



Chain Valley Colliery Monthly Website Report – July 2024

Site:	Chain Valley Colliery
Department:	Technical Services
Report Title:	Monthly Environmental Website Report – July 2024
Report Date:	13 th August 2024
Distribution:	Delta Coal Website

Table of Contents

Summary	3
Introduction	3
Scope	4
Definitions	4
References	5
Monitoring Results	5
Water – Quality	5
Water – Volume	6
Water – Groundwater Discharge	7
Air Quality - Depositional Dust	7
Air Quality – PM ₁₀	9
Air Quality – PM _{2.5}	11
Weather Data	12

Monthly Website Report

CVC Monthly Environmental Report – July 2024

Summary

Environmental monitoring results are presented in this report for monitoring undertaken during the period of July 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 July 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.

Monthly Website Report

CVC Monthly Environmental Report – July 2024

References

ALS Group - Monthly Water Monitoring Results **July 2024**

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

July 2024			
EPL	1770		
Licensee	Great Southern Energy Pty Ltd		
Premises	Chain Valley Colliery		
Date Sampled	10-07-2024		
Date Obtained	12-07-2024		
Sampling Point	LDP 1		
Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	3
Enterococcus	col/100mL	-	21
Faecal Coliforms	CFU/100mL	200	200
pH	pH	6.5-8.5	7.77
Total Sus. Solids (TSS)	mg/L	50	3
Electrical Conductivity	µS/cm	-	32000

Monthly Website Report

CVC Monthly Environmental Report – July 2024

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 July 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)
01/07/2024	6099.82	11.8
02/07/2024	4138.2	21.6
03/07/2024	9433.63	11.4
04/07/2024	9990.2	0.6
05/07/2024	8163.64	5.8
06/07/2024	6675.42	5.6
07/07/2024	3569.98	3
08/07/2024	6044.45	2.6
09/07/2024	10608.66	7.6
10/07/2024	6743.24	0.4
11/07/2024	2721.29	0
12/07/2024	1764.48	0
13/07/2024	9174.65	0
14/07/2024	6414.34	0
15/07/2024	7741.1	0
16/07/2024	6624.3	0
17/07/2024	1990.77	0.2
18/07/2024	7492.17	0.2
19/07/2024	6186.64	0
20/07/2024	6016.27	0
21/07/2024	4317.29	0
22/07/2024	4621.92	0
23/07/2024	6405.94	0
24/07/2024	6487.09	0
25/07/2024	5992.32	0
26/07/2024	9307.71	5
27/07/2024	6039.46	11.2
28/07/2024	5984.76	0.2
29/07/2024	3023.04	0.2
30/07/2024	9452.44	0.4
31/07/2024	9181.64	0
Average	6400	3
Minimum	1764	0
Maximum	10609	22

Monthly Website Report

CVC Monthly Environmental Report – July 2024

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

Air Quality - Depositional Dust

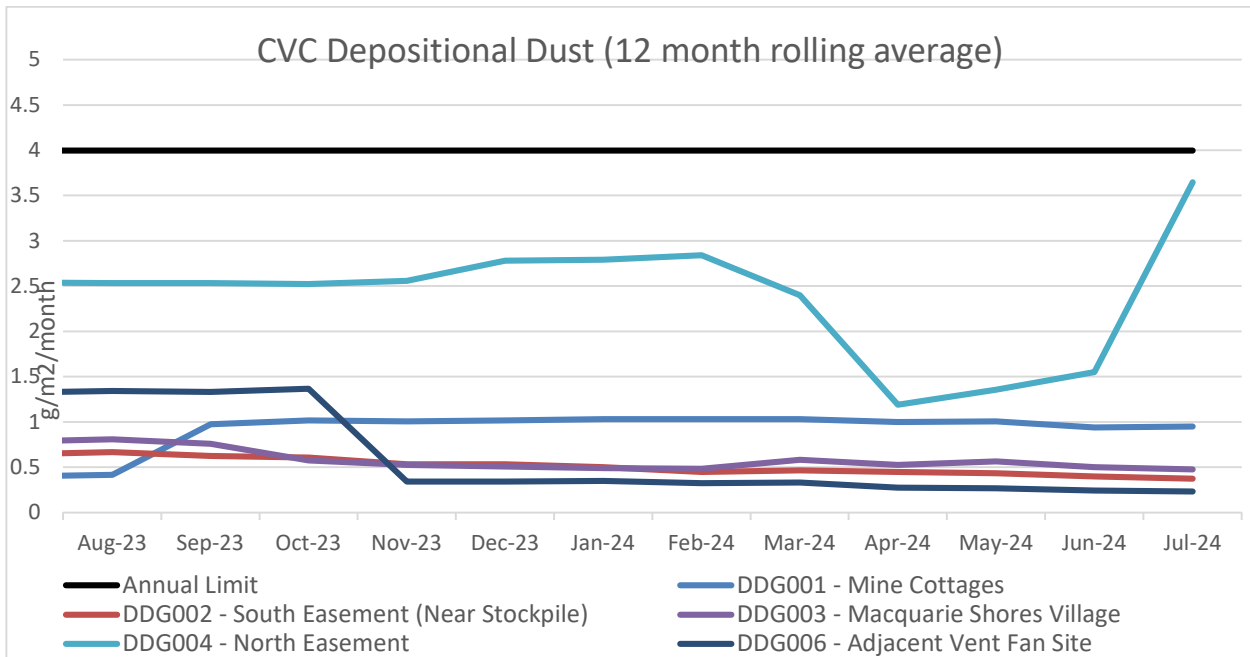
Monthly depositional dust results are shown below. Dust deposition gauges were sampled and analysed in accordance with Development Consent SSD-5465 (as modified), Delta Coal Air Quality and Greenhouse Gas Management Plan, and relevant Australian Standards.

June 2024	
EPL	1770
Limit	4g/m ² /month / Annum 2g/m ² /month increase from previous result
Sampling Date	03/06/2024 – 04/07/2024
Site	Insoluble Matter (g/m ² /month)
DDG001	0.3
DDG002	0.2
DDG003	0.1
DDG004	25.9
DDG006	0.2
Notes: For site locations refer to the Delta Coal Air Quality and Greenhouse Gas Management Plan.	

During the monitoring period, the result for DDG004 exceeded the 2g/m² /month increase from the previous result. The result was 25.9g/m² against the previous result of 4.4g/m² /month. The 12 month rolling average result remains within depositional dust limit of 4g/m²/month (annual average).

Monthly Website Report

CVC Monthly Environmental Report – July 2024



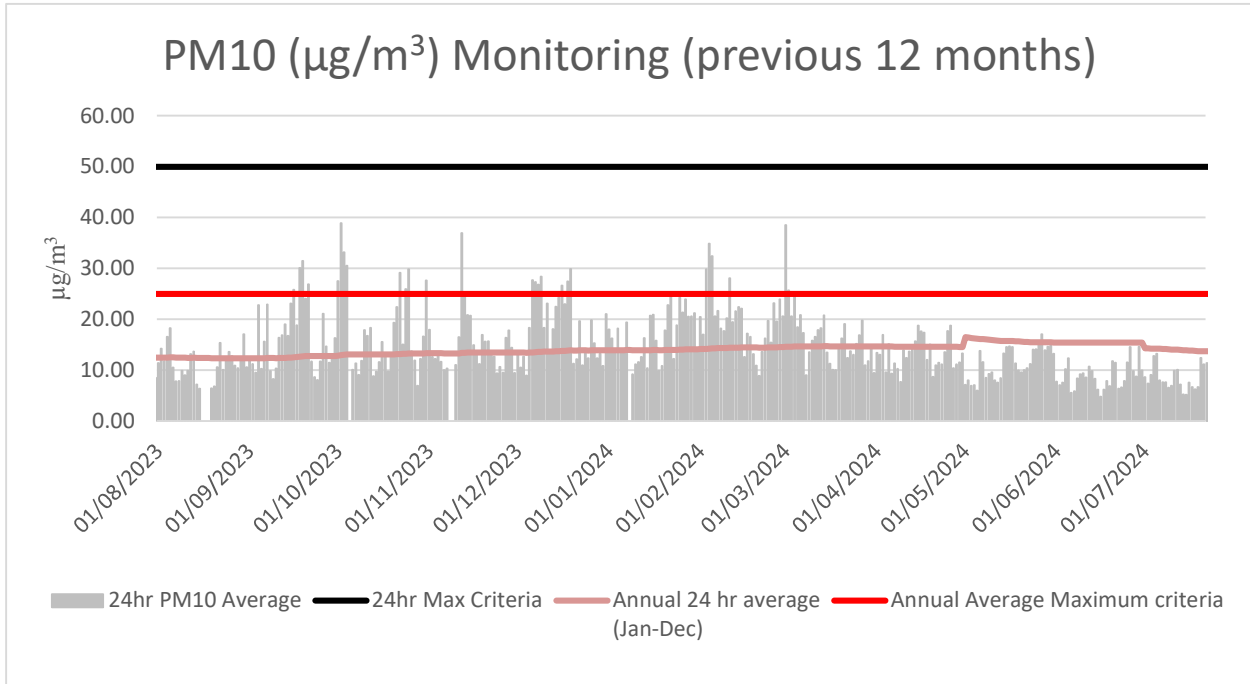
A 12-month rolling average of depositional dust concentrations has been presented above. Dust Gauges DDG001, DDG002, DDG003 and DDG004 are located within a closer proximity to Chain Valley Colliery and DDG006 is positioned in a location representative of the Chain Valley Colliery ventilation fan site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

Monthly Website Report

CVC Monthly Environmental Report – July 2024

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 99.5% for the month of July 2024.

Monthly Website Report

CVC Monthly Environmental Report – July 2024

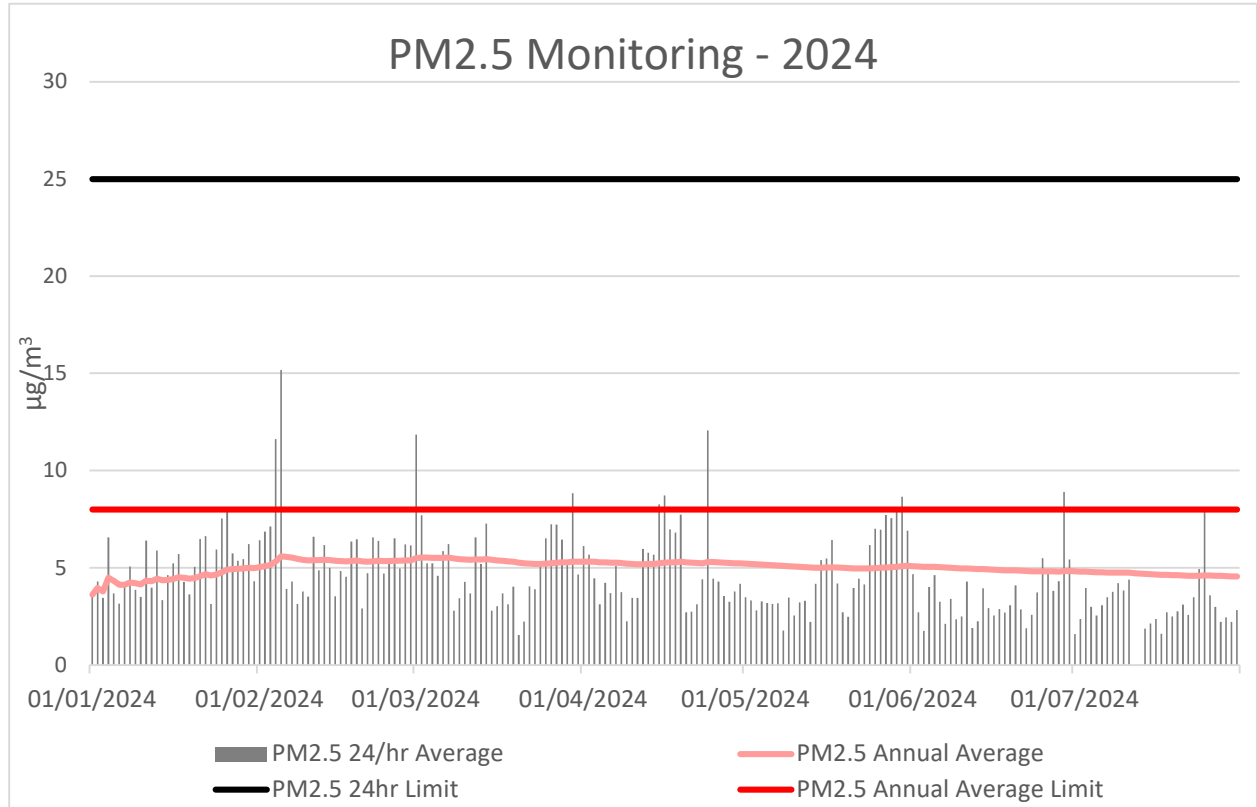
Variable	July	Total	Valid
A/C Temp	99.7%	8928	8905
A1_Scaled	99.7%	8928	8905
Band	99.7%	8928	8905
Bypass Flow	99.7%	8928	8905
Cap Temp	99.7%	8928	8905
Case Temp	99.7%	8928	8905
Config	99.7%	8928	8905
Dew Point	99.7%	8928	8905
Dig-In	99.7%	8928	8905
Dig-Latch	99.7%	8928	8905
ESN	99.7%	8928	8905
Filter Freq	99.7%	8928	8905
Filter Load	99.7%	8928	8905
Humidity	99.7%	8928	8905
MC	99.7%	8928	8905
MC 12Hr	99.7%	8928	8905
MC 1Hr	99.7%	8928	8905
MC 24Hr	99.7%	8928	8905
MC 30min	99.7%	8928	8905
MC 8Hr	99.7%	8928	8905
MC Total	99.7%	8928	8905
Mobile Signal	99.7%	8928	8905
Noise	99.7%	8928	8905
PM10 Flow	99.7%	8928	8905
Pressure	99.7%	8928	8905
Site	0.0%	8928	0
Temperature	99.7%	8928	8905
Tube Temp	99.7%	8928	8905
Vac Pressure	99.7%	8928	8905
Volts	99.7%	8928	8905

Monthly Website Report

CVC Monthly Environmental Report – July 2024

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 July 2024. The 12-month rolling average PM_{2.5} value on 31 July was 4.6 $\mu\text{g}/\text{m}^3$. PM_{2.5} data availability in July was 100%. The 2024 year to date PM_{2.5} data availability is 100%.

Monthly Website Report

CVC Monthly Environmental Report – July 2024

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 August 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

Monthly Website Report

CVC Monthly Environmental Report – July 2024

Variable	July	Total	Valid
Baro (Corrected)	100%	2976	2975
10m Temp	100%	2976	2975
2m Temp	100%	2976	2975
A1	100%	2976	2975
A1_Scaled	100%	2976	2975
Assumed Temp	100%	2976	2975
Barometric	100%	2976	2975
Config	100%	2976	2975
Daily Evap	100%	2976	2975
Daily Rain	100%	2976	2975
Delta T	100%	2976	2975
Dew Point	100%	2976	2975
Dig-In	100%	2976	2975
Dig-Latch	100%	2976	2975
ESN	100%	2976	2975
FDI	100%	2976	2975
Heat Index	100%	2976	2975
Humidity	100%	2976	2975
Mobile Signal	100%	2976	2975
Rain	100%	2976	2975
Raw Evap	100%	2976	2975
S Class	100%	2976	2975
Scalar WS	100%	2976	2975
Sigma	100%	2976	2975
Site	0.0%	2976	0
Solar Radiation	100%	2976	2975
Vector WD	100%	2976	2975
Vector WS	100%	2976	2975
Volts	100%	2976	2975
Wind Chill	100%	2976	2975
Wind Direction	100%	2976	2975
Wind Speed	100%	2976	2975
WS Avg	100%	2976	2975
WS Gust	100%	2976	2975