



## Environmental Monitoring Results

March- September 2006

### Monitoring Requirements

- ❖ Noise
- ❖ Blasting Pressure
- ❖ Air Quality
- ❖ Ground Water
- ❖ Surface Water
- ❖ Flora and Fauna

### Noise Monitoring

Operational noise monitoring currently carried out for Whitehaven Coal Mine will continue bi annually in February and September at “Gundawarra”, “Merton”, “Will-gai”, “Wilga” and “Broadwater”.

Road Traffic noise monitoring will occur quarterly at “Will-gai” and “Brooklyn”. The road noise monitoring programme will occur in combination with the road noise monitoring to be completed for Tarrawonga Coal Mine.

### Noise Monitoring Results

**Table 3.2 WHITEHAVEN  $L_{Aeq}$  NOISE LEVELS, FEBRUARY 2006**

Location	Date And Time	Wind Speed (m/sec)	Criterion dB	Criterion Applies? <sup>2</sup>	WM $L_{Aeq}$ (dB) <sup>3</sup>	Exceedance <sup>4</sup>
WN-2 Merton	22/02/2006 13:59	2.2	35	Y	32	NIL
WN-3 Gundawarra	22/02/2006 14:25	2.5	35	Y	28	NIL
WN-4 Will-gai	22/02/2006 14:53	1.9	35	Y	25	NIL
WN-5 Wilga, nearest fenceline	22/02/2006 15:45	1.7	N/A	N	39	N/A <sup>5</sup>
Broadwater	21/04/2006 15:11	3.7	35	N	IA	N/A

Measured noise levels from WM (Whitehaven Coal Mine) satisfied the specified noise criterion. Total mine noise at WN5: “Wilga” was 39dB(A), which is 4dB above the criterion. Wilga however is a project related residence and therefore the criterion does not apply.

## **Blasting Pressure Monitoring**

Pressure released from blasts is measured using two parameters:

- Air blast Overpressure (dBL): Measured as sound.
- Ground Pressure / Ground Vibration (mm/s): Measured as Peak Particle Velocity in three directions (radial, vertical and transverse)

The following blasting limits apply on all privately owned land around the mine:

The Overpressure level must not:

- Exceed 115dB (Lin Peak) for more than 5% of the total number of blasts over a period of 12 months; and
- Exceed 120dB (Lin Peak) at any time.

The Ground Pressure peak velocity must not:

- Exceed 5mm/s for more than 5% of the total number of blasts over a period of 12 months; and
- Exceed 10mm/s at any time.

## **Blasting Results**

Since March 2006, there have been 49 shots fired.

Of those 49 shots only one location for one of the blasts exceeded the criteria. The condition exceedance occurred at the Gundawarra property on the 1/5/2006 with an Overpressure result of 116.2dBL. As this was the only blast of the 49 shots over approximately 6 months it is below the 5% exceed allowance.

All ground pressure results were within the criteria, with the highest result occurring at Wilga on the 26/5/2006 with 3.54mm/s.

## Air Quality Monitoring

Table of Air Quality Results June 2005 to July 2006 around Whitehaven Coal Mine

Month	Sites												
	D1: Whitehaven	D2: Merton House	D5: Wilga	D6: Bungalow	D7: Wilgai	D8: Gundawarra	D10: Merton	D11: Merton	D12: Whitehaven	D13A: Womboola	D15: Merton	D16: Merton	Site Average
Jun/July-05	0.8	1.2	1.2		0.7	1.5	1.7	0.9	0.7	1.8			1.2
Aug-05	0.7	0.9	1.0		2.4	1.4	2.3	0.9	0.8	0.8			1.2
Sep-05	1.0	3.9	2.5		2.8	6.2	4.5	2.5	1.5	0.9			2.9
Oct-05	1.8	3.4	1.2		0.6	1	4.4	1.1	0.8	0.8			1.7
Nov-05	2.6	3.1	1.1		1.0	1.6	2.2	5.9	6.0	1.8			2.8
Dec-05	1.0	5.6	1.3	0.8	4.5	2	3.0	3.5	2.1	2.8	2.1	2.6	2.9
Jan-06	2.5	3.2	1.1	0.8	1.4	1.2	2.3	4.9	0.9	1.5	1.0	6.4	2.1
Feb-06	1.0	3.6	0.9	0.3	0.8	1	4.0	3.0	0.7	1.3	3.6	3.1	1.8
Mar-06	1.9	3.0	1.3	0.5	1.6	1.2	2.2	1.4	0.8	1.2	9.7	2.2	1.6
Apr-06	0.4	4.1	1.0	0.9	1.5	10.3	2.0	1.0	0.6	1.0	3.5	3.3	2.4
May-06	0.5	0.9	1.0	0.7	1.2	6	1.5	0.9	1.3	0.9	1.8	1.4	1.6
Jun-06	1.0	4.0	1.1		0.6	1.5	5.3	1.9	2.7	2.0	8.4	3.7	2.2
Jul-06	4.8	1.3	1.5		0.4	0.9	1.8	0.7	0.4	2.5	2.4	4.2	1.6
<b>Yearly Average 2005-2006 (g/m2/month)</b>	<b>1.4</b>	<b>2.7</b>	<b>1.2</b>	<b>0.6</b>	<b>1.4</b>	<b>2.6</b>	<b>2.7</b>	<b>2.0</b>	<b>1.4</b>	<b>1.4</b>	<b>3.6</b>	<b>3.0</b>	<b>1.9</b>

The deposited dust results show compliance with the limits of 4g/m2/month or an increase of 2g/m2/month from background levels.

## Water Monitoring

### Ground Water Monitoring Results 2006

Month	GW2: Bungalow Windmill	GW4: Merton Windmill	GW5: Merton House	GW7: Womboola	GW8: Wilga	GW9: Whitehaven	GW10: Whitehaven
Feb-06	20.18	21.92	24.76	26.12	20.47	21.43	22.14
May-06	20.12	21.91	24.78	26.07	21.17	21.4	21.78
Aug-06	20.09	21.86	24.76	26.05	21.93	21.36	

As can be seen from the above results the depths of the Standing Water Level of Groundwater Bores surrounding the Whitehaven mine were constant.

### Rehabilitation

Over 3000 native species have been replanted on site.

Areas of sown pasture have had a total ground cover of 95-100%.