



## **WILPINJONG COAL PTY LTD**

### **Environment Protection Licence (EPL) 12425**

[Link to Environment Protection Licence EPL12425](#)

### **LICENCE MONITORING DATA MONTHLY SUMMARY REPORT**

for

**1 November 2013 to 30 November 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.

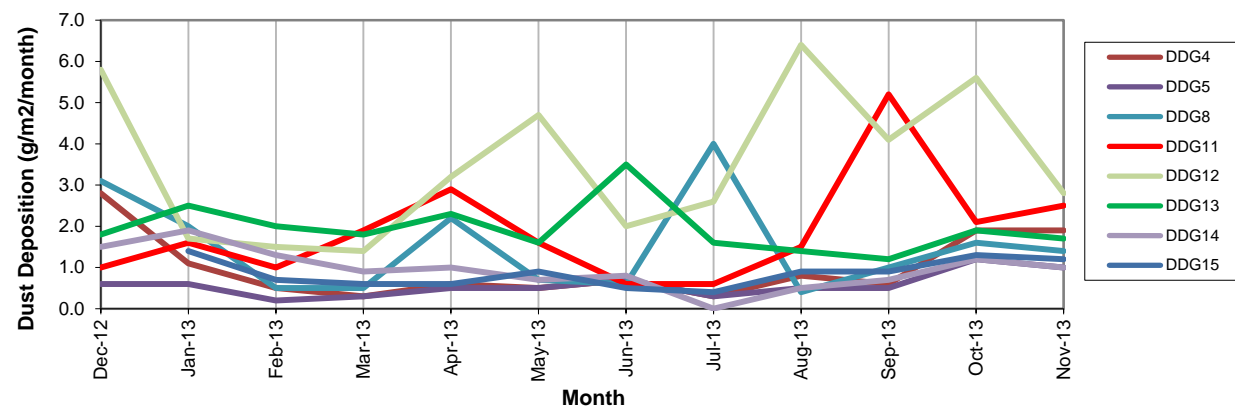
The location of the above monitoring equipment in relation to Wilpinjong Coal Mine is shown in Figure 9.

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

**Table 1**

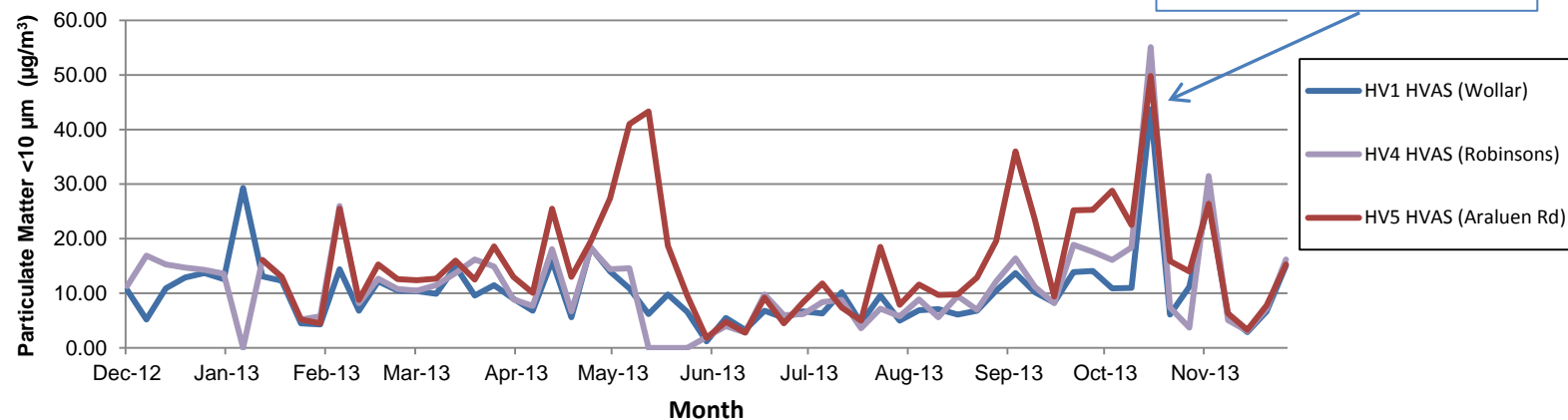
EPL ID No.	Monitoring Point ID.	Pollutant	Unit of Measure	Monitoring Frequency required by EPL	No. of times measured during month	Min. Value	Max. Value	Mean Value	Measurement	Annual Average	Limit	Exceed <sup>n</sup> (yes/no)	Date Last Sampled	Date Reported
3	DG4	Particulates - TSM	grams per square metre per month	Monthly	1				1.9				29/11/13	16/12/13
4	DG5	Particulates - TSM	grams per square metre per month	Monthly	1				1.0	0.6	4.0	No	29/11/13	16/12/13
6	DG8	Particulates - TSM	grams per square metre per month	Monthly	1				1.4				29/11/13	16/12/13
9	DG11	Particulates - TSM	grams per square metre per month	Monthly	1				2.5				29/11/13	16/12/13
10	DG12	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				2.8				29/11/13	16/12/13
11	DG13	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				1.7				29/11/13	16/12/13
12	DG14	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				1.0				29/11/13	16/12/13
17	DG15	Particulates - TSM	grams per square metre per month	Monthly	1				1.2				29/11/13	16/12/13
13	HV1	PM10	micrograms per cubic metre	Every 6 days	5	2.9	27.1	11.5					29/11/13	12/12/13
19	HV4	PM10	micrograms per cubic metre	Every 6 days	5	3.1	31.5	12.6					29/11/13	12/12/13
20	HV5	PM10	micrograms per cubic metre	Every 6 days	5	3.3	26.4	11.8					29/11/13	12/12/13
22	TEOM3	PM10	micrograms per cubic metre	Continuous (24 Hr Average)	100.0%	4.8	37.3	16.5						
23	TEOM4	PM10	micrograms per cubic metre	Continuous (24 Hr Average)	100.0%	5.0	40.7	18.8						

**Figure 1. DDG Results - 12 Month Trend**



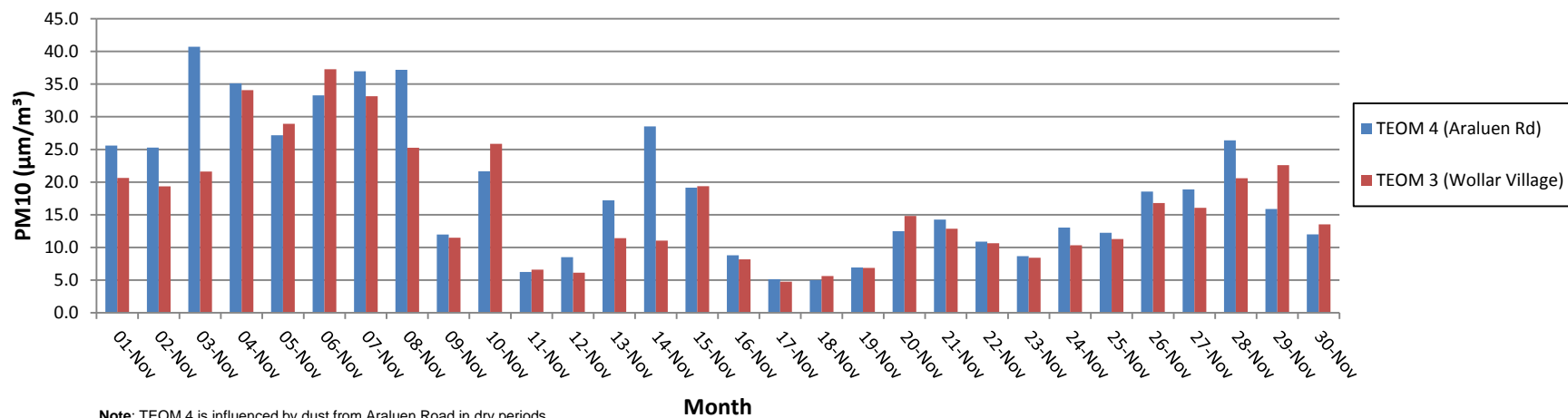
Note: DDG15 commenced Jan 2013  
DDG14 not sampled in July due to equipment failure.

**Figure 2. HVAS Results - 12 Month Trend**



Notes: 1. HV5 installed and commenced 10 January 2013. HV5 also influenced by dust from Araluen Road.  
2. In May a fault was discovered with HV4 so no samples were taken until HV4 replaced.

**Figure 3. TEOM - 24 Hour Average PM10 Concentration ( $\mu\text{g}/\text{m}^3$ )**



**Note:** TEOM 4 is influenced by dust from Araluen Road in dry periods.

## 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.

**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	Average Value	Measurement	Limit	Exceed <sup>n</sup> (yes/no)	Date Last Sampled	Date Last Reported
24	RO Plant Discharge	Conductivity	microSiemens per centimetre (uS/cm)	Continuous during discharge	100%	8.1	1163.4	262.3		500	Yes		
		Oil and Grease	milligrams per litre (mg/L)	Daily during any discharge	20	<5	<5	<5		10.0	No	20/11/13	09/12/13
		pH	pH Unit	Continuous during discharge	100%	6.5	9.0	7.1		≥6.5≤8.5	Yes		
		Total Suspended Solids	milligrams per litre (mg/L)	Daily during any discharge	20	<5	10	6		50	No	20/11/13	09/12/13
		Volume discharged	megalitres per day	Continuous during discharge	100%	0.21	1.93	1.06		5.0	No		

**Note:** Exceedances measured while RO Plant valve closing. Valve closes within five seconds. Actual EC/pH levels of the discharge water would have been significantly lower once the valve closed and the water mixed with the preceding volume of water in the discharge pipe.

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

Attended noise monitoring did not occur in November and so there is no noise data to report.

## 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	November	16	82.2	104.4	89.9	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	November	16	0.03	0.59	0.07	5 mm/s (95% blasts) 10 mm/s (100% blasts)	no

Figure 8. Overpressure (dBL) and Vibration (mm/sec) recorded during Month

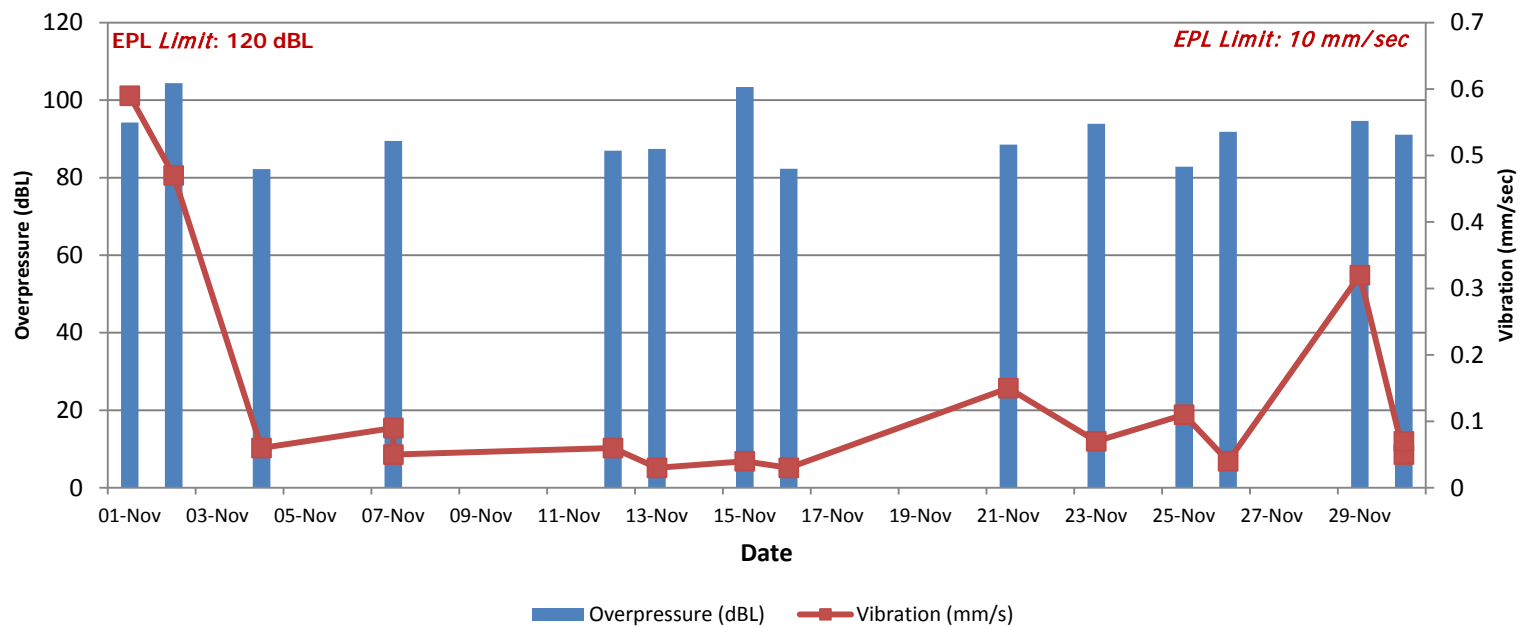


Figure 9 – Air & Water Monitoring Locations



Figure 10 – Attended Noise Monitoring Locations

