



Chain Valley Colliery Monthly Website Report – July 2020

Site:	Chain Valley Colliery
Department:	Technical Services
Report Title:	Monthly Environmental Website Report – July 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 July 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&SYS_UID=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 **July 2020**

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

Steel River Testing - Dust Deposition Report **July 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 July monthly surface water sampling at Chain Valley Colliery, EPA Discharge Point 1 are presented below.

July 2020	
EPL	1770
Licensee	Great Southern Energy Pty Ltd
Premises	Chain Valley Colliery
Date Sampled	21-Jul-20
Date Obtained	28-Jul-20
Date Reported	July
Sampling Point	1

Parameter	Units	Limit	Result
Biochem. Oxygen Demand	mg/L	-	<2
Enterococci	col/100mL	-	56
Faecal Coliforms	CFU/100mL	200	<2
pH	pH	6.5-8.5	7.77
Total Sus. Solids	mg/L	50	10

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

Additional water sampling was undertaken at EPA Point 27 on the 27th July 2020. On the 26th July 2020 a total of 131mm of rain fell, EPA Point 27 is an overflow spillway designed for high rainfall events. In general accordance with EPL requirements, water samples were taken on the 27th July 2020 from adjacent EPA Point 27. There was one exceedance of water quality criteria from this sample for Faecal Coliform concentrations. The incident was noted the NSW EPA and DPIE.

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Water – Volume

Monthly water volumes discharged from the site are summarised below.

July 2020	
EPL	1770
Licensee	Great Soutehr 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
01/07/2020	kL	8500
02/07/2020	kL	7616
03/07/2020	kL	7893
04/07/2020	kL	6185
05/07/2020	kL	3695
06/07/2020	kL	3942
07/07/2020	kL	4696
08/07/2020	kL	6998
09/07/2020	kL	6947
10/07/2020	kL	5044
11/07/2020	kL	6688
12/07/2020	kL	7598
13/07/2020	kL	8304
14/07/2020	kL	9139
15/07/2020	kL	7209
16/07/2020	kL	6700
17/07/2020	kL	6994
18/07/2020	kL	7135
19/07/2020	kL	6711
20/07/2020	kL	6510
21/07/2020	kL	5573
22/07/2020	kL	5464
23/07/2020	kL	8288
24/07/2020	kL	8340
25/07/2020	kL	8104
26/07/2020	kL	13534
27/07/2020	kL	7329
28/07/2020	kL	5674
29/07/2020	kL	5587
30/07/2020	kL	6342
31/07/2020	kL	6281

Average	kL	6936
Minimum	kL	3695
Maximum	kL	13534

The daily water volumes at EPA Discharge Point 1 during July 2020 were below the relevant limit with the exception for an exceedance of volumetric discharge limits occurring on the 26th July 2020.

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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-20	142.71	142.71
Aug-20		
Sep-20		
Oct-20		
Nov-20		
Dec-20		
Jan-21		
Feb-21		
Mar-21		
Apr-21		
May-21		
Jun-21		

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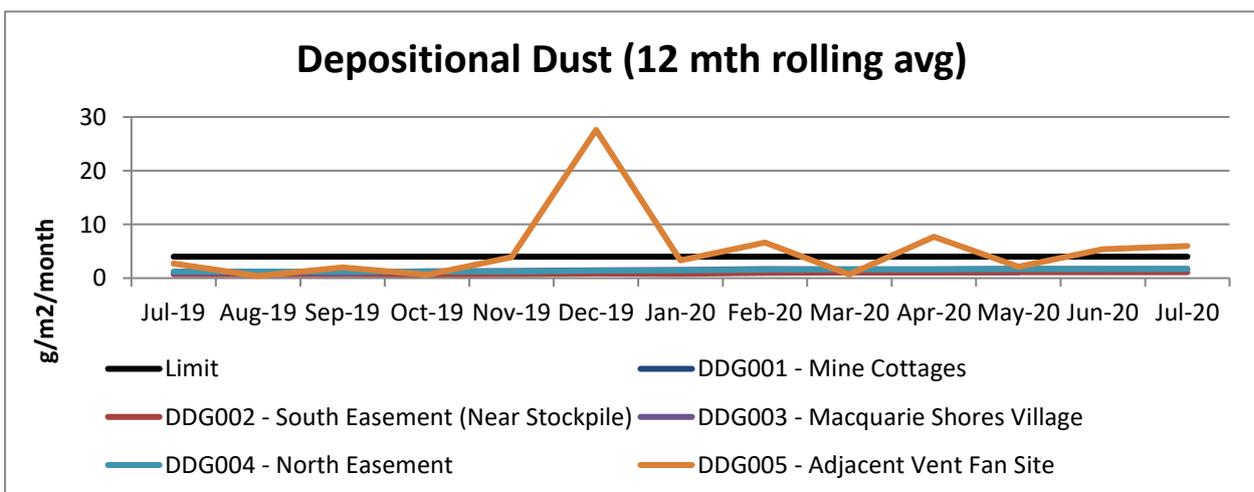
Air Quality - Depositional Dust

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.

July 2020	
EPL	1770
Limit	4g/m ² /month
Sampling Date	05/06/2020 to 05/07/2020
Site	Insoluble Matter (g/m²/month)
DDG001	0.2
DDG002	0.2
DDG003	0.2
DDG004	0.4
DDG005	6.0
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 40% of the sample comprised contamination with the remaining 60% 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.

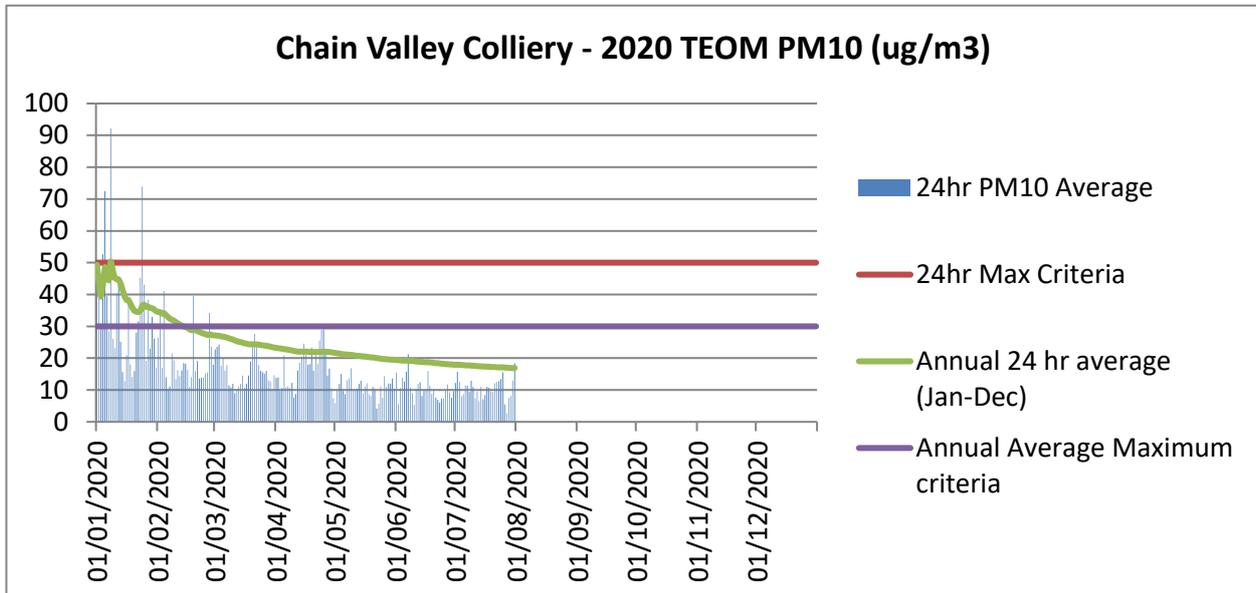


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Air Quality – PM₁₀

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

Variable	July	Total	Valid
A/C Temp	100%	8928	8928
A1	100%	8928	8928
A1_Scaled	100%	8928	8928
Bypass Flow	100%	8928	8928
Cap Temp	100%	8928	8928
Case Temp	100%	8928	8928
Config	100%	8928	8928
Dew Point	100%	8928	8928
Dig-In	100%	8928	8928
Dig-Latch	100%	8928	8928
ESN	100%	8928	8928
Filter Freq	100%	8928	8928
Filter Load	100%	8928	8928
Humidity	100%	8928	8928
MC	100%	8928	8928
MC 12Hr	100%	8928	8928
MC 1Hr	100%	8928	8928
MC 24Hr	100%	8928	8928
MC 30min	100%	8928	8928
MC 8Hr	100%	8928	8928
MC Total	100%	8928	8928
Mobile Signal	100%	8928	8928
Noise	100%	8928	8928
PM10 Flow	100%	8928	8928
Pressure	100%	8928	8928
Site	0.0%	8928	0
Temperature	100%	8928	8928
Tube Temp	100%	8928	8928
Vac Pressure	100%	8928	8928
Volts	100%	8928	8928

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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	06/08/2020		
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

Variable	July	Total	Valid
Baro (Corrected)	100%	8928	8928
10m Temp	100%	8928	8928
24Hr Rain	100%	8928	8928
2m Temp	100%	8928	8928
A1	100%	8928	8928
A1_Scaled	100%	8928	8928
Barometric	100%	8928	8928
Config	100%	8928	8928
DeltaT	100%	8928	8928
Dew Point	100%	8928	8928
Dig-In	100%	8928	8928
Dig-Latch	100%	8928	8928
ESN	100%	8928	8928
FDI	100%	8928	8928
Humidity	100%	8928	8928
Mobile Signal	100%	8928	8928
Rain	100%	8928	8928
Sigma	100%	8928	8928
Site	0.0%	8928	0
Solar Radiation	100%	8928	8928
Vector WD	100%	8928	8928
Vector WS	100%	8928	8928
Volts	100%	8928	8928
Wind Direction	100%	8928	8928
Wind Speed	100%	8928	8928