

**WAMBO COAL PTY LIMITED**

**MONTHLY ENVIRONMENTAL MONITORING REPORT**

**NOVEMBER 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	7.4	823	6	428		21.3	
SW03	7.4	914	<5	420	<5	20.8	
SW02	7.4	920	6	478	<5	21.5	
SW40	7.4	892	<5	361		21.5	
<b>NORTH WAMBO CREEK</b>							
SW04							Dry
SW27a	7.9	647	14	1040		23.0	
SW32a	7.8	669	88	1320		23.4	
SW05	7.2	428	28	461		17.3	
<b>SOUTH WAMBO/STONY CREEK</b>							
SW06	6.9	577	<5	270		19.8	
SW07							Dry
SW08							Dry
<b>WATERFALL CREEK</b>							
SW39	7.1	256	66	2220		22.9	
<b>MINE WATER DAMS</b>							
SW12	8.7	6280				25.7	
SW14	8.8	897				27.1	
SW15	9.2	6770	26	3670	<5	24.9	
SW20							Dry
SW29							Dry
SW30	9.2	6340				26.8	
SW31	9.3	6910				26.1	
SW38	9.1	8000				26.7	

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

**Table 2 - Ground Water Results**

Groundwater monitoring was not scheduled for November.

Sample Location	pH	EC (µS/cm)	Depth to Water (m)	Temp (°C)	Comments
GW02					
GW11					
P106					
P109					
P110					
P111					
P114					
P116					
P202					
P206					
P301					
P315					
GW12					
GW13					
GW14					
GW15					
GW16					
GW17					
GW18					
GW19					
GW21					
GW22					
P1*					
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	3.9	2.1	54	2.8	1.7
D03*	9.8	4.8	49	3	1.8
D07*	4.8	3.3	69	<b>5.4</b>	3.5
D09	2.4	1.6	67	<b>4.5</b>	2.4
#D11	2.4	1.7	71	2.1	1.4
#D12	3.2	2.2	69	3.1	2
#D17	2.3	0.9	39	1.5	0.8
D19*	7.9	3.2	41	3.1	1.8
D20	2.6	1.4	54	1.6	1
#D21	1.8	1.2	67	1.8	1.1
#D22	1.8	1.2	67	1.6	1.2
D23	1.4	1.0	71	1.8	1.1
#D24	1.0	0.6	60	1.4	0.9
#D25	3.2	2.2	69	2.5	1.8
D26	2.7	1.5	56	2	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**

<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>
1/11/2015	54.6	58.3	33.2	44.4
7/11/2015	44.9	35.5	33.2	37.7
13/11/2015	38.5	33.0	29.6	43.2
19/11/2015	76.6	85.5	37.4	41.5
25/11/2015	74.5	90.6	47.7	64.6
<b>Monthly Mean</b>	57.8	60.6	36.2	46.3
<b>Yearly Mean</b>	51.2	49.6	37.6	55.5

**Table 5 - Blast Results**

Peabody Wambo Blasting Results 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	2/11/2015	15:02:14	M20WRC4	NRR*	<0.16	NRR*	<0.49	103.9	0.43	100.8	0.06	100.6	0.55
2	12/11/2015	13:04:50	M20RCA7	94.3	0.04	93.4	0.05	101	0.51	103.6	0.05	99.5	0.12
3	13/11/2015	12:53:13	M20RCA7a	NRR	NRR	99.4	NRR	103.3	NRR	99.9	0.06	98.9	0.16
4	18/11/2015	11:15:13	M22RCA2	103.6	0.04	98.9	0.05	99.6	0.25	104.7	0.05	102	0.31
5	20/11/2015	15:55:09	M26WWA1	107.3	0.07	109	0.07	105.1	0.95	109.6	0.08	109.2	0.88
6	25/11/2015	15:06:00	M19WMA1	99.2	0.17	96.9	0.15	100.6	0.66	103.6	0.11	102	0.78
7	30/11/2015	15:11:53	WRC4 & M20V	103.1	0.09	103.5	0.08	106.4	0.39	109.7	0.08	108.4	0.51

\* 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
1/11/2015	15.6	15.0	18.6	15.1	12.3	12.2	14.6	15.6
2/11/2015	11.9	15.0	13.1	15.1	7.7	12.2	10.1	15.6
3/11/2015	7.6	14.9	7.1	15.1	7.5	12.2	9.5	15.6
4/11/2015	5.3	14.9	4.2	15.1	4.1	12.2	4.2	15.6
5/11/2015	13.5	14.9	7.9	15.0	5.3	12.2	9.0	15.5
6/11/2015	11.6	14.9	15.9	15.0	8.6	12.2	10.6	15.5
7/11/2015	13.8	14.9	13.5	15.0	12.3	12.2	12.9	15.5
8/11/2015	14.6	14.9	10.9	15.0	11.0	12.2	13.4	15.5
9/11/2015	12.4	14.9	11.4	15.0	15.0	12.2	14.9	15.5
10/11/2015	19.6	14.9	18.9	15.0	12.6	12.2	19.9	15.5
11/11/2015	15.0	14.9	10.8	15.0	10.8	12.2	14.7	15.5
12/11/2015	15.5	14.9	15.8	15.0	10.9	12.2	16.8	15.5
13/11/2015	8.2	14.9	8.3	15.0	5.1	12.1	7.6	15.5
14/11/2015	10.3	14.9	8.5	15.0	<b>NRR</b>	12.1	8.6	15.5
15/11/2015	7.9	14.8	7.3	14.9	<b>NRR</b>	12.1	10.9	15.5
16/11/2015	10.7	14.8	9.7	14.9	<b>NRR</b>	12.1	13.4	15.5
17/11/2015	14.3	14.8	14.4	14.9	8.8	12.1	14.1	15.4
18/11/2015	14.4	14.8	23.7	14.9	11.2	12.1	12.6	15.4
19/11/2015	25.9	14.9	27.9	15.0	15.2	12.1	16.0	15.4
20/11/2015	20.3	14.9	30.0	15.0	16.2	12.1	17.0	15.4
21/11/2015	<b>32.9</b>	14.9	27.6	15.1	28.3	12.2	26.8	15.5
22/11/2015	27.2	15.0	20.6	15.1	22.0	12.2	27.0	15.5
23/11/2015	20.2	15.0	24.9	15.1	20.9	12.3	18.5	15.5
24/11/2015	24.0	15.0	27.2	15.2	27.2	12.3	<b>33.1</b>	15.6
25/11/2015	17.4	15.0	29.7	15.2	15.2	12.3	18.7	15.6
26/11/2015	<b>40.6</b>	15.1	<b>52.3</b>	15.3	<b>33.9</b>	12.4	<b>34.2</b>	15.6
27/11/2015	<b>30.9</b>	15.1	<b>31.0</b>	15.4	<b>30.8</b>	12.4	26.9	15.7
28/11/2015	<b>31.2</b>	15.2	23.7	15.4	23.2	12.5	<b>34.6</b>	15.7
29/11/2015	19.6	15.2	18.7	15.4	15.9	12.5	22.8	15.8
30/11/2015	23.0	15.2	30.0	15.4	19.9	12.5	<b>31.8</b>	15.8

**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
01/11/15	13.9	22.4	31.2	14.9	22.9	30.7	-11.8	6.4	32.8	37.8	70.0	97.7	-1.5	268.0	1013.2	0.4	0.0	2.0	3.6
02/11/15	19.2	23.1	30.2	19.9	23.5	29.8	-12.5	6.2	18.6	47.4	74.4	93.3	-1.5	189.4	976.5	3.7	0.1	2.3	3.8
03/11/15	18.0	20.0	22.2	18.5	20.6	22.2	0.2	7.5	22.0	75.7	88.8	96.5	-1.5	36.8	240.0	2.3	0.1	1.7	2.8
04/11/15	16.5	18.5	21.8	17.1	18.9	21.8	-1.5	4.6	7.4	80.0	91.5	97.0	-1.5	64.7	353.0	4.6	1.0	2.0	3.4
05/11/15	16.9	20.6	26.4	17.5	21.0	26.3	-5.9	5.0	16.3	60.8	83.5	95.9	-1.5	149.4	943.2	5.6	0.4	1.8	2.7
06/11/15	17.7	22.9	29.1	19.2	23.5	28.6	-13.3	7.0	18.5	50.6	77.2	95.9	-1.5	199.3	1074.5	2.6	0.2	1.9	3.4
07/11/15	15.2	21.9	30.7	16.4	22.4	30.2	-13.2	5.2	22.8	39.5	73.7	97.2	-1.5	268.1	1083.4	1.4	0.4	1.8	3.4
08/11/15	16.4	17.5	20.3	16.8	17.9	20.1	-5.7	4.4	10.0	65.2	78.0	92.1	-1.5	83.9	710.8	0.0	0.7	2.0	3.0
09/11/15	13.6	19.2	24.9	15.1	19.7	24.7	-8.4	5.7	20.8	41.9	66.6	92.1	-1.5	312.0	1092.2	0.4	0.3	1.8	3.0
10/11/15	11.1	21.3	30.3	12.5	21.8	29.3	-15.2	5.8	25.4	34.3	63.1	96.8	-1.5	317.5	937.8	0.0	0.1	1.7	2.7
11/11/15	16.5	21.6	27.7	17.3	21.9	27.4	-9.1	3.8	15.2	31.3	63.1	90.5	-1.5	293.7	998.5	0.0	0.8	2.1	3.6
12/11/15	15.5	20.9	29.9	16.8	21.3	29.4	-19.4	3.9	18.1	40.8	77.5	95.9	-1.5	225.8	1009.7	8.8	0.2	1.7	3.5
13/11/15	16.5	22.2	30.9	17.5	22.5	30.4	-10.4	3.8	16.4	40.9	75.4	96.5	-1.5	247.1	1172.6	20.1	0.0	2.1	3.9
14/11/15	15.7	18.1	21.2	16.1	18.5	21.1	-1.5	5.1	10.5	68.2	86.4	97.1	-1.5	68.5	528.9	8.3	0.2	1.8	2.8
15/11/15	13.2	16.7	20.8	14.3	17.1	20.5	-5.5	5.9	15.2	63.2	82.2	94.5	-1.5	113.0	883.7	0.7	0.2	2.0	3.3
16/11/15	12.6	17.7	24.2	13.6	18.3	24.0	-8.0	7.2	22.7	43.9	71.2	95.3	-1.5	213.6	1222.8	0.0	0.3	1.9	3.3
17/11/15	9.9	19.6	28.6	11.2	20.3	28.3	-13.9	8.7	33.0	28.3	63.0	97.0	-1.8	337.8	992.0	0.0	0.2	1.6	2.7
18/11/15	11.3	25.2	35.5	12.4	26.0	35.5	-5.2	10.8	54.6	20.4	50.6	96.2	-1.5	321.7	967.1	0.0	0.2	2.3	3.7
19/11/15	13.9	27.3	39.4	15.4	28.5	39.1	-8.1	15.6	56.6	17.6	49.2	91.3	-1.5	311.4	948.2	0.0	0.1	2.0	3.8
20/11/15	16.6	29.1	40.8	18.2	30.8	40.8	-4.7	21.3	98.0	14.7	47.4	90.4	-1.5	309.5	908.9	0.0	0.2	2.1	4.0
21/11/15	18.0	22.0	27.2	18.4	22.3	26.8	-6.5	3.4	11.2	50.3	64.5	78.5	-1.5	207.1	1076.8	0.0	1.1	2.5	3.7
22/11/15	14.5	19.5	23.8	16.3	20.1	23.4	-7.6	6.6	23.5	54.8	70.5	93.1	-1.5	129.1	938.4	0.0	0.4	1.9	3.1
23/11/15	12.2	22.8	33.3	13.4	23.2	33.0	-12.9	4.1	26.2	15.2	63.1	97.1	-1.5	335.5	1023.1	0.0	0.2	2.2	3.5
24/11/15	15.6	22.3	30.2	16.7	22.7	29.9	-10.0	5.5	21.3	33.4	68.3	94.3	-1.5	286.5	1128.0	0.0	0.2	1.7	3.4
25/11/15	13.7	24.8	36.4	14.9	25.6	36.1	-14.2	10.5	44.0	13.1	54.5	96.9	-1.5	335.9	977.8	0.0	0.0	1.8	3.4
26/11/15	15.9	28.9	40.4	17.3	29.6	40.3	-2.8	9.1	88.9	8.4	44.2	83.1	-1.5	308.6	958.9	0.0	0.2	2.8	4.5
27/11/15	17.1	19.9	24.4	18.1	20.3	24.0	-8.7	3.9	13.2	52.2	66.0	76.9	-1.5	136.0	872.8	0.0	1.0	2.3	3.4
28/11/15	17.0	21.3	24.9	18.0	21.6	24.5	-6.3	4.3	13.0	61.1	72.1	83.2	-1.5	83.5	620.3	0.0	0.8	2.2	3.4
29/11/15	18.6	25.1	34.0	19.7	25.4	33.6	-12.9	4.1	25.9	21.8	64.1	91.2	-1.5	269.2	1081.7	0.0	0.5	1.8	3.2
30/11/15	16.9	23.7	35.0	18.4	23.8	34.6	-19.2	1.1	29.6	16.9	71.4	96.0	-1.5	457.6	1006.3	35.1	0.1	1.7	3.3
MONTH	9.9	21.9	40.8	11.2	22.4	40.8	-19.4	6.6	98.0	8.4	69.0	97.7	-1.8	229.3	1,222.8	94.1	0.0	2.0	4.5



