WILPINJONG COAL PTY LTD

Environment Protection Licence (EPL) 12425

Link to Environment Protection Licence EPL12425

LICENCE MONITORING DATA
MONTHLY SUMMARY REPORT

for

1 March 2013 to 31 March 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.

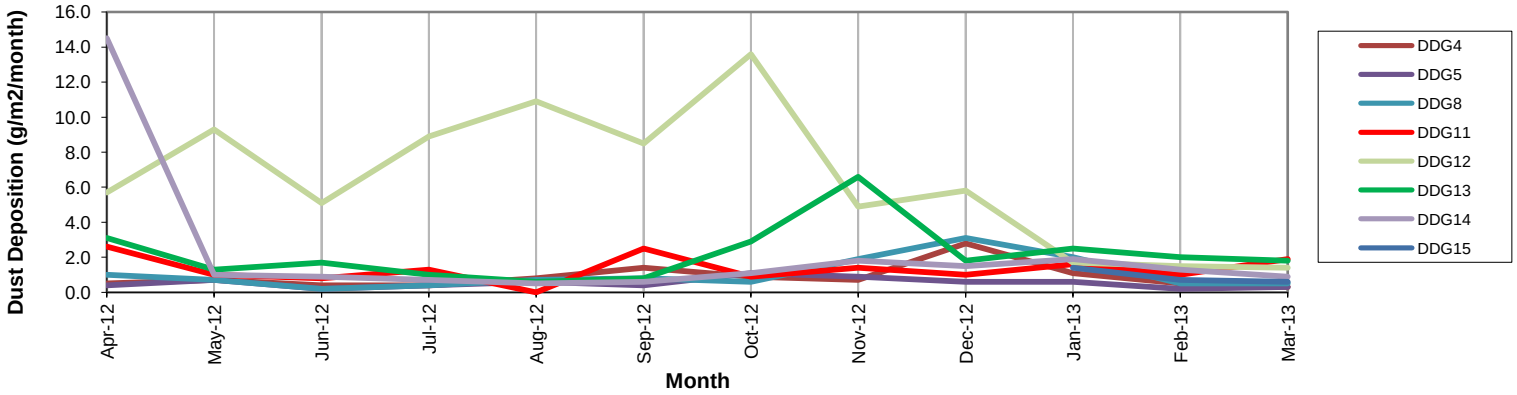
The location of the above monitoring equipment in relation to Wilpinjong Coal Mine is shown in Figure 9.

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

Table 1

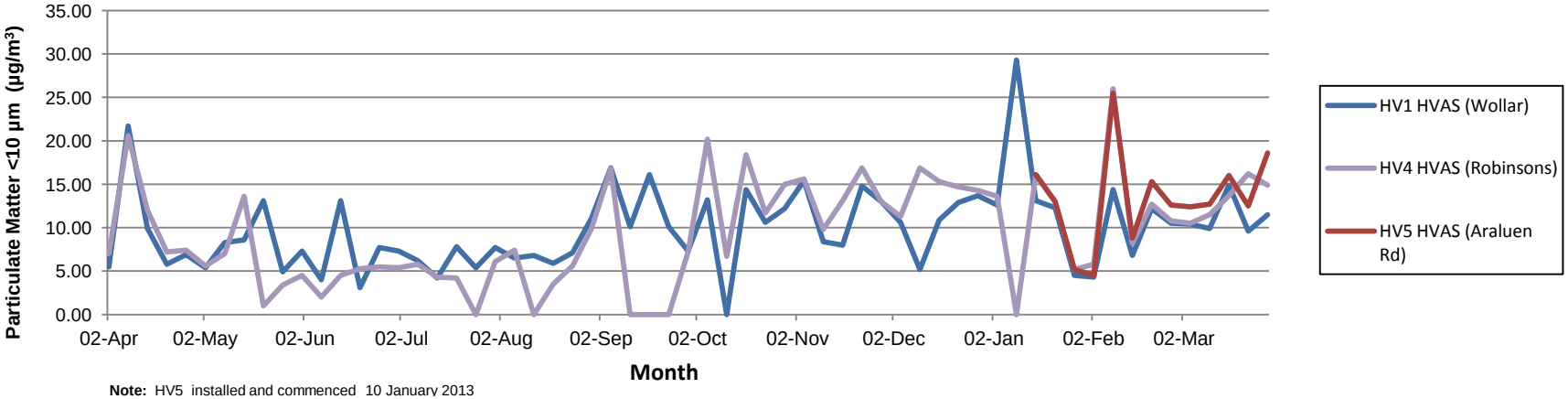
EPL ID No.	Monitoring Point ID.	Pollutant	Unit of Measure	Monitoring Frequency required by EPL	No. of times measured during month	Min. Value	Max. Value	Mean Value	Measurement	Annual Average	Limit	Exceed[n] (yes/no)	Date Last Sampled	Date Last Reported
3	DG4	Particulates - TSM	grams per square metre per month	Monthly	1				0.3				28/03/13	02/04/13
4	DG5	Particulates - TSM	grams per square metre per month	Monthly	1				0.3	0.5	4.0	No	28/03/13	02/04/13
6	DG8	Particulates - TSM	grams per square metre per month	Monthly	1				0.5				28/03/13	02/04/13
9	DG11	Particulates - TSM	grams per square metre per month	Monthly	1				1.9				28/03/13	02/04/13
10	DG12	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				1.4				28/03/13	02/04/13
11	DG13	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				1.8				28/03/13	02/04/13
12	DG14	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				0.9				28/03/13	02/04/13
17	DG15	Particulates - TSM	grams per square metre per month	Monthly	1				0.6				28/03/13	02/04/13
13	HV1	PM10	micrograms per cubic metre	Every 6 days	5	9.6	14.9	11.3					28/03/13	08/04/13
19	HV4	PM10	micrograms per cubic metre	Every 6 days	5	10.5	16.2	13.4					28/03/13	08/04/13
20	HV5	PM10	micrograms per cubic metre	Every 6 days	5	12.4	18.6	14.4					28/03/13	08/04/13
22	TEOM3	PM10	micrograms per cubic metre	Continuous (24 Hr Average)	100.0%	2.4	32.0	13.1						
23	TEOM4	PM10	micrograms per cubic metre	Continuous (24 Hr Average)	100.0%	3.3	40.7	16.3						

Figure 1. DDG Results - 12 Month Trend



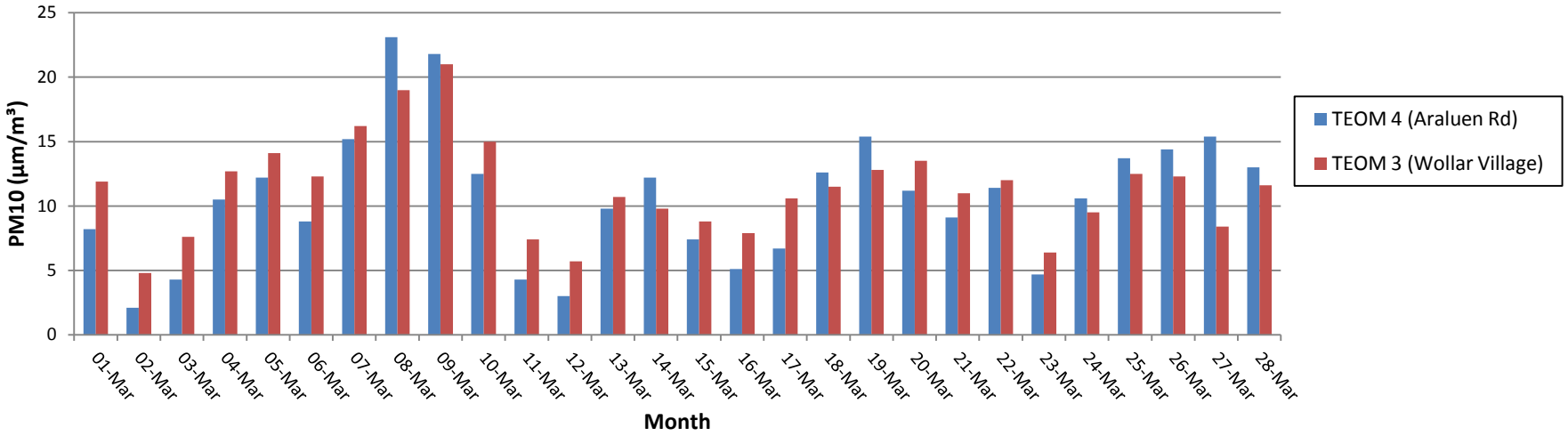
Note: DDG14 result for April may have been caused by stock near dust gauge.

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%	185.0	458.0	337.0		500	No		
		Oil and Grease	milligrams per litre (mg/L)	Daily during any discharge	19	<5	<5	<5		10.0	No	30/03/13	15/04/13
		pH	pH Unit	Continuous during discharge	100%	6.7	8.4	7.1		≥6.5≤8.5	No		
		Total Suspended Solids	milligrams per litre (mg/L)	Daily during any discharge	19	<2	9	3		50	No	30/03/13	15/04/13
		Volume discharged	megalitres per day	Continuous during discharge	100%	0.00	1.02	0.37		5.0	No		

Figure 4. TSS / Oil & Grease Contraction

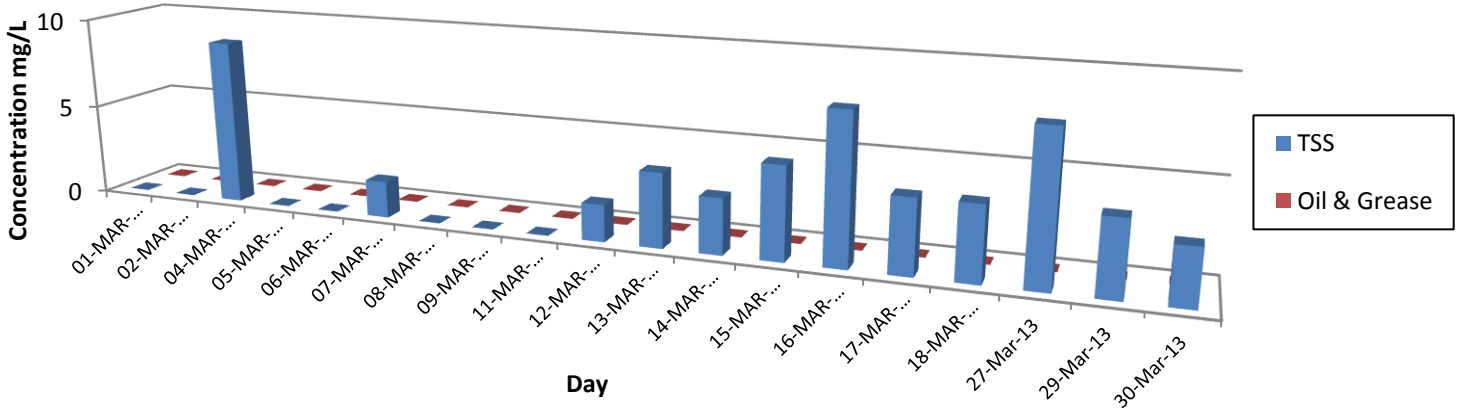


Figure 5. Volume discharged per day (ML)

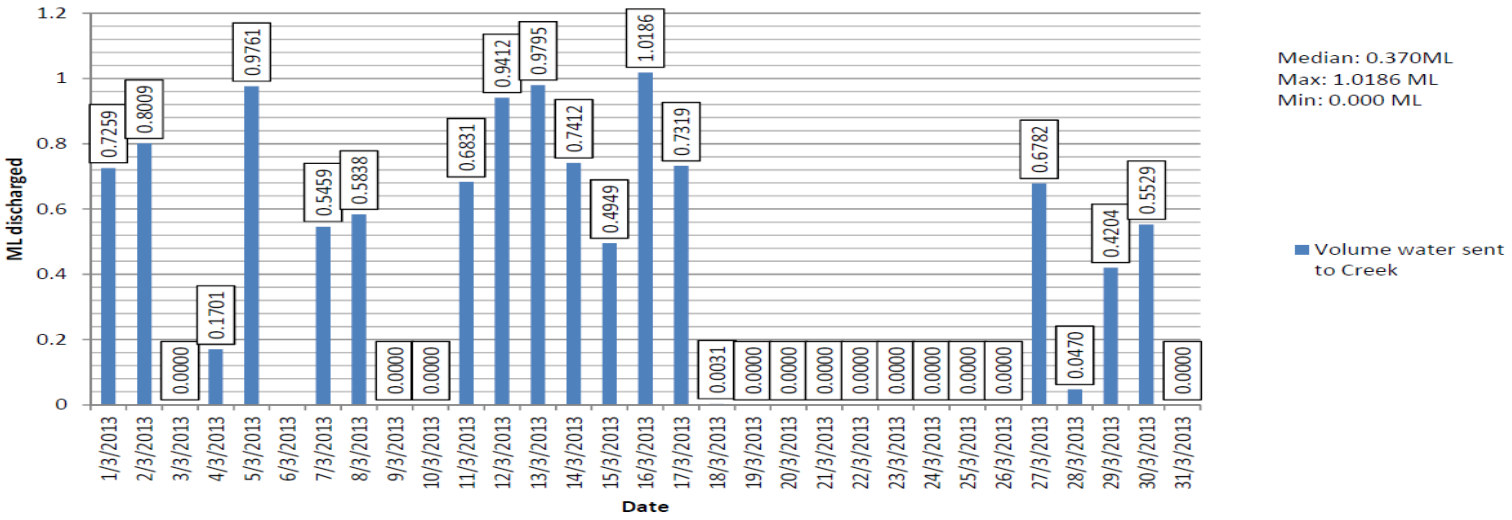


Figure 6. Conductivity Results for the Month

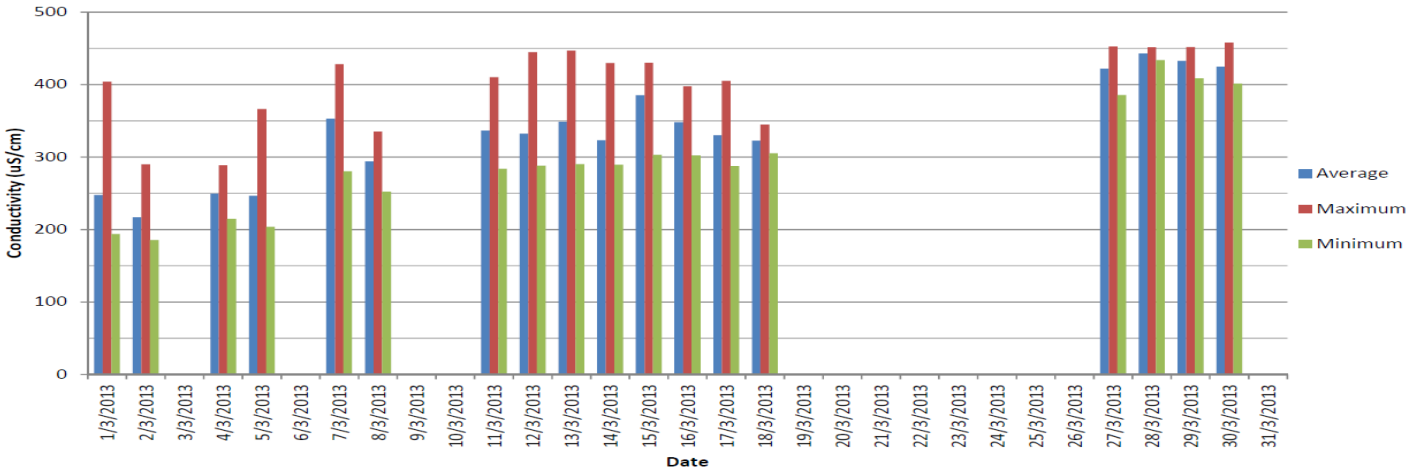
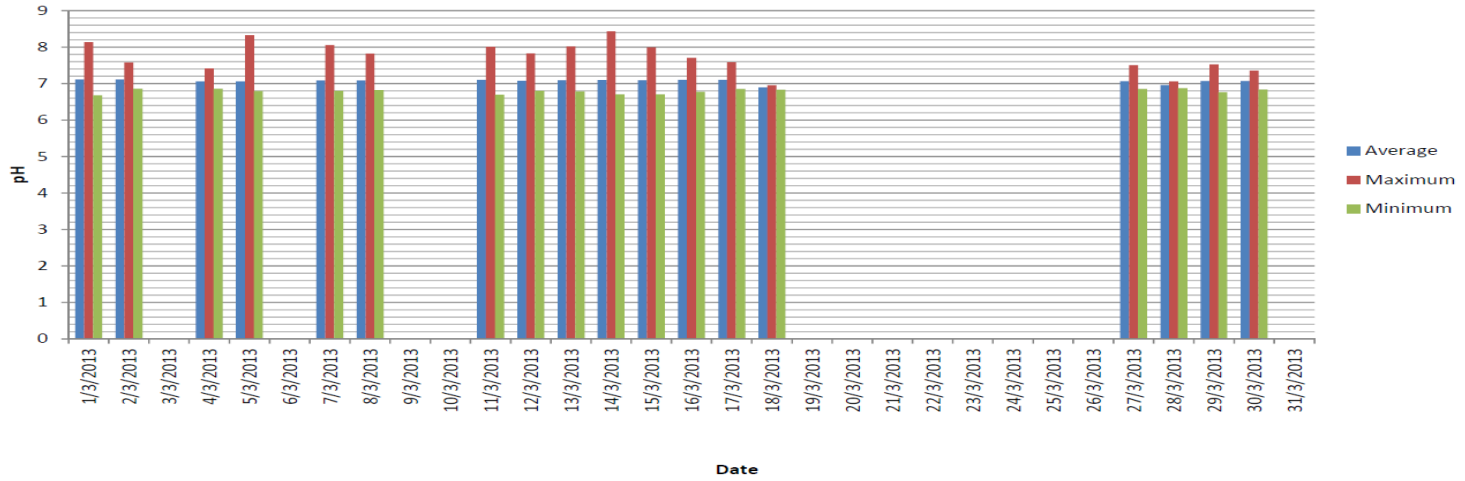


Figure 7. pH Results for the Month



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

Attended noise monitoring was not carried out during this month.

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	March	8	81.29	96.05	88.74	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	March	8	0.06	0.23	0.08	5 mm/s (95% blasts) 10 mm/s (100% blasts)	no

Figure 8. Overpressure & Vibration Results

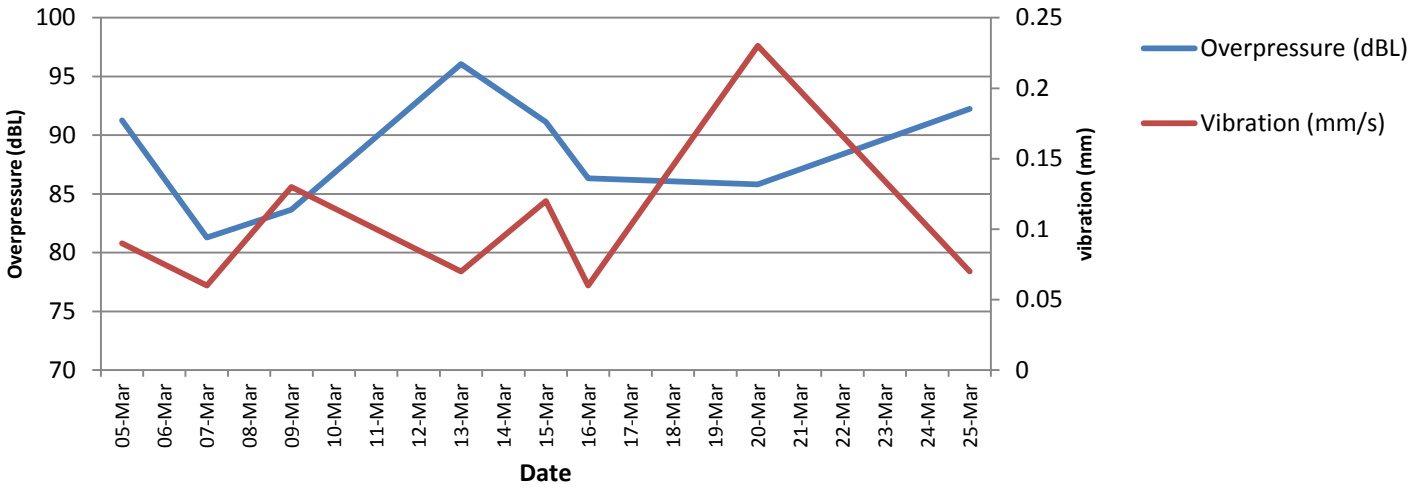


Figure 9 – Air & Water Monitoring Locations

Figure 10 – Attended Noise Monitoring Locations