



# Chain Valley Colliery Monthly Website Report – August 2024

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<b>Site:</b>	Chain Valley Colliery
<b>Department:</b>	Technical Services
<b>Report Title:</b>	Monthly Environmental Website Report – August 2024
<b>Report Date:</b>	9 <sup>th</sup> September 2024
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## Summary

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

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

August 2024			
EPL	1770		
Licensee	Great Southern Energy Pty Ltd		
Premises	Chain Valley Colliery		
Date Sampled	13-08-2024		
Date Obtained	21-08-2024		
Sampling Point	LDP 1		
Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	2
Enterococcus	col/100mL	-	4
Faecal Coliforms	CFU/100mL	200	60
pH	pH	6.5-8.5	7.68
Total Sus. Solids (TSS)	mg/L	50	15
Electrical Conductivity	µS/cm	-	32200

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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 August 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>
01/08/2024	3210.28	3
02/08/2024	5098.21	0.6
03/08/2024	10581.9	0.4
04/08/2024	6575.62	0
05/08/2024	5480.91	9.6
06/08/2024	5624.3	0.6
07/08/2024	2814.46	0.2
08/08/2024	9743.95	0
09/08/2024	7014.15	0
10/08/2024	2676.7	0
11/08/2024	7001.25	8.6
12/08/2024	8635.61	3.8
13/08/2024	3095.7	4
14/08/2024	3152.71	14.8
15/08/2024	10396.03	7.2
16/08/2024	7982.78	1.6
17/08/2024	4525.58	0
18/08/2024	2023.33	0
19/08/2024	8630.07	0.2
20/08/2024	9434.6	0
21/08/2024	6311.32	0
22/08/2024	6221.07	0
23/08/2024	5595.63	0
24/08/2024	6661.44	0.6
25/08/2024	5624.73	1.2
26/08/2024	6636.29	0
27/08/2024	6308.81	0
28/08/2024	6201.44	0
29/08/2024	6236.55	0
30/08/2024	6070.34	0
31/08/2024	8465.42	0
Average	6259	2
Minimum	2023	0
Maximum	10582	15

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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

### Air Quality - Depositional Dust

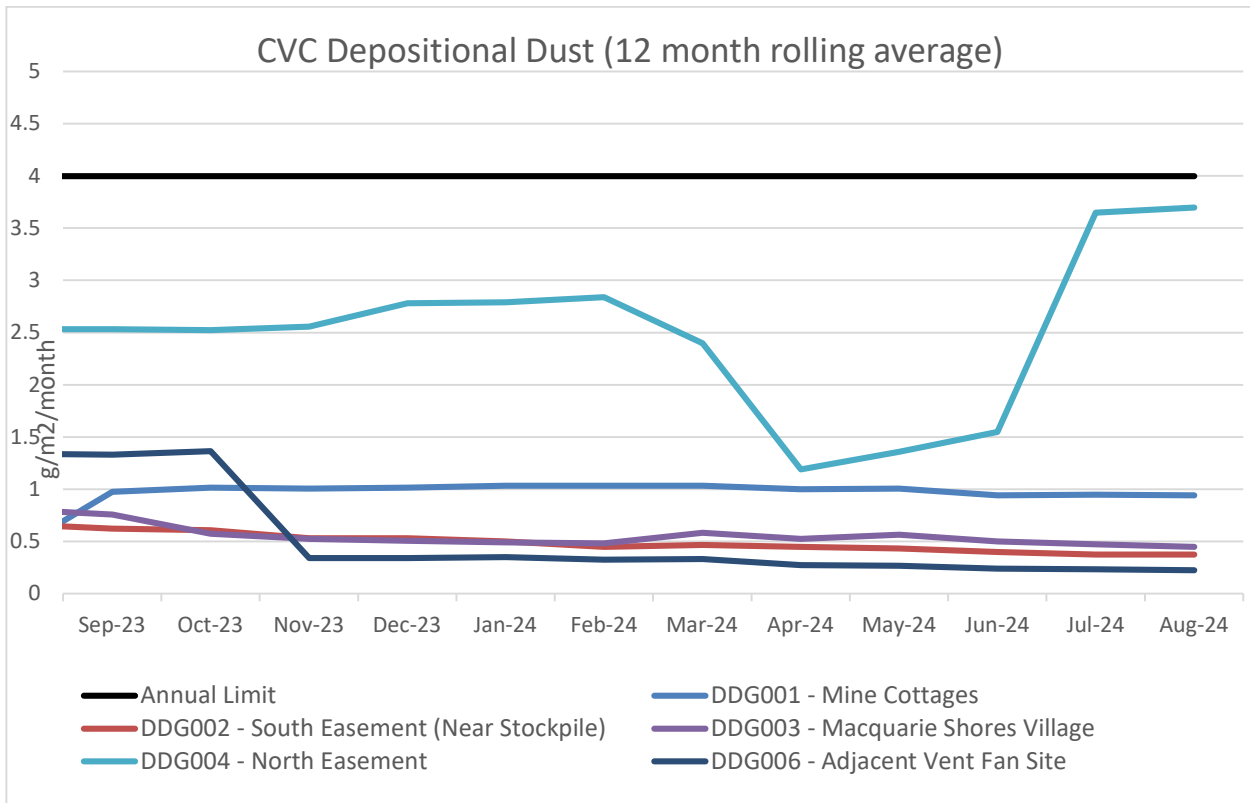
Monthly depositional dust results are shown below. Dust deposition gauges were sampled and analysed in accordance with Development Consent SSD-5465 (as modified), Delta Coal Air Quality and Greenhouse Gas Management Plan, and relevant Australian Standards.

August 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>	04/07/2024 – 02/08/2024
<b>Site</b>	<b>Insoluble Matter (g/m<sup>2</sup>/month)</b>
DDG001	0.2
DDG002	0.4
DDG003	0.1
DDG004	1
DDG006	0.2
<b>Notes:</b> 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.

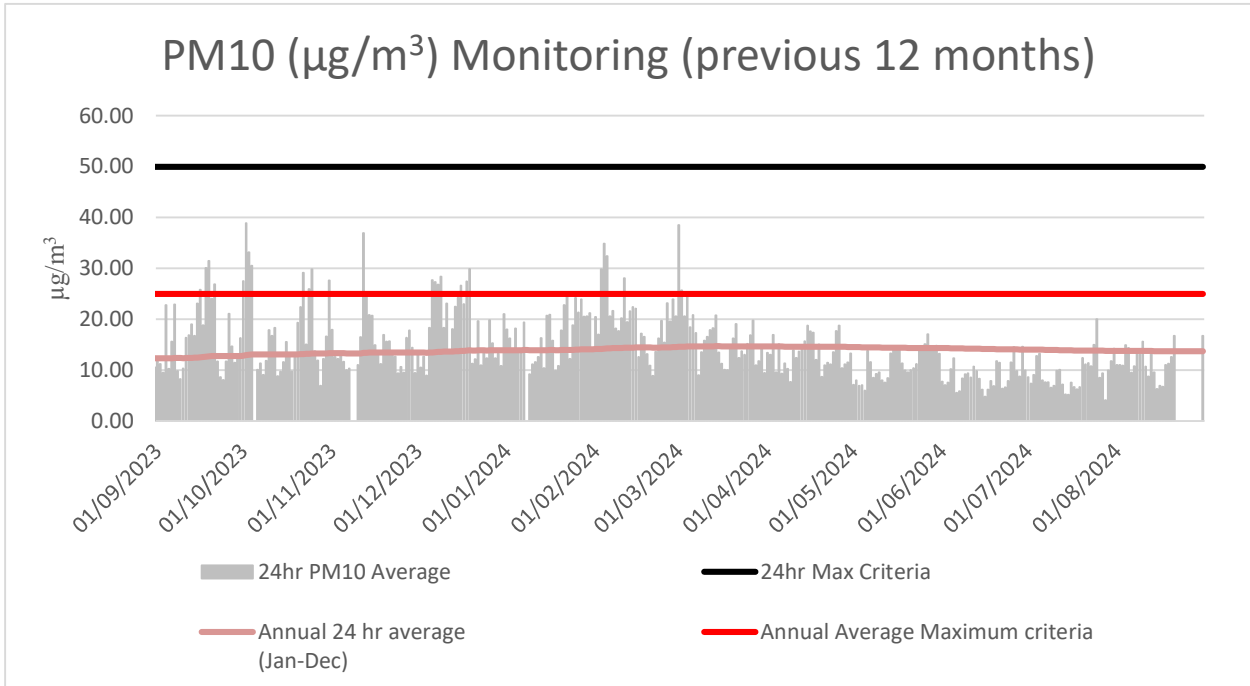


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## Air Quality – PM<sub>10</sub>

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 August 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 August 2024.

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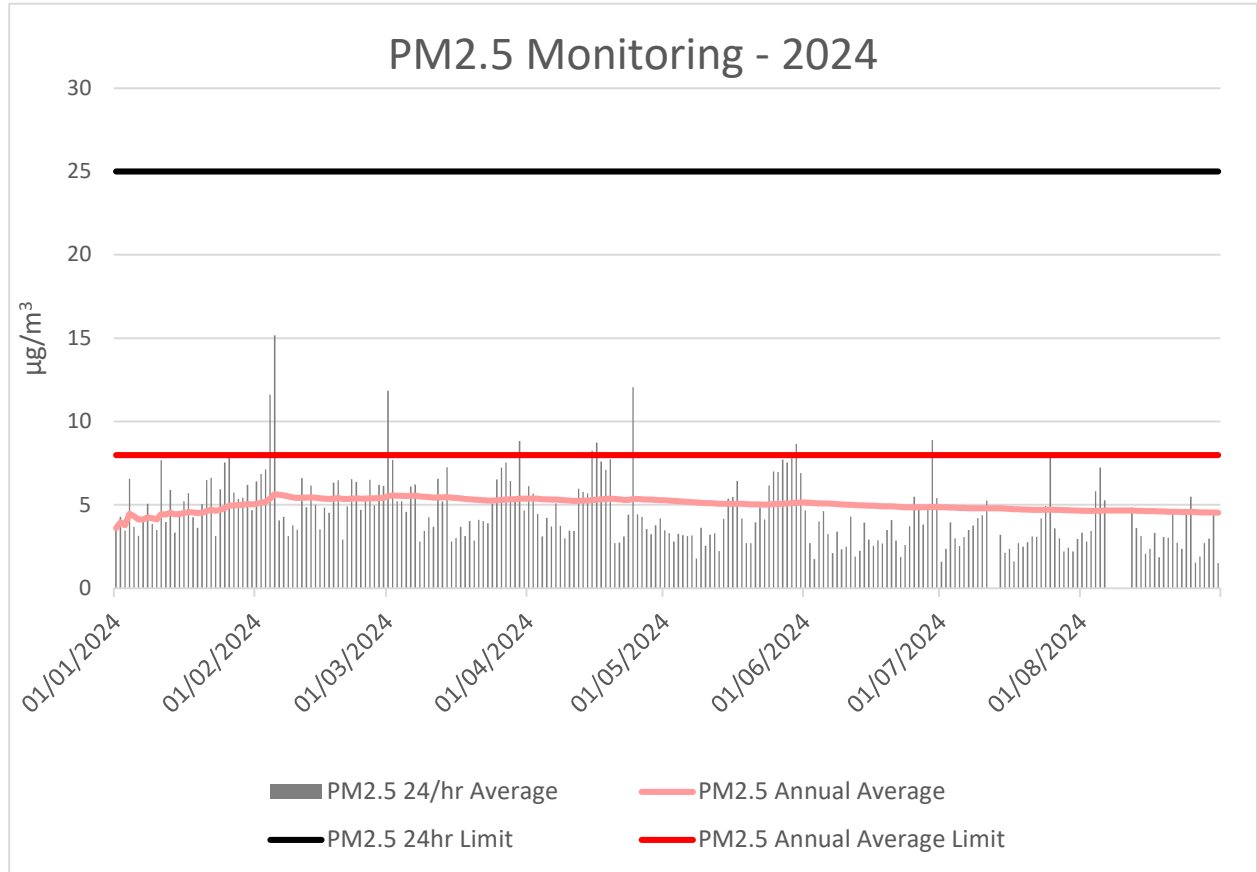
Variable	August	Total	Valid
A/C Temp	73.9%	8928	6594
A1_Scaled	73.9%	8928	6595
Band	73.9%	8928	6595
Bypass Flow	69.1%	8928	6173
Cap Temp	69.1%	8928	6173
Case Temp	69.1%	8928	6173
Config	73.9%	8928	6595
Dew Point	69.1%	8928	6173
Dig-In	73.9%	8928	6595
Dig-Latch	73.9%	8928	6595
ESN	73.9%	8928	6595
Filter Freq	69.1%	8928	6173
Filter Load	69.1%	8928	6173
Humidity	69.1%	8928	6173
MC	69.1%	8928	6173
MC 12Hr	69.1%	8928	6173
MC 1Hr	69.1%	8928	6173
MC 24Hr	69.1%	8928	6173
MC 30min	69.1%	8928	6173
MC 8Hr	69.1%	8928	6173
MC Total	69.1%	8928	6173
Mobile Signal	73.9%	8928	6595
Noise	69.1%	8928	6173
PM10 Flow	69.1%	8928	6173
Pressure	69.1%	8928	6173
Site	0.0%	8928	0
Temperature	69.1%	8928	6173
Tube Temp	69.1%	8928	6173
Vac Pressure	69.1%	8928	6173
Volts	73.9%	8928	6595

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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 August 2024. The 12-month rolling average PM<sub>2.5</sub> value on 31 August was 4.53  $\mu\text{g}/\text{m}^3$ . PM<sub>2.5</sub> data availability in July was 81%. The 2024 year to date PM<sub>2.5</sub> data availability is 95.46%.

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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

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Variable	August	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