



# Chain Valley Colliery Monthly Website Report – August 2020

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<b>Site:</b>	Chain Valley Colliery
<b>Department:</b>	Technical Services
<b>Report Title:</b>	Monthly Environmental Website Report – August 2020
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# Report

## CVC Monthly Environmental Report

### 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) publically available;
- Conditions 8 & 11, Schedule 6, of 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 period of August 2020.

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	<a href="http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=50980&amp;SYSUID=1&amp;LICID=1770">http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=50980&amp;SYSUID=1&amp;LICID=1770</a>

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.

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## CVC Monthly Environmental Report

### 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;
- Depositional dust; and
- Weather data.

### Definitions

g/m<sup>2</sup>/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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CVC Monthly Environmental Report

## References

ALS Group - Monthly Water Monitoring Results **August 2020**

ALS Water - Report of Analysis **August 2020**

Steel River Testing - Dust Deposition Report **August 2020**

Development Consent SSD-5465 (as modified)

Environment Protection Licence (EPL) 1770 (Licence version date: 2 April 2019)

## Monitoring Results

Water – Quality

Water quality results for August 2020 monthly surface water sampling at Chain Valley Colliery, EPA Discharge Point 1 are presented below.

August 2020	
EPL	1770
Licensee	Great Southern Energy Pty Ltd
Premises	Chain Valley Colliery
Date Sampled	26-Aug-2020
Date Reported	28-Aug-2020
Sampling Point	1

Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	<2
Enterococci	col/100mL	-	84
Faecal Coliforms	CFU/100mL	200	67
pH	pH	6.5-8.5	7.61
Total Sus. Solids	mg/L	50	8

As detailed above, results for monthly surface water sampling were below the relevant limits where applicable.

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### Water – Volume

Monthly water volumes discharged from the site are summarised below.

August 2020		
EPL	1770	
Licensee	Great Soutehrn Energy Pty Ltd	
Premises	Chain Valley Colliery	
Date Sampled	Daily	
Date Reported	Refer report date	
Discharge volume limit	12161 kilolitres per day	
Sampling Point	1	
Date (24 hour period)	Unit	Volume
01/08/2020	kL	6283
02/08/2020	kL	6236
03/08/2020	kL	6250
04/08/2020	kL	6228
05/08/2020	kL	6062
06/08/2020	kL	5667
07/08/2020	kL	5296
08/08/2020	kL	5124
09/08/2020	kL	6093
10/08/2020	kL	7251
11/08/2020	kL	5741
12/08/2020	kL	4869
13/08/2020	kL	4749
14/08/2020	kL	5943
15/08/2020	kL	6319
16/08/2020	kL	6277
17/08/2020	kL	6262
18/08/2020	kL	6263
19/08/2020	kL	6235
20/08/2020	kL	5781
21/08/2020	kL	5191
22/08/2020	kL	4459
23/08/2020	kL	5238
24/08/2020	kL	6143
25/08/2020	kL	6281
26/08/2020	kL	6258
27/08/2020	kL	6323
28/08/2020	kL	6316
29/08/2020	kL	6322
30/08/2020	kL	3825
31/08/2020	kL	3475
Average	kL	5766
Minimim	kL	3475
Maximum	kL	7251

The daily water volumes at EPA Discharge Point 1 during August 2020 were below the relevant limit.

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### Water – Groundwater Discharge

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Groundwater discharged from underground workings to the CVC Pollution Control Dams within the surface operational area has been detailed below. Chain Valley Colliery operates Water Access License permitting the extraction of 4,443 megalitres per water year (July-June).

<b>CVC Groundwater to Surface Totals FY2020-2021</b>		
<b>Date (month)</b>	<b>Discharge (ML)</b>	<b>Discharge (ML YTD)</b>
Jul-20	136.01	136.01
Aug-20	94.56	230.57
Sep-20		
Oct-20		
Nov-20		
Dec-20		
Jan-21		
Feb-21		
Mar-21		
Apr-21		
May-21		
Jun-21		

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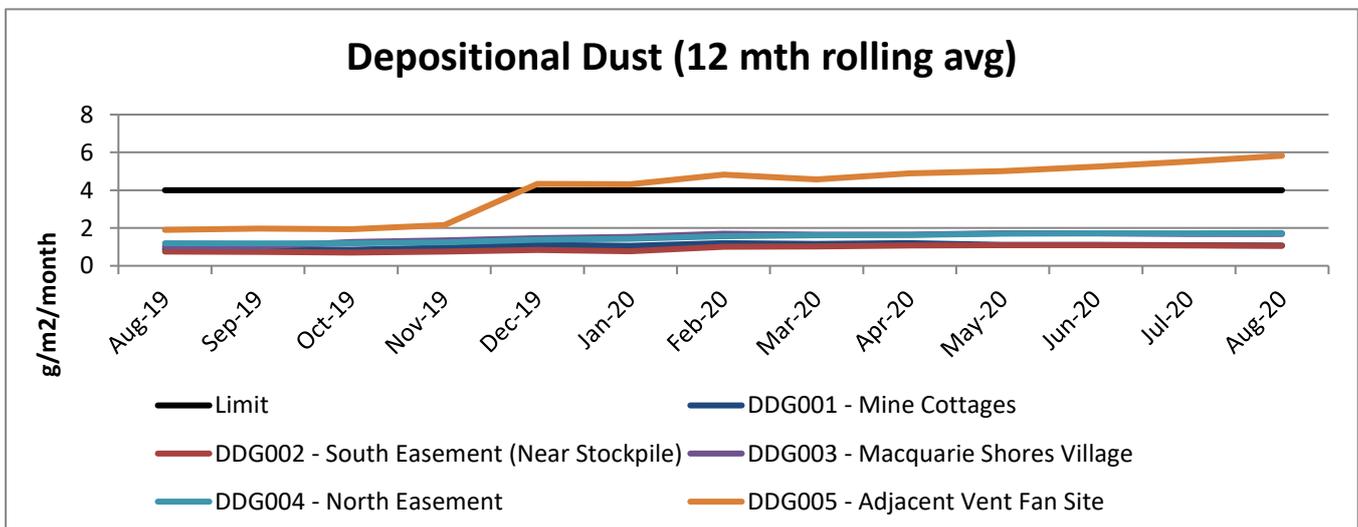
### Air Quality - Depositional Dust

Monthly depositional dust results are shown below. Dust deposition gauges were sampled and analysed in accordance with the project approval, CVC Air Quality Management Plan and relevant Australian Standards.

August 2020	
<b>EPL</b>	1770
<b>Limit</b>	4g/m <sup>2</sup> /month
<b>Sampling Date</b>	07/07/2020 to 07/08/2020
Site	Insoluble Matter (g/m <sup>2</sup> /month)
DDG001	0.5
DDG002	0.3
DDG003	0.4
DDG004	0.6
DDG005	4.0
Notes: - For site locations refer to Air Quality Management Plan. DDG005 noted to be frequently impacted by cross-contamination due to nearby activity unrelated to Delta Coal operations.	

For the period of August 2020, no exceedances of depositional dust criteria were identified for Chain Valley Colliery.

A 12 month rolling average of depositional dust concentrations has been presented below, it is noted that due to frequent contamination of dust gauge DDG005 and the bushfire events occurring in December 2019 and January 2020 the rolling average exceeds criteria. DPIE have been notified of each contamination event to the dust gauge. Dust Gauges DDG001, DDG002, DDG003 and DDG004 are located within a closer proximity to Chain Valley Colliery. DDG005 was intended to represent the fan site, subsequently, DDG006 was installed in a location still considered representative of the CVC vent fan site, but not subject to contamination. Delta Coal currently have a submission with DPIE to amend the Chain Valley Colliery Air Quality Management Plan to replace location DDG005 with DDG006.

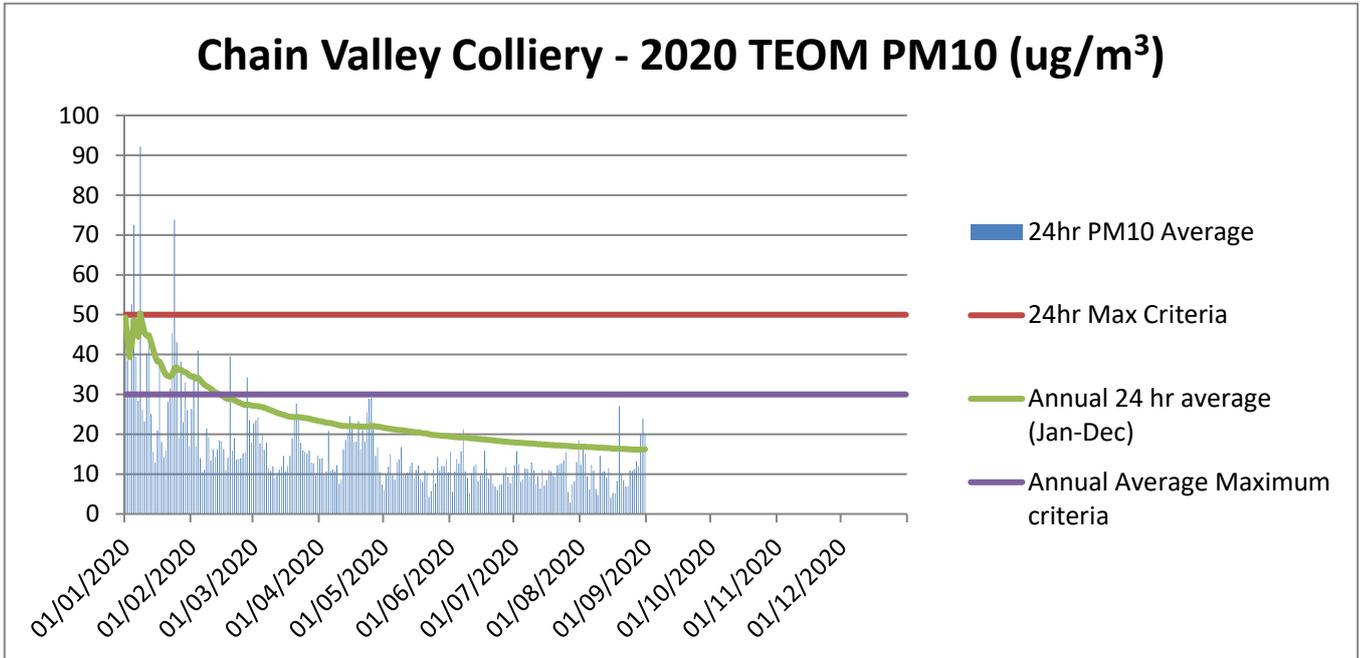


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### Air Quality – PM<sub>10</sub>

The 24hr PM<sub>10</sub> average from CVC’s Tapered Element Oscillating Microbalance (TEOM) is presented below for the year to date.



Annual 24hr PM<sub>10</sub> average maximum criteria for August 2020 is below the annual average maximum criteria limit. A summary of valid data for CVC’s TEOM is presented below for the year to date.

Variable	August	Total	Valid
A/C Temp	99.9%	8928	8919
A1	99.9%	8928	8919
A1_Scaled	99.9%	8928	8919
Bypass Flow	99.9%	8928	8919
Cap Temp	99.9%	8928	8919
Case Temp	99.9%	8928	8919
Config	99.9%	8928	8919
Dew Point	99.9%	8928	8919
Dig-In	99.9%	8928	8919
Dig-Latch	99.9%	8928	8919
ESN	99.9%	8928	8919
Filter Freq	99.9%	8928	8919
Filter Load	99.9%	8928	8919
Humidity	99.9%	8928	8919
MC	99.9%	8928	8919
MC 12Hr	99.9%	8928	8919
MC 1Hr	99.9%	8928	8919
MC 24Hr	99.9%	8928	8919
MC 30min	99.9%	8928	8919
MC 8Hr	99.9%	8928	8919
MC Total	99.9%	8928	8919
Mobile Signal	99.9%	8928	8919
Noise	99.9%	8928	8919
PM10 Flow	99.9%	8928	8919
Pressure	99.9%	8928	8919
Site	0.0%	8928	0
Temperature	99.9%	8928	8919
Tube Temp	99.9%	8928	8919
Vac Pressure	99.9%	8928	8919
Volts	99.9%	8928	8919

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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). A recent update of the Meteorological station undertaken in late July has had minor impacts on total data availability trend for August.

Monthly Weather Data			
Licensee	Great Southern Energy Pty Ltd		
Location	Mannering Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	02/09/2020		
Month	Total Rainfall/Month mm	Min Temp	Max Temp
Jan-20	28	18	44
Feb-20	350	16	37
Mar-20	159	12	38
Apr-20	46	9	28
May-20	88	5	27
Jun-20	67.6	4.5	22.7
Jul-20	232.8	3.7	23.3
Aug-20	55.2	2.1	25.2

Variable	August	Total	Valid
10m Temp	85.7%	8928	7650
2m Temp	85.7%	8928	7650
A1	85.7%	8928	7650
A1_Scaled	85.7%	8928	7650
Assumed Temp	85.6%	8928	7642
Barometric	85.7%	8928	7650
Config	85.7%	8928	7650
Daily Evap	85.6%	8928	7642
Daily Rain	85.7%	8928	7649
Delta T	85.6%	8928	7642
Dew Point	85.7%	8928	7650
Dig-In	85.7%	8928	7650
Dig-Latch	85.7%	8928	7650
ESN	85.7%	8928	7650
FDI	85.7%	8928	7649
Heat Index	85.6%	8928	7642
Humidity	85.7%	8928	7650
Mobile Signal	85.7%	8928	7650
Rain	85.7%	8928	7650
Raw Evap	85.6%	8928	7642
S Class	85.7%	8928	7650
Scalar WS	85.7%	8928	7650
Sigma	85.7%	8928	7650
Site	0.0%	8928	0
Solar Radiation	85.7%	8928	7650
Vector WD	85.7%	8928	7650
Vector WS	85.7%	8928	7650
Volts	85.7%	8928	7650
Wind Chill	69.3%	8928	6191
Wind Direction	85.7%	8928	7650
Wind Speed	85.7%	8928	7650
WS Avg	85.7%	8928	7650
WS Gust	85.7%	8928	7650