

**WAMBO COAL PTY LIMITED**

**MONTHLY ENVIRONMENTAL MONITORING REPORT**

**AUGUST 2015**

**Table 1 - Monthly Surface Water Results**

Sample Location	pH	EC (µS/cm)	TSS (mg/L)	TDS (mg/L)	Oil & Grease (mg/L)	Temp (°C)	Comments
<b>WOLLOMBI BROOK</b>							
SW01	7.50	741.00	8.00	<b>432.00</b>		14.40	
SW03	7.40	701.00	12.00	363.00	<8	14.00	
SW02	7.60	864.00	6.00	390.00	<8	13.50	
SW40	7.70	1299.00	4.00	406.00		14.50	
<b>NORTH WAMBO CREEK</b>							
SW04							Dry
SW27a	7.90	769.00	<b>198.00</b>	695.00		12.20	
SW32a	7.90	610.00	<b>322.00</b>	603.00		11.80	
SW05	7.60	<b>1181.00</b>	74.00	<b>626.00</b>		13.50	
<b>SOUTH WAMBO/STONY CREEK</b>							
SW06	7.30	<b>494.00</b>	7.00	234.00		12.80	
SW07	7.70	<b>895.00</b>	4.00	363.00		14.30	
SW08							Dry
<b>WATERFALL CREEK</b>							
SW39	7.50	336.00	<b>188.00</b>	484.00		14.40	
<b>MINE WATER DAMS</b>							
SW12	8.80	8020.00				13.30	
SW14	7.70	632.00				11.10	
SW15	9.00	6320.00	15.00	3950.00	<8	16.70	
SW20							Dry
SW29							Dry
SW30	9.10	5550.00				12.20	
SW31	9.30	6520.00				12.10	
SW38	9.00	7390.00				13.40	

**Note:** Figures in bold fall outside trigger levels.

**Table 2 - Ground Water Results**

Sample Location	pH	EC (µS/cm)	Depth to Water (m)	Temp (°C)	Comments
GW02	7.10	498	5.88	17.8	
GW11	7.00	475	4.14	16.9	
P106	6.60	644	7.66	19.2	
P109	6.50	667	5.20	17.1	
P110	6.50	677	4.78	17.20	
P111	6.30	712	6.49	18.4	
P114	6.40	<b>5,820</b>	6.26	18.9	
P116	6.90	617	4.94	18.0	
P202	7.30	4,720	8.15	17.9	
P206	7.50	2,030	15.67	19.0	
P301	6.50	5,350	14.12	18.8	
P315	6.00	381	6.40	18.5	
GW12					Dry
GW13	7.20	2,800	5.34	19.5	
GW14					Dry
GW15	7.10	641	9.53	19.9	
GW16	7.20	440	6.87	17.0	
GW17	7.10	4,970	9.56	17.8	
GW18					Dry
GW19					Dry
GW21					Dry
GW22	8.30	6,470	35.81		
P1*	6.73	7060	25.14		
P11*					No result
P12*	6.11	870	6.56		
P13*	6.70	899	6.80		
P15*	6.01	7073	6.28		
P16*	7.21	7080	7.00		
P17*	7.59	7940	5.73		
P18*	7.15	6780	7.08		
P20*	7.25	7740	7.43		

**Note:** All depths measured to top of casing, except United bores which are to ground. Figures in bold are outside trigger levels listed in Table 5 of the Ground Water Monitoring Programme (GWMP), which is part of the Site Water Management Plan.

\* Represents data that is provided on a quarterly basis. The results are to be updated once available.

**Table 3 - Dust Deposition Results**

Site	Insoluble Solids (IS) (g/m <sup>2</sup> .month)	Ash Residue (AR) (g/m <sup>2</sup> .month)	IS:AR Ratio	IS YTD Average (g/m <sup>2</sup> .month)	AR YTD Average (g/m <sup>2</sup> .month)
D01*	4.8	2.6	54		
D03	2.8	1.6	57	2.8	1.7
D07	3.9	2.7	69	5.3	3.5
D09*	6.4	3.4	53	5.0	2.6
#D11	1.3	0.9	69	2.2	1.4
#D12	2.3	1.5	65	3.2	2.0
#D17	0.6	0.3	50	1.5	0.8
D19	1.6	1.1	69	2.8	1.6
D20	1.8	1.2	67	1.6	0.9
#D21	0.8	0.4	50	1.7	1
#D22	0.7	0.5	71	1.5	1.1
D23	0.9	0.7	78	1.9	1.1
#D24	1.4	0.8	57	1.3	0.8
#D25	1.3	0.8	62	2.4	1.7
D26	1.1	0.6	55	1.9	1.2

**Note:**

Results in **bold** are YTD average above 4g/m<sup>2</sup>/month


Results # are dust gauges not on WCPL owned land. DD gauges on Wambo Coal land and above criteria level are not considered non-compliance.

\* Contaminated sample

**Table 4 - HVAS Results**

Date of Run	HV01 - Coralie TSP ( $\mu\text{g}/\text{m}^3$ )	HV02 - Caban TSP ( $\mu\text{g}/\text{m}^3$ )	HV03 - Thelander TSP ( $\mu\text{g}/\text{m}^3$ )	HV04 - Muller TSP ( $\mu\text{g}/\text{m}^3$ )
2/09/2015	55.4	68.6	25.1	34.3
8/09/2015	30.0	50.8	14.6	17.9
14/09/2015	72.8	63.3	33.5	56.8
20/09/2015	62.4	26.8	34.5	91.3
26/09/2015	21.7	18.0	44.7	79.4
<b>Monthly Mean</b>	48.5	45.5	30.5	55.9
<b>Yearly Mean</b>	45.4	46.9	34	52.5

**Table 5 - Blast Results**

 <b>Peabody Wambo Blasting Results</b> 2015													
Blast Number	Date	Time	Blast ID	Homestead (BM01)		Kelly (BM02)		Muller (BM05)		Harris (BM03)		Thelander (BM07)	
				Overpressure dB(L)	Vibration (mm/sec)	Overpressure dB(L)	Vibration (mm/sec)	Overpressure dB(L)	Vibration (mm/sec)	Overpressure dB(L)	Vibration (mm/sec)	Overpressure dB(L)	Vibration (mm/sec)
1	2/09/2015	15:01:08	M23WWA5a	98.7	0.05	98.3	0.09	107	0.24	100.3	0.05	107.8	0.25
2	7/09/2015	15:01:07	M20WRC1	106.1	0.14	97.2	0.1	107.7	0.79	106.6	0.09	104.3	0.78
3	14/09/2015	9:08:08	BS9WRA2	113.8	0.65	102.3	0.41	104.2	0.26	109.6	0.21	98.9	0.26
4	16/09/2015	15:02:23	M18WMA2	106.3	0.17	103.7	0.13	106.6	0.62	104.2	0.11	102.4	0.58
5	29/09/2015	11:08:44	M25WWA1	99.9	0.08	96.3	0.06	110.1	1.03	104.2	0.06	110.8	1.03

\* Trigger unit SMS unable to be received by monitoring unit. Blast below monitoring unit vibration trigger threshold

\*\* Hardw are failure

\*\*\* Softw are failure

**Table 6 - PM<sub>10</sub> Results**

Date	PM01 - Coralie (Sentinex 19)		PM02 - Wambo Road (Caban) (Sentinex 20)		PM03 - Thelander (Sentinex 21)		PM04 - Muller (Sentinex 22)	
	PM10 24 Hour Result (ug/m <sup>3</sup> )	YTD Average	PM10 24 Hour Result (ug/m <sup>3</sup> )	YTD Average	PM10 24 Hour Result (ug/m <sup>3</sup> )	YTD Average	PM10 24 Hour Result (ug/m <sup>3</sup> )	YTD Average
1/08/2015	12.0	14.8	27.0	13.9	7.8	11.6	8.9	15.7
2/08/2015	13.9	14.8	<b>33.0</b>	14.0	9.7	11.6	9.2	15.7
3/08/2015	5.5	14.8	20.4	14.0	3.8	11.6	4.5	15.7
4/08/2015	5.6	14.7	9.5	14.0	0.8	11.5	2.6	15.6
5/08/2015	4.0	14.7	8.9	14.0	2.6	11.5	3.2	15.5
6/08/2015	4.0	14.6	7.6	13.9	2.4	11.4	2.7	15.5
7/08/2015	7.2	14.6	10.5	13.9	4.0	11.4	6.0	15.4
8/08/2015	8.9	14.6	12.5	13.9	6.9	11.4	8.7	15.4
9/08/2015	16.5	14.6	18.3	13.9	13.0	11.4	18.2	15.4
10/08/2015	9.5	14.6	15.5	14.0	6.3	11.4	6.7	15.4
11/08/2015	12.3	14.6	16.8	14.0	6.2	11.3	7.6	15.3
12/08/2015	17.3	14.6	15.1	14.0	7.3	11.3	8.0	15.3
13/08/2015	8.7	14.5	10.3	14.0	5.0	11.3	5.0	15.3
14/08/2015	9.5	14.5	<b>31.6</b>	14.0	5.8	11.3	6.4	15.2
15/08/2015	17.6	14.5	17.8	14.0	15.3	11.3	12.8	15.2
16/08/2015	15.4	14.5	19.8	14.1	11.4	11.3	12.5	15.2
17/08/2015	10.4	14.5	16.0	14.1	6.8	11.3	6.7	15.2
18/08/2015	15.4	14.5	10.5	14.1	9.0	11.3	11.9	15.2
19/08/2015	19.9	14.6	25.5	14.1	19.5	11.3	26.0	15.2
20/08/2015	19.0	14.6	27.2	14.2	15.0	11.3	20.1	15.2
21/08/2015	17.8	14.6	<b>36.5</b>	14.3	16.0	11.3	14.5	15.2
22/08/2015	17.9	14.6	27.0	14.3	15.6	11.3	15.8	15.2
23/08/2015	10.2	14.6	8.8	14.3	<b>NRR</b>	11.3	9.7	15.2
24/08/2015	7.0	14.5	5.6	14.3	<b>NRR</b>	11.3	6.5	15.2
25/08/2015	4.8	14.5	5.0	14.2	4.0	11.3	4.0	15.1
26/08/2015	6.1	14.5	10.4	14.2	3.6	11.3	3.8	15.1
27/08/2015	5.6	14.4	8.7	14.2	4.7	11.2	4.8	15.0
28/08/2015	5.5	14.4	8.0	14.2	4.2	11.2	4.4	15.0
29/08/2015	6.3	14.4	10.2	14.1	4.6	11.2	4.8	14.9
30/08/2015	8.9	14.3	8.3	14.1	7.9	11.2	7.9	14.9
31/08/2015	15.3	14.3	14.8	14.1	9.3	11.2	10.6	14.9

**Table 7 - Meteorological Data**

Date	Temperature (2m)			Temperature (10m)			Temperature Inversion			Humidity			Solar Radiation			Rain	Wind Speed		
	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	mm	Min	Avg	Max
1/08/2015	4.3	13.9	22.7							25.5	54.1	84.3			909.0	0.00	0.0	3.4	14.2
2/08/2015	9.9	18.2	26.0							23.0	43.9	68.4			583.9	0.00	0.0	4.4	15.5
3/08/2015	7.5	12.5	17.8							33.8	53.4	78.0			612.8	0.00	0.0	5.2	16.8
4/08/2015	4.0	8.8	13.5							34.1	52.6	71.8			898.0	0.00	0.0	2.8	9.1
5/08/2015	0.7	8.1	14.8							34.4	54.8	74.4			746.4	0.00	0.4	4.9	13.2
6/08/2015	4.0	9.7	16.3							29.0	57.6	89.0			787.7	0.00	0.0	3.1	11.1
7/08/2015	2.1	9.1	17.0							36.0	60.7	82.5			601.5	0.00	0.0	2.5	7.3
8/08/2015	4.6	9.7	16.9							43.4	66.6	90.3			824.0	0.00	0.0	1.7	8.1
9/08/2015	2.9	10.4	18.6							39.8	72.3	92.4			602.0	0.00	0.0	1.8	7.9
10/08/2015	4.3	12.3	19.9							29.6	59.8	94.3			600.7	0.00	0.0	3.5	12.7
11/08/2015	5.1	13.5	21.9							22.8	45.0	79.0			725.1	0.00	0.0	2.8	10.8
12/08/2015	1.0	9.1	18.6							26.9	57.3	86.1			892.0	0.00	0.0	3.3	16.7
13/08/2015	5.5	11.2	19.0							26.4	54.4	80.4			653.1	0.00	0.3	4.4	12.1
14/08/2015	2.9	10.2	18.2							36.4	61.3	83.6			626.4	0.00	0.0	2.5	10.1
15/08/2015	4.2	11.5	19.3							41.9	70.7	89.7			853.0	0.00	0.0	1.7	7.1
16/08/2015	7.8	13.6	21.1							36.1	67.3	89.6			621.7	0.00	0.0	2.2	9.6
17/08/2015	5.9	12.6	20.1							31.2	55.4	85.9			660.7	0.00	0.0	3.5	12.9
18/08/2015	5.6	11.1	17.8							33.7	57.9	80.1			786.2	0.00	0.0	2.2	8.9
19/08/2015	4.9	11.5	19.4							33.2	63.4	85.7			635.7	0.00	0.0	1.9	8.8
20/08/2015	4.5	12.1	21.5							24.7	64.7	92.5			633.7	0.00	0.0	1.9	6.7
21/08/2015	5.0	14.0	23.5							30.0	61.5	91.7			667.6	0.00	0.0	1.9	10.1
22/08/2015	9.7	18.3	26.9							34.4	55.1	78.1			638.6	0.00	0.0	2.8	12.2
23/08/2015	12.4	14.5	18.7							60.4	88.8	97.1			190.2	26.60	0.0	2.4	10.8
24/08/2015	11.9	14.2	16.3							84.9	94.3	97.6			759.4	5.20	0.0	1.6	9.2
25/08/2015	10.8	14.7	19.7							49.0	74.8	94.9			1021.0	0.20	0.0	4.1	13.4
26/08/2015	9.9	14.1	19.6							52.7	71.1	83.4			1065.0	0.00	0.0	4.7	13.2
27/08/2015	9.2	12.8	17.6							49.8	75.7	90.7			1057.0	0.60	0.0	4.1	14.0
28/08/2015	7.1	12.0	18.8							37.9	65.2	86.7			1023.0	0.00	0.2	4.1	11.2
29/08/2015	4.4	11.7	19.5							37.7	64.5	92.1			841.0	0.00	0.0	3.6	12.6
30/08/2015	3.1	11.2	18.7							29.7	59.4	87.7			724.8	0.00	0.0	1.5	6.2
31/08/2015	7.5	12.8	19.7							39.5	63.3	83.1			1001.0	0.00	0.0	2.1	7.3
MONTH	0.7	12.2	26.9							22.8	62.8	97.6			1,065.0	32.6	0.0	3.0	16.8



