



Chain Valley Colliery Monthly Website Report – January 2025

Site:	Chain Valley Colliery
Department:	Health Safety and Environment
Report Title:	Monthly Environmental Website Report – January 2025
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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 the Chain Valley Colliery, an underground coal mine at the southern end of Lake Macquarie.

Chain Valley 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;
- Development Consent SSD-5465 (as modified), issued under the *Environmental Planning and Assessment Act 1979* to provide details of monitoring results and environmental performance;
- An Environment Protection Licence (EPL 1770) issued under the *Protection of the Environment Operations Act 1997*; and
- A Water Access Licence (WAL41508), Aquifer (Sydney Basin – North Coast Groundwater Source) for 4,443 unit shares (megalitres).

The above development consent and licences require various monitoring and reporting requirements to be undertaken by Delta Coal for Chain Valley Colliery.

This report provides environmental monitoring data from Chain Valley Colliery for the month of January 2025.

Details of the Chain Valley Colliery EPL 1770 are provided below.

Chain Valley Colliery Information	
Premises name	Chain Valley Colliery
Address	Construction Road, Chain Valley Bay, NSW, 2259
Licensee	Great Southern Energy Pty Ltd
EPL #	1770
EPL location	EPL 1770 – November 2024

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

Scope

This report presents the results from the various environmental monitoring programs undertaken for Chain Valley Colliery. Results are presented monthly with annual data and averages.

Where applicable, the results of the monitoring programs are compared with the relevant criteria (from the EPL or Development Consent) to assess compliance. Monitoring results presented in this report 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.

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References

ALS Group - Monthly Water Monitoring Results **January 2025**

ALS Group - Dust Deposition Report **January 2025**

Development Consent SSD-5465 (as modified)

Environment Protection Licence (EPL) 1770 (Licence version date: 26 November 2024)

Monitoring Results

Water – Quality

Water quality results for January 2025 monthly surface water sampling at Chain Valley Colliery, Licensed Discharge Point (LDP 1) are presented below.

January 2025			
EPL	1770		
Licensee	Great Southern Energy Pty Ltd		
Premises	Chain Valley Colliery		
Date Sampled	15-01-2025		
Date Obtained	22-01-2025		
Sampling Point	LDP 1		
Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	<2
pH	pH	6.5-8.5	7.75
Total Sus. Solids (TSS)	mg/L	50	<5
Electrical Conductivity	µS/cm	-	33100

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Water – Volume

Monthly water volumes discharged from the site are summarised below. There was no exceedance of volumetric discharge recorded at CVC for the period of January 2025.

EPL	1770
Licensee	Great Southern Energy Pty Ltd
Premises	Chain Valley Colliery
Date Sampled	Daily
Date Reported	Refer report date
Discharge volume limit	12,161 kilolitres per day
Sampling Point	1

Date (24 hour period)	LDP 1 Volume (kL)	Rainfall (mm)
01/01/2025	5157	0
02/01/2025	6209	4.2
03/01/2025	5705	2.6
04/01/2025	6100	0
05/01/2025	5569	0
06/01/2025	5869	0
07/01/2025	4249	12.8
08/01/2025	2288	42.4
09/01/2025	6264	18.4
10/01/2025	6393	0.2
11/01/2025	9305	0
12/01/2025	5098	0
13/01/2025	5291	0
14/01/2025	5748	0.2
15/01/2025	3074	22.2
16/01/2025	5556	29
17/01/2025	2803	26.8
18/01/2025	7285	29.4
19/01/2025	9415	0
20/01/2025	5740	0
21/01/2025	5903	0
22/01/2025	5925	0.8
23/01/2025	5802	0
24/01/2025	7715	0.2
25/01/2025	9466	0
26/01/2025	8045	0
27/01/2025	5967	1
28/01/2025	5480	16.4
29/01/2025	2196	8
30/01/2025	6899	13
31/01/2025	9852	9.6

Average	6012	8
Minimum	2196	0
Maximum	9466	42

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Water – Groundwater Discharge

Groundwater discharged from underground workings to the CVC sedimentation ponds within the surface operational area has been detailed below. Chain Valley Colliery operates Water Access License (WAL 41508) permitting the extraction of 4,443 megalitres per water year (financial year calendar) with a roll-over entitlement up to a maximum of 8,886 megalitres.

CVC Groundwater to Surface Totals FY2024-2025		
Date (month)	GW Discharge (ML/Month)	GW Discharge (Cumulative ML YTD)
July 2024	207	207
August 2024	210	416
September 2024	193	609
October 2024	197	806
November 2024	182	988
December 2024	198	119
January 2025	192	138

Air Quality - Depositional Dust

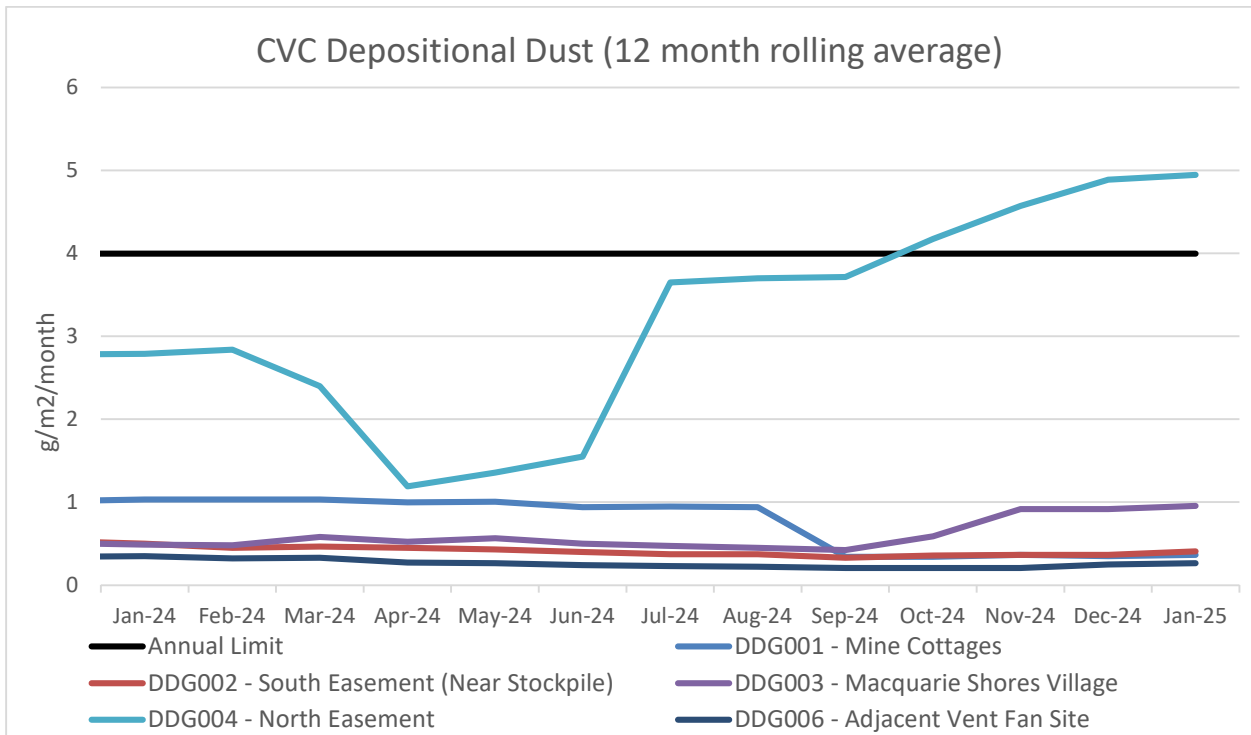
Monthly depositional dust results are shown below. Dust deposition gauges were sampled and analysed in accordance with Development Consent SSD-5465 (as modified), Delta Coal Air Quality and Greenhouse Gas Management Plan, and relevant Australian Standards.

January 2025	
EPL	1770
Limit	4g/m ² /month / Annum 2g/m ² /month increase from previous result
Sampling Date	02/12/2024 – 02/01/2025
Site	Insoluble Matter (g/m²/month)
DDG001	0.7
DDG002	0.6
DDG003	0.9
DDG004	1.7
DDG006	0.4
Notes: For site locations refer to the Delta Coal Air Quality and Greenhouse Gas Management Plan.	

The 12 month rolling average results for DDG001, DDG002, DDG003 and DDG006 remain within the depositional dust limit of 4g/m²/month (annual average). The 12 month rolling average result for DDG004 was 4.95g/m² /month against the limit of 4g/m² /month.

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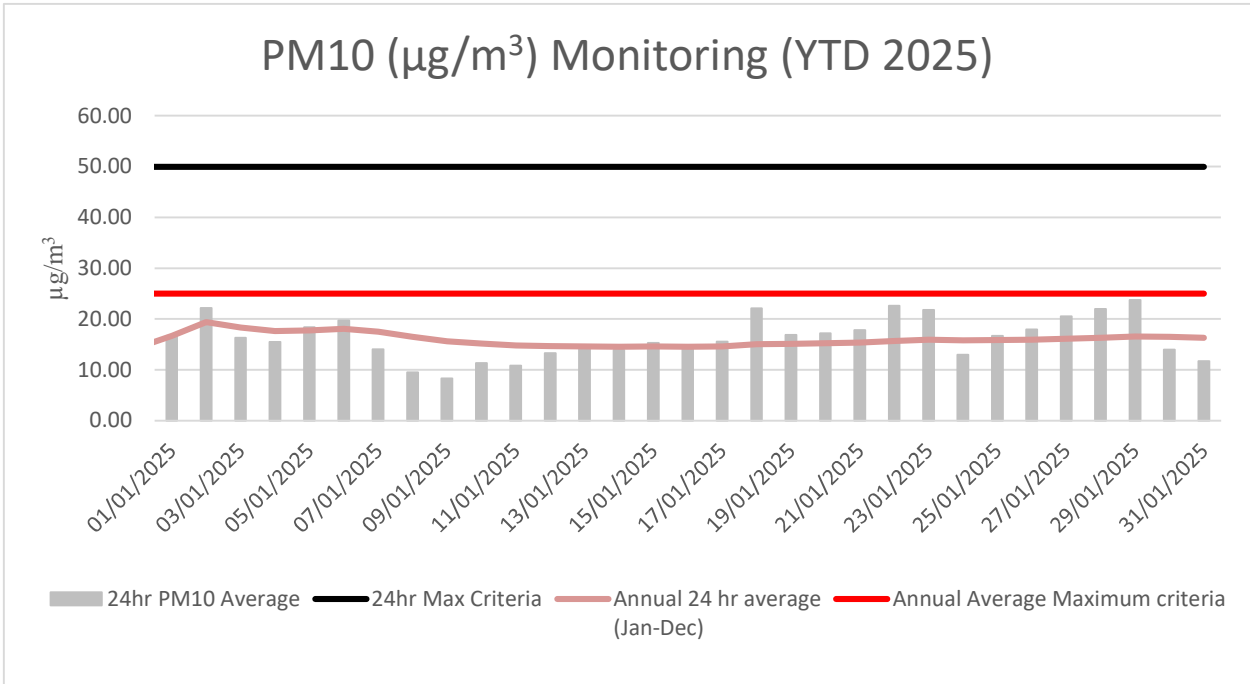
A 12-month rolling average of depositional dust concentrations has been presented above. Dust Gauges DDG001, DDG002, DDG003 and DDG004 are located within a closer proximity to Chain Valley Colliery and DDG006 is positioned in a location representative of the Chain Valley Colliery ventilation fan site at Summerland Point.

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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 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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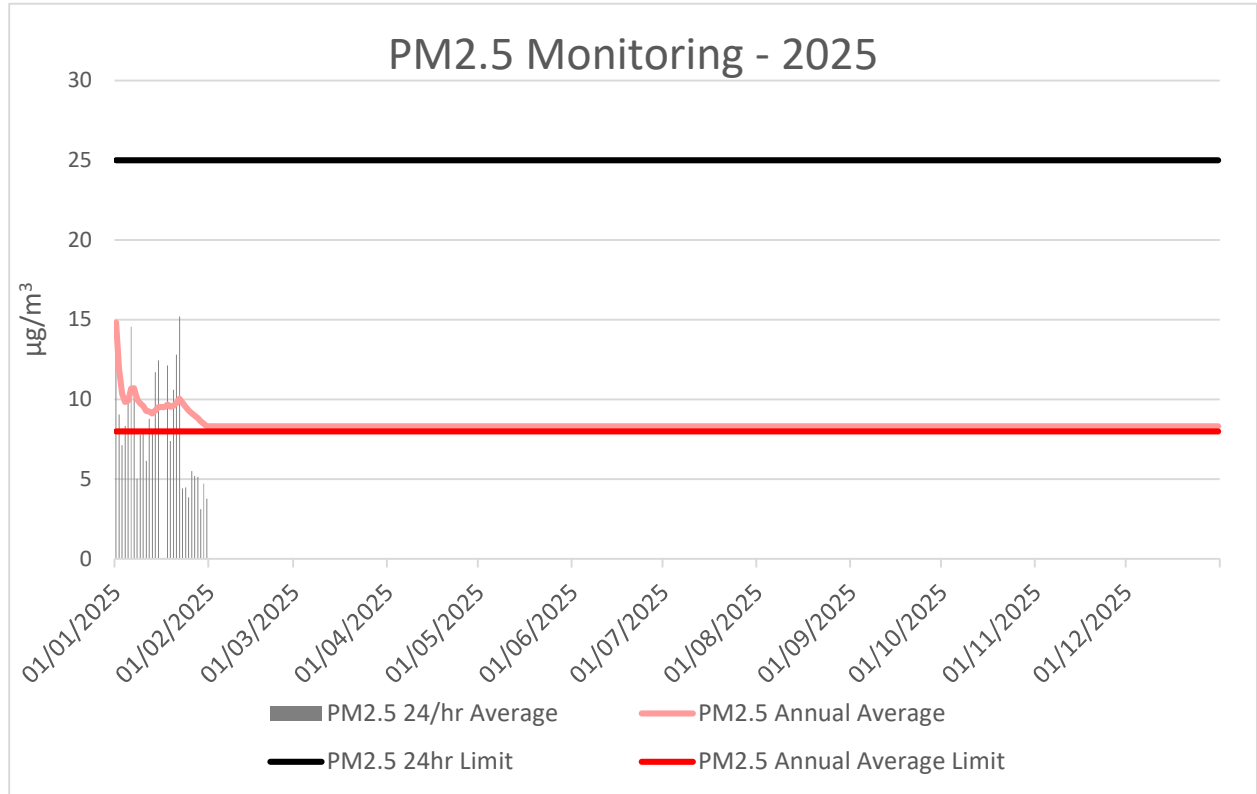
Variable	January	Total	Valid
A/C Temp	99.0%	8928	8837
A1_Scaled	99.0%	8928	8839
Band	99.0%	8928	8839
Bypass Flow	88.7%	8928	7919
Cap Temp	88.7%	8928	7920
Case Temp	88.7%	8928	7919
Config	99.0%	8928	8839
Dew Point	88.7%	8928	7920
Dig-In	99.0%	8928	8839
Dig-Latch	99.0%	8928	8839
ESN	99.0%	8928	8839
Filter 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 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 January 2025		
Month	Total Rainfall/Month (mm)	Min Temp	Max Temp
Jan-24	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