WILPINJONG COAL PTY LTD

Environment Protection Licence (EPL) 12425

Link to Environment Protection Licence EPL12425

LICENCE MONITORING DATA
MONTHLY SUMMARY REPORT

for

1 April 2013 to 30 April 2013

Air Monitoring

Air quality surrounding the Wilpinjong Coal Mine is monitored using:

1. tapered element oscillating microbalances (TEOM);
2. high volume air samplers (HVAS); and
3. dust deposition gauges (DG).

In terms of the above equipment:

1. the TEOM and HVAS measure fine dust particles up to 10 microns in diameter (i.e. PM10); and
2. the DG measure the total dust deposited in the gauge during the sample period.

All are influenced by mining as well as non mining activities in the local area.

The location of the above monitoring equipment in relation to Wilpinjong Coal Mine is shown in Figure 9.

A summary of the monitoring results for the month are provided in Table 1 and also shown in Figures 1 to 3.

Table 1

EPL ID No.	Monitoring Point ID.	Pollutant	Unit of Measure	Monitoring Frequency required by EPL	No. of times measured during month	Min. Value	Max. Value	Mean Value	Measurement	Annual Average	Limit	Exceed[n] (yes/no)	Date Last Sampled	Date Last Reported
3	DG4	Particulates - TSM	grams per square metre per month	Monthly	1				0.6				26/04/13	14/05/13
4	DG5	Particulates - TSM	grams per square metre per month	Monthly	1				0.5	0.5	4.0	No	26/04/13	14/05/13
6	DG8	Particulates - TSM	grams per square metre per month	Monthly	1				2.2				26/04/13	14/05/13
9	DG11	Particulates - TSM	grams per square metre per month	Monthly	1				2.9				26/04/13	14/05/13
10	DG12	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				3.2				26/04/13	14/05/13
11	DG13	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				2.3				26/04/13	14/05/13
12	DG14	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				1.0				26/04/13	14/05/13
17	DG15	Particulates - TSM	grams per square metre per month	Monthly	1				0.6				26/04/13	14/05/13
13	HV1	PM10	micrograms per cubic metre	Every 6 days	5	5.6	18.4	11.2					29/04/13	14/05/13
19	HV4	PM10	micrograms per cubic metre	Every 6 days	5	6.7	18.3	11.9					29/04/13	14/05/13
20	HV5	PM10	micrograms per cubic metre	Every 6 days	5	10.1	25.5	16.2					29/04/13	14/05/13
22	TEOM3	PM10	micrograms per cubic metre	Continuous (24 Hr Average)	100.0%	5.8	26.5	12.9						
23	TEOM4	PM10	micrograms per cubic metre	Continuous (24 Hr Average)	100.0%	7.9	53.3	18.5						

Figure 1. DDG Results - 12 Month Trend

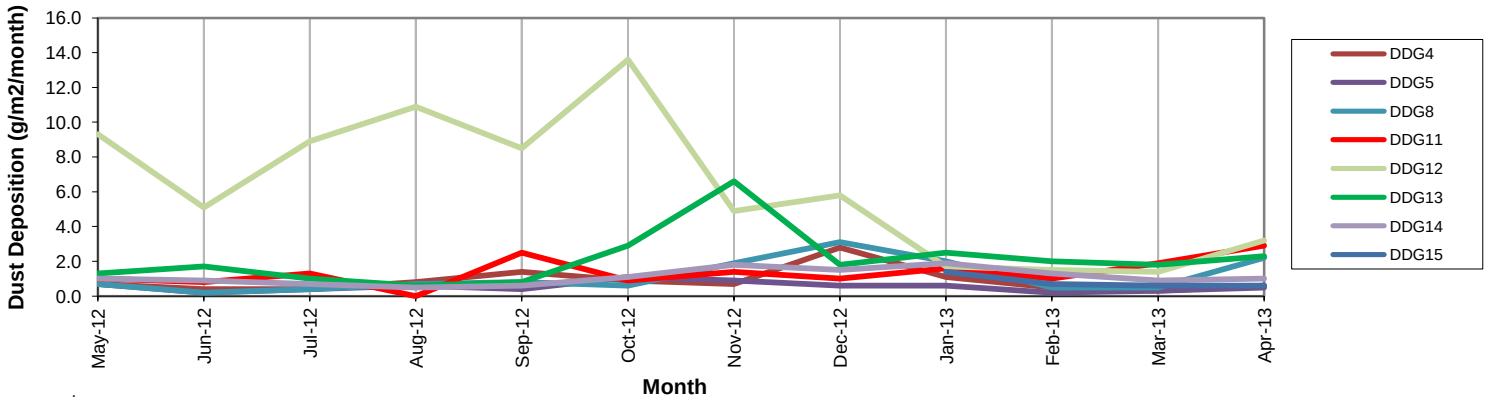
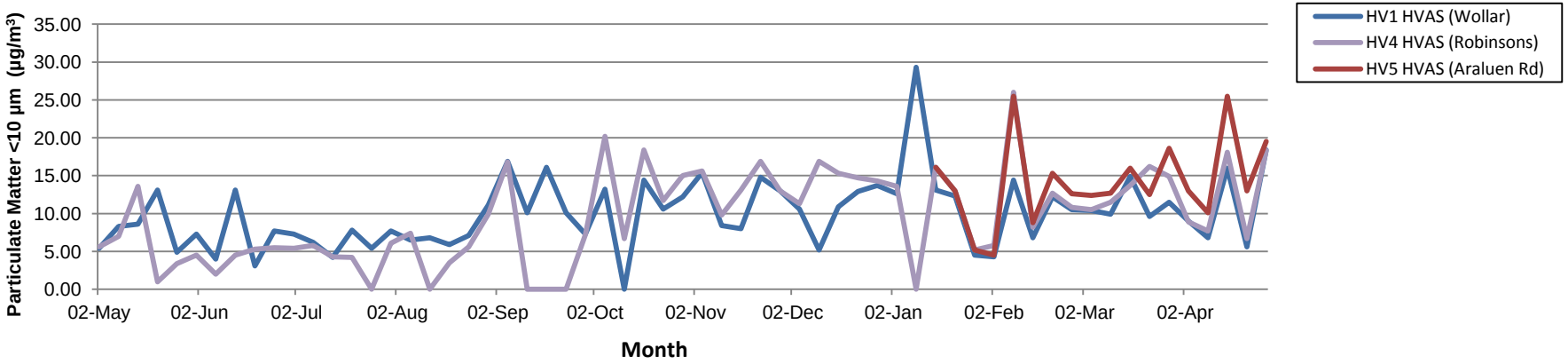
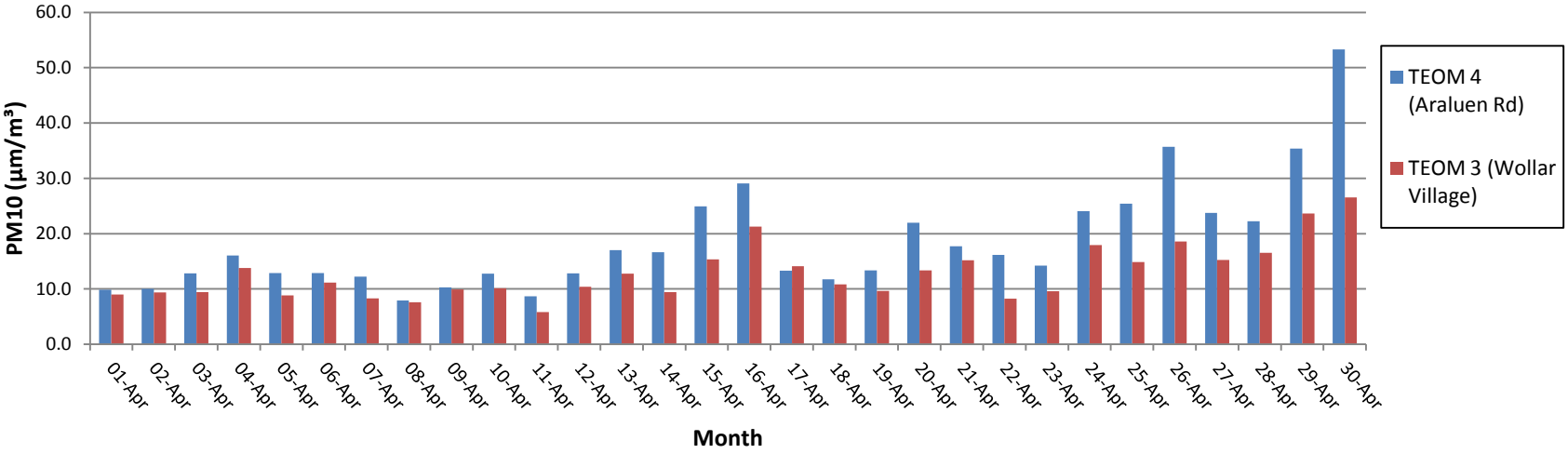


Figure 2. HVAS Resuts - 12 Month Trend



Note: HV5 installed and commenced 10 January 2013

Figure 3. TEOM - 24 Hour Average PM10 Concentration (µg/m³)



Surface Water Monitoring

Surface water runoff is isolated and diverted around disturbed areas through the construction of water diversion bunds. Runoff from disturbed areas is diverted into on site water retention dams.

A Reverse Osmosis (RO) Plant treats all water from the retention dams before it is discharged to Wilpinjong Creek. The EPL specifies limits for the quantity and quality of water that may be discharged from the site.

The location of the monitoring point in relation to Wilpinjong Coal Mine is shown in Figure 9.

A summary of the monitoring results for the month are provided in Table 2 and also shown in Figures 4 to 7.

Table 2

EPL ID No.	Monitoring Point ID.	Pollutant	Unit of Measure	Monitoring Frequency required by EPL	No. of times measured during month	Min. Value	Max. Value	Medium Value	Measurement	Limit	Exceed^{n} (yes/no)	Date Last Sampled	Date Last Reported
24	RO Plant Discharge	Conductivity	microSiemens per centimetre (uS/cm)	Continuous during discharge	100%	397.0	672.0	432.0		500	Yes		
		Oil and Grease	milligrams per litre (mg/L)	Daily during any discharge	2	<5	<5	<5		10.0	No	12/04/13	14/05/13
		pH	pH Unit	Continuous during discharge	100%	6.7	7.5	7.1		≥6.5≤8.5	No		
		Total Suspended Solids	milligrams per litre (mg/L)	Daily during any discharge	2	<2	<2	<2		50	No	12/04/13	14/05/13
		Volume discharged	megalitres per day	Continuous during discharge	100%	0.00	0.27	0.02		5.0	No		

Figure 4. TSS and Oil & Grease Results for the Month

No graph as only two results were reported during month.

Figure 5. Volume discharged per day (ML)

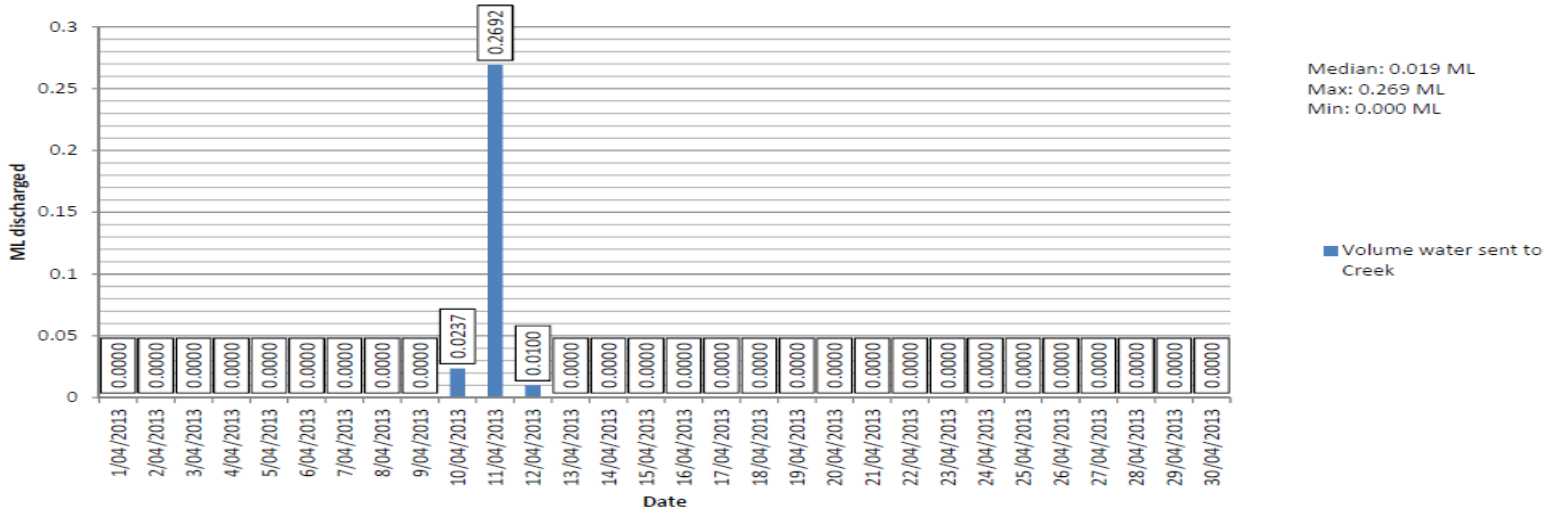


Figure 6. Conductivity Results for the Month

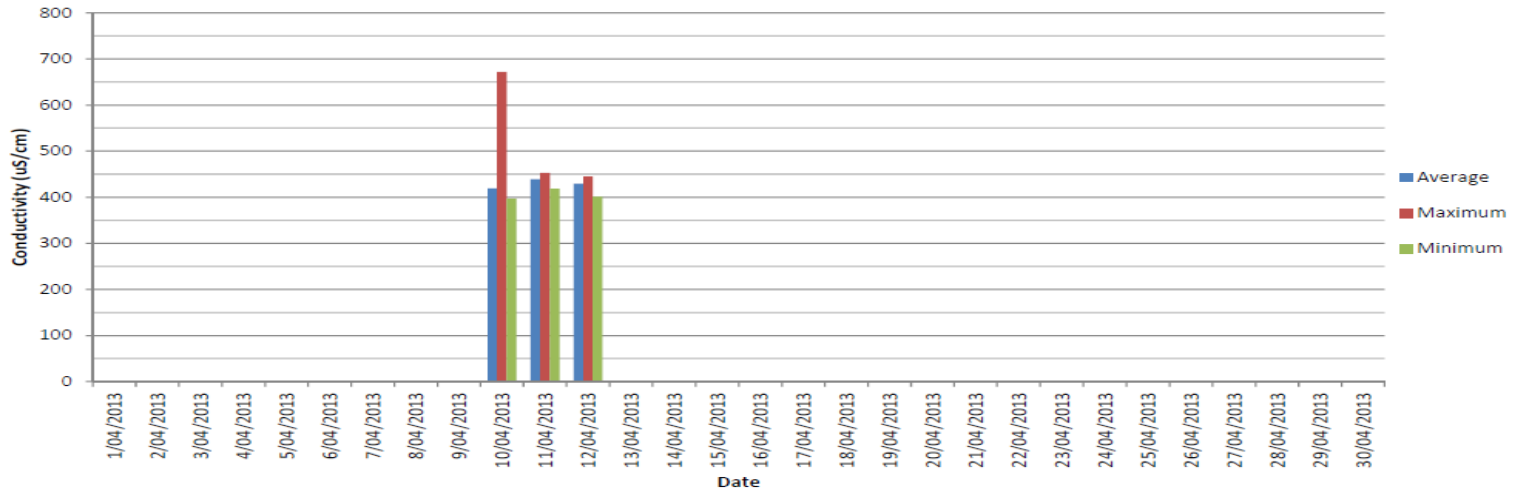
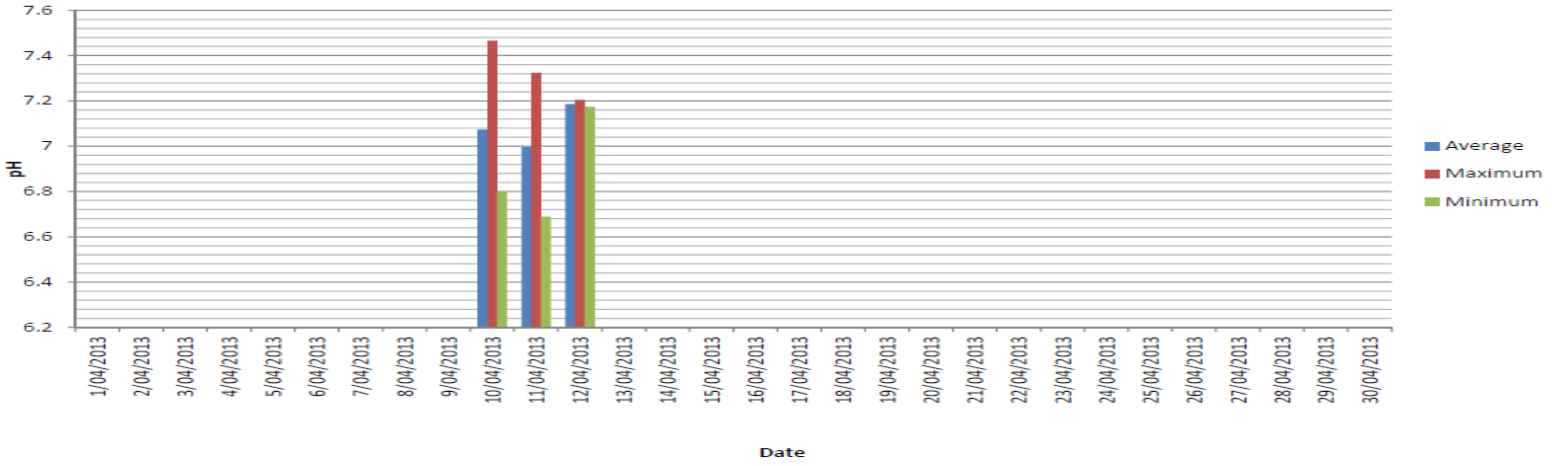


Figure 7. pH Results for the Month



Noise Monitoring

Environmental noise monitoring ("monitoring") is carried out on a bi-monthly basis.

The purpose of the monitoring is to assess whether mining operations are consistent with the objectives of the EPL and the development consent conditions.

In terms of this monitoring, it is undertaken:

1. by a noise consultant;
2. during the evening and night-time; and
3. at the sites shown in Figure 10.

On pages 10 and 11 are the noise levels and findings from the consultant's report.

Table 4.2 $L_{Aeq,15\ minute}$ dB GENERATED BY WCP AGAINST IMPACT ASSESSMENT CRITERIA - APRIL 2013

Location	Date and Time	Wind Speed m/s [8,9]	VTG °C per 100m [6,8,9]	Criterion dB [7]	Criterion Applies? [1,5]	WCP $L_{Aeq,\ 15min}$ dB [2,3]	Exceedance [4,5,7]
	Evening						
N4	10/04/13 21:45	0.8	2.1	NA	Y	23	NA
N6	10/04/13 21:13	2.0	0.5	35	N	IA	NA
N7	10/04/13 20:14	1.6	0.2	NA	Y	IA	NA
N9	10/04/13 20:46	1.7	0.7	NA	Y	NM	NA
N12	10/04/13 19:34	1.5	0.3	NA	Y	30	NA
	Night						
N4	10/04/13 22:05	0.4	2.6	NA	Y	22	NA
N6	10/04/13 22:37	0.3	4.8	35	N	IA	NA
N7	10/04/13 23:40	0.0	5.3	NA	N	NM	NA
N9	10/04/13 23:08	0.4	6.9	NA	N	IA	NA
N12	11/04/13 00:21	0.0	3.8	NA	N	33	NA
	Evening						
N4	11/04/13 21:42	0.0	7.9	NA	N	20	NA
N6	11/04/13 21:14	0.0	6.4	35	N	IA	NA
N7	11/04/13 20:11	0.8	3.3	NA	N	IA	NA
N9	11/04/13 20:37	0.7	3.6	NA	N	IA	NA
N12	11/04/13 19:37	1.2	2.4	NA	Y	31	NA
	Night						
N4	11/04/13 22:05	0.0	9.8	NA	N	23	NA
N6	11/04/13 22:35	0.0	10.3	35	N	NM	NA
N7	11/04/13 23:33	0.0	8.1	NA	N	IA	NA
N9	11/04/13 23:07	0.0	9.8	NA	N	IA	NA
N12	12/04/13 00:07	0.0	8.1	NA	N	30	NA

Notes:

1. *Noise emission limits apply for winds up to 3 metres per second (at a height of 10 metres, or, vertical temperature gradients of up to 3 degrees/100m with wind speed up to 2 m/s;*
2. *These are results for WCP in the absence of all other noise sources;*
3. *NM denotes audible but not measurable, IA denotes inaudible;*
4. *Bolded results in red are those greater than the relevant criterion (if applicable);*
5. *Y denotes Yes, N denotes No;*
6. *Vertical Temperature Gradient (VTG) is sourced from the WCP inversion tower;*
7. *NA in criterion column means the criteria are not applicable at this location, NA in exceedance column means atmospheric conditions outside conditions specified in development consent and so criterion is not applicable or criterion not specified;*
8. *Atmospheric data is sourced from the WCP weather station; and*
9. *Criterion may or may not apply due to rounding of meteorological data values.*

Table 4.3 $L_{A1,1\ minute}$ dB GENRATED BY WCP AGAINST IMPACT ASSESSMENT CRITERIA – APRIL 2013

Location	Date and Time	Wind Speed m/s [8,9]	VTG °C per 100m [6,8,9]	Criterion dB [7]	Criterion Applies? [1,5]	WCP $L_{A1,\ 1\ min}$ dB [2,3]	Exceedance [4,5,7]
	Night						
N4	10/04/13 22:05	0.4	2.6	NA	Y	30	NA
N6	10/04/13 22:37	0.3	4.8	45	N	IA	NA
N7	10/04/13 23:40	0.0	5.3	NA	N	30	NA
N9	10/04/13 23:08	0.4	6.9	NA	N	IA	NA
N12	11/04/13 00:21	0.0	3.8	NA	N	39	NA
	Night						
N4	11/04/13 22:05	0.0	9.8	NA	N	30	NA
N6	11/04/13 22:35	0.0	10.3	45	N	NM	NA
N7	11/04/13 23:33	0.0	8.1	NA	N	IA	NA
N9	11/04/13 23:07	0.0	9.8	NA	N	IA	NA
N12	12/04/13 00:07	0.0	8.1	NA	N	36	NA

Notes:

1. *Noise emission limits apply for winds up to 3 metres per second (at a height of 10 metres, and, vertical temperature gradients of up to 3 degrees/100m with wind speed up to 2 m/s;*
2. *These are results for WCP in the absence of all other noise sources;*
3. *NM denotes audible but not measurable, IA denotes inaudible;*
4. *Bolded results in red are those greater than the relevant criterion (if applicable);*
5. *Y denotes Yes, N denotes No;*
6. *Vertical Temperature Gradient (VTG) is sourced from the WCP inversion tower;*
7. *NA in criterion column means the criteria are not applicable at this location, NA in exceedance column means atmospheric conditions outside conditions specified in development consent and so criterion is not applicable or criterion not specified;*
8. *Atmospheric data is sourced from the WCP weather station; and*
9. *Criterion may or may not apply due to rounding of meteorological data values.*

Summary of Compliance - Noise Consultants Report

Environmental noise monitoring described in this report was undertaken during the evening and nights of the 10/11 and 11/12 April 2013. Attended noise monitoring was conducted at five sites. The duration of all measurements was 15 minutes.

Wind speed and/or estimated temperature inversion conditions resulted in criteria not always being applicable, as indicated in Table 4.2 and Table 4.3.

Wilpinjong Coal Project (WCP) complied with noise limits at the monitoring locations during the March / April 2013 monitoring period.

Global Acoustics Pty Ltd

Noise report released on the 5 June 2013.

Blasting

Monitoring is carried out near sensitive locations during blasting activities to determine the vibration in the air (overpressure) and earth (ground vibration). A summary of the results of this monitoring, and the limits specified in the EPL, are shown in Tables 3 and 4. Figure 8 shows the actual overpressure and vibration levels recorded during the month.

Table 3 – Overpressure Monitoring Results

Location	Month	Number of Blasts	Minimum overpressure (dB(L))	Maximum overpressure (dB(L))	Median overpressure (dB(L))	EPL overpressure Limits (dB(L))	Exceedance (yes/no)
Wollar Public School	April	15	82.1	100.7	89.69	115dB (95% blasts) 120 dB (100% blasts)	no

Table 4 – Vibration Monitoring Results

Location	Month	Number of Blasts	Minimum vibration (mm/sec)	Maximum vibration (mm/sec)	Median vibration (mm/sec)	EPL vibration Limits (mm/sec)	Exceedance (yes/no)
Wollar Public School	April	15	0.03	0.26	0.07	5 mm/s (95% blasts) 10 mm/s (100% blasts)	no

Figure 8. Overpressure & Vibration Results

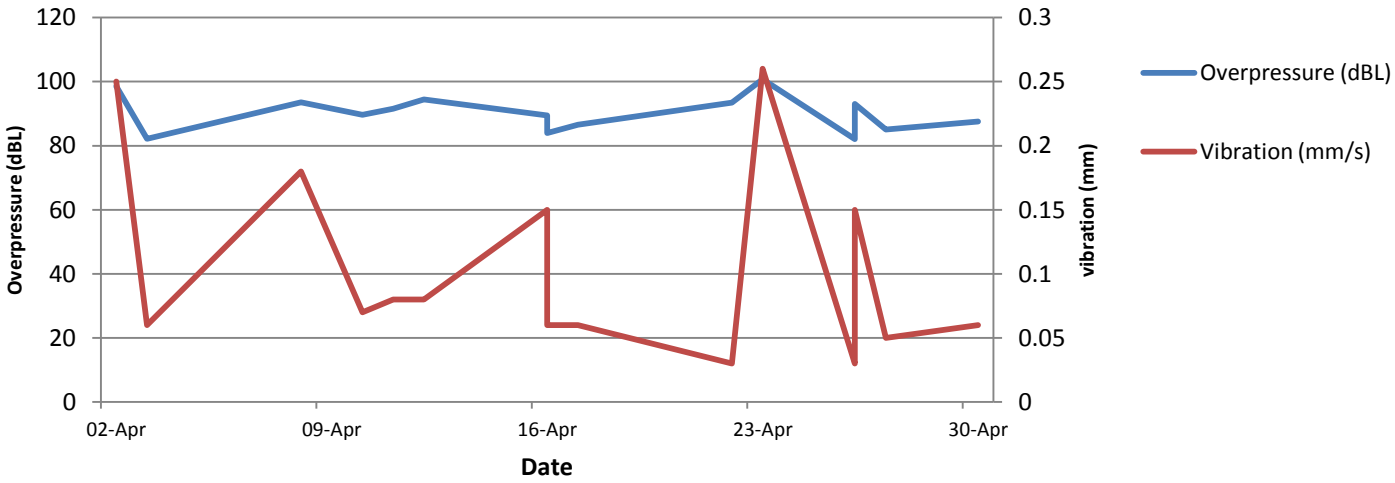


Figure 9 – Air & Water Monitoring Locations

Figure 10 – Attended Noise Monitoring Locations