



Chain Valley Colliery Monthly Website Report – June 2024

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Summary

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

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

June 2024			
EPL	1770		
Licensee	Great Southern Energy Pty Ltd		
Premises	Chain Valley Colliery		
Date Sampled	17-06-2024		
Date Obtained	24-06-2024		
Sampling Point	LDP 1		
Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	2
Enterococcus	col/100mL	-	1
Faecal Coliforms	CFU/100mL	200	66
pH	pH	6.5-8.5	7.71
Total Sus. Solids (TSS)	mg/L	50	15
Electrical Conductivity	µS/cm	-	31,600

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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 June 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)
01/06/2024	7330.26	75.2
02/06/2024	5694.72	15.8
03/06/2024	8801.24	0
04/06/2024	9630.57	0
05/06/2024	6910.08	8.2
06/06/2024	6420.04	9.4
07/06/2024	3380.06	4.6
08/06/2024	5082.94	0.4
09/06/2024	6154.06	0
10/06/2024	6005.12	0
11/06/2024	9261.61	0
12/06/2024	6171.12	0
13/06/2024	7124.47	0
14/06/2024	6030.21	7.8
15/06/2024	7189.19	16.6
16/06/2024	6092.77	0
17/06/2024	6088.56	0
18/06/2024	6065.34	0
19/06/2024	5940.18	0
20/06/2024	6063.17	0
21/06/2024	6072.93	0
22/06/2024	6052.7	7.8
23/06/2024	6299	3
24/06/2024	6024.18	0.4
25/06/2024	6047.79	0
26/06/2024	6061.84	0
27/06/2024	5646.4	0.2
28/06/2024	7817.49	0
29/06/2024	8071.23	0
30/06/2024	6623.36	13.8

Average	6538	5.4
Minimum	3380	0
Maximum	9631	75.2

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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	195	2320

Air Quality - Depositional Dust

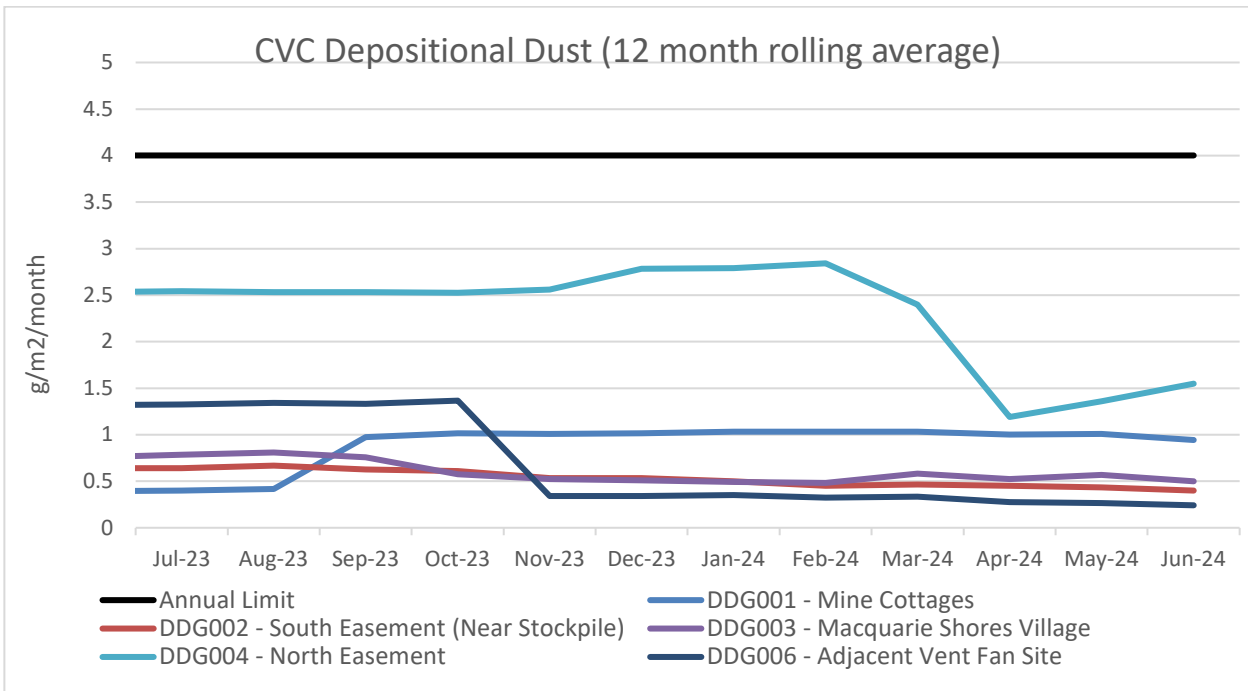
Monthly depositional dust results are shown below. Dust deposition gauges were sampled and analysed in accordance with Development Consent SSD-5465 (as modified), Delta Coal Air Quality and Greenhouse Gas Management Plan, and relevant Australian Standards.

June 2024	
EPL	1770
Limit	4g/m ² /month / Annum 2g/m ² /month increase from previous result
Sampling Date	03/05/2024-03/06/2024
Site	Insoluble Matter (g/m²/month)
DDG001	0.3
DDG002	0.2
DDG003	0.2
DDG004	4.4
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/m²/month (annual average).

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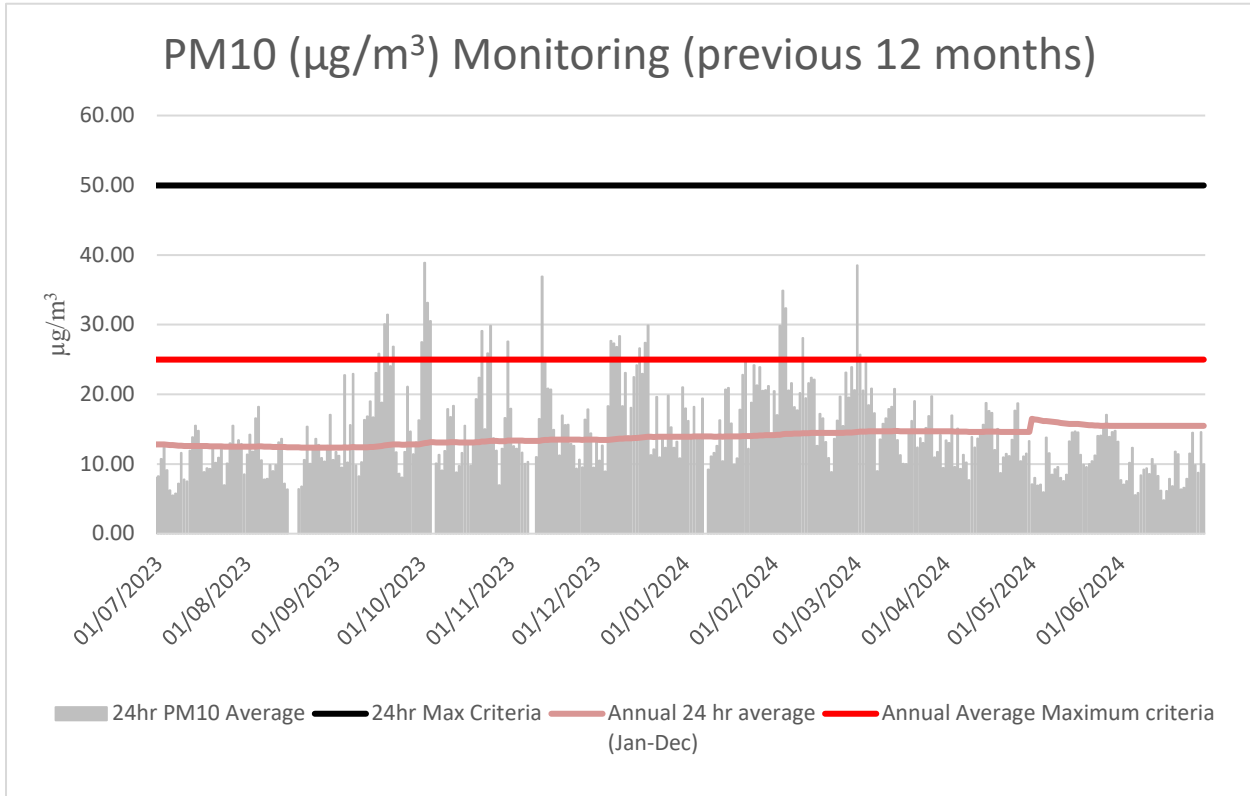
A 12-month rolling average of depositional dust concentrations has been presented above. Dust Gauges DDG001, DDG002, DDG003 and DDG004 are located within a closer proximity to Chain Valley Colliery and DDG006 is positioned in a location representative of the Chain Valley Colliery ventilation fan site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

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Air Quality – 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 June 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 June 2024.

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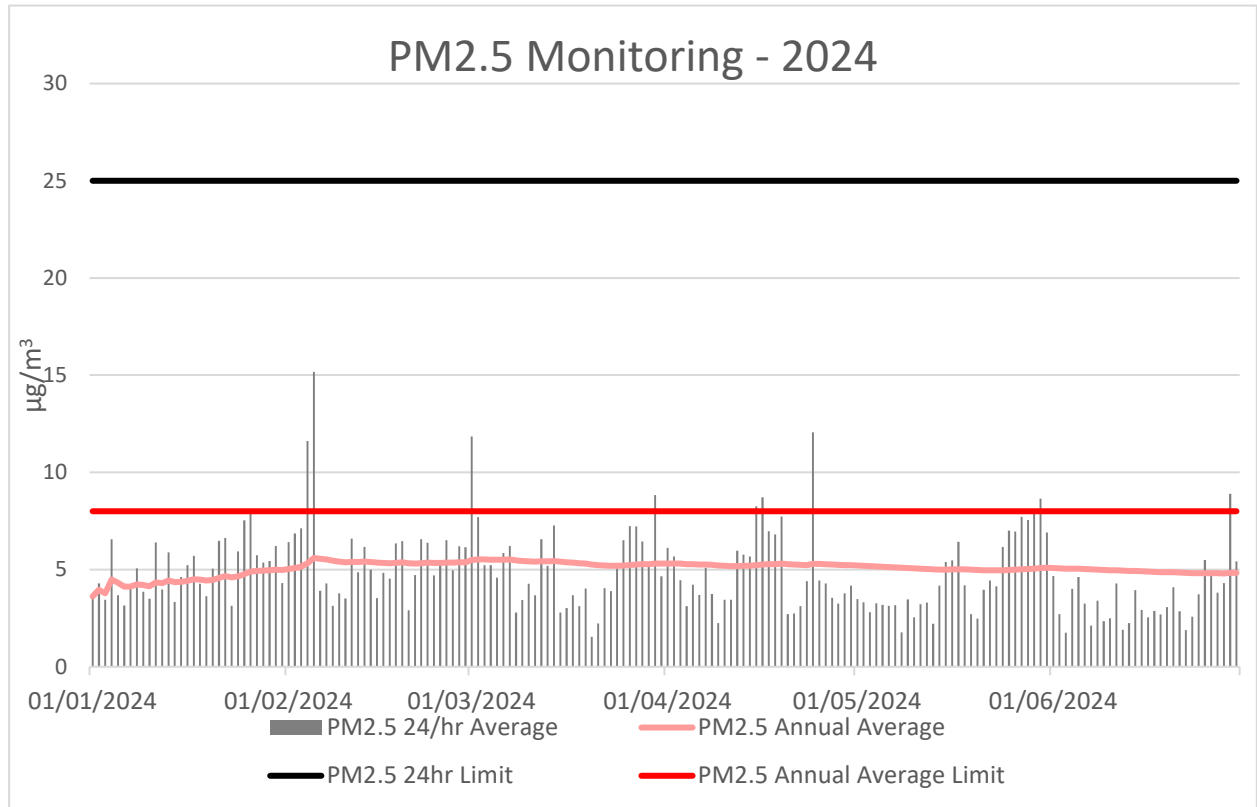
Variable	June	Total	Valid
A/C Temp	99.9%	8640	8635
A1_Scaled	99.9%	8640	8635
Band	99.9%	8640	8635
Bypass Flow	99.9%	8640	8635
Cap Temp	99.9%	8640	8635
Case Temp	99.9%	8640	8635
Config	99.9%	8640	8635
Dew Point	99.9%	8640	8635
Dig-In	99.9%	8640	8635
Dig-Latch	99.9%	8640	8635
ESN	99.9%	8640	8635
Filter Freq	99.9%	8640	8635
Filter Load	99.9%	8640	8635
Humidity	99.9%	8640	8635
MC	99.9%	8640	8635
MC 12Hr	99.9%	8640	8635
MC 1Hr	99.9%	8640	8635
MC 24Hr	99.9%	8640	8635
MC 30min	99.9%	8640	8635
MC 8Hr	99.9%	8640	8635
MC Total	99.9%	8640	8635
Mobile Signal	99.9%	8640	8635
Noise	99.9%	8640	8635
PM10 Flow	99.9%	8640	8635
Pressure	99.9%	8640	8635
Site	0.0%	8640	0
Temperature	99.9%	8640	8635
Tube Temp	99.9%	8640	8635
Vac Pressure	99.9%	8640	8635
Volts	99.9%	8640	8635

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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 June 2024. The 12-month rolling average PM_{2.5} value on 30 June was 4.8 $\mu\text{g}/\text{m}^3$. PM_{2.5} data availability in June was 100%. The 2024 year to date PM_{2.5} 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	10 July 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

Variable	June	Total	Valid
Baro (Corrected)	100%	2880	2880
10m Temp	100%	2880	2880
2m Temp	100%	2880	2880
A1	100%	2880	2880
A1_Scaled	100%	2880	2880
Assumed Temp	100%	2880	2880
Barometric	100%	2880	2880
Config	100%	2880	2880
Daily Evap	100%	2880	2880
Daily Rain	100%	2880	2880
Delta T	100%	2880	2880
Dew Point	100%	2880	2880
Dig-In	100%	2880	2880
Dig-Latch	100%	2880	2880
ESN	100%	2880	2880
FDI	100%	2880	2880
Heat Index	100%	2880	2880
Humidity	100%	2880	2880
Mobile Signal	100%	2880	2880
Rain	100%	2880	2880
Raw Evap	100%	2880	2880
S Class	100%	2880	2880
Scalar WS	100%	2880	2880
Sigma	100%	2880	2880
Site	0.0%	2880	0
Solar Radiation	100%	2880	2880
Vector WD	100%	2880	2880
Vector WS	100%	2880	2880
Volts	100%	2880	2880
Wind Chill	100%	2880	2880
Wind Direction	100%	2880	2880
Wind Speed	100%	2880	2880
WS Avg	100%	2880	2880
WS Gust	100%	2880	2880