



# **Mt Shamrock Quarry Environmental Management Plan Progress Update – 3 Months**

**From 14 April 2008 – 14 July 2008**

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On 11 March 2008 the *Mt Shamrock Quarry – Environmental Management Plan Version 1: 18 January 2008* (EMP) was formally enacted. This document established a framework to ensure compliance with local council, AAV, DPI, EPA and DSE requirements relating to the extension of extractive limits under Work Authority 174 (WA174). An Environment Review Committee (ERC) was formed to monitor the performance of the quarry against the EMP, the permit and WA174. The ERC consists of delegates from the relevant authorities, members of the Wurundjeri Tribe, and local residents. The ERC is chaired by an independent representative from All Possibilities Pty Ltd to ensure non-partisan administration.

This report details information on both monitoring results and management actions by the quarry in the preceding three months. This report will take the form of an exception report – that is where there is a deviance from the EMP, this will be highlighted and reasons for the deviance explained. A summary of quantifiable monitoring outcomes is also included. Figure 1.8 details all monitoring locations.

## 2.1 Air Quality – Dust

Management Measure	Action	Procedure/Reference	Responsibility	Timing
Monitoring	Continuous monitoring of PM <sub>10</sub> after commencement of extension works, with results reviewed after 12 months.	(see s2.1.4 of EMP)	QM	All times
Monitoring	A weather monitoring station with display to be installed in the Pit Manager's Office	-	PM	Within 1 month of EMP approval
Monitoring	Records of wind speed and direction will be stored for a period of 12 months for subsequent reference in case of complaints and to assist in interpreting dust monitoring data/	-	PM	All times
Reporting	One (1) hourly average PM <sub>10</sub> data will be provided to the Pit Manager's office from the "reactive monitoring stations"	-	PM	All times

**Table 1.1 Selected Management Actions s2.1.3**

Due to delays in the delivery of equipment the above criteria have not been met. The equipment was ordered in early April and according to the supplier is currently clearing Customs and should be delivered early next week.

## 2.2 Noise

Routine noise monitoring at all sensitive sites has been conducted on a daily basis from the date of receipt of noise monitoring equipment. This was completed due to the requirement under the EMP of "periodic noise monitoring at commencement of change in quarry activities" as stripping of overburden had commenced. This daily frequency was undertaken from 07 April on all days of quarry operation (Mon – Sat) and was undertaken at varying times through the day. Table 1.2 shows the recorded averages (L<sub>AEQ</sub>) for each month at each sensitive location. There have been no complaints in relation to operating noise and therefore no investigative monitoring.

	N1	N2	N3	N4	N5	N6	N7	N8
April	41.1	40.6	39.2	39.1	40.3	43.6	42.1	43.6
May	37.6	35.4	35.9	35.8	37.5	42.2	41.5	41.3
June	35.6	33.6	31.4	33.9	33.1	41.6	40.0	40.6
July	32.7	35.2	31.3	33.5	33.6	42.1	40.2	41.2

Table 1.2 Average noise values by Sensitive Location and Month

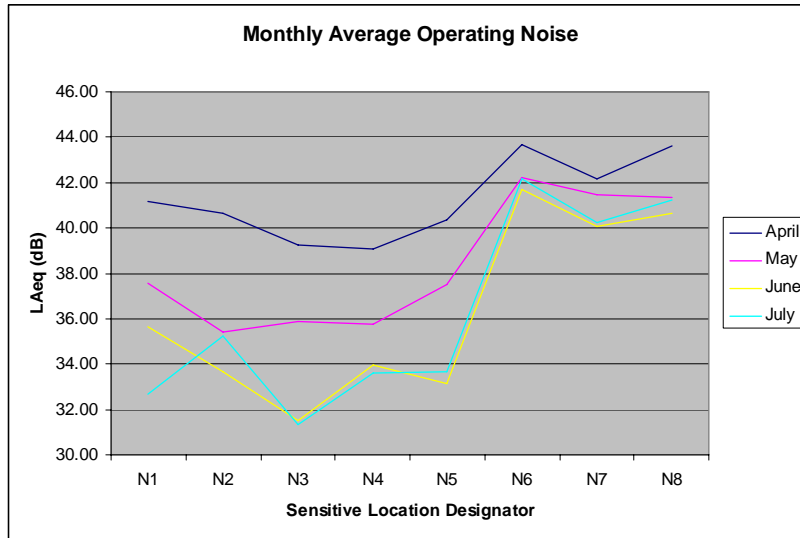


Figure 1.1: Average Monthly Noise Value by Sensitive Location  
**Limit is 45 dB under normal operating conditions**

### 2.3 Blasting

All blasting operations have been carried out in accordance with the standards required. An additional monitoring point has been enacted at the Waterhouse property. This monitoring point has been utilised by specialist consultants for all blasts fired under the EMP. Figures below show the Ground Vibration and Air Blast Overpressure values for each monitoring point by blast. The allowable limit for ground vibration is a peak particle velocity of 5 mm/s in 95% of blasts in a 12 month period<sup>1</sup>. The allowable limit for air blast overpressure is a peak Air blast of 115 dBL in 95% of blasts in a 12 month period<sup>2</sup>.

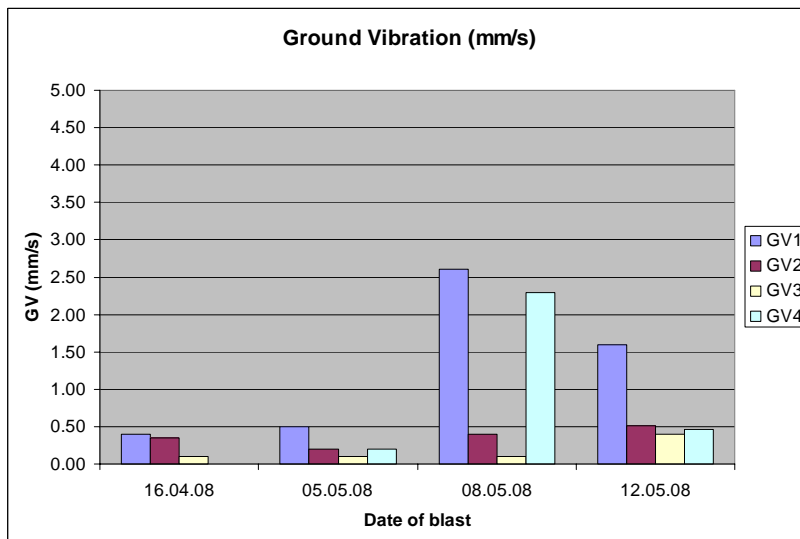


Figure 1.2: Ground Vibration by monitoring point and blast for reporting period 14 April to 14 May  
**Limit is 5 mm/s for 95% of blasts in a 12 month period.**

<sup>1,2</sup> Mt Shamrock – Environmental Management Plan : Version 1 January 2008 s2.3.4

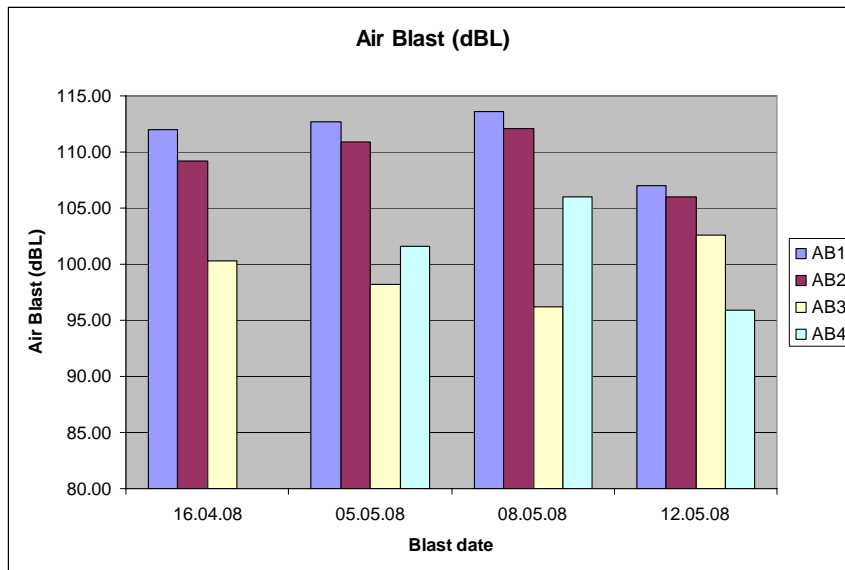


Figure 1.3: Air Blast Overpressure by monitoring point and blast for reporting period 14 April to 14 May  
**Limit is 115 dBL for 95% of blasts in a 12 month period.**

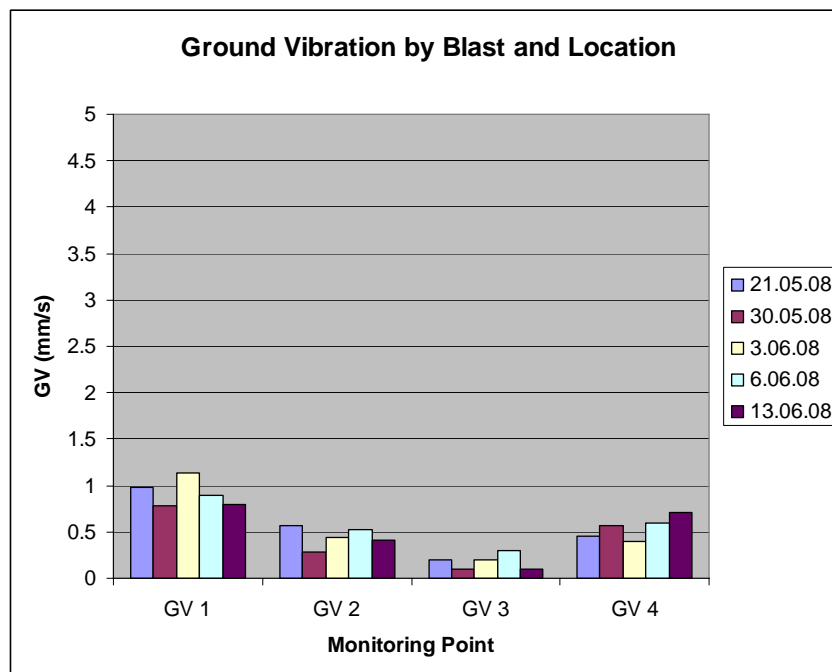


Figure 1.4: Ground Vibration by monitoring location and blast for reporting period 14 May – 14 June  
**Limit is 5 mm/s for 95% of blasts in a 12 month period.**

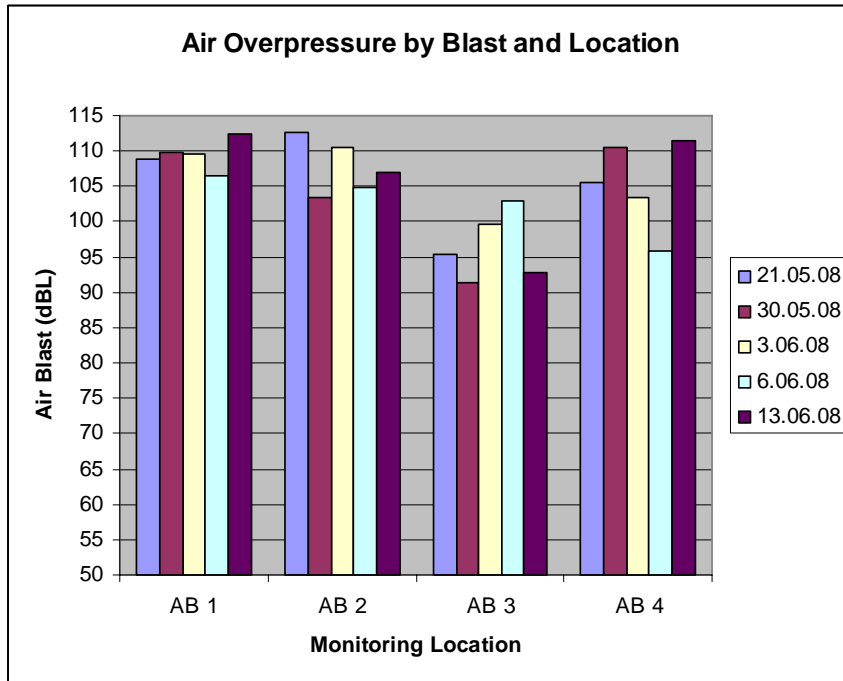


Figure 1.5: Air Blast Overpressure by monitoring location and blast for reporting period 14 May – 14 June  
**Limit is 115 dBL for 95% of blasts in a 12 month period.**

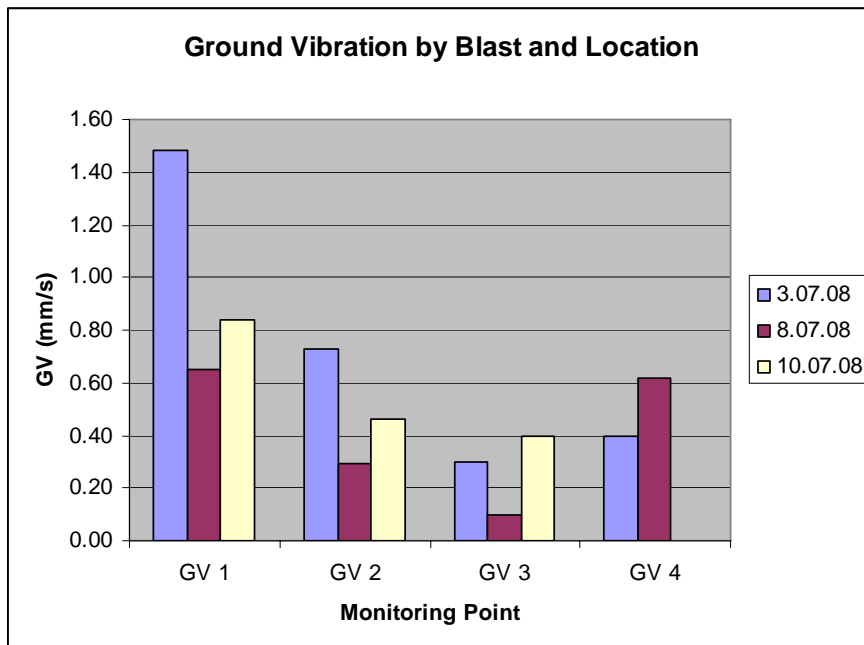


Figure 1.6: Ground Vibration by monitoring location and blast for reporting period 14 June – 14 July  
 Monitoring Equipment at AB 4 (Waterhouse property) did not trigger on 10.07.08  
**Limit is 5 mm/s for 95% of blasts in 12 month period.**

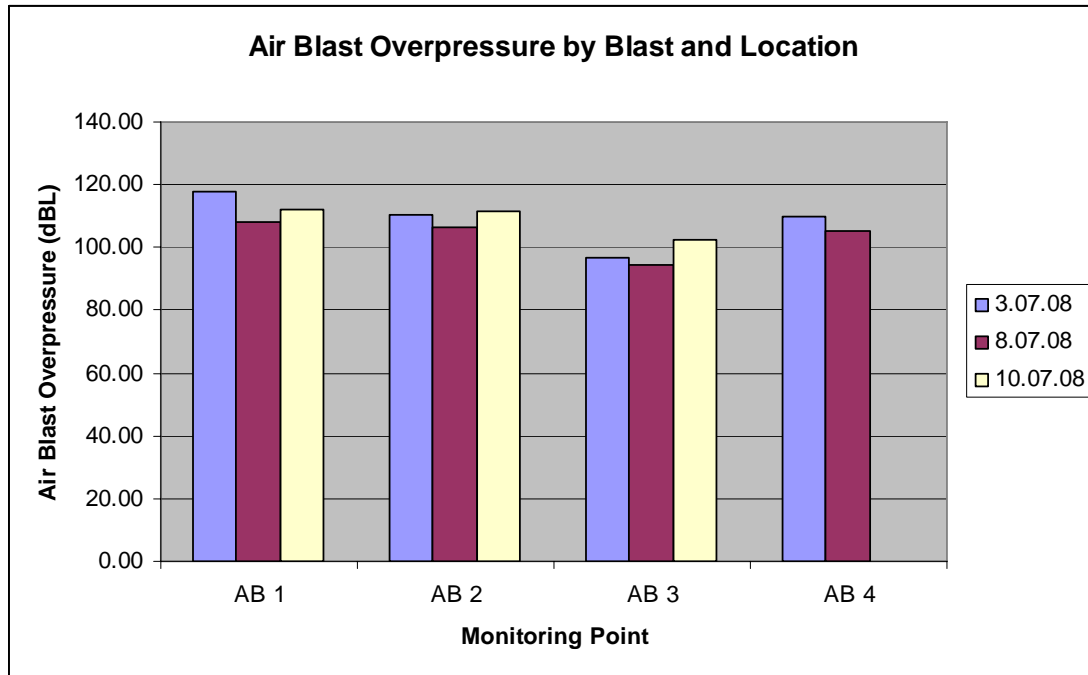


Figure 1.7: Air Blast Overpressure by monitoring location and blast for reporting period 14 June – 14 July  
 Monitoring Equipment at AB 4 (Waterhouse property) did not trigger on 10.07.08  
**Limit is 115 dBL for 95% of blasts in a 12 month period.**

## 2.4 Surface Water, Drainage and Groundwater

As only two measurements of the Monitoring Bore Levels have been completed there is insufficient data to extrapolate any statistically credible trend. Variations in the total depth of the bore equate to less than 1% in all cases and are therefore not considered significant at this stage. Variations of this magnitude are likely resultant of inherent error in the measuring process. Variations in the depth to water level (DTWL) from March observations to July observations are summarised in Table 1.3.

Monitoring Bore	Change (m)
MB01	1.70
MB02	-0.51
MB03	0.55
MB04	-0.07
MB05	0.59
MB06	-0.04

Table 1.3 Depth to Water Level Change

### References:

Rinker Australia, 2008, *Mt Shamrock Quarry Environmental Management Plan*, Version 1: 18 January 2008, Pakenham

Rinker Australia, 2008, *Environmental Management Report – For Period 14 April 2008 – 14 May 2008*, Pakenham

Rinker Australia, 2008, *Environmental Management Report – For Period 14 May 2008 – 14 June 2008*, Pakenham

Rinker Australia, 2008, *Environmental Management Report – For Period 14 June 2008 – 14 July 2008*, Pakenham

Figure 1.8 – Monitoring Locations



**LEGEND:**

- ▲ A = Air monitoring location ( ▲ signifies high volume compliance monitoring station at A2, A5, A6)  
(Note: Background PM<sub>10</sub> monitoring also at address to be determined)
- N = Noise Monitoring location
- V = Blast Vibration and Noise Overpressure location
- ◆ W = Surface Water Sampling Point
- MB = Groundwater monitoring bores
- S = Weather Station