
20/04/2024	4	4	-	25
21/04/2024	5	5	-	25
22/04/2024	5	5	-	25
23/04/2024	4	4	-	25
24/04/2024	4	4	-	25
25/04/2024	8	7	-	25
26/04/2024	6	7	-	25
27/04/2024	6	6	-	25
28/04/2024	6	7	-	25
29/04/2024	5	5	-	25
30/04/2024	6	7	-	25

Notes:

Results in **bold** indicate elevated readings during adverse weather conditions.

Results with “-” indicate dates where data was affected by maintenance or servicing (scheduled and unscheduled)

Real time PM_{2.5} 24-hour average results for April 2024 are presented in **Figure 6-3** below.

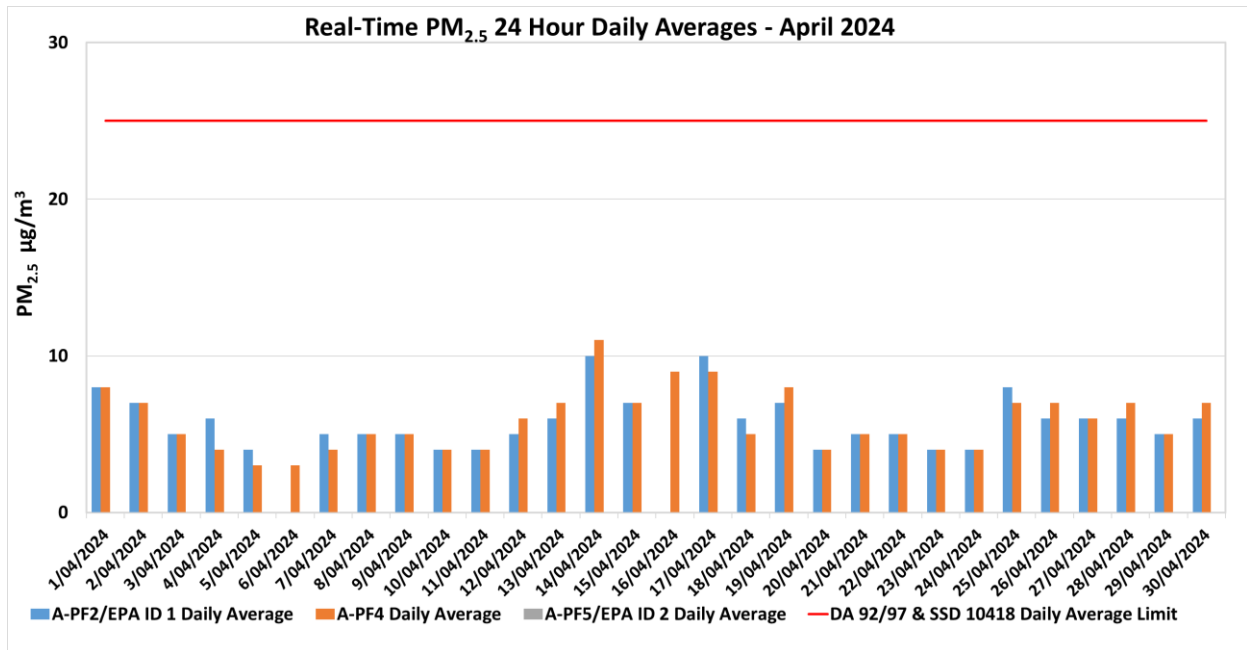


Figure 6-3: Real-time PM_{2.5} 24 hour Daily Average Results for April 2024.

6.4 PM_{2.5} Results - Annual Rolling Average

There was no exceedance of the PM_{2.5} annual rolling average reported at MPO during April 2024. Real time PM_{2.5} annual rolling averages during the reporting period are presented in **Figure 6-4** below.

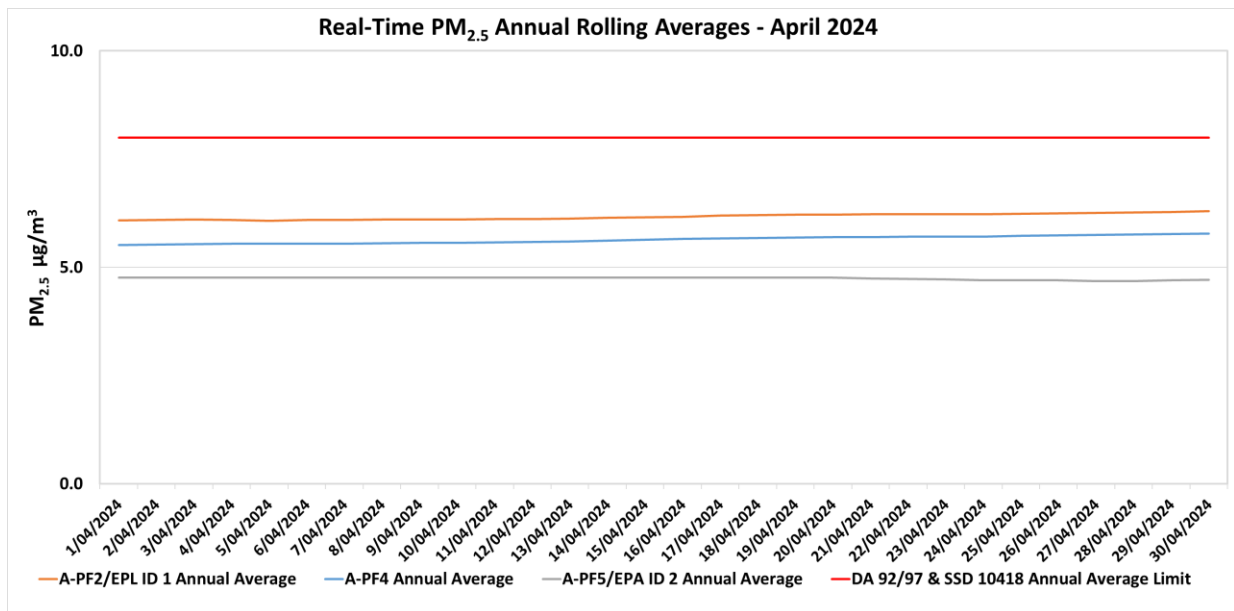


Figure 6-4: Real-time PM_{2.5} Annual Rolling Average Results for April 2024.

7. Surface Water Monitoring

7.1 Methodology

Surface water quality is monitored at 14 sites on a monthly basis, with additional monitoring conducted if triggered by a rain event. A more comprehensive suite of analysis is performed at these sites on a quarterly basis.

7.2 Assessment Criteria

Surface waters were assessed as per the [MPO Water Management Plan](#) (MACH Energy, 2022) in accordance with site specific trigger values that have been developed using the [ANZECC](#) (2000) guidelines for sites that contain a minimum of two years of monthly data. Sites with insufficient data are assessed on default trigger values adopted from ANZECC (2000) guidelines.

7.3 Results

Surface water monitoring was conducted by AECOM on 5 April 2024. Laboratory analysis was performed by ALS NATA accredited laboratory. Monthly monitoring results for pH, EC, TSS and Total Dissolved Solids (TDS) are presented in **Table 7-1**.

Table 7-1 – MPO Monthly Surface Water Monitoring Results – 5 April 2024

Station	pH	Electrical Conductivity (EC) ($\mu\text{s}/\text{cm}$) ¹	Total Dissolved Solids (TDS) (mg/L)	Total Suspended Solids (TSS) (mg/L)
W1	7.8	440	240	14
W2	**	**	**	**
W3	8.0	470	270	14
W4	7.5	1250	730	20
W5	*	*	*	*
W6A	8.0	460	270	8.4
W9	*	*	*	*
W11	**	**	**	**
W12	8.0	5100	2800	16
W13	**	**	**	**
W14	*	*	*	*
W15	7.9	490	290	20
W16	**	**	**	**
W17	7.8	500	300	16

Note: Results in **bold** indicate exceedances of adopted assessment criteria.

*Dry or insufficient water to sample.

** Unsafe access/ground condition.

¹ Results have been rounded in accordance with the In-house method Q4AN(EV)-332-WI2 (EC).

During the 5 April monitoring event, three (3) sites were dry. W2, W11, W13 and W16 were unable to be accessed due to the ground condition. All sites were within their respective EC, pH, and TSS trigger levels.

An investigation is triggered if elevated measurements occur for three consecutive sampling events in accordance MPO Water Management Plan (MACH Energy, 2022).

8. Groundwater Monitoring

Groundwater monitoring did not occur during this reporting period. The next quarterly monitoring event is scheduled for May 2024.

9. Noise Monitoring

Attended noise monitoring was undertaken during the night period of 29/30 April 2024 at eight (8) monitoring locations as per the [MPO Noise Management Plan](#) (MACH Energy, 2021) in accordance with DA 92/97, SSD 10418 and EPL 20850.

9.1 Results

The results for nighttime attended noise monitoring for noise generated by MPO in April 2024 against noise criteria is shown in **Table 9-1**; **Table 9-2**; and **Table 9-3**.

Table 9-1 – L_{A1,1min} Generated by MPO: Attended Night Monitoring – 29/30 April 2024

Location	Start Date and Time	MPO Only L _{A1,1min} dB ^{2,4}	Criterion dB	Wind Speed m/s	Criterion Applies ¹	Stability Class	Exceedance dB ³
N-AT1	30/04/2024 01:18	IA	45	1.1	Yes	F	No
N-AT2	29/04/2024 22:44	IA	45	2.7	Yes	E	No
N-AT3	29/04/2024 23:17	26	45	1.9	Yes	E	No
N-AT4	29/04/2024 23:43	IA	45	1.1	Yes	F	No
N-AT5	30/04/2024 00:04	37	45	1.2	Yes	E	No
N-AT6	30/04/2024 00:55	IA	45	1.2	Yes	E	No
N-AT7	29/04/2024 22:03	IA	45	2.0	Yes	D	No
N-AT8	30/04/2024 00:29	60	NA ⁶	1.4	Yes	D	NA ⁶

Notes:

- As per Condition L2.3 of EPL 20850, noise emission limits do not apply during wind speeds greater than 3m/s at 10m above ground level, or stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level, or stability category G temperature inversion conditions.
- Estimated or measured L_{A1,1minute} attributed to MPO.
- NA in exceedance column means meteorological conditions outside those specified in Condition L2.3 of EPL 20850 and thus criterion is not applicable.
- IA = inaudible; and
- Bold results indicate exceedance of criteria.
- This is not a compliance monitoring location.

Table 9-2 – $L_{Aeq,15min}$ Generated by MPO: Attended Night Monitoring – 29/30 April 2024

Location	Start Date and Time	MPO Only $L_{A1,1min}$ dB ^{2,4}	Criterion dB	Wind Speed m/s	Criterion Applies ¹	Stability Class	Exceedance dB ³
N-AT1	30/04/2024 01:18	IA	37	1.1	Yes	F	No
N-AT2	29/04/2024 22:44	IA	35	2.7	Yes	E	No
N-AT3	29/04/2024 23:17	22	40	1.9	Yes	E	No
N-AT4	29/04/2024 23:43	IA	38	1.1	Yes	F	No
N-AT5	30/04/2024 00:04	31	37	1.2	Yes	E	No
N-AT6	30/04/2024 00:55	IA	35	1.2	Yes	E	No
N-AT7	29/04/2024 22:03	IA	37	2.0	Yes	D	No
N-AT8	30/04/2024 00:29	41	NA ⁶	1.4	Yes	D	NA ⁶

Notes:

- As per Condition L2.3 of EPL 20850, noise emission limits do not apply during wind speeds greater than 3m/s at 10m above ground level, or stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level, or stability category G temperature inversion conditions.
- Estimated or measured $L_{Aeq,15minute}$ attributed to MPO.
- NA in exceedance column means meteorological conditions outside those specified in Condition L2.3 of EPL 20850 and thus criterion is not applicable.
- IA = inaudible; and
- Bold results indicate exceedance of criteria.
- This is not a compliance monitoring location.

Table 9-3 – $L_{Aeq, period}$ Cumulative Noise: Attended Night Monitoring – 29/30 April 2024

Location	Start Date and Time	Cumulative Noise Criterion LAeq dB	Measured Mining Only $L_{Aeq, period}$ dB ^{1,2}	Exceedance dB ³
N-AT1	30/04/2024 01:18	40	IA	No
N-AT2	29/04/2024 22:44	40	IA	NA
N-AT3	29/04/2024 23:17	40	22	NA
N-AT4	29/04/2024 23:43	40	IA	NA
N-AT5	30/04/2024 00:04	40	31	No
N-AT6	30/04/2024 00:55	40	IA	No
N-AT7	29/04/2024 22:03	40	IA	NA
N-AT8	30/04/2024 00:29	NA ⁴	41	No

Notes:

- These are the results for MPO and all other mining sources. 15-minute measurements have been assumed to apply across the entire night period as a conservative measure and to represent "worst case" results; and
- By definition, cumulative noise refers to two or more noise sources. If only one other source of mining is audible, or if MPO is inaudible, the measured cumulative noise defined here is 'Nil'.
- NA in exceedance column means criterion was not applicable due to atmospheric conditions.
- This is not a compliance monitoring location.

The purpose of the noise monitoring is to quantify and describe the existing acoustic environment around the mining operation and compare results with relevant limits as per the MPO Noise Management Plan (MACH Energy, 2021).

10. Blast Monitoring

There were 7 blast events during April (a total of 27 blasts YTD). Results for April 2024 are presented in **Table 10-1**. All blast results during this monitoring period were below the criteria stated in Schedule 3, Condition 10 of DA 92/97, Schedule 2; Condition B12 of SSD 10418; and L5 of EPL 20850.

Table 10-1 – MPO Blast Monitoring Results - April 2024

Day & Date Fired	Time Fired	BVOC Vibration (mm/s)	BVOC Overpressure (dBL)	BVO2 Vibration (mm/s)	BVO2 Overpressure (dBL)	Blast Fume Compliant
Wednesday 03/04/2024	12:04	1.250	95.3	0.940	96.5	Y
Wednesday 10/04/2024	13:04	0.700	93.0	0.750	92.9	Y
Friday 12/04/2024	11:03	0.830	106.8	0.440	100.8	Y
Thursday 18/04/2024	12:04	2.010	96.0	0.560	102.1	Y
Friday 19/04/2024	10:07	0.320	88.9	0.220	93.8	Y
Monday 22/04/2024	15:03	0.900	102.5	0.490	91.0	Y
Wednesday 24/04/2024	12:17	0.150	102.2	0.290	103.7	Y

END OF REPORT