
Mannering Colliery Monthly Website Report – April 2025

Site:	Mannering Colliery
Department:	Health Safety and Environment
Report Title:	Monthly Environmental Report – April 2025
Report Date:	12 th May 2025
Distribution:	Delta Coal website

Monthly Website Report

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Summary

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

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

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Monitoring Results

Water – Quality

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

April 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)
1/4/2025	7.83	14	<5	19400
9/4/2025	7.76	8	<5	28000
15/4/2025	7.7	10	<5	28100
23/04/2025	7.97	9	<5	5980
Average	7.82	10.25	<5	20370

There were no exceedances of water quality criteria in April 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		15-Apr-2025 08:15
Compound	CAS Number	LOR	Unit	EN2506202-001
				Result
ED040T: Total Major Anions				
Sulfur as S	63705-05-5	1	mg/L	153
Silicon	7440-21-3	0.05	mg/L	6.45
ED093T: Total Major Cations				
Calcium	7440-70-2	1	mg/L	254
Magnesium	7439-95-4	1	mg/L	321
Sodium	7440-23-5	1	mg/L	6080
Potassium	7440-09-7	1	mg/L	43
EG020F: Dissolved Metals by ICP-MS				
Aluminium	7429-90-5	0.01	mg/L	<0.01
Silver	7440-22-4	0.001	mg/L	<0.001
Arsenic	7440-38-2	0.001	mg/L	<0.001
Beryllium	7440-41-7	0.001	mg/L	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001
Cobalt	7440-48-4	0.001	mg/L	<0.001
Chromium	7440-47-3	0.001	mg/L	<0.001
Copper	7440-50-8	0.001	mg/L	<0.001
Manganese	7439-96-5	0.001	mg/L	0.060
Molybdenum	7439-98-7	0.001	mg/L	0.010
Nickel	7440-02-0	0.001	mg/L	0.003
Lead	7439-92-1	0.001	mg/L	<0.001
Selenium	7782-49-2	0.01	mg/L	<0.01
Vanadium	7440-62-2	0.01	mg/L	<0.01
Zinc	7440-66-6	0.005	mg/L	0.038
EG020T: Total Metals by ICP-MS				
Aluminium	7429-90-5	0.01	mg/L	<0.01
Silver	7440-22-4	0.001	mg/L	<0.001
Arsenic	7440-38-2	0.001	mg/L	<0.001
EG020T: Total Metals by ICP-MS - Continued				
Boron	7440-42-8	0.05	mg/L	0.47
Barium	7440-39-3	0.001	mg/L	0.245
Beryllium	7440-41-7	0.001	mg/L	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001
Cobalt	7440-48-4	0.001	mg/L	<0.001
Chromium	7440-47-3	0.001	mg/L	<0.001
Copper	7440-50-8	0.001	mg/L	<0.001
Lithium	7439-93-2	0.001	mg/L	0.629
Manganese	7439-96-5	0.001	mg/L	0.060
Molybdenum	7439-98-7	0.001	mg/L	0.013
Nickel	7440-02-0	0.001	mg/L	0.003
Lead	7439-92-1	0.001	mg/L	<0.001
Antimony	7440-36-0	0.001	mg/L	<0.001
Selenium	7782-49-2	0.01	mg/L	<0.01
Tin	7440-31-5	0.001	mg/L	<0.001
Thallium	7440-28-0	0.001	mg/L	<0.001
Vanadium	7440-62-2	0.01	mg/L	<0.01
Zinc	7440-66-6	0.005	mg/L	0.020
Iron	7439-89-6	0.05	mg/L	0.10
EG035F: Dissolved Mercury by FIMS				
Mercury	7439-97-6	0.0001	mg/L	<0.0001
EG035T: Total Recoverable Mercury by FIMS				
Mercury	7439-97-6	0.0001	mg/L	<0.0001
EK055: Ammonia as N				
Ammonia as N	7664-41-7	0.1	mg/L	1.4
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 April 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)
01/04/2025	1363.82	0.8
02/04/2025	191.28	0
03/04/2025	2021.48	0
04/04/2025	1639.9	0
05/04/2025	1289.3	0
06/04/2025	1139.18	0
07/04/2025	1079.93	0
08/04/2025	975.66	5.8
09/04/2025	957.35	0.2
10/04/2025	931.64	0
11/04/2025	1142.02	0.2
12/04/2025	1655.76	0
13/04/2025	1510.98	0.2
14/04/2025	1123.06	3.4
15/04/2025	901.41	4.6
16/04/2025	235.2	2.4
17/04/2025	689.1	6.4
18/04/2025	1161.64	0.2
19/04/2025	1186.8	0
20/04/2025	1223.63	0
21/04/2025	676.22	0
22/04/2025	885.45	27.6
23/04/2025	905.34	1.4
24/04/2025	1210.22	0
25/04/2025	1283.7	9.4
26/04/2025	1073.58	2
27/04/2025	4505.3	111.6
28/04/2025	3674.78	18.8
29/04/2025	1641.14	11.8
30/04/2025	2301.29	25.2

Average	1352.54 kL/day	7.73 mm/day
Maximum	4505.30 kL/day	111.6 mm/day

There was one exceedance of the 4,000 kL per day on 27th April 2025 which was solely as a result of rainfall at the premises exceeding 10mm during the 24 hours immediately prior to the commencement of discharge. Volumetric discharge remained below the daily limit of 4,000 kL per day for every other day.

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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

Air Quality – Depositional Dust

Monthly depositional dust results are shown below.

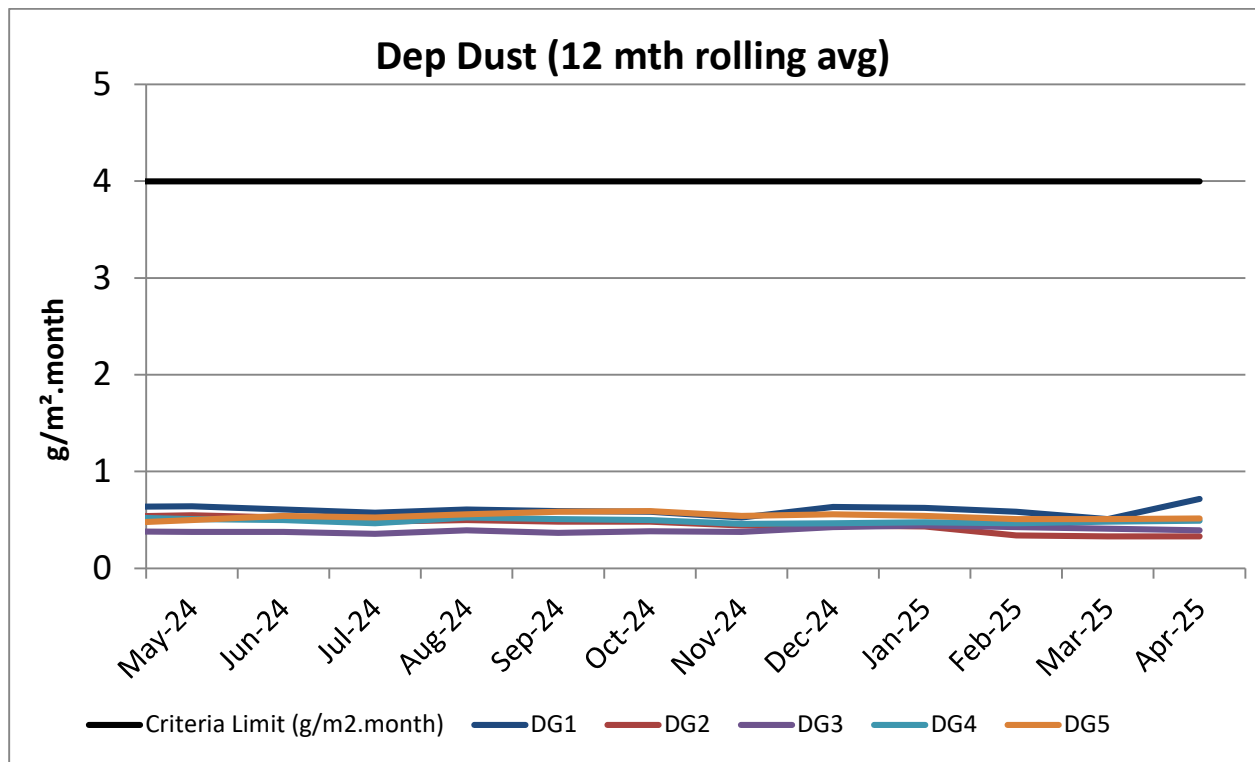
April 2025		
EPL	191	
Limits	Max. total deposited dust level	4g/m ² /month
	Max. increase in deposited dust level	2g/m ² /month
Sampling Date	5/03/2025 – 4/04/2025	
EPA ID no.	Site	Insoluble Matter (g/m ² /month)
3	DG1	2.6
4	DG2	0.2
5	DG3	0.1
6	DG4	0.4
7	DG5	0.4
Notes: Sampling locations provided in 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.

The April DDG1 result increased by more than 2g/m²/month from the previous month. DDG1 was 2.6g/m²/month, compared to 0.1g/m²/month the previous month.

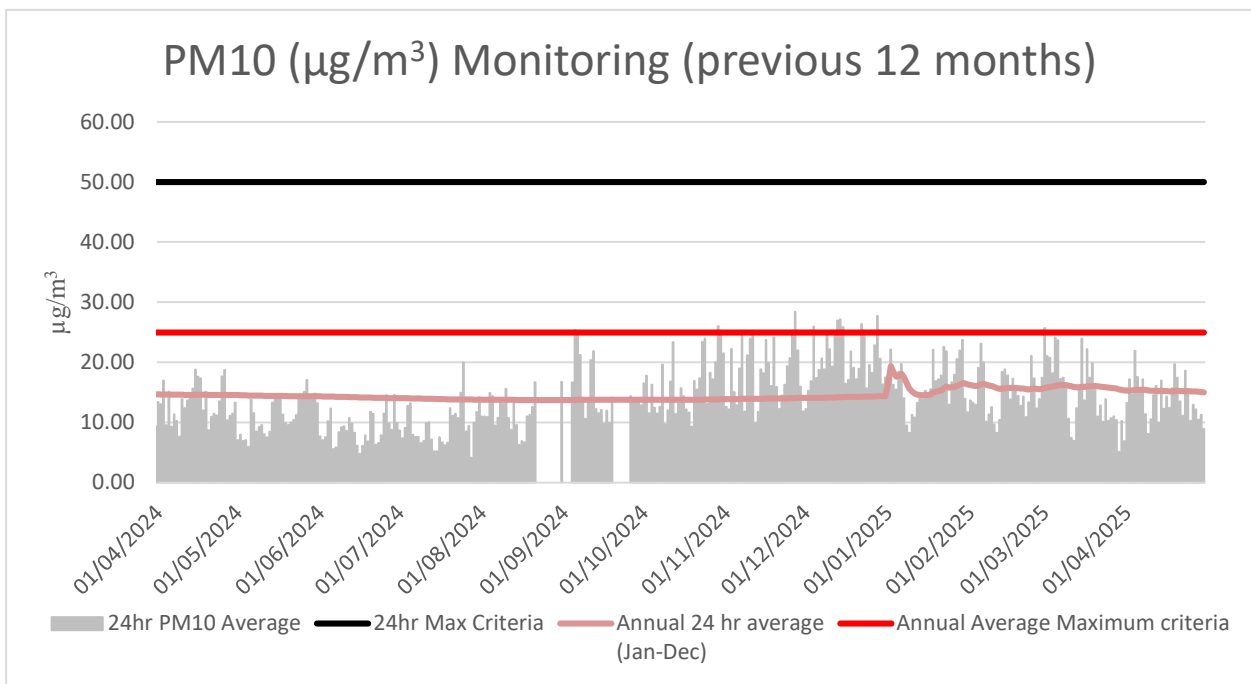
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Air Quality – PM₁₀

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 April 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 April 2025.

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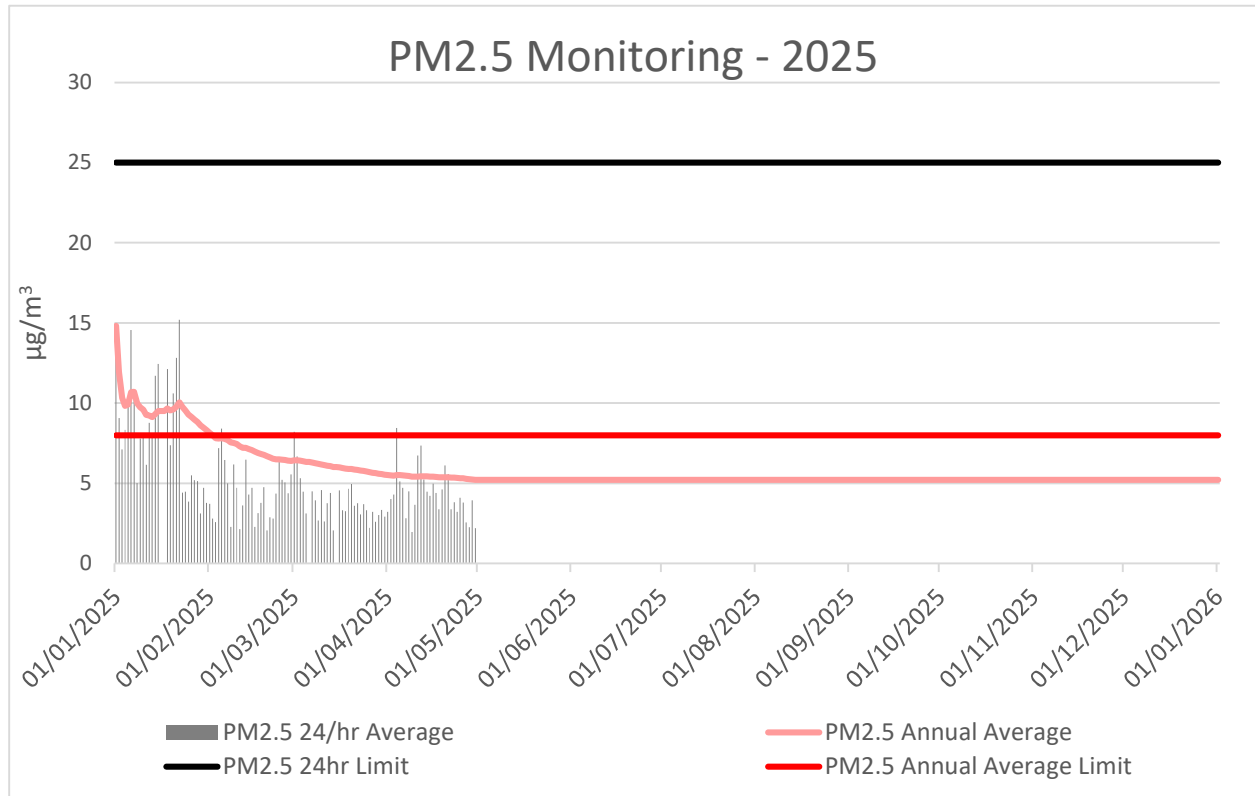
Variable	April	Total	Valid
A/C Temp	100%	8640	8640
A1_Scaled	100%	8640	8640
Band	100%	8640	8640
Bypass Flow	100%	8640	8640
Cap Temp	100%	8640	8640
Case Temp	100%	8640	8640
Config	100%	8640	8640
Dew Point	100%	8640	8640
Dig-In	100%	8640	8640
Dig-Latch	100%	8640	8640
ESN	100%	8640	8640
Filter Freq	100%	8640	8640
Filter Load	100%	8640	8640
Humidity	100%	8640	8640
MC	100%	8640	8640
MC 12Hr	100%	8640	8640
MC 1Hr	100%	8640	8640
MC 24Hr	100%	8640	8640
MC 30min	100%	8640	8640
MC 8Hr	100%	8640	8640
MC Total	100%	8640	8640
Mobile Signal	100%	8640	8640
Noise	100%	8640	8640
PM10 Flow	100%	8640	8640
Pressure	100%	8640	8640
Site	0.0%	8640	0
Temperature	100%	8640	8640
Tube Temp	100%	8640	8640
Vac Pressure	100%	8640	8640
Volts	100%	8640	8640

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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 April 2025. The 12-month rolling average PM_{2.5} value on 30 April was 5.21 µg/m³. PM_{2.5} data availability in April was 98%. The 2025 year to date PM_{2.5} data availability is 91.42%.

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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	12 May 2025		
Month	Total Rainfall/Month (mm)	Min Temp	Max Temp
Jan-24	237	11.9	41.3
Feb-24	31	12.5	33.8
Mar-25	138	15.4	36.3
May-25	232	11	29.4

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Variable	April	Total	Valid
Baro (Corrected)	100%	2880	2879
10m Temp	100%	2880	2879
2m Temp	100%	2880	2879
A1	100%	2880	2879
A1_Scaled	100%	2880	2879
Assumed Temp	100%	2880	2879
Barometric	100%	2880	2879
Config	100%	2880	2879
Daily Evap	100%	2880	2879
Daily Rain	100%	2880	2879
Delta T	100%	2880	2879
Dew Point	100%	2880	2879
Dig-In	100%	2880	2879
Dig-Latch	100%	2880	2879
ESN	100%	2880	2879
FDI	100%	2880	2879
Heat Index	100%	2880	2879
Humidity	100%	2880	2879
Mobile Signal	100%	2880	2879
Rain	100%	2880	2879
Raw Evap	100%	2880	2879
S Class	100%	2880	2879
Scalar WS	100%	2880	2879
Sigma	100%	2880	2879
Site	0.0%	2880	0
Solar Radiation	100%	2880	2879
Vector WD	100%	2880	2879
Vector WS	100%	2880	2879
Volts	100%	2880	2879
Wind Chill	100%	2880	2879
Wind Direction	100%	2880	2879
Wind Speed	100%	2880	2879
WS Avg	100%	2880	2879
WS Gust	100%	2880	2879