



Chain Valley Colliery Monthly Website Report – January 2024

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Department:	Technical Services
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Monthly Website Report

CVC Monthly Environmental Report – January 2024

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Summary

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

ALS Group - Dust Deposition Report **January 2024**

Development Consent SSD-5465 (as modified)

Environment Protection Licence (EPL) 1770 (Licence version date: 5 June 2023)

Monitoring Results

Water – Quality

Water quality results for January 2024 monthly surface water sampling at Chain Valley Colliery, Licensed Discharge Point (LDP 1) are presented below.

January 2024			
EPL	1770		
Licensee	Great Southern Energy Pty Ltd		
Premises	Chain Valley Colliery		
Date Sampled	23-01-2024		
Date Obtained	30-01-2024		
Sampling Point	LDP 1		
Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	2
Enterococcus	col/100mL	-	<2
Faecal Coliforms	CFU/100mL	200	80
pH	pH	6.5-8.5	7.84
Total Sus. Solids (TSS)	mg/L	50	<5
Electrical Conductivity	µS/cm	-	31600

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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 January 2023.

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)
01/01/2024	6294	0.2
02/01/2024	5468	0
03/01/2024	5757	0
04/01/2024	5818	2
05/01/2024	7637	1
06/01/2024	6000	0
07/01/2024	5614	0
08/01/2024	5788	6.4
09/01/2024	5733	0.2
10/01/2024	5630	0
11/01/2024	5612	0
12/01/2024	7354	0.4
13/01/2024	5752	0
14/01/2024	6193	26.2
15/01/2024	5910	1.8
16/01/2024	4947	2.2
17/01/2024	5765	8.6
18/01/2024	5995	3.2
19/01/2024	5722	0
20/01/2024	5769	0
21/01/2024	5671	0
22/01/2024	5657	0
23/01/2024	5683	0.6
24/01/2024	5566	0
25/01/2024	5550	0
26/01/2024	5602	0
27/01/2024	6096	0
28/01/2024	4659	0
29/01/2024	5971	0
30/01/2024	4688	0
31/01/2024	5795	0.8

Average	5797	2
Minimum	4659	0
Maximum	7637	26

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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		
March 2024		
April 2024		
May 2024		
June 2024		

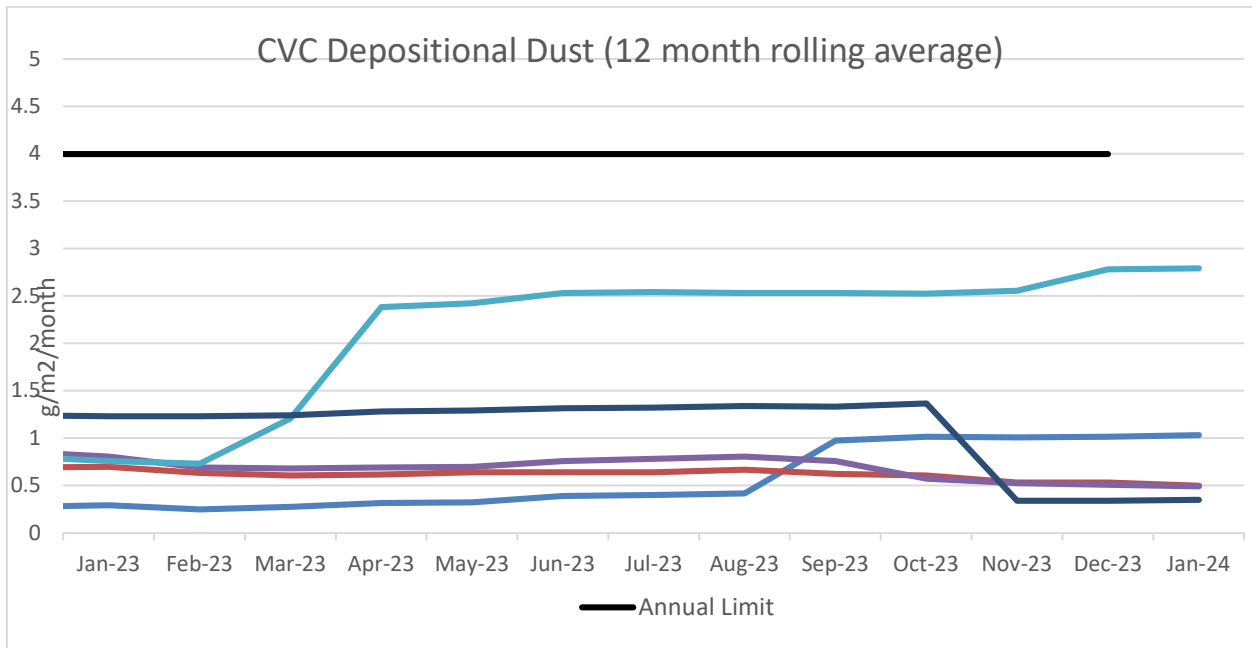
Air Quality - Depositional Dust

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.

January 2024	
EPL	1770
Limit	4g/m ² /month / Annum 2g/m ² /month increase from previous result
Sampling Date	01/12/2023 – 02/01/2024
Site	Insoluble Matter (g/m2/month)
DDG001	0.5
DDG002	0.1
DDG003	0.4
DDG004	1
DDG006	0.2
Notes: For site locations refer to the Delta Coal Air Quality and Greenhouse Gas Management Plan.	

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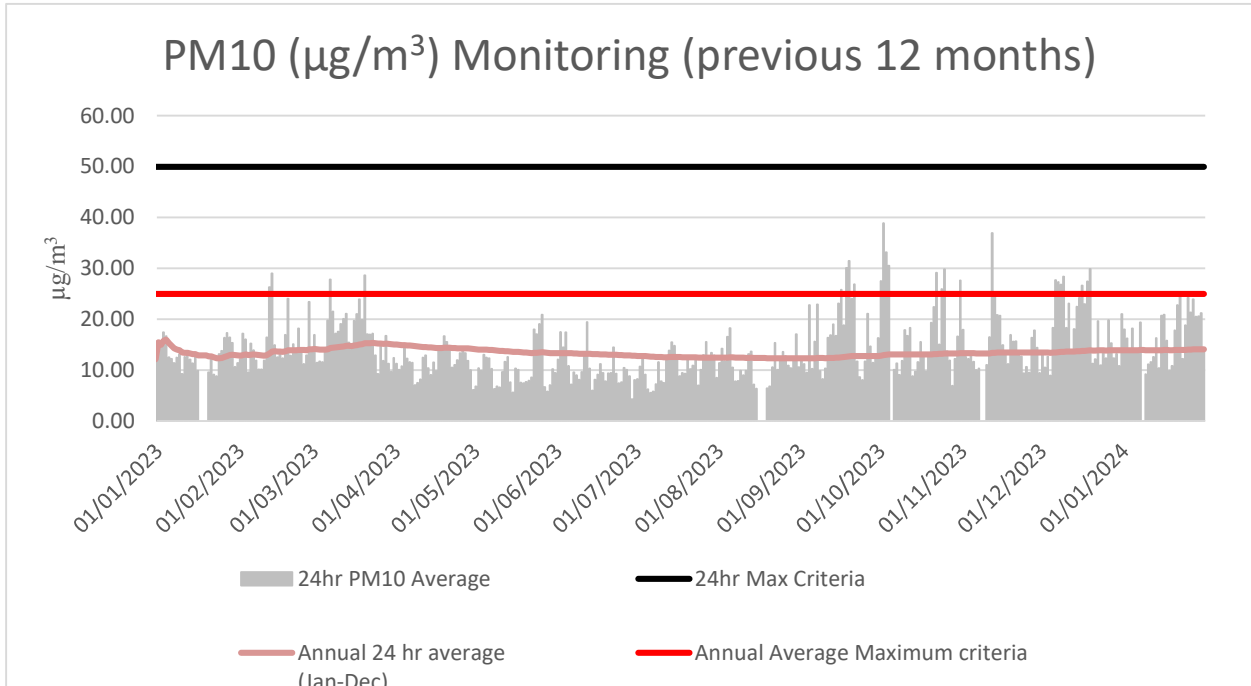
A 12-month rolling average of depositional dust concentrations has been presented below. Dust Gauges DDG001, DDG002, DDG003 and DDG004 are located within a closer proximity to Chain Valley Colliery and DDG006 is positioned in a location representative of the Chain Valley Colliery ventilation fan site 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 January 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 97.4% for the month of January 2024.

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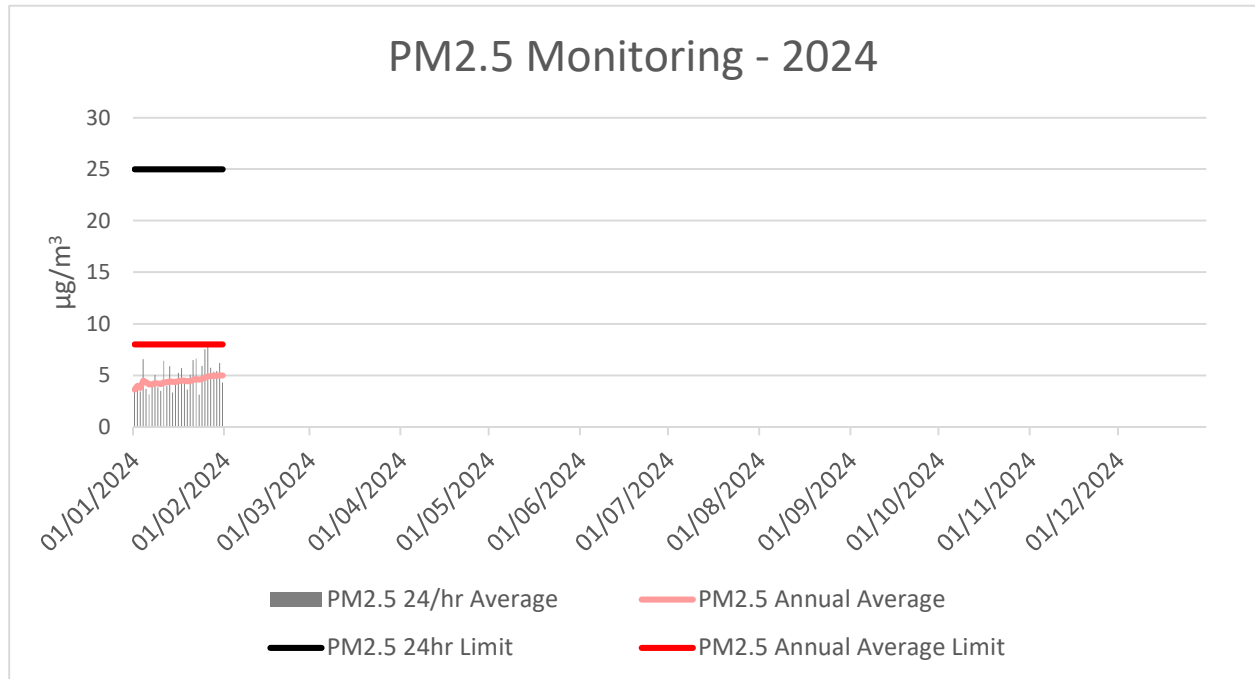
Variable	January	Total	Valid
A/C Temp	98.4%	8928	8788
A1	98.4%	8928	8788
A1_Scaled	98.4%	8928	8788
Bypass Flow	98.4%	8928	8787
Cap Temp	98.4%	8928	8787
Case Temp	98.4%	8928	8787
Config	98.4%	8928	8788
Dew Point	98.4%	8928	8787
Dig-In	98.4%	8928	8788
Dig-Latch	98.4%	8928	8788
ESN	98.4%	8928	8788
Filter Freq	98.4%	8928	8787
Filter Load	98.4%	8928	8787
Humidity	98.4%	8928	8787
MC	98.4%	8928	8787
MC 12Hr	98.4%	8928	8787
MC 1Hr	98.4%	8928	8787
MC 24Hr	98.4%	8928	8787
MC 30min	98.4%	8928	8787
MC 8Hr	98.4%	8928	8787
MC Total	98.4%	8928	8787
Mobile Signal	98.4%	8928	8788
Noise	98.4%	8928	8787
PM10 Flow	98.4%	8928	8787
Pressure	98.4%	8928	8787
Site	0.0%	8928	0
Temperature	98.4%	8928	8787
Tube Temp	98.4%	8928	8787
Vac Pressure	98.4%	8928	8787
Volts	98.4%	8928	8788

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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 January 2024. The 12-month rolling average PM_{2.5} value on 31 January was 4.98 µg/m³. PM_{2.5} data availability in January 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	7 February 2024		
Month	Total Rainfall/Month (mm)	Min Temp	Max Temp
Jan-24	53.6	40.9	13.8

Variable	January	Total	Valid
Baro (Corrected)	100%	2976	2976
10m Temp	100%	2976	2976
2m Temp	100%	2976	2976
A1	100%	2976	2976
A1_Scaled	100%	2976	2976
Assumed Temp	100%	2976	2976
Barometric	100%	2976	2976
Config	100%	2976	2976
Daily Evap	100%	2976	2976
Daily Rain	100%	2976	2976
Delta T	100%	2976	2976
Dew Point	100%	2976	2976
Dig-In	100%	2976	2976
Dig-Latch	100%	2976	2976
ESN	100%	2976	2976
FDI	100%	2976	2976
Heat Index	100%	2976	2976
Humidity	100%	2976	2976
Mobile Signal	100%	2976	2976
Rain	100%	2976	2976
Raw Evap	100%	2976	2976
S Class	100%	2976	2976
Scalar WS	100%	2976	2976
Sigma	100%	2976	2976
Site	0.0%	2976	0
Solar Radiation	100%	2976	2976
Vector WD	100%	2976	2976
Vector WS	100%	2976	2976
Volts	100%	2976	2976
Wind Chill	100%	2976	2976
Wind Direction	100%	2976	2976
Wind Speed	100%	2976	2976
WS Avg	100%	2976	2976
WS Gust	100%	2976	2976