

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: January 2017

Obtained Date: 14 February 2017

Publication Date: 21 February 2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	24/1/2017	2/2/2017	4.8	12.2	12.5	18.1
	Solid Particles	g/m ² /month	Continuous	1	23/1/2017	7/2/2017	1.1	1.1	1.1	1.1
29	PM10	µg/m ³	Every 6 days	5	24/1/2017	2/2/2017	9.9	25.1	29.2	30.6
	Solid Particles	g/m ² /month	Continuous	1	23/1/2017	7/2/2017	1.6	1.6	1.6	1.6
30	PM10	µg/m ³	Continuous	Continuous	31/1/2017	1/2/2017	6.4	10.8	10.5	21.1
	Solid Particles	g/m ² /month	Continuous	1	23/1/2017	7/2/2017	0.5	0.5	0.5	0.5
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

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EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

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EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

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EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-

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EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-

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EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	30/1/2017	60 minutes	2:31 pm	N/A	42	Day 37	4.0, 266	Birds (40), traffic (34), wind (34), WCC inaudible (<20)	No	14/2/2017
R12	30/1/2017	60 minutes	4:31 pm	N/A	35	Day 38	2.3, 300	Traffic (34), birds (27), WCC inaudible (<20)	No	14/2/2017
R96	30/1/2017	60 minutes	3:58 pm	N/A	39	Day 38	2.5, 270	Wind (36), birds & insects (36), WCC inaudible (<20)	No	14/2/2017
R98	30/1/2017	60 minutes	2:46 pm	N/A	37	Day 40	3.8, 269	Wind (35), birds (33), WCC (23)	No	14/2/2017
R24	30/1/2017	60 minutes	8:51 pm	30	43	Night 37	+5.5, 3.0, 338	Traffic (40), birds & insects (39), WCC (27)	No	14/2/2017
R12	30/1/2017	60 minutes	10:00 pm	29	48	Night 38	+6.8, 2.3, 330	Insects (47), traffic (40), WCC (26)	No	14/2/2017
R96	30/1/2017	60 minutes	9:04 pm	43	42	Night 37	+6.0, 2.8, 339	Insects (41), WCC (36)	No	14/2/2017
R98	30/1/2017	60 minutes	7:57 pm	39	55	Night 40	+3.9, 2.5, 319	Insects (55), WCC (33)	No	14/2/2017

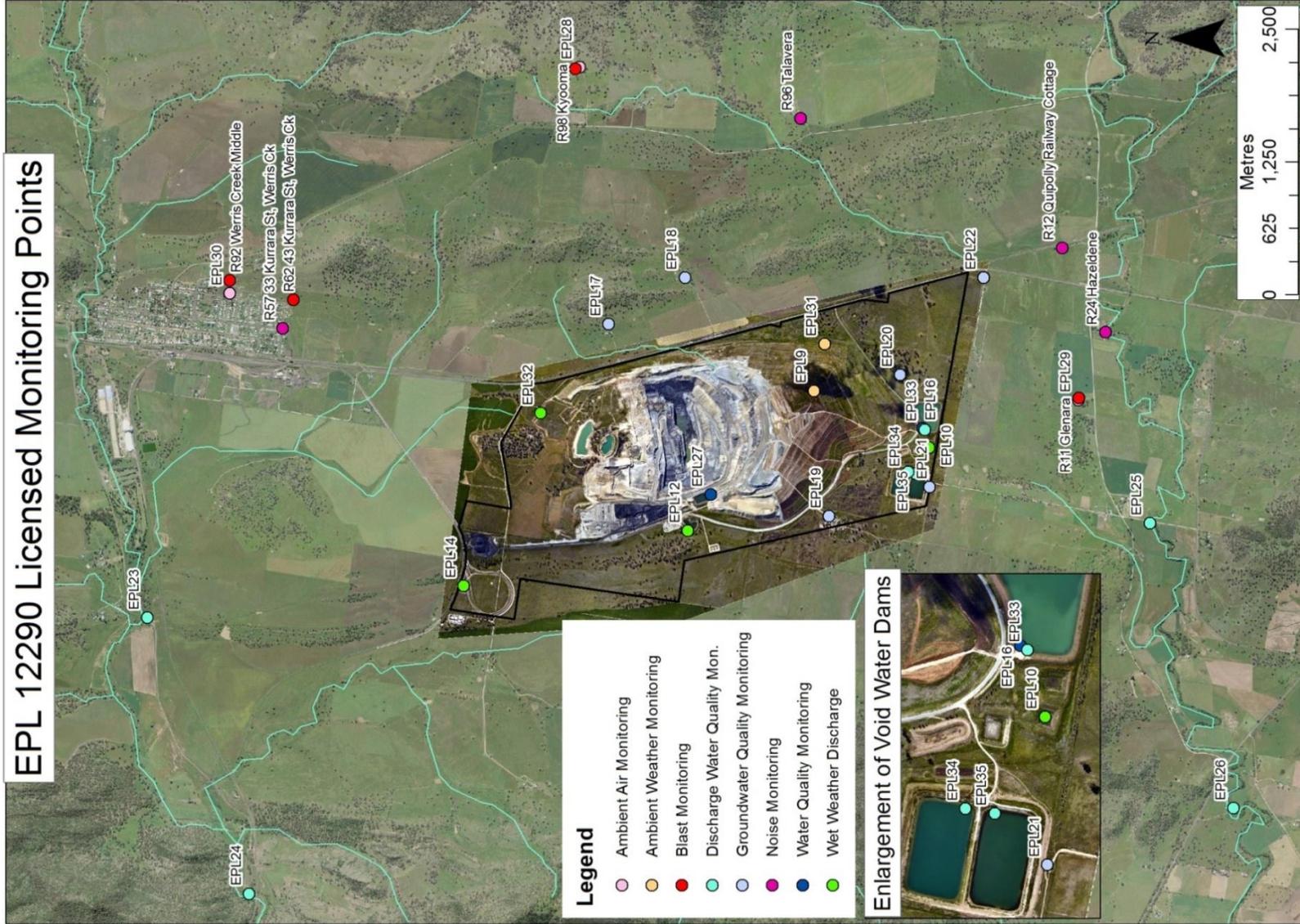
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	10	98.3	103.9	120.0	No	1/2/2017
	Blast Vibration	mm/s	Every Blast	10	0.15	0.32	10.0	No	1/2/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	10	100.3	107.2	120.0	No	1/2/2017
	Blast Vibration	mm/s	Every Blast	10	0.62	1.05	10.0	No	1/2/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	10	100.7	110.0	120.0	No	1/2/2017
	Blast Vibration	mm/s	Every Blast	10	0.41	1.01	10.0	No	1/2/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	10	99.8	113.8	120.0	No	1/2/2017
	Blast Vibration	mm/s	Every Blast	10	0.20	0.29	10.0	No	1/2/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL 12290 Licensed Monitoring Points



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Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: February 2017

Obtained Date: 20th March 2017

Publication Date: 30th March 2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	23/2/2017	3/3/2017	10.8	14.8	13.6	21.8
	Solid Particles	g/m ² /month	Continuous	1	24/2/2017	7/3/2017	0.7	0.7	0.7	0.7
29	PM10	µg/m ³	Every 6 days	5	23/2/2017	3/3/2017	16.0	29.8	32.8	37.6
	Solid Particles	g/m ² /month	Continuous	1	24/2/2017	7/3/2017	1.4	1.4	1.4	1.4
30	PM10	µg/m ³	Continuous	Continuous	28/2/2017	1/3/2017	3.7	17.1	15.7	45.8
	Solid Particles	g/m ² /month	Continuous	1	24/2/2017	7/3/2017	1.0	1.0	1.0	1.0
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

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EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

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	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	1	27/2/2017	8/3/2017	1060	1060	1060	1060
	Nitrate	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	0.05	0.05	0.05	0.05
	Nitrogen (Total)	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	1.0	1.0	1.0	1.0
	Oil and Grease	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	27/2/2017	8/3/2017	8.11	8.11	8.11	8.11
	Phosphorus (Total)	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	0.03	0.03	0.03	0.03
	Reactive Phosphorus	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	<0.01	<0.01	<0.01	<0.01
27	Total Suspended Solids	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	22	22	22	22
	Conductivity	µS/cm	Every 3 Months	1	27/2/2017	8/3/2017	1360	1360	1360	1360
	Nitrate	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	1.84	1.84	1.84	1.84

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	2.1	2.1	2.1	2.1
	Oil and Grease	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	27/2/2017	8/3/2017	8.02	8.02	8.02	8.02
	Phosphorus (Total)	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	0.02	0.02	0.02	0.02
	Reactive Phosphorus	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	27/2/2017	8/3/2017	<5	<5	<5	<5
17	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	16/2/2017	60 minutes	3:06 pm	N/A	34	Day 37	NA, 1.5,267	Traffic (33), birds (27), WCC inaudible (<20)	No	20/3/2017
R12	16/2/2017	60 minutes	4:30 pm	N/A	31	Day 38	NA, 3.1/301	Traffic (31), WCC inaudible (<20)	No	20/3/2017
R96	16/2/2017	60 minutes	3:59 pm	N/A	34	Day 38	NA, 3.0/330	Birds (33), traffic (24), WCC inaudible (<20)	No	20/3/2017
R98	16/2/2017	60 minutes	2:50 pm	N/A	35	Day 40	NA, 1.3/269	Birds (33), wind (30), WCC (22)	No	20/3/2017
R24	16/2/2017	60 minutes	8:40 pm	26	42	Night 37	+6.4, 0.4 ,262	Traffic (39), insects (39), WCC (23)	No	20/3/2017
R12	16/2/2017	60 minutes	9:47 pm	40	40	Night 38	+7.8, 1.0, 337	Traffic (38), insects (34), WCC (28)	No	20/3/2017
R96	16/2/2017	60 minutes	9:19 pm	36	38	Night 38	+6.8 ,0.4, 282	Insects (37), WCC (31)	No	20/3/2017
R98	16/2/2017	60 minutes	8:13 pm	33	47	Night 38	+5.8 ,3.9, 229	Insects (47), WCC (27)	No	20/3/2017

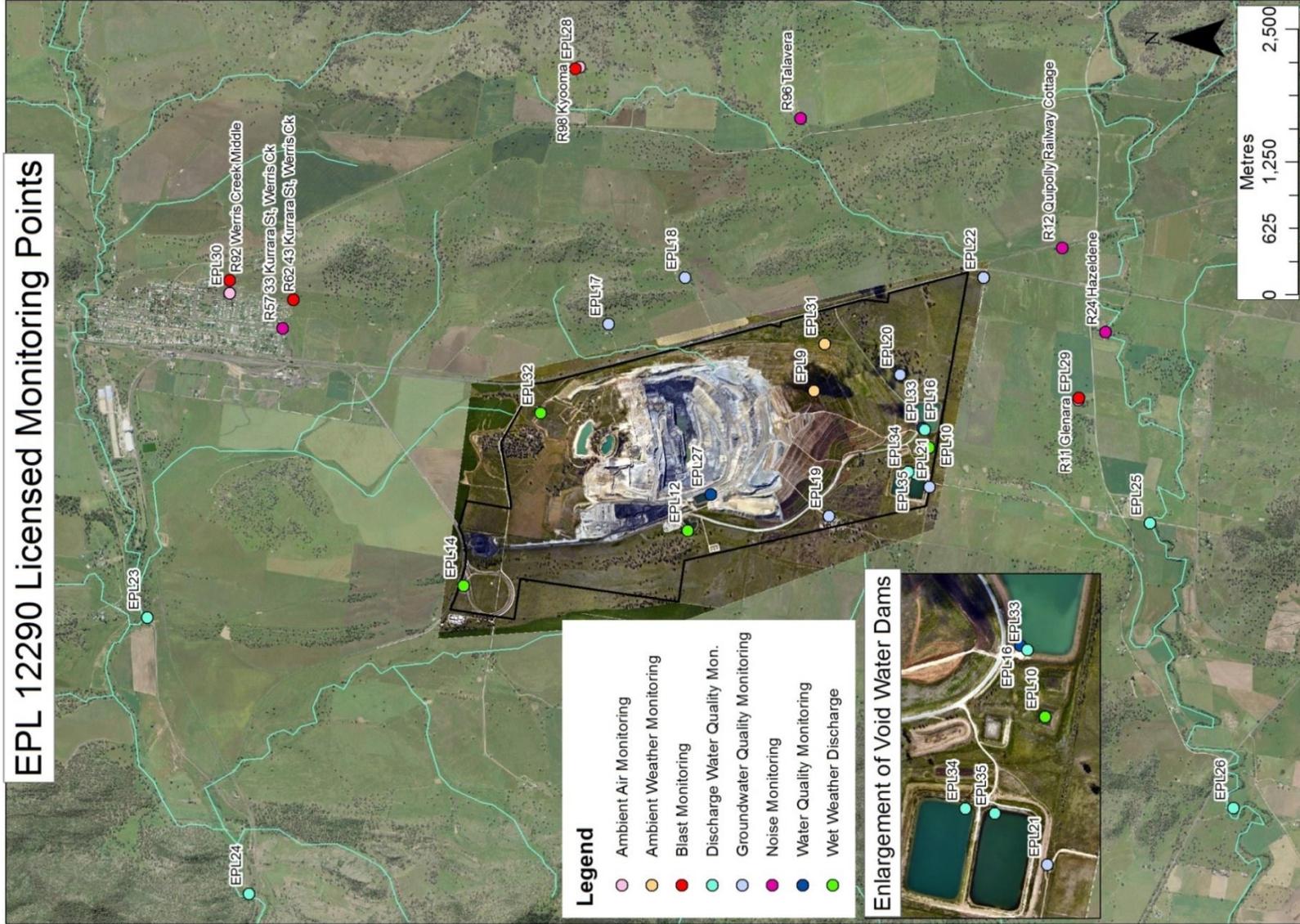
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	11	98.6	100.5	120.0	No	1/3/2017
	Blast Vibration	mm/s	Every Blast	11	0.15	0.29	10.0	No	1/3/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	11	100.0	105.4	120.0	No	1/3/2017
	Blast Vibration	mm/s	Every Blast	11	0.66	1.28	10.0	No	1/3/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	11	100.2	110.6	120.0	No	1/3/2017
	Blast Vibration	mm/s	Every Blast	11	0.29	0.55	10.0	No	1/3/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	11	98.4	108.5	120.0	No	1/3/2017
	Blast Vibration	mm/s	Every Blast	11	0.25	0.61	10.0	No	1/3/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL 12290 Licensed Monitoring Points



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: March 2017

Obtained Date: 12 May 2017

Publication Date: 19 May 2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	25/3/2017	4/4/2017	2.5	4.8	4.8	6.1
	Solid Particles	g/m ² /month	Continuous	1	24/3/2017	31/3/2017	0.5	0.5	0.5	0.5
29	PM10	µg/m ³	Every 6 days	5	25/3/2017	4/4/2017	5.3	8.0	6.8	11.4
	Solid Particles	g/m ² /month	Continuous	1	24/3/2017	31/3/2017	0.3	0.3	0.3	0.3
30	PM10	µg/m ³	Continuous	Continuous	31/3/2017	1/4/2017	1.0	5.9	5.4	11.4
	Solid Particles	g/m ² /month	Continuous	1	24/3/2017	31/3/2017	0.4	0.4	0.4	0.4
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	Conductivity	µS/cm	Every 6 Months	1	13/3/2017	21/3/2017	Dry	Dry	Dry	Dry
	Nitrate	mg/L	Every 6 Months	1	13/3/2017	21/3/2017	Dry	Dry	Dry	Dry
	Nitrogen (Total)	mg/L	Every 6 Months	1	13/3/2017	21/3/2017	Dry	Dry	Dry	Dry
	pH	pH	Every 6 Months	1	13/3/2017	21/3/2017	Dry	Dry	Dry	Dry
	Phosphorus (Total)	mg/L	Every 6 Months	1	13/3/2017	21/3/2017	Dry	Dry	Dry	Dry
	Reactive Phosphorus	mg/L	Every 6 Months	1	13/3/2017	21/3/2017	Dry	Dry	Dry	Dry
	Standing Water Level	Metres	Every 6 Months	1	13/3/2017	21/3/2017	Dry	Dry	Dry	Dry
18	Conductivity	µS/cm	Every 6 Months	1	13/3/2017	21/3/2017	880	880	880	880
	Nitrate	mg/L	Every 6 Months	1	13/3/2017	21/3/2017	4.52	4.52	4.52	4.52
	Nitrogen (Total)	mg/L	Every 6 Months	1	13/3/2017	21/3/2017	5.1	5.1	5.1	5.1
	pH	pH	Every 6 Months	1	13/3/2017	21/3/2017	7.69	7.69	7.69	7.69
	Phosphorus (Total)	mg/L	Every 6 Months	1	13/3/2017	21/3/2017	0.06	0.06	0.06	0.06
	Reactive Phosphorus	mg/L	Every 6 Months	1	13/3/2017	21/3/2017	0.05	0.05	0.05	0.05
	Standing Water Level	Metres	Every 6 Months	1	13/3/2017	21/3/2017	32.82	32.82	32.82	32.82
19	Conductivity	µS/cm	Every 6 Months	1	9/3/2017	6/4/2017	1880	1880	1880	1880
	Nitrate	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	12.0	12.0	12.0	12.0
	Nitrogen (Total)	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	12.9	12.9	12.9	12.9
	pH	pH	Every 6 Months	1	9/3/2017	6/4/2017	7.93	7.93	7.93	7.93
	Phosphorus (Total)	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	0.20	0.20	0.20	0.20
	Reactive Phosphorus	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	0.24	0.24	0.24	0.24
	Standing Water Level	Metres	Every 6 Months	1	9/3/2017	6/4/2017	19.15	19.15	19.15	19.15



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	1	9/3/2017	6/4/2017	959	959	959	959
	Nitrate	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	2.01	2.01	2.01	2.01
	Nitrogen (Total)	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	4.3	4.3	4.3	4.3
	pH	pH	Every 6 Months	1	9/3/2017	6/4/2017	8.14	8.14	8.14	8.14
	Phosphorus (Total)	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	0.29	0.29	0.29	0.29
	Reactive Phosphorus	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	0.03	0.03	0.03	0.03
	Standing Water Level	Metres	Every 6 Months	1	9/3/2017	6/4/2017	14.45	14.45	14.45	14.45
21	Conductivity	µS/cm	Every 6 Months	1	9/3/2017	6/4/2017	2090	2090	2090	2090
	Nitrate	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	1.03	1.03	1.03	1.03
	Nitrogen (Total)	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	1.1	1.1	1.1	1.1
	pH	pH	Every 6 Months	1	9/3/2017	6/4/2017	7.70	7.70	7.70	7.70
	Phosphorus (Total)	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	0.01	0.01	0.01	0.01
	Reactive Phosphorus	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	0.02	0.02	0.02	0.02
	Standing Water Level	Metres	Every 6 Months	1	9/3/2017	6/4/2017	11.89	11.89	11.89	11.89
22	Conductivity	µS/cm	Every 6 Months	1	9/3/2017	6/4/2017	TLTS	TLTS	TLTS	TLTS
	Nitrate	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	TLTS	TLTS	TLTS	TLTS
	Nitrogen (Total)	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	TLTS	TLTS	TLTS	TLTS
	pH	pH	Every 6 Months	1	9/3/2017	6/4/2017	TLTS	TLTS	TLTS	TLTS
	Phosphorus (Total)	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	TLTS	TLTS	TLTS	TLTS
	Reactive Phosphorus	mg/L	Every 6 Months	1	9/3/2017	6/4/2017	TLTS	TLTS	TLTS	TLTS
	Standing Water Level	Metres	Every 6 Months	1	9/3/2017	6/4/2017	TLTS	TLTS	TLTS	TLTS

TLTS = Too Low To Sample

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	23/3/2017	60 minutes	10:48	N/A	NM	Day 37	NA, 1.9m/s, 98 degrees	WCCM continuum– Not Measurable , Insects, frogs and birds – up to 66 dB, Traffic – up to 47 dB, Aircraft – up to 43 dB	No	12/5/2017
R12	22/3/2017	60 minutes	15:50	N/A	IA	Day 38	NA, 4.3m/s, 19 degrees,	WCCM – Inaudible , Insects and birds – up to 53 dB, traffic – up to 68 dB, thunder – up to 60dB	No	12/5/2017
R96	22/3/2017	60 minutes	14:40	N/A	NM	Day 38	NA, 4.2m/s, 14 degrees	WCCM continuum – Not Measurable , Insects and Birds – up to 65 dB, Breeze on microphone and in foliage – up to 35 dB, Thunder – up to 33 dB, other noise sources = horse	No	12/5/2017
R98	22/3/2017	60 minutes	16:17	N/A	IA	Day 40	NA, 3.9m/s, 27 degrees	WCCM – Inaudible , Birds and insects – up to 35 dB, Car – up to 66 dB, Thunder – up to 71 dB, Breeze in foliage and on microphone – up to 40 dB	No	12/5/2017
R24	23/3/2017	60 minutes	21:26	37	30	Night 37	NA, 2.1m/s, 172 degrees	WCCM continuum – 30 dB , Insects and Frogs – up to 36 dB, Traffic – up to 66 dB	No	12/5/2017
R12	22/3/2017	60 minutes	20:46	NM	NM	Night 38	NA, 2.8m/s, 181 degrees	WCCM continuum – Not Measurable , Traffic – up to 52 dB, Insects and Frogs – up to 42 dB	No	12/5/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R96	22/3/2017	60 minutes	18:50	IA	IA	Night 38	NA, 3.4m/s, 170 degrees	WCCM – Inaudible , Traffic – up to 40 dB, Insects and birds – up to 58 dB, dog – up to 31 dB, aircraft – up to 39 dB	No	12/5/2017
R98	23/3/2017	60 minutes	21:29	<25	<20	Night 38	NA, 2.1m/s, 172 degrees	WCCM continuum - <25 dB , Frogs and insects - ~33 dB, Birds – up to 49 dB, Traffic – up to 30 dB, other noise sources = Aircraft	No	12/5/2017

NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.

IA = Inaudible.

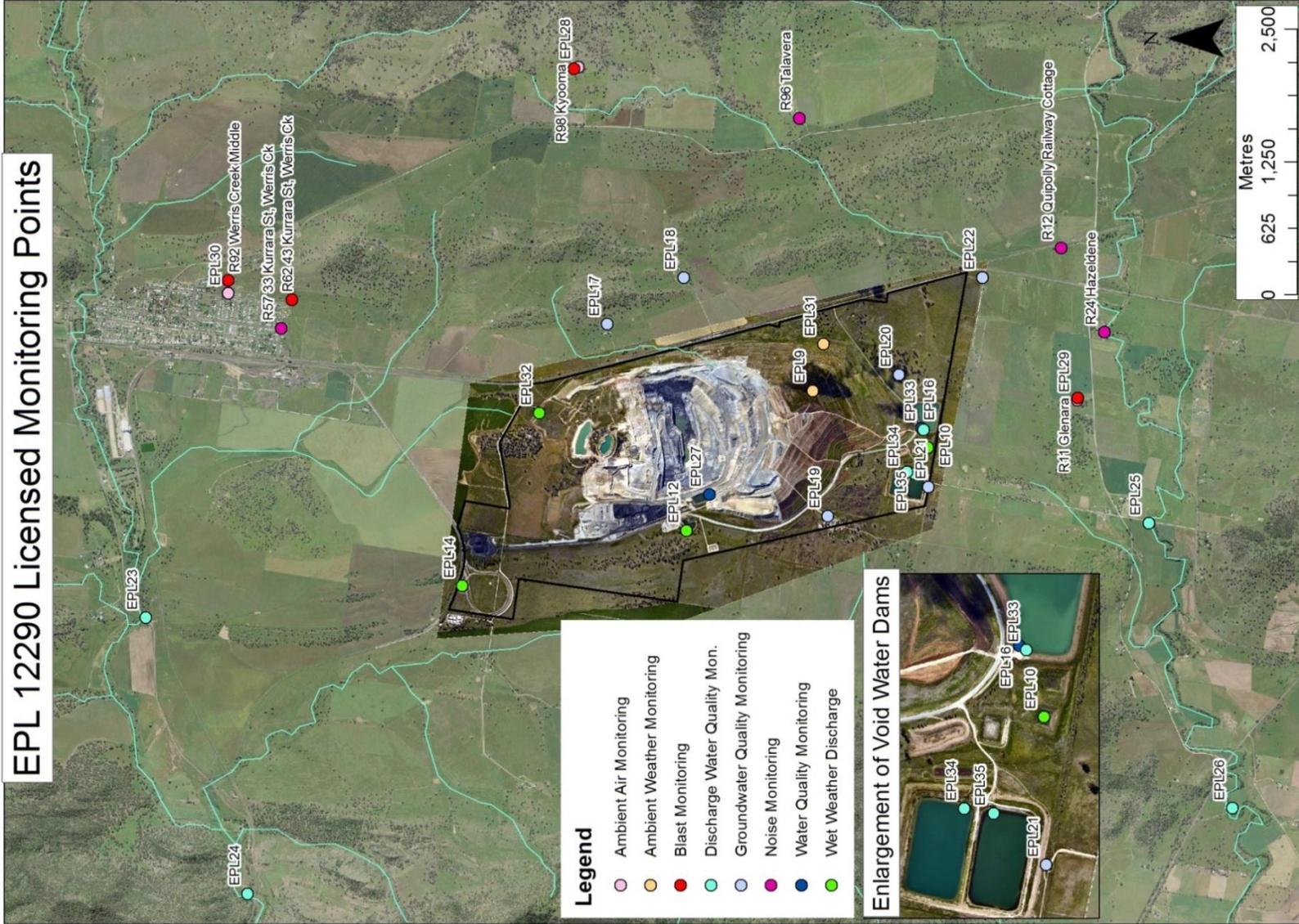
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	14	101.5	108.7	120.0	No	1/4/2017
	Blast Vibration	mm/s	Every Blast	14	0.13	0.23	10.0	No	1/4/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	14	102.1	111.2	120.0	No	1/4/2017
	Blast Vibration	mm/s	Every Blast	14	0.59	1.25	10.0	No	1/4/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	14	99.7	114.4	120.0	No	1/4/2017
	Blast Vibration	mm/s	Every Blast	14	0.35	0.85	10.0	No	1/4/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	14	100.7	116.6	120.0	No	1/4/2017
	Blast Vibration	mm/s	Every Blast	14	0.19	0.35	10.0	No	1/4/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL 12290 Licensed Monitoring Points



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: April 2017

Obtained Date: 18 May 2017

Publication Date: 5 June 2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	24/4/2017	8/5/2017	<0.1	4.6	2.2	12.2
	Solid Particles	g/m ² /month	Continuous	1	21/4/2017	2/5/2017	0.3	0.3	0.3	0.3
29	PM10	µg/m ³	Every 6 days	5	24/4/2017	8/5/2017	4.2	13.3	12.6	23.1
	Solid Particles	g/m ² /month	Continuous	1	21/4/2017	2/5/2017	0.5	0.5	0.5	0.5
30	PM10	µg/m ³	Continuous	Continuous	30/4/2017	1/5/2017	0.9	8.9	8.3	25.0
	Solid Particles	g/m ² /month	Continuous	1	21/4/2017	2/5/2017	0.4	0.4	0.4	0.4
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	27/4/2017	60 minutes	14:57	N/A	IA	Day 37	NA, 0.6m/s, 237 degrees	WCCM inaudible, Insects, frogs and birds up to 67 dB, road traffic up to 50 dB	No	18/5/2017
R12	28/4/2017	60 minutes	8:57	N/A	IA	Day 38	NA, 4.8m/s, 156 degrees	WCCM inaudible, Birds and dogs up to 58 dB, road traffic up to 40 dB, breeze up to 40 dB	No	18/5/2017
R96	27/4/2017	60 minutes	16:11	N/A	IA	Day 38	NA, 1.2m/s, 201 degrees	WCCM inaudible, Birds, insects and dogs up to 59 dB, road traffic up to 45 dB, aircraft less than 35 dB	No	18/5/2017
R98	27/4/2017	60 minutes	15:25	N/A	<25	Day 40	NA, 1.1m/s, 224 degrees	WCCM continuum less than 25 dB, Birds up to 61 dB, aircraft up to 30 dB, road traffic up to 35 dB	No	18/5/2017
R24	27/4/2017	60 minutes	22:06	IA	IA	Night 37	6.7°/100m, 1.4m/s, 186 degrees	WCCM inaudible, Insects, frogs and bats up to 35 dB, dogs less than 35 dB, road traffic up to 70 dB	No	18/5/2017
R12	27/4/2017	60 minutes	21:01	IA	IA	Night 38	4.9°/100m, 2.5m/s, 168 degrees	WCCM inaudible, Bats, birds, insects, frogs and dogs up to 40 dB., aircraft up to 35 dB, road traffic up to 62 dB, rail corridor continuum less than 25 dB	No	18/5/2017
R96	27/4/2017	60 minutes	19:51	IA	IA	Night 38	1.7°/100m, 2.4m/s, 163 degrees	WCCM inaudible, Road traffic up to 40 dB, train up to 45 dB, train horn 47 dB, dogs up to 54 dB, bats less than 35 dB	No	18/5/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R98	27/4/2017	60 minutes	20:09	25	<25	Night 38	2.0°/100m, 2.4m/s, 157 degrees	WCCM continuum 25 dB, Frogs and insects approximately 20 dB, road traffic up to 35 dB	No	18/5/2017

NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.

IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	8	101.1	109.1	120.0	No	1/5/2017
	Blast Vibration	mm/s	Every Blast	8	0.14	0.20	10.0	No	1/5/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	8	100.0	107.0	120.0	No	1/5/2017
	Blast Vibration	mm/s	Every Blast	8	0.82	1.52	10.0	No	1/5/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	8	96.7	107.6	120.0	No	1/5/2017
	Blast Vibration	mm/s	Every Blast	8	0.50	0.90	10.0	No	1/5/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	8	99.1	107.0	120.0	No	1/5/2017
	Blast Vibration	mm/s	Every Blast	8	0.25	0.43	10.0	No	1/5/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: May 2017

Obtained Date: 28 July 2017

Publication Date: 11 August 2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	24/5/2017	2/6/2017	2.8	5.5	4.0	9.4
	Solid Particles	g/m ² /month	Continuous	1	23/5/2017	31/5/2017	0.5	0.5	0.5	0.5
29	PM10	µg/m ³	Every 6 days	5	24/5/2017	2/6/2017	3.9	14.2	16.2	28.1
	Solid Particles	g/m ² /month	Continuous	1	23/5/2017	31/5/2017	1.1	1.1	1.1	1.1
30	PM10	µg/m ³	Continuous	Continuous	30/5/2017	1/6/2017	3.4	9.7	10.3	17.8
	Solid Particles	g/m ² /month	Continuous	1	23/5/2017	31/5/2017	0.5	0.5	0.5	0.5
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	1	31/5/2017	7/6/2017	1580	1580	1580	1580
	Nitrate	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	5.73	5.73	5.73	5.73
	Nitrogen (Total)	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	6.6	6.6	6.6	6.6
	Oil and Grease	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	31/5/2017	7/6/2017	7.94	7.94	7.94	7.94
	Phosphorus (Total)	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	0.18	0.18	0.18	0.18
	Reactive Phosphorus	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	<0.01	<0.01	<0.01	<0.01
27	Total Suspended Solids	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	8	8	8	8
	Conductivity	µS/cm	Every 3 Months	1	31/5/2017	7/6/2017	1580	1580	1580	1580
	Nitrate	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	6.63	6.63	6.63	6.63

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	7.7	7.7	7.7	7.7
	Oil and Grease	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	31/5/2017	7/6/2017	8.09	8.09	8.09	8.09
	Phosphorus (Total)	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	31/5/2017	7/6/2017	<5	<5	<5	<5
17	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion °C/100m, wind m/s & °)	Observations	(Potential Non-compliance /breach)	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	23/5/2017	60 minutes	17:35	N/A	NM	Day 37	NA, 4.4m/s, 351 degrees	WCCM was not measurable, Insects and frogs up to 49 dB, road traffic up to 66 dB	No	28/7/2017
R12	23/5/2017	60 minutes	15:39	N/A	IA	Day 38	NA, 2.9m/s, 277 degrees	WCCM inaudible. Insects and birds up to 63 dB, traffic up to 59 dB and aircraft up to 45 dB	No	28/7/2017
R96	23/5/2017	60 minutes	14:30	N/A	IA	Day 38	NA, 2.0m/s, 355 degrees	WCCM inaudible. Aircraft up to 67 dB, insects and birds up to 50 dB	No	28/7/2017
R98	23/5/2017	60 minutes	15:20	N/A	<25	Day 36	0.5°/100m, 2.7m/s, 275 degrees	WCCM continuum less than 25 dB and engine surges up to 34 dB. Aircraft up to 55 dB, birds up to 50 dB, power tools up to 30 dB	No	28/7/2017
R24	23/5/2017	60 minutes	23:19	33	28	Night 37	6.3°/100m, 0.4m/s, 215 degrees	WCCM continuum 28dB, exhaust surge up to 33dB. Insects, frogs and bats up to 53 dB, birds up to 42dB, train up to 45dB	No	28/7/2017
R12	23/5/2017	60 minutes	22:08	30	26	Night 38	1.2°/100m, 0.7m/s, 168 degrees	WCCM continuum 26 dB, engine surges up to 30 dB. Insects and frogs up to 48 dB, train up to 30 dB, road traffic up to 57 dB	No	28/7/2017
R96	23/5/2017	60 minutes	19:56	30	24	Night 38	4.0°/100m, 1.3m/s,	WCCM continuum approximately 24 dB with	No	28/7/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion °C/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
							330 degrees	surges to 30 dB. Insects and frogs approximately 22 dB. Road traffic up to 33 dB, train up to 35 dB, aircraft up to 33 dB and bats up to 46 dB		
R98	23/5/2017	60 minutes	21:13	43	37 (42 ³)	Night 38	4.6°/100m, 1.3m/s, 81 degrees	WCCM continuum 37 dB, engine surge up to 40 dB, track noise up to 43 dB. Bats approximately 35dB, frogs and insects approximately 25 dB	Yes (due to application of low frequency penalty)	28/7/2017

Notes:

1. **NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.**
2. **IA = Inaudible.**
3. **Includes 5 dB penalty for low frequency modification trigger.**

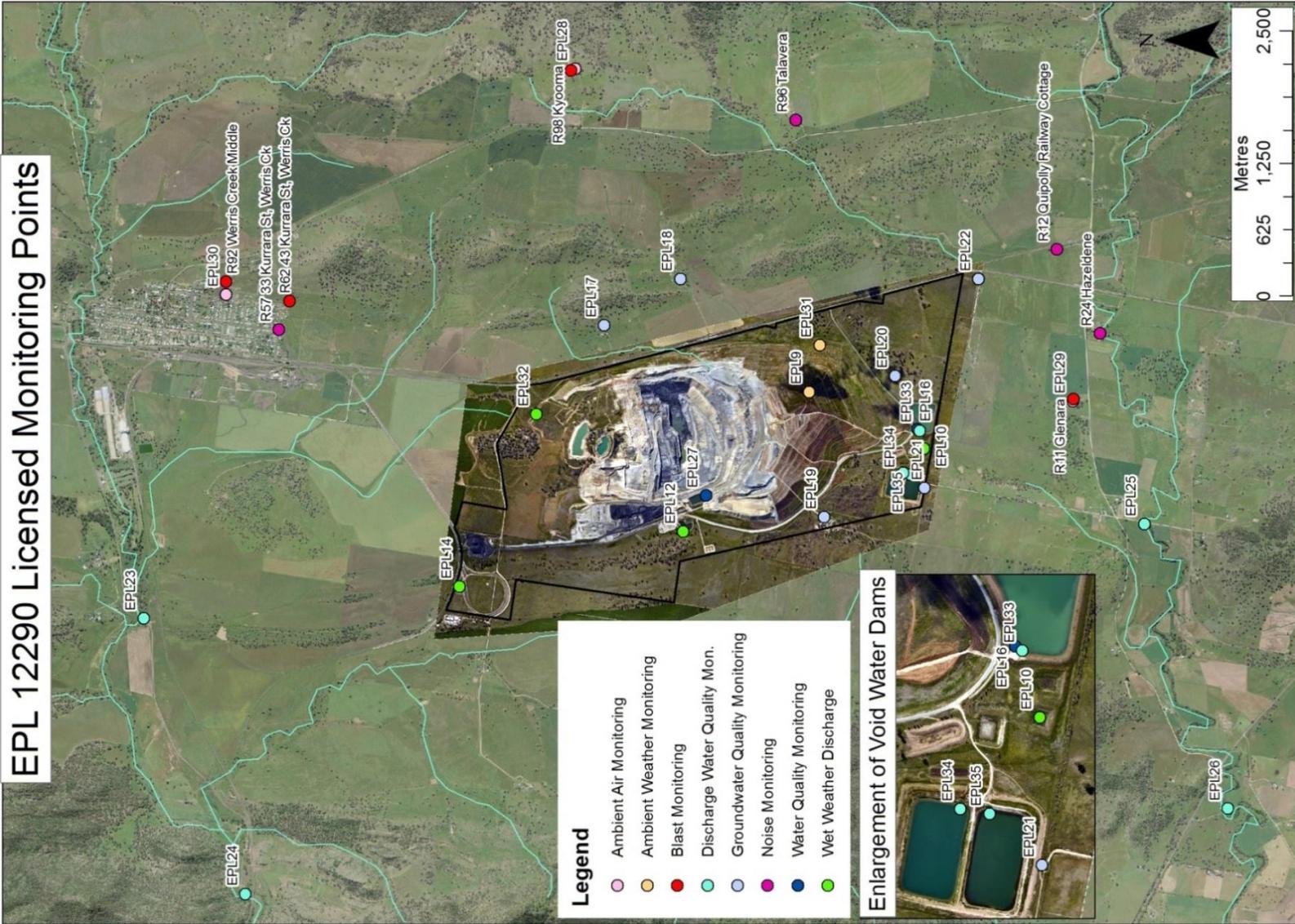
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	17	101.2	113.6	120.0	No	1/6/2017
	Blast Vibration	mm/s	Every Blast	17	0.09	0.15	10.0	No	1/6/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	17	102.1	111.3	120.0	No	1/6/2017
	Blast Vibration	mm/s	Every Blast	17	0.59	1.17	10.0	No	1/6/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	17	98.1	109.4	120.0	No	1/6/2017
	Blast Vibration	mm/s	Every Blast	17	0.26	0.56	10.0	No	1/6/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	17	99.7	109.2	120.0	No	1/6/2017
	Blast Vibration	mm/s	Every Blast	17	0.17	0.37	10.0	No	1/6/2017

Note: 3 blasts recorded <0.5 mm/s post firing, 14 blasts recorded >0.5mm/s.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: June 2017

Obtained Date: 17/08/2017

Publication Date: 1/9/2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	23/6/2017	5/7/2017	3.6	6.8	5.8	13.4
	Solid Particles	g/m ² /month	Continuous	1	23/6/2017	3/7/2017	0.3	0.3	0.3	0.3
29	PM10	µg/m ³	Every 6 days	5	23/6/2017	5/7/2017	4.1	19.9	13.7	52.4
	Solid Particles	g/m ² /month	Continuous	1	23/6/2017	3/7/2017	1.4	1.4	1.4	1.4
30	PM10	µg/m ³	Continuous	Continuous	30/6/2017	1/7/2017	8.0	12.5	11.7	20.5
	Solid Particles	g/m ² /month	Continuous	1	23/6/2017	3/7/2017	0.4	0.4	0.4	0.4
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	27/6/2017	60 minutes	14:40	N/A	IA	Day 37	NA, 0.7m/s, 318 degrees	WCCM was inaudible. Birds up to 45 dB, road traffic up to 79 dB, aircraft up to 45 dB	No	17/8/2017
R12	27/6/2017	60 minutes	13:35	N/A	IA	Day 38	NA, 2.3m/s, 311 degrees	WCCM was inaudible. Birds up to 55 dB, road traffic up to 40 dB, aircraft up to 45 dB	No	17/8/2017
R96	27/6/2017	60 minutes	12:22	N/A	IA	Day 38	NA, 2.0m/s, 335 degrees	WCCM was inaudible. Dog up to 56 dB, birds up to 50 dB, aircraft up to 35 dB	No	17/8/2017
R98	27/6/2017	60 minutes	14:51	N/A	<20	Day 40	NA, 0.7m/s, 318 degrees	WCCM continuum less than 20 Db. Birds up to 55 dB, aircraft up to 35 dB, road traffic up to 35 dB	No	17/8/2017
R24	27/6/2017	60 minutes	20:05	<25	<25	Night 37	0.5°/100m, 0.1m/s, 97 degrees,	WCCM continuum less than 25 dB. Road traffic up to 56 dB, aircraft up to 48 dB, frogs up to 25 dB, train up to 27 dB	No	17/8/2017
R12	27/6/2017	60 minutes	21:44	34	31	Night 38	NA, 0.5m/s, 311 degrees	WCCM continuum 31 dB, surge in continuum up to 34 dB. Road traffic up to 50 dB.	No	17/8/2017
R96	27/6/2017	60 minutes	22:13	26	<25	Night 38	NA, 1.5m/s, 186 degrees	WCCM continuum less than 25 dB. Impacts up to 26 dB.	No	17/8/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
								Road traffic less than 25 dB		
R98	27/6/2017	60 minutes	22:17	<25	<25	Night 38	NA, 1.5m/s, 186 degrees	WCCM continuum less than 25 dB , impact and track noise less than 25 dB. Insects less than 25 dB, trains up to 36 dB, road traffic up to 30 dB	No	17/8/2017

NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.

IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	¹ No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	15	98.9	105.7	120.0	No	1/7/2017
	Blast Vibration	mm/s	Every Blast	15	0.11	0.56	10.0	No	1/7/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	15	97.2	103.4	120.0	No	1/7/2017
	Blast Vibration	mm/s	Every Blast	15	0.55	2.35	10.0	No	1/7/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	15	95.3	106.2	120.0	No	1/7/2017
	Blast Vibration	mm/s	Every Blast	15	0.23	0.60	10.0	No	1/7/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	15	96.7	106.0	120.0	No	1/7/2017
	Blast Vibration	mm/s	Every Blast	15	0.15	0.45	10.0	No	1/7/2017

¹ = 4 blasts registered less than 0.5mm/s vibration.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: July 2017

Obtained Date: 18/08/2017

Publication Date: 01/09/2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	23/7/2017	2/8/2017	1.4	4.4	4.7	6.7
	Solid Particles	g/m ² /month	Continuous	1	24/7/2017	1/8/2017	0.3	0.3	0.3	0.3
29	PM10	µg/m ³	Every 6 days	5	23/7/2017	2/8/2017	1.3	14.4	14.3	28.3
	Solid Particles	g/m ² /month	Continuous	1	24/7/2017	1/8/2017	1.0	1.0	1.0	1.0
30	PM10	µg/m ³	Continuous	Continuous	31/7/2017	1/8/2017	4.8	9.6	8.6	14.1
	Solid Particles	g/m ² /month	Continuous	1	24/7/2017	1/8/2017	0.4	0.4	0.4	0.4
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
19	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential Non-compliance /breach)	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	17/7/2017	60 minutes	16:01	N/A	27	Day 37	4.6°/100m, 2.0m/s, 13 degrees	WCCM continuum 27 dB. Birds up to 37 dB, road traffic up to 70 dB	No	18/08/2017
R12	18/7/2017	60 minutes	11:05	N/A	25	Day 38	NA, 6.0m/s, 320 degrees	WCCM continuum 25 dB. Insects and birds up to 63 dB, traffic up to 59 dB and aircraft up to 45 dB	No	18/08/2017
R96	18/7/2017	60 minutes	9:49	N/A	IA	Day 38	NA, 3.9m/s, 328 degrees.	WCCM inaudible. Aircraft up to 55 dB, birds up to 40 dB and dogs up to 69 dB	No	18/08/2017
R98	18/7/2017	60 minutes	9:45	N/A	IA	Day 40	NA, 3.9m/s, 328 degrees.	WCCM inaudible. Aircraft up to 55 dB, birds up to 60 dB and breeze in foliage up to 35 dB	No	18/08/2017
R24	17/7/2017	60 minutes	21:57	28	23	Night 37	7.8°/100m, 2.5m/s, 316 degrees	WCCM continuum 23 dB, fan surges up to 28 dB. Frogs up to 25 dB, traffic up to 69 dB, aircraft up to 35 dB	No	18/08/2017
R12	17/7/2017	60 minutes	20:32	27	23	Night 38	7.3°/100m, 1.8m/s, 326 degrees	WCCM continuum 23 dB, fan surges up to 27 dB. Road traffic up to 58 dB	No	18/08/2017
R96	17/7/2017	60 minutes	19:17	32	27	Night 38	8.6°/100m, 2.0m/s, 323 degrees.	WCCM continuum 27 dB with dozer tracks to 32 dB. Birds up to 51 dB, road traffic up to 40 dB and aircraft up to 38 dB	No	18/08/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R98	17/7/2017	60 minutes	21:15	30	25	Night 38	8.4°/100m, Wind at 10m 2.1m/s, 318 degrees	WCCM continuum 25 dB, engine surge up to 30 dB, track noise up to 28 dB. Train up to 25 dB, frogs up to 28 dB and traffic up to 30 dB	No	

NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.

IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	8	99.4	105.4	120.0	No	1/8/2017
	Blast Vibration	mm/s	Every Blast	8	0.13	0.30	10.0	No	1/8/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	8	101.6	109.1	120.0	No	1/8/2017
	Blast Vibration	mm/s	Every Blast	8	0.85	1.92	10.0	No	1/8/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	8	96.9	109.1	120.0	No	1/8/2017
	Blast Vibration	mm/s	Every Blast	8	0.44	0.83	10.0	No	1/8/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	8	97.8	106.2	120.0	No	1/8/2017
	Blast Vibration	mm/s	Every Blast	8	0.26	0.50	10.0	No	1/8/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: August 2017

Obtained Date: 04 September 2017

Publication Date: 21 September 2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	22/8/2017	4/9/2017	2.0	10.0	6.8	18.0
	Solid Particles	g/m ² /month	Continuous	1	23/8/2017	1/9/2017	0.2	0.2	0.2	0.2
29	PM10	µg/m ³	Every 6 days	5	22/8/2017	4/9/2017	1.8	22.1	25.9	31.4
	Solid Particles	g/m ² /month	Continuous	1	23/8/2017	1/9/2017	0.6	0.6	0.6	0.6
30	PM10	µg/m ³	Continuous	Continuous	31/8/2017	1/9/2017	6.2	12.0	11.0	24.7
	Solid Particles	g/m ² /month	Continuous	1	23/8/2017	1/9/2017	0.2	0.2	0.2	0.2
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	1	15/8/2017	22/8/2017	1880	1880	1880	1880
	Nitrate	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	4.17	4.17	4.17	4.17
	Nitrogen (Total)	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	4.7	4.7	4.7	4.7
	Oil and Grease	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	15/8/2017	22/8/2017	8.01	8.01	8.01	8.01
	Phosphorus (Total)	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	<0.01	<0.01	<0.01	<0.01
27	Total Suspended Solids	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	<5	<5	<5	<5
	Conductivity	µS/cm	Every 3 Months	1	15/8/2017	22/8/2017	1870	1870	1870	1870
	Nitrate	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	4.64	4.64	4.64	4.64

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	5.4	5.4	5.4	5.4
	Oil and Grease	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	15/8/2017	22/8/2017	8.06	8.06	8.06	8.06
	Phosphorus (Total)	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	15/8/2017	22/8/2017	10	10	10	10
17	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
19	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential Non-compliance /breach)	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	15/8/2017	60 minutes	11:09	N/A	NM	Day 37	NA, 2.2m/s, 355 degrees	WCCM continuum not measurable. Birds up to 39 dB, road traffic up to 71 dB	No	01 September 2017
R12	14/8/2017	60 minutes	10:14	N/A	30	Day 38	NA, 1.1m/s, 317 degrees	WCCM continuum 30 dB. Insects and birds up to 62 dB, traffic up to 52 dB, aircraft up to 40 dB	No	01 September 2017
R96	14/8/2017	60 minutes	15:38	N/A	31	Day 38	NA, 3.3m/s, 325 degrees	WCCM continuum 31 dB. Locomotive up to 38 dB, birds up to 40 dB, dogs up to 56 dB	No	01 September 2017
R98	15/8/2017	60 minutes	10:20	N/A	<25	Day 40	NA, 1.1m/s, 317 degrees	WCCM continuum <25 dB. Aircraft up to 40 dB, birds up to 81 dB, locomotive up to 30 dB	No	01 September 2017
R24	14/8/2017	60 minutes	22:38	33	28	Night 37	11.7°/100m, 2.6m/s, 314 degrees	WCCM continuum 28 dB, fan surges up to 33 dB. Frogs up to 22 dB, traffic up to 62 dB, locomotive up to 57 dB	No	01 September 2017
R12	17/8/2017	60 minutes	22:02	32	27	Night 38	14.4°/100m, 2.2m/s, 343 degrees	WCCM continuum 27 dB, fan surges up to 32 dB. Road traffic up to 55 dB, birds and frogs up to 31 dB	No	01 September 2017
R96	14/8/2017	60 minutes	19:20	37	32	Night 38	9.8°/100m, 3.5m/s, 347 degrees	WCCM continuum 32 dB, surges to 37 dB. Birds up to 44 dB, insects up to 23 dB	No	01 September 2017
R98	14/8/2017	60 minutes	21:43	43	33	Night 38	14.1°/100m, 2.5m/s, 352 degrees	WCCM continuum 33 dB, impact noise up to 43 dB, track noise up to 42 dB.	No	01 September 2017



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
								Breeze in foliage up to 28 dB, frogs up to 25 dB		

NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.

IA = Inaudible.

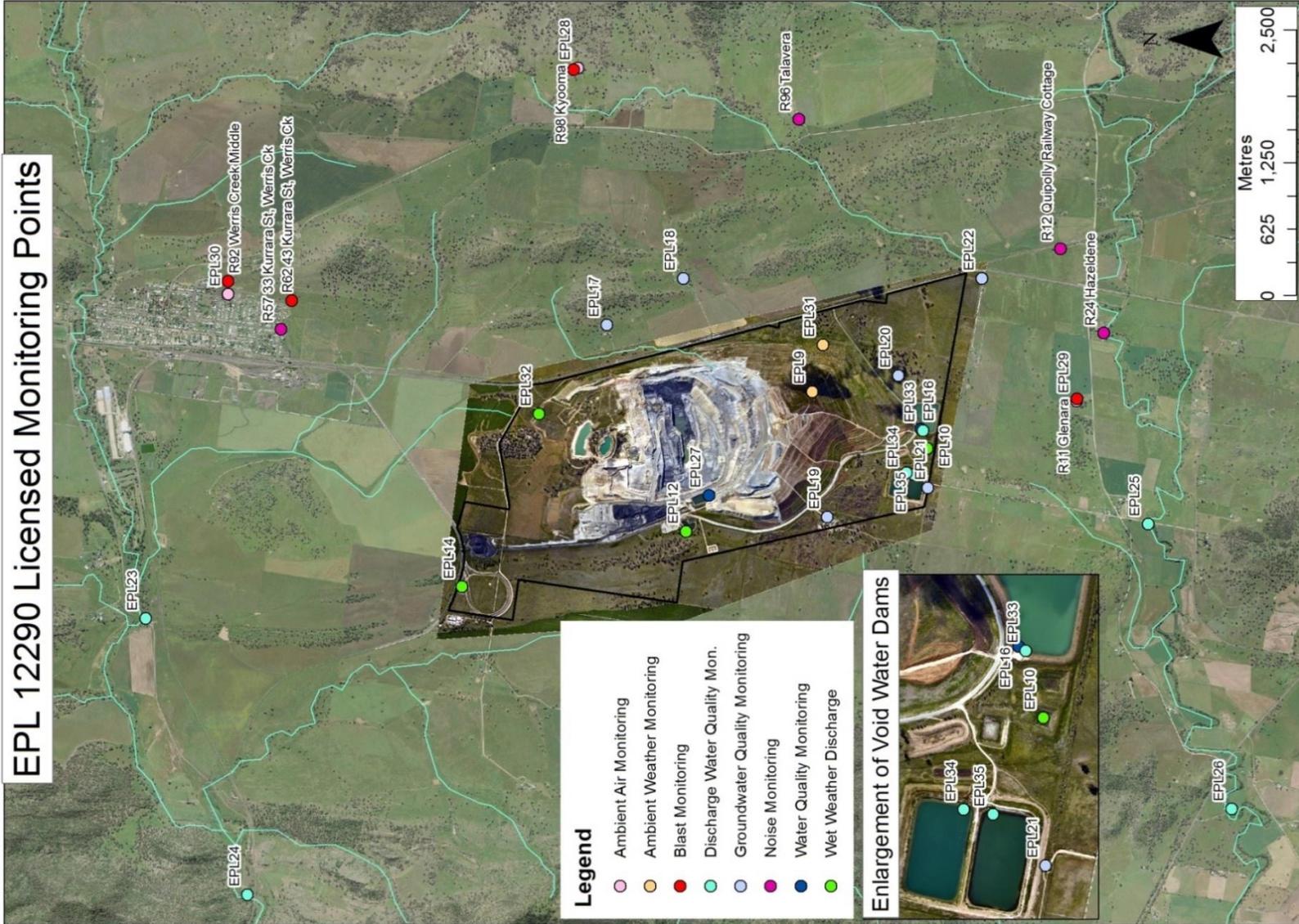
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	11	101.8	108.2	120.0	No	1/9/2017
	Blast Vibration	mm/s	Every Blast	11	0.12	0.26	10.0	No	1/9/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	11	102.3	107.8	120.0	No	1/9/2017
	Blast Vibration	mm/s	Every Blast	11	0.88	2.02	10.0	No	1/9/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	11	97.3	107.9	120.0	No	1/9/2017
	Blast Vibration	mm/s	Every Blast	11	0.38	0.85	10.0	No	1/9/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	11	101.7	117.3	120.0	No	1/9/2017
	Blast Vibration	mm/s	Every Blast	11	0.23	0.41	10.0	No	1/9/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL 12290 Licensed Monitoring Points



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: September 2017

Obtained Date: 26/10/2017

Publication Date: 2/11/2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	21/9/2017	5/10/2017	4.8	9.9	9.3	17.4
	Solid Particles	g/m ² /month	Continuous	1	22/9/2017	5/10/2017	0.8	0.8	0.8	0.8
29	PM10	µg/m ³	Every 6 days	5	22/9/2017	5/10/2017	15.8	23.8	24.4	33.7
	Solid Particles	g/m ² /month	Continuous	1	22/9/2017	5/10/2017	1.5	1.5	1.5	1.5
30	PM10	µg/m ³	Continuous	Continuous	30/9/2017	1/10/2017	7.4	15.0	13.4	33.7
	Solid Particles	g/m ² /month	Continuous	1	22/9/2017	5/10/2017	1.0	1.0	1.0	1.0
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	Conductivity	µS/cm	Every 6 Months	1	6/9/2017	20/9/2017	Dry	Dry	Dry	Dry
	Nitrate	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	Dry	Dry	Dry	Dry
	Nitrogen (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	Dry	Dry	Dry	Dry
	pH	pH	Every 6 Months	1	6/9/2017	20/9/2017	Dry	Dry	Dry	Dry
	Phosphorus (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	Dry	Dry	Dry	Dry
	Reactive Phosphorus	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	Dry	Dry	Dry	Dry
	Standing Water Level	Metres	Every 6 Months	1	6/9/2017	20/9/2017	Dry	Dry	Dry	Dry
18	Conductivity	µS/cm	Every 6 Months	1	6/9/2017	20/9/2017	957	957	957	957
	Nitrate	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	6.00	6.00	6.00	6.00
	Nitrogen (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	6.6	6.6	6.6	6.6
	pH	pH	Every 6 Months	1	6/9/2017	20/9/2017	7.83	7.83	7.83	7.83
	Phosphorus (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.04	0.04	0.04	0.04
	Reactive Phosphorus	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.04	0.04	0.04	0.04
	Standing Water Level	Metres	Every 6 Months	1	6/9/2017	20/9/2017	40.84	40.84	40.84	40.84
19	Conductivity	µS/cm	Every 6 Months	1	6/9/2017	20/9/2017	2040	2040	2040	2040
	Nitrate	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	12.9	12.9	12.9	12.9
	Nitrogen (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	13.6	13.6	13.6	13.6
	pH	pH	Every 6 Months	1	6/9/2017	20/9/2017	8.00	8.00	8.00	8.00
	Phosphorus (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.33	0.33	0.33	0.33
	Reactive Phosphorus	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.31	0.31	0.31	0.31
	Standing Water Level	Metres	Every 6 Months	1	6/9/2017	20/9/2017	19.29	19.29	19.29	19.29



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	1	6/9/2017	20/9/2017	1020	1020	1020	1020
	Nitrate	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	1.82	1.82	1.82	1.82
	Nitrogen (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	2.2	2.2	2.2	2.2
	pH	pH	Every 6 Months	1	6/9/2017	20/9/2017	8.08	8.08	8.08	8.08
	Phosphorus (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.12	0.12	0.12	0.12
	Reactive Phosphorus	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.09	0.09	0.09	0.09
	Standing Water Level	Metres	Every 6 Months	1	6/9/2017	20/9/2017	16.27	16.27	16.27	16.27
21	Conductivity	µS/cm	Every 6 Months	1	6/9/2017	20/9/2017	2120	2120	2120	2120
	Nitrate	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.97	0.97	0.97	0.97
	Nitrogen (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	1.0	1.0	1.0	1.0
	pH	pH	Every 6 Months	1	6/9/2017	20/9/2017	7.75	7.75	7.75	7.75
	Phosphorus (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.02	0.02	0.02	0.02
	Reactive Phosphorus	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.02	0.02	0.02	0.02
	Standing Water Level	Metres	Every 6 Months	1	6/9/2017	20/9/2017	12.09	12.09	12.09	12.09
22	Conductivity	µS/cm	Every 6 Months	1	6/9/2017	20/9/2017	1820	1820	1820	1820
	Nitrate	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.10	0.10	0.10	0.10
	Nitrogen (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	1.5	1.5	1.5	1.5
	pH	pH	Every 6 Months	1	6/9/2017	20/9/2017	8.00	8.00	8.00	8.00
	Phosphorus (Total)	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.21	0.21	0.21	0.21
	Reactive Phosphorus	mg/L	Every 6 Months	1	6/9/2017	20/9/2017	0.02	0.02	0.02	0.02
	Standing Water Level	Metres	Every 6 Months	1	6/9/2017	20/9/2017	15.46	15.46	15.46	15.46

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	L _{Aeq} , 15 Minute					
R24	26/9/2017	60 minutes	16:36	N/A	<20	Day 37	0.5°/100m, 1.0m/s, 238 degrees.	WCCM continuum <20 dB. Birds up to 50 dB, road traffic up to 62 dB, insects, aircraft	No	26/10/2017
R12	26/9/2017	60 minutes	15:33	N/A	IA	Day 38	NA, 3.0m/s, 215 degrees.	WCCM inaudible. Road traffic up to 59 dB, Breeze in foliage up to 44 dB, aircraft, birds, insects	No	26/10/2017
R96	26/9/2017	60 minutes	14:22	N/A	<30	Day 38	NA, 2.8m/s, 239 degrees.	WCCM continuum <30 dB. Road traffic up to 35 dB, Breeze in foliage and on microphone up to 35 dB, Cows up to 40 dB, train, birds, dog	No	26/10/2017
R98	26/9/2017	60 minutes	14:18	N/A	<30	Day 36	NA, 3.1m/s, 216 degrees.	WCCM continuum <30 dB. Aircraft <40 dB, birds up to 64 dB, breeze in foliage and on microphone up to 35 dB, train	No	26/10/2017
R24	26/9/2017	60 minutes	18:36	IA	IA	Night 37	7.8°/100m, 2.2m/s, 177 degrees.	WCCM inaudible. Road traffic up to 79 dB, Insects up to 30 dB, Birds up to 45 dB, cows	No	26/10/2017
R12	26/9/2017	60 minutes	20:30	IA	IA	Night 38	11.7°/100m, 1.7m/s, 86 degrees.	WCCM inaudible. Road traffic up to 48 dB, insects, idling train	No	26/10/2017
R96	26/9/2017	60 minutes	22:25	30	39	Night 38	10.4°/100m, 1.5m/s, 204 degrees.	WCCM continuum 30 dB, surges to 39 dB. Insects up to 20 dB, road traffic, train	No	26/10/2017
R98	26/9/2017	60 minutes	22:20	<20	<20	Night 38	12.1°/100m, 1.2m/s, 255 degrees.	WCCM inaudible. Breeze in foliage up to 25 dB, frogs up to 44 dB, train up to 30 dB	No	26/10/2017

NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.

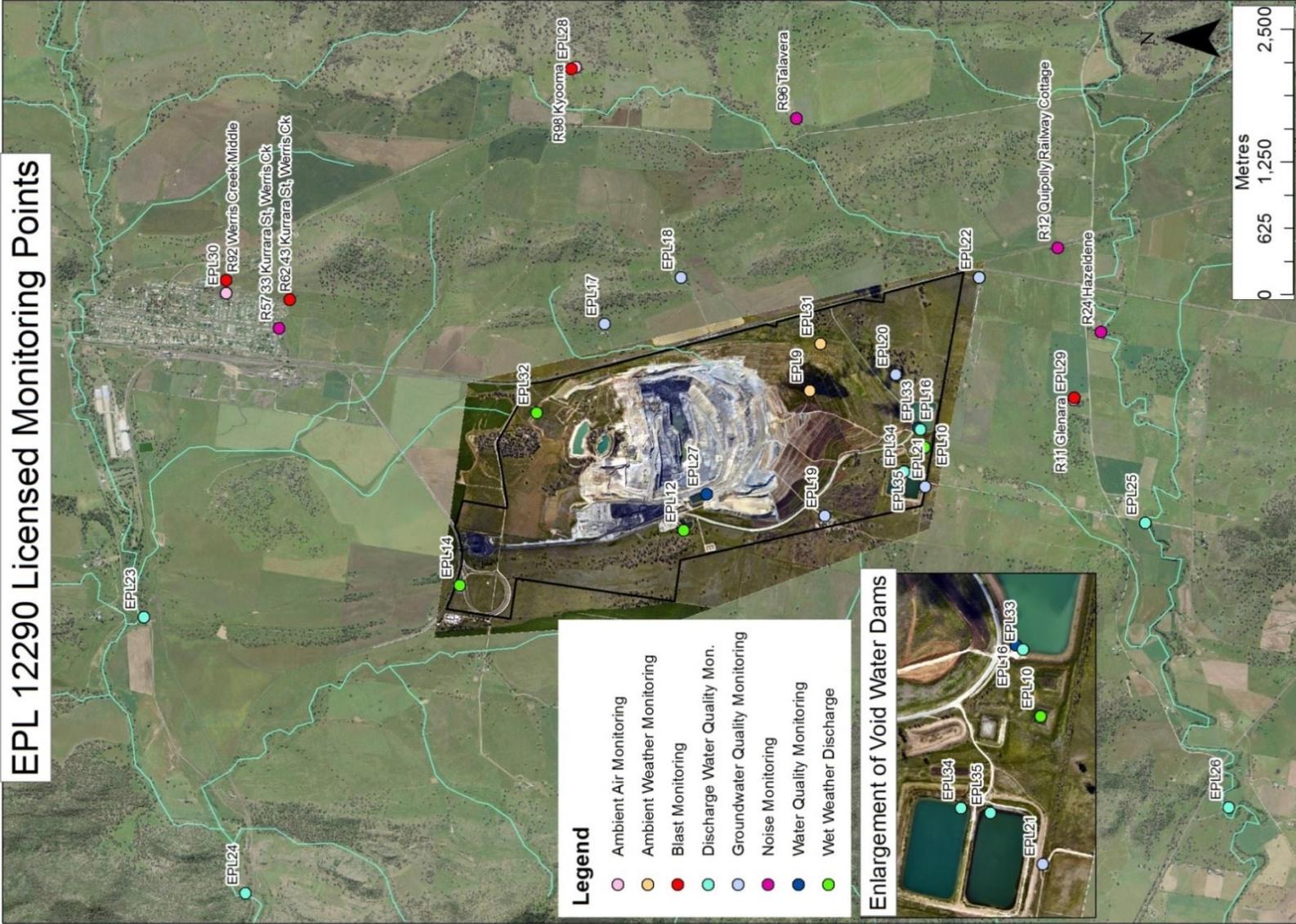
IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	11	100.8	117.2	120.0	No	1/10/2017
	Blast Vibration	mm/s	Every Blast	11	0.10	0.15	10.0	No	1/10/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	11	102.6	108.4	120.0	No	1/10/2017
	Blast Vibration	mm/s	Every Blast	11	0.72	1.48	10.0	No	1/10/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	11	101.6	113.5	120.0	No	1/10/2017
	Blast Vibration	mm/s	Every Blast	11	0.34	0.64	10.0	No	1/10/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	11	99.7	110.8	120.0	No	1/10/2017
	Blast Vibration	mm/s	Every Blast	11	0.24	0.58	10.0	No	1/10/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: October 2017

Obtained Date: November 30th 2017

Publication Date: 13th December 2017

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	21/10/2017	28/10/2017	5.0	10.9	9.1	23.3
	Solid Particles	g/m ² /month	Continuous	1	23/10/2017	28/10/2017	1.8	1.8	1.8	1.8
29	PM10	µg/m ³	Every 6 days	5	21/10/2017	31/10/2017	7.7	22.4	12.8	67.6
	Solid Particles	g/m ² /month	Continuous	1	23/10/2017	28/10/2017	1.5	1.5	1.5	1.5
30	PM10	µg/m ³	Continuous	Continuous	31/10/2017	1/11/2017	7.2	11.8	11.8	17.2
	Solid Particles	g/m ² /month	Continuous	1	23/10/2017	28/10/2017	1.5	1.5	1.5	1.5
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
19	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	24/10/2017	60 minutes	11:36	N/A	<30	Day 37	3.0°/100m, 3.0m/s, 295 degrees	WCCM continuum <30 dB. Birds <50 dB, road traffic <60 dB, breeze <40 dB, dog, aircraft	No	30/11/2017
R12	24/10/2017	60 minutes	10:30	N/A	<20	Day 38	NA, 2.9m/s, 324 degrees	WCCM continuum <20 dB. Road traffic <60 dB, aircraft up to 52 dB, birds up to 62 dB, insects <30 dB, train up to 75 dB, breeze	No	30/11/2017
R96	23/10/2017	60 minutes	15:36	N/A	IA	Day 38	NA, 2.9m/s, 324 degrees	WCCM inaudible. Road traffic up to 50 dB, insects <40 dB, aircraft <45 dB, birds up to 40 dB, breeze <40 dB	No	30/11/2017
R98	23/10/2017	60 minutes	15:38	N/A	<25	Day 36	NA, 4.8m/s, 138 degrees.	WCCM continuum <25 dB. Insects/frogs up to 40 dB, birds up to 59 dB, road traffic <40 dB, aircraft up to 40 dB, breeze up to 40 dB	No	30/11/2017
R24	23/10/2017	60 minutes	18:07	IA	IA	Night 37	NA, 5.2m/s, 135 degrees.	WCCM inaudible. Road traffic up to 70 dB, Aircraft <40 dB, birds <70 dB, insects <30 dB, breeze, cows	No	30/11/2017
R12	23/10/2017	60 minutes	21:14	IA	IA	Night 38	5.4°/100m, 3.3m/s, 33 degrees	WCCM inaudible. Road traffic up to 54 dB, aircraft up to 30 dB, dogs <25 dB, frogs/insects <30 dB	No	30/11/2017
R96	23/10/2017	60 minutes	20:46	<20	<20	Night 38	3.0°/100m, 2.3m/s, 70 degrees	WCCM continuum <20 dB, train <20 dB, insects up to 50 dB, aircraft, local continuum	No	30/11/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R98	23/10/2017	60 minutes	21:15	<30	<25	Night 38	5.4°/100m, 3.3m/s, 33 degrees	WCCM continuum <25 dB. Breeze up to 40 dB, insects/frogs ~36 dB, aircraft up to 45 dB, bats up to 40 dB	No	30/11/2017

NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.

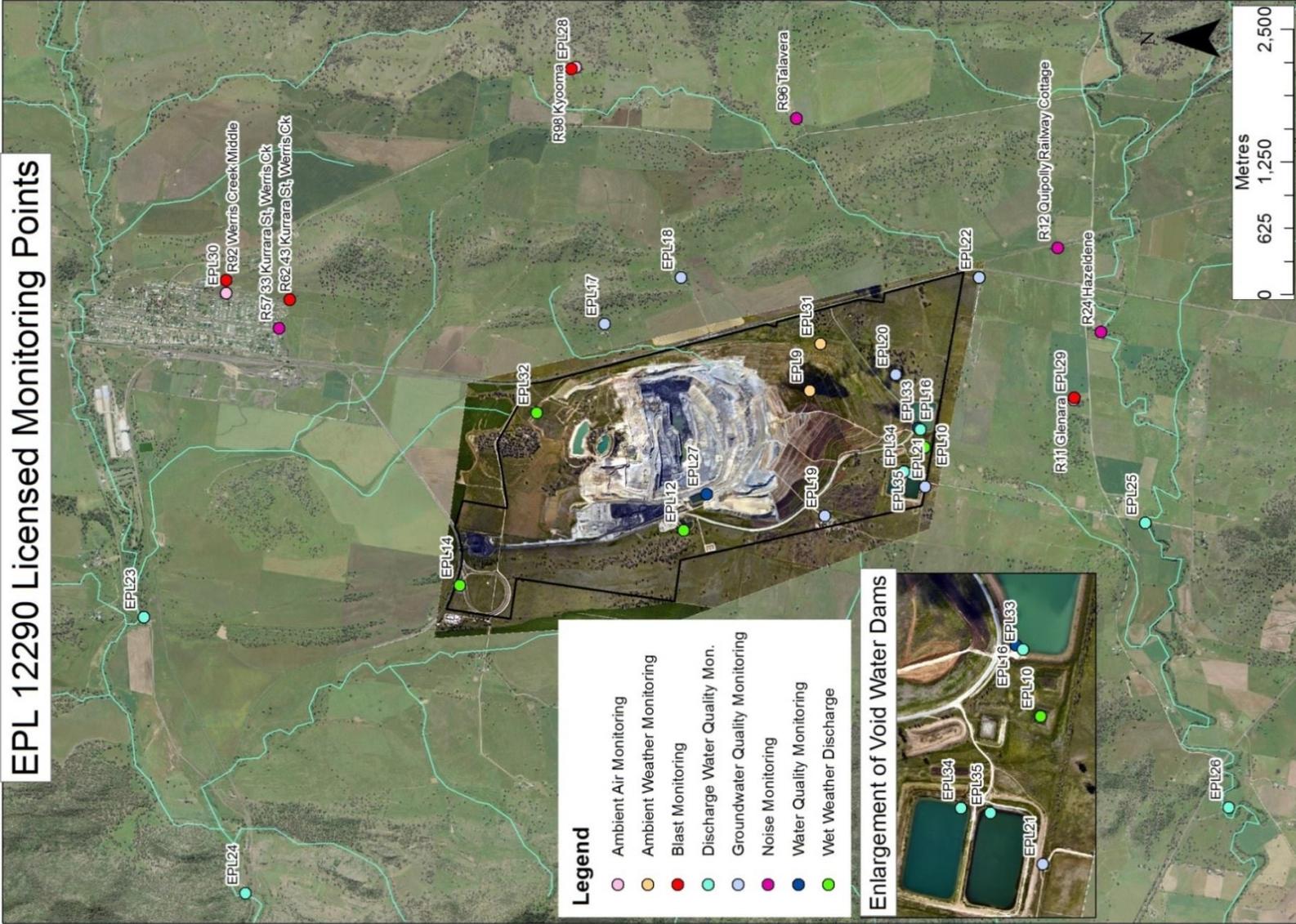
IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	10	104.0	118.0	120.0	No	1/11/2017
	Blast Vibration	mm/s	Every Blast	10	0.12	0.24	10.0	No	1/11/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	10	102.1	109.4	120.0	No	1/11/2017
	Blast Vibration	mm/s	Every Blast	10	0.71	1.53	10.0	No	1/11/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	10	99.8	110.9	120.0	No	1/11/2017
	Blast Vibration	mm/s	Every Blast	10	0.37	0.72	10.0	No	1/11/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	10	100.1	109.1	120.0	No	1/11/2017
	Blast Vibration	mm/s	Every Blast	10	0.25	0.51	10.0	No	1/11/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: November 2017

Obtained Date: 5/1/2017

Publication Date: 12/1/2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	20/11/2017	28/11/2017	2.8	7.5	7.3	14.0
	Solid Particles	g/m ² /month	Continuous	1	23/11/2017	1/12/2017	0.3	0.3	0.3	0.3
29	PM10	µg/m ³	Every 6 days	5	20/11/2017	28/11/2017	7.1	15.1	12.4	24.0
	Solid Particles	g/m ² /month	Continuous	1	23/11/2017	1/12/2017	1.6	1.6	1.6	1.6
30	PM10	µg/m ³	Continuous	Continuous	31/11/2017	1/12/2017	4.6	10.0	9.7	16.9
	Solid Particles	g/m ² /month	Continuous	1	23/11/2017	1/12/2017	0.5	0.5	0.5	0.5
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	1	4/12/2017	12/12/2017	1510	1510	1510	1510
	Nitrate	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	1.27	1.27	1.27	1.27
	Nitrogen (Total)	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	1.7	1.7	1.7	1.7
	Oil and Grease	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	4/12/2017	12/12/2017	8.08	8.08	8.08	8.08
	Phosphorus (Total)	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	<0.01	<0.01	<0.01	<0.01
27	Total Suspended Solids	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	<5	<5	<5	<5
	Conductivity	µS/cm	Every 3 Months	1	4/12/2017	12/12/2017	1540	1540	1540	1540
	Nitrate	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	1.82	1.82	1.82	1.82



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	2.7	2.7	2.7	2.7
	Oil and Grease	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	4/12/2017	12/12/2017	7.95	7.95	7.95	7.95
	Phosphorus (Total)	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	0.02	0.02	0.02	0.02
	Reactive Phosphorus	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	4/12/2017	12/12/2017	10	10	10	10
17	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
18	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
19	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	22/11/2017	60 minutes	12:21	N/A	IA	Day 37	NA, 2.7m/s, 134 degrees.	WCCM inaudible. Road traffic to 73 dB, birds over 40 dB, aircraft 45 dB, breeze to 40 dB.	No	5/1/2018
R12	22/11/2017	60 minutes	13:26	N/A	IA	Day 38	NA, 1.3m/s, 193 degrees.	WCCM inaudible. Road traffic to 62 dB, breeze over 40 dB, birds over 40 dB and insects.	No	5/1/2018
R96	22/11/2017	60 minutes	14:33	N/A	IA	Day 38	NA, 1.7m/s, 140 degrees.	WCCM inaudible. Birds over 40 dB, road traffic to 40 dB, aircraft to 74 dB.	No	5/1/2018
R98	22/11/2017	60 minutes	15:24	N/A	IA	Day 36	NA, 2.2m/s, 150 degrees.	WCCM inaudible. Birds to 55 dB, aircraft and road traffic to 40 dB.	No	5/1/2018
R24	22/11/2017	60 minutes	19:22	IA	IA	Night 37	0.2°/100m, 5.6m/s, 99 degrees	WCCM inaudible. Road traffic to 72 dB, cows 30 dB, birds 35 dB, insects 25 dB and breeze.	No	5/1/2018
R12	21/11/2017	60 minutes	20:10	IA	IA	Night 38	1.0°/100m, 5.9m/s, 114 degrees,	WCCM inaudible. Road traffic 40 dB, insects 44 dB, cows to 58 dB and dogs.	No	5/1/2018
R96	21/11/2017	60 minutes	21:08	IA	IA	Night 38	1.0°/100m, 5.8m/s, 118 degrees.	WCCM inaudible. Insects to 48 dB, breeze to 30 dB.	No	5/1/2018
R98	21/11/2017	60 minutes	21:47	IA	IA	Night 38	0.4°/100m, 3.5m/s, 97 degrees.	WCCM inaudible. Breeze up to 40 dB, insects to 40 dB.	No	5/1/2018

NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.

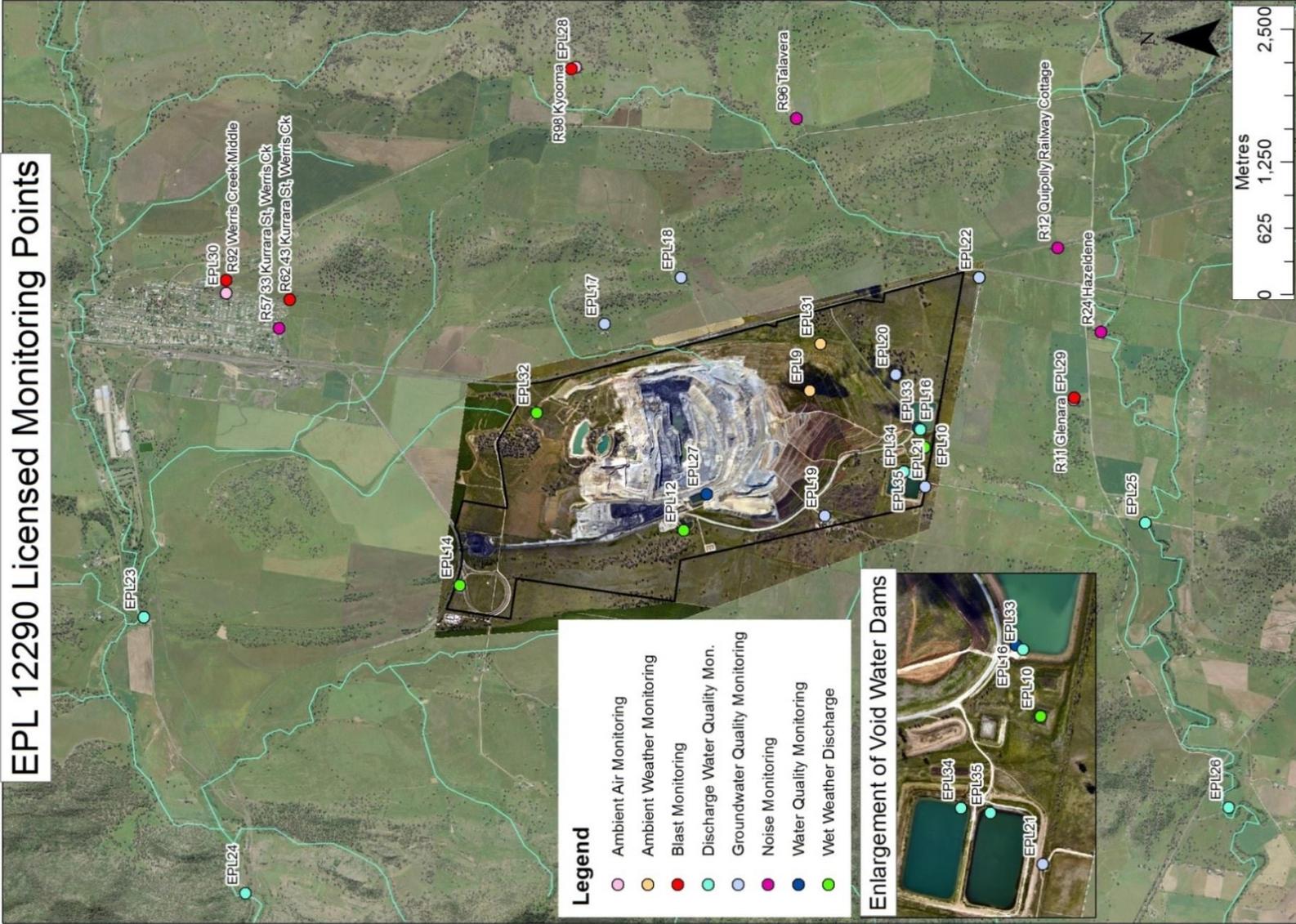
IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	10	98.6	107.9	120.0	No	1/12/2017
	Blast Vibration	mm/s	Every Blast	10	0.12	0.24	10.0	No	1/12/2017
R98	Blast Noise	dB (Lin Peak)	Every Blast	10	0.7	1.6	120.0	No	1/12/2017
	Blast Vibration	mm/s	Every Blast	10	100.9	108.9	10.0	No	1/12/2017
R62	Blast Noise	dB (Lin Peak)	Every Blast	10	0.35	0.75	120.0	No	1/12/2017
	Blast Vibration	mm/s	Every Blast	10	99.1	111.6	10.0	No	1/12/2017
R92	Blast Noise	dB (Lin Peak)	Every Blast	10	0.22	0.41	120.0	No	1/12/2017
	Blast Vibration	mm/s	Every Blast	10	99.7	111.2	10.0	No	1/12/2017

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

EPA Website Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=31280&SYSUID=1&LICID=12290>

Licensee: Werris Creek Coal Pty Limited

Premises: Werris Creek Coal, 1435 Werris Creek Road, WERRIS CREEK NSW 2341

EPL Monitoring Points: See figure at end of document

Sampling Period: December 2017

Obtained Date: 10/01/2018

Publication Date: 19/01/2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	20/12/2017	2/01/2018	7.2	13.4	13.5	19.6
	Solid Particles	g/m ² /month	Continuous	1	22/12/2017	4/01/2018	1.6	1.6	1.6	1.6
29	PM10	µg/m ³	Every 6 days	5	20/12/2017	2/01/2018	8.3	21.5	25.6	28.2
	Solid Particles	g/m ² /month	Continuous	1	22/12/2017	4/01/2018	0.9	0.9	0.9	0.9
30	PM10	µg/m ³	Continuous	Continuous	31/11/2017	1/01/2018	5.4	12.3	11.4	24.6
	Solid Particles	g/m ² /month	Continuous	1	22/12/2017	4/01/2018	6.8	6.8	6.8	6.8
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
32	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
24	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
25	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
33	Aluminium (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.20	0.20	0.20	0.20
	Arsenic (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.001	0.001	0.001	0.001
	Barium (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.333	0.333	0.333	0.333
	Beryllium (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	<0.001	<0.001	<0.001	<0.001
	Cadmium (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.0002	0.0002	0.0002	0.0002
	Chromium (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	<0.001	<0.001	<0.001	<0.001
	Cobalt (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	<0.001	<0.001	<0.001	<0.001
	Cooper (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.102	0.102	0.102	0.102
	Iron (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.06	0.06	0.06	0.06
	Lead (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.006	0.006	0.006	0.006
	Magnesium	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	25	25	25	25
	Manganese (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.038	0.038	0.038	0.038
Nickel (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.003	0.003	0.003	0.003	



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Potassium	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	14	14	14	14
	Selenium (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	<0.01	<0.01	<0.01	<0.01
	Sodium	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	181	181	181	181
	Total dissolved solids	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	672	672	672	672
	Vanadium (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	<0.01	<0.01	<0.01	<0.01
	Zinc (dissolved)	mg/L	Special Frequency 3	1	22/12/2017	10/1/2018	0.456	0.456	0.456	0.456

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33	Electrical Conductivity	mg/L	Special Frequency 4	2	27/12/2017	11/1/2018	1570	1580	1600	No
	Oil and Grease	mg/L	Special Frequency 3	1	22/12/2017	11/1/2018	<5	<5	10	No
	pH	pH	Special Frequency 4	2	27/12/2017	11/1/2018	8.08	8.09	6.5-8.5	No

* Total Suspended Solids permitted to exceed 50mg/L if 5 day rainfall is greater than 39.2mm prior to discharge

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Table 3 – Monitoring (Quarterly & 6 monthly – no limits apply)

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
18	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
19	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
21	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	19/12/2017	60 minutes	15:20	N/A	IA	Day 37	NA, 6.1m/s, 331 degrees.	WCCM inaudible. Insects/birds to 36 dB, road traffic to 73 dB, breeze to 53 dB	No	5/1/2018
R12	19/12/2017	60 minutes	14:13	N/A	IA	Day 38	NA, 5.9m/s, 314 degrees.	WCCM inaudible. Road traffic to 57 dB, breeze to 50 dB, birds/insects to 40 dB.	No	5/1/2018
R96	19/12/2017	60 minutes	13:00	N/A	IA	Day 38	NA, 4.0m/s, 10 degrees.	WCCM inaudible. Insects/birds to 63 dB, breeze to 53 dB, aircraft to 40 dB.	No	5/1/2018
R98	19/12/2017	60 minutes	13:54	N/A	<30	Day 36	NA, 4.1m/s, 347 degrees.	WCCM continuum <30 dB. Insects/birds to 65 dB, breeze up to 45 dB, road traffic, aircraft, cows, train	No	5/1/2018
R24	19/12/2017	60 minutes	21:02	27	<20	Night 37	6.3°/100m, 4.1m/s, 36 degrees.	WCCM continuum <20 dB. Insects to 62 dB, road traffic to 73 dB	No	5/1/2018
R12	19/12/2017	60 minutes	21:39	NM	NM	Night 38	6.8°/100m, 4.5m/s, 20 degrees.	WCCM continuum not measureable. Road traffic up to 61 dB, insects and frogs to 42 dB	No	5/1/2018
R96	19/12/2017	60 minutes	22:49	28	32	Night 38	4.2°/100m, 4.3m/s, 1 degrees.	WCCM continuum 28 dB, exhaust noise to 32 dB. Insects and frogs to 52 dB	No	5/1/2018
R98	19/12/2017	60 minutes	21:05	<30	<30	Night 38	6.3°/100m, 4.1m/s, 3 degrees.	WCCM continuum <30 dB. Breeze up to 40 dB, insects/frogs up to 49 dB, aircraft <40 dB, dogs, cows, road traffic, trains	No	5/1/2018

NM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified. IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	8	97.7	105.7	120.0	No	1/01/2018
	Blast Vibration	mm/s	Every Blast	8	0.20	0.42	10.0	No	1/01/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	8	96.9	101.3	120.0	No	1/01/2018
	Blast Vibration	mm/s	Every Blast	8	1.22	2.26	10.0	No	1/01/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	8	94.1	103.0	120.0	No	1/01/2018
	Blast Vibration	mm/s	Every Blast	8	0.40	0.54	10.0	No	1/01/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	8	96.8	106.2	120.0	No	1/01/2018
	Blast Vibration	mm/s	Every Blast	8	0.28	0.50	10.0	No	1/01/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

