

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 14th February 2013

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
1	PM10	µg/m ³	Every 6 days	5	05/02/13	12/02/13	13.3	21.0	19.9	29.8
	Solid Particles	g/m ² /month	Continuous	1	22/01/13	01/02/13	3.3	3.3	3.3	3.3
28	PM10	µg/m ³	Every 6 days	5	05/02/13	12/02/13	4.5	10.3	7.8	22.6
	Solid Particles	g/m ² /month	Continuous	1	22/01/13	01/02/13	1.9	1.9	1.9	1.9
29	PM10	µg/m ³	Every 6 days	5	05/02/13	12/02/13	9.0	16.2	12.3	34.2
	Solid Particles	g/m ² /month	Continuous	1	22/01/13	01/02/13	1.2	1.2	1.2	1.2
30	PM10	µg/m ³	Every 6 days	Continuous	31/01/13	01/02/13	0.1	14.2	13.9	36.1
	Solid Particles	g/m ² /month	Continuous	1	22/01/13	01/02/13	1.2	1.2	1.2	1.2
10	Conductivity	µS/cm	Special Frequency 1	1	30/01/13	05/02/13	199	199	199	199
	Nitrate	mg/L	Special Frequency 1	1	30/01/13	05/02/13	1.17	1.17	1.17	1.17
	Nitrogen (Total)	mg/L	Special Frequency 1	1	30/01/13	05/02/13	2.4	2.4	2.4	2.4
	Phosphorus (Total)	mg/L	Special Frequency 1	1	30/01/13	05/02/13	0.53	0.53	0.53	0.53
	Reactive Phosphorus	mg/L	Special Frequency 1	1	30/01/13	05/02/13	0.50	0.50	0.50	0.50
12	Conductivity	µS/cm	Special Frequency 1	1	30/01/13	05/02/13	169	169	169	169
	Nitrate	mg/L	Special Frequency 1	1	30/01/13	05/02/13	0.86	0.86	0.86	0.86
	Nitrogen (Total)	mg/L	Special Frequency 1	1	30/01/13	05/02/13	2.0	2.0	2.0	2.0
	Phosphorus (Total)	mg/L	Special Frequency 1	1	30/01/13	05/02/13	0.30	0.30	0.30	0.30
	Reactive Phosphorus	mg/L	Special Frequency 1	1	30/01/13	05/02/13	0.01	0.01	0.01	0.01
14	Conductivity	µS/cm	Special Frequency 1	1	30/01/13	05/02/13	202	202	202	202
	Nitrate	mg/L	Special Frequency 1	1	30/01/13	05/02/13	0.64	0.64	0.64	0.64
	Nitrogen (Total)	mg/L	Special Frequency 1	1	30/01/13	05/02/13	2.7	2.7	2.7	2.7

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	Phosphorus (Total)	mg/L	Special Frequency 1	1	30/01/13	05/02/13	0.46	0.46	0.46	0.46
	Reactive Phosphorus	mg/L	Special Frequency 1	1	30/01/13	05/02/13	0.07	0.07	0.07	0.07
23	Conductivity	µS/cm	Special Frequency 2	1	30/01/13	05/02/13	452	452	452	452
	Nitrate	mg/L	Special Frequency 2	1	30/01/13	05/02/13	2.37	2.37	2.37	2.37
	Nitrogen (Total)	mg/L	Special Frequency 2	1	30/01/13	05/02/13	3.3	3.3	3.3	3.3
	Oil and Grease	mg/L	Special Frequency 2	1	30/01/13	05/02/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	30/01/13	05/02/13	7.78	7.78	7.78	7.78
	Phosphorus (Total)	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.21	0.21	0.21	0.21
	Reactive Phosphorus	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.19	0.19	0.19	0.19
	Total Suspended Solids	mg/L	Special Frequency 2	1	30/01/13	05/02/13	<5	<5	<5	<5
24	Conductivity	µS/cm	Special Frequency 2	1	30/01/13	05/02/13	210	210	210	210
	Nitrate	mg/L	Special Frequency 2	1	30/01/13	05/02/13	2.64	2.64	2.64	2.64
	Nitrogen (Total)	mg/L	Special Frequency 2	1	30/01/13	05/02/13	4.6	4.6	4.6	4.6
	Oil and Grease	mg/L	Special Frequency 2	1	30/01/13	05/02/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	30/01/13	05/02/13	7.34	7.34	7.34	7.34
	Phosphorus (Total)	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.74	0.74	0.74	0.74
	Reactive Phosphorus	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.62	0.62	0.62	0.62
	Total Suspended Solids	mg/L	Special Frequency 2	1	30/01/13	05/02/13	202	202	202	202
25	Conductivity	µS/cm	Special Frequency 2	1	30/01/13	05/02/13	97	97	97	97
	Nitrate	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.50	0.50	0.50	0.50
	Nitrogen (Total)	mg/L	Special Frequency 2	1	30/01/13	05/02/13	2.0	2.0	2.0	2.0
	Oil and Grease	mg/L	Special Frequency 2	1	30/01/13	05/02/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	30/01/13	05/02/13	6.94	6.94	6.94	6.94
	Phosphorus (Total)	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.64	0.64	0.64	0.64
	Reactive Phosphorus	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.51	0.51	0.51	0.51
	Total Suspended Solids	mg/L	Special Frequency 2	1	30/01/13	05/02/13	64	64	64	64
26	Conductivity	µS/cm	Special Frequency 2	1	30/01/13	05/02/13	112	112	112	112
	Nitrate	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.42	0.42	0.42	0.42
	Nitrogen (Total)	mg/L	Special Frequency 2	1	30/01/13	05/02/13	1.8	1.8	1.8	1.8
	Oil and Grease	mg/L	Special Frequency 2	1	30/01/13	05/02/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	30/01/13	05/02/13	7.02	7.02	7.02	7.02

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	Phosphorus (Total)	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.60	0.60	0.60	0.60
	Reactive Phosphorus	mg/L	Special Frequency 2	1	30/01/13	05/02/13	0.44	0.44	0.44	0.44
	Total Suspended Solids	mg/L	Special Frequency 2	1	30/01/13	05/02/13	182	182	182	182

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	1	30/01/13	05/02/13	298	298	50*	No
	Oil and Grease	mg/L	Special Frequency 1	1	30/01/13	05/02/13	<5	<5	10	No
	pH	pH	Special Frequency 1	1	30/01/13	05/02/13	7.40	7.40	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	1	30/01/13	05/02/13	198	198	50*	No
	Oil and Grease	mg/L	Special Frequency 1	1	30/01/13	05/02/13	<5	<5	10	No
	pH	pH	Special Frequency 1	1	30/01/13	05/02/13	6.88	6.88	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	1	30/01/13	05/02/13	508	508	50*	No
	Oil and Grease	mg/L	Special Frequency 1	1	30/01/13	05/02/13	<5	<5	10	No
	pH	pH	Special Frequency 1	1	30/01/13	05/02/13	7.32	7.32	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	-	-	-	-	-	-

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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
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
20	Conductivity	µS/cm	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
	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	-	-	-	-	-	-
22	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	16 th January 2013	2:45 pm	60 minutes	n/a	40	Day 38	n/a,1.3,294	Birds & insects (40), WCC (20)	No
	16 th January 2013	7:40 pm	60 minutes	35	33	Night 37	+0.6,3.4,63	Birds & insects (31), WCC (30)	No
R12	16 th January 2013	5:00 pm	60 minutes	n/a	39	Day 38	n/a,2.4,47	Traffic (38), birds & insects (32), WCC inaudible	No
	16 th January 2013	10:50 pm	60 minutes	35	46	Night 38	+4.2,2.7,87	Traffic (45),insects (35),WCC (28)	No

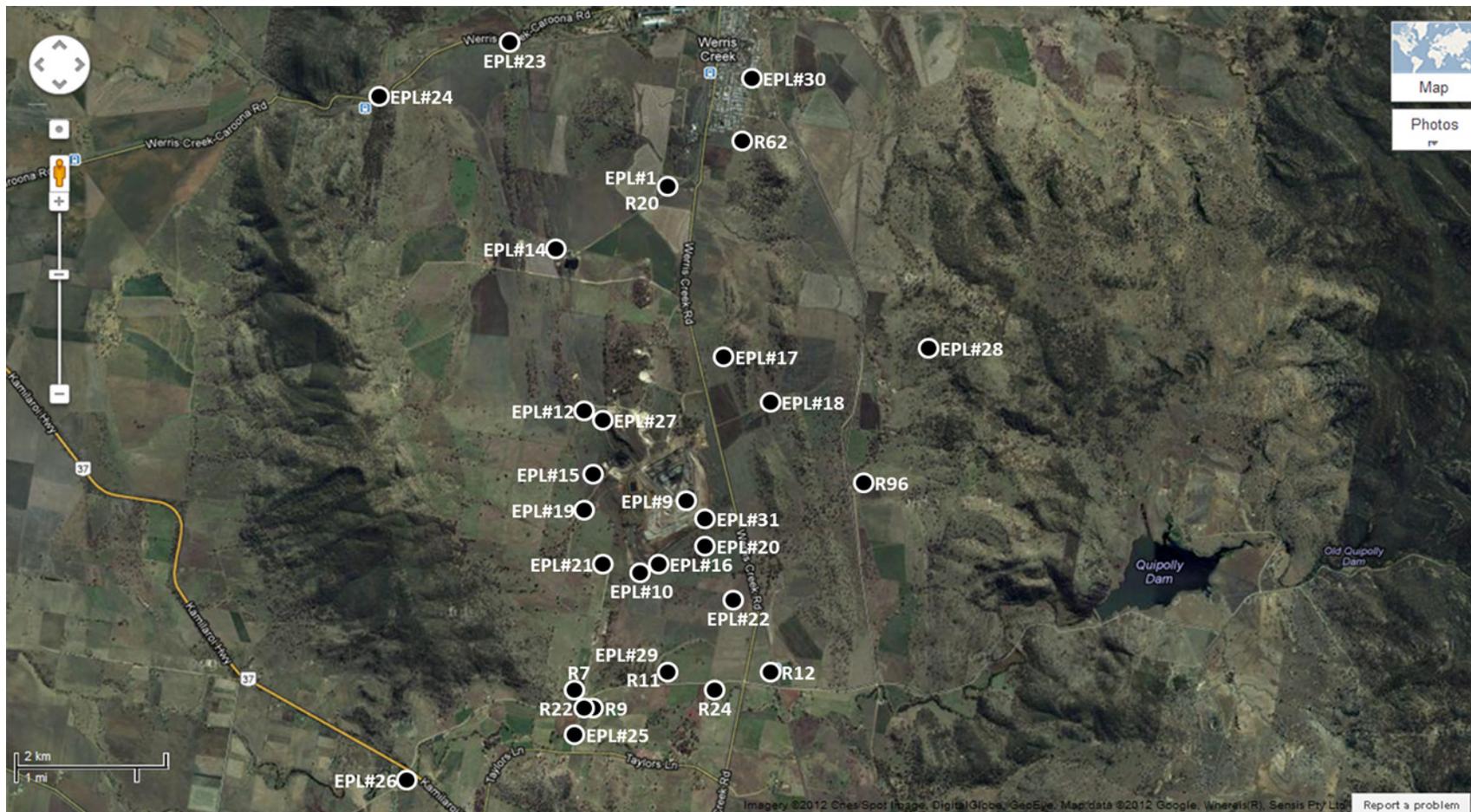
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Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R7	16 th January 2013	1:40 pm	60 minutes	n/a	48	Day 37	n/a,1.9,272	Birds & insects (47), traffic (41), WCC inaudible	No
	16 th January 2013	10:55 pm	60 minutes	43	42	Night 37	+4.2,2.7,87	Insects (41), WCC (35)	No
R9	16 th January 2013	1:39 pm	60 minutes	n/a	42	Day 37	n/a,1.9,272	Birds & insects (42), traffic (30), WCC inaudible	No
	16 th January 2013	8:07 pm	60 minutes	44	44	Night 37	+2.6,3.2,69	Birds & insects (43), WCC (37)	No
R24	16 th January 2013	3:25 pm	60 minutes	n/a	36	Day 37	n/a,0.7,123	Birds & insects (34), traffic (30), WCC (25)	No
	16 th January 2013	9:48 pm	60 minutes	40	51	Night 37	+3.6,2.6,90	Insects (51), traffic (38), WCC (32)	No
R22	16 th January 2013	1:40 pm	60 minutes	n/a	42	Day 36	n/a,1.9,272	Birds & insects (42), traffic (30), WCC inaudible	No
	16 th January 2013	8:07 pm	60 minutes	44	44	Night 36	+2.6,3.2,69	Birds & insects (43), WCC (37)	No

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
R20	Blast Noise	dB (Lin Peak)	Every Blast	7	104.3	106.0	120.0	No
	Blast Vibration	mm/s	Every Blast	7	0.97	1.15	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	7	109.4	110.8	120.0	No
	Blast Vibration	mm/s	Every Blast	7	0.39	0.41	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	7	101.0	108.0	120.0	No
	Blast Vibration	mm/s	Every Blast	7	0.16	0.21	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	7	99.7	101.5	120.0	No
	Blast Vibration	mm/s	Every Blast	7	0.55	0.87	10.00	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
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EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 13th March 2013

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
1	PM10	µg/m ³	Every 6 days	5	01/03/13	06/03/13	4.8	8.7	7.2	13.9
	Solid Particles	g/m ² /month	Continuous	1	20/02/13	26/02/13	0.9	0.9	0.9	0.9
28	PM10	µg/m ³	Every 6 days	5	01/03/13	06/03/13	3.1	5.7	4.5	12.7
	Solid Particles	g/m ² /month	Continuous	1	20/02/13	26/02/13	0.3	0.3	0.3	0.3
29	PM10	µg/m ³	Every 6 days	5	01/03/13	06/03/13	3.2	12.2	8.6	34..3
	Solid Particles	g/m ² /month	Continuous	1	20/02/13	26/02/13	0.3	0.3	0.3	0.3
30	PM10	µg/m ³	Every 6 days	Continuous	28/02/13	01/03/13	3.6	8.3	8.1	15.2
	Solid Particles	g/m ² /month	Continuous	1	20/02/13	26/02/13	0.5	0.5	0.5	0.5
10	Conductivity	µS/cm	Special Frequency 1	1	27/02/13	05/03/13	281	281	281	281
	Nitrate	mg/L	Special Frequency 1	1	27/02/13	05/03/13	<0.01	<0.01	<0.01	<0.01
	Nitrogen (Total)	mg/L	Special Frequency 1	1	27/02/13	05/03/13	1.0	1.0	1.0	1.0
	Phosphorus (Total)	mg/L	Special Frequency 1	1	27/02/13	05/03/13	0.33	0.33	0.33	0.33
	Reactive Phosphorus	mg/L	Special Frequency 1	1	27/02/13	05/03/13	0.14	0.14	0.14	0.14
12	Conductivity	µS/cm	Special Frequency 1	1	27/02/13	05/03/13	158	158	158	158
	Nitrate	mg/L	Special Frequency 1	1	27/02/13	05/03/13	0.33	0.33	0.33	0.33
	Nitrogen (Total)	mg/L	Special Frequency 1	1	27/02/13	05/03/13	2.0	2.0	2.0	2.0
	Phosphorus (Total)	mg/L	Special Frequency 1	1	27/02/13	05/03/13	0.04	0.04	0.04	0.04
	Reactive Phosphorus	mg/L	Special Frequency 1	1	27/02/13	05/03/13	<0.01	<0.01	<0.01	<0.01
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-

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	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	1	27/02/13	05/03/13	436	436	436	436
	Nitrate	mg/L	Special Frequency 2	1	27/02/13	05/03/13	0.02	0.02	0.02	0.02
	Nitrogen (Total)	mg/L	Special Frequency 2	1	27/02/13	05/03/13	0.6	0.6	0.6	0.6
	Oil and Grease	mg/L	Special Frequency 2	1	27/02/13	05/03/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	27/02/13	05/03/13	7.65	7.65	7.65	7.65
	Phosphorus (Total)	mg/L	Special Frequency 2	1	27/02/13	05/03/13	0.14	0.14	0.14	0.14
	Reactive Phosphorus	mg/L	Special Frequency 2	1	27/02/13	05/03/13	0.03	0.03	0.03	0.03
	Total Suspended Solids	mg/L	Special Frequency 2	1	27/02/13	05/03/13	<5	<5	<5	<5
26	Conductivity	µS/cm	Special Frequency 2	1	27/02/13	05/03/13	774	774	774	774
	Nitrate	mg/L	Special Frequency 2	1	27/02/13	05/03/13	0.08	0.08	0.08	0.08
	Nitrogen (Total)	mg/L	Special Frequency 2	1	27/02/13	05/03/13	0.4	0.4	0.4	0.4
	Oil and Grease	mg/L	Special Frequency 2	1	27/02/13	05/03/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	27/02/13	05/03/13	7.87	7.87	7.87	7.87

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
	Phosphorus (Total)	mg/L	Special Frequency 2	1	27/02/13	05/03/13	0.16	0.16	0.16	0.16
	Reactive Phosphorus	mg/L	Special Frequency 2	1	27/02/13	05/03/13	0.10	0.10	0.10	0.10
	Total Suspended Solids	mg/L	Special Frequency 2	1	27/02/13	05/03/13	14	14	14	14

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	1	27/02/13	05/03/13	62	62	50*	No
	Oil and Grease	mg/L	Special Frequency 1	1	27/02/13	05/03/13	<5	<5	10	No
	pH	pH	Special Frequency 1	1	27/02/13	05/03/13	7.97	7.97	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	1	27/02/13	05/03/13	82	82	50*	No
	Oil and Grease	mg/L	Special Frequency 1	1	27/02/13	05/03/13	<5	<5	10	No
	pH	pH	Special Frequency 1	1	27/02/13	05/03/13	7.28	7.28	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

* 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	-	-	-	-	-	-

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
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	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	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	-	-	-	-	-	-
20	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
	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	-	-	-	-	-	-
22	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	6 th February 2013	2:40 pm	60 minutes	n/a	36	Day 38	n/a,2.8,193	Birds & insects (34), traffic (32), WCC inaudible	No
	6 th February 2013	7:30 pm	60 minutes	n/a	43	Night 37	+1.1,4.3,185	Birds & insects (43), traffic (30), WCC inaudible	No
R12	6 th February 2013	5:00 pm	60 minutes	n/a	44	Day 38	n/a,5.5,197	Traffic (44), birds & insects (35),	No

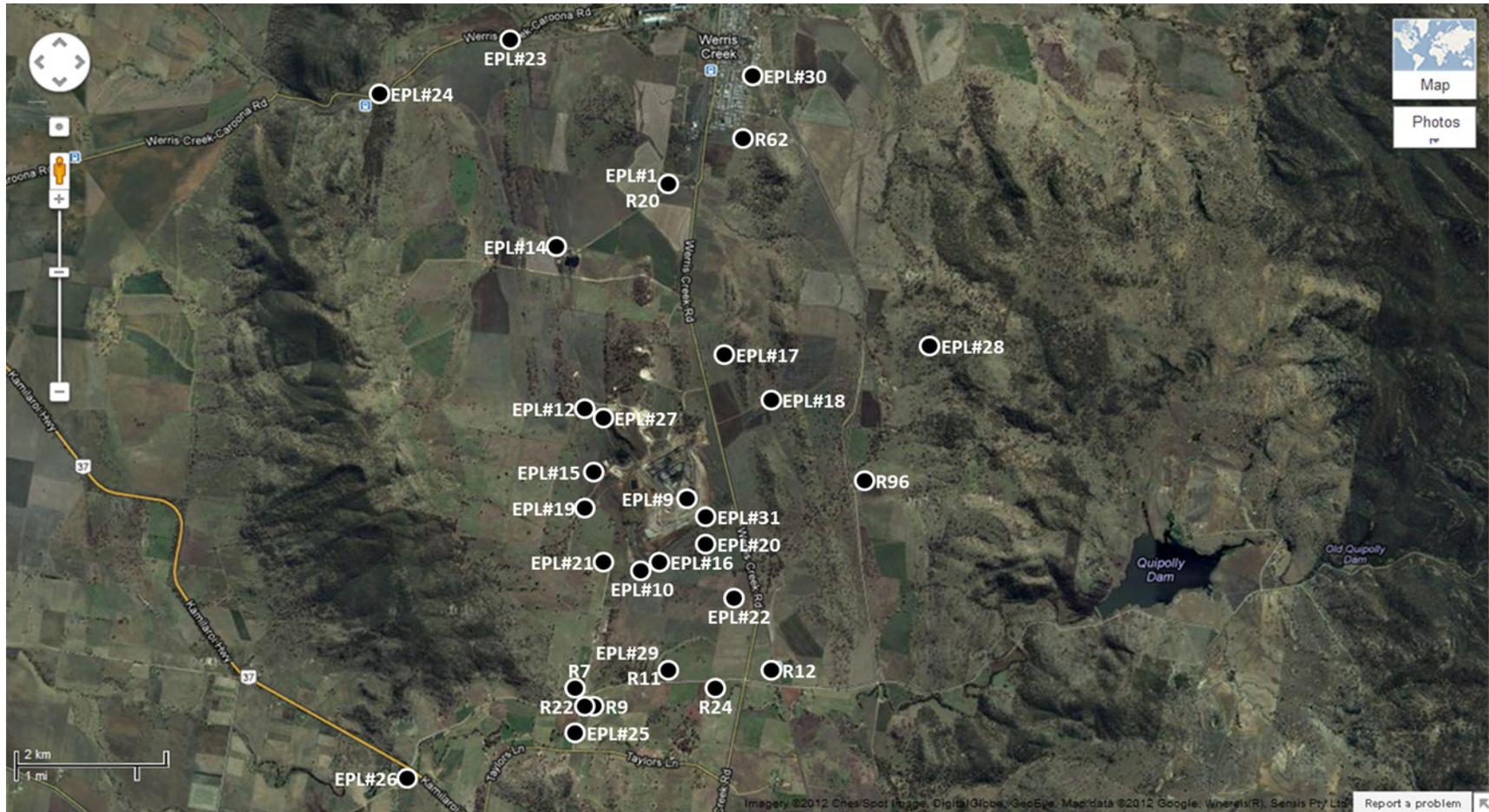
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
								WCC inaudible	
	6 th February 2013	11:00 pm	60 minutes	n/a	44	Night 38	+6.5,1.4,77	Traffic (44), insects (35), WCC barely audible	No
R7	6 th February 2013	1:34 pm	60 minutes	n/a	48	Day 37	n/a,3.1,197	Birds & insects (47), traffic (41), WCC inaudible	No
	6 th February 2013	10:47 pm	60 minutes	42	43	Night 37	+6.2,1.0,100	Insects (42), WCC (34), traffic (30)	No
R9	6 th February 2013	1:30 pm	60 minutes	n/a	43	Day 37	n/a,3.1,197	Birds & insects (41), traffic (35), WCC inaudible	No
	6 th February 2013	7:25 pm	60 minutes	n/a	43	Night 37	+1.1,4.3,185	Birds & insects (42), traffic (34), WCC inaudible	No
R24	6 th February 2013	3:14 pm	60 minutes	n/a	37	Day 37	n/a,3.8,200	Traffic (36), birds & insects (30), WCC inaudible	No
	6 th February 2013	9:09 pm	60 minutes	n/a	43	Night 37	+2.6,2.7,151	Frogs & insects (42), traffic (34), WCC inaudible	No
R22	6 th February 2013	1:30 pm	60 minutes	n/a	43	Day 36	n/a,3.1,197	Birds & insects (41), traffic (35), WCC inaudible	No
	6 th February 2013	7:25 pm	60 minutes	n/a	43	Night 36	+1.1,4.3,185	Birds & insects (42), traffic (34), WCC inaudible	No

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
R20	Blast Noise	dB (Lin Peak)	Every Blast	7	105.8	106.6	120.0	No
	Blast Vibration	mm/s	Every Blast	7	1.40	1.83	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	7	<109.8	<109.8	120.0	No
	Blast Vibration	mm/s	Every Blast	7	<0.25	<0.25	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	7	<109.8	<109.8	120.0	No
	Blast Vibration	mm/s	Every Blast	7	<0.25	<0.25	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	7	101.8	103.0	120.0	No
	Blast Vibration	mm/s	Every Blast	7	0.44	0.58	10.00	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 15th April 2013

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
1	PM10	µg/m ³	Every 6 days	5	27/03/13	02/04/13	5.1	9.0	8.9	13.7
	Solid Particles	g/m ² /month	Continuous	1	20/03/13	28/03/13	0.4	0.4	0.4	0.4
28	PM10	µg/m ³	Every 6 days	5	27/03/13	02/04/13	2.4	7.4	5.5	17.7
	Solid Particles	g/m ² /month	Continuous	1	20/03/13	28/03/13	0.4	0.4	0.4	0.4
29	PM10	µg/m ³	Every 6 days	5	27/03/13	02/04/13	3.7	8.0	8.2	11.7
	Solid Particles	g/m ² /month	Continuous	1	20/03/13	28/03/13	0.5	0.5	0.5	0.5
30	PM10	µg/m ³	Every 6 days	Continuous	31/03/13	01/04/13	2.7	10.3	9.8	25.9
	Solid Particles	g/m ² /month	Continuous	1	20/03/13	28/03/13	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	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
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	-	-	-	-	-	-

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
	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
	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

* 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	13/03/13	20/03/13	1040	1040	1040	1040
	Nitrate	mg/L	Every 3 Months	1	13/03/13	20/03/13	2.87	2.87	2.87	2.87
	Nitrogen (Total)	mg/L	Every 3 Months	1	13/03/13	20/03/13	4.6	4.6	4.6	4.6
	Oil and Grease	mg/L	Every 3 Months	1	13/03/13	20/03/13	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	13/03/13	20/03/13	8.1	8.1	8.1	8.1
	Phosphorus (Total)	mg/L	Every 3 Months	1	13/03/13	20/03/13	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	13/03/13	20/03/13	<0.01	<0.01	<0.01	<0.01

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
	Total Suspended Solids	mg/L	Every 3 Months	1	13/03/13	20/03/13	18	18	18	18
27	Conductivity	µS/cm	Every 3 Months	1	13/03/13	20/03/13	805	805	805	805
	Nitrate	mg/L	Every 3 Months	1	13/03/13	20/03/13	2.44	2.44	2.44	2.44
	Nitrogen (Total)	mg/L	Every 3 Months	1	13/03/13	20/03/13	3.4	3.4	3.4	3.4
	Oil and Grease	mg/L	Every 3 Months	1	13/03/13	20/03/13	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	13/03/13	20/03/13	8.36	8.36	8.36	8.36
	Phosphorus (Total)	mg/L	Every 3 Months	1	13/03/13	20/03/13	0.01	0.01	0.01	0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	13/03/13	20/03/13	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	13/03/13	20/03/13	24	24	24	24
17	Conductivity	µS/cm	Every 6 Months	1	26/03/13	04/04/13	1220	1220	1220	1220
	Nitrate	mg/L	Every 6 Months	1	26/03/13	04/04/13	4.67	4.67	4.67	4.67
	Nitrogen (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	5.8	5.8	5.8	5.8
	pH	pH	Every 6 Months	1	26/03/13	04/04/13	7.22	7.22	7.22	7.22
	Phosphorus (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.13	0.13	0.13	0.13
	Reactive Phosphorus	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.11	0.11	0.11	0.11
	Standing Water Level	Metres	Every 6 Months	1	26/03/13	04/04/13	54.1	54.1	54.1	54.1
18	Conductivity	µS/cm	Every 6 Months	1	26/03/13	04/04/13	848	848	848	848
	Nitrate	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.01	0.01	0.01	0.01
	Nitrogen (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.1	0.1	0.1	0.1
	pH	pH	Every 6 Months	1	26/03/13	04/04/13	7.62	7.62	7.62	7.62
	Phosphorus (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.14	0.14	0.14	0.14
	Reactive Phosphorus	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.02	0.02	0.02	0.02
	Standing Water Level	Metres	Every 6 Months	1	26/03/13	04/04/13	25.4	25.4	25.4	25.4
19	Conductivity	µS/cm	Every 6 Months	1	26/03/13	04/04/13	245	245	245	245
	Nitrate	mg/L	Every 6 Months	1	26/03/13	04/04/13	1.65	1.65	1.65	1.65
	Nitrogen (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	2.4	2.4	2.4	2.4
	pH	pH	Every 6 Months	1	26/03/13	04/04/13	7.15	7.15	7.15	7.15
	Phosphorus (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.39	0.39	0.39	0.39
	Reactive Phosphorus	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.41	0.41	0.41	0.41
	Standing Water Level	Metres	Every 6 Months	1	26/03/13	04/04/13	15.1	15.1	15.1	15.1
20	Conductivity	µS/cm	Every 6 Months	1	26/03/13	04/04/13	1020	1020	1020	1020

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
	Nitrate	mg/L	Every 6 Months	1	26/03/13	04/04/13	1.35	1.35	1.35	1.35
	Nitrogen (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	2.0	2.0	2.0	2.0
	pH	pH	Every 6 Months	1	26/03/13	04/04/13	7.77	7.77	7.77	7.77
	Phosphorus (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.10	0.10	0.10	0.10
	Reactive Phosphorus	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.02	0.02	0.02	0.02
	Standing Water Level	Metres	Every 6 Months	1	26/03/13	04/04/13	10.4	10.4	10.4	10.4
21	Conductivity	µS/cm	Every 6 Months	1	26/03/13	04/04/13	2390	2390	2390	2390
	Nitrate	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.11	0.11	0.11	0.11
	Nitrogen (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	8.4	8.4	8.4	8.4
	pH	pH	Every 6 Months	1	26/03/13	04/04/13	7.64	7.64	7.64	7.64
	Phosphorus (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	1.27	1.27	1.27	1.27
	Reactive Phosphorus	mg/L	Every 6 Months	1	26/03/13	04/04/13	1.48	1.48	1.48	1.48
22	Standing Water Level	Metres	Every 6 Months	1	26/03/13	04/04/13	7.69	7.69	7.69	7.69
	Conductivity	µS/cm	Every 6 Months	1	26/03/13	04/04/13	1870	1870	1870	1870
	Nitrate	mg/L	Every 6 Months	1	26/03/13	04/04/13	4.85	4.85	4.85	4.85
	Nitrogen (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	6.6	6.6	6.6	6.6
	pH	pH	Every 6 Months	1	26/03/13	04/04/13	7.43	7.43	7.43	7.43
	Phosphorus (Total)	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.14	0.14	0.14	0.14
	Reactive Phosphorus	mg/L	Every 6 Months	1	26/03/13	04/04/13	0.08	0.08	0.08	0.08
	Standing Water Level	Metres	Every 6 Months	1	26/03/13	04/04/13	12.5	12.5	12.5	12.5

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	27 th March 2013	3:42 pm	60 minutes	n/a	37	Day 38	n/a,1.6,238	Birds & insects (37), WCC (15)	No
	27 th March 2013	10:20 pm	60 minutes	38	46	Night 37	+6.9,0.6,190	Insects (46), WCC (30)	No
R12	27 th March 2013	4:48 pm	60 minutes	n/a	38	Day 38	n/a,1.5,269	Birds & insects (36), traffic (32), WCC inaudible	No
	27 th March 2013	11:26 pm	60 minutes	<25	37	Night 38	+6.7,2.0,345	Insects (37),WCC (20),traffic (18)	No

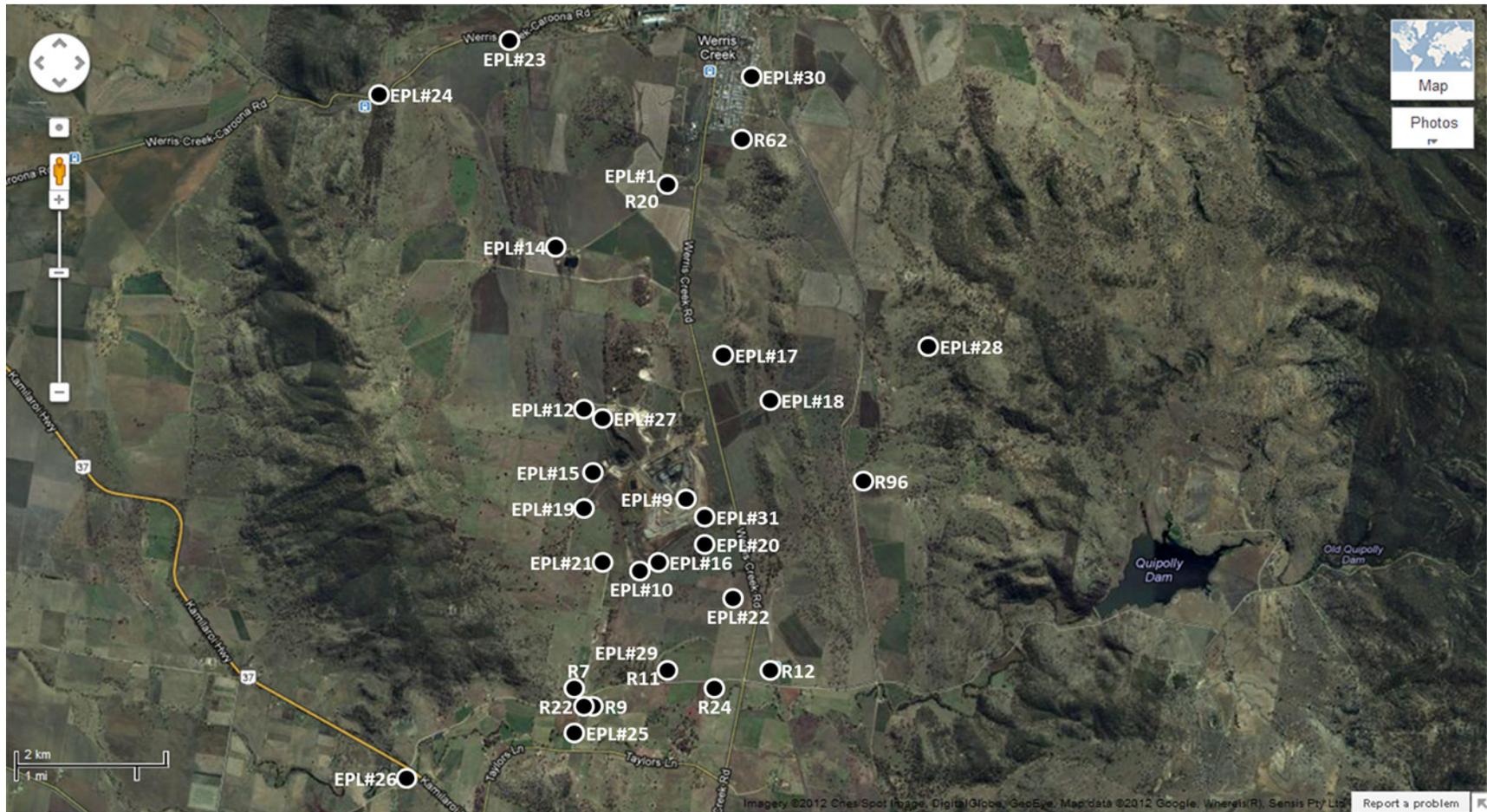
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R7	27 th March 2013	1:22 pm	60 minutes	n/a	39	Day 37	n/a,1.6,244	Birds & insects (39), WCC inaudible	No
	27 th March 2013	10:00 pm	60 minutes	<30	43	Night 37	+7.0,0.6,226	Insects (43), WCC (25)	No
R9	27 th March 2013	1:35 pm	60 minutes	n/a	37	Day 37	n/a,1.4,220	Birds & insects (36), traffic (30), WCC (22)	No
	27 th March 2013	8:10 pm	60 minutes	32	39	Night 37	+7.7,1.0,43	Birds & insects (39), traffic (28), WCC (25)	No
R24	27 th March 2013	2:50 pm	60 minutes	n/a	43	Day 37	n/a,1.7,183	Birds (39), traffic (38), train (36), WCC inaudible	No
	27 th March 2013	11:21 pm	60 minutes	<30	41	Night 37	+6.7,1.9,6	Traffic (40), insects (34), WCC (25)	No
R22	27 th March 2013	1:35 pm	60 minutes	n/a	37	Day 36	n/a,1.4,220	Birds & insects (36), traffic (30), WCC (22)	No
	27 th March 2013	8:10 pm	60 minutes	32	39	Night 36	+7.7,1.0,43	Birds & insects (39), traffic (28), WCC (25)	No

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
R20	Blast Noise	dB (Lin Peak)	Every Blast	7	102.3	113.9	120.0	No
	Blast Vibration	mm/s	Every Blast	7	0.64	0.98	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	7	104.2	107.5	120.0	No
	Blast Vibration	mm/s	Every Blast	7	0.52	0.55	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	7	<109.8	<109.8	120.0	No
	Blast Vibration	mm/s	Every Blast	7	<0.25	<0.25	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	7	104.2	107.5	120.0	No
	Blast Vibration	mm/s	Every Blast	7	0.52	0.55	10.00	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 13th May 2013

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
1	PM10	µg/m ³	Every 6 days	4	30/04/13	06/05/13	8.8	14.6	15.9	17.9
	Solid Particles	g/m ² /month	Continuous	1	23/04/13	03/05/13	1.2	1.2	1.2	1.2
28	PM10	µg/m ³	Every 6 days	4	30/04/13	06/05/13	3.5	7.2	6.1	13.1
	Solid Particles	g/m ² /month	Continuous	1	23/04/13	03/05/13	0.2	0.2	0.2	0.2
29	PM10	µg/m ³	Every 6 days	4	30/04/13	06/05/13	12.3	17.8	14.3	30.5
	Solid Particles	g/m ² /month	Continuous	1	23/04/13	03/05/13	0.2	0.2	0.2	0.2
30	PM10	µg/m ³	Every 6 days	Continuous	30/04/13	01/05/13	4.0	12.3	11.3	25.7
	Solid Particles	g/m ² /month	Continuous	1	23/04/13	03/05/13	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	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
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	-	-	-	-	-	-

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
	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
	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

* 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	-	-	-	-	-	-



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
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
20	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
	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	-	-	-	-	-	-
22	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	23 rd April 2013	2:30 pm	60 minutes	n/a	43	Day 38	n/a,2.5,287	Birds & insects (42), traffic (35), WCC (25)	No
	23 rd April 2013	8:50 pm	60 minutes	35	27	Night 37	+9.2,1.3,172	WCC (26), traffic (21)	No
R12	23 rd April 2013	5:03 pm	60 minutes	n/a	49	Day 38	n/a,3.9,216	Traffic (48), birds & insects (40), WCC inaudible	No

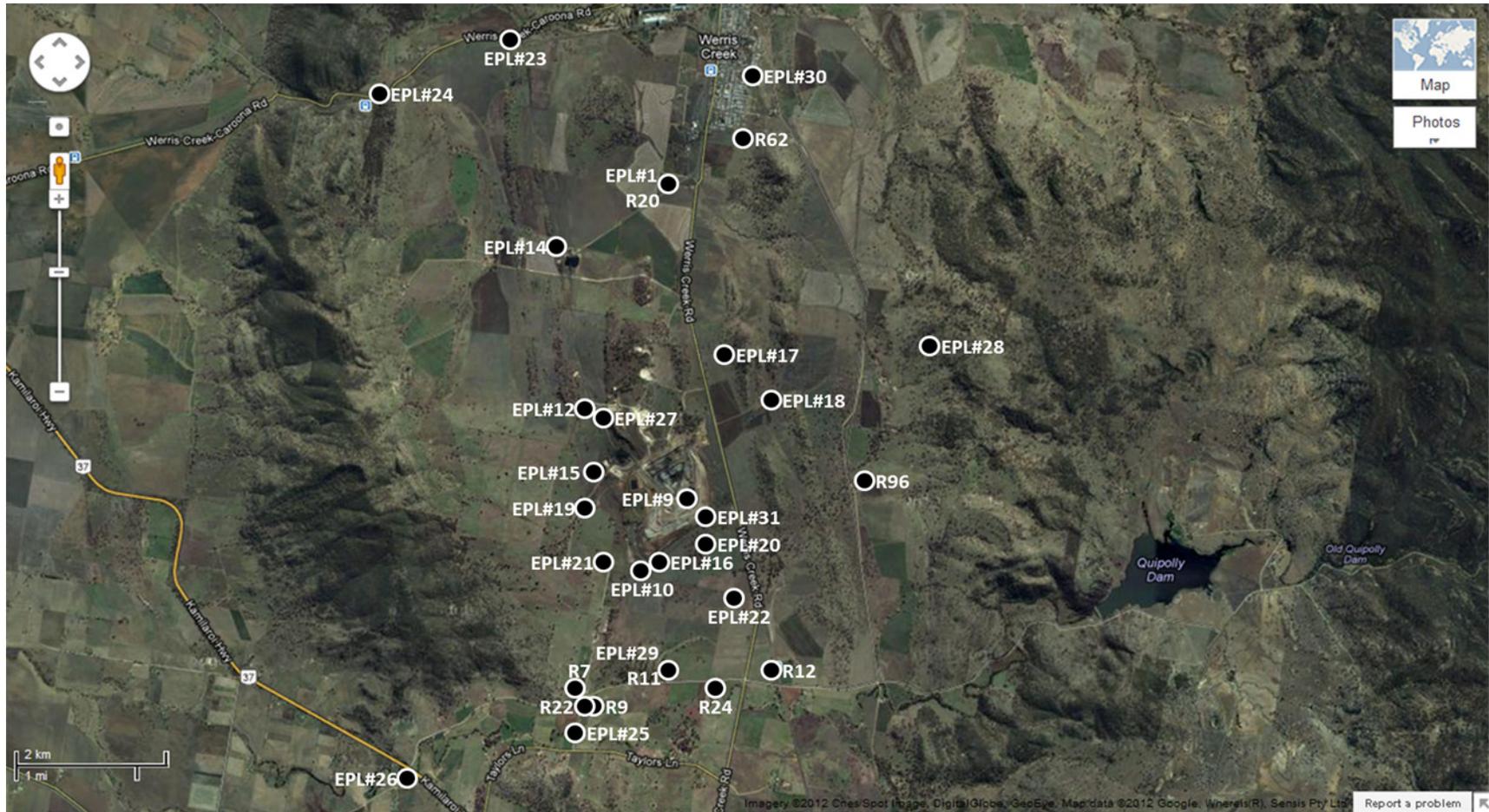
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
	23 rd April 2013	11:40 pm	60 minutes	<25	22	Night 38	+10.5,0.2,75	WCC (20), insects (16)	No
R7	23 rd April 2013	4:00 pm	60 minutes	n/a	39	Day 37	n/a,2.5,288	Birds & insects (38), cattle (28), horses (25), WCC inaudible	No
	23 rd April 2013	10:25 pm	60 minutes	37	33	Night 37	+10.3,0.9,188	WCC (32), cattle (26)	No
R9	23 rd April 2013	1:25 pm	60 minutes	n/a	38	Day 37	n/a,2.2,275	Birds & insects (37), traffic (30), WCC (20)	No
	23 rd April 2013	8:00 pm	60 minutes	34	30	Night 37	+8.8,0.8,154	Traffic (27), insects (22), WCC (25)	No
R24	23 rd April 2013	3:21 pm	60 minutes	n/a	35	Day 37	n/a,1.9,283	Traffic (33), birds & insects (31), WCC barely audible	No
	23 rd April 2013	9:24 pm	60 minutes	n/a	40	Night 37	+9.6,1.1,182	Traffic (40), WCC inaudible	No
R22	23 rd April 2013	1:25 pm	60 minutes	n/a	38	Day 36	n/a,2.2,275	Birds & insects (37), traffic (30), WCC (20)	No
	23 rd April 2013	8:00 pm	60 minutes	34	30	Night 36	+8.8,0.8,154	Traffic (27), insects (22), WCC (25)	No

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
R20	Blast Noise	dB (Lin Peak)	Every Blast	8	102.6	108.9	120.0	No
	Blast Vibration	mm/s	Every Blast	8	0.89	1.45	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	8	<109.8	<109.8	120.0	No
	Blast Vibration	mm/s	Every Blast	8	<0.25	<0.25	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	8	102.4	109.7	120.0	No
	Blast Vibration	mm/s	Every Blast	8	0.26	0.38	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	8	103.9	108.3	120.0	No
	Blast Vibration	mm/s	Every Blast	8	0.66	1.19	10.00	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 14th June 2013

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
1	PM10	µg/m ³	Every 6 days	5	30/05/13	03/06/13	5.5	15.4	18.3	19.0
	Solid Particles	g/m ² /month	Continuous	1	22/05/13	29/05/13	0.6	1.2	1.2	1.2
28	PM10	µg/m ³	Every 6 days	5	30/05/13	03/06/13	5.2	11.8	9.6	19.6
	Solid Particles	g/m ² /month	Continuous	1	22/05/13	29/05/13	0.2	0.2	0.2	0.2
29	PM10	µg/m ³	Every 6 days	5	30/05/13	03/06/13	6.7	17.6	19.1	27.4
	Solid Particles	g/m ² /month	Continuous	1	22/05/13	29/05/13	0.2	0.2	0.2	0.2
30	PM10	µg/m ³	Every 6 days	Continuous	31/05/13	01/06/13	5.0	11.9	11.4	26.8
	Solid Particles	g/m ² /month	Continuous	1	22/05/13	29/05/13	0.8	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	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
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	-	-	-	-	-	-

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
	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
	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

* 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	-	-	-	-	-	-

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
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
20	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
	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	-	-	-	-	-	-
22	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	14 th May 2013	3:59 pm	60 minutes	n/a	46	Day 38	n/a,4.4,318	Birds & insects (46), traffic (36), WCC (34)	No
	14 th May 2013	10:49 pm	60 minutes	40	34	Night 37	+7.0,3.3,358	WCC (34)	No
R12	14 th May 2013	4:30 pm	60 minutes	n/a	49	Day 38	n/a,4.3,310	Traffic (48), rail works (40), WCC inaudible	No

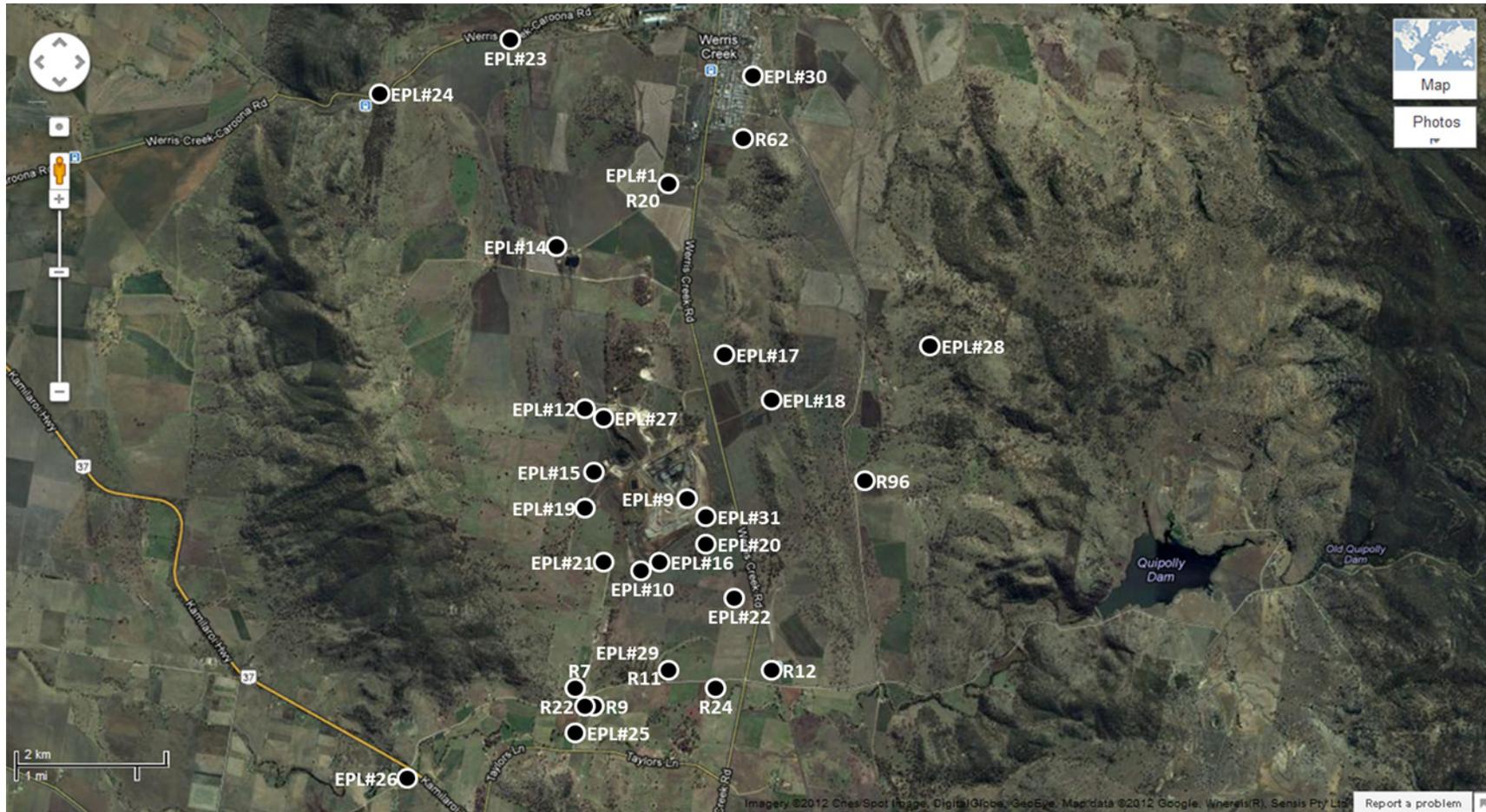
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
	15 th May 2013	12:03 am	60 minutes	37	41	Night 38	+7.4,2.7,3	Traffic (41), WCC (27)	No
R7	14 th May 2013	1:15 pm	60 minutes	n/a	43	Day 37	n/a,5.4,326	Birds & insects (41), traffic (36), wind (35), WCC inaudible	No
	14 th May 2013	7:40 pm	60 minutes	n/a	32	Night 37	+4.8,0.8,231	Traffic (32), insects 22, WCC barely audible	No
R9	14 th May 2013	1:10 pm	60 minutes	n/a	44	Day 37	n/a,5.4,326	Birds & insects (44), WCC barely audible	No
	14 th May 2013	7:53 pm	60 minutes	n/a	30	Night 37	+5.4,0.8,231	Traffic (30), WCC inaudible	No
R24	14 th May 2013	2:53 pm	60 minutes	n/a	42	Day 37	n/a,4.8,323	Birds & insects (40), traffic (39), WCC barely audible	No
	14 th May 2013	9:13 pm	60 minutes	n/a	33	Night 37	+6.8,2.7,337	Traffic (33), WCC barely audible	No
R22	14 th May 2013	1:10 pm	60 minutes	n/a	44	Day 36	n/a,5.4,326	Birds & insects (44), WCC barely audible	No
	14 th May 2013	7:53 pm	60 minutes	n/a	30	Night 36	+5.4,0.8,231	Traffic (33), WCC barely audible	No

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
R20	Blast Noise	dB (Lin Peak)	Every Blast	9	100.8	110.1	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.66	1.12	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	9	102.1	115.8	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.13	0.18	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	9	98.7	106.7	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.27	0.38	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	9	102.6	111.3	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.27	0.49	10.00	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 15th July 2013

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
1	PM10	µg/m ³	Every 6 days	5	26/06/13	01/07/13	1.3	7.7	6.4	16.5
	Solid Particles	g/m ² /month	Continuous	1	25/06/13	02/07/13	0.4	0.4	0.4	0.4
28	PM10	µg/m ³	Every 6 days	5	26/06/13	01/07/13	1.1	3.4	3.2	6.2
	Solid Particles	g/m ² /month	Continuous	1	25/06/13	02/07/13	0.1	0.1	0.1	0.1
29	PM10	µg/m ³	Every 6 days	5	26/06/13	01/07/13	1.3	5.6	3.3	10.8
	Solid Particles	g/m ² /month	Continuous	1	25/06/13	02/07/13	0.2	0.2	0.2	0.2
30	PM10	µg/m ³	Every 6 days	Continuous	30/06/13	01/07/13	4.0	9.0	8.5	16.7
	Solid Particles	g/m ² /month	Continuous	1	25/06/13	02/07/13	0.3	0.3	0.3	0.3
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	1	28/06/13	12/07/13	203	203	203	203
	Nitrate	mg/L	Special Frequency 1	1	28/06/13	12/07/13	0.87	0.87	0.87	0.87
	Nitrogen (Total)	mg/L	Special Frequency 1	1	28/06/13	12/07/13	1.5	1.5	1.5	1.5
	Phosphorus (Total)	mg/L	Special Frequency 1	1	28/06/13	12/07/13	0.01	0.01	0.01	0.01
	Reactive Phosphorus	mg/L	Special Frequency 1	1	28/06/13	12/07/13	<0.01	<0.01	<0.01	<0.01
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	1	28/06/13	12/07/13	484	484	484	484
	Nitrate	mg/L	Special Frequency 2	1	28/06/13	12/07/13	0.32	0.32	0.32	0.32
	Nitrogen (Total)	mg/L	Special Frequency 2	1	28/06/13	12/07/13	0.3	0.3	0.3	0.3
	Oil and Grease	mg/L	Special Frequency 2	1	28/06/13	12/07/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	28/06/13	12/07/13	7.74	7.74	7.74	7.74
	Phosphorus (Total)	mg/L	Special Frequency 2	1	28/06/13	12/07/13	0.18	0.18	0.18	0.18
	Reactive Phosphorus	mg/L	Special Frequency 2	1	28/06/13	12/07/13	0.01	0.01	0.01	0.01
	Total Suspended Solids	mg/L	Special Frequency 2	1	28/06/13	12/07/13	5	5	5	5
26	Conductivity	µS/cm	Special Frequency 2	1	28/06/13	12/07/13	850	850	850	850
	Nitrate	mg/L	Special Frequency 2	1	28/06/13	12/07/13	0.14	0.14	0.14	0.14
	Nitrogen (Total)	mg/L	Special Frequency 2	1	28/06/13	12/07/13	0.3	0.3	0.3	0.3
	Oil and Grease	mg/L	Special Frequency 2	1	28/06/13	12/07/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	28/06/13	12/07/13	7.95	7.95	7.95	7.95

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
	Phosphorus (Total)	mg/L	Special Frequency 2	1	28/06/13	12/07/13	0.08	0.08	0.08	0.08
	Reactive Phosphorus	mg/L	Special Frequency 2	1	28/06/13	12/07/13	0.05	0.05	0.05	0.05
	Total Suspended Solids	mg/L	Special Frequency 2	1	28/06/13	12/07/13	<5	<5	<5	<5

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	1	28/06/13	12/07/13	48	48	50*	No
	Oil and Grease	mg/L	Special Frequency 1	1	28/06/13	12/07/13	<5	<5	10	No
	pH	pH	Special Frequency 1	1	28/06/13	12/07/13	7.95	7.95	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

* 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	-	-	-	-	-	-

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
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Conductivity	µS/cm	Every 3 Months	1	28/06/13	05/07/13	880	880	880	880
	Nitrate	mg/L	Every 3 Months	1	28/06/13	05/07/13	0.86	0.86	0.86	0.86
	Nitrogen (Total)	mg/L	Every 3 Months	1	28/06/13	05/07/13	1.6	1.6	1.6	1.6
	Oil and Grease	mg/L	Every 3 Months	1	28/06/13	05/07/13	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	28/06/13	05/07/13	8.05	8.05	8.05	8.05
	Phosphorus (Total)	mg/L	Every 3 Months	1	28/06/13	05/07/13	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	28/06/13	05/07/13	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	28/06/13	05/07/13	<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	-	-	-	-	-	-
	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	-	-	-	-	-	-
20	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
	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	-	-	-	-	-	-
22	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	19 th June 2013	2:05 pm	60 minutes	n/a	41	Day 38	n/a,6.1,146	Wind (41), WCC inaudible	No
	19 th June 2013	9:18 pm	60 minutes	28	30	Night 37	+5.5,1.5,149	Traffic (28), WCC (24)	No
R12	19 th June 2013	5:13 pm	60 minutes	n/a	48	Day 38	n/a,3.2,162	Traffic (47), birds (41), WCC inaudible	No
	19 th June 2013	11:26 am	60 minutes	n/a	38	Night 38	+6.2,1.9,161	Traffic (37), insects (28), WCC	No

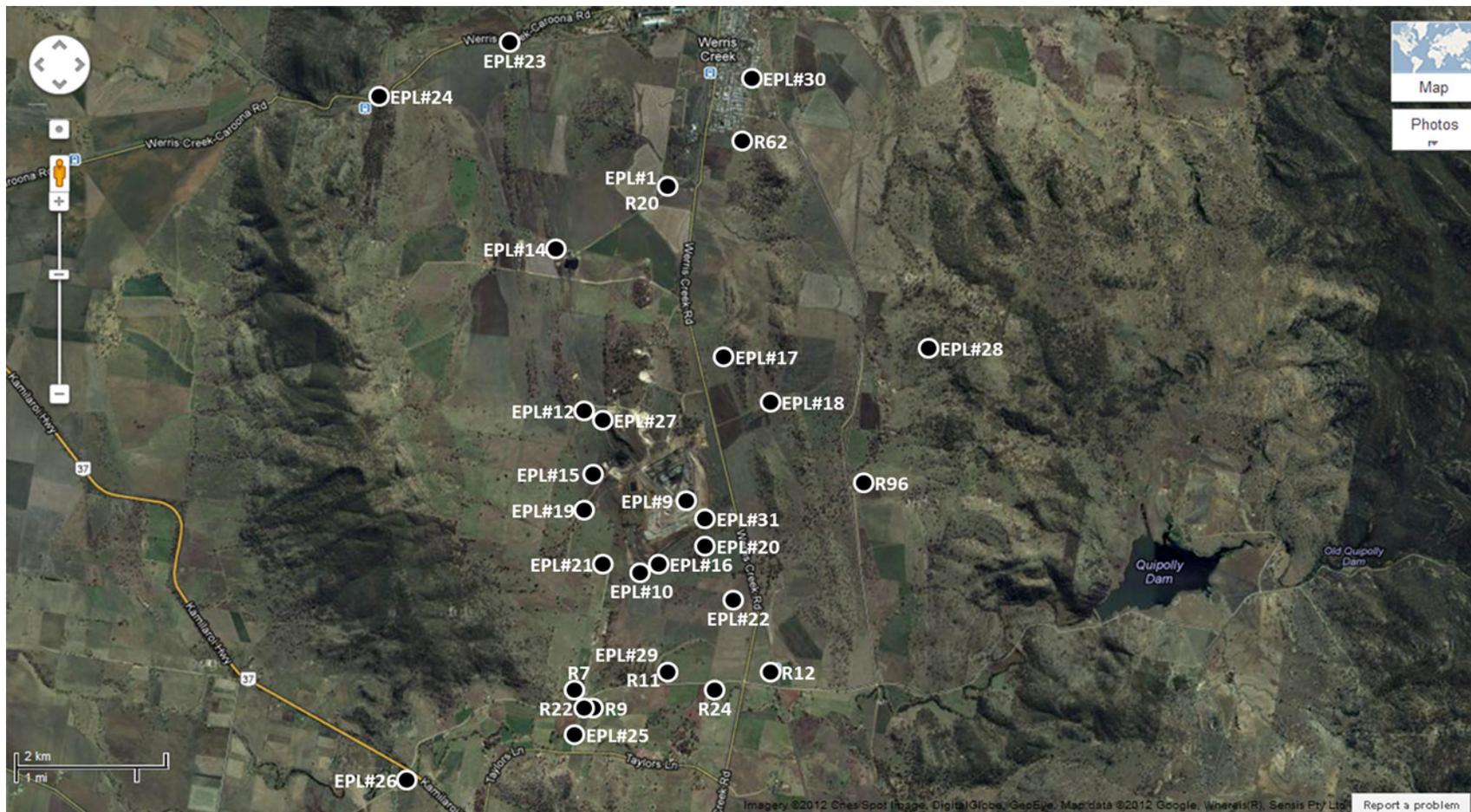
WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
								inaudible	
R7	19 th June 2013	3:37 pm	60 minutes	n/a	45	Day 37	n/a,5.0,166	Dog (41), tractor (40), wind (38), WCC inaudible	No
	19 th June 2013	11:58 pm	60 minutes	n/a	30	Night 37	+5.6,0.6,145	Traffic (30), WCC inaudible	No
R9	19 th June 2013	3:21 pm	60 minutes	n/a	49	Day 37	n/a,5.0,166	Car (48), traffic (39), birds (35), WCC inaudible	No
	19 th June 2013	7:47 pm	60 minutes	n/a	32	Night 37	+5.1,1.6,133	Traffic (30), horse (25), WCC inaudible	No
R24	19 th June 2013	1:49 pm	60 minutes	n/a	51	Day 37	n/a,5.5,172	Traffic (49), Birds (43), WCC inaudible	No
	19 th June 2013	9:27 pm	60 minutes	n/a	42	Night 37	+5.5,1.6,137	Traffic (42), WCC inaudible	No
R22	19 th June 2013	3:21 pm	60 minutes	n/a	49	Day 36	n/a,5.0,166	Car (48), traffic (39), birds (35), WCC inaudible	No
	19 th June 2013	7:47 pm	60 minutes	n/a	32	Night 36	+5.1,1.6,133	Traffic (30), horse (25), WCC inaudible	No

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
R20	Blast Noise	dB (Lin Peak)	Every Blast	6	102.0	108.0	120.0	No
	Blast Vibration	mm/s	Every Blast	6	0.89	1.75	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	6	107.6	109.1	120.0	No
	Blast Vibration	mm/s	Every Blast	6	0.23	0.24	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	6	100.4	102.1	120.0	No
	Blast Vibration	mm/s	Every Blast	6	0.23	0.24	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	6	101.8	106.1	120.0	No
	Blast Vibration	mm/s	Every Blast	6	0.32	0.47	10.00	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 9th August 2013

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
1	PM10	µg/m ³	Every 6 days	5	30/07/13	02/08/13	5.6	11.9	12.1	18.6
	Solid Particles	g/m ² /month	Continuous	1	23/07/13	30/07/13	0.6	0.6	0.6	0.6
28	PM10	µg/m ³	Every 6 days	5	30/07/13	02/08/13	2.7	3.8	3.3	5.6
	Solid Particles	g/m ² /month	Continuous	1	23/07/13	30/07/13	0.2	0.2	0.2	0.2
29	PM10	µg/m ³	Every 6 days	5	30/07/13	02/08/13	1.9	5.5	4.8	9.3
	Solid Particles	g/m ² /month	Continuous	1	23/07/13	30/07/13	0.1	0.1	0.1	0.1
30	PM10	µg/m ³	Every 6 days	Continuous	31/07/13	01/08/13	3.5	11.9	12.1	18.6
	Solid Particles	g/m ² /month	Continuous	1	23/07/13	30/07/13	0.3	0.3	0.3	0.3
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	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
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	-	-	-	-	-	-

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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
	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
	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

* 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	-	-	-	-	-	-

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
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	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	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	-	-	-	-	-	-
20	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
	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	-	-	-	-	-	-
22	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	11 th July 2013	3:45 pm	60 minutes	n/a	38	Day 38	n/a,3.4,200	Birds & insects (38), traffic (28), WCC inaudible	No
	11 th July 2013	8:30 pm	60 minutes	n/a	26	Night 37	+4.2,1.8,207	Traffic (26), WCC barely audible	No
R12	11 th July 2013	4:57 pm	60 minutes	n/a	48	Day 38	n/a,3.4,224	Traffic (48), birds & insects (30), WCC inaudible	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

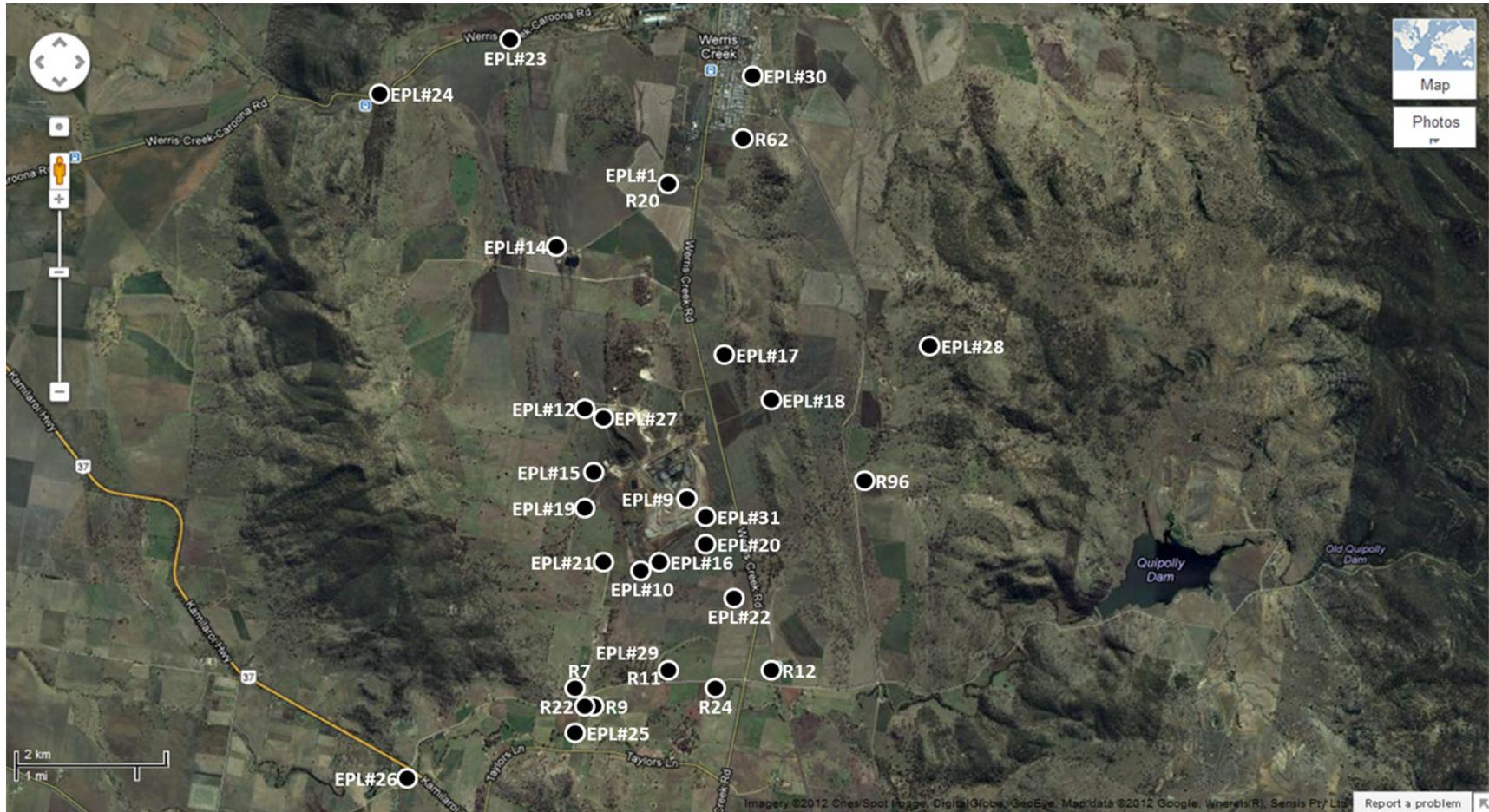
Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
	11 th July 2013	11:06 pm	60 minutes	36	33	Night 38	+6.1,1.5,264	Traffic (32), WCC (31), birds (18)	No
R7	11 th July 2013	1:20 pm	60 minutes	n/a	43	Day 37	n/a,1.7,207	Birds & insects (40), traffic (37), domestic noise (36), WCC inaudible	No
	11 th July 2013	9:50 pm	60 minutes	43	38	Night 37	+4.9,1.4,197	WCC (37), traffic (31), insects (25)	No
R9	11 th July 2013	1:41 pm	60 minutes	n/a	34	Day 37	n/a,1.9,244	Birds & insects (33), traffic (25), WCC (20)	No
	11 th July 2013	9:44 pm	60 minutes	44	41	Night 37	+4.9,1.3,196	WCC (39), insects (34), traffic (33)	YES
R24	11 th July 2013	2:44 pm	60 minutes	n/a	39	Day 37	n/a,2.4,231	Traffic (38), birds & insects (30), WCC inaudible	No
	11 th July 2013	10:47 pm	60 minutes	40	34	Night 37	+6.2,1.3,281	WCC (34)	No
R22	11 th July 2013	1:41 pm	60 minutes	n/a	34	Day 36	n/a,1.9,244	Birds & insects (33), traffic (25), WCC (20)	No
	11 th July 2013	9:50 pm	60 minutes	44	41	Night 36	+4.9,1.3,196	WCC (39), insects (34), traffic (33)	YES

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
R20	Blast Noise	dB (Lin Peak)	Every Blast	4	103.1	121.0	120.0	No*
	Blast Vibration	mm/s	Every Blast	4	0.96	1.38	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	4	111.6	111.6	120.0	No
	Blast Vibration	mm/s	Every Blast	4	0.07	0.07	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	4	88.8	88.8	120.0	No
	Blast Vibration	mm/s	Every Blast	4	0.53	0.53	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	4	101.7	119.0	120.0	No
	Blast Vibration	mm/s	Every Blast	4	0.57	0.65	10.00	No

* Property R20 owned by Werris Creek Coal and therefore blasting criteria do not apply.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 16th September 2013

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
1	PM10	µg/m ³	Every 6 days	5	30/08/13	03/09/13	9.8	13.5	11.5	19.8
	Solid Particles	g/m ² /month	Continuous	1	21/08/13	28/08/13	0.4	0.4	0.4	0.4
28	PM10	µg/m ³	Every 6 days	5	30/08/13	03/09/13	6.4	8.6	8.5	11.0
	Solid Particles	g/m ² /month	Continuous	1	21/08/13	28/08/13	0.2	0.2	0.2	0.2
29	PM10	µg/m ³	Every 6 days	5	30/08/13	03/09/13	7.5	12.6	13.5	18.6
	Solid Particles	g/m ² /month	Continuous	1	21/08/13	28/08/13	0.8	0.8	0.8	0.8
30	PM10	µg/m ³	Every 6 days	Continuous	31/08/13	01/09/13	1.5	9.9	8.3	30.3
	Solid Particles	g/m ² /month	Continuous	1	21/08/13	28/08/13	0.1	0.1	0.1	0.1
10	Conductivity	µS/cm	Special Frequency 1	1	13/08/13	19/08/13	1010	1010	1010	1010
	Nitrate	mg/L	Special Frequency 1	1	13/08/13	19/08/13	0.08	0.08	0.08	0.08
	Nitrogen (Total)	mg/L	Special Frequency 1	1	13/08/13	19/08/13	0.6	0.6	0.6	0.6
	Phosphorus (Total)	mg/L	Special Frequency 1	1	13/08/13	19/08/13	0.02	0.02	0.02	0.02
	Reactive Phosphorus	mg/L	Special Frequency 1	1	13/08/13	19/08/13	<0.01	<0.01	<0.01	<0.01
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	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	1	13/08/13	19/08/13	467	467	467	467
	Nitrate	mg/L	Special Frequency 2	1	13/08/13	19/08/13	0.14	0.14	0.14	0.14
	Nitrogen (Total)	mg/L	Special Frequency 2	1	13/08/13	19/08/13	0.3	0.3	0.3	0.3
	Oil and Grease	mg/L	Special Frequency 2	1	13/08/13	19/08/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	13/08/13	19/08/13	7.93	7.93	7.93	7.93
	Phosphorus (Total)	mg/L	Special Frequency 2	1	13/08/13	19/08/13	0.02	0.02	0.02	0.02
	Reactive Phosphorus	mg/L	Special Frequency 2	1	13/08/13	19/08/13	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Special Frequency 2	1	13/08/13	19/08/13	10	10	10	10
26	Conductivity	µS/cm	Special Frequency 2	1	13/08/13	19/08/13	827	827	827	827
	Nitrate	mg/L	Special Frequency 2	1	13/08/13	19/08/13	0.04	0.04	0.04	0.04
	Nitrogen (Total)	mg/L	Special Frequency 2	1	13/08/13	19/08/13	0.2	0.2	0.2	0.2
	Oil and Grease	mg/L	Special Frequency 2	1	13/08/13	19/08/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	13/08/13	19/08/13	8.14	8.14	8.14	8.14

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
	Phosphorus (Total)	mg/L	Special Frequency 2	1	13/08/13	19/08/13	0.06	0.06	0.06	0.06
	Reactive Phosphorus	mg/L	Special Frequency 2	1	13/08/13	19/08/13	0.04	0.04	0.04	0.04
	Total Suspended Solids	mg/L	Special Frequency 2	1	13/08/13	19/08/13	8	8	8	8

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	1	13/08/13	19/08/13	<5	<5	50*	No
	Oil and Grease	mg/L	Special Frequency 1	1	13/08/13	19/08/13	<5	<5	10	No
	pH	pH	Special Frequency 1	1	13/08/13	19/08/13	8.44	8.44	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

* 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	-	-	-	-	-	-

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
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Conductivity	µS/cm	Every 3 Months	1	28/08/13	02/09/13	963	963	963	963
	Nitrate	mg/L	Every 3 Months	1	28/08/13	02/09/13	0.74	0.74	0.74	0.74
	Nitrogen (Total)	mg/L	Every 3 Months	1	28/08/13	02/09/13	1.3	1.3	1.3	1.3
	Oil and Grease	mg/L	Every 3 Months	1	28/08/13	02/09/13	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	28/08/13	02/09/13	8.44	8.44	8.44	8.44
	Phosphorus (Total)	mg/L	Every 3 Months	1	28/08/13	02/09/13	0.06	0.06	0.06	0.06
	Reactive Phosphorus	mg/L	Every 3 Months	1	28/08/13	02/09/13	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	28/08/13	02/09/13	12	12	12	12
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	-	-	-	-	-	-
20	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
	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	-	-	-	-	-	-
22	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	8 th August 2013	2:48 pm	60 minutes	n/a	37	Day 38	n/a,5.1,267	Birds & insects (38), traffic (28), WCC inaudible	No
	8 th August 2013	7:28 pm	60 minutes	38	35	Night 37	Lapse,2.9,320	Traffic (32), WCC (32)	No
R12	8 th August 2013	5:06 pm	60 minutes	n/a	47	Day 38	n/a,3.3,290	Traffic (48), birds & insects (30), WCC inaudible	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

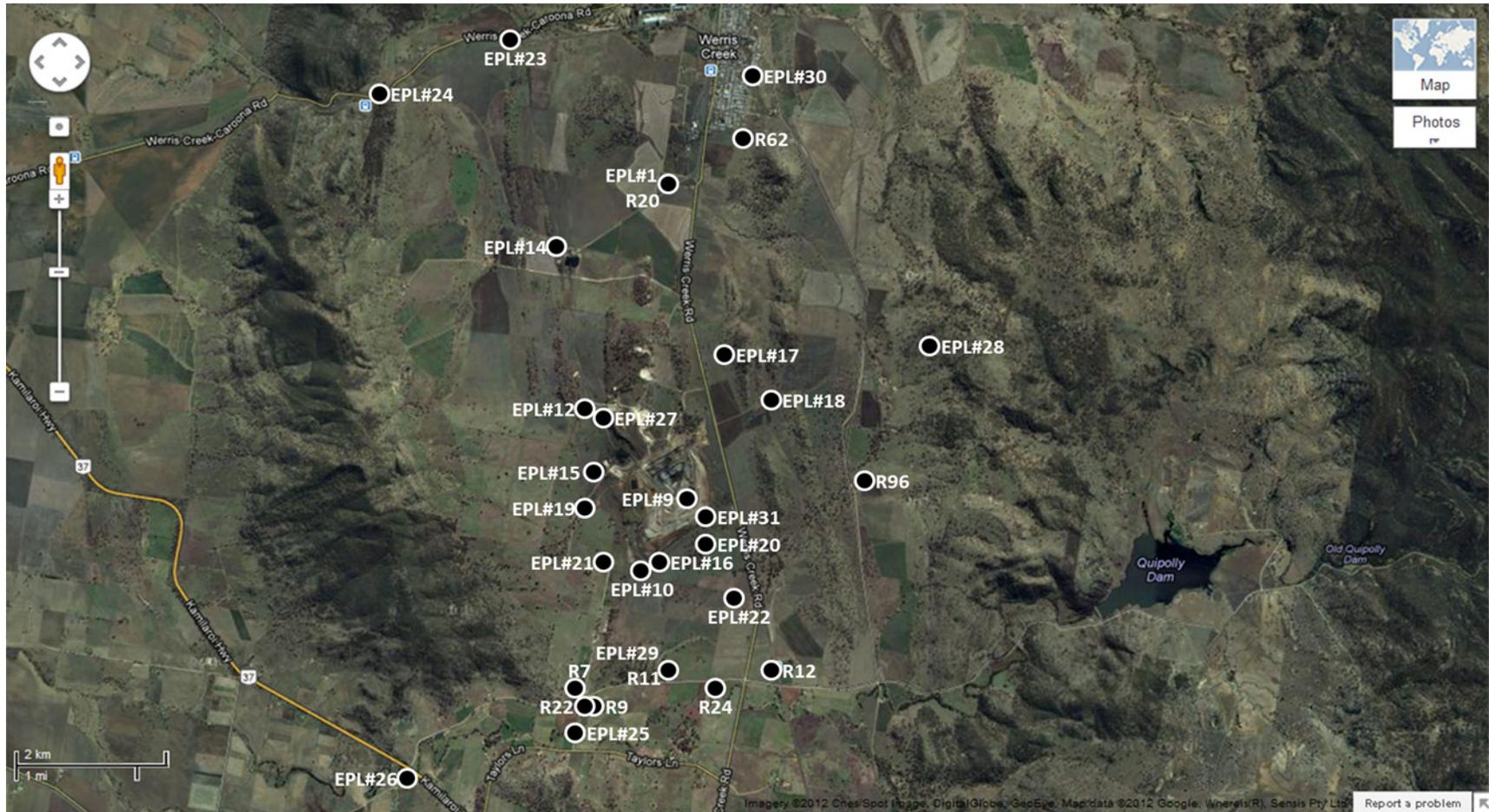
Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
	8 th August 2013	10:56 pm	60 minutes	n/a	44	Night 38	Lapse,4.6,3	Traffic (44), WCC inaudible	No
R7	8 th August 2013	1:30 pm	60 minutes	n/a	43	Day 37	n/a,5.6,276	Birds & insects (40), traffic (37), domestic noise (36), WCC inaudible	No
	8 th August 2013	10:42 pm	60 minutes	n/a	32	Night 37	Lapse,4.8,4	Traffic (30), cattle (25), insects (23), WCC inaudible	No
R9	8 th August 2013	1:38 pm	60 minutes	n/a	47	Day 37	n/a,5.5,275	Birds & insects (33), traffic (25), WCC (20)	No
	8 th August 2013	8:12 pm	60 minutes	n/a	33	Night 37	+0.6,2,344	Traffic (33), insect (25), WCC inaudible	No
R24	8 th August 2013	3:23 pm	60 minutes	n/a	46	Day 37	n/a,4.2,275	Traffic (38), birds & insects (30), WCC inaudible	No
	8 th August 2013	9:53 pm	60 minutes	n/a	39	Night 37	+2.4,4.0,4	Traffic (39), WCC inaudible	No
R22	8 th August 2013	1:38 pm	60 minutes	n/a	47	Day 36	n/a,5.5,275	Birds & insects (33), traffic (25), WCC (20)	No
	8 th August 2013	8:12 pm	60 minutes	n/a	33	Night 36	+0.6,2,344	Traffic (33), insect (25), WCC inaudible	No

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
R20*	Blast Noise	dB (Lin Peak)	Every Blast	9	101.5	111.2	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.87	1.23	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	9	105.9	110.6	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.26	0.45	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	9	<109.8	<109.8	120.0	No
	Blast Vibration	mm/s	Every Blast	9	<0.25	<0.25	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	9	99.7	102.5	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.51	0.60	10.00	No

* Property R20 owned by Werris Creek Coal and therefore blasting criteria does not apply.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 11th October 2013

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
1	PM10	µg/m ³	Every 6 days	6	01/10/13	04/10/13	5.2	21.4	23.6	35.2
	Solid Particles	g/m ² /month	Continuous	1	20/09/13	26/09/13	1.4	1.4	1.4	1.4
28	PM10	µg/m ³	Every 6 days	6	01/10/13	04/10/13	3.7	14.0	11.3	32.4
	Solid Particles	g/m ² /month	Continuous	1	20/09/13	26/09/13	0.3	0.3	0.3	0.3
29	PM10	µg/m ³	Every 6 days	6	01/10/13	04/10/13	7.7	25.2	22.8	46.3
	Solid Particles	g/m ² /month	Continuous	1	20/09/13	26/09/13	1.1	1.1	1.1	1.1
30	PM10	µg/m ³	Every 6 days	Continuous	30/09/13	01/10/13	5.0	15.3	14.8	33.7
	Solid Particles	g/m ² /month	Continuous	1	20/09/13	26/09/13	0.3	0.3	0.3	0.3
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	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
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	-	-	-	-	-	-

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
	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
	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

* 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	-	-	-	-	-	-

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
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	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	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	Conductivity	µS/cm	Every 6 Months	1	25/09/13	02/10/13	1250	1250	1250	1250
	Nitrate	mg/L	Every 6 Months	1	25/09/13	02/10/13	7.05	7.05	7.05	7.05
	Nitrogen (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	9.6	9.6	9.6	9.6
	pH	pH	Every 6 Months	1	25/09/13	02/10/13	7.64	7.64	7.64	7.64
	Phosphorus (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	0.81	0.81	0.81	0.81
	Reactive Phosphorus	mg/L	Every 6 Months	1	25/09/13	02/10/13	0.08	0.08	0.08	0.08
	Standing Water Level	Metres	Every 6 Months	1	25/09/13	02/10/13	54.9	54.9	54.9	54.9
18	Conductivity	µS/cm	Every 6 Months	1	25/09/13	02/10/13	835	835	835	835
	Nitrate	mg/L	Every 6 Months	1	25/09/13	02/10/13	2.36	2.36	2.36	2.36
	Nitrogen (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	3.7	3.7	3.7	3.7
	pH	pH	Every 6 Months	1	25/09/13	02/10/13	7.77	7.77	7.77	7.77
	Phosphorus (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	0.07	0.07	0.07	0.07
	Reactive Phosphorus	mg/L	Every 6 Months	1	25/09/13	02/10/13	0.07	0.07	0.07	0.07
	Standing Water Level	Metres	Every 6 Months	1	25/09/13	02/10/13	26.2	26.2	26.2	26.2
19	Conductivity	µS/cm	Every 6 Months	1	26/09/13	03/10/13	3320	3320	3320	3320
	Nitrate	mg/L	Every 6 Months	1	26/09/13	03/10/13	20.4	20.4	20.4	20.4
	Nitrogen (Total)	mg/L	Every 6 Months	1	26/09/13	03/10/13	24.8	24.8	24.8	24.8
	pH	pH	Every 6 Months	1	26/09/13	03/10/13	7.45	7.45	7.45	7.45
	Phosphorus (Total)	mg/L	Every 6 Months	1	26/09/13	03/10/13	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 6 Months	1	26/09/13	03/10/13	<0.01	<0.01	<0.01	<0.01
	Standing Water Level	Metres	Every 6 Months	1	26/09/13	03/10/13	15.3	15.3	15.3	15.3
20	Conductivity	µS/cm	Every 6 Months	1	25/09/13	02/10/13	1030	1030	1030	1030

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
	Nitrate	mg/L	Every 6 Months	1	25/09/13	02/10/13	1.01	1.01	1.01	1.01
	Nitrogen (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	1.6	1.6	1.6	1.6
	pH	pH	Every 6 Months	1	25/09/13	02/10/13	8.01	8.01	8.01	8.01
	Phosphorus (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	0.11	0.11	0.11	0.11
	Reactive Phosphorus	mg/L	Every 6 Months	1	25/09/13	02/10/13	0.03	0.03	0.03	0.03
	Standing Water Level	Metres	Every 6 Months	1	25/09/13	02/10/13	10.7	10.7	10.7	10.7
21	Conductivity	µS/cm	Every 6 Months	1	25/09/13	02/10/13	2440	2440	2440	2440
	Nitrate	mg/L	Every 6 Months	1	25/09/13	02/10/13	1.30	1.30	1.30	1.30
	Nitrogen (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	6.4	6.4	6.4	6.4
	pH	pH	Every 6 Months	1	25/09/13	02/10/13	7.81	7.81	7.81	7.81
	Phosphorus (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	1.03	1.03	1.03	1.03
	Reactive Phosphorus	mg/L	Every 6 Months	1	25/09/13	02/10/13	1.01	1.01	1.01	1.01
22	Standing Water Level	Metres	Every 6 Months	1	25/09/13	02/10/13	8.53	8.53	8.53	8.53
	Conductivity	µS/cm	Every 6 Months	1	25/09/13	02/10/13	1890	1890	1890	1890
	Nitrate	mg/L	Every 6 Months	1	25/09/13	02/10/13	4.72	4.72	4.72	4.72
	Nitrogen (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	6.0	6.0	6.0	6.0
	pH	pH	Every 6 Months	1	25/09/13	02/10/13	7.77	7.77	7.77	7.77
	Phosphorus (Total)	mg/L	Every 6 Months	1	25/09/13	02/10/13	0.96	0.96	0.96	0.96
	Reactive Phosphorus	mg/L	Every 6 Months	1	25/09/13	02/10/13	0.08	0.08	0.08	0.08
	Standing Water Level	Metres	Every 6 Months	1	25/09/13	02/10/13	12.4	12.4	12.4	12.4

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	19 th September 2013	3:40 pm	60 minutes	n/a	38	Day 38	n/a,5.5,294	Birds & insects (34), wind (34), cattle (28), traffic (28), WCC barely audible	No
	19 th September 2013	9:30 pm	60 minutes	43	38	Night 37	+1.5,3.3,267	WCC (36), traffic (34), birds & insects (20)	No
R12	19 th September 2013	2:34 pm	60 minutes	n/a	52	Day 38	n/a,4.7,294	Traffic (52), birds & insects (43),	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

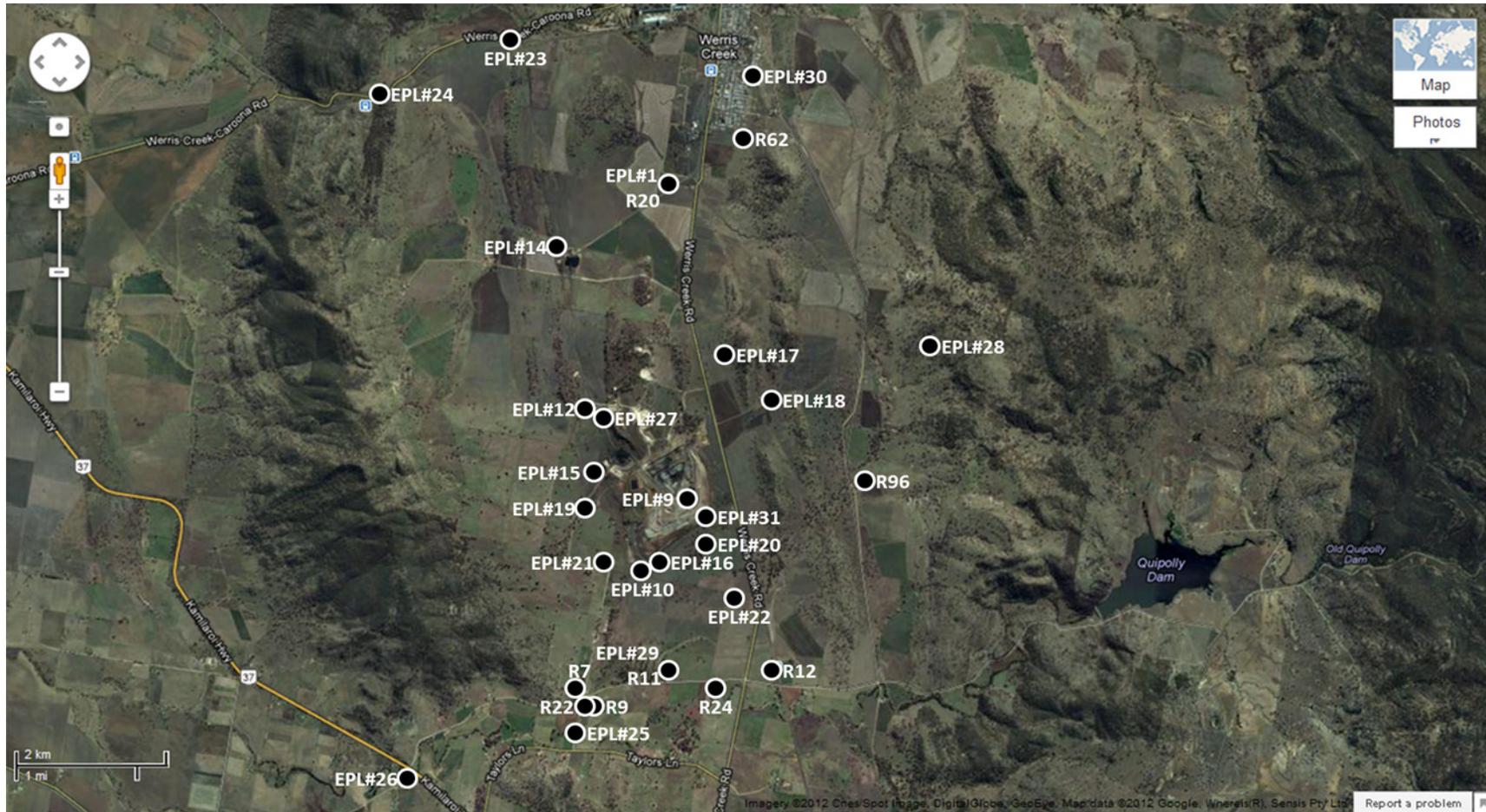
Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
								WCC inaudible	
	20 th September 2013	12:35 am	60 minutes	n/a	37	Night 38	+7.3,0.6,294	Traffic (37), WCC inaudible	No
R7	19 th September 2013	1:30 pm	60 minutes	n/a	46	Day 37	n/a,6.2,299	Birds & insects (44), wind in trees (41), WCC inaudible	No
	19 th September 2013	8:26 pm	60 minutes	n/a	34	Night 37	+0.8,3.6,267	Traffic (33), birds & insects (28), WCC inaudible	No
R9	19 th September 2013	1:30 pm	60 minutes	n/a	48	Day 37	n/a,6.2,298	Birds & insects (48), wind in trees (38), WCC inaudible	No
	19 th September 2013	8:15 pm	60 minutes	n/a	37	Night 37	+0.3,4.9,271	Traffic (36), birds & insects (31), WCC inaudible	No
R24	19 th September 2013	3:14 pm	60 minutes	n/a	44	Day 37	n/a,4.7,292	Wind (43), birds & insects (37), WCC barely audible	No
	19 th September 2013	9:48 pm	60 minutes	n/a	33	Night 37	+1.6,3.2,263	Traffic (33), birds & insects (21), WCC inaudible	No
R22	19 th September 2013	1:30 pm	60 minutes	n/a	48	Day 36	n/a,6.2,298	Birds & insects (48), wind in trees (38), WCC inaudible	No
	19 th September 2013	8:15 pm	60 minutes	n/a	37	Night 36	+0.3,4.9,271	Traffic (36), birds & insects (31), WCC inaudible	No

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
R20*	Blast Noise	dB (Lin Peak)	Every Blast	13	99.1	103.4	120.0	No
	Blast Vibration	mm/s	Every Blast	13	0.55	0.77	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	13	93.3	93.3	120.0	No
	Blast Vibration	mm/s	Every Blast	13	0.28	0.28	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	13	<109.8	<109.8	120.0	No
	Blast Vibration	mm/s	Every Blast	13	<0.25	<0.25	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	13	99.3	102.0	120.0	No
	Blast Vibration	mm/s	Every Blast	13	0.29	0.29	10.00	No

* Property R20 owned by Werris Creek Coal and therefore blasting criteria does not apply.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 13th November 2013

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
1	PM10	µg/m ³	Every 6 days	5	31/10/13	06/11/13	12.8	27.2	22.6	41.1
	Solid Particles	g/m ² /month	Continuous	1	22/10/13	29/10/13	0.5	0.5	0.5	0.5
28	PM10	µg/m ³	Every 6 days	5	31/10/13	06/11/13	7.7	15.9	11.5	31.2
	Solid Particles	g/m ² /month	Continuous	1	22/10/13	29/10/13	0.4	0.4	0.4	0.4
29	PM10	µg/m ³	Every 6 days	5	31/10/13	06/11/13	22.1	34.9	31.6	56.4
	Solid Particles	g/m ² /month	Continuous	1	22/10/13	29/10/13	0.9	0.9	0.9	0.9
30	PM10	µg/m ³	Every 6 days	Continuous	31/10/13	01/11/13	8.8	16.6	14.4	43.7
	Solid Particles	g/m ² /month	Continuous	1	22/10/13	29/10/13	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	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
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	-	-	-	-	-	-

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
	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
	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

* 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	-	-	-	-	-	-

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
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
20	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
	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	-	-	-	-	-	-
22	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	22 nd October 2013	2:33 pm	60 minutes	n/a	36	Day 38	n/a,3.7,286	Birds & insects (34), traffic (30), WCC (27)	No
	22 nd October 2013	9:11 pm	60 minutes	41	42	Night 37	+4.7,4.8,352	Birds & insects (42), WCC (32)	No
R12	22 nd October 2013	4:55 pm	60 minutes	n/a	49	Day 38	n/a,4.2,294	Traffic (47), birds & insects (42), WCC inaudible	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

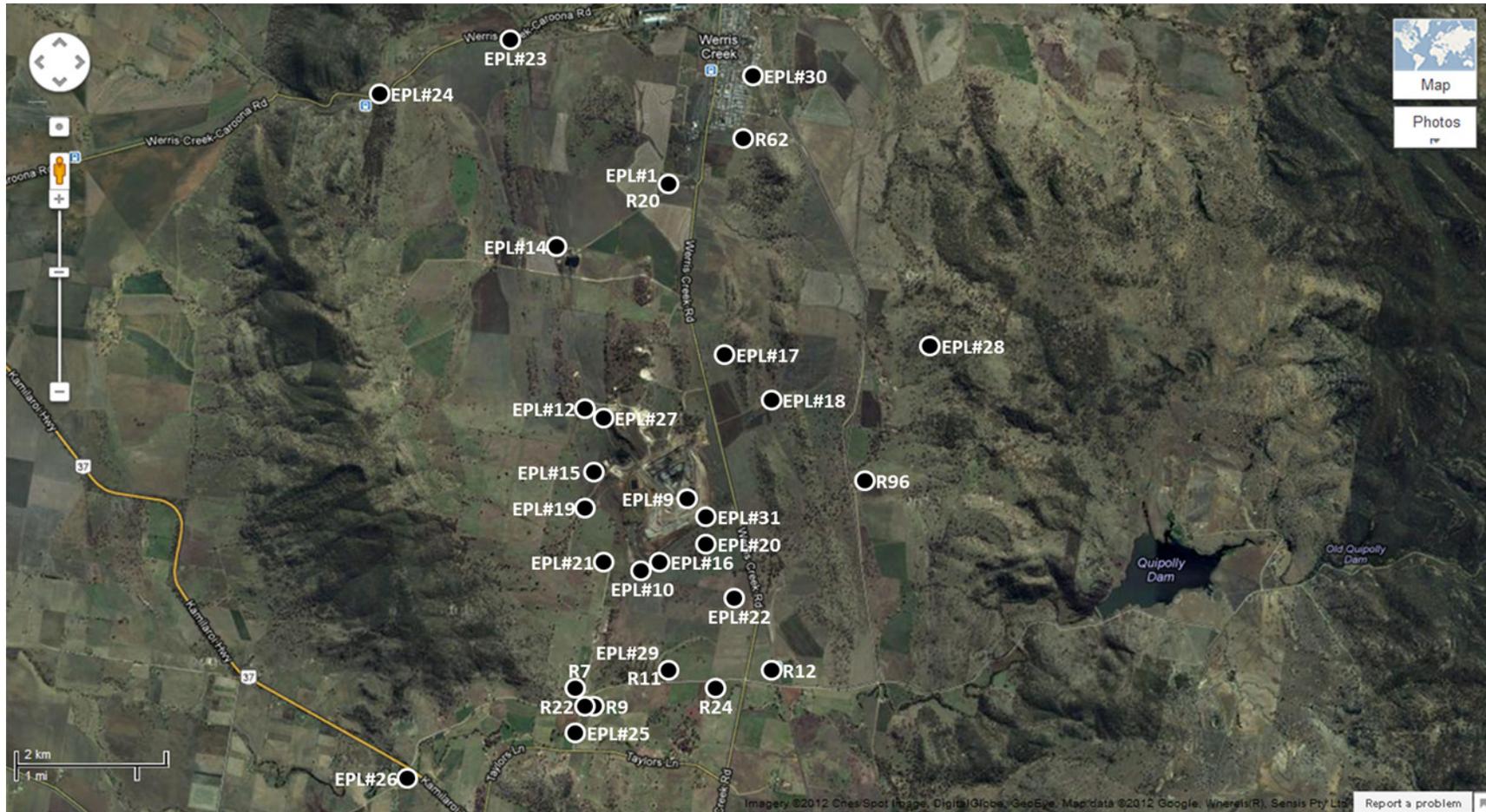
Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
	22 nd October 2013	10:25 pm	60 minutes	36	42	Night 38	+2.0,5.8,349	Traffic (41), WCC (32), birds & insects (30)	No
R7	22 nd October 2013	3:40 pm	60 minutes	n/a	49	Day 37	n/a,4.4,282	Birds & insects (49), traffic (33), WCC inaudible	No
	22 nd October 2013	11:34 pm	60 minutes	39	36	Night 37	+1.6,6.7,353	WCC (34), birds & insects (32)	No
R9	22 nd October 2013	5:03 pm	60 minutes	n/a	45	Day 37	n/a,4.2,294	Birds & insects (45), traffic 925), WCC inaudible	No
	22 nd October 2013	7:34 pm	60 minutes	35	38	Night 37	+1.6,3.1,331	Birds & insects (35), traffic (32), WCC (28)	No
R24	22 nd October 2013	3:38 pm	60 minutes	n/a	44	Day 37	n/a,4.2,284	Birds & insects (44), traffic (30), WCC barely audible	No
	22 nd October 2013	8:55 pm	60 minutes	30	39	Night 37	+4.2,4.6,351	Traffic (37), insects (31), WCC (25)	No
R22	22 nd October 2013	5:03 pm	60 minutes	n/a	45	Day 36	n/a,4.2,294	Birds & insects (45), traffic 925), WCC inaudible	No
	22 nd October 2013	7:34 pm	60 minutes	35	38	Night 36	+1.6,3.1,331	Birds & insects (35), traffic (32), WCC (28)	No

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
R20*	Blast Noise	dB (Lin Peak)	Every Blast	8	101.6	108.4	120.0	No
	Blast Vibration	mm/s	Every Blast	8	0.86	1.54	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	8	104.1	107.1	120.0	No
	Blast Vibration	mm/s	Every Blast	8	0.41	0.50	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	8	<109.8	<109.8	120.0	No
	Blast Vibration	mm/s	Every Blast	8	<0.25	<0.25	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	8	96.7	109.5	120.0	No
	Blast Vibration	mm/s	Every Blast	8	0.48	0.66	10.00	No

* Property R20 owned by Werris Creek Coal and therefore blasting criteria does not apply.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 18th December 2013

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
1	PM10	µg/m ³	Every 6 days	5	28/11/13	05/12/13	5.8	12.5	13.1	21.2
	Solid Particles	g/m ² /month	Continuous	1	20/11/13	29/11/13	1.2	1.2	1.2	1.2
28	PM10	µg/m ³	Every 6 days	5	28/11/13	05/12/13	3.2	6.8	6.1	10.5
	Solid Particles	g/m ² /month	Continuous	1	20/11/13	29/11/13	0.6	0.6	0.6	0.6
29	PM10	µg/m ³	Every 6 days	5	28/11/13	05/12/13	4.2	14.8	15.7	30.7
	Solid Particles	g/m ² /month	Continuous	1	20/11/13	29/11/13	1.6	1.6	1.6	1.6
30	PM10	µg/m ³	Every 6 days	Continuous	30/11/13	01/12/13	1.5	15.0	12.4	40.5
	Solid Particles	g/m ² /month	Continuous	1	20/11/13	29/11/13	1.1	1.1	1.1	1.1
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	1	22/11/13	29/11/13	396	396	396	396
	Nitrate	mg/L	Special Frequency 1	1	22/11/13	29/11/13	3.45	3.45	3.45	3.45
	Nitrogen (Total)	mg/L	Special Frequency 1	1	22/11/13	29/11/13	4.4	4.4	4.4	4.4
	Phosphorus (Total)	mg/L	Special Frequency 1	1	22/11/13	29/11/13	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Special Frequency 1	1	22/11/13	29/11/13	<0.01	<0.01	<0.01	<0.01
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	1	22/11/13	29/11/13	454	454	454	454
	Nitrate	mg/L	Special Frequency 2	1	22/11/13	29/11/13	0.01	0.01	0.01	0.01
	Nitrogen (Total)	mg/L	Special Frequency 2	1	22/11/13	29/11/13	0.4	0.4	0.4	0.4
	Oil and Grease	mg/L	Special Frequency 2	1	22/11/13	29/11/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	22/11/13	29/11/13	7.65	7.65	7.65	7.65
	Phosphorus (Total)	mg/L	Special Frequency 2	1	22/11/13	29/11/13	0.04	0.04	0.04	0.04
	Reactive Phosphorus	mg/L	Special Frequency 2	1	22/11/13	29/11/13	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Special Frequency 2	1	22/11/13	29/11/13	<5	<5	<5	<5
26	Conductivity	µS/cm	Special Frequency 2	1	22/11/13	29/11/13	884	884	884	884
	Nitrate	mg/L	Special Frequency 2	1	22/11/13	29/11/13	0.01	0.01	0.01	0.01
	Nitrogen (Total)	mg/L	Special Frequency 2	1	22/11/13	29/11/13	0.2	0.2	0.2	0.2
	Oil and Grease	mg/L	Special Frequency 2	1	22/11/13	29/11/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	22/11/13	29/11/13	7.92	7.92	7.92	7.92

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
	Phosphorus (Total)	mg/L	Special Frequency 2	1	22/11/13	29/11/13	0.10	0.10	0.10	0.10
	Reactive Phosphorus	mg/L	Special Frequency 2	1	22/11/13	29/11/13	0.09	0.09	0.09	0.09
	Total Suspended Solids	mg/L	Special Frequency 2	1	22/11/13	29/11/13	<5	<5	<5	<5

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	1	22/11/13	29/11/13	14	14	50*	No
	Oil and Grease	mg/L	Special Frequency 1	1	22/11/13	29/11/13	<5	<5	10	No
	pH	pH	Special Frequency 1	1	22/11/13	29/11/13	7.70	7.70	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

* 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	15/11/13	22/11/13	1030	1030	1030	1030
	Nitrate	mg/L	Every 3 Months	1	15/11/13	22/11/13	0.51	0.51	0.51	0.51
	Nitrogen (Total)	mg/L	Every 3 Months	1	15/11/13	22/11/13	0.8	0.8	0.8	0.8
	Oil and Grease	mg/L	Every 3 Months	1	15/11/13	22/11/13	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	15/11/13	22/11/13	8.73	8.73	8.73	8.73
	Phosphorus (Total)	mg/L	Every 3 Months	1	15/11/13	22/11/13	0.03	0.03	0.03	0.03
	Reactive Phosphorus	mg/L	Every 3 Months	1	15/11/13	22/11/13	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	15/11/13	22/11/13	29	29	29	29
27	Conductivity	µS/cm	Every 3 Months	1	15/11/13	22/11/13	1110	1110	1110	1110

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
	Nitrate	mg/L	Every 3 Months	1	15/11/13	22/11/13	1.77	1.77	1.77	1.77
	Nitrogen (Total)	mg/L	Every 3 Months	1	15/11/13	22/11/13	2.3	2.3	2.3	2.3
	Oil and Grease	mg/L	Every 3 Months	1	15/11/13	22/11/13	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	15/11/13	22/11/13	8.25	8.25	8.25	8.25
	Phosphorus (Total)	mg/L	Every 3 Months	1	15/11/13	22/11/13	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	15/11/13	22/11/13	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	15/11/13	22/11/13	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	-	-	-	-	-	-
20	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
	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	21 st November 2013	2:33 pm	60 minutes	n/a	32	Day 38	n/a,1.9,239	Birds & insects (31), traffic (24), WCC barely audible	No
	21 st November 2013	7:12 pm	60 minutes	n/a	33	Night 37	+3.4,4.4,47	Birds & insects (33), WCC inaudible	No
R12	21 st November 2013	1:27 pm	60 minutes	n/a	50	Day 38	n/a,2.0,320	Traffic (49), birds & insects (43), WCC inaudible	No
	21 st November 2013	10:32 pm	60 minutes	<25	32	Night 38	Lapse,3.7,84	Traffic (30), insects (26), WCC (20)	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

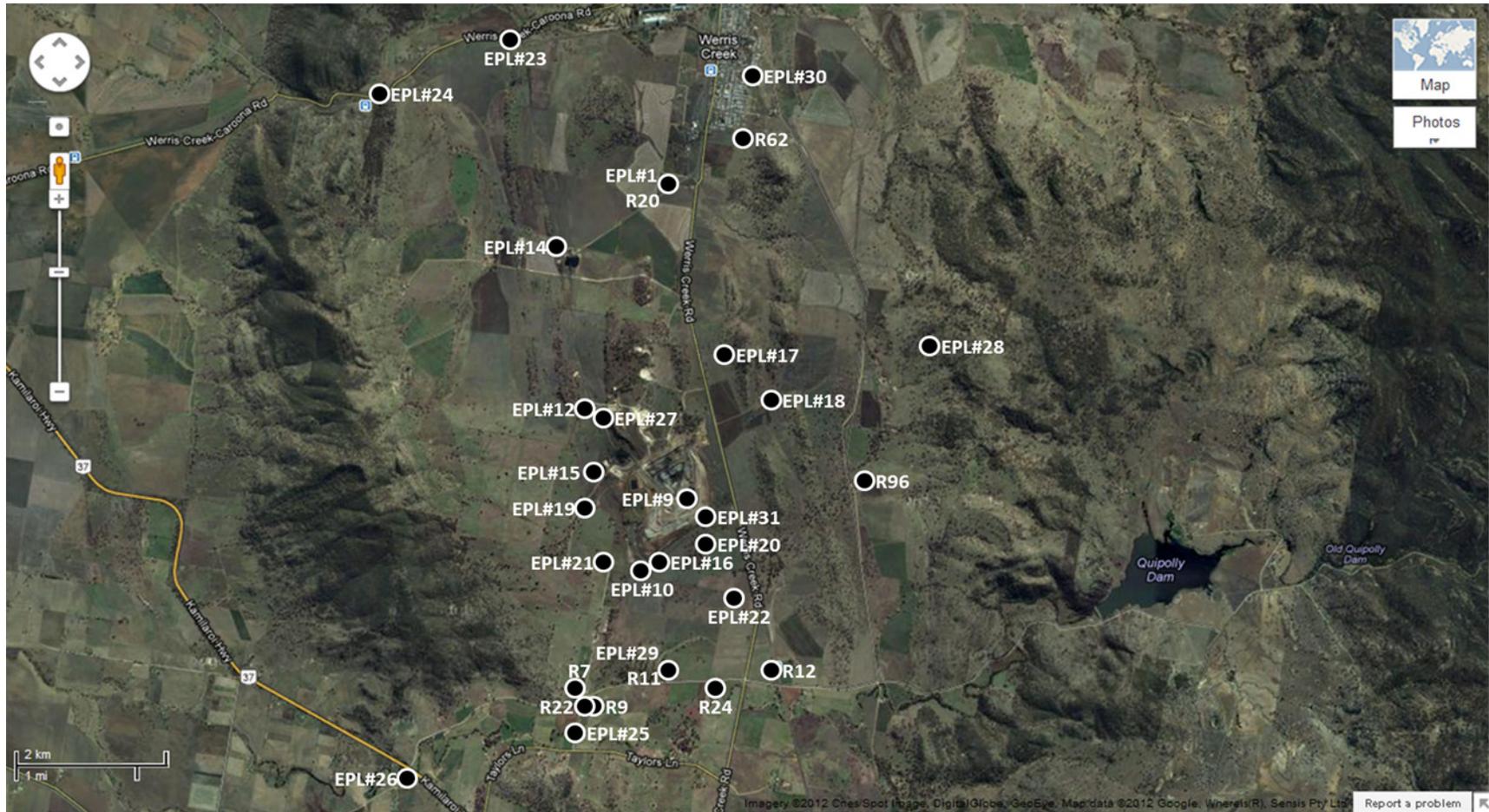
Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R7	21 st November 2013	2:53 pm	60 minutes	n/a	49	Day 37	n/a,2.2,199	Birds & insects (49), tractor (24), WCC (22)	No
	21 st November 2013	8:41 pm	60 minutes	40	40	Night 37	+1.6,6.6,47	Birds & insects (37), WCC (31), traffic (30)	No
R9	21 st November 2013	1:30 pm	60 minutes	n/a	47	Day 37	n/a,2.0,320	Birds & insects (47), traffic (25), WCC (23)	No
	21 st November 2013	7:08 pm	60 minutes	30	43	Night 37	Lapse,3.8,38	Birds & insects (43), traffic (32), WCC (27)	No
R24	21 st November 2013	3:17 pm	60 minutes	n/a	41	Day 37	n/a,1.1,115	Birds & insects (41), traffic (30), WCC inaudible	No
	21 st November 2013	10:12 pm	60 minutes	35	36	Night 37	Lapse,3.9,88	Birds & insects (35), WCC (25), traffic (24)	No
R22	21 st November 2013	1:30 pm	60 minutes	n/a	47	Day 36	n/a,2.0,320	Birds & insects (47), traffic (25), WCC (23)	No
	21 st November 2013	7:08 pm	60 minutes	35	43	Night 36	Lapse,3.8,38	Birds & insects (43), traffic (32), WCC (27)	No

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
R20*	Blast Noise	dB (Lin Peak)	Every Blast	9	104.7	107.0	120.0	No
	Blast Vibration	mm/s	Every Blast	9	1.18	1.71	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	9	103.0	107.0	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.21	0.27	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	9	102.0	102.0	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.20	0.20	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	9	101.8	105.0	120.0	No
	Blast Vibration	mm/s	Every Blast	9	0.40	0.58	10.00	No

* Property R20 owned by Werris Creek Coal and therefore blasting criteria does not apply.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY



WCC EPL12290 Monitoring Location Plan

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Site Information
EPL No.: 12290

EPA Website Link: <http://www.environment.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 2013

Publication Date: 21st January 2014

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
1	PM10	µg/m ³	Every 6 days	5	08/01/14	15/01/14	10.1	17.1	16.0	27.4
	Solid Particles	g/m ² /month	Continuous	1	19/12/13	10/01/14	7.8	7.8	7.8	7.8
28	PM10	µg/m ³	Every 6 days	5	08/01/14	15/01/14	5.9	12.1	12.0	18.4
	Solid Particles	g/m ² /month	Continuous	1	19/12/13	10/01/14	0.3	0.3	0.3	0.3
29	PM10	µg/m ³	Every 6 days	5	08/01/14	15/01/14	9.3	16.9	13.4	33.9
	Solid Particles	g/m ² /month	Continuous	1	19/12/13	10/01/14	1.2	1.2	1.2	1.2
30	PM10	µg/m ³	Every 6 days	Continuous	31/12/13	01/01/14	6.2	14.9	14.3	28.4
	Solid Particles	g/m ² /month	Continuous	1	19/12/13	10/01/14	0.6	0.6	0.6	0.6
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	1	18/12/13	27/12/13	356	356	356	356
	Nitrate	mg/L	Special Frequency 1	1	18/12/13	27/12/13	2.00	2.00	2.00	2.00
	Nitrogen (Total)	mg/L	Special Frequency 1	1	18/12/13	27/12/13	2.6	2.6	2.6	2.6
	Phosphorus (Total)	mg/L	Special Frequency 1	1	18/12/13	27/12/13	0.05	0.05	0.05	0.05
	Reactive Phosphorus	mg/L	Special Frequency 1	1	18/12/13	27/12/13	<0.01	<0.01	<0.01	<0.01
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	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
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
23	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	-	-	-	-	-	-
24	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	-	-	-	-	-	-
25	Conductivity	µS/cm	Special Frequency 2	1	18/12/13	27/12/13	499	499	499	499
	Nitrate	mg/L	Special Frequency 2	1	18/12/13	27/12/13	<0.01	<0.01	<0.01	<0.01
	Nitrogen (Total)	mg/L	Special Frequency 2	1	18/12/13	27/12/13	1.4	1.4	1.4	1.4
	Oil and Grease	mg/L	Special Frequency 2	1	18/12/13	27/12/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	18/12/13	27/12/13	8.08	8.08	8.08	8.08
	Phosphorus (Total)	mg/L	Special Frequency 2	1	18/12/13	27/12/13	0.21	0.21	0.21	0.21
	Reactive Phosphorus	mg/L	Special Frequency 2	1	18/12/13	27/12/13	0.01	0.01	0.01	0.01
	Total Suspended Solids	mg/L	Special Frequency 2	1	18/12/13	27/12/13	58	58	58	58
26	Conductivity	µS/cm	Special Frequency 2	1	18/12/13	27/12/13	942	942	942	942
	Nitrate	mg/L	Special Frequency 2	1	18/12/13	27/12/13	0.02	0.02	0.02	0.02
	Nitrogen (Total)	mg/L	Special Frequency 2	1	18/12/13	27/12/13	0.3	0.3	0.3	0.3
	Oil and Grease	mg/L	Special Frequency 2	1	18/12/13	27/12/13	<5	<5	<5	<5
	pH	pH	Special Frequency 2	1	18/12/13	27/12/13	8.32	8.32	8.32	8.32

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
	Phosphorus (Total)	mg/L	Special Frequency 2	1	18/12/13	27/12/13	0.14	0.14	0.14	0.14
	Reactive Phosphorus	mg/L	Special Frequency 2	1	18/12/13	27/12/13	0.11	0.11	0.11	0.11
	Total Suspended Solids	mg/L	Special Frequency 2	1	18/12/13	27/12/13	25	25	25	25

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	1	18/12/13	27/12/13	11	11	50*	No
	Oil and Grease	mg/L	Special Frequency 1	1	18/12/13	27/12/13	<5	<5	10	No
	pH	pH	Special Frequency 1	1	18/12/13	27/12/13	7.98	7.98	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

* 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	-	-	-	-	-	-



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
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	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
17	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	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	-	-	-	-	-	-
20	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
	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	-	-	-	-	-	-
22	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	-	-	-	-	-	-

Table 4 – Monitoring (Noise – Limits Apply)

Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
R96	16 th December 2013	10:28 am	60 minutes	n/a	33	Day 38	n/a,2.3,55	Birds & insects (32), traffic (25), WCC (20)	No
	17 th December 2013	7:06 pm	60 minutes	n/a	32	Night 37	Lapse,5.6,143	Birds & insects (32), WCC inaudible	No
R12	16 th December 2013	9:15 am	60 minutes	n/a	37	Day 38	n/a,2.6,11	Birds & insects (36), traffic (30),	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

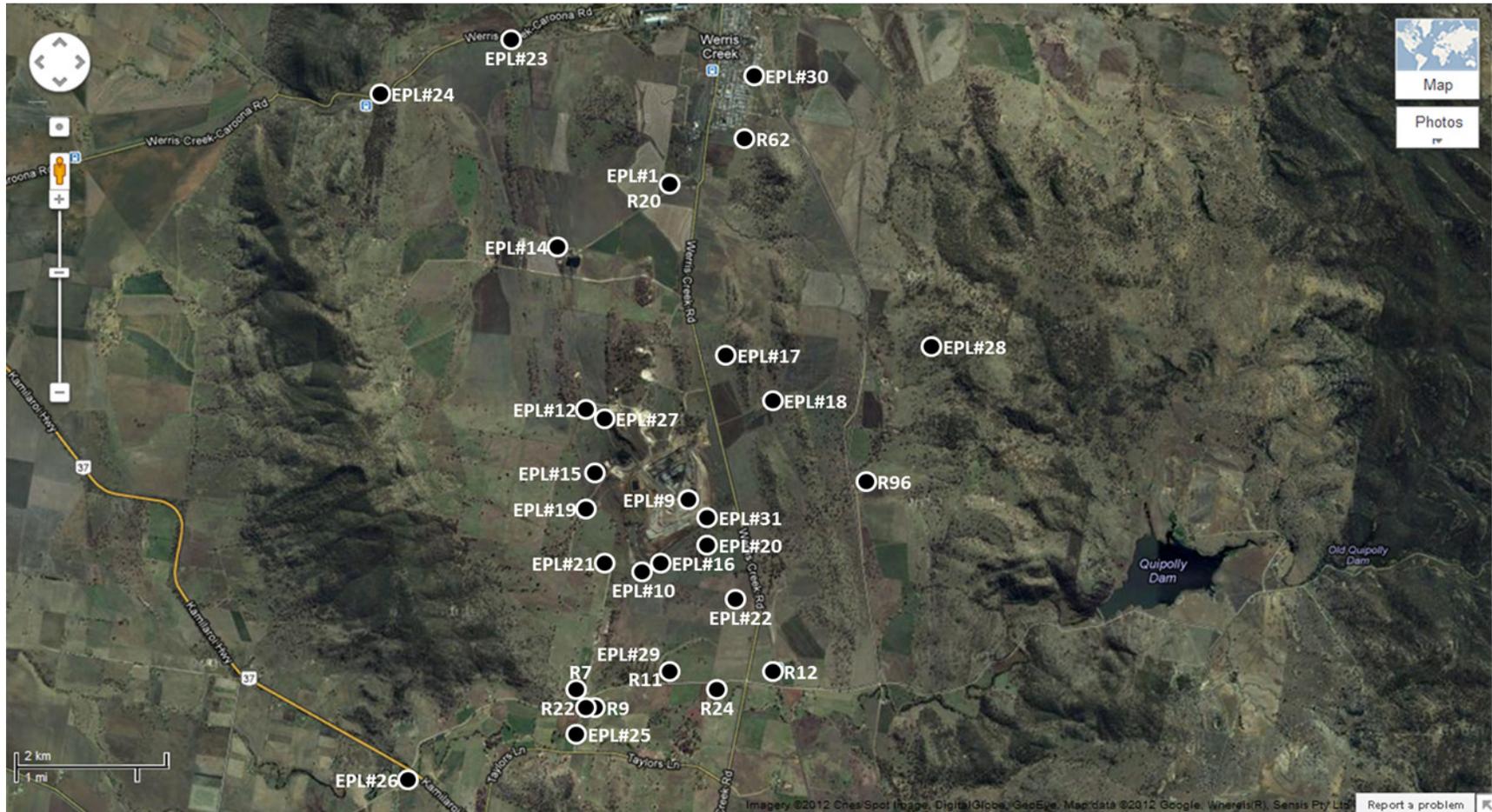
Location	Date	Start Time	Measurement Period	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach
				LA1, 1 Minute	LAeq, 15 Minute				
								WCC inaudible	
	17 th December 2013	10:45 pm	60 minutes	n/a	36	Night 38	+4.2,1.1,223	Traffic (35), insects (29), WCC inaudible	No
R7	16 th December 2013	1:22 pm	60 minutes	n/a	47	Day 37	n/a,3.7,177	Birds & insects (47), domestic noise (30), WCC inaudible	No
	17 th December 2013	9:28 pm	60 minutes	37	40	Night 37	+1.0,2.8,113	Insects (39), WCC (31), traffic (30)	No
R9	16 th December 2013	10:25 am	60 minutes	n/a	45	Day 37	n/a,2.3,55	Birds & insects (45), tractor (30), WCC (26)	No
	17 th December 2013	8:03 pm	60 minutes	n/a	34	Night 37	+1.7,3.6,120	Birds & insects (34), traffic (25), WCC inaudible	No
R24	16 th December 2013	12:12 pm	60 minutes	n/a	36	Day 37	n/a,2.0,194	Birds & insects (33), traffic (33), WCC inaudible	No
	17 th December 2013	10:56 pm	60 minutes	30	40	Night 37	+5.4,0.6,267	Birds & insects (38), traffic (35), WCC (25)	No
R22	16 th December 2013	10:25 am	60 minutes	n/a	45	Day 36	n/a,2.3,55	Birds & insects (45), tractor (30), WCC (26)	No
	17 th December 2013	8:03 pm	60 minutes	n/a	34	Night 36	+1.7,3.6,120	Birds & insects (34), traffic (25), WCC inaudible	No

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
R20*	Blast Noise	dB (Lin Peak)	Every Blast	6	103.8	108.0	120.0	No
	Blast Vibration	mm/s	Every Blast	6	1.69	3.39	10.00	No
R96	Blast Noise	dB (Lin Peak)	Every Blast	6	106.4	112.0	120.0	No
	Blast Vibration	mm/s	Every Blast	6	0.40	0.53	10.00	No
R11	Blast Noise	dB (Lin Peak)	Every Blast	6	102.2	107.0	120.0	No
	Blast Vibration	mm/s	Every Blast	6	0.20	0.26	10.00	No
R62	Blast Noise	dB (Lin Peak)	Every Blast	6	100.6	104.0	120.0	No
	Blast Vibration	mm/s	Every Blast	6	0.59	1.05	10.00	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

* Property R20 owned by Werris Creek Coal and therefore blasting criteria does not apply.



WCC EPL12290 Monitoring Location Plan