



Chain Valley Colliery Monthly Website Report – April 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 April 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 April 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 **April 2024**

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

April 2024			
EPL	1770		
Licensee	Great Southern Energy Pty Ltd		
Premises	Chain Valley Colliery		
Date Sampled	24-04-2024		
Date Obtained	01-05-2024		
Sampling Point	LDP 1		
Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	5
Enterococcus	col/100mL	-	1
Faecal Coliforms	CFU/100mL	200	5
pH	pH	6.5-8.5	7.75
Total Sus. Solids (TSS)	mg/L	50	<5
Electrical Conductivity	µS/cm	-	31500

During the April monitoring period, there was an exceedance of oil and grease concentration of 12 mg/L against the limit of 10mg/L. This has been reported to both the EPA and NSW DCCEEW.

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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 April 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)
01/04/2024	6210	0.2
02/04/2024	4383	3.6
03/04/2024	2046	2.2
04/04/2024	1487	33
05/04/2024	6174	101
06/04/2024	7634	32.8
07/04/2024	8491	0
08/04/2024	3740	0
09/04/2024	3253	0.8
10/04/2024	5516	0
11/04/2024	6512	0
12/04/2024	8577	0
13/04/2024	3364	0
14/04/2024	5170	0
15/04/2024	8521	0
16/04/2024	5796	0
17/04/2024	5881	0
18/04/2024	6463	3.8
19/04/2024	6179	25
20/04/2024	8670	84.8
21/04/2024	10605	19.8
22/04/2024	10009	0
23/04/2024	7829	0
24/04/2024	6524	0
25/04/2024	6419	0
26/04/2024	3864	0
27/04/2024	6708	0
28/04/2024	9860	0
29/04/2024	6474	0
30/04/2024	8719	54.2

Average	6369	12
Minimum	1487	0
Maximum	10605	101

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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		
June 2024		

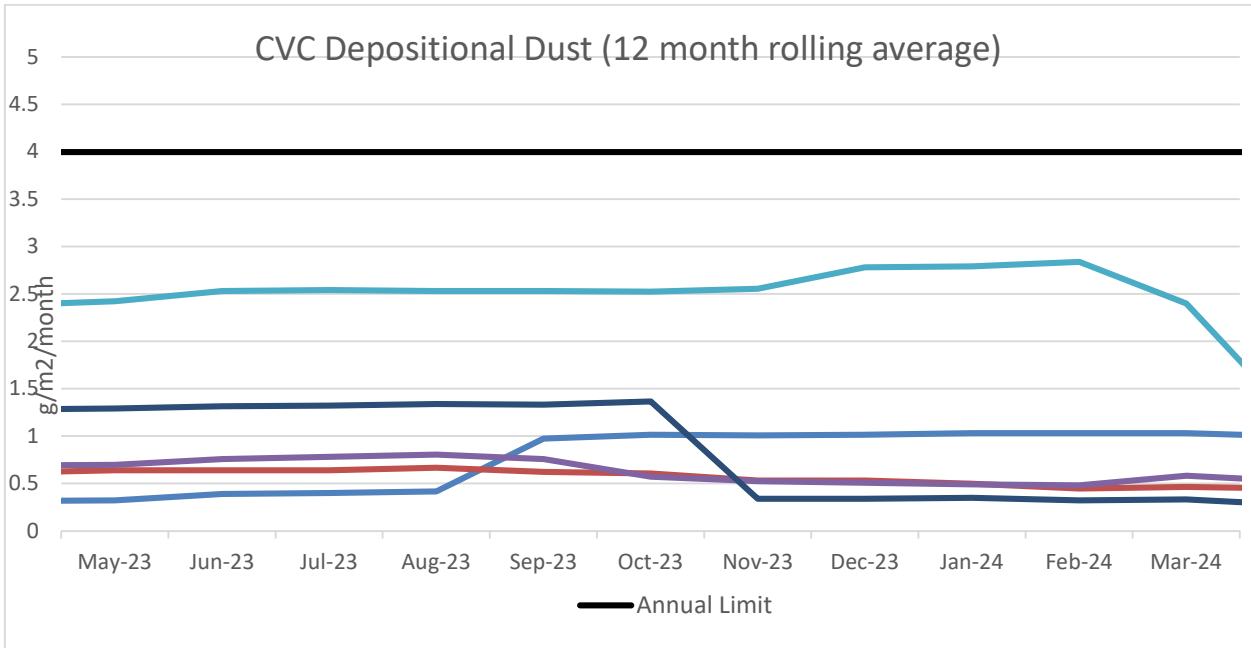
Air Quality - Depositional Dust

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.

April 2024	
EPL	1770
Limit	4g/m ² /month / Annum 2g/m ² /month increase from previous result
Sampling Date	05/03/2024 – 04/04/2024
Site	Insoluble Matter (g/m²/month)
DDG001	0.3
DDG002	0.6
DDG003	0.2
DDG004	0.5
DDG006	0.1
Notes: For site locations refer to the Delta Coal Air Quality and Greenhouse Gas Management Plan.	

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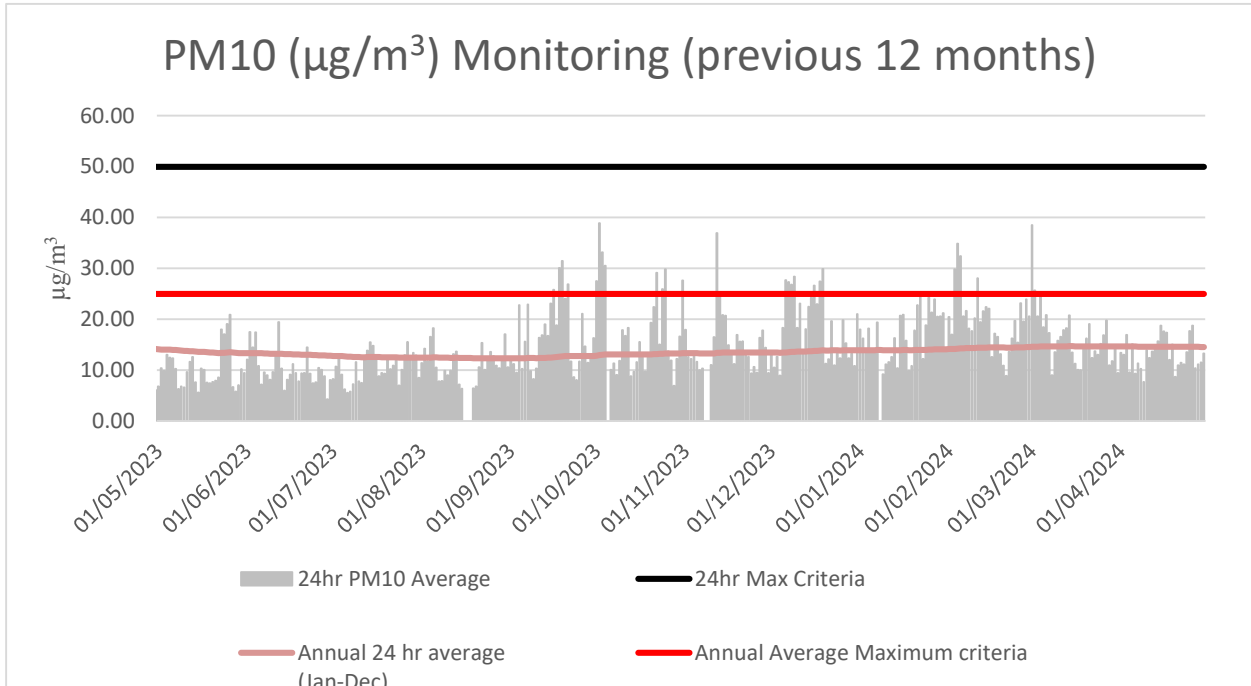
A 12-month rolling average of depositional dust concentrations has been presented below. Dust Gauges DDG001, DDG002, DDG003 and DDG004 are located within a closer proximity to Chain Valley Colliery and DDG006 is positioned in a location representative of the Chain Valley Colliery ventilation fan site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

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Air Quality – 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 April 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 97.9% for the month of April 2024.

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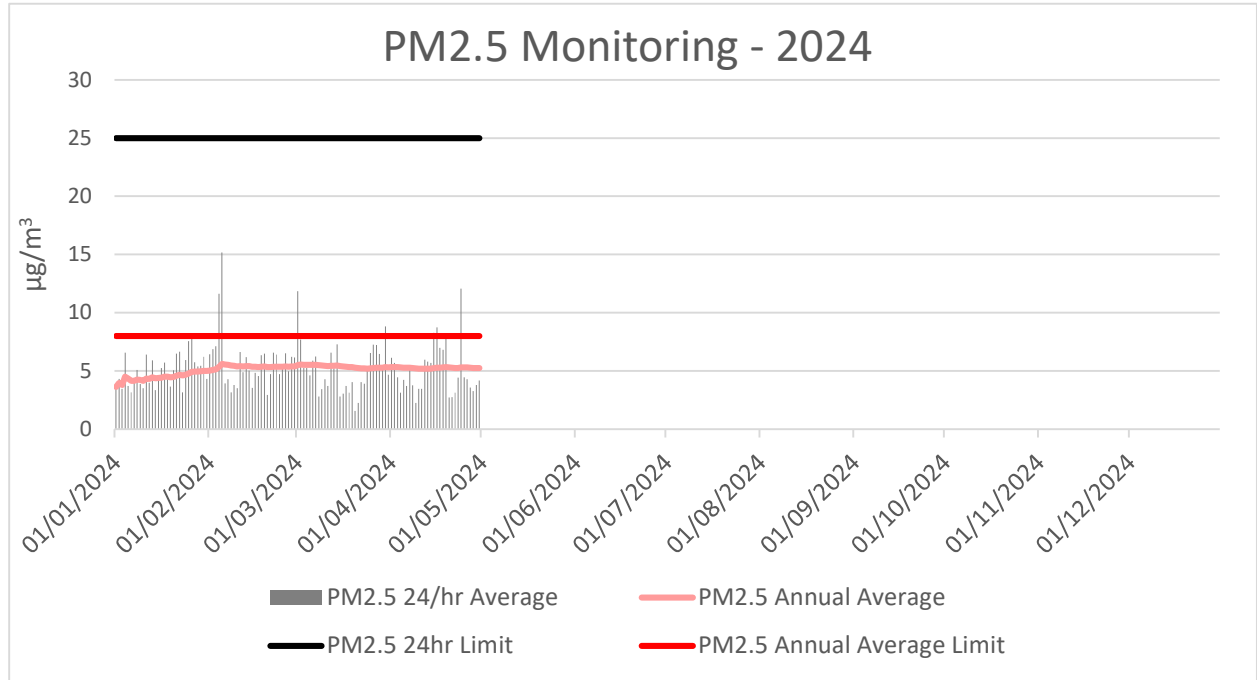
Variable	April	Total	Valid
Baro (Corrected)	99.4%	2880	2862
10m Temp	99.4%	2880	2862
2m Temp	99.4%	2880	2862
A1	99.4%	2880	2862
A1_Scaled	99.4%	2880	2862
Assumed Temp	99.4%	2880	2862
Barometric	99.4%	2880	2862
Config	99.4%	2880	2862
Daily Evap	99.4%	2880	2862
Daily Rain	99.4%	2880	2862
Delta T	99.4%	2880	2862
Dew Point	99.4%	2880	2862
Dig-In	99.4%	2880	2862
Dig-Latch	99.4%	2880	2862
ESN	99.4%	2880	2862
FDI	99.4%	2880	2862
Heat Index	99.4%	2880	2862
Humidity	99.4%	2880	2862
Mobile Signal	99.4%	2880	2862
Rain	99.4%	2880	2862
Raw Evap	99.4%	2880	2862
S Class	99.4%	2880	2862
Scalar WS	99.4%	2880	2862
Sigma	99.4%	2880	2862
Site	0.0%	2880	0
Solar Radiation	99.4%	2880	2862
Vector WD	99.4%	2880	2862
Vector WS	99.4%	2880	2862
Volts	99.4%	2880	2862
Wind Chill	99.4%	2880	2862
Wind Direction	99.4%	2880	2862
Wind Speed	99.4%	2880	2862
WS Avg	99.4%	2880	2862
WS Gust	99.4%	2880	2862

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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 April 2024. The 12-month rolling average PM_{2.5} value on 30 April was 5.2 $\mu\text{g}/\text{m}^3$. PM_{2.5} data availability in April 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	8 May 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	53.6	13.2	17.9

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