



Chain Valley Colliery Monthly Website Report

Site:	Chain Valley Colliery
Department:	Technical Services
Report Title:	Monthly Environmental Website Report – June 2020
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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 June 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	http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=50980&SYSUID=1&LICID=1770

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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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/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 2020**

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

Steel River Testing - Dust Deposition Report **June2020**

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 June at Chain Valley Colliery at EPA Discharge Point 1 are presented below.

June 2020	
EPL	1770
Licensee	Great Southern Energy Pty Ltd
Premises	Chain Valley Colliery
Date Sampled	17-Jun-20
Date Obtained	24-Jun-20
Date Reported	June
Sampling Point	1

Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	<2
Enterococci	col/100mL	-	210
Faecal Coliforms	CFU/100mL	200	75
pH	pH	6.5-8.5	7.60
Total Sus. Solids	mg/L	50	7

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

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Water – Volume

Monthly water volumes discharged from the site are summarised below.

June 2020	
EPL	1770
Licensee	Great Southern 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
01/06/2019	kL	6810
02/06/2019	kL	7064
03/06/2019	kL	7062
04/06/2019	kL	6533
05/06/2019	kL	6358
06/06/2019	kL	7007
07/06/2019	kL	7039
08/06/2019	kL	7176
09/06/2019	kL	6434
10/06/2019	kL	9236
11/06/2019	kL	6328
12/06/2019	kL	6967
13/06/2019	kL	6801
14/06/2019	kL	6893
15/06/2019	kL	6770
16/06/2019	kL	6890
17/06/2019	kL	6906
18/06/2019	kL	4363
19/06/2019	kL	2635
20/06/2019	kL	5737
21/06/2019	kL	7179
22/06/2019	kL	6993
23/06/2019	kL	6855
24/06/2019	kL	6603
25/06/2019	kL	6103
26/06/2019	kL	6987
27/06/2019	kL	7183
28/06/2019	kL	7165
29/06/2019	kL	7348
30/06/2019	kL	6856
Average	kL	6676
Minimum	kL	2635
Maximum	kL	9236

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

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Water – Groundwater Discharge

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).

CVC Groundwater to Surface Totals FY2019-2020		
Date (month)	Discharge (ML)	Discharge (ML YTD)
Jul-19	168.1	168.1
Aug-19	147.7	315.8
Sep-19	123.9	439.7
Oct-19	163.9	603.6
Nov-19	111.0	714.6
Dec-19	127.7	842.3
Jan-20	251.0	1093.3
Feb-20	235.9	1329.2
Mar-20	210.4	1539.6
Apr-20	172.8	1712.4
May-20	178.6	1891.0
Jun-20	289.6	2180.6

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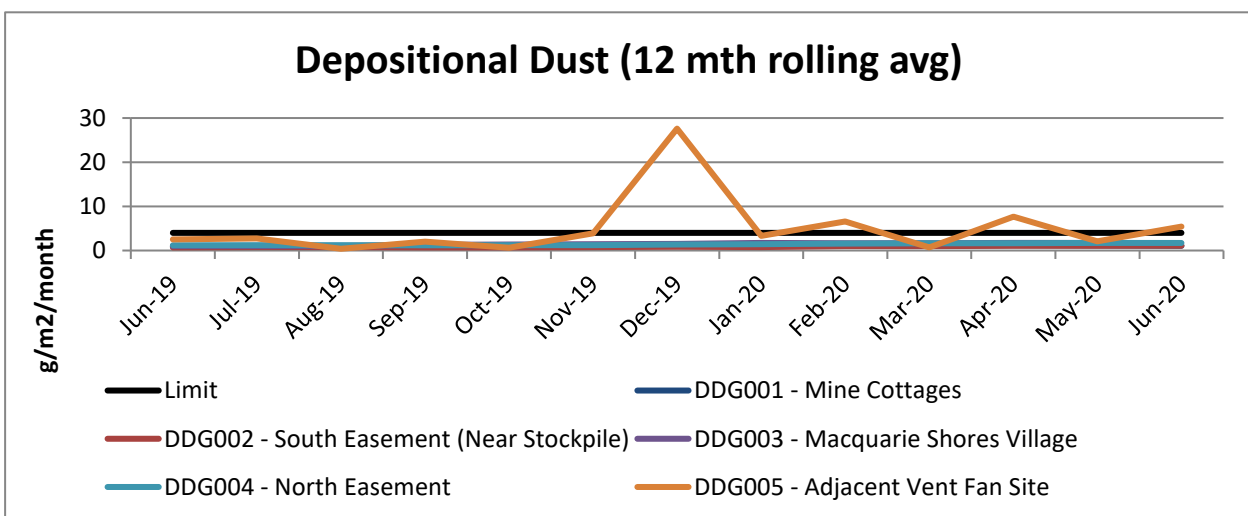
Air Quality - Depositional Dust

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.

June 2020	
EPL	1770
Limit	4g/m ² /month
Sampling Date	08/05/2020 to 05/06/2020
Site	Insoluble Matter (g/m²/month)
DDG001	0.5
DDG002	0.5
DDG003	0.6
DDG004	0.6
DDG005	5.4
Notes: - For site locations refer to Air Quality Management Plan	

Location DDG005 exceeded dust criterion for the site, it was observed that the sample was cross contaminated with organic matter. Visual analysis reported approximately 50% of the sample comprised contamination with the remaining 50% of the sample being minerals. Chain Valley Colliery has experienced frequent contamination at location DDG005 due to activities of nearby residents, and as such are awaiting approval of an updated Air Quality Management Plan from the Department of Primary Industries & Environment (DPIE) relocating DDG005 to DDG006 near-by the main vent fan site.

A 12 month rolling average of depositional dust concentrations has been presented below.

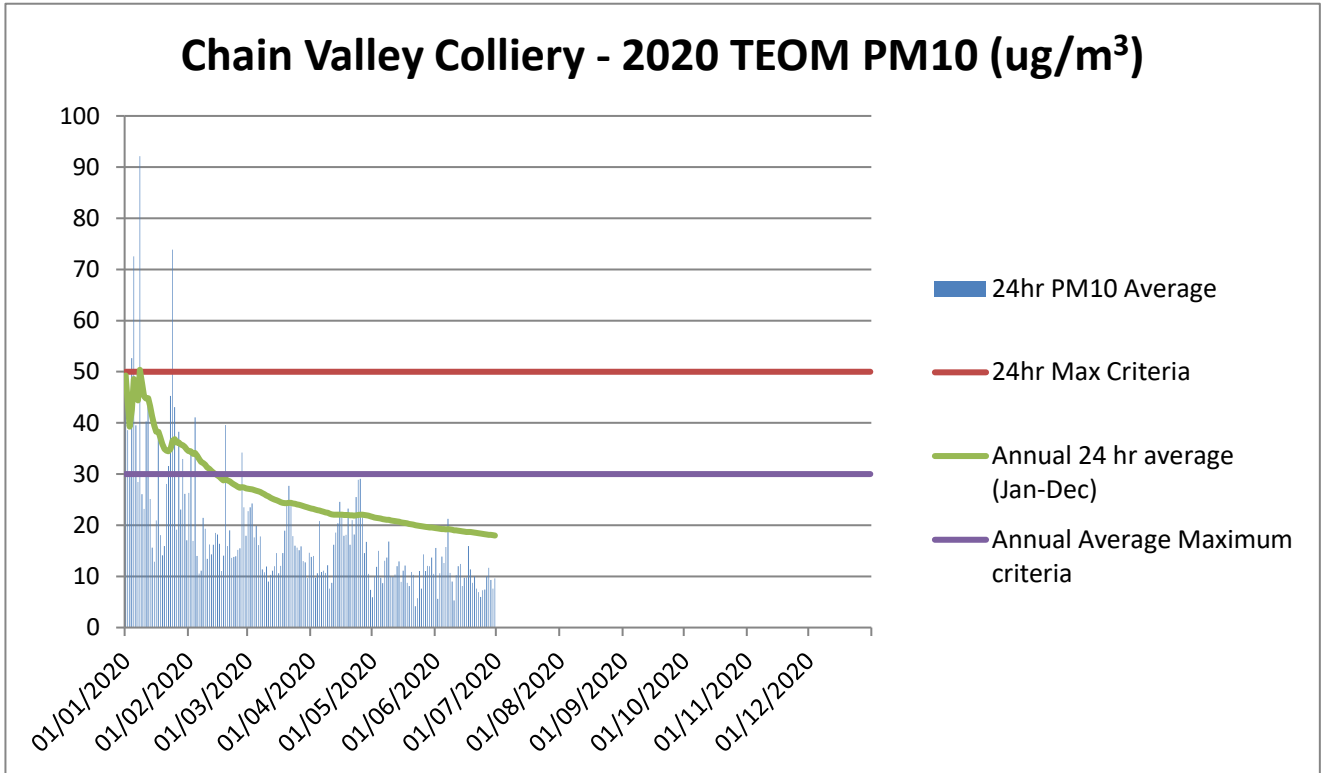


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Air Quality – PM₁₀

The 24hr PM₁₀ average from CVC's Tapered Element Oscillating Microbalance (TEOM) is presented below for the year to date.



Annual 24hr PM₁₀ average maximum criteria for June 2020 is below the annual average maximum criteria limit.

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A summary of valid data for CVC's TEOM is presented below for the year to date.

Variable	June	Total	Valid
A/C Temp	100%	8640	8640
A1	100%	8640	8640
A1_Scaled	100%	8640	8640
Bypass Flow	100%	8640	8640
Cap Temp	100%	8640	8640
Case Temp	100%	8640	8640
Config	100%	8640	8640
Dew Point	100%	8640	8640
Dig-In	100%	8640	8640
Dig-Latch	100%	8640	8640
ESN	100%	8640	8640
Filter Freq	100%	8640	8640
Filter Load	100%	8640	8640
Humidity	100%	8640	8640
MC	100%	8640	8640
MC 12Hr	100%	8640	8640
MC 1Hr	100%	8640	8640
MC 24Hr	100%	8640	8640
MC 30min	100%	8640	8640
MC 8Hr	100%	8640	8640
MC Total	100%	8640	8640
Mobile Signal	100%	8640	8640
Noise	100%	8640	8640
PM10 Flow	100%	8640	8640
Pressure	100%	8640	8640
Site	0.0%	8640	0
Temperature	100%	8640	8640
Tube Temp	100%	8640	8640
Vac Pressure	100%	8640	8640
Volts	100%	8640	8640

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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			
Licensee	Great Southern Energy Pty Ltd		
Location	Mannering Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	03/07/2020		
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