



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: January 2018

Obtained Date: **27/2/2018**

Publication Date: 27/2/2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	19/1/2018	1/2/2018	2.8	11.3	12.3	16.0
	Solid Particles	g/m ² /month	Continuous	1	23/1/2018	1/2/2018	0.7	0.7	0.7	0.7
29	PM10	µg/m ³	Every 6 days	5	19/1/2018	1/2/2018	7.2	18.6	20.3	28.0
	Solid Particles	g/m ² /month	Continuous	1	23/1/2018	1/2/2018	1.2	1.2	1.2	1.2
30	PM10	µg/m ³	Continuous	Continuous	31/1/2018	1/2/2018	6.6	15.5	14.1	31.9
	Solid Particles	g/m ² /month	Continuous	1	23/1/2018	1/2/2018	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	-	-	-	-	-	-
12	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

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32	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	pH	pH	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Total Suspended Solids	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	-	-	-	-	-	-
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	-	-	-	-	-	-
24	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-

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25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	26	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	-	-	-	-	-	-
Aluminium (dissolved)		mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.10	0.10	0.10	0.10
Arsenic (dissolved)		mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.002	0.002	0.002	0.002
Barium (dissolved)		mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.136	0.136	0.136	0.136
Beryllium (dissolved)		mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
BOD		mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	3	3	3	3
Cadmium (dissolved)		mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001	
Cobalt (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001	
33*	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.10	0.10	0.10	0.10
	Arsenic (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.002	0.002	0.002	0.002
	Barium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.136	0.136	0.136	0.136
	Beryllium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
	BOD	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	3	3	3	3
	Cadmium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.0001	<0.0001	<0.0001	<0.0001
	Chromium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
	Cobalt (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001

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34	Cooper (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.052	0.052	0.052	0.052
	Iron (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.11	0.11	0.11	0.11
	Lead (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.003	0.003	0.003	0.003
	Magnesium	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	27	27	27	27
	Manganese (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.025	0.025	0.025	0.025
	Nickel (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.002	0.002	0.002	0.002
	Potassium	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	14	14	14	14
	Selenium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.01	<0.01	<0.01	<0.01
	Sodium	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	163	163	163	163
	Total dissolved solids	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	904	904	904	904
	Vanadium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.01	<0.01	<0.01	<0.01
	Zinc (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.048	0.048	0.048	0.048
	Aluminium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.07	0.07	0.07	0.07
	Arsenic (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.002	0.002	0.002	0.002
	Barium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.112	0.112	0.112	0.112
	Beryllium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
	BOD	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	3	3	3	3
	Cadmium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.0001	<0.0001	<0.0001	<0.0001
	Chromium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
	Cobalt (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
Cooper (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.017	0.017	0.017	0.017	
Iron (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.06	0.06	0.06	0.06	
Lead (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.001	0.001	0.001	0.001	
Magnesium	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	26	26	26	26	
Manganese (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.144	0.144	0.144	0.144	
Nickel (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.001	0.001	0.001	0.001	

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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
35	Potassium	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	16	16	16	16
	Selenium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.01	<0.01	<0.01	<0.01
	Sodium	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	192	192	192	192
	Total dissolved solids	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	925	925	925	925
	Vanadium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.01	<0.01	<0.01	<0.01
	Zinc (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.024	0.024	0.024	0.024
	Aluminium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.12	0.12	0.12	0.12
	Arsenic (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.004	0.004	0.004	0.004
	Barium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.136	0.136	0.136	0.136
	Beryllium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
	BOD	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	4	4	4	4
	Cadmium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.0001	<0.0001	<0.0001	<0.0001
	Chromium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
	Cobalt (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
	Cooper (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.010	0.010	0.010	0.010
	Iron (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.07	0.07	0.07	0.07
	Lead (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.001	<0.001	<0.001	<0.001
	Magnesium	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	28	28	28	28
	Manganese (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.246	0.246	0.246	0.246
	Nickel (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.002	0.002	0.002	0.002
Potassium	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	16	16	16	16	
Selenium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.01	<0.01	<0.01	<0.01	
Sodium	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	194	194	194	194	
Total dissolved solids	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	950	950	950	950	
Vanadium (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<0.01	<0.01	<0.01	<0.01	
Zinc (dissolved)	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	0.175	0.175	0.175	0.175	

* EPL ID Point 33 is the point of discharge for offsite irrigation



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Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33*	Electrical Conductivity	mg/L	Special Frequency 4	3	22/1/2018	1/2/2018	1490	1590	1600	No
	Oil and Grease	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<5	<5	10	No
	pH	pH	Special Frequency 4	3	22/1/2018	1/2/2018	8.01	8.26	6.5-8.5	No
34	Electrical Conductivity	mg/L	Special Frequency 4	1	22/1/2018	1/2/2018	1630	1630	1600	No
	Oil and Grease	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<5	<5	10	No
	pH	pH	Special Frequency 4	1	22/1/2018	1/2/2018	8.02	8.02	6.5-8.5	No
35	Electrical Conductivity	mg/L	Special Frequency 4	1	22/1/2018	1/2/2018	1660	1660	1600	No
	Oil and Grease	mg/L	Special Frequency 3	1	22/1/2018	1/2/2018	<5	<5	10	No
	pH	pH	Special Frequency 4	1	22/1/2018	1/2/2018	8.17	8.17	6.5-8.5	No

* EPL ID Point 33 is the point of discharge for offsite irrigation

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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	-	-	-	-	-	-	
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-	
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-	
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-	
27	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	-	-	-	-	-	-	
	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	-	-	-	-	-	-	
17	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-	
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-	
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-	
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-	
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-	
	18	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
		Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-

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19	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
20	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	21	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-
Reactive Phosphorus		mg/L	Every 6 Months	0	-	-	-	-	-	-
Standing Water Level		Metres	Every 6 Months	0	-	-	-	-	-	-
Conductivity		µS/cm	Every 6 Months	0	-	-	-	-	-	-
Nitrate		mg/L	Every 6 Months	0	-	-	-	-	-	-
Nitrogen (Total)		mg/L	Every 6 Months	0	-	-	-	-	-	-
pH		pH	Every 6 Months	0	-	-	-	-	-	-
Phosphorus (Total)		mg/L	Every 6 Months	0	-	-	-	-	-	-
Reactive Phosphorus		mg/L	Every 6 Months	0	-	-	-	-	-	-
Standing Water Level		Metres	Every 6 Months	0	-	-	-	-	-	-
Conductivity		µS/cm	Every 6 Months	0	-	-	-	-	-	-
22		Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	24/1/2018	60 minutes	16:13	N/A	IA	Day 37	NA, 3.6m/s, 212 degrees.	WCCM inaudible. Birds to 45 dB, road traffic to 50 dB.	No	27/2/2018
R12	25/1/2018	60 minutes	10:26	N/A	IA	Day 38	NA, 1.0m/s, 256 degrees.	WCCM inaudible. Road traffic to 40 dB, birds/insects to 45 dB.	No	27/2/2018
R96	25/1/2018	60 minutes	11:44	N/A	25	Day 38	NA, 1.8m/s, 223 degrees	WCCM continuum 25 dB. Insects/birds to 45 dB, road traffic to 30dB, aircraft to 30 dB.	No	27/2/2018
R98	25/1/2018	60 minutes	10:23	N/A	<30	Day 36	NA, 1.8m/s, 310 degrees	WCCM continuum <30 dB. Insects/birds to 62 dB, aircraft <40dB, rural equipment, breeze.	No	27/2/2018
R24	24/1/2018	60 minutes	20:35	IA	IA	Night 37	NA, 6.0m/s, 179 degrees	WCCM inaudible. Insects to 32 dB, road traffic to 50 dB, breeze to 40 dB.	No	27/2/2018
R12	24/2/2018	60 minutes	21:03	IA	IA	Night 38	NA, 6.5m/s, 172 degrees	WCCM inaudible. Train up to 63 dB, road traffic to 40 dB, insects to 45 dB.	No	27/2/2018
R96	24/1/2018	60 minutes	21:32	IA	IA	Night 38	NA, 6.4m/s, 161 degrees	WCCM inaudible. Road traffic to 40 dB, insects to 30 dB, breeze to 30 dB.	No	27/2/2018
R98	24/1/2018	60 minutes	21:22	IA	IA	Night 38	NA, 7.0m/s, 165 degrees	WCCM inaudible. Breeze up to 35 dB, insects/birds up to 60 dB, aircraft to 40 dB, road traffic to 40 dB, pigs to 35 dB.	No	27/2/2018

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

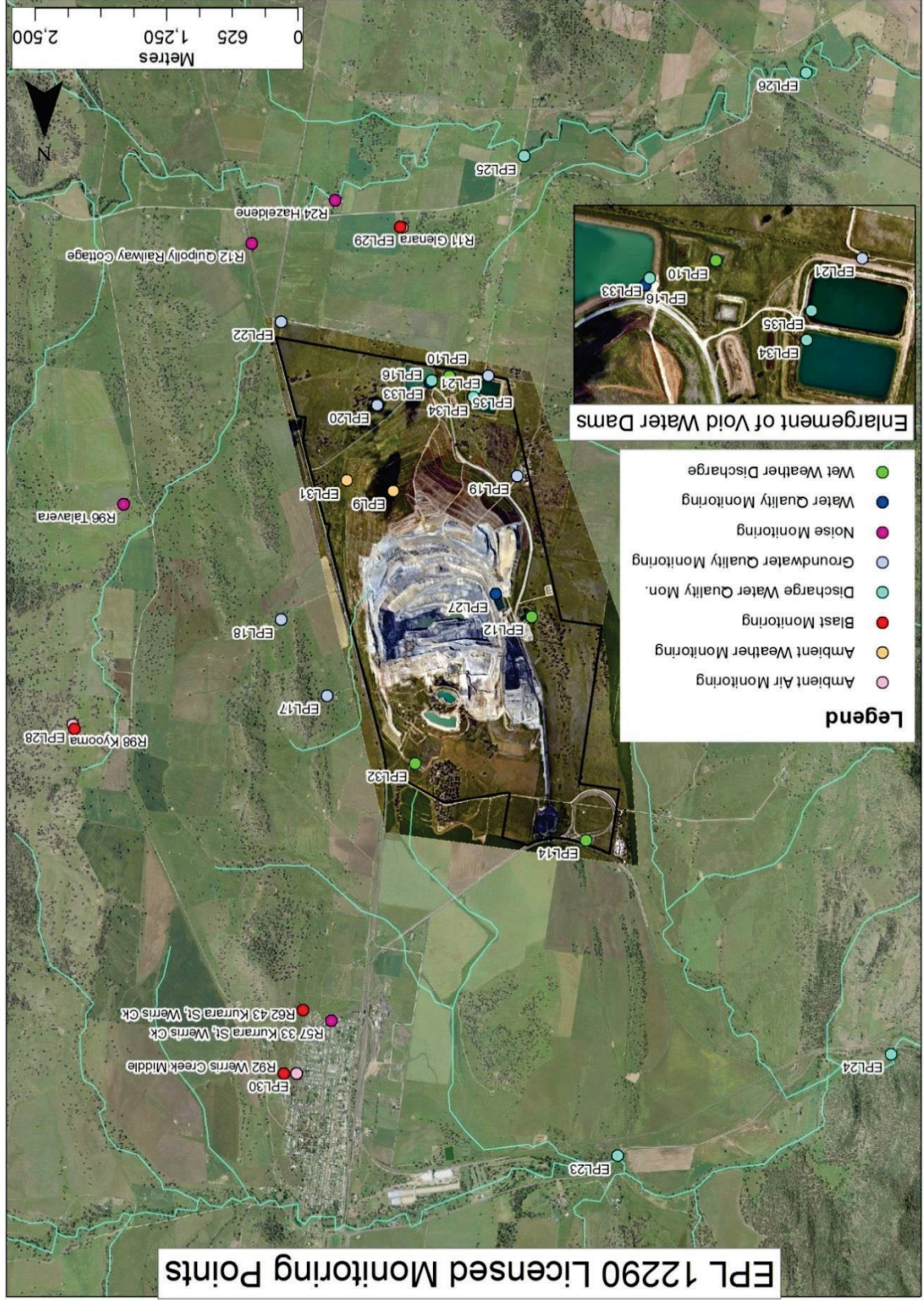
WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	10	97.6	108.5	120.0	No	1/02/2018
	Blast Vibration	mm/s	Every Blast	10	0.17	0.36	10.0	No	1/02/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	10	98.6	108.3	120.0	No	1/02/2018
	Blast Vibration	mm/s	Every Blast	10	1.00	1.32	10.0	No	1/02/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	10	99.6	105.3	120.0	No	1/02/2018
	Blast Vibration	mm/s	Every Blast	10	0.42	0.68	10.0	No	1/02/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	10	98.0	107.9	120.0	No	1/02/2018
	Blast Vibration	mm/s	Every Blast	10	0.32	0.55	10.0	No	1/02/2018



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: February 2018

Obtained Date: 2/3/2018

Publication Date: 19/3/2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	18/2/2018	27/2/2018	7.2	20.5	18.3	43.7
	Solid Particles	g/m ² /month	Continuous	1	23/2/2018	6/3/2018	0.5	0.5	0.5	0.5
29	PM10	µg/m ³	Every 6 days	5	18/2/2018	27/2/2018	19.7	31.4	26.2	53.6
	Solid Particles	g/m ² /month	Continuous	1	23/2/2018	6/3/2018	1.3	1.3	1.3	1.3
30	PM10	µg/m ³	Continuous	Continuous	28/2/2018	1/3/2018	<0.01	3.4	2.9	8.6
	Solid Particles	g/m ² /month	Continuous	1	23/2/2018	6/3/2018	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	-	-	-	-	-	-
12	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	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	-	-	-	-	-	-	
33*	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	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
34	Cooper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Cooper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	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
35	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cooper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	

* EPL ID Point 33 is the point of discharge for discharge sampling



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33	Electrical Conductivity	mg/L	Special Frequency 4	4	21/2/2018	1/3/2018	1478	1541	1600	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	4	21/2/2018	1/3/2018	8.2	8.5	6.5-8.5	No
34	Electrical Conductivity	mg/L	Special Frequency 4	4	21/2/2018	1/3/2018	1593	1620	1600	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	4	21/2/2018	1/3/2018	8.3	8.5	6.5-8.5	No
35	Electrical Conductivity	mg/L	Special Frequency 4	4	21/2/2018	1/3/2018	1646	1884	1600	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	4	21/2/2018	1/3/2018	8.4	8.5	6.5-8.5	No

* EPL ID Point 33 is the point of discharge for discharge sampling

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

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value	
16	Conductivity	µS/cm	Every 3 Months	1	22/1/2018	1/2/2018	1590	1590	1590	1590	
	Nitrate	mg/L	Every 3 Months	1	22/1/2018	1/2/2018	1.66	1.66	1.66	1.66	
	Nitrogen (Total)	mg/L	Every 3 Months	1	22/1/2018	1/2/2018	2.7	2.7	2.7	2.7	
	Oil and Grease	mg/L	Every 3 Months	1	22/1/2018	1/2/2018	<5	<5	<5	<5	
	pH	pH	Every 3 Months	1	22/1/2018	1/2/2018	8.01	8.01	8.01	8.01	
	Phosphorus (Total)	mg/L	Every 3 Months	1	22/1/2018	1/2/2018	<0.01	<0.01	<0.01	<0.01	
	Reactive Phosphorus	mg/L	Every 3 Months	1	22/1/2018	1/2/2018	<0.01	<0.01	<0.01	<0.01	
	Total Suspended Solids	mg/L	Every 3 Months	1	22/1/2018	1/2/2018	17	17	17	17	
	Conductivity	µS/cm	Every 3 Months	1	29/1/2018	5/2/2018	1440	1440	1440	1440	
	Nitrate	mg/L	Every 3 Months	1	29/1/2018	5/2/2018	3.88	3.88	3.88	3.88	
27	Oil and Grease	mg/L	Every 3 Months	1	29/1/2018	5/2/2018	5.4	5.4	5.4	5.4	
	pH	pH	Every 3 Months	1	29/1/2018	5/2/2018	<5	<5	<5	<5	
	Phosphorus (Total)	mg/L	Every 3 Months	1	29/1/2018	5/2/2018	8.12	8.12	8.12	8.12	
	Reactive Phosphorus	mg/L	Every 3 Months	1	29/1/2018	5/2/2018	<0.01	<0.01	<0.01	<0.01	
	Total Suspended Solids	mg/L	Every 3 Months	1	29/1/2018	5/2/2018	<0.01	<0.01	<0.01	<0.01	
	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	-	-	-	-	-	-	
17	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-	
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-	
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-	
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-	
	18	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
		Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	15/2/2018	60 minutes	11:31	N/A	IA	Day 37	NA, 1.7m/s, 150 degrees.	WCCM inaudible. Birds to 40 dB, Aircraft 54 dB, road traffic to 70 dB.	No	2/3/2018
R12	15/2/2018	60 minutes	10:23	N/A	IA	Day 38	NA, 1.8m/s, 0 degrees.	WCCM inaudible. Road traffic to 51 dB, birds/insects to 30 dB.	No	2/3/2018
R96	14/2/2018	60 minutes	16:28	N/A	IA	Day 38	NA, 7.8m/s, 220 degrees.	WCCM was inaudible. Insects/birds to 40 dB, breeze to 63 dB, car passing to 40dB, train to 40 dB	No	2/3/2018
R98	14/2/2018	60 minutes	16:35	N/A	NM	Day 36	NA, 7.8m/s, 280 degrees.	WCCM audible but not measurable. Birds to 30 dB, breeze on mic and flora to 58dB.	No	2/3/2018
R24	15/2/2018	60 minutes	20:06	IA	IA	Night 37	2.2°/100m, 3.1m/s, 0 degrees.	WCCM inaudible. Insects to 30 dB, road traffic to 71 dB, birds to 40 dB	No	2/3/2018
R12	14/2/2018	60 minutes	20:56	IA	IA	Night 38	8.6°/100m, 3.1m/s, 0 degrees.	WCCM inaudible. Road traffic to 59 dB, insects to 35 dB	No	2/3/2018
R96	14/2/2018	60 minutes	21:20	<30	<30	Night 38	9.3°/100m, 2.0m/s, 0 degrees.	WCCM Continuum <30 dB. Road traffic to 25 dB, insects to 35 dB birds to 44 dB, animals nearby to 40dB.	No	2/3/2018
R98	14/2/2018	60 minutes	21:03	31	<30	Night 38	8.6°/100m, 2.1m/s, 170 degrees.	WCCM Continuum <30 dB. Insects up to 45 dB.	No	2/3/2018

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

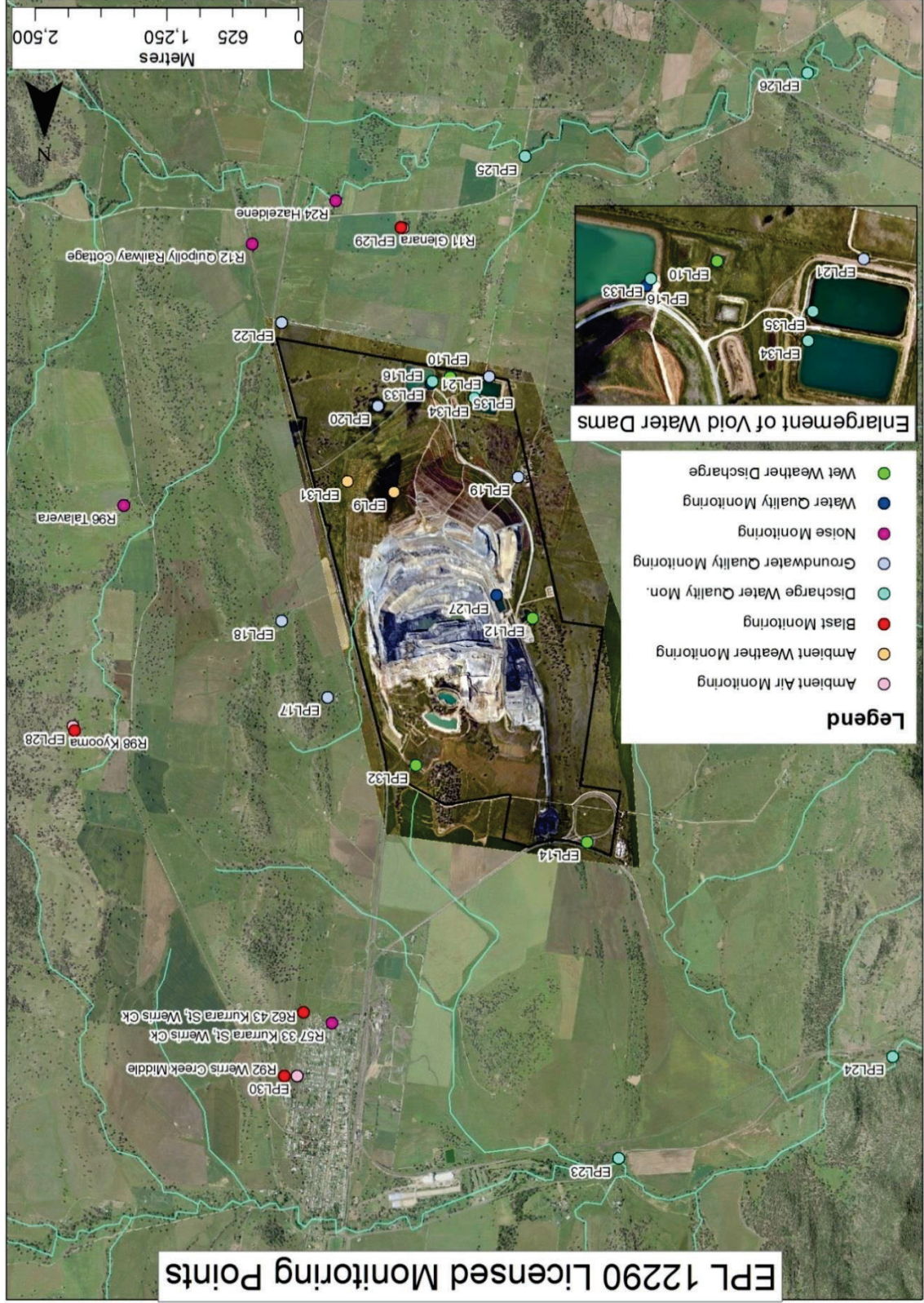
IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	8	98.4	114.5	120.0	No	1/03/2018
	Blast Vibration	mm/s	Every Blast	8	0.10	0.19	10.0	No	1/03/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	8	101.2	112.3	120.0	No	1/03/2018
	Blast Vibration	mm/s	Every Blast	8	0.82	1.45	10.0	No	1/03/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	8	101.5	106.4	120.0	No	1/03/2018
	Blast Vibration	mm/s	Every Blast	8	0.26	0.48	10.0	No	1/03/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	8	103.4	117.2	120.0	No	1/03/2018
	Blast Vibration	mm/s	Every Blast	8	0.19	0.40	10.0	No	1/03/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: March 2018

Obtained Date: **10 April 2018**

Publication Date: 20 April 2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	20/3/2018	10/4/2018	4.8	12.5	11.0	30.5
	Solid Particles	g/m ² /month	Continuous	1	23/3/2018	4/4/2018	0.5	0.5	0.5	0.5
29	PM10	µg/m ³	Every 6 days	5	20/3/2018	5/4/2018	8.2	23.6	22.0	48.4
	Solid Particles	g/m ² /month	Continuous	1	23/3/2018	4/4/2018	1.6	1.6	1.6	1.6
30	PM10	µg/m ³	Continuous	Continuous	31/3/2018	1/4/2018	3.7	11.9	11.5	31.5
	Solid Particles	g/m ² /month	Continuous	1	23/3/2018	4/4/2018	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	-	-	-	-	-	-
12	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
26	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	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
33*	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	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
34	Cooper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Cooper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	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
35	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cooper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-

* EPL ID Point 33 is the point of discharge for discharge sampling



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33	Electrical Conductivity	mg/L	Special Frequency 4	2	15 th & 28 th	15 th & 28 th	1216	1434	1600	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	2	15 th & 28 th	15 th & 28 th	8.17	8.24	6.5-8.5	No
34	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	1600	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	6.5-8.5	No
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	1600	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	6.5-8.5	No

* EPL ID Point 33 is the point of discharge for sampling

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

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	Every 3 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	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	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	1	8/3/2018	16/3/2018	Dry	Dry	Dry	Dry
	Nitrate	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	Dry	Dry	Dry	Dry
	Nitrogen (Total)	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	Dry	Dry	Dry	Dry
	pH	pH	Every 6 Months	1	8/3/2018	16/3/2018	Dry	Dry	Dry	Dry
17	Phosphorus (Total)	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	Dry	Dry	Dry	Dry
	Reactive Phosphorus	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	Dry	Dry	Dry	Dry
	Standing Water Level	Metres	Every 6 Months	1	8/3/2018	16/3/2018	Dry	Dry	Dry	Dry
	Conductivity	µS/cm	Every 6 Months	1	8/3/2018	16/3/2018	939	939	939	939
	Nitrate	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	5.74	5.74	5.74	5.74

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	
19	Nitrogen (Total)	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	6.1	6.1	6.1	6.1	
	pH	pH	Every 6 Months	1	8/3/2018	16/3/2018	7.89	7.89	7.89	7.89	
	Phosphorus (Total)	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	0.04	0.04	0.04	0.04	
	Reactive Phosphorus	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	0.04	0.04	0.04	0.04	
	Standing Water Level	Metres	Every 6 Months	1	8/3/2018	16/3/2018	58.97	58.97	58.97	58.97	
	Conductivity	µS/cm	Every 6 Months	1	13/3/2018	19/3/2018	2290	2290	2290	2290	
	Nitrate	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	13.0	13.0	13.0	13.0	
	Nitrogen (Total)	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	13.9	13.9	13.9	13.9	
	pH	pH	Every 6 Months	1	13/3/2018	19/3/2018	7.93	7.93	7.93	7.93	
	Phosphorus (Total)	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	0.27	0.27	0.27	0.27	
	Reactive Phosphorus	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	0.25	0.25	0.25	0.25	
	Standing Water Level	Metres	Every 6 Months	1	13/3/2018	19/3/2018	19.57	19.57	19.57	19.57	
20	Conductivity	µS/cm	Every 6 Months	1	13/3/2018	19/3/2018	997	997	997	997	
	Nitrate	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	1.83	1.83	1.83	1.83	
	Nitrogen (Total)	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	2.3	2.3	2.3	2.3	
	pH	pH	Every 6 Months	1	13/3/2018	19/3/2018	8.21	8.21	8.21	8.21	
	Phosphorus (Total)	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	0.11	0.11	0.11	0.11	
	Reactive Phosphorus	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	0.1	0.1	0.1	0.1	
	Standing Water Level	Metres	Every 6 Months	1	13/3/2018	19/3/2018	17.08	17.08	17.08	17.08	
	Conductivity	µS/cm	Every 6 Months	1	13/3/2018	19/3/2018	2060	2060	2060	2060	
	Nitrate	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	0.92	0.92	0.92	0.92	
	Nitrogen (Total)	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	0.9	0.9	0.9	0.9	
	pH	pH	Every 6 Months	1	13/3/2018	19/3/2018	7.71	7.71	7.71	7.71	
	Phosphorus (Total)	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	<0.01	<0.01	<0.01	<0.01	
21	Reactive Phosphorus	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	<0.01	<0.01	<0.01	<0.01	
	Standing Water Level	Metres	Every 6 Months	1	13/3/2018	19/3/2018	12.48	12.48	12.48	12.48	
	Conductivity	µS/cm	Every 6 Months	1	8/3/2018	16/3/2018	1770	1770	1770	1770	
	Nitrate	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	0.18	0.18	0.18	0.18	
	22	Nitrogen (Total)	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	6.1	6.1	6.1	6.1
		pH	pH	Every 6 Months	1	8/3/2018	16/3/2018	7.89	7.89	7.89	7.89
		Phosphorus (Total)	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	0.04	0.04	0.04	0.04
		Reactive Phosphorus	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	0.04	0.04	0.04	0.04
		Standing Water Level	Metres	Every 6 Months	1	8/3/2018	16/3/2018	58.97	58.97	58.97	58.97
		Conductivity	µS/cm	Every 6 Months	1	13/3/2018	19/3/2018	2290	2290	2290	2290
		Nitrate	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	13.0	13.0	13.0	13.0
		Nitrogen (Total)	mg/L	Every 6 Months	1	13/3/2018	19/3/2018	13.9	13.9	13.9	13.9
pH		pH	Every 6 Months	1	13/3/2018	19/3/2018	7.93	7.93	7.93	7.93	
Phosphorus (Total)		mg/L	Every 6 Months	1	13/3/2018	19/3/2018	0.27	0.27	0.27	0.27	
Reactive Phosphorus		mg/L	Every 6 Months	1	13/3/2018	19/3/2018	0.25	0.25	0.25	0.25	
Standing Water Level		Metres	Every 6 Months	1	13/3/2018	19/3/2018	19.57	19.57	19.57	19.57	



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Nitrogen (Total)	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	14.3	14.3	14.3	14.3
	pH	pH	Every 6 Months	1	8/3/2018	16/3/2018	7.99	7.99	7.99	7.99
	Phosphorus (Total)	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	12.6	12.6	12.6	12.6
	Reactive Phosphorus	mg/L	Every 6 Months	1	8/3/2018	16/3/2018	<0.01	<0.01	<0.01	<0.01
	Standing Water Level	Metres	Every 6 Months	1	8/3/2018	16/3/2018	15.82	15.82	15.82	15.82

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

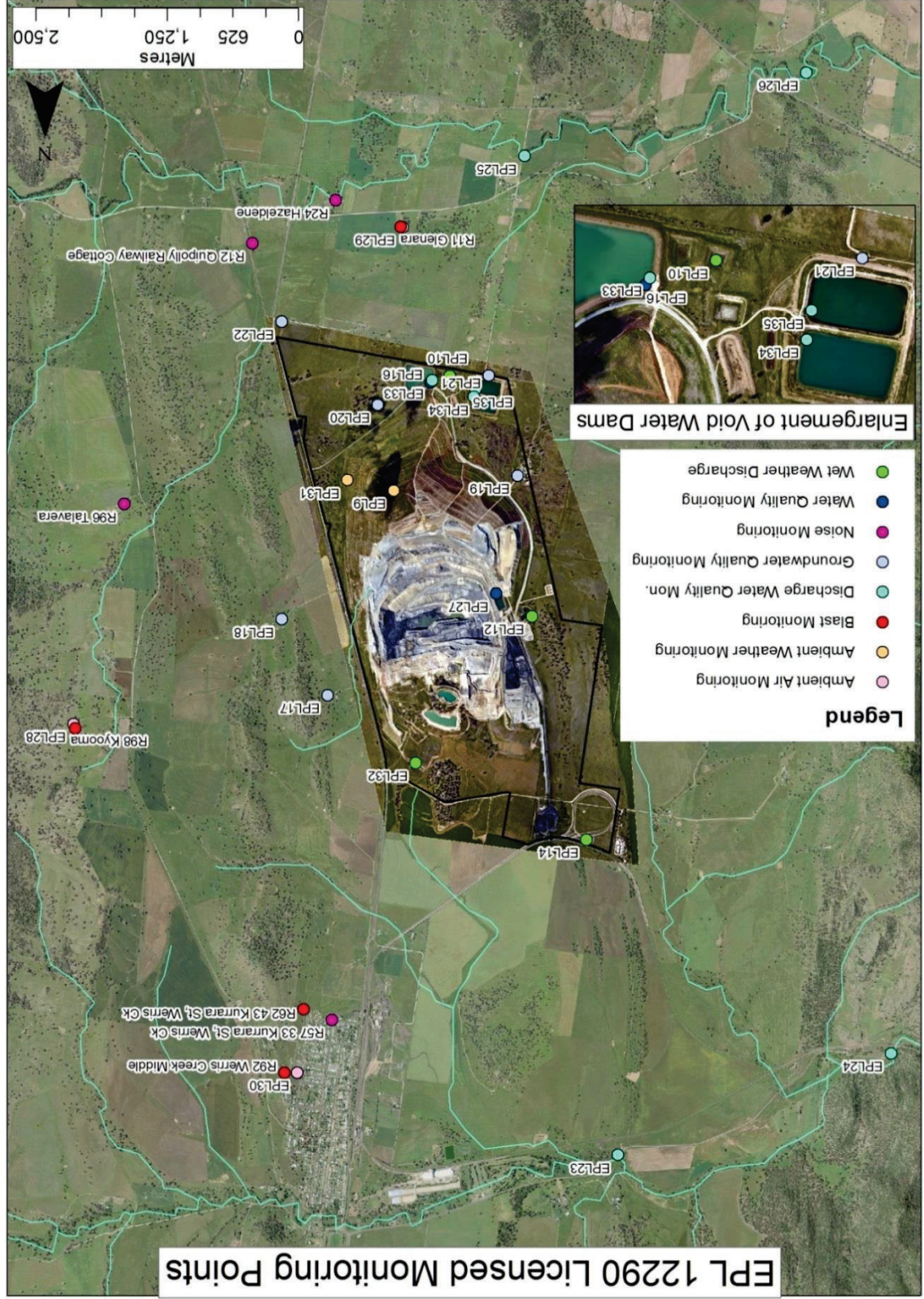
Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	19/3/2018	60 minutes	16:16	N/A	IA	Day 37	NA, 3.0m/s, 268 degrees.	WCCM inaudible. Road traffic to 45 dB, birds audible at low levels.	No	10/4/2018
R12	20/3/2018	60 minutes	11:53	N/A	IA	Day 38	NA, 2.6m/s, 252 degrees.	WCCM inaudible. Road traffic to 50 dB, train to 53 dB, insects to 35 dB and birds at low levels.	No	10/4/2018
R96	19/3/2018	60 minutes	10:41	N/A	NM	Day 38	NA, 1.5m/s, 356 degrees.	WCCM audible but not measurable. Birds to 50 dB, insects to 40 dB, breeze to 30 dB train and dogs at low levels.	No	10/4/2018
R98	20/3/2018	60 minutes	13:01	N/A	<25	Day 36	NA, 3.0m/s, 206 degrees,	WCCM continuum <25 dB. Birds/insects to 33 dB, train to 35 dB, breeze to 36 dB.	No	10/4/2018
R24	19/3/2018	60 minutes	18:53	28	<25	Night 37	5.8°/100m, 2.8m/s, 357 degrees.	WCCM continuum <25 dB, engine surge to 28dB. Road traffic to 50 dB, train to 50 dB, birds to 30 dB	No	10/4/2018
R12	19/3/2018	60 minutes	19:34	32	29	Night 38	7.2°/100m, 2.3m/s, 342 degrees.	WCCM continuum 29 dB, surge in continuum to 32dB. Road traffic to 50 dB, dogs to 40 dB, insects to 35 dB	No	10/4/2018
R96	19/3/2018	60 minutes	21:30	<25	<25	Night 38	10.0°/100m, 2.1m/s, 266 degrees.	WCCM continuum <25 dB. Train to 35 dB, insects to 28 dB, road traffic and dogs at low levels.	No	10/4/2018
R98	19/3/2018	60 minutes	20:55	30	<30	Night 38	7.5°/100m 2.6m/s, 249 degrees.	WCCM continuum <30 dB. Train up to 35 dB, aircraft to 25 dB, insects at low levels.	No	10/4/2018

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	11	99.7	109.0	120.0	No	1/04/2018
	Blast Vibration	mm/s	Every Blast	11	0.10	0.22	10.0	No	1/04/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	11	99.0	106.1	120.0	No	1/04/2018
	Blast Vibration	mm/s	Every Blast	11	0.56	1.04	10.0	No	1/04/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	11	99.9	104.4	120.0	No	1/04/2018
	Blast Vibration	mm/s	Every Blast	11	0.26	0.53	10.0	No	1/04/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	11	98.5	103.0	120.0	No	1/04/2018
	Blast Vibration	mm/s	Every Blast	11	0.20	0.37	10.0	No	1/04/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: April 2018

Obtained Date: **4 May 2018**

Publication Date: 21 May 2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	19/4/2018	2/5/2018	5.8	12.2	9.6	21.5
	Solid Particles	g/m ² /month	Continuous	1	20/4/2018	1/5/2018	0.5	0.5	0.5	0.5
29	PM10	µg/m ³	Every 6 days	5	19/4/2018	2/5/2018	8.8	23.8	19.9	36.0
	Solid Particles	g/m ² /month	Continuous	1	20/4/2018	1/5/2018	1.6	1.6	1.6	1.6
30	PM10	µg/m ³	Continuous	Continuous	30/4/2018	1/5/2018	7.5	15.2	12.2	71.5
	Solid Particles	g/m ² /month	Continuous	1	20/4/2018	1/5/2018	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	-	-	-	-	-	-
12	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
26	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	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
33*	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	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
34	Cooper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Cooper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	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
35	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cooper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	

* EPL ID Point 33 is the point of discharge for discharge sampling



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33	Electrical Conductivity	mg/L	Special Frequency 4	2	04/04/2018 09/04/2018	04/04/2018 09/04/2018	1255	1509	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	2	04/04/2018 09/04/2018	04/04/2018 09/04/2018	8.22	8.31	6.5-8.5	No
34	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	6.5-8.5	No
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	6.5-8.5	No

* EPL ID Point 33 is the point of discharge for discharge sampling



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
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	-	-	-	-	-	-
	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	-	-	-	-	-	-



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
22	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-

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

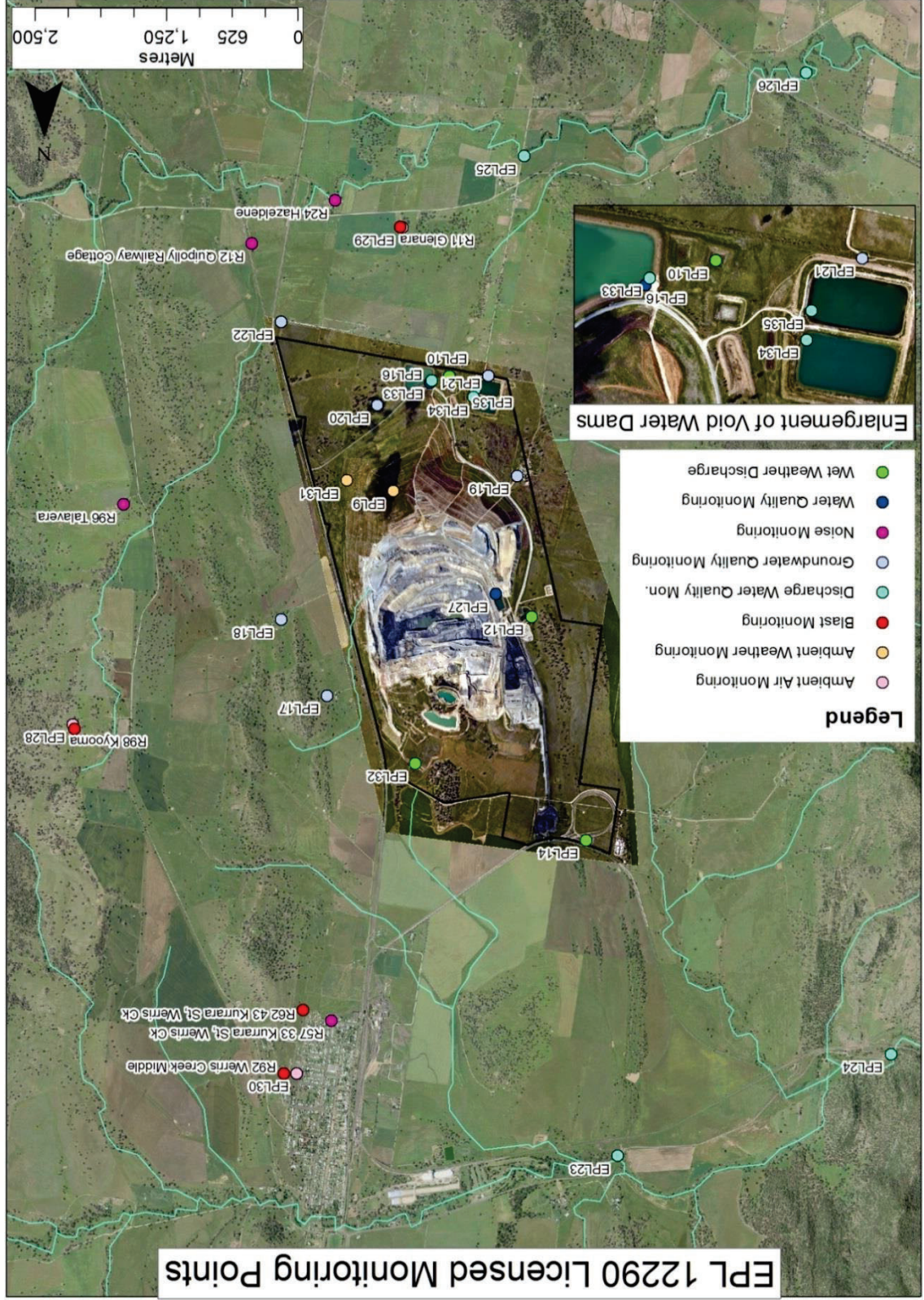
Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	26 and 27/4/2018	60 minutes	16:15	N/A	IA	Day 37	NA, 4.8m/s, 178 degrees.	WCC inaudible (<20) , Traffic (37), birds (25).	No	4/5/2018
R12	26 and 27/4/2018	60 minutes	7:10	N/A	IA	Day 38	NA, 4.8m/s, 178 degrees	WCC inaudible (<20) , Birds & insects (42), traffic (40).	No	4/5/2018
R96	26 and 27/4/2018	60 minutes	7:25	N/A	IA	Day 38	NA, 2.5m/s, 166 degrees	WCC inaudible (<20) , Traffic (35), birds (33).	No	4/5/2018
R98	26 and 27/4/2018	60 minutes	7:05	N/A	IA	Day 36	NA, 2.7m/s, 179 degrees	WCC inaudible (<20) , Birds (36).	No	4/5/2018
R57	26 and 27/4/2018	60 minutes	16:05	N/A	IA	Day 35	NA, 4.9m/s, 173 degrees	WCC inaudible (<20) , Traffic (42), birds & insects (32)	No	4/5/2018
R24	26 and 27/4/2018	60 minutes	21:45	<20	IA	Night 37	6.6°/100m, 3.1m/s, 164 degrees.	WCC inaudible (<20) , Traffic (43).	No	4/5/2018
R12	26 and 27/4/2018	60 minutes	22:52	<20	IA	Night 38	2.3°/100m, 3.0m/s, 163 degrees.	WCC inaudible (<20) , Traffic (39).	No	4/5/2018
R96	26 and 27/4/2018	60 minutes	19:00	<20	IA	Night 38	6.6°/100m, 2.4m/s, 213 degrees.	WCC inaudible (<20) , Traffic (28), frogs (21).	No	4/5/2018
R98	26 and 27/4/2018	60 minutes	20:05	24	20	Night 38	7.0°/100m, 2.6m/s, 208 degrees.	WCC (20) , Insects (20), traffic (15).	No	4/5/2018
R57	26 and 27/4/2018	60 minutes	20:50	21	IA	Night 35	6.8°/100m, 2.7m/s, 195 degrees.	WCC barely audible (<20) , Traffic (37), trains (37).	No	4/5/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	9	101.52	110.40		No	1/05/2018
	Blast Vibration	mm/s	Every Blast	9	0.09	0.18		No	1/05/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	9	99.61	105.80		No	1/05/2018
	Blast Vibration	mm/s	Every Blast	9	0.58	1.50		No	1/05/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	9	98.31	103.50		No	1/05/2018
	Blast Vibration	mm/s	Every Blast	9	0.24	0.42		No	1/05/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	9	98.73	102.50		No	1/05/2018
	Blast Vibration	mm/s	Every Blast	9	0.16	0.30		No	1/05/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: May 2018

Obtained Date: 26/6/2018

Publication Date: 11/7/2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	19/5/2018	6/6/2018	5.1	11.8	8.7	22.4
	Solid Particles	g/m ² /month	Continuous	1	21/5/2018	29/5/2018	0.4	0.4	0.4	0.4
29	PM10	µg/m ³	Every 6 days	5	19/5/2018	4/6/2018	10.2	22.8	14.0	42.5
	Solid Particles	g/m ² /month	Continuous	1	21/5/2018	29/5/2018	0.7	0.7	0.7	0.7
30	PM10	µg/m ³	Continuous	Continuous	31/5/2018	1/6/2018	11.9	19.3	19.7	33.2
	Solid Particles	g/m ² /month	Continuous	1	21/5/2018	29/5/2018	0.4	0.4	0.4	0.4
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	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	-	-	-	-	-	-	
33*	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	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
34	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	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
35	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-

* EPL ID Point 33 is the point of discharge for discharge sampling



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33	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
34	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

* EPL ID Point 33 is the point of discharge for discharge sampling

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

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value	
16	Conductivity	µS/cm	Every 3 Months	1	14/5/2018	30/5/2018	1490	1490	1490	1490	
	Nitrate	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	1.43	1.43	1.43	1.43	
	Nitrogen (Total)	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	2.2	2.2	2.2	2.2	
	Oil and Grease	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	<5	<5	<5	<5	
	pH	pH	Every 3 Months	1	14/5/2018	30/5/2018	8.13	8.13	8.13	8.13	
	Phosphorus (Total)	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	0.06	0.06	0.06	0.06	
	Reactive Phosphorus	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	<0.01	<0.01	<0.01	<0.01	
	Total Suspended Solids	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	76	76	76	76	
	Conductivity	µS/cm	Every 3 Months	1	14/5/2018	30/5/2018	1180	1180	1180	1180	
	Nitrate	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	3.16	3.16	3.16	3.16	
27	Oil and Grease	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	3.9	3.9	3.9	3.9	
	pH	pH	Every 3 Months	1	14/5/2018	30/5/2018	<5	<5	<5	<5	
	Phosphorus (Total)	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	8.23	8.23	8.23	8.23	
	Reactive Phosphorus	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	<0.01	<0.01	<0.01	<0.01	
	Total Suspended Solids	mg/L	Every 3 Months	1	14/5/2018	30/5/2018	<0.01	<0.01	<0.01	<0.01	
	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	-	-	-	-	-	-	
17	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-	
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-	
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-	
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-	
	18	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
		Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	28/5/2018	60 minutes	16:07	N/A	36	Day 37	NA, 3.9m/s, 187 degrees.	Traffic (35), train (26), WCC inaudible (<20)	No	26/6/2018
R12	28/5/2018	60 minutes	13:55	N/A	48	Day 38	NA, 1.7m/s, 163 degrees.	Traffic (47), birds (36), WCC inaudible (<20)	No	26/6/2018
R96	28/5/2018	60 minutes	13:25	N/A	35	Day 38	NA, 1.7m/s, 183 degrees.	Traffic (33), birds (30), WCC (<25)	No	26/6/2018
R98	28/5/2018	60 minutes	14:35	N/A	37	Day 36	NA, 1.7m/s, 163 degrees.	Birds (35), WCC inaudible (<20)	No	26/6/2018
R57	28/5/2018	60 minutes	16:11	N/A	36	Day 35	NA, 3.9m/s, 187 degrees	Traffic (36), WCC (<25)	No	26/6/2018
R24	28/5/2018	60 minutes	19:59	<20	39	Night 37	4°/100m, 1.5m/s, 172 degrees.	Traffic (39), WCC inaudible (<20)	No	26/6/2018
R12	28/5/2018	60 minutes	22:14	<20	NR	Night 38	7°/100m, 1.0m/s, 64 degrees.	Traffic (39), WCC inaudible (<20)	No	26/6/2018
R96	28/5/2018	60 minutes	19:05	<20	33	Night 38	3.0°/100m, 2.4m/s, 143 degrees.	Train (30), plane (30), WCC inaudible (<20)	No	26/6/2018
R98	28/5/2018	60 minutes	20:14	<20	33	Night 38	4.0°/100m, 1.5m/s, 172 degrees.	Cattle (31), traffic (27), WCC inaudible (<20)	No	26/6/2018
R57	28/5/2018	60 minutes	21:44	25	41	Night 35	6.0°/100m, 0.5m/s, 207degrees.	Traffic (41), WCC (<25)	No	26/6/2018

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

IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY
Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	13	99.3	120.4	120.0	Yes	1/06/2018
	Blast Vibration	mm/s	Every Blast	13	0.09	0.24	10.0	No	1/06/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	13	101.0	120.2	120.0	Yes	1/06/2018
	Blast Vibration	mm/s	Every Blast	13	0.61	1.95	10.0	No	1/06/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	13	98.4	110.1	120.0	No	1/06/2018
	Blast Vibration	mm/s	Every Blast	13	0.29	0.78	10.0	No	1/06/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	13	95.2	114.1	120.0	No	1/06/2018
	Blast Vibration	mm/s	Every Blast	13	0.20	0.53	10.0	No	1/06/2018



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: July 2018

Obtained Date: **23 August 2018**

Publication Date: 10 September 2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	24/7/2018	8/8/2018	4.0	16.2	12.2	30.0
	Solid Particles	g/m ² /month	Continuous	1	22/6/2018	31/7/2018	4.3*	4.3*	4.3*	4.3*
29	PM10	µg/m ³	Every 6 days	5	24/7/2018	8/8/2018	8.8	25.9	22.4	47.5
	Solid Particles	g/m ² /month	Continuous	1	22/6/2018	31/7/2018	0.8	0.8	0.8	0.8
30	PM10	µg/m ³	Continuous	Continuous	1/8/2018	1/8/2018	8.3	18.6	18.2	30.1
	Solid Particles	g/m ² /month	Continuous	1	22/6/2018	31/7/2018	1.7	1.7	1.7	1.7
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	-	-	-	-	-	-
12	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
26	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	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
33*	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	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
34	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	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
35	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	

*Dust gauge sample contaminated with glass. Broken funnel noted on field sheet.



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33	Electrical Conductivity	mg/L	Special Frequency 4	1	9/7/2018	4/9/2018	1380	1380	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	1	9/7/2018	4/9/2018	8.3	8.3	9	No
34	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

* EPL ID Point 33 is the point of discharge for discharge sampling

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

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	26/7/2018	60 minutes	3:12 pm	N/A	40	Day 37	NA, 3.5m/s, 266 degrees.	Birds (37), traffic (34), wind (33), WCC inaudible (<20)	No	22/8/2018
R12	26/7/2018	60 minutes	12:48 pm	N/A	43	Day 38	NA, 2.3m/s, 270 degrees	Traffic (41), birds (35), plane (30), WCC inaudible (<20)	No	22/8/2018
R96	26/7/2018	60 minutes	12:54 pm	N/A	36	Day 38	NA, 2.3m/s, 270 degrees	Birds (35), dogs (28), WCC inaudible (<20)	No	22/8/2018
R98	26/7/2018	60 minutes	2:03 pm	N/A	39	Day 36	NA, 4.5m/s, 287 degrees	Wind (35), birds (34), WCC (30)	No	22/8/2018
R57	26/7/2018	60 minutes	3:56 pm	N/A	52	Day 35	NA, 2.8m/s, 287 degrees	Rail yard (50), birds (45), WCC inaudible (<20)	No	22/8/2018
R24	26/7/2018	60 minutes	8:26 pm	28	45	Night 37	9.0°/100m, calm.	Traffic (45), WCC (26)	No	22/8/2018
R12	26/7/2018	60 minutes	9:35 pm	<20	54	Night 38	10.3°/100m, 0.8m/s, 102 degrees.	Traffic (54), WCC inaudible (<20)	No	22/8/2018
R96	26/7/2018	60 minutes	7:19 pm	<20	27	Night 38	10.5°/100m, 0.5m/s, 23 degrees.	Traffic (26), WCC (<20)	No	22/8/2018
R98	26/7/2018	60 minutes	8:24 pm	<20	23	Night 38	9.0°/100m, calm.	Plane (21), WCC (<20)	No	22/8/2018
R57	26/7/2018	60 minutes	10:25 pm	<20	40	Night 35	10.5°/100m, 1.5m/s, 353 degrees.	Trains (37), traffic (36), WCC inaudible (<20)	No	22/8/2018

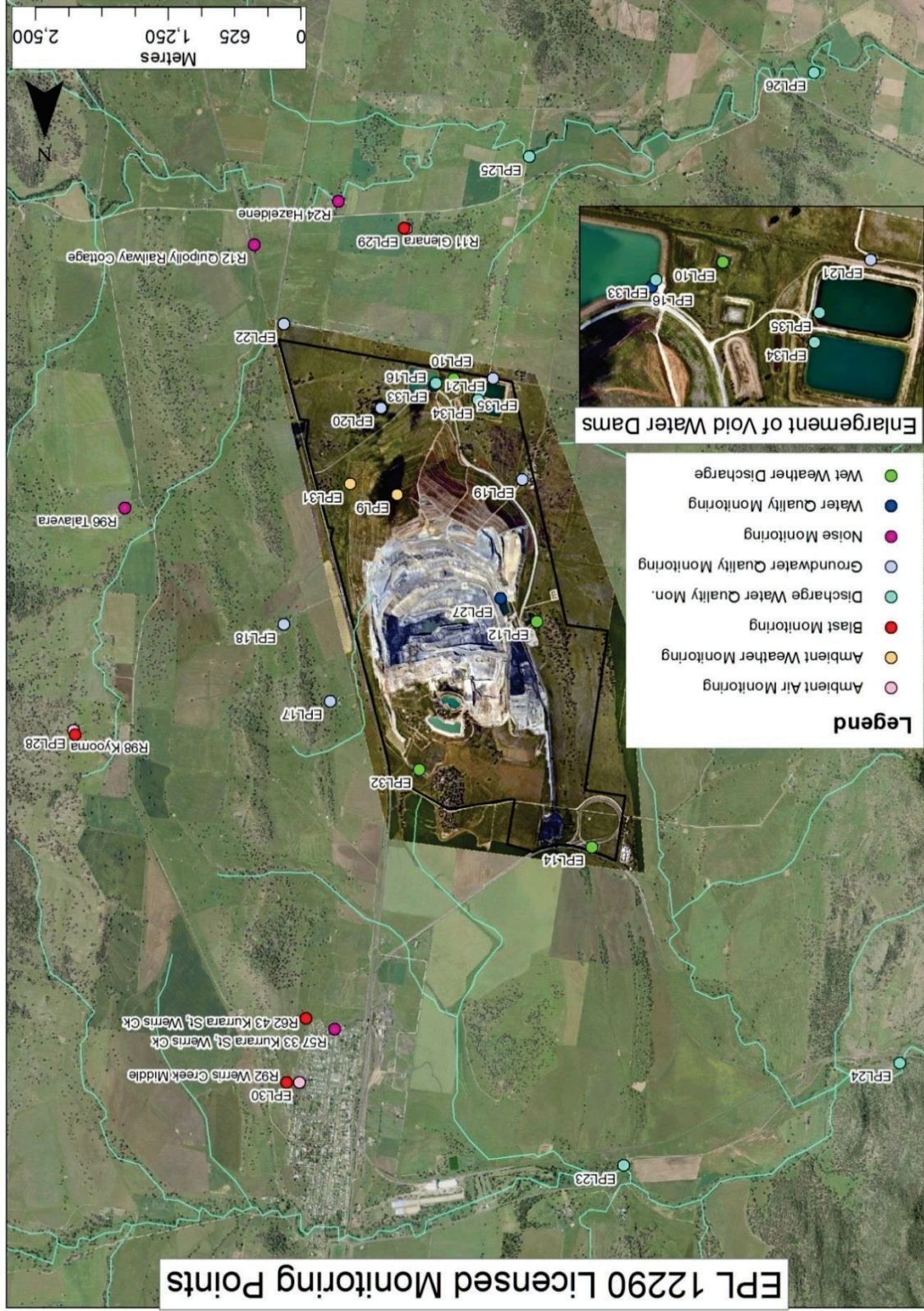
**NIM = Not Measurable. This denotes noise from the mine was audible at low levels however cannot be quantified.
IA = Inaudible.**

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	9	101.26	109.4	120.0	No	1/08/2018
	Blast Vibration	mm/s	Every Blast	9	0.11	0.30	10.0	No	1/08/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	9	103.1	110.8	120.0	No	1/08/2018
	Blast Vibration	mm/s	Every Blast	9	0.81	1.62	10.0	No	1/08/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	9	103.02	116.7	120.0	No	1/08/2018
	Blast Vibration	mm/s	Every Blast	9	0.37	0.69	10.0	No	1/08/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	9	98.32	109.3	120.0	No	1/08/2018
	Blast Vibration	mm/s	Every Blast	9	0.21	0.35	10.0	No	1/08/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: June 2018

Obtained Date: **23rd August 2018**

Publication Date: 4th September 2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	24/6/2018	11/7/2018	<0.1	4.4	4.2	9.9
	Solid Particles	g/m ² /month	Continuous	1	22/6/2018	4/7/2018	0.5	0.5	0.5	0.5
29	PM10	µg/m ³	Every 6 days	5	24/6/2018	11/7/2018	6.0	14.7	10.6	32.3
	Solid Particles	g/m ² /month	Continuous	1	22/6/2018	4/7/2018	0.6	0.6	0.6	0.6
30	PM10	µg/m ³	Continuous	Continuous	30/6/2018	1/7/2018	6.9	14.7	14.7	22.3
	Solid Particles	g/m ² /month	Continuous	1	22/6/2018	4/7/2018	1.8	1.8	1.8	1.8
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
26	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	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
33*	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	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
34	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	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
35	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	

* EPL ID Point 33 is the point of discharge for discharge sampling



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33	Electrical Conductivity	mg/L	Special Frequency 4	1	15/6/2018	15/6/2018	8.2	8.2	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	1	15/6/2018	15/6/2018	1450	1450	9	No
34	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

* EPL ID Point 33 is the point of discharge for discharge sampling

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	27/6/2018	60 minutes	11:00 am	N/A	43	Day 37	NA, 4.0m/s, 344 degrees.	Traffic (39), dog (38), WCC inaudible (<20)	No	23/8/2018
R12	27/6/2018	60 minutes	12:05 pm	N/A	43	Day 38	NA, 3.1m/s, 357 degrees.	Traffic (40), wind (39), WCC inaudible (<20)	No	23/8/2018
R96	27/6/2018	60 minutes	6:16 pm	N/A	33	Day 38	NA, 2.5m/s, 60 degrees.	Traffic (31), WCC (28)	No	23/8/2018
R98	27/6/2018	60 minutes	12:07 pm	N/A	40	Day 36	NA, 3.1m/s, 357 degrees.	Wind (37), birds (36), WCC inaudible (<20)	No	23/8/2018
R57	27/6/2018	60 minutes	2:20pm	N/A	53	Day 35	NA, 5.8m/s, 300 degrees.	Traffic (51), train (45), plane (39), WCC inaudible (<20)	No	23/8/2018
R24	27/6/2018	60 minutes	8:14 pm	38	38	Night 37	0.2°/100m, 0.5m/s, 3.3 degrees.	Traffic (36), WCC (33)	No	23/8/2018
R12	27/6/2018	60 minutes	9:17 pm	23	60	Night 38	0.6°/100m, 0.6m/s, 323 degrees.	Train (60), traffic (38), WCC inaudible (<20)	No	23/8/2018
R96	27/6/2018	60 minutes	11:11 pm	<20	39	Night 38	0.5°/100m, 0.9m/s, 87 degrees.	Birds (38), plane (29), WCC inaudible (<20)	No	23/8/2018
R98	27/6/2018	60 minutes	8:24 pm	30	33	Night 38	0.2°/100m, 0.5m/s, 3.3 degrees.	Traffic (29), WCC (28)	No	23/8/2018
R57	27/6/2018	60 minutes	9:57 pm	<20	38	Night 35	0.5°/100m, calm.	Rail yard (35), train (34), WCC inaudible (<20)	No	23/8/2018

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

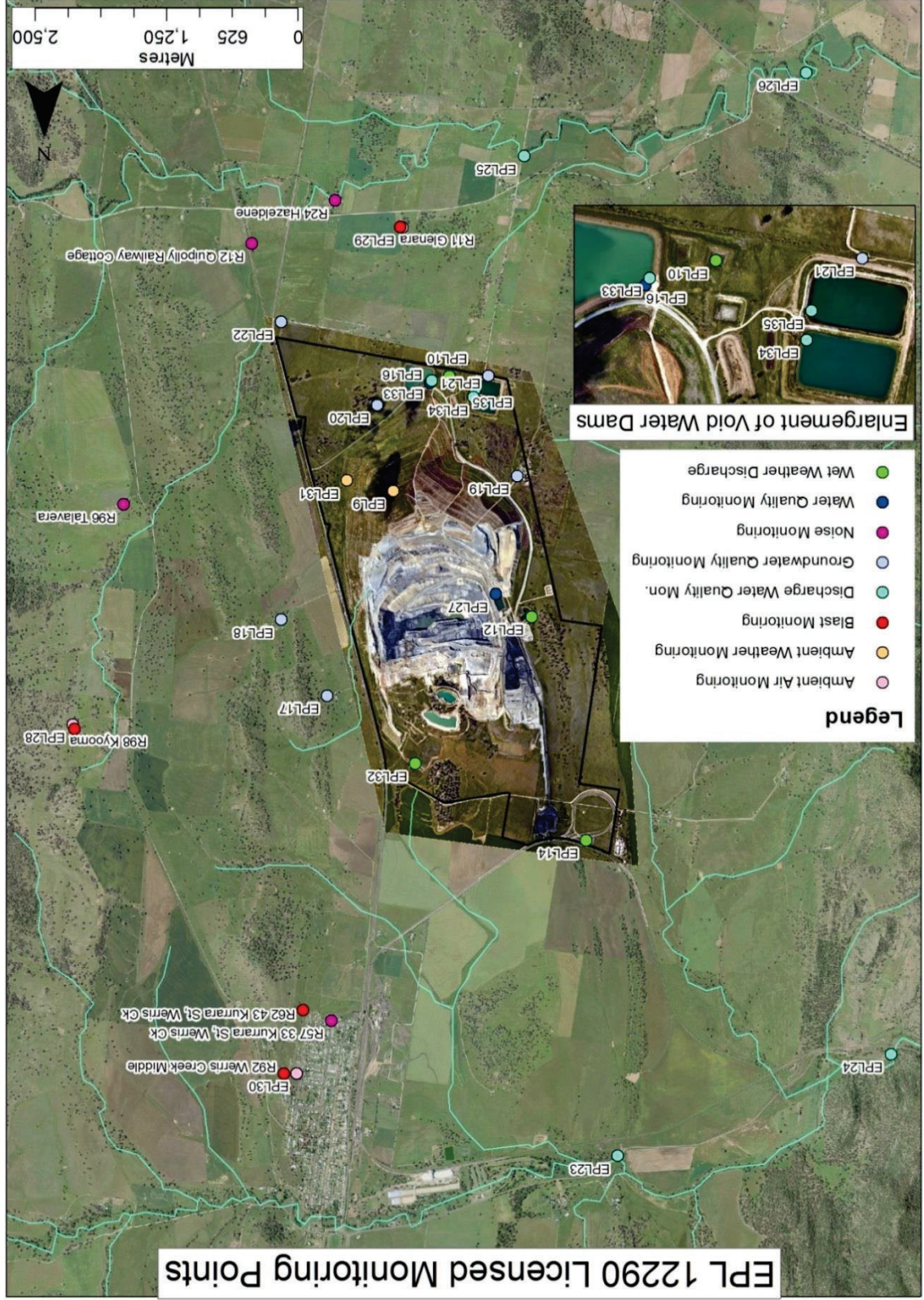
IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	12	98.88	105.10	120.0	No	1/07/2018
	Blast Vibration	mm/s	Every Blast	12	0.10	0.26	10.0	No	1/07/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	12	101.27	109.40	120.0	No	1/07/2018
	Blast Vibration	mm/s	Every Blast	12	0.68	2.28	10.0	No	1/07/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	12	98.38	104.40	120.0	No	1/07/2018
	Blast Vibration	mm/s	Every Blast	12	0.34	0.86	10.0	No	1/07/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	12	97.68	109.40	120.0	No	1/07/2018
	Blast Vibration	mm/s	Every Blast	12	0.20	0.40	10.0	No	1/07/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: August 2018

Obtained Date: **4 September 2018**

Publication Date: 10 September 2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	23/8/2018	31/8/2018	13.9	20.9	16.3	35.5
	Solid Particles	g/m ² /month	Continuous	1	22/8/2018	30/8/2018	1.0	1.0	1.0	1.0
29	PM10	µg/m ³	Every 6 days	5	23/8/2018	31/8/2018	12.6	26.3	26.5	35.0
	Solid Particles	g/m ² /month	Continuous	1	22/8/2018	30/8/2018	1.3	1.3	1.3	1.3
30	PM10	µg/m ³	Continuous	Continuous	23/8/2018	1/9/2018	6.3	17.7	13.5	73.4
	Solid Particles	g/m ² /month	Continuous	1	22/8/2018	30/8/2018	0.8	0.8	0.8	0.8
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
26	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	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	0.03	0.03	0.03	0.03	0.03
	Arsenic (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	0.001	0.001	0.001	0.001	0.001
	Barium (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	0.088	0.088	0.088	0.088	0.088
33*	Beryllium (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.001	<0.001	<0.001	<0.001	<0.001
	BOD	mg/L	Special Frequency 3	1	23/8/2018	<2	<2	<2	<2	<2
	Cadmium (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Chromium (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.001	<0.001	<0.001	<0.001	<0.001
	Cobalt (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.001	<0.001	<0.001	<0.001	<0.001

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
34	Copper (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.001	<0.001	<0.001	<0.001	<0.001
	Iron (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.05	<0.05	<0.05	<0.05	<0.05
	Lead (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.001	<0.001	<0.001	<0.001	<0.001
	Magnesium	mg/L	Special Frequency 3	1	23/8/2018	18	18	18	18	18
	Manganese (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	0.008	0.008	0.008	0.008	0.008
	Nickel (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.001	<0.001	<0.001	<0.001	<0.001
	Potassium	mg/L	Special Frequency 3	1	23/8/2018	11	11	11	11	11
	Selenium (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.01	<0.01	<0.01	<0.01	<0.01
	Sodium	mg/L	Special Frequency 3	1	23/8/2018	144	144	144	144	144
	Total dissolved solids	mg/L	Special Frequency 3	1	23/8/2018	808	808	808	808	808
	Vanadium (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.01	<0.01	<0.01	<0.01	<0.01
	Zinc (dissolved)	mg/L	Special Frequency 3	1	23/8/2018	<0.005	<0.005	<0.005	<0.005	<0.005
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	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
35	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	

*Dust gauge sample contaminated with glass. Broken funnel noted on field sheet.



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33*	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
34	Electrical Conductivity	mg/L	Special Frequency 4	1	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	1	-	-	-	-	10	No
	pH	pH	Special Frequency 4	1	-	-	-	-	9	No
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

* EPL ID Point 33 is the point of discharge for discharge sampling

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

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	1	23/8/2018	3/9/2018	1360	1360	1360	1360
	Nitrate	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	1.87	1.87	1.87	1.87
	Nitrogen (Total)	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	2.3	2.3	2.3	2.3
	Oil and Grease	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	23/8/2018	3/9/2018	8.09	8.09	8.09	8.09
	Phosphorus (Total)	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	<5	<5	<5	<5
	Conductivity	µS/cm	Every 3 Months	1	23/8/2018	3/9/2018	1280	1280	1280	1280
	Nitrate	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	2.12	2.12	2.12	2.12
27	Nitrogen (Total)	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	2.5	2.5	2.5	2.5
	Oil and Grease	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	23/8/2018	3/9/2018	8.07	8.07	8.07	8.07
	Phosphorus (Total)	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	23/8/2018	3/9/2018	<5	<5	<5	<5
	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	-	-	-	-	-	-
17	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	9/8/2018	60 minutes	1:45pm	N/A	35	Day 37	NA, 1.6m/s, 229 degrees.	Traffic (33), birds (27), WCC inaudible (<20)	No	4/9/2018
R12	9/8/2018	60 minutes	4:00pm	N/A	39	Day 38	NA, 1.3m/s, 248 degrees.	Traffic (39), WCC inaudible (<20)	No	4/9/2018
R96	10/8/2018	60 minutes	8:27am	N/A	37	Day 38	NA, 2.0m/s, 322 degrees.	Birds (37), traffic (37), WCC inaudible (<20)	No	4/9/2018
R98	10/8/2018	60 minutes	9:30am	N/A	40	Day 36	NA, 3.5m/s, 340 degrees.	Birds (40), WCC inaudible (<20)	No	4/9/2018
R57	10/8/2018	60 minutes	11:26am	N/A	42	Day 35	NA, 2.9m/s, 336 degrees.	Birds (40), traffic (35), trains (34), WCC inaudible (<20)	No	4/9/2018
R24	9/8/2018	60 minutes	8:38pm	<20	45	Night 37	11.3°/100m, 0.6m/s, 160 degrees.	Traffic (45), WCC inaudible (<20)	No	4/9/2018
R12	9/8/2018	60 minutes	10:42pm	<20	26	Night 38	10.4°/100m, 0.4m/s, 246 degrees.	Traffic (26), WCC inaudible (<20)	No	4/9/2018
R96	10/8/2018	60 minutes	7:33pm	<20	38	Night 38	10.5°/100m, 1.4m/s, 130 degrees.	Traffic (37), WCC (30)	No	4/9/2018
R98	10/8/2018	60 minutes	8:38pm	<20	26	Night 38	11.3°/100m, 0.6m/s, 160 degrees.	Traffic (26), WCC inaudible (<20)	No	4/9/2018
R57	10/8/2018	60 minutes	10:35pm	<20	41	Night 35	10.4°/100m, 0.4m/s, 246 degrees.	Trains (40), traffic (35), WCC inaudible (<20)	No	4/9/2018

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

IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	15	97.97	113.10	120.0	No	1/09/2018
	Blast Vibration	mm/s	Every Blast	15	0.07	0.14	10.0	No	1/09/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	15	101.09	112.30	120.0	No	1/09/2018
	Blast Vibration	mm/s	Every Blast	15	0.43	0.98	10.0	No	1/09/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	15	99.98	114.10	120.0	No	1/09/2018
	Blast Vibration	mm/s	Every Blast	15	0.26	0.56	10.0	No	1/09/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	15	94.73	101.80	120.0	No	1/09/2018
	Blast Vibration	mm/s	Every Blast	15	0.13	0.26	10.0	No	1/09/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: September 2018

Obtained Date: **26/10/2018**

Publication Date: 12/10/2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	22/9/2018	5/10/2018	3.5	11.1	11.9	16.9
	Solid Particles	g/m ² /month	Continuous	1	21/9/2018	28/9/2018	2.5	2.5	2.5	2.5
29	PM10	µg/m ³	Every 6 days	5	22/9/2018	5/10/2018	0.6	18.9	13.3	47.7
	Solid Particles	g/m ² /month	Continuous	1	21/9/2018	28/9/2018	2.3	2.3	2.3	2.3
30	PM10	µg/m ³	Continuous	Continuous	30/9/2018	1/10/2018	5.1	15.8	13.7	64.0
	Solid Particles	g/m ² /month	Continuous	1	21/9/2018	28/9/2018	1.7	1.7	1.7	1.7
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	-	-	-	-	-	-
12	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	26	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	-	-	-	-	-	-
Aluminium (dissolved)		mg/L	Special Frequency 3	0	-	-	-	-	-	-
Arsenic (dissolved)		mg/L	Special Frequency 3	0	-	-	-	-	-	-
Barium (dissolved)		mg/L	Special Frequency 3	0	-	-	-	-	-	-
Beryllium (dissolved)		mg/L	Special Frequency 3	0	-	-	-	-	-	-
BOD		mg/L	Special Frequency 3	0	-	-	-	-	-	-
33*		Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	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
34	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	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
35	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	

*Dust gauge sample contaminated with glass. Broken funnel noted on field sheet.



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33*	Electrical Conductivity	mg/L	Special Frequency 4	2	10/9/2018 21/9/2018	26/10/2018	1280	1290	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	2	10/9/2018 21/9/2018	26/10/2018	8.5	8.5	9	No
34	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

* EPL ID Point 33 is the point of discharge for discharge sampling

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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

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
18	Conductivity	µS/cm	Every 6 Months	1	925	925	925	925	925	925
	Nitrate	mg/L	Every 6 Months	1	6.21	6.21	6.21	6.21	6.21	6.21
	Nitrogen (Total)	mg/L	Every 6 Months	1	6.8	6.8	6.8	6.8	6.8	6.8
	pH	pH	Every 6 Months	1	7.99	7.99	7.99	7.99	7.99	7.99
	Phosphorus (Total)	mg/L	Every 6 Months	1	0.02	0.02	0.02	0.02	0.02	0.02
	Reactive Phosphorus	mg/L	Every 6 Months	1	0.03	0.03	0.03	0.03	0.03	0.03
	Standing Water Level	Metres	Every 6 Months	1	50.1	50.1	50.1	50.1	50.1	50.1
	Conductivity	µS/cm	Every 6 Months	1	2400	2400	2400	2400	2400	2400
	Nitrate	mg/L	Every 6 Months	1	16.4	16.4	16.4	16.4	16.4	16.4
	Nitrogen (Total)	mg/L	Every 6 Months	1	16.8	16.8	16.8	16.8	16.8	16.8
19	pH	pH	Every 6 Months	1	7.94	7.94	7.94	7.94	7.94	7.94
	Phosphorus (Total)	mg/L	Every 6 Months	1	0.24	0.24	0.24	0.24	0.24	0.24
	Reactive Phosphorus	mg/L	Every 6 Months	1	0.27	0.27	0.27	0.27	0.27	0.27
	Standing Water Level	Metres	Every 6 Months	1	20.03	20.03	20.03	20.03	20.03	20.03
	Conductivity	µS/cm	Every 6 Months	1	1010	1010	1010	1010	1010	1010
	Nitrate	mg/L	Every 6 Months	1	2.28	2.28	2.28	2.28	2.28	2.28
	Nitrogen (Total)	mg/L	Every 6 Months	1	3.2	3.2	3.2	3.2	3.2	3.2
	pH	pH	Every 6 Months	1	8.06	8.06	8.06	8.06	8.06	8.06
	Phosphorus (Total)	mg/L	Every 6 Months	1	0.08	0.08	0.08	0.08	0.08	0.08
	Reactive Phosphorus	mg/L	Every 6 Months	1	0.04	0.04	0.04	0.04	0.04	0.04
20	Standing Water Level	Metres	Every 6 Months	1	17.78	17.78	17.78	17.78	17.78	17.78
	Conductivity	µS/cm	Every 6 Months	1	2030	2030	2030	2030	2030	2030
	Nitrate	mg/L	Every 6 Months	1	0.91	0.91	0.91	0.91	0.91	0.91
	Nitrogen (Total)	mg/L	Every 6 Months	1	1.1	1.1	1.1	1.1	1.1	1.1
	pH	pH	Every 6 Months	1	7.74	7.74	7.74	7.74	7.74	7.74
	Phosphorus (Total)	mg/L	Every 6 Months	1	0.09	0.09	0.09	0.09	0.09	0.09
	Reactive Phosphorus	mg/L	Every 6 Months	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Standing Water Level	Metres	Every 6 Months	1	13.06	13.06	13.06	13.06	13.06	13.06
	Conductivity	µS/cm	Every 6 Months	1	2030	2030	2030	2030	2030	2030
	Nitrate	mg/L	Every 6 Months	1	0.91	0.91	0.91	0.91	0.91	0.91
21	Nitrogen (Total)	mg/L	Every 6 Months	1	1.1	1.1	1.1	1.1	1.1	1.1
	pH	pH	Every 6 Months	1	7.74	7.74	7.74	7.74	7.74	7.74
	Phosphorus (Total)	mg/L	Every 6 Months	1	0.09	0.09	0.09	0.09	0.09	0.09
	Reactive Phosphorus	mg/L	Every 6 Months	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Standing Water Level	Metres	Every 6 Months	1	13.06	13.06	13.06	13.06	13.06	13.06
	Conductivity	µS/cm	Every 6 Months	1	2030	2030	2030	2030	2030	2030
	Nitrate	mg/L	Every 6 Months	1	0.91	0.91	0.91	0.91	0.91	0.91
	Nitrogen (Total)	mg/L	Every 6 Months	1	1.1	1.1	1.1	1.1	1.1	1.1
	pH	pH	Every 6 Months	1	7.74	7.74	7.74	7.74	7.74	7.74
	Phosphorus (Total)	mg/L	Every 6 Months	1	0.09	0.09	0.09	0.09	0.09	0.09



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
22	Conductivity	µS/cm	Every 6 Months	1	TLTS	TLTS	TLTS	TLTS	TLTS	TLTS
	Nitrate	mg/L	Every 6 Months	1	TLTS	TLTS	TLTS	TLTS	TLTS	TLTS
	Nitrogen (Total)	mg/L	Every 6 Months	1	TLTS	TLTS	TLTS	TLTS	TLTS	TLTS
	pH	pH	Every 6 Months	1	TLTS	TLTS	TLTS	TLTS	TLTS	TLTS
	Phosphorus (Total)	mg/L	Every 6 Months	1	TLTS	TLTS	TLTS	TLTS	TLTS	TLTS
	Reactive Phosphorus	mg/L	Every 6 Months	1	TLTS	TLTS	TLTS	TLTS	TLTS	TLTS
	Standing Water Level	Metres	Every 6 Months	1	TLTS	TLTS	TLTS	TLTS	TLTS	TLTS

TLTS- Too low to sample

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	11/9/2018	60 minutes	13:40	N/A	37	Day 37	NA, 3.4m/s, 292 degrees.	Birds (36), traffic (30), WCC inaudible (<20)	No	26/10/2018
R12	11/9/2018	60 minutes	15:35	N/A	42	Day 38	NA, 2.1m/s, 293 degrees.	Traffic (40), birds (30), WCC inaudible (<20)	No	26/10/2018
R96	11/9/2018	60 minutes	12:35	N/A	35	Day 38	NA, 3.2m/s, 299 degrees.	Birds (35), traffic (25), WCC inaudible (<20)	No	26/10/2018
R98	11/9/2018	60 minutes	13:38	N/A	41	Day 36	NA, 3.4m/s, 292 degrees.	Birds and dogs (41), WCC barely audible (<20)	No	26/10/2018
R57	11/9/2018	60 minutes	15:25	N/A	42	Day 35	NA, 2.1m/s, 293 degrees.	Birds (38), traffic (38), trains (33), WCC inaudible (<20)	No	26/10/2018
R24	11/9/2018	60 minutes	19:00	28	44	Night 37	9.5°/100m, 2.5m/s, 3 degrees.	Traffic (44), WCC (25), crickets (22)	No	26/10/2018
R12	11/9/2018	60 minutes	22:10	<20	26	Night 38	11.5°/100m, 1.4m/s, 353 degrees.	Traffic (26), WCC inaudible (<20)	No	26/10/2018
R96	11/9/2018	60 minutes	19:00	<20	35	Night 38	9.5°/100m, 2.5m/s, 3 degrees.	Traffic (35), WCC inaudible (<20)	No	26/10/2018
R98	11/9/2018	60 minutes	20:10	32	31	Night 38	8.9°/100m, 2.4m/s, 358 degrees.	Traffic (29), WCC (27)	No	26/10/2018
R57	11/9/2018	60 minutes	22:00	35	37	Night 35	11.5°/100m, 1.4m/s, 353 degrees.	Traffic (36), trains (30), WCC (26)	No	26/10/2018

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

IA = Inaudible.



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	17	100.61	108.9	120.0	No	1/10/2018
	Blast Vibration	mm/s	Every Blast	17	0.09	0.22	10.0	No	1/10/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	17	101.98	108.30	120.0	No	1/10/2018
	Blast Vibration	mm/s	Every Blast	17	0.51	0.93	10.0	No	1/10/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	17	98.90	107.40	120.0	No	1/10/2018
	Blast Vibration	mm/s	Every Blast	17	0.30	0.68	10.0	No	1/10/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	17	96.95	106.20	120.0	No	1/10/2018
	Blast Vibration	mm/s	Every Blast	17	0.18	0.54	10.0	No	1/10/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: October 2018

Obtained Date: **28/11/2018**

Publication Date: 10/12/2018

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	22/10/2018	29/10/2018	3.2	11.4	10.2	18.8
	Solid Particles	g/m ² /month	Continuous	1	19/10/2018	26/10/2018	0.6	0.6	0.6	0.6
29	PM10	µg/m ³	Every 6 days	5	22/10/2018	29/10/2018	9.1	18.2	18.1	24.5
	Solid Particles	g/m ² /month	Continuous	1	19/10/2018	26/10/2018	1.0	1.0	1.0	1.0
30	PM10	µg/m ³	Continuous	Continuous	31/10/2018	1/11/2018	4.4	11.0	11.0	19.0
	Solid Particles	g/m ² /month	Continuous	1	19/10/2018	26/10/2018	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	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	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	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
33*	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	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
34	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	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
35	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-

*Dust gauge sample contaminated with glass. Broken funnel noted on field sheet.

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33*	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No
34	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

* EPL ID Point 33 is the point of discharge for discharge sampling.

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	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	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
17	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	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	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
21	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
22	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	-	-	-	-	-	-

TLTS- Too low to sample

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	29/10/2018	60 minutes	3:48 pm	N/A	43	Day 37	NA, 2.1m/s, 212 degrees	Birds (40), traffic (35), plane (34), WCC inaudible (<20)	No	28/11/2018
R12	29/10/2018	60 minutes	2:30 pm	N/A	41	Day 38	NA, 1.3m/s, 247 degrees	Traffic (38), birds (37), WCC inaudible (<20)	No	28/11/2018
R96	29/10/2018	60 minutes	12:21 pm	N/A	37	Day 38	NA, 0.8m/s, 269 degrees	Traffic (34), Wind (32), WCC inaudible (<20)	No	28/11/2018
R98	29/10/2018	60 minutes	1:25 pm	N/A	37	Day 36	NA, 2.1m/s, 209 degrees	Birds (36), plane (25), WCC inaudible (<20)	No	28/11/2018
R57	29/10/2018	60 minutes	3:30 pm	N/A	48	Day 35	NA, 2.3m/s, 185 degrees	Birds (47), traffic (37), WCC inaudible (<20)	No	28/11/2018
R24	29/10/2018	60 minutes	8:08 pm	<20	41	Night 37	NA, 4.7m/s, 137 degrees	Traffic (40), crickets (33), WCC inaudible (<20)	No	28/11/2018
R12	29/10/2018	60 minutes	9:50 pm	<20	36	Night 38	2.3°/100m, 1.3m/s, 73 degrees	Traffic (34), wind (28), crickets (24), WCC inaudible (<20)	No	28/11/2018
R96	29/10/2018	60 minutes	7:15 pm	<20	47	Night 38	0.1°/100m, 5.6m/s, 148 degrees	Insects (46), wind (36), WCC inaudible (<20)	No	28/11/2018
R98	29/10/2018	60 minutes	8:16 pm	<20	27	Night 38	NA, 4.7m/s, 137 degrees	Insects (24), Wind (23), WCC inaudible (<20)	No	28/11/2018
R57	29/10/2018	60 minutes	9:51 pm	<20	39	Night 35	2.3°/100m, 1.3m/s, 73 degrees	Traffic (35), wind (34), WCC inaudible (<20)	No	28/11/2018

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

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	10	99.61	107.70	120.0	No	1/11/2018
	Blast Vibration	mm/s	Every Blast	10	0.09	0.23	10.0	No	1/11/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	10	102.14	110.0	120.0	No	1/11/2018
	Blast Vibration	mm/s	Every Blast	10	0.71	1.87	10.0	No	1/11/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	10	99.31	107.70	120.0	No	1/11/2018
	Blast Vibration	mm/s	Every Blast	10	0.33	0.68	10.0	No	1/11/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	10	97.17	104.10	120.0	No	1/11/2018
	Blast Vibration	mm/s	Every Blast	10	0.18	0.38	10.0	No	1/11/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: November 2018

Obtained Date: 12/2/2019

Publication Date: 12/2/2019

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	5	21/11/2018	3/12/2018	8.0	18.3	17.8	25.6
	Solid Particles	g/m ² /month	Continuous	1	19/11/2018	27/11/2018	1.4	1.4	1.4	1.4
29	PM10	µg/m ³	Every 6 days	5	21/11/2018	3/12/2018	11.2	21.4	21.6	27.1
	Solid Particles	g/m ² /month	Continuous	1	19/11/2018	27/11/2018	2.5	2.5	2.5	2.5
30	PM10	µg/m ³	Continuous	Continuous	30/11/2018	1/12/2018	5.1	20.7	14.2	98.0
	Solid Particles	g/m ² /month	Continuous	1	19/11/2018	27/11/2018	1.4	1.4	1.4	1.4
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
12	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	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	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
33*	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	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
34	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Magnesium	mg/L	Special Frequency 3	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
35	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-

*Dust gauge sample contaminated with glass. Broken funnel noted on field sheet.

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33*	Electrical Conductivity	mg/L	Special Frequency 4	1	20/11/2018	15/1/2019	1190	1190	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	1	20/11/2018	15/1/2019	8.7	8.7	9	No
34	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

* EPL ID Point 33 is the point of discharge for discharge sampling.

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

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Period	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
16	Conductivity	µS/cm	Every 3 Months	1	27/11/2018	5/12/2018	1080	1080	1080	1080
	Nitrate	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	0.44	0.44	0.44	0.44
	Nitrogen (Total)	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	1.0	1.0	1.0	1.0
	Oil and Grease	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	27/11/2018	5/12/2018	8.07	8.07	8.07	8.07
	Phosphorus (Total)	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	<0.01	<0.01	<0.01	<0.01
	Total Suspended Solids	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	<5	<5	<5	<5
	Conductivity	µS/cm	Every 3 Months	1	27/11/2018	5/12/2018	1100	1100	1100	1100
	Nitrate	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	1.56	1.56	1.56	1.56
27	Nitrogen (Total)	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	1.8	1.8	1.8	1.8
	Oil and Grease	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	<5	<5	<5	<5
	pH	pH	Every 3 Months	1	27/11/2018	5/12/2018	8.02	8.02	8.02	8.02
	Phosphorus (Total)	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	<0.01	<0.01	<0.01	<0.01
	Reactive Phosphorus	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	<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
17	Total Suspended Solids	mg/L	Every 3 Months	1	27/11/2018	5/12/2018	<5	<5	<5	<5
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
18	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
19	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
20	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	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

TLTS- Too low to sample

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	26/11/2018	60 minutes	3:27 pm	N/A	37	Day 37	NA, 4.8m/s, 204 degrees	Traffic (36), wind (25), WCC inaudible (<20)	No	12/2/2019
R12	26/11/2018	60 minutes	1:20 pm	N/A	42	Day 38	NA, 4.5m/s, 229 degrees	Traffic (37), winds (36), plane (35), WCC inaudible (<20)	No	12/2/2019
R96	26/11/2018	60 minutes	2:06 pm	N/A	37	Day 38	NA, 5.8m/s, 182 degrees	Wind (34), insects (31), WCC (26)	No	12/2/2019
R98	26/11/2018	60 minutes	2:58 pm	N/A	47	Day 36	NA, 1.8m/s, 305 degrees	Car (45), birds (38), wind (37), WCC inaudible (<20)	No	12/2/2019
R57	26/11/2018	60 minutes	4:38 pm	N/A	37	Day 35	NA, 6.5m/s, 148 degrees	Birds (45), traffic (40), WCC inaudible (<20)	No	12/2/2019
R24	26/11/2018	60 minutes	8:31 pm	<20	36	Night 37	6.5°/100m, 3.4m/s, 215 degrees	Traffic (34), crickets (28), dog (25), WCC inaudible (<20)	No	12/2/2019
R12	26/11/2018	60 minutes	9:10 pm	<20	63	Night 38	7.6°/100m, 4.1m/s, 220 degrees	Trains (63), crickets (26), WCC inaudible (<20)	No	12/2/2019
R96	26/11/2018	60 minutes	7:20 pm	<20	44	Night 38	3.4°/100m, 1m/s, 307 degrees	Birds (40), traffic (38), plane (33), WCC inaudible (<20)	No	12/2/2019
R98	26/11/2018	60 minutes	8:12 pm	<20	40	Night 38	4.8°/100m, 4.4m/s, 228 degrees	Traffic (33), Insects (31), WCC (26)	No	12/2/2019
R57	26/11/2018	60 minutes	10:04 pm	<20	44	Night 35	2.5°/100m, 2.5m/s, 181 degrees	Traffic (40), train (40), insects (30), WCC inaudible (<20)	No	12/2/2019

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

IA = Inaudible.

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	7	99.97	105.90	120.0	No	1/12/2018
	Blast Vibration	mm/s	Every Blast	7	0.11	0.20	10.0	No	1/12/2018
R98	Blast Noise	dB (Lin Peak)	Every Blast	7	0.87	1.59	120.0	No	1/12/2018
	Blast Vibration	mm/s	Every Blast	7	103.60	109.40	10.0	No	1/12/2018
R62	Blast Noise	dB (Lin Peak)	Every Blast	7	0.53	0.84	120.0	No	1/12/2018
	Blast Vibration	mm/s	Every Blast	7	103.69	113.80	10.0	No	1/12/2018
R92	Blast Noise	dB (Lin Peak)	Every Blast	7	0.26	0.35	120.0	No	1/12/2018
	Blast Vibration	mm/s	Every Blast	7	100.24	108.40	10.0	No	1/12/2018

WERRIS CREEK COAL EPL – MONTHLY SUMMARY





WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Site Information

EPL No.: 12290

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

Licensee: Werris Creek Coal Pty Limited

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

EPL Monitoring Points: See figure at end of document

Sampling Period: December 2018

Obtained Date: **12/2/2019**

Publication Date: 12/2/2019

Table 1 - No Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
28	PM10	µg/m ³	Every 6 days	6	27/12/2018	10/1/2019	16.6	27.4	23.0	48.9
	Solid Particles	g/m ² /month	Continuous	1	19/12/2018	2/1/2019	3.0	3.0	3.0	3.0
29	PM10	µg/m ³	Every 6 days	6	27/12/2018	10/1/2019	23.2	35.2	34.0	49.5
	Solid Particles	g/m ² /month	Continuous	1	19/12/2018	2/1/2019	2.9	2.9	2.9	2.9
30	PM10	µg/m ³	Continuous	Continuous	31/12/2018	1/1/2019	9.2	20.9	19.2	64.5
	Solid Particles	g/m ² /month	Continuous	1	19/12/2018	2/1/2019	3.2	3.2	3.2	3.2
10	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
12	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Special Frequency 1	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Special Frequency 1	0	-	-	-	-	-	-
14	Conductivity	µS/cm	Special Frequency 1	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 1	0	-	-	-	-	-	-

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

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

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
25	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	pH	pH	Special Frequency 2	0	-	-	-	-	-	-
	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	-	-	-	-	-	-
	Conductivity	µS/cm	Special Frequency 2	0	-	-	-	-	-	-
	Nitrate	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Special Frequency 2	0	-	-	-	-	-	-
26	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	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
33*	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Special Frequency 2	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	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
34	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	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
35	Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Aluminium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Arsenic (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Barium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Beryllium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	BOD	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cadmium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Chromium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Cobalt (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Copper (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Iron (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Lead (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Magnesium	mg/L	Special Frequency 3	0	-	-	-	-	-	-
Manganese (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Potassium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Selenium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-	
Sodium	mg/L	Special Frequency 3	0	-	-	-	-	-	-	

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of Measurements for the Month	Date Sampled	Date Obtained	Min Value	Mean Value	Median Value	Max Value
	Total dissolved solids	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Vanadium (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-
	Zinc (dissolved)	mg/L	Special Frequency 3	0	-	-	-	-	-	-

*Dust gauge sample contaminated with glass. Broken funnel noted on field sheet.

Table 2 - Pollutant Limits Apply

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
10	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
12	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
14	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
32	Total Suspended Solids	mg/L	Special Frequency 1	0	-	-	-	-	50*	No
	Oil and Grease	mg/L	Special Frequency 1	0	-	-	-	-	10	No
	pH	pH	Special Frequency 1	0	-	-	-	-	6.5-8.5	No
33*	Electrical Conductivity	mg/L	Special Frequency 4	2	5/12/2018 27/12/2018	15/1/2019	1170	1180	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	2	5/12/2018 27/12/2018	15/1/2019	8.5	8.9	9	No
34	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

EPL ID	Pollutant	Units of Measure	Monitoring Frequency	No. of samples for the Month	Date Sampled	Date Obtained	Min Value	Max Value	100%ile Limit	Exceedance (Yes/No)
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No
35	Electrical Conductivity	mg/L	Special Frequency 4	0	-	-	-	-	2000	No
	Oil and Grease	mg/L	Special Frequency 3	0	-	-	-	-	10	No
	pH	pH	Special Frequency 4	0	-	-	-	-	9	No

* EPL ID Point 33 is the point of discharge for discharge sampling

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	-	-	-	-	-	-
	Total Suspended Solids	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 3 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 3 Months	0	-	-	-	-	-	-
27	Nitrogen (Total)	mg/L	Every 3 Months	0	-	-	-	-	-	-
	Oil and Grease	mg/L	Every 3 Months	0	-	-	-	-	-	-
	pH	pH	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
17	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	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	18	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-
Nitrogen (Total)		mg/L	Every 6 Months	0	-	-	-	-	-	-
pH		pH	Every 6 Months	0	-	-	-	-	-	-
Phosphorus (Total)		mg/L	Every 6 Months	0	-	-	-	-	-	-
Reactive Phosphorus		mg/L	Every 6 Months	0	-	-	-	-	-	-
Standing Water Level		Metres	Every 6 Months	0	-	-	-	-	-	-
Conductivity		µS/cm	Every 6 Months	0	-	-	-	-	-	-
Nitrate		mg/L	Every 6 Months	0	-	-	-	-	-	-
Nitrogen (Total)		mg/L	Every 6 Months	0	-	-	-	-	-	-
pH		pH	Every 6 Months	0	-	-	-	-	-	-
Phosphorus (Total)		mg/L	Every 6 Months	0	-	-	-	-	-	-
19		Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	20	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
21	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
	Nitrate	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Nitrogen (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	pH	pH	Every 6 Months	0	-	-	-	-	-	-
	Phosphorus (Total)	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Reactive Phosphorus	mg/L	Every 6 Months	0	-	-	-	-	-	-
	Standing Water Level	Metres	Every 6 Months	0	-	-	-	-	-	-
	Conductivity	µS/cm	Every 6 Months	0	-	-	-	-	-	-
22	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	-	-	-	-	-	-

TLTS- Too low to sample

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

Location	Date	Measurement Period	Start Time	Measured levels – dB(A)		Limit(s)	Weather (inversion oC/100m, wind m/s & °)	Observations	(Potential) Non-compliance /breach	Date Obtained
				LA1, 1 Minute	LAeq, 15 Minute					
R24	18 and 19/12/2018	60 minutes	2:35 pm	N/A	43	Day 37	NA, 5.6m/s, 141 degrees	Traffic (42), birds (34), WCC inaudible (<20)	No	12/2/2019
R12	18 and 19/12/2018	60 minutes	7:12 am	N/A	61	Day 38	NA, 1.6m/s, 174 degrees	Trains (61), traffic (41), WCC inaudible (<20)	No	12/2/2019
R96	18 and 19/12/2018	60 minutes	1:32 pm	N/A	36	Day 38	NA, 2.0m/s, 11 degrees	Insects (32), traffic (30), birds (28), WCC inaudible (<20)	No	12/2/2019
R98	18 and 19/12/2018	60 minutes	2:24 pm	N/A	45	Day 36	NA, 5.6m/s, 141 degrees	Birds (40), wind (39), truck (38), WCC inaudible (<20)	No	12/2/2019
R57	18 and 19/12/2018	60 minutes	7:23 am	N/A	50	Day 35	NA, 1.7m/s, 170 degrees	Trains (47), traffic (46), WCC inaudible (<20)	No	12/2/2019
R24	18/12/2018	60 minutes	8:39 pm	<30	48	Night 37	0.4°/100m, 2.4m/s, 163 degrees.	Trains (46), traffic (41), WCC inaudible (<20)	No	12/2/2019
R12	18/12/2018	60 minutes	9:31 pm	<30	58	Night 38	2.0°/100m, 2.7m/s, 152 degrees.	Trains (56), crickets (51), WCC inaudible (<20)	No	12/2/2019
R96	18/12/2018	60 minutes	7:02 pm	<30	38	Night 38	Lapse, 3.3m/s, 139 degrees	Birds (37), plane (28), WCC inaudible (<20)	No	12/2/2019
R98	18/12/2018	60 minutes	8:09 pm	<30	46	Night 38	1.1°/100m, 2.5m/s, 152 degrees.	Birds/insects (45), plane (36), WCC inaudible (<20)	No	12/2/2019
R57	18/12/2018	60 minutes	10:18 pm	<30	40	Night 35	0.1°/100m, 1.8m/s, 187 degrees.	Traffic (35), train (34), insects (33), WCC inaudible (<20)	No	12/2/2019

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

IA = Inaudible.



WERRIS CREEK COAL EPL – MONTHLY SUMMARY

Table 5 – Monitoring (Blasts – Limits Apply)

Location	Parameter	Units of Measure	Frequency	No. of Blasts for the Month	Average Value	Max Value	100%ile Limit	(Potential) Non-compliance /breach	Date Obtained
R11	Blast Noise	dB (Lin Peak)	Every Blast	8	97.64	110.1	120.0	No	1/1/2019
	Blast Vibration	mm/s	Every Blast	8	0.11	0.16	10.0	No	1/1/2019
R98	Blast Noise	dB (Lin Peak)	Every Blast	8	94.01	104.8	120.0	No	1/1/2019
	Blast Vibration	mm/s	Every Blast	8	0.68	1.41	10.0	No	1/1/2019
R62	Blast Noise	dB (Lin Peak)	Every Blast	8	96.81	105.7	120.0	No	1/1/2019
	Blast Vibration	mm/s	Every Blast	8	0.35	0.58	10.0	No	1/1/2019
R92	Blast Noise	dB (Lin Peak)	Every Blast	8	92.94	102.4	120.0	No	1/1/2019
	Blast Vibration	mm/s	Every Blast	8	0.19	0.29	10.0	No	1/1/2019

WERRIS CREEK COAL EPL – MONTHLY SUMMARY

