MACHEnergy

Mount Pleasant Operation

Monthly Environmental Monitoring Report

October 2025

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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 and SSD 10418
Reporting Period Start Date	1 October 2025
Reporting Period End Date	31 October 2025
Date All Data Received	17 October 2025

Links to three key regulatory documents are provided here:

- 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 Continuous particulate monitors
- Noise monitoring.
- Blast monitoring; and
- Meteorological monitoring.

Monitoring of sites not required by the EPL are conducted in accordance with the respective Management Plans as required by 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 Appendix A.

3. Meteorological Monitoring

Weather data is measured continuously[1] at the Kayuga Road (M-WS4) and the Wybong Road (M-WS2) meteorological stations. In addition to air quality parameters (particulate matter less than 10 µm and less than 2.5 µm (PM_{10} and $PM_{2.5}$)), the weather stations measure wind speed

[1] The EPA's Ambient air monitoring guidance note (Guidance Note) states that after allowing sufficient down time for routine maintenance and calibrations a continuous monitoring system should be able to achieve at least a 95% availability.

and direction, temperature (at 2 metres (m) and 10m), temperature inversion (using the sigma theta method), solar radiation, relative humidity, rainfall, and atmospheric pressure.

Meteorological data was captured at M-WS2 and M-WS4 during the monitoring period. Throughout October 2025, there was 23mm and 21.9mm of rainfall recorded at M-WS2 and M-WS4, respectively.

4. Dust Depositional Monitoring

4.1 Methodology

The dust deposition monitoring network comprises of thirteen (13) dust deposition gauges (DDG) that are collected on a monthly basis. Details of the monitoring locations are shown in Figure 2-2.

4.2 Assessment Criteria

Dust Deposition were assessed as per the MPO Air Quality and Greenhouse Gas Management Plan (MACH Energy, 2024). 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.

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. This transition from the previous development consent DA92/97 (which is yet to be surrendered) 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. 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.

4.3 Results

Dust Deposition Data was conducted by AECOM during the monitoring period. Sample analysis was performed by ALS, a National Accreditation and Testing Authority (NATA) accredited laboratory.

Results are summarised in **Table 4-1**. Annual rolling averages have been provided as an indication of performance in the 12 months leading up to the current monitoring period as per Schedule 3, Condition 20 of DA 92/97 and Schedule 2, Condition B28 of SSD 10418.

Table 4-1: Dust Depositional Results – October 2025

Location	Monthly Insoluble Solids (g/m^2.month)	Insoluble Solids Annual Rolling Average (g/m^2.month)
D1	1.9	3.6
D3	1.5	1.4
D4	1.5	1.1
D5a	2.8	2.3
D6	2.6	2.1
D7b***	16.4	**9.0**
D8	3.8	**5.1**
D9a	2.9	3.8
D10	4.5**	1.2
D11	2.4	**4.2**
D12	0.7	1.5
D13	1.5	2.1
D14	1.5	**4.2**
Criterion	-	**4.0**

Notes:
*Results in **bold** indicate an elevated measurement of adopted assessment criteria.*
** Insufficient monthly results to calculate annual average*
*** Contaminated results*
**** Within the operational area. Not used to assess compliance or to represent residential receivers in the area.*

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

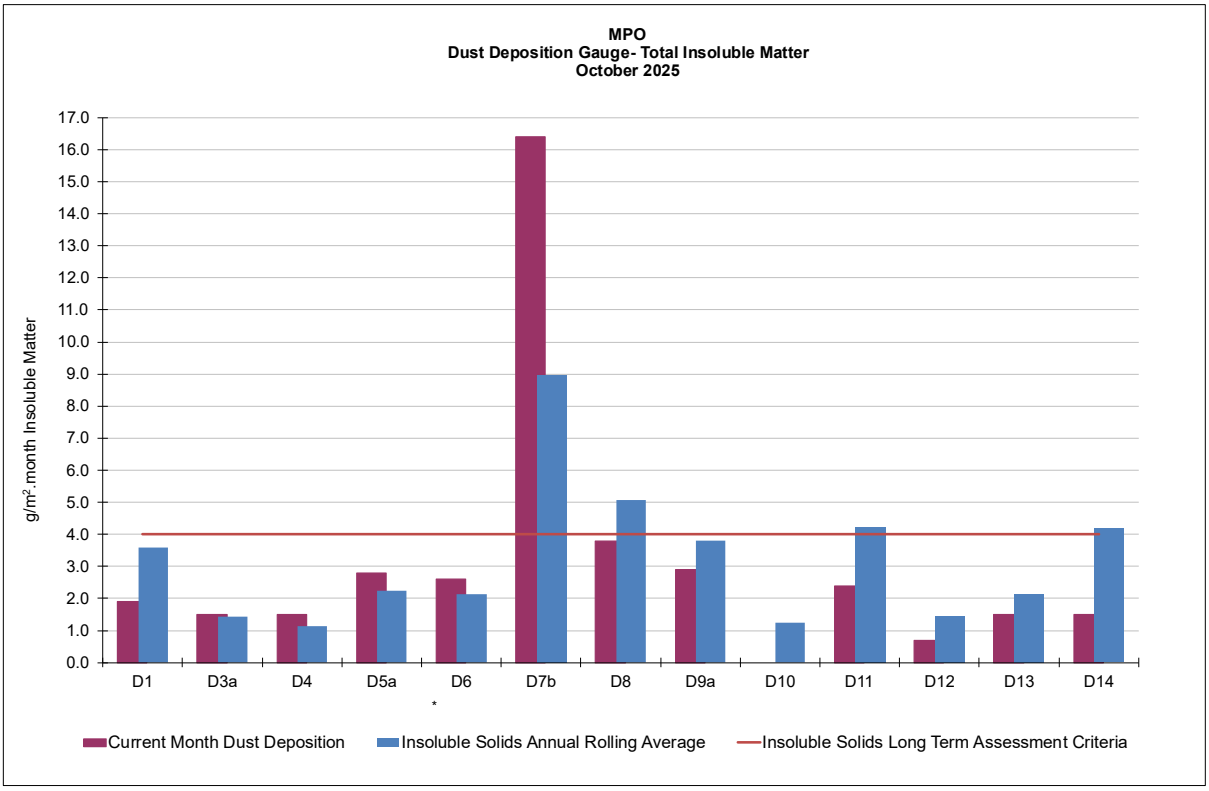


Figure 4-1: MPO Dust Deposition Monthly Results and Annual Rolling Average

5. Total Suspended Particulates

5.1 Methodology

Three Total Suspended Particulate Matter (TSP) High-Volume Air Samplers (HVAS) are run for 24 hours every six days. The locations are displayed in **Table 5-1** below.

Table 5-1 Total Suspended Particulate Monitoring Sites

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

5.2 Assessment Criteria

Total Suspended Particulates were assessed as per the MPO Air Quality and Greenhouse Gas Management Plan (MACH Energy, 2024) 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.

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 90µg/m3.

5.3 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. Twelve month rolling averages to the current month are provided as an indication of performance 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 – October 2025

Run Date	Assessment Criterion	TSP µg/m^3		
		HVAS A-PF2	HVAS A-PF5	HVAS M-WS4
03/10/2025	-	107	55.4	64.3
09/10/2025		93.6	45	71.5
15/10/2025		70.4	84.6	132
21/10/2025	-	101	99.8	167
27/10/2025	-	111	115	182
*Monthly Mean	-	96.6	80	123.4
Annual Rolling Average	90	55	50	43

Notes:
**Results have been rounded to one decimal place for reporting purposes where applicable.*
*Results in **bold** indicate an elevated measurement of adopted assessment criteria.*

6. Real Time Air Quality Monitoring

6.1 Methodology

Continuous particulate matter monitoring less than 10 µm (PM10) and particulate matter less than 2.5 µm (PM2.5) was conducted continuously at three locations (one utilised for management only) at MPO during the monitoring period.

6.2 Assessment Criteria

The EPA identification numbers 1 and 2 refer to monitors installed on Wybong Road (A-PF2) and Dorset Road (A-PF5), respectively. In addition, a third monitor (A-PF4) is installed on Kayuga Road with data used for management purposes only. Project Approval Schedule 3, Condition 20 of DA 92/97 and Development Consent Schedule 2, Condition B28 of SSD 10418 specify a limit for PM10 of 50 µg/m3 and PM2.5 of 25 µg/m3 in a 24-hour daily average.

The Northern Link Road (NLR) and Northern Surface Water Infrastructure (NSWI) construction works are currently being undertaken near A-PF5 and A-PF4 respectively. The NLR project works are expected to continue until June 2026 and then cease to impact on A-PF5. The NSWI works will have a permanent impact to A-PF4. A revised Air Quality and Greenhouse Gas Management Plan was submitted to the Department of Planning, Infrastructure and Housing in May 2025 to relocate A-PF4 to a more suitable location. When the Management Plan is approved, the monitoring station will be relocated. The station will continue to be impacted until it is able to be relocated. Results are no longer considered indicative of impacts to residential receivers from the operations.

6.3 Results

Real time PM10 and PM2.5 annual rolling averages to the current month have been provided in **Figures 6.2 and 6.4**, respectively. **Figure 6.1 and Table 6.1** below show the real-time PM_{10} 24 hour daily average results at MPO air quality monitoring sites during the monitoring period. Real time $PM_{2.5}$ 24-hour average results during the reporting period are presented in **Figure 6.3** and **Table 6.2.**

Table 6-1: MPO Continuous Particulate PM_{10} Data –October 2025

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			
01/10/2025	24.93	24.44	8.50	50
02/10/2025	30.57	14.58	5.20	50
03/10/2025	30.29	13.96	8.24	50
04/10/2025	23.26	14.63	12.45	50
05/10/2025	20.09	18.28	13.46	50
06/10/2025	26.64	19.52	8.95	50
07/10/2025	-	27.83	10.88	50
08/10/2025	40.44	28.42	7.61	50
09/10/2025	35.73	31.00	11.37	50
10/10/2025	25.48	19.09	10.39	50
11/10/2025	22.17	11.13	6.17	50
12/10/2025	24.10	10.09	6.46	50
13/10/2025	18.89	9.18	7.28	50
14/10/2025	18.60	14.84	12.75	50
15/10/2025	24.93	18.56	6.00	50
16/10/2025	24.43	39.42	7.76	50
17/10/2025	23.60	24.03	6.74	50
18/10/2025	-	18.01	8.92	50
19/10/2025	-	17.06	12.39	50
20/10/2025	-	23.24	8.22	50
21/10/2025	30.37	32.02	9.22	50
22/10/2025	36.18	42.38	11.11	50
23/10/2025	43.98	45.57	33.37	50
24/10/2025	32.60	39.52	40.20	50
25/10/2025	25.30	22.49	7.53	50
26/10/2025	28.75	24.47	6.60	50
27/10/2025	30.73	33.75	6.25	50
28/10/2025	18.40	22.60	7.90	50
29/10/2025	8.33	9.90	6.91	50
30/10/2025	12.72	13.20	8.57	50
31/10/2025	17.59	18.17	10.50	50

*Results in **bold** indicate an elevated measurement of adopted assessment criteria.*
Results with "- "indicate dates where data was affected by maintenance or servicing (scheduled and unscheduled

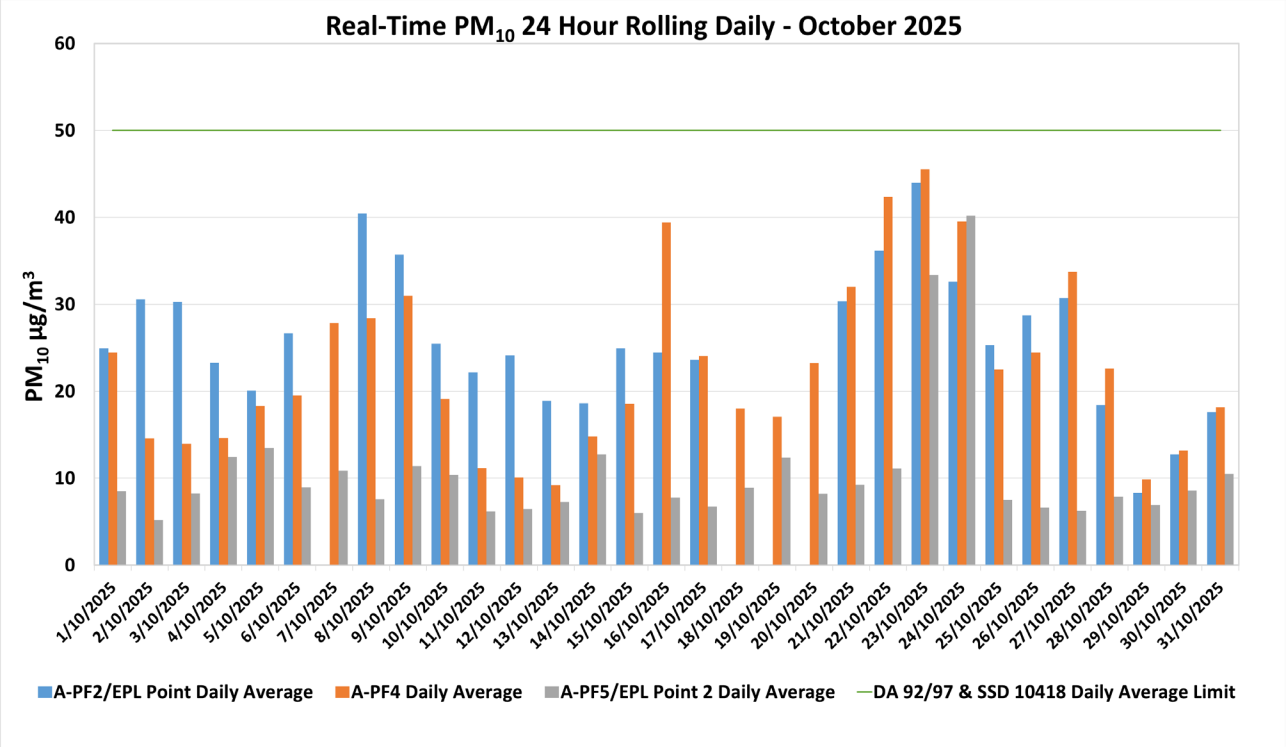


Figure 6-1: Real-time PM_{10} 24 Daily Average Results for October 2025.

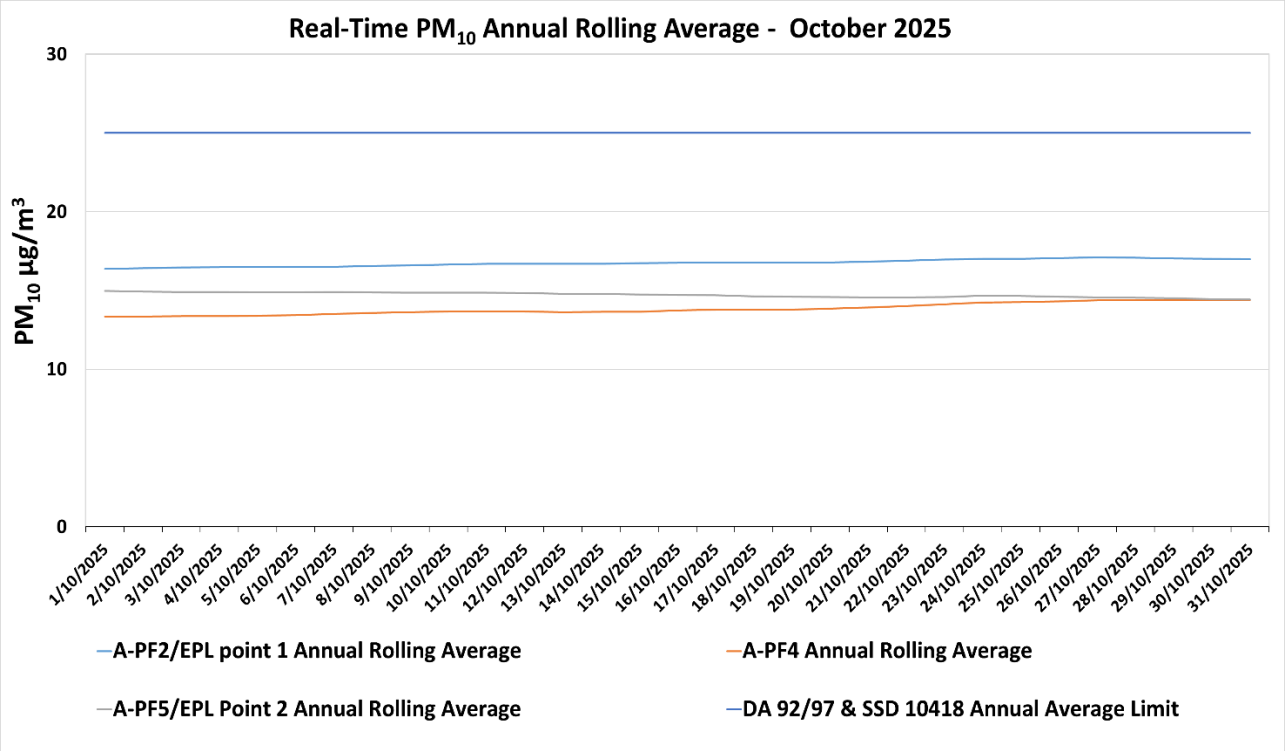


Figure 6-2: Real-time PM_{10} Annual Rolling Average Results for October 2025.

Table 6-2: MPO Palas Fidas $PM_{2.5}$ Data – October 2025

Date	A-PF2/EPA ID 1	A-PF4	A-PF5/EPA ID 2	A-PF2, A-PF4, A-PF5 24 Hour Average Limit (µg/m³)
	24-hour Average Result			
01/10/2025	7.13	7.14	5.01	25
02/10/2025	5.20	3.94	2.75	25
03/10/2025	5.10	3.83	3.26	25
04/10/2025	4.82	4.05	3.68	25
05/10/2025	5.02	4.94	4.22	25
06/10/2025	7.63	7.36	5.41	25
07/10/2025	-	8.68	5.51	25
08/10/2025	7.90	7.36	4.34	25
09/10/2025	10.03	9.98	7.04	25
10/10/2025	8.52	8.07	6.50	25
11/10/2025	5.53	4.56	3.57	25
12/10/2025	4.77	3.51	2.94	25
13/10/2025	4.64	3.37	2.91	25
14/10/2025	5.12	4.86	4.36	25
15/10/2025	4.97	4.49	2.97	25
16/10/2025	5.78	7.17	3.91	25
17/10/2025	6.35	6.25	4.00	25
18/10/2025	-	7.10	5.11	25
19/10/2025	-	6.76	5.88	25
20/10/2025	-	6.71	4.33	25
21/10/2025	8.83	9.09	5.40	25
22/10/2025	10.12	11.06	5.90	25
23/10/2025	9.12	9.30	7.40	25
24/10/2025	7.41	8.26	7.58	25
25/10/2025	6.74	6.65	3.94	25
26/10/2025	7.31	6.90	3.80	25
27/10/2025	6.27	6.71	3.46	25
28/10/2025	4.71	5.20	3.52	25
29/10/2025	3.79	4.03	3.73	25
30/10/2025	5.56	5.85	4.98	25
31/10/2025	6.84	7.23	5.89	25

*Results in **bold** indicate an elevated measurement of adopted assessment criteria.*
Results with "- "indicate dates where data was affected by maintenance or servicing (scheduled and unscheduled)

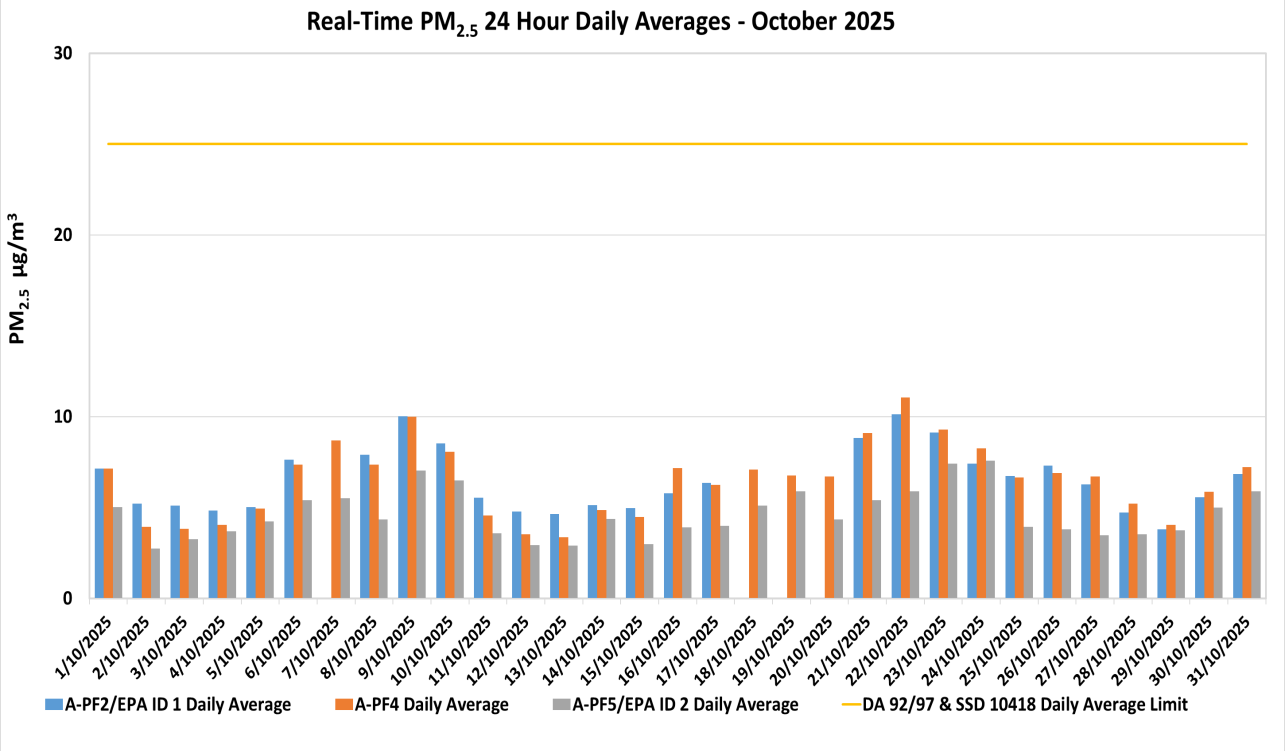


Figure 6-3: Real-time $PM_{2.5}$ 24 hour Daily Average Results for October 2025.

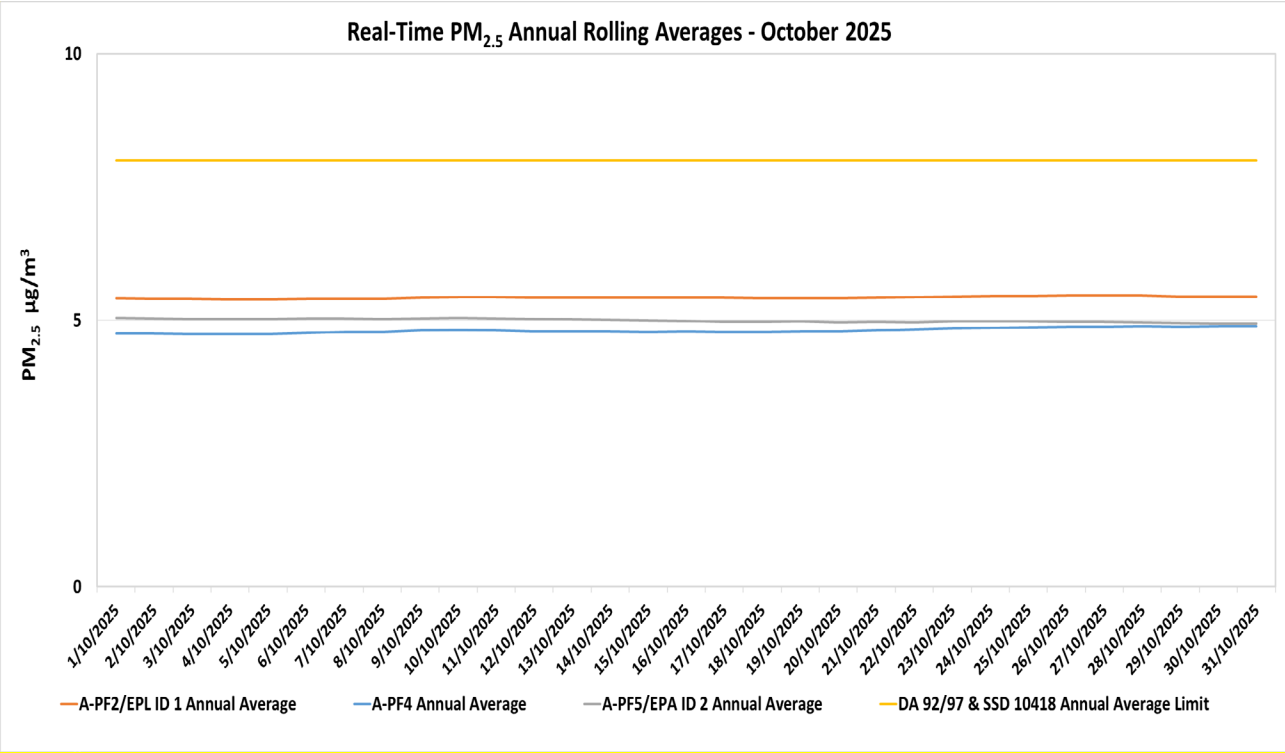


Figure 6-4: Real-time $PM_{2.5}$ Annual Rolling Average Results for October 2025.

7. Dust Shutdowns

7.1 Methodology

PM_{10} dust levels and wind direction is continually monitored at the Muswellbrook NW Upper Hunter Air Quality Monitoring Network Station to assess any exceedances over a 24-hour period.

7.2 Assessment Criteria

Adverse conditions that lead to the shutdown of dust generating activities at Mount Pleasant are assessed as per EPL 20850 requirement O3. Adverse conditions are defined as the occurrence of both adverse wind conditions and adverse PM_{10} conditions measured at the Muswellbrook NW Air Quality Monitoring Station.

- Adverse wind conditions are the result of a one-hour average wind direction between 250 degrees and 340 degrees.
- Adverse PM_{10} conditions are the occurrence of the rolling 24- hour average PM_{10} concentration exceeding 44 µg/m^3.

When adverse conditions have passed and a minimum of one hour of no dust generating activities have been undertaken, activities may resume.

7.3 Results

Table 7.1. presents a log of days throughout the reporting period when adverse conditions were triggered leading to a shutdown event, in accordance with EPL Condition O3.4.

Table 7-1 Dust Shutdowns MPO- October 2025

Date	Muswellbrook NW 24- hour rolling PM10 Average (µg/m^3)	Wind Direction (˚)
2/10/2025	44.7	254
3/10/2025	45.6	295
8/10/2025	46.5	325
9/10/2025	54.2	330
9/10/2025	47.2	338
9/10/2025	50	268
22/10/2025	45.6	337
23/10/2025	63.4	271
24/10/2025	55.2	251

8. Surface Water Monitoring

8.1 Methodology

Surface water quality is monitored at fourteen (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.

8.2 Assessment Criteria

Surface waters were assessed as per the *MPO Water Management Plan* (MACH Energy, 2025) 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.

In accordance with the MPO Water Management Plan (WMP) Table 26 (MACH Energy, 2024) if a water quality indicator at a potential impact monitoring location or at a downstream receiving water monitoring location is above (or outside the range) of the site-specific trigger value for three consecutive sampling events an investigation is required.

8.3 Results

Surface water monitoring was conducted by AECOM during the monitoring period. 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 8-1.**

Table 8-1 – MPO Monthly Surface Water Monitoring Results – 29 October 2025

Station	pH	Electrical Conductivity (EC) (µs/cm)[1]	Total Dissolved Solids (TDS) (mg/L)	Total Suspended Solids (TSS) (mg/L)
W1	**8.4**	**700**	394	6
W2	**	**	**	**
W3	8.4	843	486	9
W4	**8.2**	2210	1410	**13**
W5	*	*	*	*
W6A	**8.5**	**783**	456	7
W9	*	*	*	*
W11	**	**	**	**
W12	**8.6**	4980	2800	<5
W13	9.0	5880	3390	12
W14	*	*	*	*
W15	**8.1**	**911**	546	14
W16	8.7	8440	5150	7
W17	**8.4**	**903**	524	23

*Note: Results in **bold** indicate exceedances of adopted assessment criteria of less than three consecutive events.*
**Dry or insufficient water to sample.*
*** No access due to track conditions.*
**** Investigation Required*
[1] Results have been rounded in accordance with the In-house method Q4AN(EV)-332-WI2 (EC).

9. Groundwater Monitoring

9.1 Methodology

Groundwater monitoring is conducted on a quarterly basis, in February, May, August and November.

10. Noise Monitoring

10.1 Methodology

Attended noise monitoring was undertaken during the monitoring period at eight (8) monitoring locations as per the *MPO Noise Management Plan* (MACH Energy, 2024) in accordance with DA 92/97, SSD 10418 and EPL 20850.

10.2 Results

The results for nighttime attended noise monitoring against noise criteria is shown in **Table 10-1**; **Table 10-2;** and **Table 10-3.**

Table 10-1 – $L_{A1,1min}$ Generated by MPO: Attended Night Monitoring – 21 and 22 October 2025

Location	Time	MPO Only $L_{A1,1min}$ dB	Criterion dB	Wind Speed m/s Direction °	Criterion Applies	Stability Class	Exceedance dB
N-AT1	10:33pm	IA	45	1.8 / 150	Yes	E	No
N-AT2	10:04pm	IA	45	5.0 / 152	Yes	D	NA
N-AT3	11:08pm	IA	45	3.1 / 164	Yes	D	NA
N-AT4	11:55pm	IA	45	0.4 / 233	Yes	F	No
N-AT5	12:36am	36	45	0.4 / 168	Yes	F	No
N-AT6	11:55pm	IA	45	0.4 / 233	Yes	F	No
N-AT7	12:31am	IA	45	0.4 / 127	Yes	F	No
N-AT8	11:29pm	47	49	0.8 / 192	Yes	F	No

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.
*IA = inaudible; and **Bold** results indicate exceedance of criteria.*
NA in the exceedance column means atmospheric conditions outside those specified in the EPL, therefore criterion was not applicable.

Table 10-2 – $L_{Aeq,15min}$ Generated by MPO: Attended Night Monitoring – 21 and 22 October 2025

Location	Time	MPO Only $L_{A1,1min}$ dB	Criterion dB	Wind Speed m/s Direction °	Criterion Applies	Stability Class	Exceedance dB
N-AT1	10:33pm	IA	37	1.8 / 150	Yes	E	No
N-AT2	10:04pm	IA	35	5.0 / 152	Yes	D	NA
N-AT3	11:08pm	IA	40	3.1 / 164	Yes	D	NA
N-AT4	11:55pm	IA	38	0.4 / 233	Yes	F	No
N-AT5	12:36am	32	37	0.4 / 168	Yes	F	No
N-AT6	11:55pm	IA	35	0.4 / 233	Yes	F	No
N-AT7	12:31am	IA	37	0.4 / 127	Yes	F	No
N-AT8	11:29pm	41	43	0.8 / 192	Yes	F	No

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.
*IA = inaudible; and **Bold** results indicate exceedance of criteria.*
NA in the exceedance column means atmospheric conditions outside those specified in the EPL, therefore criterion was not applicable.

Table 10-3 – $L_{Aeq,\ period}$ Cumulative Noise: Attended Night Monitoring – 21 and 22 October 2025

Location	Time	Measured Mining Only $L_{Aeq,\ period}$ dB[1,2,3]	Cumulative Noise Criterion LAeq dB	Exceedance dB
N-AT1	10:33pm	IA	40	No
N-AT2	10:04pm	IA	40	NA
N-AT3	11:08pm	IA	40	NA
N-AT4	11:55pm	IA	40	No
N-AT5	12:36am	32	40	No
N-AT6	11:55pm	34	40	No
N-AT7	12:31am	IA	40	No
N-AT8	11:29pm	43	-	-

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.
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'.
N-AT8 is under acquisition rights and has no cumulative dB criteria.
*IA = inaudible; and **Bold** results indicate exceedance of criteria.*
NA in the exceedance column means atmospheric conditions outside those specified in the EPL, therefore criterion was not applicable.

11. Blast Monitoring

There were nine (9) blast events (a total of 96 blasts YTD). Results are presented in **Table 11-3**. 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 as shown in **Table 11-1** and **Table 11-2**.

Table 11-1 Development Consent DA 92/97 Blasting Criteria

Location	Airblast Overpressure (dB[Lin Peak])	Ground Vibration (mm/s [Peak Particle Velocity])	Allowable Exceedance
Residence on privately owned land	120	10	0%
	115	5	% of the total number of blasts over a period of 12 months
Historic heritage sites[1]	-	10	0%
All public infrastructure	-	50	0%

Source: Development Consent DA 92/97
dB = decibels, mm/s = millimetres per second.
[1] The blasting criteria in relation to historic heritage sites applies to each historic heritage site until such a time as the relevant management requirements for the sites have been fulfilled. Refer to Section 7.4.2 for further detail.

Table 11-2 Development Consent DA 92/97 Blasting Criteria

Location	Airblast Overpressure (dB[Lin Peak])	Ground Vibration (mm/s [Peak Particle Velocity])	Allowable Exceedance
Residence on privately owned land[a]	120	10	0%
	115	5	% of the total number of blasts over a period of 12 months
Mine-owned residences	-	10	
Historic heritage sites[b]	-	10	0%
Other public infrastructure	-	50 (or a limit determined by the structural design methodology in AS 2187.2 - 2006, or its latest version)	0%

Source: Development Consent SSD 10418
[a]The locations referred to in Table 2 are shown in Appendix 3 of Development Consent SSD 10418.
[b]These limits do not apply to historic heritage sites located within the approved disturbance area. Refer to Section 7.4.2 for further detail

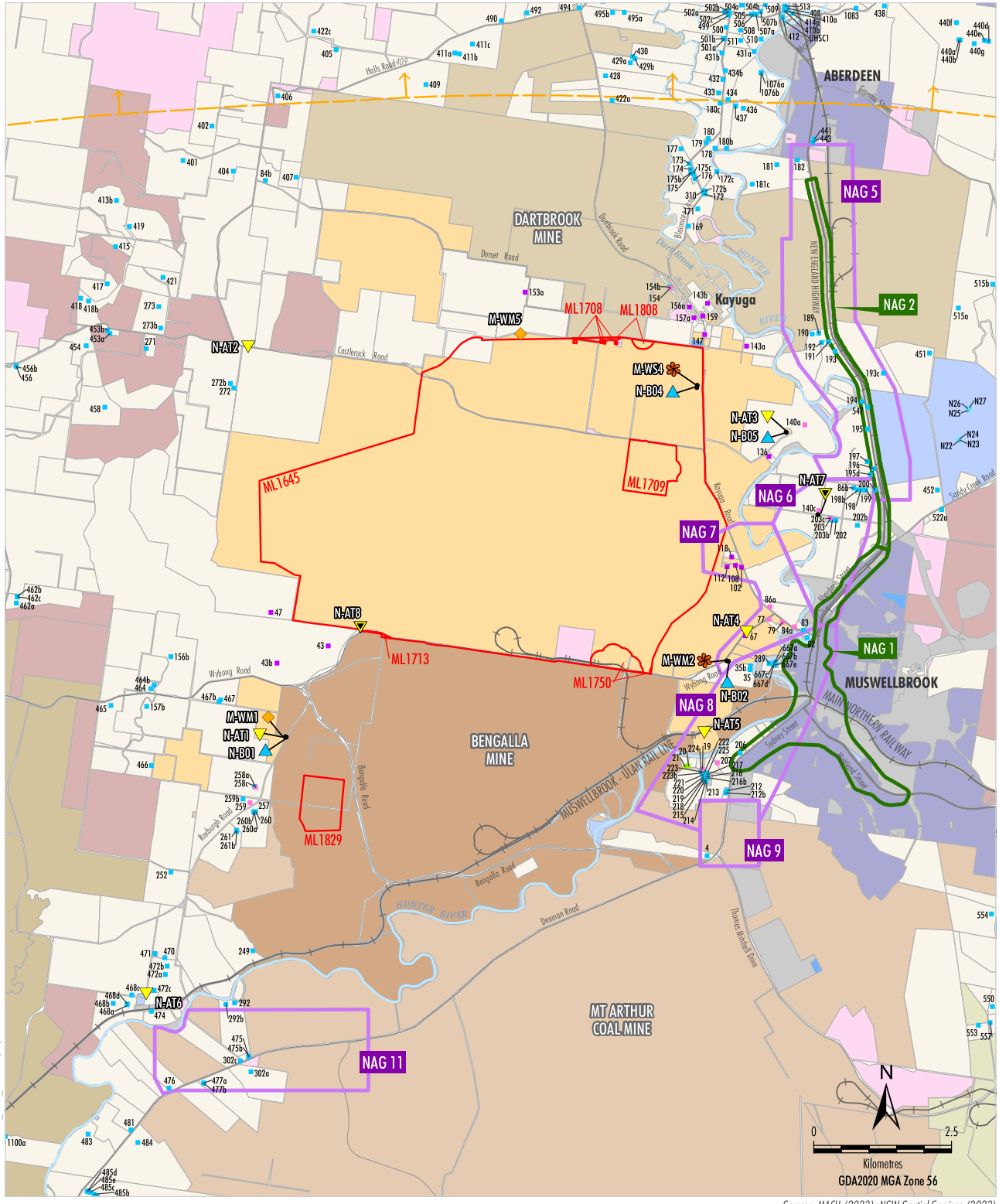
Table 11-3 – MPO Blast Monitoring Results – October 2025

Day & Date Fired	Time Fired	BVOC Vibration (mm/s)	BVOC Overpressure (dBL)	BVO2 Vibration (mm/s)	BVO2 Overpressure (dBL)	Blast Fume Compliant
1/10/25	15:10	1.05 mm/s	113 DBL	0.8 mm/s	103.6 DBL	Y
7/10/25	15:01	1.61 mm/s	103.1 DBL	0.69 mm/s	108.2 DBL	Y
8/10/25	14:47	0.27 mm/s	103.4 DBL	0.34 mm/s	103.8 DBL	Y
13/10/25	12:56	0.52 mm/s	108.7 DBL	0.58 mm/s	98.1 DBL	Y
15/10/25	13:19	0.43 mm/s	93.1 DBL	0.39 mm/s	95.4 DBL	Y
18/10/25	11:59	0.45 mm/s	95.5 DBL	0.37 mm/s	100.3 DBL	Y
20/10/25	14:05	0.33 mm/s	97.8 DBL	0.26 mm/s	106.1 DBL	Y
25/10/25	14:15	0.7 mm/s	91.4 DBL	0.73 mm/s	99.7 DBL	Y
27/10/25	16:45	0.57 mm/s	103.9 DBL	0.59 mm/s	108.1 DBL	Y

APPENDIX A

MPO Environmental Monitoring Network.

Figure numbers referred to in respective management plans.



MAC-18-03A MP2023_Noise_2030 12/03/2024

Source: MACH (2023); NSW Spatial Services (2023)

LEGEND

- Mining Lease Boundary (Mount Pleasant Operation)
- Mount Pleasant-controlled
- Bengalla-controlled
- Dartbrook-controlled
- Mangoola-controlled
- Muswellbrook Coal-controlled
- Mt Arthur-controlled
- Other Mining/Resource-controlled
- Crown
- The State of NSW
- Muswellbrook Shire Council
- Upper Hunter Shire Council
- Privately-owned Land
- Muswellbrook and Upper Hunter LEP Zones B2, B5, R1, R5
- Muswellbrook and Upper Hunter LEP Zones IN1, SP2, RE1, RE2, W1
- Railway

- Privately-owned - Acquisition on Request
- Privately-owned - Mitigation on Request
- Privately-owned - Mitigation/Acquisition on Request*
- Other Privately-owned
- Specific Receivers not modelled
- DA 92/97 Noise Assessment Group (NAG)
- SSD 10418 Noise Assessment Group (NAG)

Monitoring Sites

- Attended Noise
- Proposed Attended Noise [1]
- Real-time Noise Monitoring Site
- Weather Mast
- Weather Station

[1] Proposed Site to be Implemented

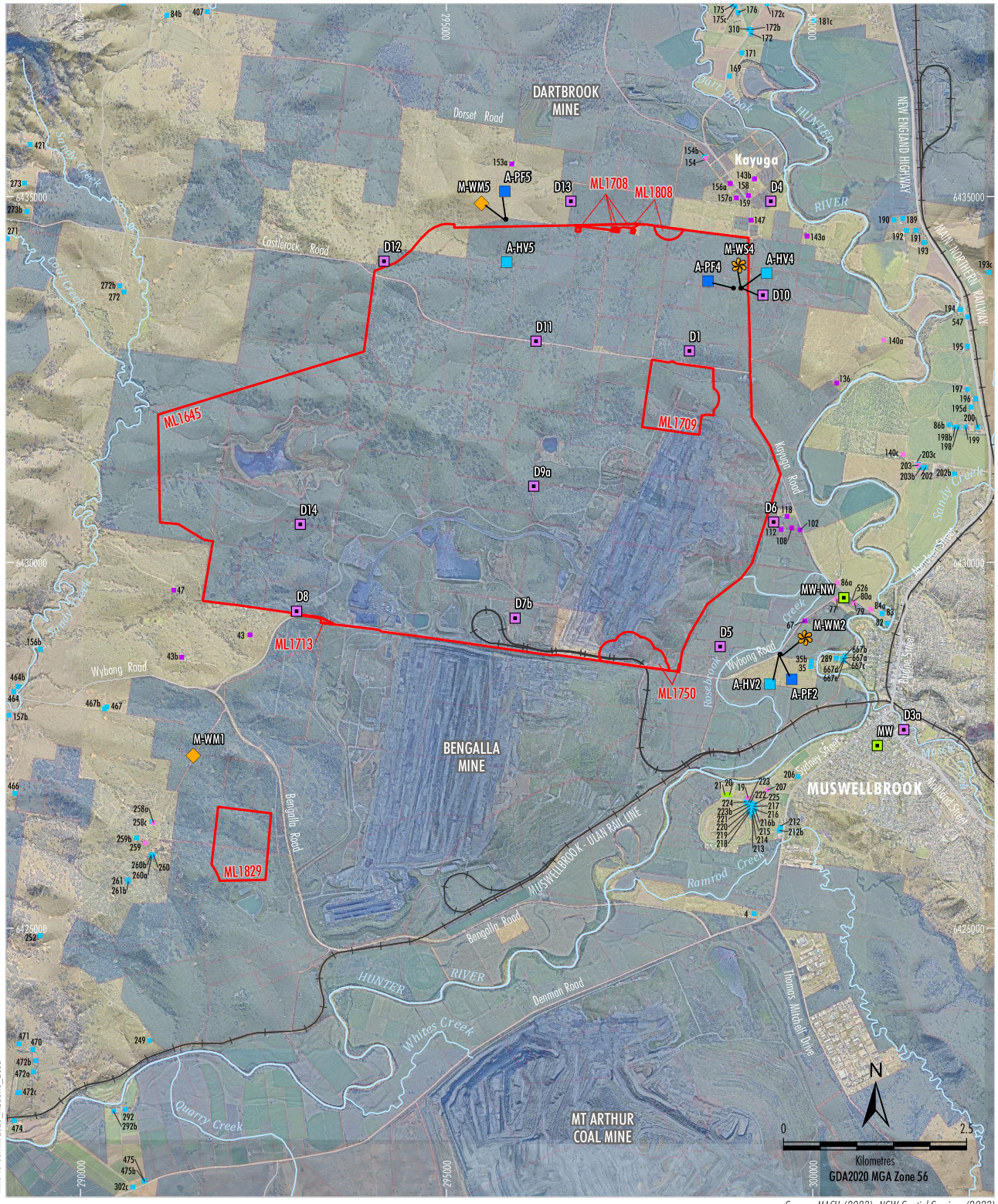
* Mitigation on Request - rail noise/Aquisition on Request - air quality. MACH is only required to acquire and/or install air quality mitigation measures at this property if not reasonably achievable under a separate approval for the Bengalla Mine.

MACHEnergy

MOUNT PLEASANT OPERATION

Nominal Noise and Meterological Monitoring Sites

Figure 8



MAC-18-03A MP2023_A0&GHG_203B

Source: MACH (2023); NSW Spatial Services (2023)
Orthophoto: MACH (Dec 2022)

LEGEND

- Mining Lease Boundary (Mount Pleasant Operation)
- Mine-owned Land
- Railway

Monitoring Sites

- Air Quality - High Volume Sampler
- Air Quality - Palas Fidas
- Dust Deposition Gauge
- Upper Hunter Air Quality Monitoring Network
- Weather Mast
- Weather Station

Category of Rural Residence under DA92/97

- Privately-owned - Acquisition on Request
- Privately-owned - Mitigation on Request
- Privately-owned - Mitigation/Acquisition on Request*
- Other Privately-owned

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

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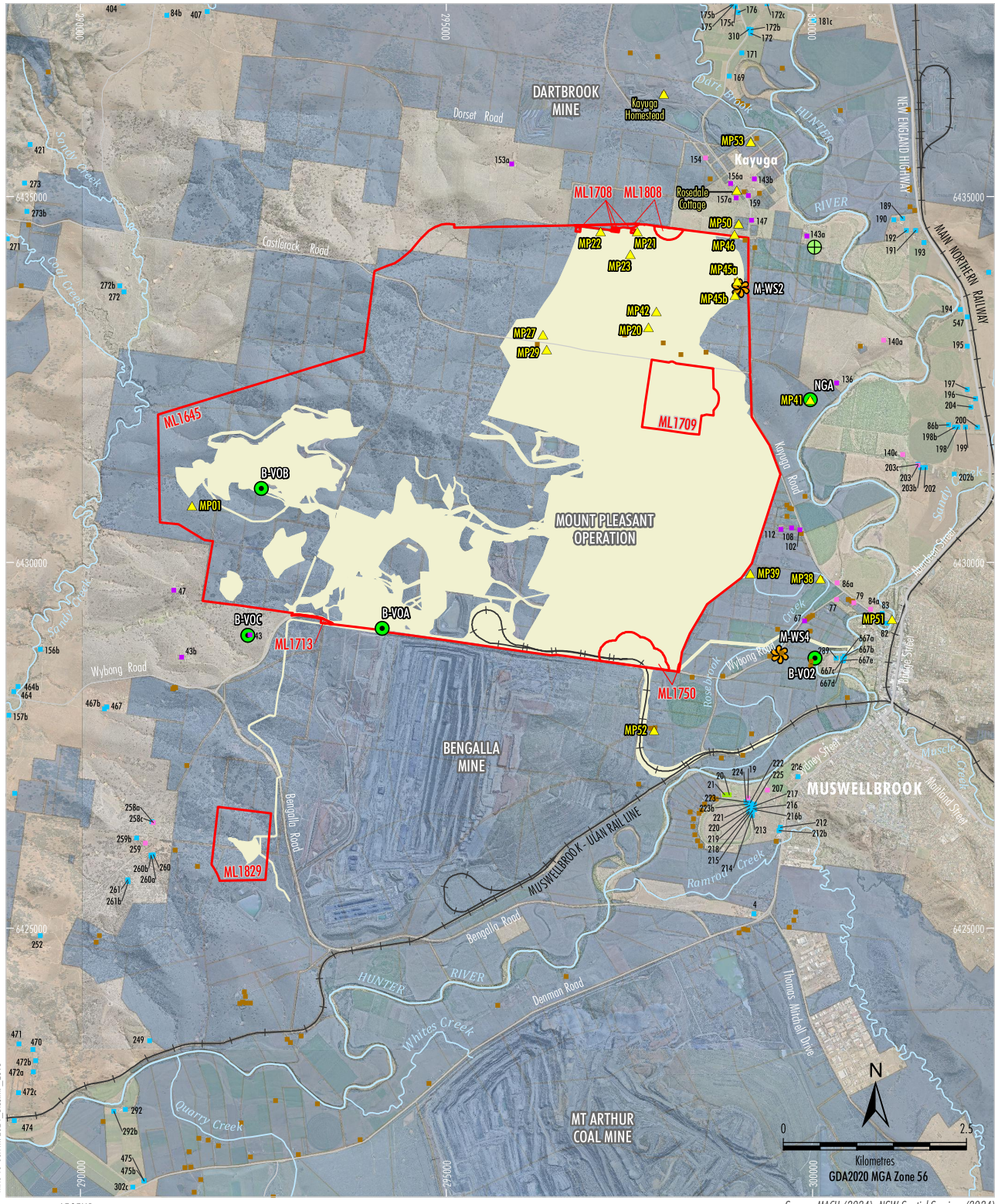
MOUNT PLEASANT OPERATION

Air Quality and Meteorological Monitoring Sites

Figure 3



Source: MACH (2024); NSW Spatial Services (2024)
Orthophoto: MACH (Dec 2023)

LEGEND

- Mine-owned Land
- Mining Lease Boundary (Mount Pleasant Operation)
- Project Continuation of Existing/Approved Surface Development (DA 927/97)[1]
- Weather Station
- Blast Monitoring Site (Vibration/Overpressure)
- Proposed Blast Monitoring Site (Vibration/Overpressure)
- Relevant Historic Heritage Sites # ^

Category of Rural Residence under DA 92/97

- Mine-owned

Category of Rural Residence under DA 92/97

- Privately-owned - Acquisition on Request
- Privately-owned - Mitigation on Request
- Privately-owned - Mitigation/Acquisition on Request*
- Other Privately-owned

[1] Excludes some incidental Project components such as water management infrastructure, access tracks, topsoil stockpiles, power supply, temporary offices, other ancillary works and construction disturbance.

Blast criteria only apply until the heritage site is excavated, salvaged or demolished in accordance with the Historic Heritage Management Plan.

^ Blast criteria do not apply to historic heritage sites located within the approved disturbance area.

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

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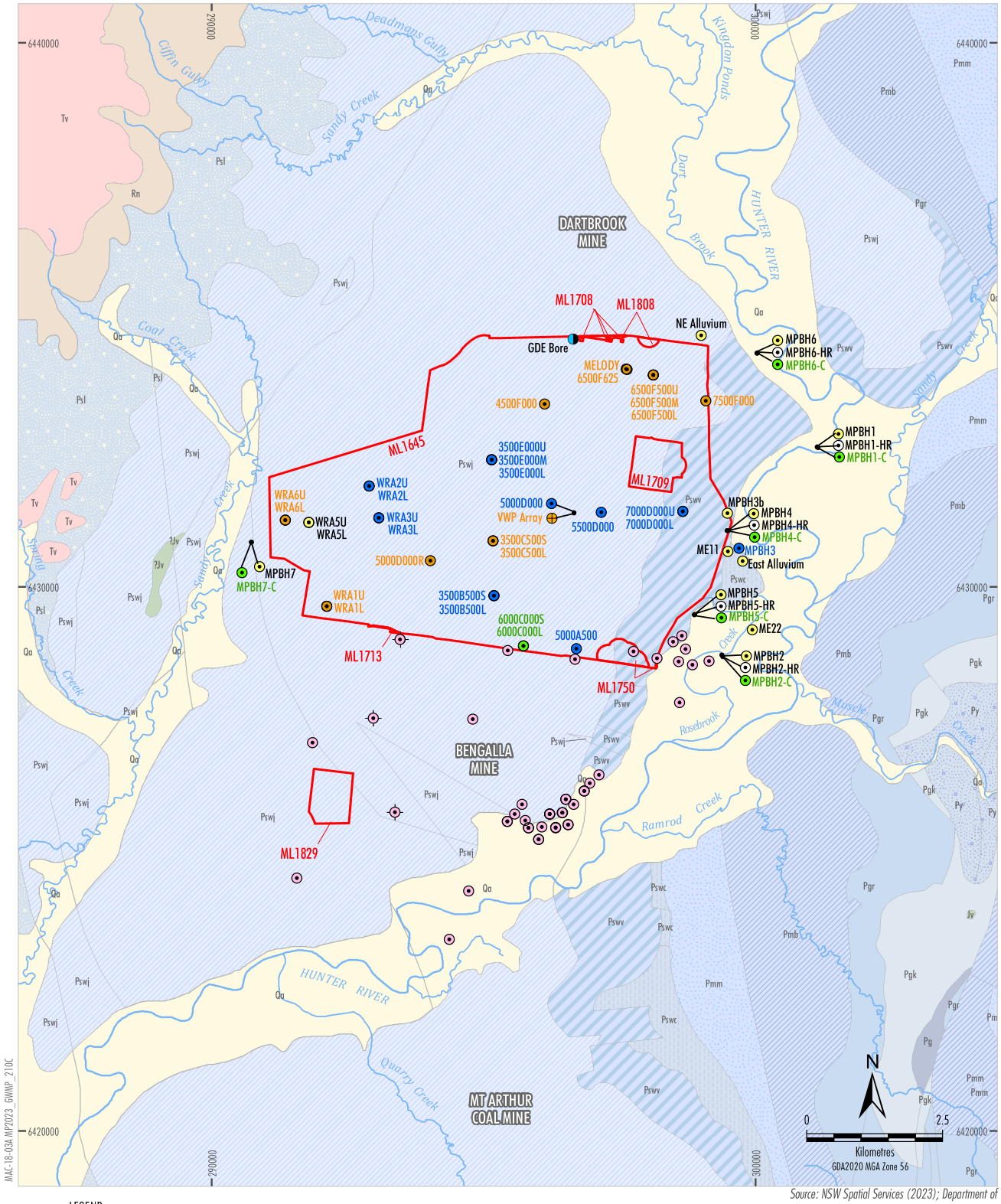
MOUNT PLEASANT OPERATION

Blast Monitoring Locations

Figure 3



MAC-18-03A MP2023_GWMP_210C

Source: NSW Spatial Services (2023); Department of Planning and Environment (2019)

LEGEND

- Mining Lease Boundary (Mount Pleasant Operation)

Mount Pleasant Monitoring

- GDE Bore
- Vibrating Wire Piezometer
- Standpipe
- Standpipe - Alluvium
- Standpipe - Coal Seam
- Standpipe - Interburden
- Standpipe - Historical

Bengalla Monitoring

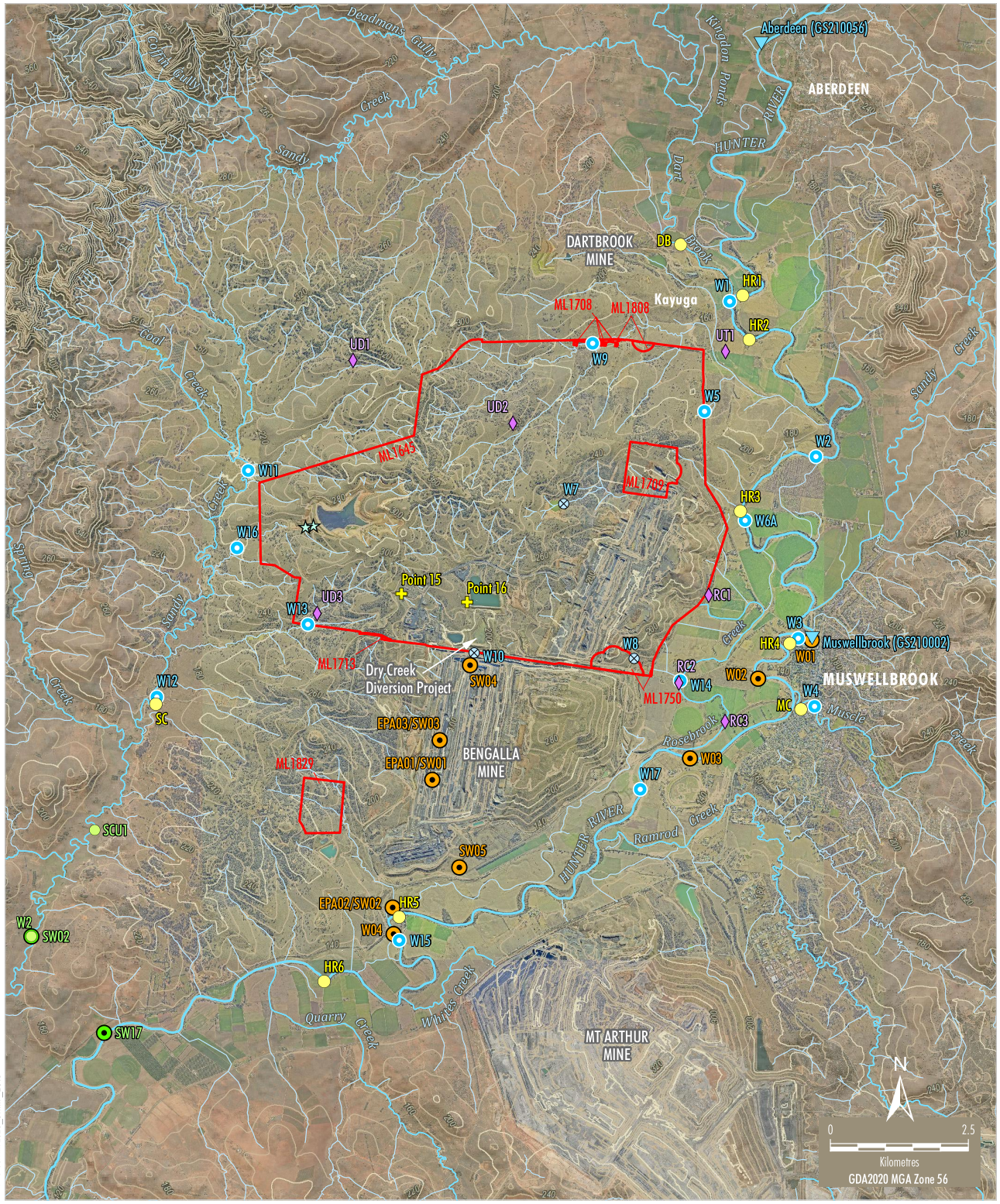
- Bengalla Standpipe
- Bengalla Vibrating Wire Piezometer

MACHEnergy

MOUNT PLEASANT OPERATION

Groundwater Monitoring Network

Figure 5



MAC-18-03A MP2023_SWMP_2010

Source: MACH (2023); NSW Spatial Services (2023); NSW Department of Primary Industries - Water (2016); Bengalla Mining Company (2015); Mangoal Coal Operations Pty Ltd (2014)
Orthophoto: MACH (Jun 2023, 2020)

LEGEND

- Mining Lease Boundary (Mount Pleasant Operation)
- Contour (20 m Interval)
- DPI Water Gauging Station

Mount Pleasant Monitoring

- Aquatic Ecology Habitat Assessment Site
- Surface Water Monitoring Site
- Historical Surface Water Monitoring Site
- Stream Health Monitoring Site
- V-notch Weir
- Water Discharge/Monitoring Point (EPL 20850)

Mangoola Monitoring

- Surface Water Monitoring Site
- Stream Health Monitoring Site

Bengalla Monitoring

- Surface Water Monitoring Site

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MOUNT PLEASANT OPERATION

Surface Water and Stream Health Monitoring Sites

Figure 4