
Mannering Colliery Monthly Website Report – May 2025

Site:	Mannering Colliery
Department:	Health Safety and Environment
Report Title:	Monthly Environmental Report – May 2025
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Summary

Environmental monitoring results are presented in this report for monitoring undertaken during the period of May 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 - 9 April 2025

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: 9 April 2025)

ALS - Dust Deposition Report **May 2025**

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

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Monitoring Results

Water – Quality

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

May 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)
4/05/2025	7.68	<5	<5	26700
8/05/2025	7.74	<5	<5	25000
13/05/2025	7.64	6	<5	25800
25/05/2025	7.76	10	<5	19100
Average	7.705	5.25	<5	24150

There were no exceedances of water quality criteria in May 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		13-May-2025 08:55
Compound	CAS Number	LOR	Unit	ES2513817-001
				Result
ED040F: Dissolved Major Anions				
Sulfur as S	63705-05-5	1	mg/L	146
Silicon as SiO ₂	14464-46-1	0.1	mg/L	13.0
ED093T: Total Major Cations				
Calcium	7440-70-2	1	mg/L	299
Magnesium	7439-95-4	1	mg/L	279
Potassium	7440-09-7	1	mg/L	39
EG020F: Dissolved Metals by ICP-MS				
Aluminium	7429-90-5	10	µg/L	80
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
Copper	7440-50-8	1	µg/L	1
Cobalt	7440-48-4	1	µg/L	<1
Nickel	7440-02-0	1	µg/L	2
Lead	7439-92-1	1	µg/L	<1
Zinc	7440-66-6	5	µg/L	7
Manganese	7439-96-5	1	µg/L	8
Molybdenum	7439-98-7	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
EG020T: Total Metals by ICP-MS				
Aluminium	7429-90-5	10	µg/L	40
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	226
Cadmium	7440-43-9	0.1	µg/L	<0.1
Chromium	7440-47-3	1	µg/L	<1
Copper	7440-50-8	1	µg/L	1
Cobalt	7440-48-4	1	µg/L	<1
Nickel	7440-02-0	1	µg/L	3
Lead	7439-92-1	1	µg/L	<1
Zinc	7440-66-6	5	µg/L	16
Lithium	7439-93-2	1	µg/L	641
Molybdenum	7439-98-7	1	µg/L	9
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
Boron	7440-42-8	50	µg/L	470
Iron	7439-89-6	50	µg/L	60
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	0.03
EK067G: Total Phosphorus as P by Discrete Analyser				
Total Phosphorus as P	----	0.01	mg/L	<0.01

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Water – Volume

Monthly water volumes discharged via MC's LDP1 during May 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)
01/05/2025	1740.19	11.8
02/05/2025	1761.18	8.2
03/05/2025	1489.49	2.6
04/05/2025	1208.77	2.4
05/05/2025	1184.87	0.8
06/05/2025	503.55	0
07/05/2025	640.27	0
08/05/2025	638.03	6.2
09/05/2025	1111.82	1.6
10/05/2025	1187.93	11.2
11/05/2025	1619.34	14.4
12/05/2025	2125.92	28
13/05/2025	1532.16	0.2
14/05/2025	532.61	0.2
15/05/2025	1552	16
16/05/2025	2371.39	5.2
17/05/2025	1547.06	0.2
18/05/2025	1651.57	82.6
19/05/2025	3420.82	45.4
20/05/2025	697	7.2
21/05/2025	1490.48	29.6
22/05/2025	2702.02	52.8
23/05/2025	4651.21	46
24/05/2025	1667.05	0
25/05/2025	1320.69	0
26/05/2025	1455.96	2
27/05/2025	1950.77	2.4
28/05/2025	1374.68	0
29/05/2025	1475.19	1.8
30/05/2025	1526.19	0
31/05/2025	1488.76	0.2

Average	1600.61 kL/day	12.22 mm/day
Maximum	4651.21 kL/day	82.60 mm/day

There was one exceedance of the 4,000 kL per day on 23rd May 2025 which was solely as a result of rainfall at the premises exceeding 10mm during the 24 hours immediately prior to the commencement

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of discharge. Volumetric discharge remained below the daily limit of 4,000 kL per day for every other 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 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 2025	19	163
March 2025	30	193
April 2025	22	215
May 2025	25	240

Air Quality – Depositional Dust

Monthly depositional dust results are shown below.

May 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	4/04/2025 – 6/05/2025	
EPA ID no.	Site	Insoluble Matter (g/m2/month)
3	DG1	10
4	DG2	0.3
5	DG3	0.2
6	DG4	64
7	DG5	0.3
Notes:	Sampling locations provided in Delta Coal Air Quality and Greenhouse Gas Management Plan available on the Delta Coal website.	

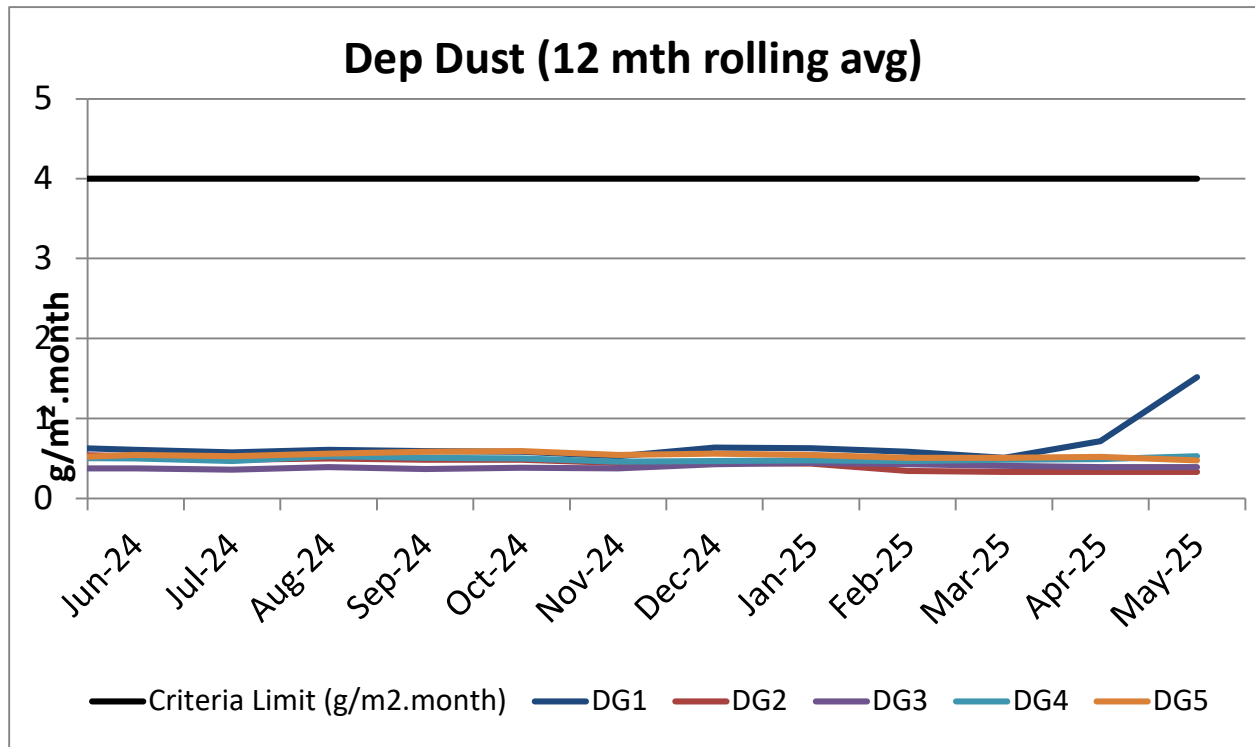
A 12-month rolling average of depositional dust concentrations has been presented below. Mannering Colliery's dust gauges are located around the perimeter of the Mannering Colliery site boundary.

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The May DG1 and DG4 results increased by more than 2g/m²/month from the previous month:

- DG1 was 10g/m²/month, compared to 2.6g/m²/month the previous month.
- DG4 was 64g/m²/month, compared to 0.4g/m²/month the previous month.

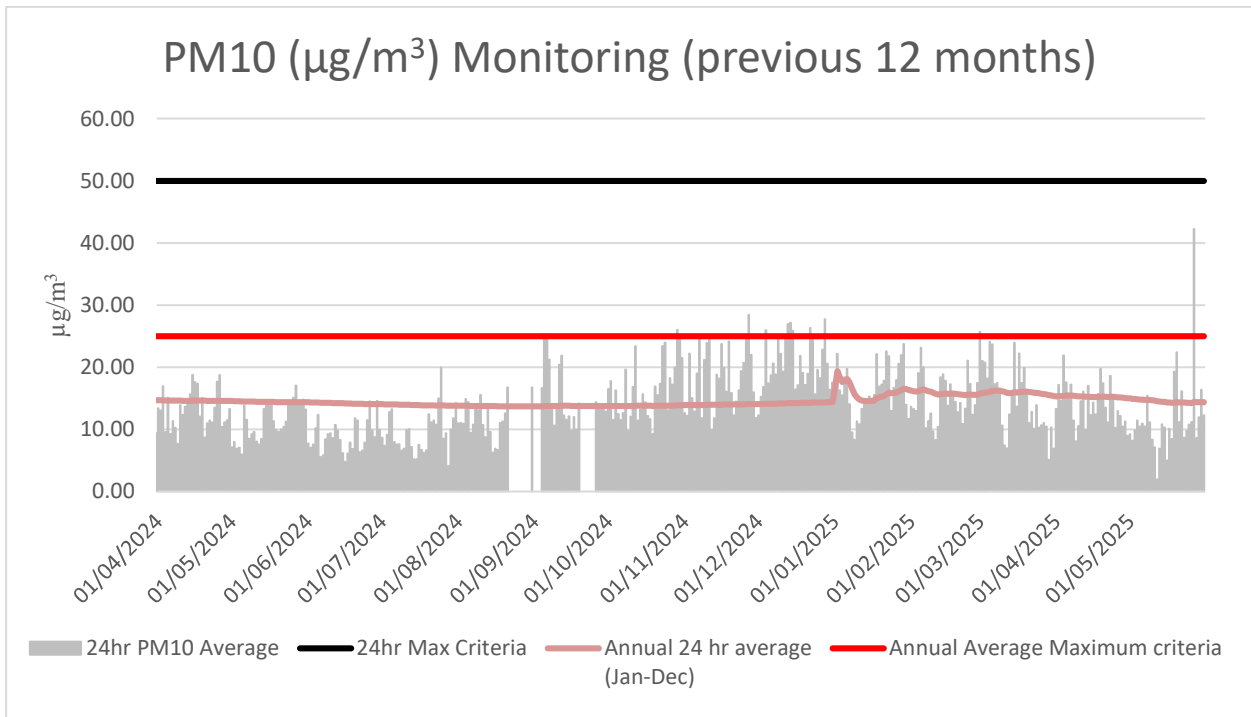


Air Quality – PM₁₀

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.

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

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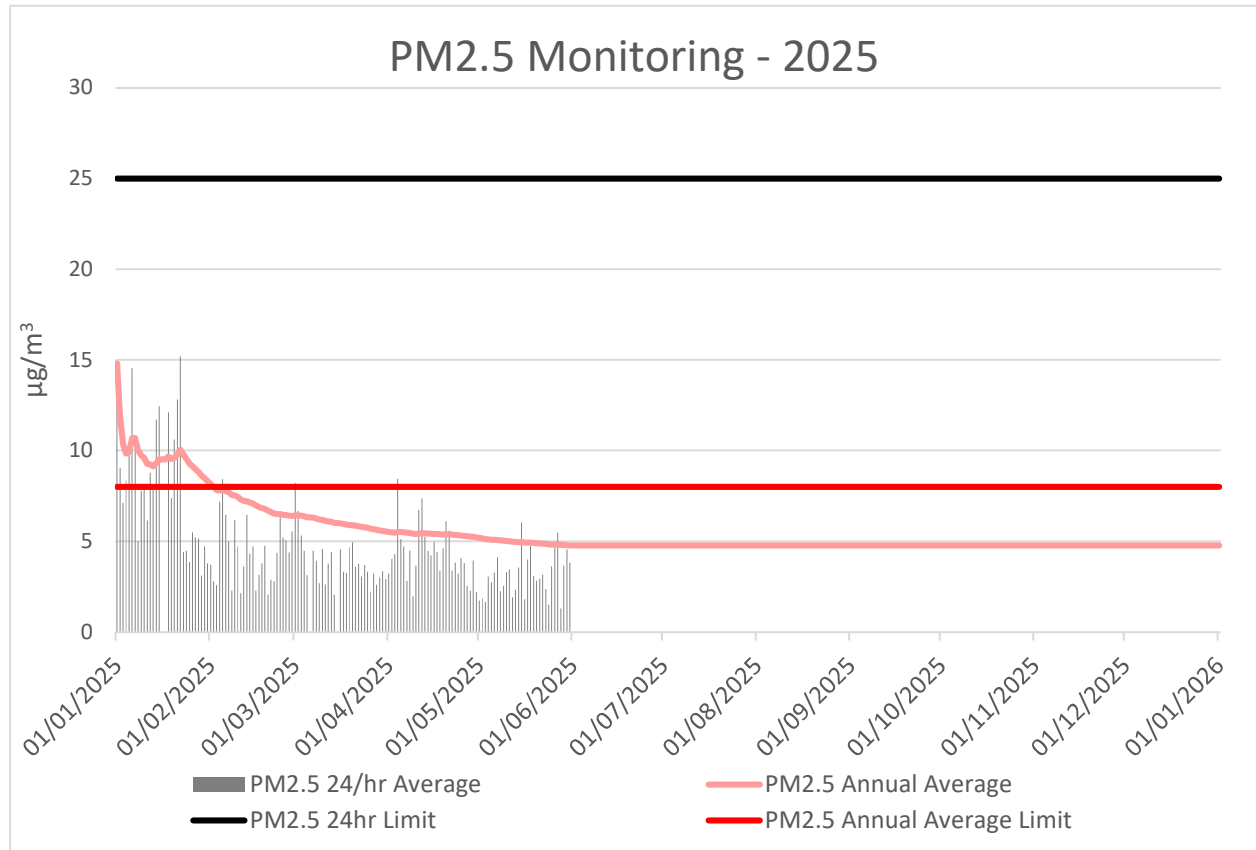
Variable	May	Total	Valid
A/C Temp	100%	8928	8928
A1_Scaled	100%	8928	8928
Band	100%	8928	8928
Bypass Flow	100%	8928	8928
Cap Temp	100%	8928	8928
Case Temp	100%	8928	8928
Config	100%	8928	8928
Dew Point	100%	8928	8928
Dig-In	100%	8928	8928
Dig-Latch	100%	8928	8928
ESN	100%	8928	8928
Filter Freq	100%	8928	8928
Filter Load	100%	8928	8928
Humidity	100%	8928	8928
MC	100%	8928	8928
MC 12Hr	100%	8928	8928
MC 1Hr	100%	8928	8928
MC 24Hr	100%	8928	8928
MC 30min	100%	8928	8928
MC 8Hr	100%	8928	8928
MC Total	100%	8928	8928
Mobile Signal	100%	8928	8928
Noise	100%	8928	8928
PM10 Flow	100%	8928	8928
Pressure	100%	8928	8928
Site	0.0%	8928	0
Temperature	100%	8928	8928
Tube Temp	100%	8928	8928
Vac Pressure	100%	8928	8928
Volts	100%	8928	8928

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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 May 2025. The 12-month rolling average PM_{2.5} value on 31 May was 4.78 µg/m³. PM_{2.5} data availability in May was 99%. The 2025 year to date PM_{2.5} data availability is 92.96%.

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 June 2025		
Month	Total Rainfall/Month (mm)	Min Temp	Max Temp
Jan-25	237	11.9	41.3
Feb-25	31	12.5	33.8
Mar-25	138	15.4	36.3
Apr-25	232	11	29.4
May-25	387	7.5	26

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Variable	May	Total	Valid
Baro (Corrected)	95.3%	2976	2835
10m Temp	95.3%	2976	2835
2m Temp	95.3%	2976	2835
A1	95.3%	2976	2835
A1_Scaled	95.3%	2976	2835
Assumed Temp	95.3%	2976	2835
Barometric	95.3%	2976	2835
Config	95.3%	2976	2835
Daily Evap	95.3%	2976	2835
Daily Rain	95.3%	2976	2835
Delta T	95.3%	2976	2835
Dew Point	95.3%	2976	2835
Dig-In	95.3%	2976	2835
Dig-Latch	95.3%	2976	2835
ESN	95.3%	2976	2835
FDI	95.3%	2976	2835
Heat Index	95.3%	2976	2835
Humidity	95.3%	2976	2835
Mobile Signal	95.3%	2976	2835
Rain	95.3%	2976	2835
Raw Evap	95.3%	2976	2835
S Class	95.3%	2976	2835
Scalar WS	95.3%	2976	2835
Sigma	95.3%	2976	2835
Site	0.0%	2976	0
Solar Radiation	95.3%	2976	2835
Vector WD	95.3%	2976	2835
Vector WS	95.3%	2976	2835
Volts	95.3%	2976	2835
Wind Chill	95.3%	2976	2835
Wind Direction	95.3%	2976	2835
Wind Speed	95.3%	2976	2835
WS Avg	95.3%	2976	2835
WS Gust	95.3%	2976	2835