



Mannering Colliery Monthly Website Report – January 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 January 2025.

Introduction

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

Manning Colliery operates under the following regulatory instruments:

- Section 66(6) of the *Protection of the Environmental 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 Manning Colliery EPL 191 are provided below.

Manning Colliery Information	
Premises name	Manning 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 Manning Colliery and maintain a transparent and accountable reporting system.

Scope

This report presents the results from the various environmental monitoring programs undertaken for Manning 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 **January 2025**

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

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Monitoring Results

Water – Quality

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

January 2025				
EPL	191			
Licensee	Great Southern Energy Pty Ltd			
Premises	Manning 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)
7/01/2025	7.76	17	<5	28600
15/01/2025	7.80	12	<5	26200
21/01/2025	7.83	8	<5	21600
28/01/2025	7.92	11	<5	28600

Average	7.8	12	<5	26250
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There were no exceedances of water quality criteria in January 2025 at Manning 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	15-Jan-2025 09:55
Compound	CAS Number	LOR	Unit	EN2500741-001 Result
ED040F: Dissolved Major Anions				
Sulfur as S	63705-05-5	1	mg/L	144
Silicon as SiO2	14464-46-1	0.1	mg/L	13.5
ED093T: Total Major Cations				
Calcium	7440-70-2	1	mg/L	330
Magnesium	7439-95-4	1	mg/L	293
Potassium	7440-09-7	1	mg/L	41
EG020F: Dissolved Metals by ICP-MS				
Aluminium	7429-90-5	10	µg/L	<10
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	18
Lead	7439-92-1	1	µg/L	<1
Manganese	7439-96-5	1	µg/L	47
Molybdenum	7439-98-7	1	µg/L	6
Nickel	7440-02-0	1	µg/L	4
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	96
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	258
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	18
Lead	7439-92-1	1	µg/L	<1
Lithium	7439-93-2	1	µg/L	611
Molybdenum	7439-98-7	1	µg/L	11
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	4
Titanium	7440-32-6	10	µg/L	<10
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	98
Boron	7440-42-8	50	µg/L	420
Iron	7439-89-6	50	µg/L	280
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	0.57
EK067G: Total Phosphorus as P by Discrete Analyser				
Total Phosphorus as P	---	0.01	mg/L	0.07

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Water – Volume

Monthly water volumes discharged via MC's LDP1 during January 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)
01/01/2025	416.15	0
02/01/2025	848.94	1.6
03/01/2025	996.91	1.8
04/01/2025	1029.4	0
05/01/2025	996.89	0
06/01/2025	1757.39	0
07/01/2025	588.6	0.8
08/01/2025	2022.16	3.2
09/01/2025	2144.4	2
10/01/2025	1281.4	0.2
11/01/2025	1016.88	0
12/01/2025	977.84	0
13/01/2025	983.38	0
14/01/2025	972.43	0.2
15/01/2025	979.74	9.4
16/01/2025	2565.88	6
17/01/2025	1205.41	1.4
18/01/2025	2656.05	3.2
19/01/2025	1268.96	0
20/01/2025	1026.96	0
21/01/2025	983.01	0
22/01/2025	963.39	0.6
23/01/2025	2247.26	0
24/01/2025	875.68	0.2
25/01/2025	651.37	0
26/01/2025	577.67	0
27/01/2025	642.6	0.6
28/01/2025	460.2	7.4
29/01/2025	1130.54	2.8
30/01/2025	1536.02	4
31/01/2025	1617.96	1.6

Average	1207 kL/day	7.9 mm/day
Maximum	2656 kL/day	42.4 mm/day

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

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Water – Groundwater Discharge

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

Air Quality – Depositional Dust

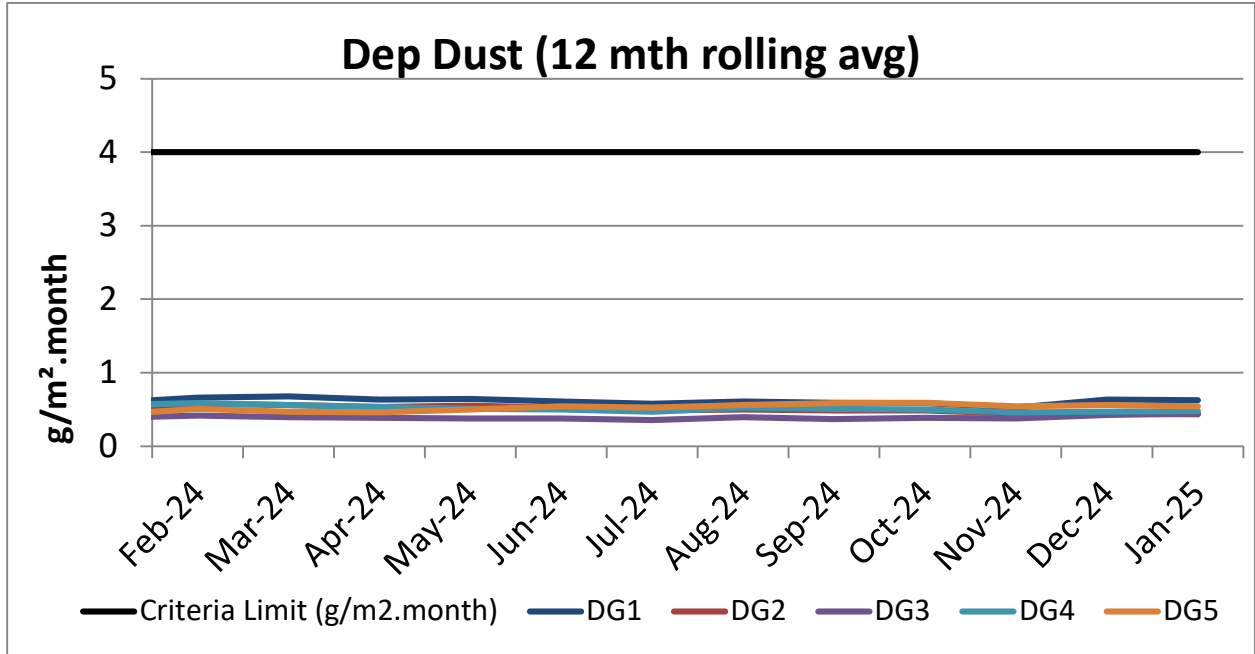
Monthly depositional dust results are shown below.

January 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	02/12/2024 – 02/01/2025	
EPA ID no.	Site	Insoluble Matter (g/m ² /month)
3	DG1	0.5
4	DG2	0.6
5	DG3	0.8
6	DG4	1.2
7	DG5	0.5
Notes:	Sampling locations provided in Delta Coal Air Quality and Greenhouse Gas Management Plan available on the Delta Coal website.	

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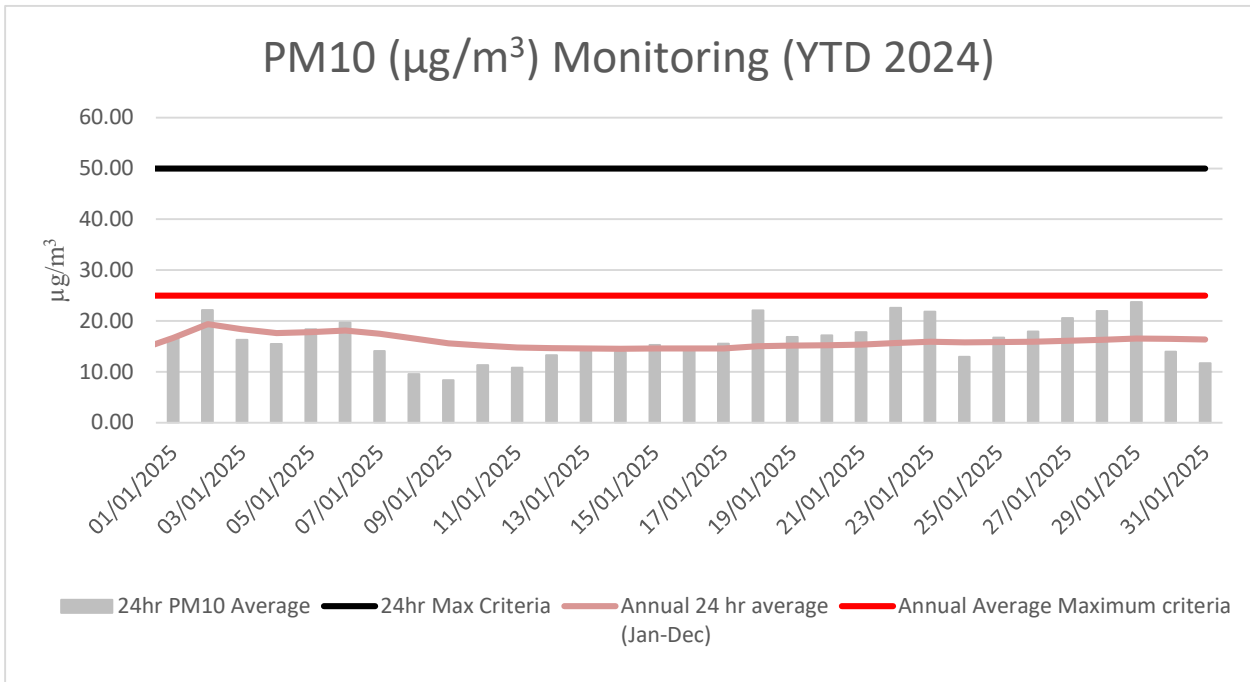
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A 12-month rolling average of depositional dust concentrations has been presented below. Manning Colliery’s dust gauges are located around the perimeter of the Manning Colliery site boundary.



Air Quality – PM₁₀

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



Annual 24hr PM₁₀ average maximum criteria for January 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 January 2025.

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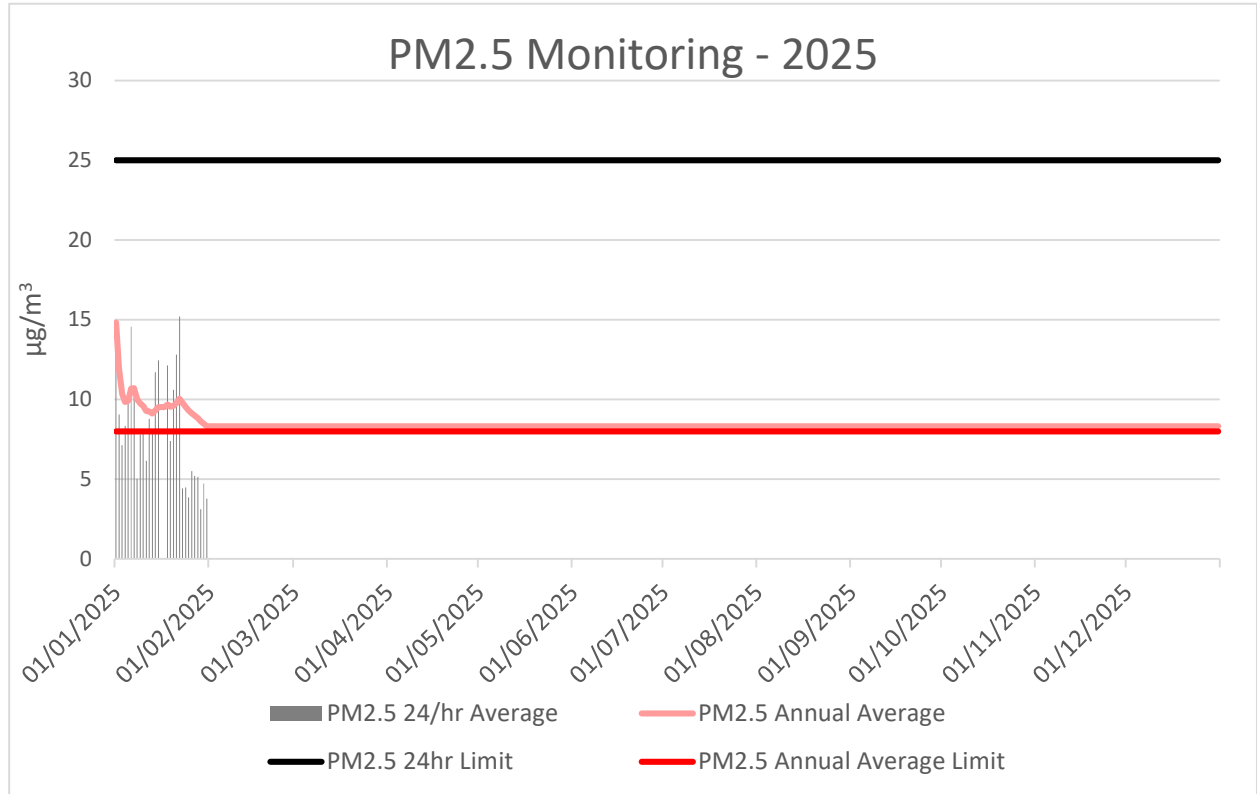
Variable	January	Total	Valid
A/C Temp	99.0%	8928	8837
A1_Scaled	99.0%	8928	8839
Band	99.0%	8928	8839
Bypass Flow	88.7%	8928	7919
Cap Temp	88.7%	8928	7920
Case Temp	88.7%	8928	7919
Config	99.0%	8928	8839
Dew Point	88.7%	8928	7920
Dig-In	99.0%	8928	8839
Dig-Latch	99.0%	8928	8839
ESN	99.0%	8928	8839
Filter 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 – PM2.5

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 January 2025. The 12-month rolling average PM_{2.5} value on 31 January was 8.3 $\mu\text{g}/\text{m}^3$. PM_{2.5} data availability in January was 87.63%. The 2025 year to date PM_{2.5} data availability is 88%.

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Weather Data

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

Monthly Weather Data 2025			
Licensee	Great Southern Energy Pty Ltd		
Location	Manning Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	10 January 2025		
Month	Total Rainfall/Month (mm)	Min Temp	Max Temp
Jan-25	237	11.9	41.3

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Variable	January	Total	Valid
Baro (Corrected)	99.9%	2976	2974
10m Temp	99.9%	2976	2974
2m Temp	99.9%	2976	2974
A1	99.9%	2976	2974
A1_Scaled	99.9%	2976	2974
Assumed Temp	99.9%	2976	2974
Barometric	99.9%	2976	2974
Config	99.9%	2976	2974
Daily Evap	99.9%	2976	2974
Daily Rain	99.9%	2976	2974
Delta T	99.9%	2976	2974
Dew Point	99.9%	2976	2974
Dig-In	99.9%	2976	2974
Dig-Latch	99.9%	2976	2974
ESN	99.9%	2976	2974
FDI	99.9%	2976	2974
Heat Index	99.9%	2976	2974
Humidity	99.9%	2976	2974
Mobile Signal	99.9%	2976	2974
Rain	99.9%	2976	2974
Raw Evap	99.9%	2976	2974
S Class	99.9%	2976	2974
Scalar WS	99.9%	2976	2974
Sigma	99.9%	2976	2974
Site	0.0%	2976	0
Solar Radiation	99.9%	2976	2974
Vector WD	99.9%	2976	2974
Vector WS	99.9%	2976	2974
Volts	99.9%	2976	2974
Wind Chill	99.9%	2976	2974
Wind Direction	99.9%	2976	2974
Wind Speed	99.9%	2976	2974
WS Avg	99.9%	2976	2974
WS Gust	99.9%	2976	2974