

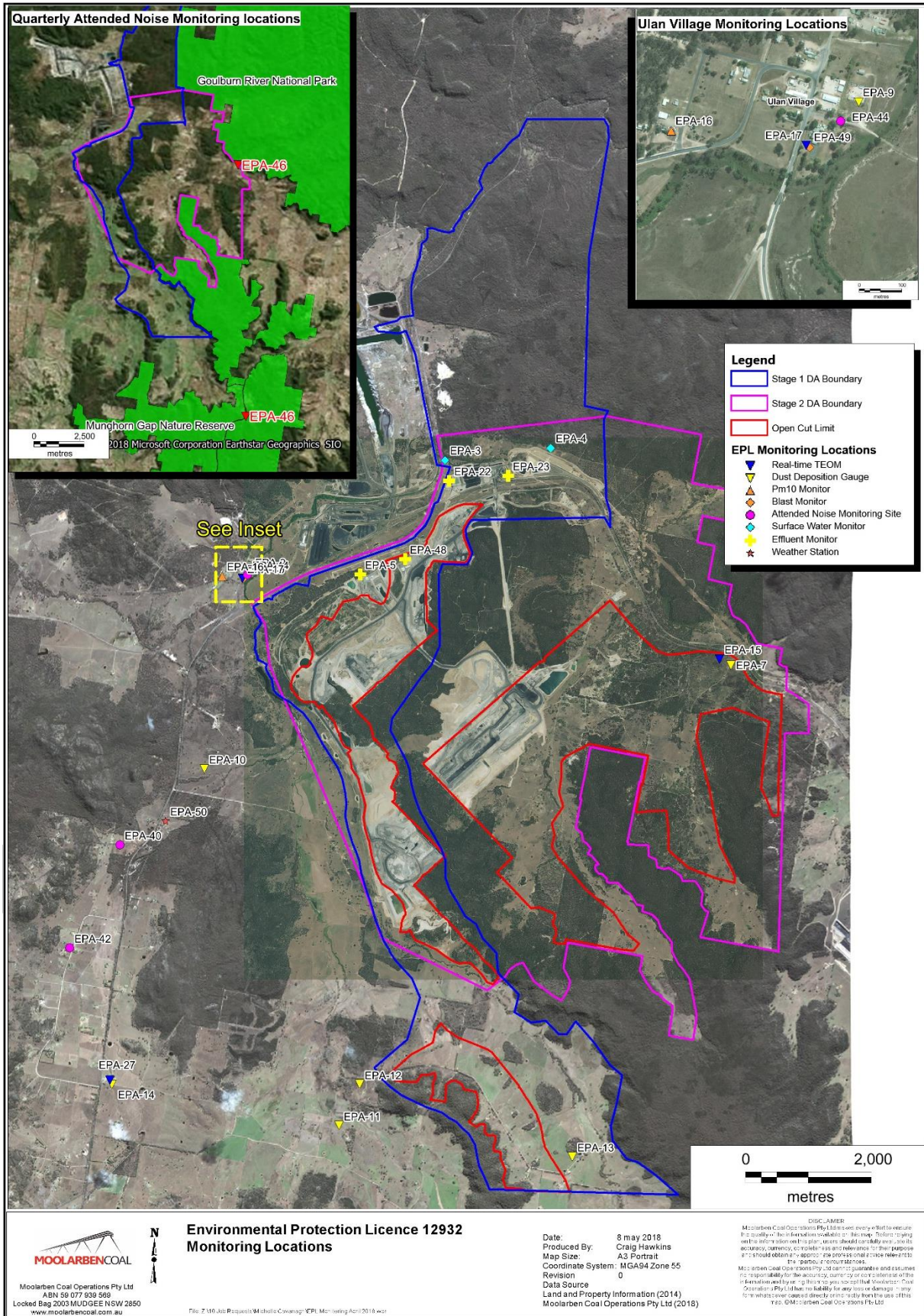


Monthly Environmental Monitoring Report

For the Month Ending 30 April 2018

Name of Operation	Moolarben Coal Complex
Name of License Holder	Moolarben Coal Operations Pty Ltd
Premises	Moolarben Coal Mine 4250 Ulan Road Mudgee NSW 2850
Environmental Protection Licence Number	12932
EPL Link	http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=75423&SYSUID=1&LICID=12932
Premises	Moolarben Coal Mine
Reporting Period	1 April 2018 to 30 April 2018
Date last sampled data obtained	01 May 2018
Publication Date	14 May 2018
Version	1
Author	M. Frankham
Approver	G. Chase

EPL 12932 MCO Environmental Monitoring Network



Concentration Monitoring Summary

Air Quality Monitoring

EPL ID	Location	Pollutant	Unit of Measure	EPL Monitoring Frequency	No. of Samples collected and analysed	Date Sampled	Value	Annual Average (Rolling)	Annual 100%ile concentration limit
6	DG01	Particulates – Deposited Matter	g/m ² /month	Monthly	1	27/04/2018	0.6	0.6	4.0
7	DG12	Particulates – Deposited Matter	g/m ² /month	Monthly	1	27/04/2018	2.1	1.4	4.0
9	DG04	Particulates – Deposited Matter	g/m ² /month	Monthly	1	27/04/2018	0.8	1.0	4.0
10	DG05	Particulates – Deposited Matter	g/m ² /month	Monthly	1	27/04/2018	1.3	1.5	4.0
11	DG06	Particulates – Deposited Matter	g/m ² /month	Monthly	1	27/04/2018	0.9	0.7	4.0
12	DG07	Particulates – Deposited Matter	g/m ² /month	Monthly	1	27/04/2018	0.9	0.8	4.0
13	DG08	Particulates – Deposited Matter	g/m ² /month	Monthly	1	27/04/2018	1.2	1.0	4.0
14	DG09	Particulates – Deposited Matter	g/m ² /month	Monthly	1	27/04/2018	1.0	0.9	4.0
N/A	DG11	Particulates – Deposited Matter	g/m ² /month	N/A	1	27/04/2018	1.9	1.2	4.0
N/A	DG13	Particulates – Deposited Matter	g/m ² /month	N/A	1	27/04/2018	1.6	0.8	4.0
N/A	DG14	Particulates – Deposited Matter	g/m ² /month	N/A	1	27/04/2018	3.2	1.2	4.0

c*- sample contaminated

EPL ID	Location	Pollutant	Unit of Measure	No. of Samples collected and analysed	Date Sampled	12 mth rolling average			Annual 100%ile concentration limit
						Min Value	Mean Value	Max Value	
15	TEOM 6	PM10	µg/m ³	100%	Continuous	13.81	14.21	14.45	30
16	PM01	PM10	µg/m ³	5	Every 6 days	14.69	14.93	15.13	30
N/A	PM02	PM10	µg/m ³	5	Every 6 days	15.25	15.63	15.84	30
17	TEOM 1	PM10	µg/m ³	100%	Continuous	13.61	13.86	14.03	30
27	TEOM 7*	PM10	µg/m ³	100%	Continuous	**	**	**	30
N/A	TEOM 4	PM10	µg/m ³	100%	Continuous	16.82	17.21	17.40	30

* TEOM 5 replaced by TEOM 7

** Insufficient data for 12 month rolling average

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EPL ID	Location	Pollutant	Unit of Measure	EPL Monitoring Frequency	No. of Samples collected and analysed	Date Sampled	Min Value	Mean Value	Max Value	100%ile concentration limit
15	TEOM 6	PM10	µg/m ³	Continuous (24 Hr Average)	100%	Continuous	0.30	19.13	49.50	50
16	PM01	PM10	µg/m ³	Every 6 days	5	Every 6 days	12.0	17.80	24.00	50
N/A	PM02	PM10	µg/m ³	N/A	5	Every 6 days	17.00	21.80	32.00	50
17	TEOM 1	PM10	µg/m ³	Continuous (24 Hr Average)	100%	Continuous	9.80	18.03	44.50	50
27	TEOM 7	PM10	µg/m ³	Continuous (24 Hr Average)	100%	Continuous	9.20	21.84	36.90 (52.90)*	50
N/A	TEOM 4	PM10	µg/m ³	N/A (24 Hr Average)	100%	Continuous	10.20	23.38	48.90	50

* Elevated reading influenced by regional dust event

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Surface Water Quality Monitoring

EPL ID	Location	Pollutant	Unit of Measure	No. of samples required by Licence	No. of Samples collected and analysed	Date Sampled	Min Value	Mean Value	Max Value
N/A	SW01	Conductivity	µS/cm	N/A	1	17/04/2018	1180	1180	1180
		pH	pH	N/A	1	17/04/2018	7.49	7.49	7.49
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	<5	<5	<5
N/A	SW02	Conductivity	µS/cm	N/A	1	17/04/2018	1800	1800	1800
		pH	pH	N/A	1	17/04/2018	7.12	7.12	7.12
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	<5	<5	<5
N/A	SW04	Conductivity	µS/cm	N/A	1	17/04/2018	270*	270*	270*
		pH	pH	N/A	1	17/04/2018	6.71*	6.71*	6.71*
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	75*	75*	75*
N/A	SW05	Conductivity	µS/cm	N/A	1	17/04/2018	575*	575*	575*
		pH	pH	N/A	1	17/04/2018	7.19*	7.19*	7.19*
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	<5*	<5*	<5*
N/A	SW07	Conductivity	µS/cm	N/A	1	17/04/2018	6200*	6200*	6200*
		pH	pH	N/A	1	17/04/2018	7.73*	7.73*	7.73*
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	<5*	<5*	<5*
N/A	SW08	Conductivity	µS/cm	N/A	1	17/04/2018	4380*	4380*	4380*
		pH	pH	N/A	1	17/04/2018	6.07*	6.07*	6.07*
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	22*	22*	22*
N/A	SW09	Conductivity	µS/cm	N/A	1	17/04/2018	4030*	4030*	4030*
		pH	pH	N/A	1	17/04/2018	6.72*	6.72*	6.72*
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	8*	8*	8*
4	SW10	Conductivity	µS/cm	Special Frequency 1	0	17/04/2018	Dry	Dry	Dry
		Oil and Grease	mg/L	Special Frequency 1	0	17/04/2018	Dry	Dry	Dry
		pH	pH	Special Frequency 1	0	17/04/2018	Dry	Dry	Dry
		Total Suspended Solids	mg/L	Special Frequency 1	0	17/04/2018	Dry	Dry	Dry
3	SW11	Conductivity	µS/cm	Special Frequency 1	0	17/04/2018	Dry	Dry	Dry
		Oil and Grease	mg/L	Special Frequency 1	0	17/04/2018	Dry	Dry	Dry
		pH	pH	Special Frequency 1	0	17/04/2018	Dry	Dry	Dry
		Total Suspended Solids	mg/L	Special Frequency 1	0	17/04/2018	Dry	Dry	Dry

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EPL ID	Location	Pollutant	Unit of Measure	No. of samples required by Licence	No. of Samples collected and analysed	Date Sampled	Min Value	Mean Value	Max Value
N/A	SW12	Conductivity	µS/cm	N/A	1	17/04/2018	559*	559*	559*
		pH	pH	N/A	1	17/04/2018	7.06*	7.06*	7.06*
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	<5*	<5*	<5*
N/A	SW15	Conductivity	µS/cm	N/A	0	17/04/2018	Dry	Dry	Dry
		pH	pH	N/A	0	17/04/2018	Dry	Dry	Dry
		Total Suspended Solids	mg/L	N/A	0	17/04/2018	Dry	Dry	Dry
N/A	SW16	Conductivity	µS/cm	N/A	1	17/04/2018	Dry	Dry	Dry
		pH	pH	N/A	1	17/04/2018	Dry	Dry	Dry
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	Dry	Dry	Dry
N/A	SW17	Conductivity	µS/cm	N/A	1	17/04/2018	67*	67*	67*
		pH	pH	N/A	1	17/04/2018	6.37*	6.37*	6.37*
		Total Suspended Solids	mg/L	N/A	1	17/04/2018	66*	66*	66*
N/A	SW18	Conductivity	µS/cm	N/A	0	17/04/2018	Dry	Dry	Dry
		pH	pH	N/A	0	17/04/2018	Dry	Dry	Dry
		Total Suspended Solids	mg/L	N/A	0	17/04/2018	Dry	Dry	Dry
N/A	SW19	Conductivity	µS/cm	N/A	0	17/04/2018	34*	34*	34*
		pH	pH	N/A	0	17/04/2018	6.01*	6.01*	6.01*
		Total Suspended Solids	mg/L	N/A	0	17/04/2018	24*	24*	24*
N/A	SW20	Conductivity	µS/cm	N/A	0	17/04/2018	Dry	Dry	Dry
		pH	pH	N/A	0	17/04/2018	Dry	Dry	Dry
		Total Suspended Solids	mg/L	N/A	0	17/04/2018	Dry	Dry	Dry

- No flow when sample was taken

Blasting

EPL ID	Location	Pollutant	Unit of Measure	Frequency	No. of Blasts during the reporting period	Min Value	Mean Value	Max Value	Limits dBL
49	BM1 Ulan School	Blast Overpressure	dBL	Every Blast	10	89.0	96.8	110.8	115 (95% of Blasts) 120 (100% of Blasts)
		Ground Vibration	mm/s	Every Blast		0.05	0.24	0.61	5mm/s (95% of Blasts) 10mm/s (100% of Blasts)
N/A	BM5 Ridge Rd	Blast Overpressure	dBL	Every Blast	10	90.7	99.0	105.5	115 (95% of Blasts) 120 (100% of Blasts)
		Ground Vibration	mm/s	Every Blast		0.1	0.29	0.78	5mm/s (95% of Blasts) 10mm/s (100% of Blasts)

Effluent Discharge Points

EPL ID	Pollutant	Unit of Measure	No. of samples required by Licence	No. of Samples collected and analysed	Date Sampled	Min Value	Mean Value	Max Value
5	BOD	mg/L	Quarterly	0				
	Nitrogen (total)	mg/L	Quarterly	0				
	Oil and Grease	mg/L	Quarterly	0				
	pH	pH	Quarterly	0				
	Phosphorus (total)	mg/L	Quarterly	0				
	Total Suspended Solids	mg/L	Quarterly	0				
22	BOD	mg/L	Quarterly	0				
	Nitrogen (total)	mg/L	Quarterly	0				
	Oil and Grease	mg/L	Quarterly	0				
	pH	pH	Quarterly	0				
	Phosphorus (total)	mg/L	Quarterly	0				
	Total Suspended Solids	mg/L	Quarterly	0				
23	BOD	mg/L	Quarterly	0				
	Nitrogen (total)	mg/L	Quarterly	0				
	Oil and Grease	mg/L	Quarterly	0				
	pH	pH	Quarterly	0				
	Phosphorus (total)	mg/L	Quarterly	0				
	Total Suspended Solids	mg/L	Quarterly	0				
48	BOD	mg/L	Quarterly	0				
	Nitrogen (total)	mg/L	Quarterly	0				
	Oil and Grease	mg/L	Quarterly	0				
	pH	pH	Quarterly	0				
	Phosphorus (total)	mg/L	Quarterly	0				
	Total Suspended Solids	mg/L	Quarterly	0				

Discharge Points

Moolarben Coal did not have any licensed discharges during the period.

EPL ID	Pollutant	Unit of Measure	No. of samples required by Licence	No. of Samples collected and analysed	Date Sampled	Min Value	Mean Value	Max Value	100%ile concentration limit
1	Conductivity	µS/cm	Continuous during discharge	0					900
	Iron	mg/L	Daily During Discharge	0					
	Oil and Grease	mg/L	Daily During Discharge	0					10
	pH	pH	Continuous during discharge	0					6.5-8.5
	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Continuous during discharge	0					25
	Zinc	mg/L	Daily During Discharge	0					
	Discharge Volume	Megalitres per day	Continuous during discharge	0					10
2	Conductivity	µS/cm	Continuous during discharge	0					900
	Iron	mg/L	Daily During Discharge	0					
	Oil and Grease	mg/L	Daily During Discharge	0					10
	pH	pH	Continuous during discharge	0					6.5-8.5
	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Continuous during discharge	0					25
	Zinc	mg/L	Daily During Discharge	0					
	Discharge Volume	Megalitres per day	Continuous during discharge	0					10
24	Oil and Grease	mg/L	Daily During Discharge	0					
	pH	pH	Daily During Discharge	0					6.5-8.5
	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Daily During Discharge	0					25
26	Oil and Grease	mg/L	Daily During Discharge	0					
	pH	pH	Daily During Discharge	0					6.5-8.5

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	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Daily During Discharge	0					25
28	Conductivity	µS/cm	Continuous during discharge	0					900
	Iron	mg/L	Daily During Discharge	0					
	Oil and Grease	mg/L	Daily During Discharge	0					10
	pH	pH	Continuous during discharge	0					6.5-8.5
	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Continuous during discharge	0					25
	Zinc	mg/L	Daily During Discharge	0					
	Discharge Volume	Kilolitres per day	Continuous during discharge	0					1
29	Oil and Grease	mg/L	Daily During Discharge	0					
	pH	pH	Daily During Discharge	0					6.5-8.5
	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Daily During Discharge	0					25
30	Oil and Grease	mg/L	Daily During Discharge	0					
	pH	pH	Daily During Discharge	0					6.5-8.5
	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Daily During Discharge	0					25
31	Oil and Grease	mg/L	Daily During Discharge	0					
	pH	pH	Daily During Discharge	0					6.5-8.5
	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Daily During Discharge	0					25
33	Oil and Grease	mg/L	Daily During Discharge	0					
	pH	pH	Daily During Discharge	0					6.5-8.5

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EPL ID	Pollutant	Unit of Measure	No. of samples required by Licence	No. of Samples collected and analysed	Date Sampled	Min Value	Mean Value	Max Value	100%ile concentration limit
	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Daily During Discharge	0					25
35	Oil and Grease	mg/L	Daily During Discharge	0					
	pH	pH	Daily During Discharge	0					6.5-8.5
	Total Suspended Solids	mg/L	Daily During Discharge	0					50
	Turbidity	NTU	Daily During Discharge	0					25