



Chain Valley Colliery Monthly Website Report – October 2024

Site:	Chain Valley Colliery
Department:	Technical Services
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Summary

Environmental monitoring results are presented in this report for monitoring undertaken during the period of October 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 Environmental 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 October 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	EPL 1770 – October 2023

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 **October 2024**

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

October 2024			
EPL	1770		
Licensee	Great Southern Energy Pty Ltd		
Premises	Chain Valley Colliery		
Date Sampled	08-10-2024		
Date Obtained	16-10-2024		
Sampling Point	LDP 1		
Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	9
Enterococcus	col/100mL	-	66
Faecal Coliforms	CFU/100mL	200	80
pH	pH	6.5-8.5	7.78
Total Sus. Solids (TSS)	mg/L	50	14
Electrical Conductivity	µS/cm	-	31200

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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 October 2024.

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)
01/10/2024	3683	0
02/10/2024	5678	1.2
03/10/2024	8118	0.2
04/10/2024	6329	0
05/10/2024	5565	0
06/10/2024	3638	0
07/10/2024	9865	0
08/10/2024	4019	2.2
09/10/2024	5928	1.2
10/10/2024	5021	0.2
11/10/2024	5595	0
12/10/2024	7737	0.6
13/10/2024	5455	8.2
14/10/2024	5674	11.2
15/10/2024	6219	4
16/10/2024	5992	0
17/10/2024	5964	0
18/10/2024	5926	1.8
19/10/2024	3750	0.2
20/10/2024	5768	1.4
21/10/2024	7968	0
22/10/2024	10398	0.4
23/10/2024	5498	0
24/10/2024	5843	10.8
25/10/2024	4482	28.2
26/10/2024	3044	0
27/10/2024	5694	0
28/10/2024	8288	0.6
29/10/2024	5810	0
30/10/2024	3113	0
31/10/2024	5885	2.6
Average	5869	2
Minimum	3044	0
Maximum	10398	28

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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

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.

October 2024	
EPL	1770
Limit	4g/m ² /month / Annum 2g/m ² /month increase from previous result
Sampling Date	02/09/2024 – 02/10/2024
Site	Insoluble Matter (g/m²/month)
DDG001	0.8
DDG002	0.8
DDG003	2.2
DDG004	6.2
DDG006	0.5
Notes: For site locations refer to the Delta Coal Air Quality and Greenhouse Gas Management Plan.	

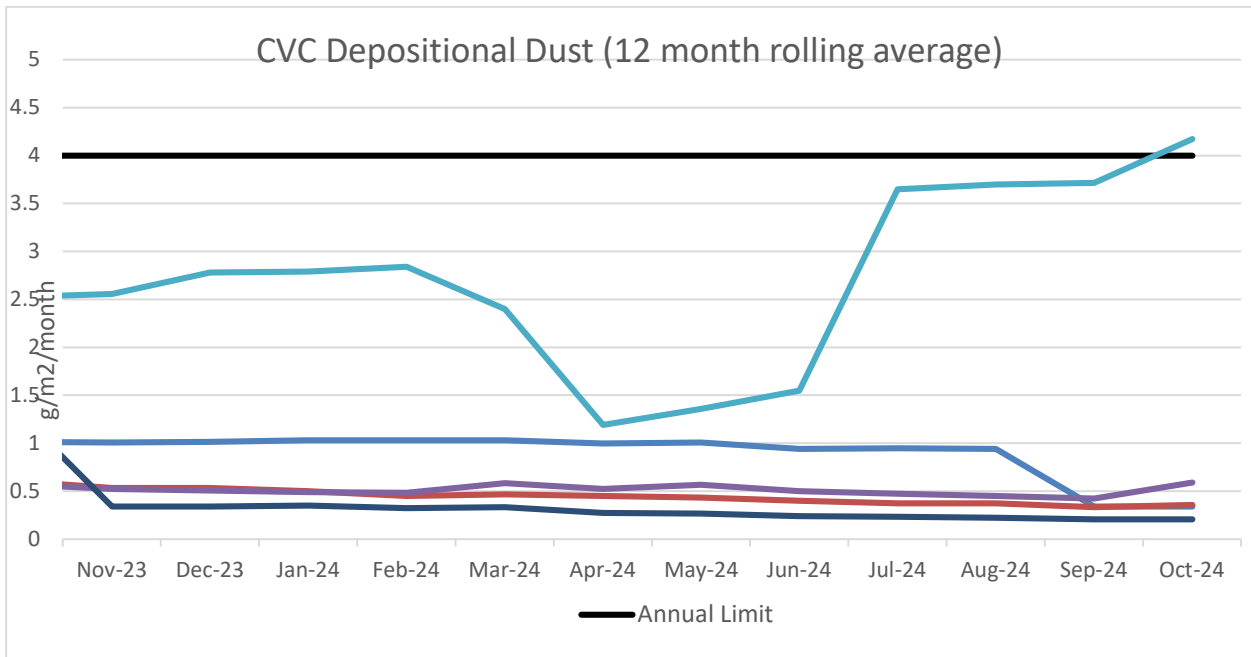
There was an exceedance to the maximum total increase in deposited dust level (increase greater than 2 g/m²/month) at DDG004 for the sampling period between 2 September 2024 to 2 October 2024. The monthly depositional dust level increases were:

- DDG003 from 0.1 g/m² /month to 2.2 g/m² /month
- DDG004 from 1.1 g/m² /month to 6.2 g/m² /month.

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 4.18g/m² /month against the limit of 4g/m² /month .

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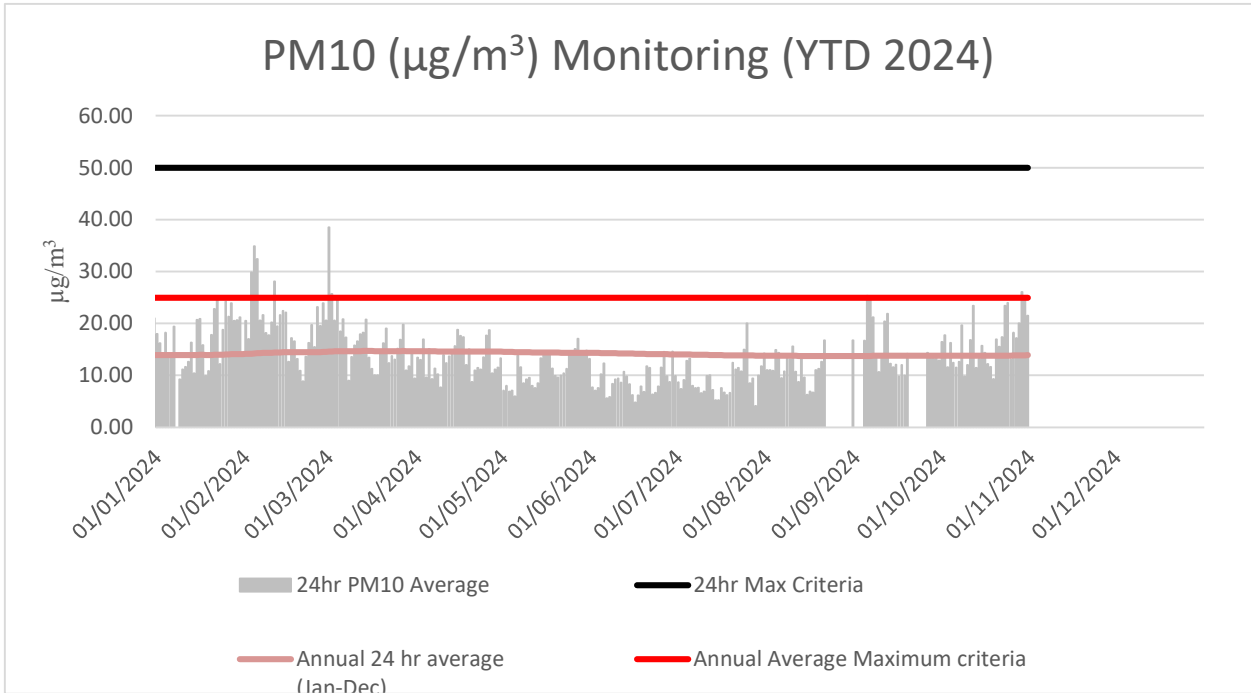
A 12-month rolling average of depositional dust concentrations has been presented above. Dust Gauges DDG001, DDG002, DDG003 and DDG004 are located within a closer proximity to Chain Valley Colliery and DDG006 is positioned in a location representative of the Chain Valley Colliery ventilation fan site 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 October 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 93.4% for the month of October 2024.

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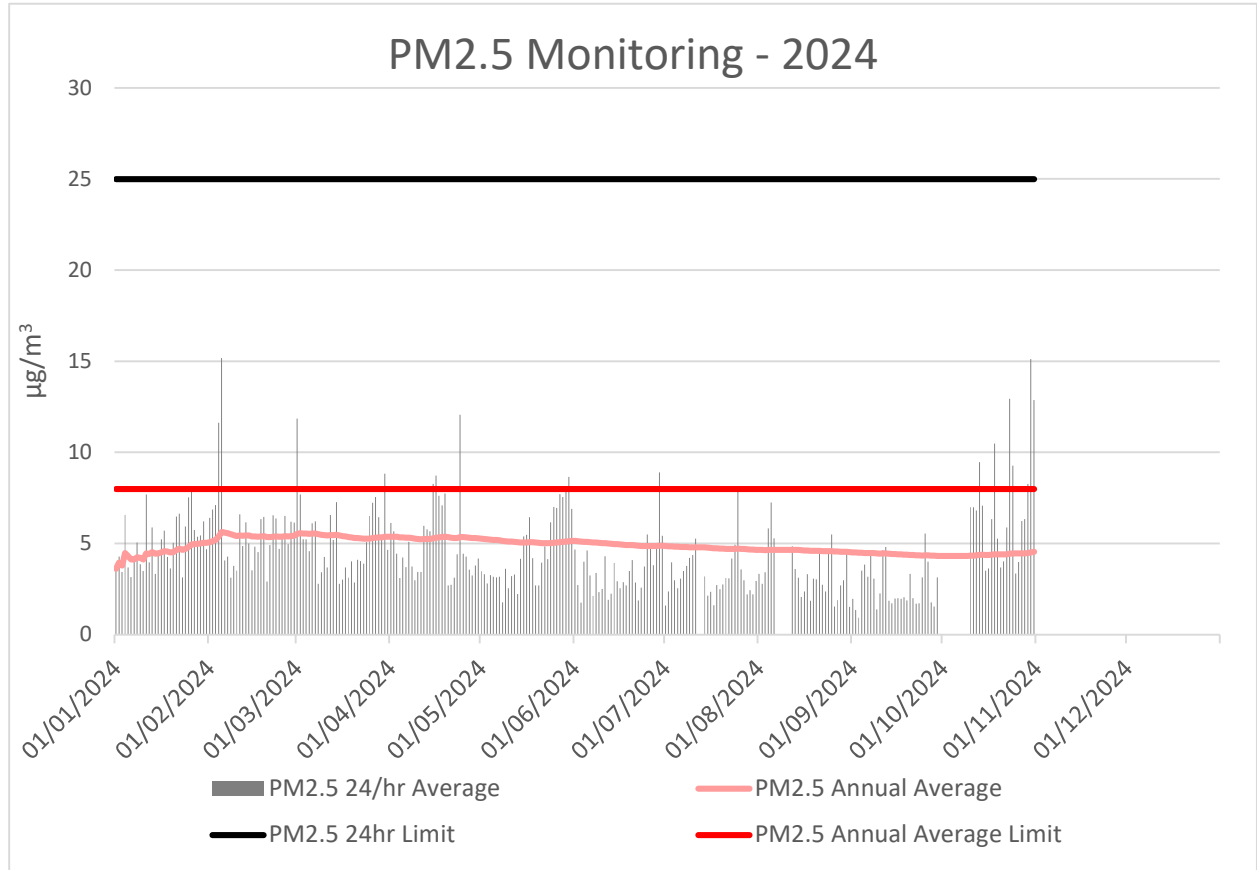
Variable	October	Total	Valid
A/C Temp	99.8%	8928	8913
A1_Scaled	99.8%	8928	8913
Band	99.8%	8928	8913
Bypass Flow	99.8%	8928	8912
Cap Temp	99.8%	8928	8912
Case Temp	99.8%	8928	8912
Config	99.8%	8928	8913
Dew Point	99.8%	8928	8912
Dig-In	99.8%	8928	8913
Dig-Latch	99.8%	8928	8913
ESN	99.8%	8928	8913
Filter Freq	99.8%	8928	8912
Filter Load	99.8%	8928	8912
Humidity	99.8%	8928	8912
MC	99.8%	8928	8913
MC 12Hr	99.8%	8928	8913
MC 1Hr	99.8%	8928	8913
MC 24Hr	99.8%	8928	8913
MC 30min	99.8%	8928	8913
MC 8Hr	99.8%	8928	8913
MC Total	99.8%	8928	8912
Mobile Signal	99.8%	8928	8913
Noise	99.8%	8928	8912
PM10 Flow	99.8%	8928	8912
Pressure	99.8%	8928	8912
Site	0.0%	8928	0
Temperature	99.8%	8928	8912
Tube Temp	99.8%	8928	8912
Vac Pressure	99.8%	8928	8912
Volts	99.8%	8928	8913

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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 October 2024. The 12-month rolling average PM_{2.5} value on 31 October was 4.54 $\mu\text{g}/\text{m}^3$. PM_{2.5} data availability in October was 67%. The 2024 year to date PM_{2.5} data availability is 92.62%.

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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	13 October 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
Oct-24	75	7.9	30.6

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Variable	October	Total	Valid
Baro (Corrected)	99.9%	2976	2973
10m Temp	99.9%	2976	2973
2m Temp	99.9%	2976	2973
A1	99.9%	2976	2973
A1_Scaled	99.9%	2976	2973
Assumed Temp	99.9%	2976	2973
Barometric	99.9%	2976	2973
Config	99.9%	2976	2973
Daily Evap	99.9%	2976	2973
Daily Rain	99.9%	2976	2973
Delta T	99.9%	2976	2973
Dew Point	99.9%	2976	2973
Dig-In	99.9%	2976	2973
Dig-Latch	99.9%	2976	2973
ESN	99.9%	2976	2973
FDI	99.9%	2976	2973
Heat Index	99.9%	2976	2973
Humidity	99.9%	2976	2973
Mobile Signal	99.9%	2976	2973
Rain	99.9%	2976	2973
Raw Evap	99.9%	2976	2973
S Class	99.9%	2976	2973
Scalar WS	99.9%	2976	2973
Sigma	99.9%	2976	2973
Site	0.0%	2976	0
Solar Radiation	99.9%	2976	2973
Vector WD	99.9%	2976	2973
Vector WS	99.9%	2976	2973
Volts	99.9%	2976	2973
Wind Chill	99.9%	2976	2973
Wind Direction	99.9%	2976	2973
Wind Speed	99.9%	2976	2973
WS Avg	99.9%	2976	2973
WS Gust	99.9%	2976	2973