
Mannering Colliery Monthly Website Report – February 2025

Site:	Mannering Colliery
Department:	Health Safety and Environment
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Summary

Environmental monitoring results are presented in this report for monitoring undertaken during the period of February 2025.

Introduction

Great Southern Energy Pty Ltd (trading as Delta Coal) operates Mannering Colliery, an underground coal mine at the southern end of Lake Macquarie.

Mannering Colliery operates under the following regulatory instruments:

- Section 66(6) of the *Protection of the Environment Operations Act 1997*, to make monitoring data related to an Environment Protection Licence (EPL) publicly available;
- Condition 10 & 13, Schedule 5, of Project Approval 06_0311 (as modified) to provide details of monitoring results and environmental performance;
- An Environment Protection Licence (EPL 191) issued under the *Protection of the Environment Operations Act 1997*; and
- A Water Access Licence (WAL40461), Aquifer (Sydney Basin – North Coast Groundwater Source) for 450-unit shares (megalitres).

Details of the Mannering Colliery EPL 191 are provided below.

Mannering Colliery Information	
Premises name	Mannering Colliery
Address	Ruttleys Road, Doyalson, NSW, 2262
Licensee	Great Southern Energy Pty Ltd
EPL #	191
EPL location	EPL 0191 - 16 June 2023

The overall purpose of this monthly report is to keep stakeholders informed of the environmental monitoring results at Mannering Colliery and maintain a transparent and accountable reporting system.

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Scope

This report presents the results from the various environmental monitoring programs undertaken for Mannering Colliery. Results are presented monthly with annual data, averages and trends in data also shown where relevant.

Where applicable, the results of the monitoring programs are compared with the relevant criteria (from the EPL or Project Approval) to assess compliance.

Monitoring results presented include:

- Water – quality;
- Water – volume;
- Air Quality – Depositional Dust
- Air Quality – PM₁₀
- Air Quality – PM_{2.5}; and
- Meteorological data.

Definitions

g/m²/month – grams per square metre per month;

kL – kilolitre;

ML – megalitre;

mg/L – milligrams per litre;

TSS – total suspended solids;

µg/L – micrograms per litre; and

µS/cm – microSiemens per centimetre.

References

Project Approval MP06_0311 (as modified)

Environment Protection Licence 191 (Licence version date: 16 June 2023)

ALS - Dust Deposition Report **February 2025**

ALS – MC Water Analysis Reports **February 2025**

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Monitoring Results

Water – Quality

Weekly water quality results for discharge point LDP001 are presented below.

February 2025				
EPL	191			
Licensee	Great Southern Energy Pty Ltd			
Premises	Mannering Colliery			
Location	LDP001 (EPA ID # 1)			
Sample Frequency	Weekly			
pH limit	6.5 - 8.5			
TSS limit (mg/L)	50			
Oil and grease limit (mg/L)	10			
Water Quality Results				
Date	pH	TSS (mg/L)	Oil and grease (mg/L)	Electrical Conductivity (µS/cm)
4/02/2025	7.72	16	<5	27100
11/02/2025	7.76	8	<5	28800
18/02/2025	7.73	<5	<5	29200
25/02/2025	7.91	7	<5	21600
Average	7.88	8.38	<5	26675

There were no exceedances of water quality criteria in February 2025 at Mannering Colliery.

Monthly water quality results, primarily metals and metalloids, at LDP001 are presented below.

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Sub-Matrix: WATER (Matrix: WATER)		Sample ID		LDP001
		Sampling date / time		11-Feb-2025 08:20
Compound	CAS Number	LOR	Unit	EN2502396-001
				Result
ED040F: Dissolved Major Anions				
Sulfur as S	63705-05-5	1	mg/L	156
Silicon as SiO ₂	14464-46-1	0.1	mg/L	14.2
ED093T: Total Major Cations				
Calcium	7440-70-2	1	mg/L	340
Magnesium	7439-95-4	1	mg/L	300
Potassium	7440-09-7	1	mg/L	42
EG020F: Dissolved Metals by ICP-MS				
Aluminium	7429-90-5	10	µg/L	20
Arsenic	7440-38-2	1	µg/L	<1
Beryllium	7440-41-7	1	µg/L	<1
Cadmium	7440-43-9	0.1	µg/L	<0.1
Chromium	7440-47-3	1	µg/L	<1
Cobalt	7440-48-4	1	µg/L	<1
Copper	7440-50-8	1	µg/L	1
Lead	7439-92-1	1	µg/L	<1
Manganese	7439-96-5	1	µg/L	56
Molybdenum	7439-98-7	1	µg/L	9
Nickel	7440-02-0	1	µg/L	3
Selenium	7782-49-2	10	µg/L	<10
Silver	7440-22-4	1	µg/L	<1
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	524
EG020T: Total Metals by ICP-MS				
Aluminium	7429-90-5	10	µg/L	<10
Antimony	7440-36-0	1	µg/L	<1
Arsenic	7440-38-2	1	µg/L	<1
Beryllium	7440-41-7	1	µg/L	<1
EG020T: Total Metals by ICP-MS - Continued				
Barium	7440-39-3	1	µg/L	243
Cadmium	7440-43-9	0.1	µg/L	<0.1
Chromium	7440-47-3	1	µg/L	<1
Cobalt	7440-48-4	1	µg/L	<1
Copper	7440-50-8	1	µg/L	7
Lead	7439-92-1	1	µg/L	<1
Lithium	7439-93-2	1	µg/L	687
Molybdenum	7439-98-7	1	µg/L	14
Nickel	7440-02-0	1	µg/L	3
Selenium	7782-49-2	10	µg/L	<10
Silver	7440-22-4	1	µg/L	<1
Tin	7440-31-5	1	µg/L	<1
Titanium	7440-32-6	10	µg/L	<10
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	698
Boron	7440-42-8	50	µg/L	460
Iron	7439-89-6	50	µg/L	160
EG035F: Dissolved Mercury by FIMS				
Mercury	7439-97-6	0.1	µg/L	<0.1
EG035T: Total Recoverable Mercury by FIMS				
Mercury	7439-97-6	0.1	µg/L	<0.1
EK055G: Ammonia as N by Discrete Analyser				
Ammonia as N	7664-41-7	0.01	mg/L	0.72
EK067G: Total Phosphorus as P by Discrete Analyser				
Total Phosphorus as P	----	0.01	mg/L	0.05

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Water – Volume

Monthly water volumes discharged via MC's LDP1 during February 2025 at Mannering Colliery are summarised below.

EPL	191
Licensee	Great Southern Energy Pty Ltd
Premises	Mannering Colliery
Date Sampled	Daily
Discharge volume limit	4000 kilolitres per day
Sampling Point	LDP001 (EPA ID # 1)

Date (24 hour period)	LDP 1 Volume (kL/day)	Rainfall (mm)
01/02/2025	1350.92	0.2
02/02/2025	1216.79	0
03/02/2025	1092.29	0
04/02/2025	2094.54	0
05/02/2025	1524.83	0
06/02/2025	771.23	0
07/02/2025	965.55	0
08/02/2025	924.44	0
09/02/2025	392.12	0
10/02/2025	758.75	0.8
11/02/2025	833.05	2.8
12/02/2025	940.61	0
13/02/2025	1509.72	0
14/02/2025	995.89	3.2
15/02/2025	621.74	6.2
16/02/2025	602.82	0
17/02/2025	586.93	0
18/02/2025	587.76	0
19/02/2025	830.43	0
20/02/2025	728.27	6.6
21/02/2025	739.27	0.6
22/02/2025	716.37	2.6
23/02/2025	680.22	0
24/02/2025	582.02	0
25/02/2025	488.39	7.2
26/02/2025	295.55	0.8
27/02/2025	126.22	0
28/02/2025	1002.22	0

Average	2094.54 kL/day	1.1 mm/day
Maximum	855.68 kL/day	7.2 mm/day

Volumetric discharge remained below the daily limit of 4,000 kL per day.

Water – Groundwater Discharge

Groundwater discharged from underground workings to the MCs surface retention Dams has been detailed below. Mannering Colliery operates Water Access License 40461 permitting the extraction of

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450 megalitres per financial year and reports annual use to the Water NSW, Water Accounting System (iWAS).

MC Groundwater Pumped to Surface Totals FY2024-2025		
Date (month)	GW Discharge (ML/Month)	GW Discharge (Cumulative ML YTD)
July 2024	14	14
August 2024	25	39
September 2024	20	59
October 2024	26	85
November 2024	19	104
December 2024	18	122
January 2025	22	144
February	19	163

Air Quality – Depositional Dust

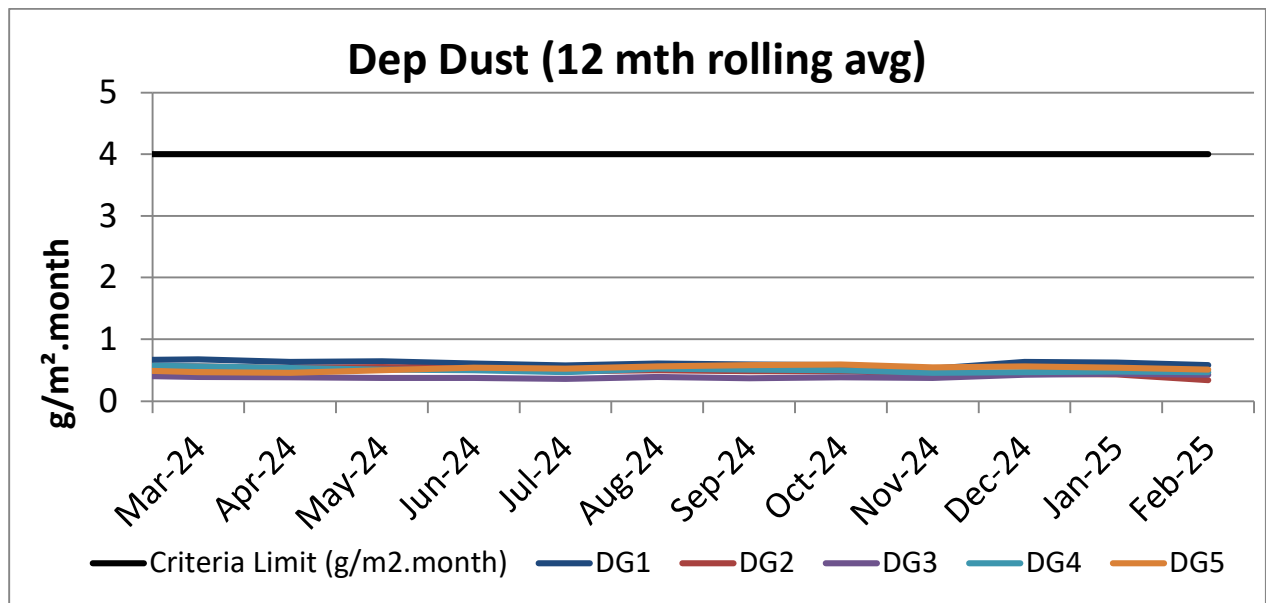
Monthly depositional dust results are shown below.

February 2025		
EPL	191	
Limits	Max. total deposited dust level	4g/m ² /month
	Max. increase in deposited dust level	2g/m ² /month
Sampling Date	02/01/2025 – 3/02/2025	
EPA ID no.	Site	Insoluble Matter (g/m ² /month)
3	DG1	0.8
4	DG2	0.2
5	DG3	0.4
6	DG4	0.6
7	DG5	0.8
Notes: Sampling locations provided in Delta Coal Air Quality and Greenhouse Gas Management Plan available on the Delta Coal website.		

A 12-month rolling average of depositional dust concentrations has been presented below. Mannering Colliery's dust gauges are located around the perimeter of the Mannering Colliery site boundary.

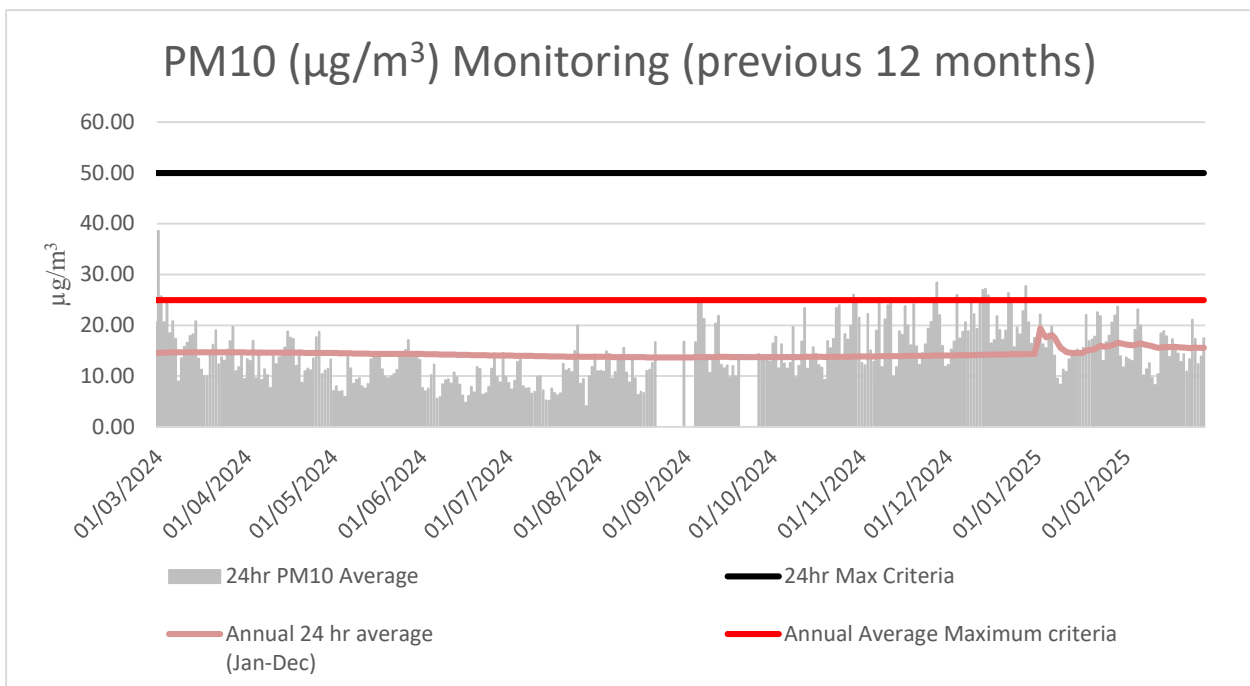
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Air Quality – PM₁₀

The 24hr PM₁₀ average from Delta Coal's Tapered Element Oscillating Microbalance (TEOM), located at the Mannering Park Sewage Treatment Plant, is presented below for the previous 12 months.



Annual 24hr PM₁₀ average maximum criteria for February 2025 was below the annual average maximum criteria limit. A summary of data availability for Delta Coal's TEOM is presented below for the reporting period. Delta Coals TEOM had a data availability of 100% for the month of February 2025.

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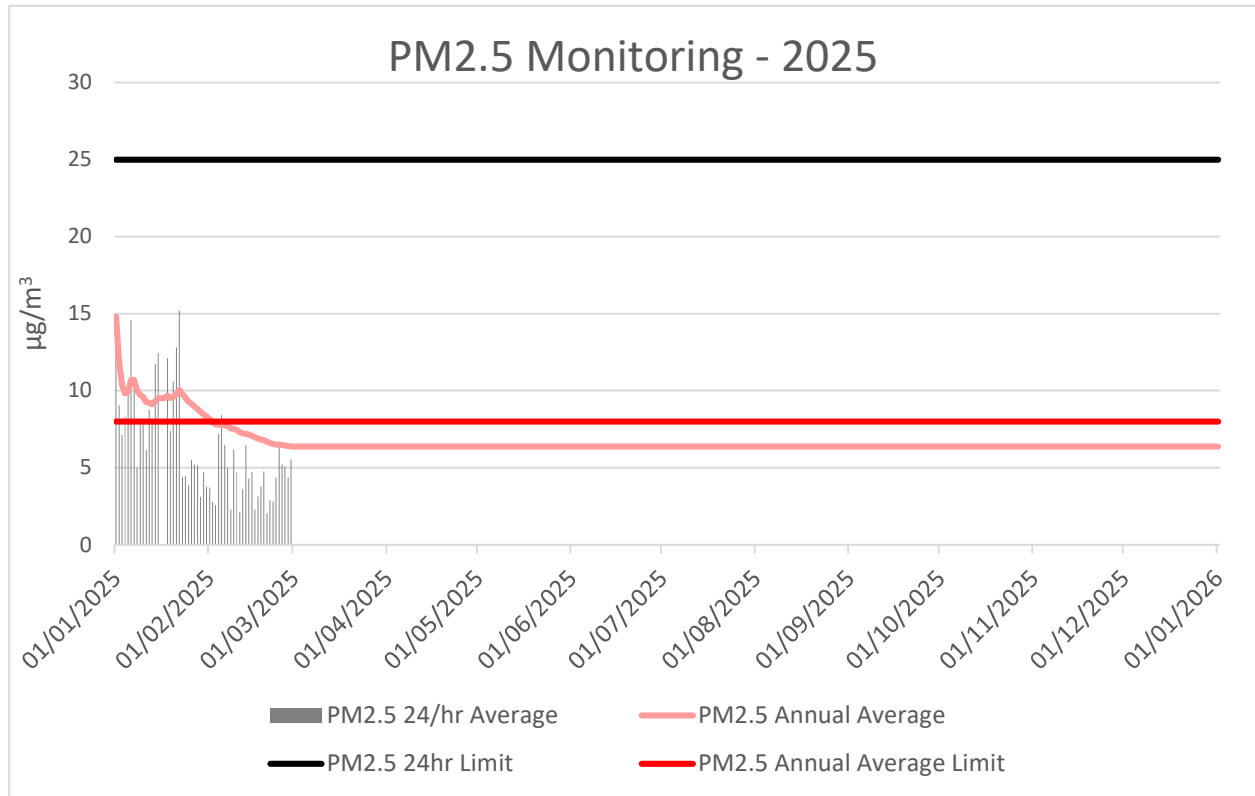
Variable	January	Total	Valid
A/C Temp	99.0%	8928	8837
A1_Scaled	99.0%	8928	8839
Band	99.0%	8928	8839
Bypass Flow	88.7%	8928	7919
Cap Temp	88.7%	8928	7920
Case Temp	88.7%	8928	7919
Config	99.0%	8928	8839
Dew Point	88.7%	8928	7920
Dig-In	99.0%	8928	8839
Dig-Latch	99.0%	8928	8839
ESN	99.0%	8928	8839
Filter Freq	88.7%	8928	7919
Filter Load	88.7%	8928	7919
Humidity	88.7%	8928	7920
MC	88.7%	8928	7919
MC 12Hr	88.7%	8928	7919
MC 1Hr	88.7%	8928	7919
MC 24Hr	88.7%	8928	7919
MC 30min	88.7%	8928	7919
MC 8Hr	88.7%	8928	7919
MC Total	88.7%	8928	7919
Mobile Signal	99.0%	8928	8839
Noise	88.7%	8928	7919
PM10 Flow	88.7%	8928	7919
Pressure	88.7%	8928	7920
Site	0.0%	8928	0
Temperature	88.7%	8928	7920
Tube Temp	88.7%	8928	7919
Vac Pressure	88.7%	8928	7920
Volts	99.0%	8928	8839

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Air Quality – PM_{2.5}

Delta Coal utilises PM_{2.5} data obtained from Delta Electricity owned and operated beta attenuation monitor (BAM). The PM_{2.5} monitor is located on Tingley Road, Wyee.



There were no exceedances of the PM_{2.5} daily average limit in February 2025. The 12-month rolling average PM_{2.5} value on 28 February was 6.39 $\mu\text{g}/\text{m}^3$. PM_{2.5} data availability in February was 91.88%. The 2025 year to date PM_{2.5} data availability is 97%.

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Weather Data

A summary of weather data recorded by a meteorological monitoring station at the adjacent Mannering Colliery is presented below for the year to date. (EPA ID no. 26).

Monthly Weather Data 2025			
Licensee	Great Southern Energy Pty Ltd		
Location	Mannering Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	10 February 2025		
Month	Total Rainfall/Month (mm)	Min Temp	Max Temp
Jan-24	237	11.9	41.3
Feb-24	31	12.5	33.8

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Variable	February	Total	Valid
Baro (Corrected)	98.6%	2688	2650
10m Temp	98.6%	2688	2650
2m Temp	98.6%	2688	2650
A1	98.6%	2688	2650
A1_Scaled	98.6%	2688	2650
Assumed Temp	98.6%	2688	2650
Barometric	98.6%	2688	2650
Config	98.6%	2688	2650
Daily Evap	98.6%	2688	2650
Daily Rain	98.6%	2688	2650
Delta T	98.6%	2688	2650
Dew Point	98.6%	2688	2650
Dig-In	98.6%	2688	2650
Dig-Latch	98.6%	2688	2650
ESN	98.6%	2688	2650
FDI	98.6%	2688	2650
Heat Index	98.6%	2688	2650
Humidity	98.6%	2688	2650
Mobile Signal	98.6%	2688	2650
Rain	98.6%	2688	2650
Raw Evap	98.6%	2688	2650
S Class	98.6%	2688	2650
Scalar WS	98.6%	2688	2650
Sigma	98.6%	2688	2650
Site	0.0%	2688	0
Solar Radiation	98.6%	2688	2650
Vector WD	98.6%	2688	2650
Vector WS	98.6%	2688	2650
Volts	98.6%	2688	2650
Wind Chill	98.6%	2688	2650
Wind Direction	98.6%	2688	2650
Wind Speed	98.6%	2688	2650
WS Avg	98.6%	2688	2650
WS Gust	98.6%	2688	2650