
Manning Colliery Monthly Website Report – April 2021

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Summary

Environmental monitoring results are presented in this report for monitoring undertaken during the period of April 2021.

Introduction

Great Southern Energy Pty Ltd (trading as Delta Coal) operates Manning Colliery, an underground coal mine at the southern end of Lake Macquarie.

Manning 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;
- Condition 10 & 13, Schedule 5, of Project Approval 06_0311 (as modified) to provide details of monitoring results and environmental performance;
- An Environment Protection Licence (EPL 191) issued under the *Protection of the Environment Operations Act 1997*; and
- A Water Access Licence (WAL40461), Aquifer (Sydney Basin – North Coast Groundwater Source) for 450-unit shares (megalitres).

Details of the Manning Colliery EPL 191 are provided below.

Manning Colliery Information	
Premises name	Manning Colliery
Address	Ruttleys Road, Doyalson, NSW, 2262
Licensee	Great Southern Energy Pty Ltd
EPL #	191
EPL location	http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=50781&SYSUID=1&LICID=191

The overall purpose of this monthly report is to keep stakeholders informed of the environmental monitoring results at Manning Colliery and maintain a transparent and accountable reporting system.

Scope

This report presents the results from the various environmental monitoring programs undertaken for Manning Colliery. Results are presented monthly with annual data, averages and trends in data also shown where relevant.

Where applicable, the results of the monitoring programs are compared with the relevant criteria (from the EPL or Project Approval) to assess compliance.

Monitoring results presented 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.

References

Project Approval 06_0311 (as modified)

Environment Protection Licence 191 (Licence version date: 25 November 2019)

ALS - Dust Deposition Report **April 2021**

ALS – MC Water Analysis Reports **April 2021**

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Monitoring Results

Water – Quality

Weekly water quality results for discharge point LDP001 are presented below. Monitoring of these parameters have reverted to weekly as per EPL PRP requirements.

April 2021				
EPL	191			
Licensee	Great Southern Energy Pty Ltd			
Premises	Manning Colliery			
Period	01-Apr-21	to	30-Apr-20	
Location	LDP001 (EPA ID # 1)			
Date sampled	Weekly			
Date reported	Refer report date			
Monitoring requirement	Weekly			
pH limit	6.5 - 8.5			
TSS limit (mg/L)	50			
Oil and grease limit (mg/L)	10			
Exceedance (Yes/No)	No			
Water Quality Results				
Date	pH	TSS (mg/L)	Oil and grease (mg/L)	Electrical Conductivity (µS/cm)
07/04/2021	7.91	17	<5	18,800
13/04/2021	8.06	<5	<5	11,800
15/03/2021	7.86	8	34 ¹	21,900
26/03/2021	7.76	6	<5	23,500
Average	7.8975	8.375	10.375	19000
Minimum	7.76	<5	<5	11800
Maximum	8.06	17	34	23500

The water quality analytical results during the reporting period did not exceed the discharge water quality criteria within Project Approval MP06_0311, with the exception of oil and grease sampled on the 20th April 2021. The incident was self reported to the NSW EPA and the DPIE and is further detailed within the complaints and incidents register. Monthly water quality results, primarily metals, at LDP001 are presented below for the period.

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Water – Volume

Monthly water volumes discharged via LDP001 at Manning Colliery are summarised below.

April 2021		
EPL	191	
Licensee	Great Southern Energy Pty Ltd	
Premises	Manning Colliery	
Date Sampled	Daily	
Date Reported	Refer report date	
Discharge volume limit	4000 kilolitres per day	
Sampling Point	LDP001 (EPA ID # 1)	
Day	Unit	Volume
01/04/2021	kL	429.2
02/04/2021	kL	1001.7
03/04/2021	kL	736.41
04/04/2021	kL	253.32
05/04/2021	kL	939.07
06/04/2021	kL	289.52
07/04/2021	kL	1094.6
08/04/2021	kL	485.38
09/04/2021	kL	245.54
10/04/2021	kL	516.14
11/04/2021	kL	1026.12
12/04/2021	kL	246.26
13/04/2021	kL	433.64
14/04/2021	kL	998.21
15/04/2021	kL	822.45
16/04/2021	kL	1019.25
17/04/2021	kL	1000.83
18/04/2021	kL	990.27
19/04/2021	kL	892.39
20/04/2021	kL	380.28
21/04/2021	kL	931.69
22/04/2021	kL	946.47
23/04/2021	kL	957.19
24/04/2021	kL	924.46
25/04/2021	kL	975.41
26/04/2021	kL	863.1
27/04/2021	kL	616.78
28/04/2021	kL	562.54
29/04/2021	kL	877.79
30/04/2021	kL	905.6
Average	kL	745
Minimum	kL	246
Maximum	kL	1095

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There were no exceedances of volumetric discharge limits at Manningering Colliery during the report period.

Water – Groundwater Discharge

Groundwater discharged from underground workings to the MCs retention Dams within the surface operational area has been detailed below. Delta Coal notes that MC does not have calibrated volume sensors on underground piping, as such, discharge from LDP001 is utilised to estimate groundwater extraction. Manningering Colliery operates Water Access License permitting the extraction of 450 megalitres per financial year and reports annual use to the Water NSW, Water Accounting System (iWAS).

MC Indicative Groundwater Pumped to Surface Totals FY2020-2021		
Date (month)	Groundwater and Surface Water Discharge (ML)	Groundwater and Surface Water Discharge (Total ML Water Year to Date)
July 2020	26.83	26.83
August 2020	29.04	55.87
September 2020	17.09	72.96
October 2020	30.9	103.88
November 2020	28.03	131.91
December 2020	30.33	162.24
January 2021	25.84	188.08
February 2021	30.62	218.70
March 2021	45.46	264.16
April 2021	22.36	286.52
May 2021		
June 2021		

Air Quality

Monthly depositional dust results are shown below.

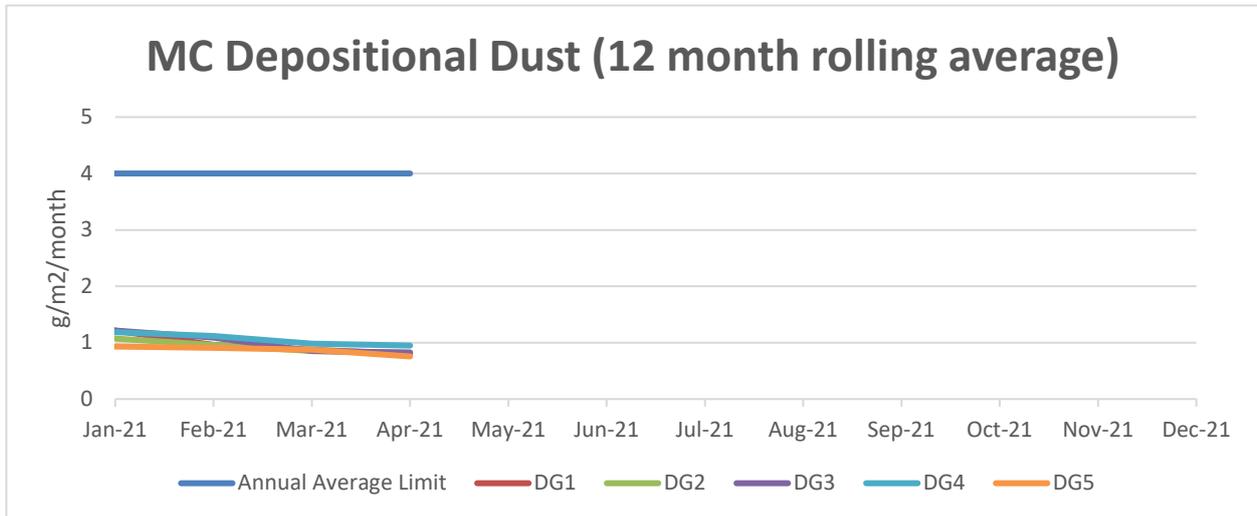
April 2021		
EPL	191	
Limits	Max. total deposited dust level	4g/m ² /month
	Max. increase in deposited dust level	2g/m ² /month
Sampling Date	12/03/2021 to 12/04/2021	
EPA ID no.	Site	Insoluble Matter (g/m ² /month)
3	DG1	0.4
4	DG2	0.3
5	DG3	1.2
6	DG4	0.7
7	DG5	0.4
Notes:		

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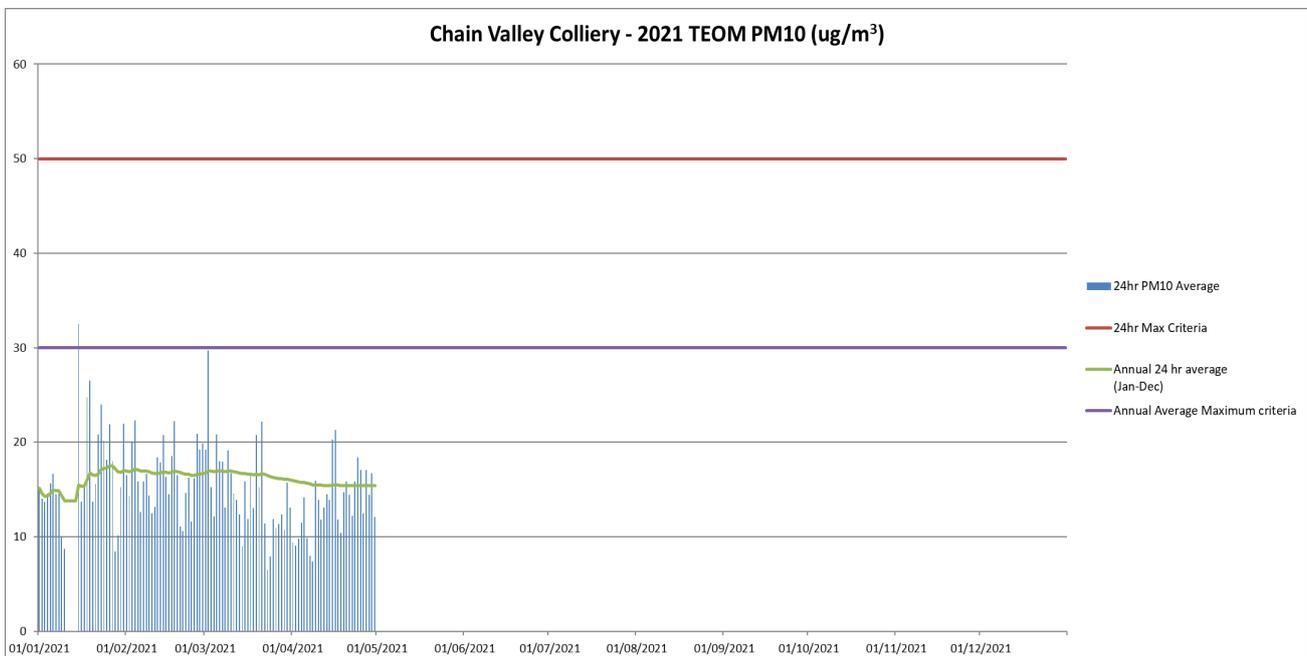
There were no exceedances of the annual average air quality limits during the reporting period.

Rolling annual average depositional dust results



Air Quality – PM₁₀

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



Annual 24hr PM₁₀ average maximum criteria for the month was below the annual average maximum criteria limit. A summary of data availability for Delta Coal’s TEOM is presented below for the year to date.

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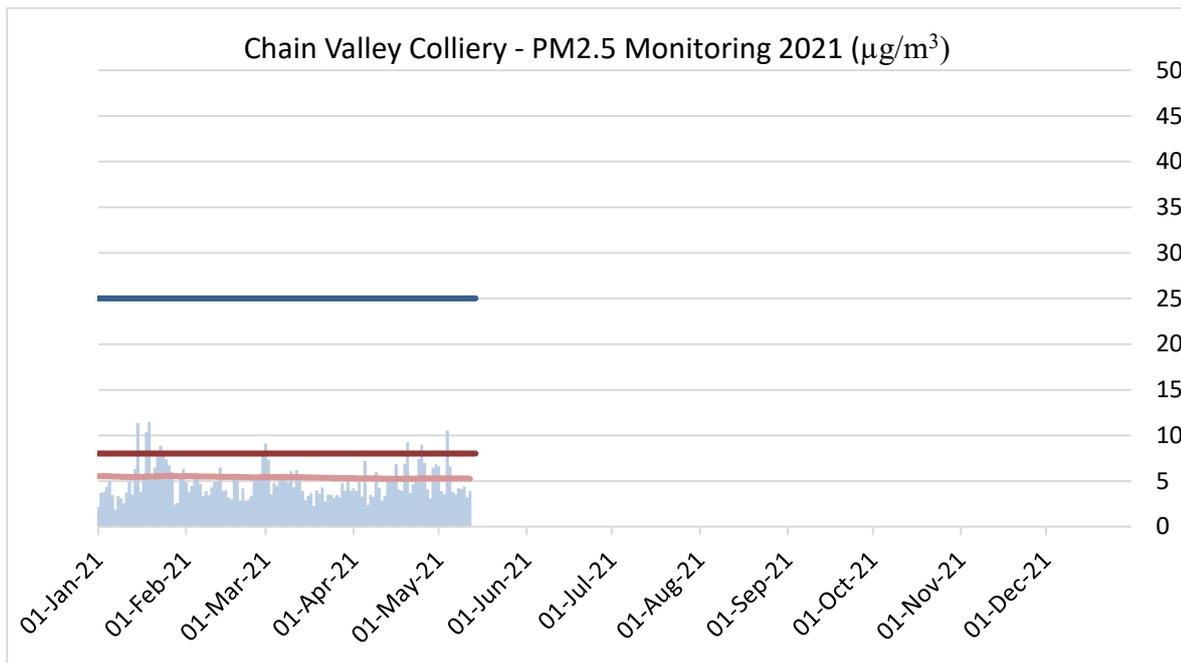
Variable	April	Total	Valid
A/C Temp	99.7%	8640	8610
A1	99.7%	8640	8610
A1_Scaled	99.7%	8640	8610
Bypass Flow	99.7%	8640	8610
Cap Temp	99.7%	8640	8610
Case Temp	99.7%	8640	8610
Config	99.7%	8640	8610
Dew Point	99.7%	8640	8610
Dig-In	99.7%	8640	8610
Dig-Latch	99.7%	8640	8610
ESN	99.7%	8640	8610
Filter Freq	99.7%	8640	8610
Filter Load	99.7%	8640	8610
Humidity	99.7%	8640	8610
MC	99.7%	8640	8610
MC 12Hr	99.7%	8640	8610
MC 1Hr	99.7%	8640	8610
MC 24Hr	99.7%	8640	8610
MC 30min	99.7%	8640	8610
MC 8Hr	99.7%	8640	8610
MC Total	99.7%	8640	8610
Mobile Signal	99.7%	8640	8610
Noise	99.7%	8640	8610
PM10 Flow	99.7%	8640	8610
Pressure	99.7%	8640	8610
Site	0.0%	8640	0
Temperature	99.7%	8640	8610
Tube Temp	99.7%	8640	8610
Vac Pressure	99.7%	8640	8610
Volts	99.7%	8640	8610

Air Quality – PM_{2.5}

Delta Coal utilises PM_{2.5} data obtained from Vales Point Power Station owned and operated beta attenuation monitor (BAM). The PM_{2.5} monitor is located on Tingley Road, Wyee. Delta Coal is required to monitor PM_{2.5} concentration following the approval of Development Consent SSD-5465 Modification 3 and Project Approval MP06_0311 Modification 5 on the 26th June 2020.

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For the period of March 2021, the daily PM_{2.5} average concentration and annual average PM_{2.5} concentration did not exceed limits of 25 $\mu\text{g}/\text{m}^3$ and 8 $\mu\text{g}/\text{m}^3$ respectively.

PM_{2.5} data availability for:

- April 2021 data availability was 99.7%; and
- 2021 year to date data availability has been 98%.

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Weather Data

A summary of weather data recorded by a meteorological monitoring station at the adjacent Manning Colliery is presented below for the year to date. (EPA ID no. 26).

Monthly Weather Data 2021			
Licensee	Great Southern Energy Pty Ltd		
Location	Manning Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	12 th May 2021		
Month	Total Rainfall/Month (mm)	Min Temp	Max Temp
Jan-21	108.4	12.5	38.2
Feb-21	110.2	13.9	33.1
Mar-21	551.6	13.1	31.1
Apr-21	56.8	6.2	28.3

Variable	April	Total	Valid
10m Temp	99.6%	2880	2868
2m Temp	99.6%	2880	2868
A1	99.6%	2880	2868
A1_Scaled	99.6%	2880	2868
Assumed Temp	99.6%	2880	2868
Barometric	99.6%	2880	2868
Config	99.6%	2880	2868
Daily Evap	99.6%	2880	2868
Daily Rain	99.6%	2880	2868
Delta T	99.6%	2880	2868
Dew Point	99.6%	2880	2868
Dig-In	99.6%	2880	2868
Dig-Latch	99.6%	2880	2868
ESN	99.6%	2880	2868
FDI	99.6%	2880	2868
Heat Index	99.6%	2880	2868
Humidity	99.6%	2880	2868
Mobile Signal	99.6%	2880	2868
Rain	99.6%	2880	2868
Raw Evap	99.6%	2880	2868
S Class	99.6%	2880	2868
Scalar WS	99.6%	2880	2868
Sigma	99.6%	2880	2868
Site	0.0%	2880	0
Solar Radiation	99.6%	2880	2868
Vector WD	99.6%	2880	2868
Vector WS	99.6%	2880	2868
Volts	99.6%	2880	2868
Wind Chill	99.6%	2880	2868
Wind Direction	99.6%	2880	2868
Wind Speed	99.6%	2880	2868
WS Avg	99.6%	2880	2868
WS Gust	99.6%	2880	2868