



# Chain Valley Colliery Monthly Website Report – May 2024

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<b>Site:</b>	Chain Valley Colliery
<b>Department:</b>	Technical Services
<b>Report Title:</b>	Monthly Environmental Website Report – May 2024
<b>Report Date:</b>	14 <sup>th</sup> June 2024
<b>Distribution:</b>	Delta Coal Website

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## Summary

Environmental monitoring results are presented in this report for monitoring undertaken during the period of May 2024.

## 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 May 2024.

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	<a href="#">EPL 1770 – October 2023</a>

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 – PM<sub>10</sub>
- Air Quality – PM<sub>2.5</sub>; and
- Meteorological data.

### Definitions

g/m<sup>2</sup>/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 **May 2024**

ALS Group - Dust Deposition Report **May 2024**

Development Consent SSD-5465 (as modified)

Environment Protection Licence (EPL) 1770 (Licence version date: 24 October 2023)

## Monitoring Results

### Water – Quality

Water quality results for May 2024 monthly surface water sampling at Chain Valley Colliery, Licensed Discharge Point (LDP 1) are presented below.

May 2024			
EPL	1770		
Licensee	Great Southern Energy Pty Ltd		
Premises	Chain Valley Colliery		
Date Sampled	20-05-2024		
Date Obtained	27-05-2024		
Sampling Point	LDP 1		
Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	<2
Enterococcus	col/100mL	-	3
Faecal Coliforms	CFU/100mL	200	71
pH	pH	6.5-8.5	7.78
Total Sus. Solids (TSS)	mg/L	50	5
Electrical Conductivity	µS/cm	-	31600

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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 May 2024.

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

<b>Date (24 hour period)</b>	<b>LDP 1 Volume (kL)</b>	<b>Rainfall (mm)</b>
01/05/2024	5723	53.6
02/05/2024	5257	2.6
03/05/2024	9581	10.8
04/05/2024	4284	20.4
05/05/2024	9541	47
06/05/2024	11545	44.8
07/05/2024	8570	0
08/05/2024	8974	7.2
09/05/2024	3883	0.4
10/05/2024	9731	3
11/05/2024	3748	20.4
12/05/2024	7292	3.4
13/05/2024	10783	2
14/05/2024	5413	0.2
15/05/2024	6894	0.2
16/05/2024	3592	0
17/05/2024	5562	0
18/05/2024	11230	28.6
19/05/2024	7006	0
20/05/2024	4506	6.2
21/05/2024	7187	6.2
22/05/2024	7045	0.2
23/05/2024	4247	0
24/05/2024	2863	0
25/05/2024	9190	0
26/05/2024	4571	0.2
27/05/2024	1869	0
28/05/2024	8893	0.2
29/05/2024	6332	0
30/05/2024	2546	0.2
31/05/2024	3855	5

Average	6507	8
Minimum	1869	0
Maximum	11545	54

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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 FY2023-2024		
Date (month)	GW Discharge (ML/Month)	GW Discharge (Cumulative ML YTD)
July 2023	200	200
August 2023	212	412
September 2023	197	610
October 2023	205	815
November 2023	197	1013
December 2023	207	1220
January 2024	196	1416
February 2024	171	1588
March 2024	174	1762
April 2024	174	1936
May 2024	189	2125
June 2024		

### Air Quality - Depositional Dust

Monthly depositional dust results are shown below. Dust deposition gauges were sampled and analysed in accordance with the development consent, Delta Coal Air Quality and Greenhouse Gas Management Plan, and relevant Australian Standards.

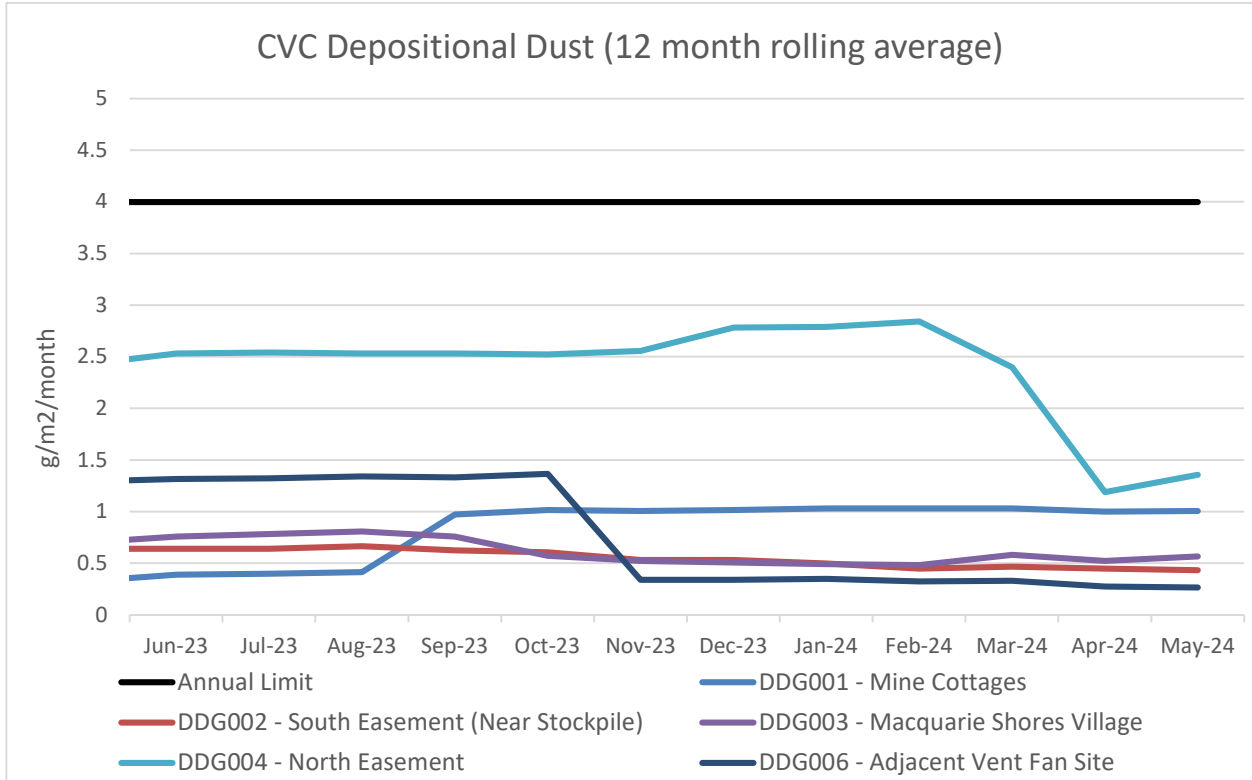
May 2024	
<b>EPL</b>	1770
<b>Limit</b>	4g/m <sup>2</sup> /month / Annum 2g/m <sup>2</sup> /month increase from previous result
<b>Sampling Date</b>	04/04/2024-3/05/2024
<b>Site</b>	<b>Insoluble Matter (g/m<sup>2</sup>/month)</b>
DDG001	0.3
DDG002	0.2
DDG003	0.7
DDG004	2.9
DDG006	0.1
<b>Notes:</b> For site locations refer to the Delta Coal Air Quality and Greenhouse Gas Management Plan.	

During the monitoring period, the result for DD004 exceeded the 2g/m<sup>2</sup> /month increase from the previous result. The result was 2.9 2g/m<sup>2</sup> against the previous result of 0.5 2g/m<sup>2</sup>. The investigation found that the

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powerline easement adjacent to the monitor had been slashed during the monitoring period. The 12 month rolling average result remains within the limit.



A 12-month rolling average of depositional dust concentrations has been presented below. 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.

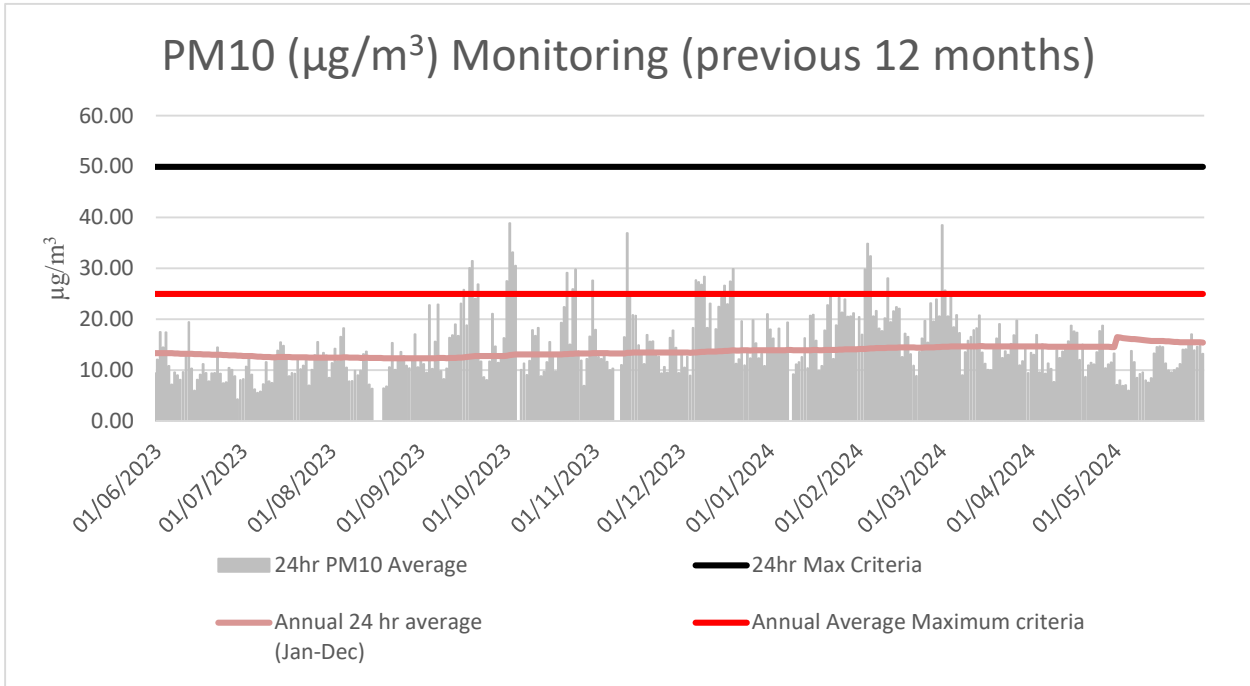


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### Air Quality – PM<sub>10</sub>

The 24hr PM<sub>10</sub> 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 PM<sub>10</sub> average maximum criteria for May 2024 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 98% for the month of May 2024.

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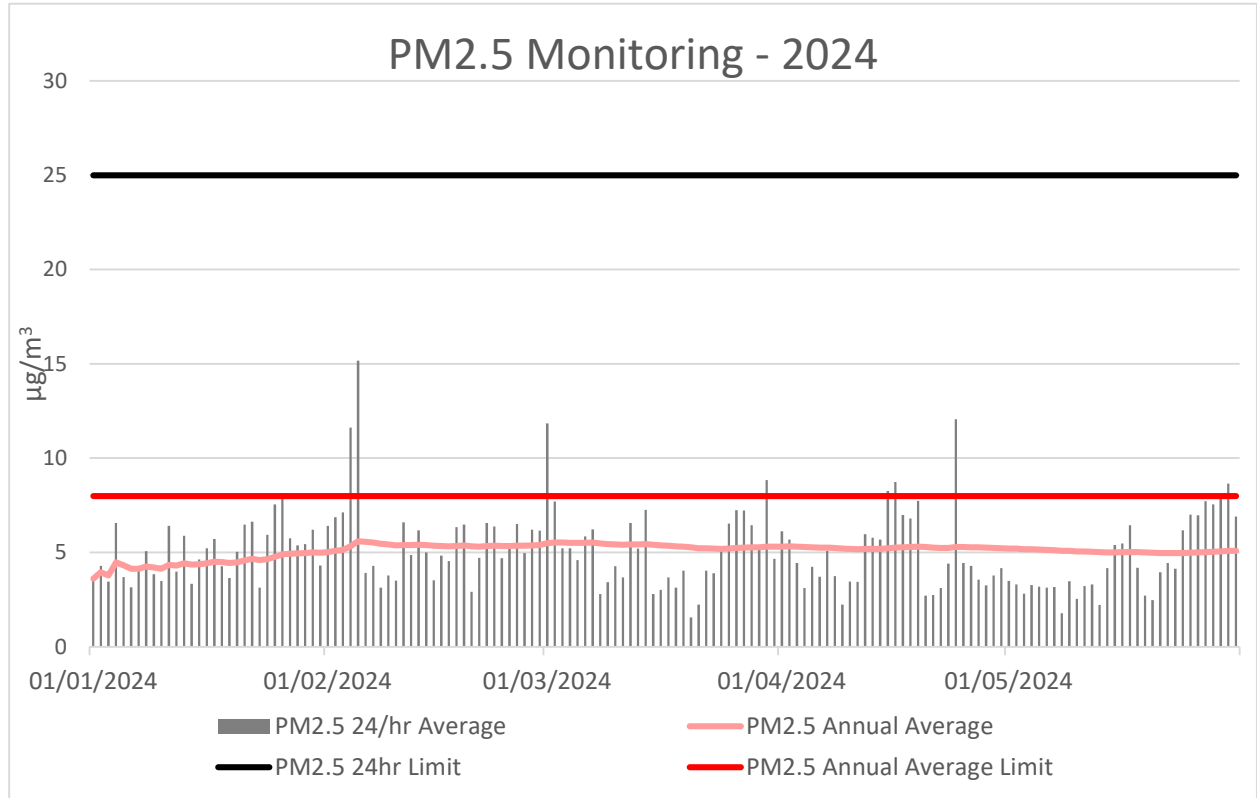
Variable	May	Total	Valid
A/C Temp	99.9%	8928	8918
A1_Scaled	99.9%	8928	8918
Band	99.9%	8928	8918
Bypass Flow	99.9%	8928	8917
Cap Temp	99.9%	8928	8918
Case Temp	99.9%	8928	8917
Config	99.9%	8928	8918
Dew Point	99.9%	8928	8918
Dig-In	99.9%	8928	8918
Dig-Latch	99.9%	8928	8918
ESN	99.9%	8928	8918
Filter Freq	99.9%	8928	8918
Filter Load	99.9%	8928	8918
Humidity	99.9%	8928	8918
MC	99.9%	8928	8918
MC 12Hr	99.9%	8928	8918
MC 1Hr	99.9%	8928	8918
MC 24Hr	99.9%	8928	8918
MC 30min	99.9%	8928	8918
MC 8Hr	99.9%	8928	8918
MC Total	99.9%	8928	8918
Mobile Signal	99.9%	8928	8918
Noise	99.9%	8928	8918
PM10 Flow	99.9%	8928	8917
Pressure	99.9%	8928	8918
Site	0.0%	8928	0
Temperature	99.9%	8928	8918
Tube Temp	99.9%	8928	8917
Vac Pressure	99.9%	8928	8918
Volts	99.9%	8928	8918

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## Air Quality – PM2.5

Delta Coal utilises PM<sub>2.5</sub> data obtained from Delta Electricity owned and operated beta attenuation monitor (BAM). The PM<sub>2.5</sub> monitor is located on Tingley Road, Wyee.



There were no exceedances of the PM<sub>2.5</sub> daily average limit in May 2024. The 12-month rolling average PM<sub>2.5</sub> value on 31 May was 5.1  $\mu\text{g}/\text{m}^3$ . PM<sub>2.5</sub> data availability in May was 100%. The 2024 year to date PM<sub>2.5</sub> data availability is 100%.

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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 2024			
Licensee	Great Southern Energy Pty Ltd		
Location	Mannering Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	11 June 2024		
Month	Total Rainfall/Month (mm)	Min Temp	Max Temp
Jan-24	53.6	13.8	40.9
Feb-24	163	16.4	39
Mar-24	18.6	13.3	33.8
Apr-24	362	13.2	17.9
May-24	263	12.1	16.6

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Variable	May	Total	Valid
Baro (Corrected)	100%	2976	2976
10m Temp	100%	2976	2976
2m Temp	100%	2976	2976
A1	100%	2976	2976
A1_Scaled	100%	2976	2976
Assumed Temp	100%	2976	2976
Barometric	100%	2976	2976
Config	100%	2976	2976
Daily Evap	100%	2976	2976
Daily Rain	100%	2976	2976
Delta T	100%	2976	2976
Dew Point	100%	2976	2976
Dig-In	100%	2976	2976
Dig-Latch	100%	2976	2976
ESN	100%	2976	2976
FDI	100%	2976	2976
Heat Index	100%	2976	2976
Humidity	100%	2976	2976
Mobile Signal	100%	2976	2976
Rain	100%	2976	2976
Raw Evap	100%	2976	2976
S Class	100%	2976	2976
Scalar WS	100%	2976	2976
Sigma	100%	2976	2976
Site	0.0%	2976	0
Solar Radiation	100%	2976	2976
Vector WD	100%	2976	2976
Vector WS	100%	2976	2976
Volts	100%	2976	2976
Wind Chill	100%	2976	2976
Wind Direction	100%	2976	2976
Wind Speed	100%	2976	2976
WS Avg	100%	2976	2976
WS Gust	100%	2976	2976