



# Chain Valley Colliery Monthly Website Report – September 2024

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<b>Site:</b>	Chain Valley Colliery
<b>Department:</b>	Technical Services
<b>Report Title:</b>	Monthly Environmental Website Report – September 2024
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## Summary

Environmental monitoring results are presented in this report for monitoring undertaken during the period of September 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 September 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 **September 2024**

ALS Group - Dust Deposition Report **September 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 September 2024 monthly surface water sampling at Chain Valley Colliery, Licensed Discharge Point (LDP 1) are presented below.

September 2024			
EPL	1770		
Licensee	Great Southern Energy Pty Ltd		
Premises	Chain Valley Colliery		
Date Sampled	11-10-2024		
Date Obtained	18-09-2024		
Sampling Point	LDP 1		
Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	2
Enterococcus	col/100mL	-	400
Faecal Coliforms	CFU/100mL	200	250
pH	pH	6.5-8.5	7.7
Total Sus. Solids (TSS)	mg/L	50	18
Electrical Conductivity	µS/cm	-	30700

There was one exceedance of water quality limits at CVC LDP 1. The Faecal Coliform limit was exceeded in the LDP 1 sample taken 11/10/2024. The non-compliance has been reported to the NSW EPA and NSW Department of Planning and Environment (DPE).

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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 September 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>
01/09/2024	8782.04	0
02/09/2024	2209	0
03/09/2024	2376.17	0
04/09/2024	5178.96	0
05/09/2024	5687.88	0
06/09/2024	6094.87	0
07/09/2024	2566.17	0
08/09/2024	2021.84	0.4
09/09/2024	4336.76	0
10/09/2024	8879.94	0
11/09/2024	9660.81	0
12/09/2024	9564.52	27.8
13/09/2024	6053.6	0
14/09/2024	2416.58	0
15/09/2024	8198.95	6
16/09/2024	6999.04	0.2
17/09/2024	7256.14	0
18/09/2024	7283.28	0
19/09/2024	6528.47	0
20/09/2024	2563.43	0
21/09/2024	8601.74	0
22/09/2024	5439.42	0
23/09/2024	6418.94	0
24/09/2024	5685.54	0
25/09/2024	5747.85	0
26/09/2024	5264.45	37.2
27/09/2024	5149.05	4.8
28/09/2024	9428.51	1.4
29/09/2024	6171.86	2.4
30/09/2024	6210.38	5.4
Average	5959	3
Minimum	2022	0
Maximum	9661	37

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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

### Air Quality - Depositional Dust

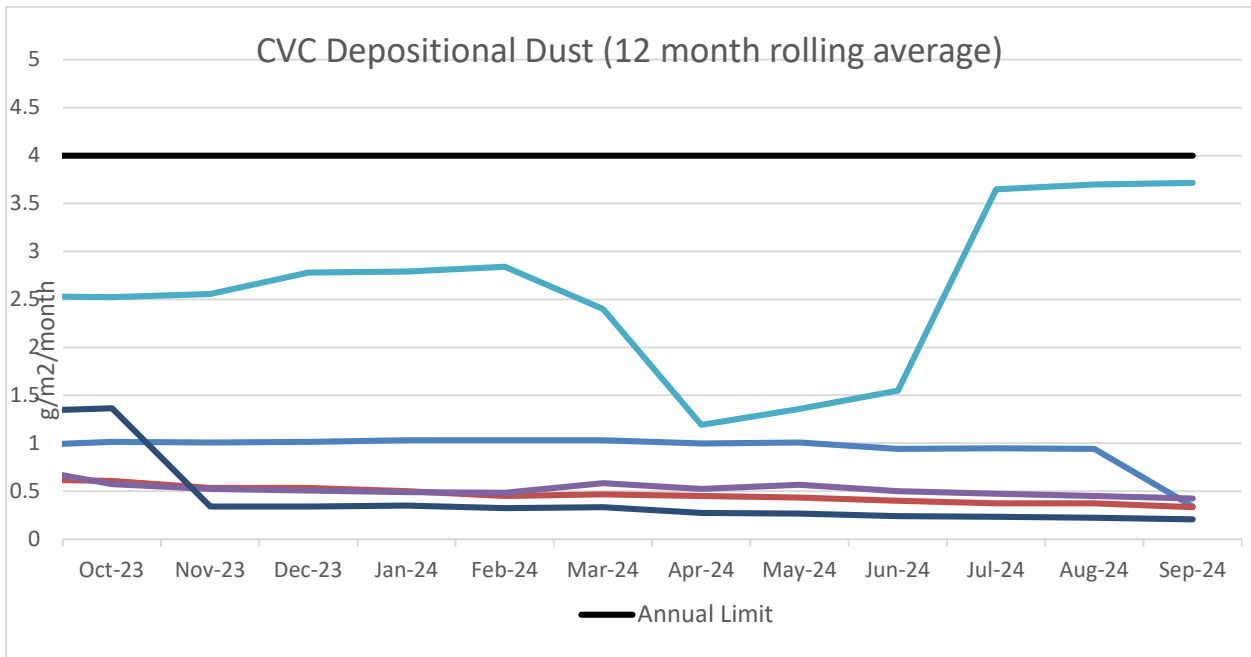
Monthly depositional dust results are shown below. Dust deposition gauges were sampled and analysed in accordance with Development Consent SSD-5465 (as modified), Delta Coal Air Quality and Greenhouse Gas Management Plan, and relevant Australian Standards.

September 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>	02/08/2024 – 02/09/2024
Site	Insoluble Matter (g/m <sup>2</sup> /month)
DDG001	0.1
DDG002	0.1
DDG003	0.1
DDG004	1.1
DDG006	0.1
Notes: For site locations refer to the Delta Coal Air Quality and Greenhouse Gas Management Plan.	

The 12 month rolling average result remains within depositional dust limit of 4g/m<sup>2</sup>/month (annual average).

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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.

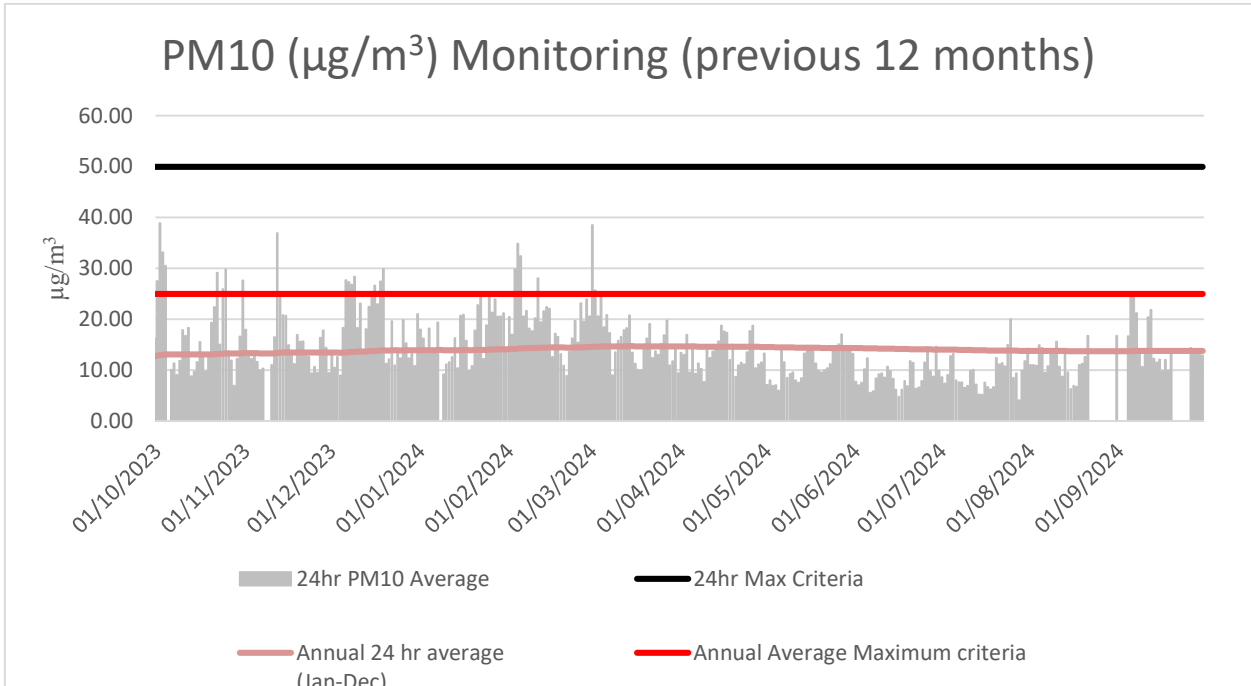


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## Air Quality – PM<sub>10</sub>

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 September 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 94.4% for the month of September 2024.

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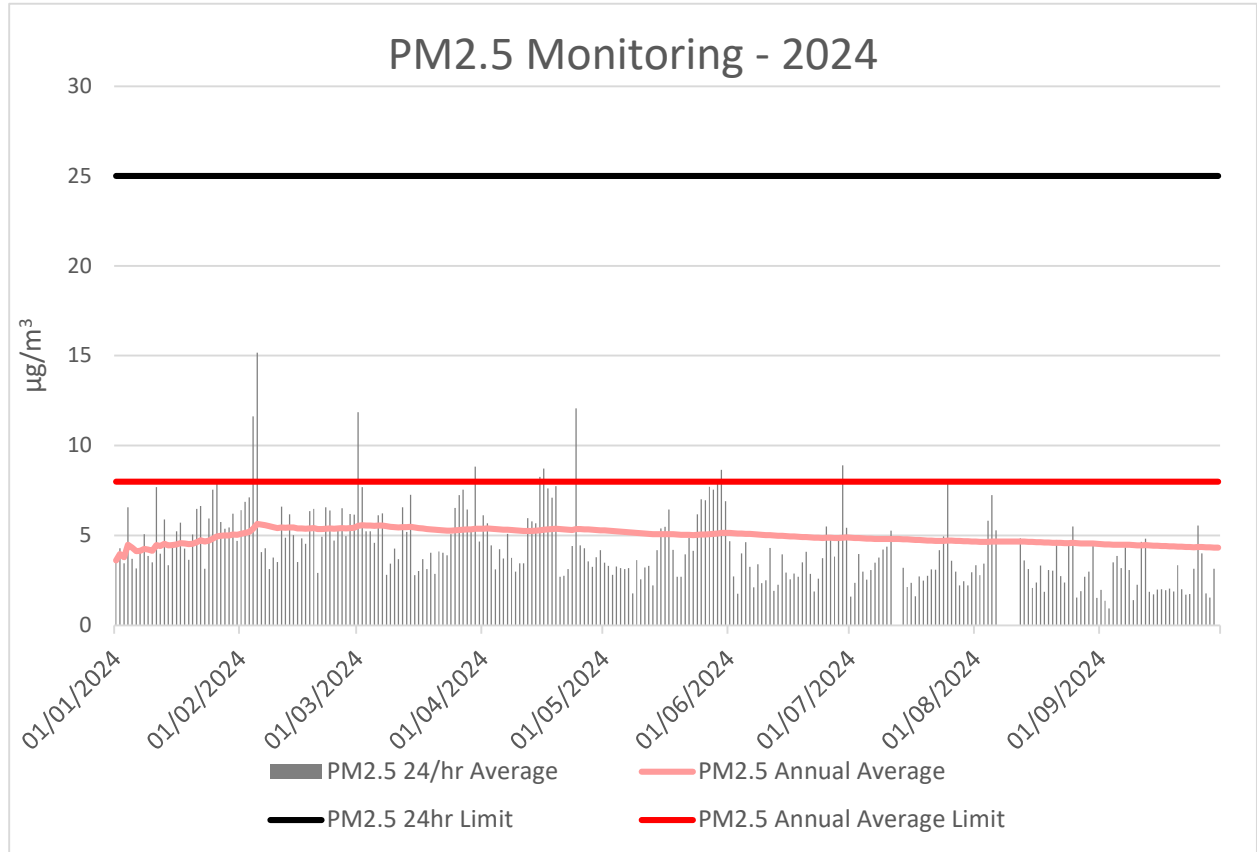
Variable	September	Total	Valid
A/C Temp	93.6%	8640	8086
A1_Scaled	93.6%	8640	8086
Band	93.6%	8640	8086
Bypass Flow	76.4%	8640	6603
Cap Temp	76.4%	8640	6603
Case Temp	76.4%	8640	6603
Config	93.6%	8640	8086
Dew Point	76.4%	8640	6603
Dig-In	93.6%	8640	8086
Dig-Latch	93.6%	8640	8086
ESN	93.6%	8640	8086
Filter Freq	76.4%	8640	6603
Filter Load	76.4%	8640	6603
Humidity	76.4%	8640	6603
MC	76.5%	8640	6606
MC 12Hr	76.5%	8640	6606
MC 1Hr	76.5%	8640	6606
MC 24Hr	76.5%	8640	6606
MC 30min	76.5%	8640	6606
MC 8Hr	76.5%	8640	6606
MC Total	76.4%	8640	6603
Mobile Signal	93.6%	8640	8086
Noise	76.4%	8640	6603
PM10 Flow	76.4%	8640	6603
Pressure	76.4%	8640	6603
Site	0.0%	8640	0
Temperature	76.4%	8640	6603
Tube Temp	76.4%	8640	6603
Vac Pressure	76.4%	8640	6603
Volts	93.6%	8640	8086

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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 September 2024. The 12-month rolling average PM<sub>2.5</sub> value on 30 September was 4.32  $\mu\text{g}/\text{m}^3$ . PM<sub>2.5</sub> data availability in September was 96%. The 2024 year to date PM<sub>2.5</sub> data availability is 95.47%.

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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	10 September 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
Jun-24	163	3.2	22.1
July-24	88	1.8	22
Aug-24	56.4	4	29.2
Sep-24	85.8	4.4	28.8

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Variable	September	Total	Valid
Baro (Corrected)	99.7%	2880	2871
10m Temp	99.7%	2880	2871
2m Temp	99.7%	2880	2871
A1	99.7%	2880	2871
A1_Scaled	99.7%	2880	2871
Assumed Temp	99.7%	2880	2871
Barometric	99.7%	2880	2871
Config	99.7%	2880	2871
Daily Evap	99.7%	2880	2871
Daily Rain	99.7%	2880	2871
Delta T	99.7%	2880	2871
Dew Point	99.7%	2880	2871
Dig-In	99.7%	2880	2871
Dig-Latch	99.7%	2880	2871
ESN	99.7%	2880	2871
FDI	99.7%	2880	2871
Heat Index	99.7%	2880	2871
Humidity	99.7%	2880	2871
Mobile Signal	99.7%	2880	2871
Rain	99.7%	2880	2871
Raw Evap	99.7%	2880	2871
S Class	99.7%	2880	2871
Scalar WS	99.7%	2880	2871
Sigma	99.7%	2880	2871
Site	0.0%	2880	0
Solar Radiation	99.7%	2880	2871
Vector WD	99.7%	2880	2871
Vector WS	99.7%	2880	2871
Volts	99.7%	2880	2871
Wind Chill	99.7%	2880	2871
Wind Direction	99.7%	2880	2871
Wind Speed	99.7%	2880	2871
WS Avg	99.7%	2880	2871
WS Gust	99.7%	2880	2871