

**WAMBO COAL PTY LIMITED**

**MONTHLY ENVIRONMENTAL MONITORING REPORT**

**June 2016**

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	7.6	1055	<5	630		16.5	
SW03	7.6	842	<5	468		16.4	
SW02	7.7	1034	<5	590		16.2	
SW40	7.7	856	5	548		16.7	
<b>NORTH WAMBO CREEK</b>							
SW04							Dry
SW27a	7.9	491	120	604		16.3	
SW32a	8.0	645	120	1270		16.6	
SW05							Pool
<b>SOUTH WAMBO/STONY CREEK</b>							
SW06	7.3	<b>829</b>	8	282		16.6	
SW07	7.3	458	<5	406		16.5	
SW08							Dry
<b>WATERFALL CREEK</b>							
SW39							Pool
<b>MINE WATER DAMS</b>							
SW12	8.5	3280				14.2	
SW14							No access
SW15	8.6	4430				13.7	
SW20							Dry
SW29							Dry
SW30	8.6	4840				14.0	
SW31	8.5	3730				13.4	
SW38	8.5	4760				14.1	

**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	7.20	517	5.81	17.7	
GW11	6.90	478	4.17	17.3	
P106	7.30	673	8.69	19.6	
P109	7.40	682	5.07	18.8	
P110	6.70	611	4.71	19.1	
P111	6.50	616	6.30	19.6	
P114	6.70	<b>9,950</b>	<b>9.95</b>	19.5	
P116	7.10	748	5.64	19.8	
P202	7.50	4,620	8.08	19.0	
P206	7.50	2,050	<b>16.76</b>	19.2	
P301	6.60	5,730	14.02	18.8	
P315	6.40	383	7.22	19.2	
GW12	6.70	22,300	10.91	19.8	
GW13	7.10	2,930	5.66	21.1	
GW14					Dry
GW15	7.10	647	10.24	20.5	
GW16	7.30	580	7.04	19.5	
GW17	7.10	5,070	9.52	20.0	
GW18					Dry
GW19					Dry
GW21			36.66		
GW22	8.40	6,870	35.59	21.1	
P1*	Unavailable at time of publish. To be updated.				
P12*					
P13*					
P15*					
P16*					
P17*					
P18*					
P20*					

**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*	8.4	2.0	24	3.7	2.3
D03*	2.4	1.2	50	2.8	2.0
D07	5.7	2.9	51	<b>4.7</b>	2.7
D09*	4.6	2.1	46	2.6	1.6
#D11	2.7	2.1	78	3.4	2.8
#D12	2.4	1.8	75	3.3	2.2
#D17	0.6	0.6	100	1.5	1.0
D19	1.7	1.2	71	2.8	1.9
D20	1.8	1.4	78	1.7	1.1
#D21	0.9	0.8	89	1.9	1.5
#D22	1.4	1.0	71	2.4	1.7
D23*	10.0	3.5	35	1.4	1.0
#D24	0.6	0.4	67	1.1	0.7
#D25	1.4	1.0	71	3.2	2.4
D26	1.4	1.0	71	2.1	1.4

**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**

<b>Date of Run</b>	<b>HV01 - Coralie TSP (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>HV02 - Caban TSP (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>HV03 - Thelander TSP (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>HV04 - Muller TSP (<math>\mu\text{g}/\text{m}^3</math>)</b>
4/06/2016	39.6	19.2	19.3	31.8
10/06/2016	8.7	26	4.2	5.5
16/06/2016	15.8	37.8	9.6	10.9
22/06/2016	17.4	20.2	1.2	2.1
28/06/2016	13.0	36.8	2.2	1.4
<b>Monthly Mean</b>	18.9	28	7.3	10.3
<b>Yearly Mean</b>	46.5	52.1	42.1	70.7

**Table 5 - Blast Results**

Peabody Wambo Blasting Results 2016													
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)
36	6/06/2016	11:02:39	M_24RCA_13	103.3	0.1	92.9	0.07	101.4	0.47	106.4	0.08	103.9	0.53
37	6/06/2016	11:08:22	M21WMA_16	101.7	0.08	93.4	0.07	101	0.76	103.6	0.08	103.6	0.68
38	9/06/2016	11:01:34	M21WMA_24	105.7	0.09	99.1	0.08	103.6	0.45	103.3	0.06	101.1	0.33
39	9/06/2016	11:08:35	M_19WTA_29	111.6	0.12	109.4	0.08	107	0.59	112.6	0.06	106.1	0.79
40	10/06/2016	15:24:48	M_19WTA_29	NRR	NRR	93.8	0.1	89.3	0.4	98.9	0.16	86.3	0.44
41	14/06/2016	15:07:13	M_24RCA_14	98.1	0.07	99.9	0.07	109	0.5	101.6	0.05	107.3	0.67
42	17/06/2016	15:06:00	M14WMA_21	105.9	0.12	103.5	0.09	104	0.09	105.3	0.09	99	0.22
43	25/06/2016	15:21:09	M_15WMA_22	108.2	0.1	NRR	<0.48	103.9	0.28	103.3	0.09	101.1	0.28
44	25/06/2016	15:15:38	M_18_MVA_21	107.2	0.12	NRR	<0.48	106.6	0.42	112.5	0.15	103.2	0.43
45	30/06/2016	15:06:00	M_15WMA_31	103.8	0.03	106.8	0.22	99.4	0.09	101.7	0.04	92.7	0.03

- \* Trigger unit SMS unable to be received by monitoring unit. Blast below monitoring unit vibration trigger threshold
- \*\* Hardware failure
- \*\*\* Software 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
1/06/2016	20.00	17.78	12.14	20.41	14.80	16.96	17.63	20.22
2/06/2016	11.30	17.74	13.40	20.37	16.20	16.96	26.20	20.26
3/06/2016	11.40	17.70	14.00	20.32	23.30	17.00	<b>35.50</b>	20.36
4/06/2016	19.10	15.44	11.50	20.27	15.50	16.99	23.40	20.38
5/06/2016	9.10	15.40	5.00	20.17	4.60	16.91	5.80	20.28
6/06/2016	3.00	15.36	3.40	20.06	2.50	16.82	2.60	20.17
7/06/2016	7.40	15.30	9.60	20.00	6.20	16.75	6.50	20.09
8/06/2016	6.50	15.26	7.40	19.92	6.00	16.68	6.20	20.00
9/06/2016	6.40	17.35	11.60	19.87	4.90	16.61	5.00	19.91
10/06/2016	7.00	17.29	9.60	19.80	5.40	16.54	5.80	19.82
11/06/2016	5.10	17.21	8.00	19.73	4.20	16.47	4.40	19.72
12/06/2016	6.30	17.14	7.30	19.66	4.30	16.39	4.40	19.63
13/06/2016	12.20	17.11	11.20	19.61	12.10	16.36	17.10	19.62
14/06/2016	12.80	17.09	13.50	19.57	15.40	16.36	21.30	19.63
15/06/2016	7.10	17.03	12.50	19.53	6.10	16.30	6.20	19.55
16/06/2016	-99.00	FALSE	16.50	19.51	9.30	16.25	13.20	19.51
17/06/2016	7.80	16.27	13.60	19.47	6.50	16.20	7.60	19.44
18/06/2016	12.90	16.25	19.80	19.48	7.40	16.14	7.70	19.37
19/06/2016	10.80	16.22	8.20	19.41	5.90	16.08	6.80	19.30
20/06/2016	7.80	16.17	5.80	19.33	5.90	16.02	7.90	19.23
21/06/2016	4.80	16.10	4.20	19.24	4.10	15.96	4.30	19.14
22/06/2016	6.10	16.04	6.80	19.17	5.50	15.90	5.80	19.07
23/06/2016	6.00	15.99	8.40	19.11	4.90	15.83	5.10	18.99
24/06/2016	6.20	15.93	9.70	19.06	5.30	15.77	5.60	18.91
25/06/2016	5.40	15.87	5.60	18.98	3.90	15.70	4.00	18.83
26/06/2016	6.30	15.81	5.50	18.90	4.40	15.64	4.80	18.75
27/06/2016	6.90	15.76	10.90	18.86	5.30	15.58	5.70	18.67
28/06/2016	5.60	15.71	6.90	18.79	4.60	15.52	5.00	18.60
29/06/2016	7.20	15.66	9.90	18.74	5.20	15.46	5.50	18.53
30/06/2016	8.00	15.62	10.30	18.70	4.90	15.41	5.20	18.45

**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
01/06/15	9.1	13.9	19.5	10.8	15.0	19.4	-3.2	14.5	33.5	49.6	73.4	90.9	-2.3	85.2	568.0	0.0	0.0	0.0	1.2
02/06/15	9.8	14.2	18.8	11.3	14.9	18.7	-7.7	9.2	27.5	62.2	81.2	95.2	-2.1	71.4	513.6	0.0	0.0	0.0	0.9
03/06/15	10.2	15.4	19.1	12.0	16.2	19.4	-1.8	9.7	28.8	63.0	82.0	96.3	-2.1	44.5	335.7	0.4	0.4	0.0	1.5
04/06/15	14.6	16.0	18.3	15.2	16.6	18.8	2.5	7.5	13.3	76.6	92.4	97.2	-1.7	16.7	122.3	26.3	26.6	0.1	2.0
05/06/15	14.3	14.8	15.7	14.8	15.4	16.4	2.9	6.9	12.1	70.9	89.4	96.6	-1.7	17.6	170.6	14.6	41.3	0.0	3.3
06/06/15	11.1	14.0	17.7	11.7	14.5	17.8	0.9	6.0	9.1	48.7	64.2	79.3	-1.8	128.6	592.2	0.2	41.5	2.3	4.2
07/06/15	11.9	14.3	17.9	12.5	14.8	17.9	-1.7	6.3	13.4	52.0	68.1	78.1	-1.9	120.0	736.5	0.0	41.5	1.5	4.6
08/06/15	11.2	15.4	19.2	12.3	16.1	19.2	-0.4	8.8	24.5	47.7	64.1	83.0	-2.2	130.7	559.5	0.0	41.5	0.9	3.3
09/06/15	12.5	15.2	17.6	13.9	15.9	18.2	0.1	8.7	22.5	52.2	74.2	92.8	-1.7	51.4	494.1	2.1	43.6	0.5	3.2
10/06/15	11.3	15.4	19.5	12.4	16.1	19.5	-0.6	7.6	23.7	53.3	68.1	80.3	-2.1	111.9	610.7	0.0	43.6	0.7	3.5
11/06/15	6.1	12.5	17.9	7.7	13.5	18.1	-2.3	12.0	43.4	47.8	64.4	88.2	-2.4	117.5	620.4	0.0	43.6	0.1	2.5
12/06/15	2.8	10.1	17.6	4.1	11.0	17.5	-1.5	11.5	34.3	41.9	74.4	97.4	-2.4	121.1	603.4	0.0	43.6	0.0	1.2
13/06/15	6.9	13.0	18.4	9.1	13.8	18.7	-4.0	9.4	33.1	54.3	79.3	96.3	-2.2	96.2	545.1	0.0	43.6	0.0	0.8
14/06/15	3.7	10.2	20.8	5.2	11.5	20.6	-7.3	16.4	40.0	44.6	84.0	98.2	-3.3	132.0	540.0	0.0	43.6	0.0	0.8
15/06/15	2.0	10.0	19.9	3.2	11.3	20.0	-3.9	16.4	42.4	50.5	83.5	98.3	-3.8	295.2	479.2	0.0	43.6	0.0	0.7
16/06/15	3.4	9.7	19.9	4.2	10.8	19.9	-9.7	13.8	44.0	50.6	85.6	98.6	5.8	341.7	458.1	0.0	43.6	0.0	1.0
17/06/15	3.7	13.2	19.7	4.7	13.9	20.0	-11.5	9.1	23.5	58.6	82.4	98.4	-1.3	293.2	449.9	0.0	43.6	0.0	1.2
18/06/15	10.6	14.8	20.9	12.0	15.7	21.0	-5.8	11.3	26.1	65.7	90.1	97.9	-1.2	199.1	389.3	1.4	45.0	0.0	0.9
19/06/15	13.7	15.1	16.1	14.6	15.7	16.7	5.5	8.2	14.7	94.5	97.2	98.4	-2.0	113.8	383.8	28.6	73.6	0.0	1.2
20/06/15	12.3	14.0	16.4	12.9	14.5	16.6	1.0	6.9	13.0	68.3	82.6	98.2	22.2	284.4	391.6	1.2	74.8	0.6	5.0
21/06/15	12.5	13.5	15.2	13.0	14.0	15.3	1.1	5.9	8.0	54.1	65.8	85.7	27.7	282.9	397.8	0.0	74.8	1.4	5.5
22/06/15	11.3	14.0	18.0	11.8	14.5	18.3	1.6	7.2	16.0	45.4	66.9	86.7	20.9	292.8	394.5	0.0	74.8	1.0	4.0
23/06/15	6.6	12.5	16.2	7.6	13.2	16.5	0.5	8.5	26.1	56.8	76.2	91.0	10.2	290.4	415.1	0.0	74.8	0.0	2.4
24/06/15	6.7	11.9	15.7	8.0	12.5	16.1	2.4	8.1	22.1	40.9	62.7	83.8	25.5	310.4	429.2	2.3	77.1	0.3	4.5
25/06/15	-0.3	7.1	14.3	1.1	8.3	14.5	-2.0	14.8	54.3	31.5	67.4	96.2	77.3	337.3	447.5	0.0	77.1	0.0	1.7
26/06/15	-1.8	6.4	13.6	-1.0	7.3	13.5	-3.5	11.8	26.6	45.5	78.9	98.1	39.9	328.8	459.3	0.0	77.1	0.0	0.7
27/06/15	6.4	9.2	11.9	7.3	9.6	11.8	-3.6	4.6	15.2	64.3	71.9	91.5	52.4	330.4	421.0	0.9	78.0	0.2	3.3
28/06/15	0.6	9.4	16.9	2.1	10.2	16.8	-4.1	10.5	35.1	44.3	68.1	96.3	73.9	330.7	453.4	0.0	78.0	0.0	2.2
29/06/15	-1.7	5.7	16.6	-0.8	6.9	16.6	-5.9	14.1	41.4	44.3	81.6	98.0	56.1	340.7	458.8	0.0	78.0	0.0	0.8
30/06/15	-2.1	8.1	16.4	-1.5	8.7	16.4	-7.6	7.9	26.8	41.0	70.9	98.5	30.6	302.9	456.4	0.0	78.0	0.0	2.3
MONTH	-2.1	12.3	20.9	-1.5	13.1	21.0	-11.5	9.8	54.3	31.5	76.4	98.6	-3.8	197.3	736.5	88.4		0.0	2.3



