



**WILPINJONG COAL PTY LTD**

**Environment Protection Licence (EPL) 12425**

[Link to Environment Protection Licence EPL12425](#)

**LICENCE MONITORING DATA  
MONTHLY SUMMARY REPORT**

for

**1 January 2014 to 31 January 2014**

## **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.

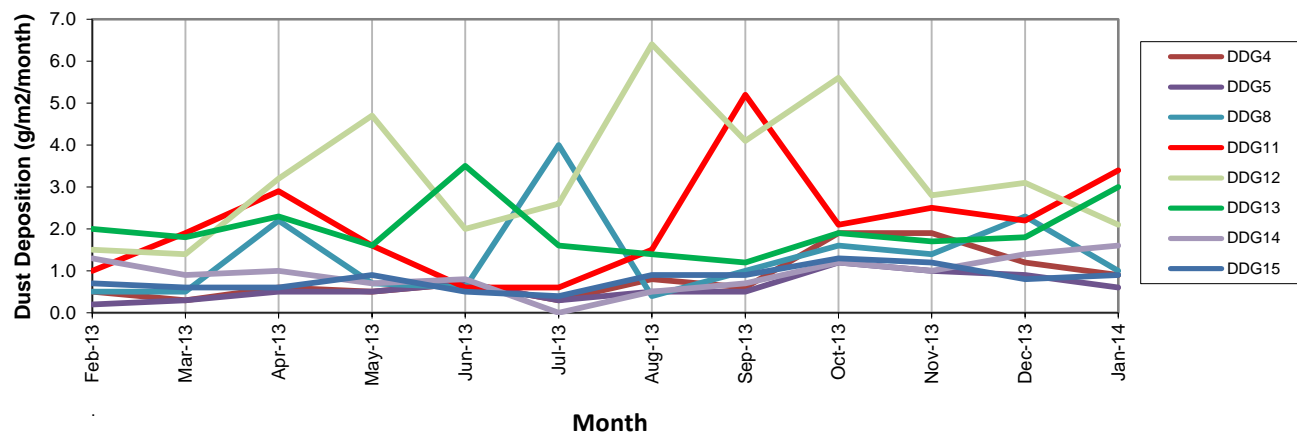
A summary of the monitoring results for the month are provided in Table 1 and also shown in Figures 1 to 3.

**Table 1**

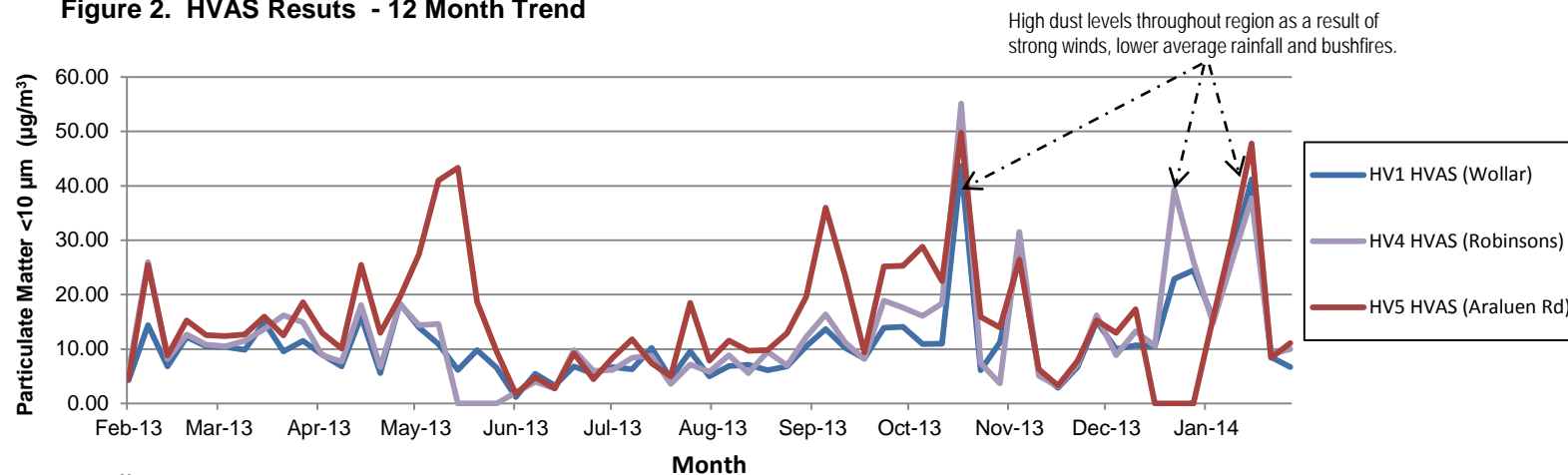
EPL ID No.	Monitoring Point ID.	Pollutant	Unit of Measure	Monitoring Frequency required by EPL	No. of times measured during month	Min. Value	Max. Value	Mean Value	Measurement	Annual Average	Limit	Exceed <sup>n</sup> (yes/no)	Date Last Sampled	Date Reported
3	DG4	Particulates - TSM	grams per square metre per month	Monthly	1				0.9				29/01/14	13/02/14
4	DG5	Particulates - TSM	grams per square metre per month	Monthly	1				0.6	0.6	4.0	No	29/01/14	13/02/14
6	DG8	Particulates - TSM	grams per square metre per month	Monthly	1				1.0				29/01/14	13/02/14
9	DG11	Particulates - TSM	grams per square metre per month	Monthly	1				3.4				29/01/14	13/02/14
10	DG12	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				2.1				29/01/14	13/02/14
11	DG13	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				3.0				29/01/14	13/02/14
12	DG14	Particulates - TSM	grams per square metre per month	Special Frequency 1	1				1.6				29/01/14	13/02/14
17	DG15	Particulates - TSM	grams per square metre per month	Monthly	1				0.9				29/01/14	13/02/14
13	HV1	PM10	micrograms per cubic metre	Every 6 days	5	6.7	41.2	20.0					28/01/14	05/02/14
19	HV4	PM10	micrograms per cubic metre	Every 6 days	5	9.1	37.7	19.6					28/01/14	05/02/14
20	HV5	PM10	micrograms per cubic metre	Every 6 days	5	8.4	47.8	22.7					28/01/14	05/02/14
22	TEOM3	PM10	micrograms per cubic metre	Continuous (24 Hr Average)	100.0%	8.0	59.1	27.4						
23	TEOM4	PM10	micrograms per cubic metre	Continuous (24 Hr Average)	100.0%	6.6	54.0	27.0						

\*Note: High PM10 dust levels recorded during the month as a result of regional bushfires.

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



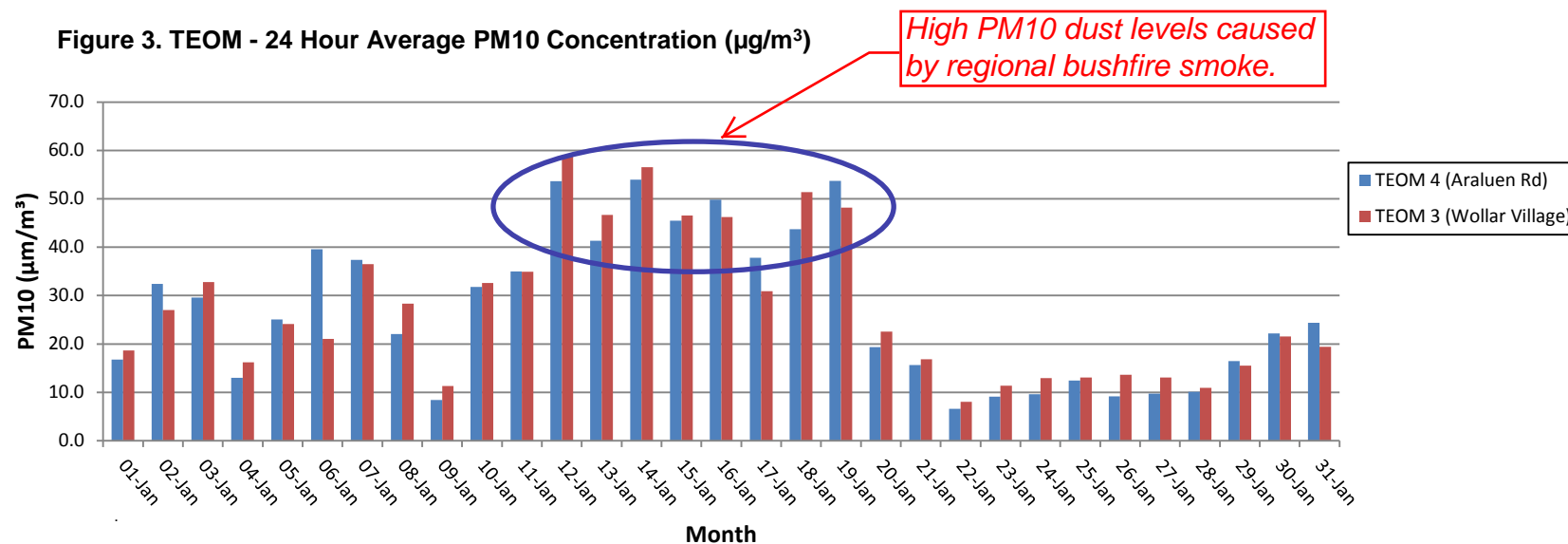
**Figure 2. HVAS Results - 12 Month Trend**



**Notes:**

1. In May a fault was discovered with HV4 so samples were not taken until HV4 replaced in June 2013.
2. In December a fault was discovered with HV5 so samples were not taken until HV5 replaced in January 2014.

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



## 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	Mean 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%	268.1	533.7	359.3		500	Yes*		
		Oil and Grease	milligrams per litre (mg/L)	Daily during any discharge	10	<5	<5	<5		10.0	No	31/01/14	19/02/14
		pH	pH Unit	Continuous during discharge	100%	6.7	9.4	7.0		≥6.5≤8.5	Yes*		
		Total Suspended Solids	milligrams per litre (mg/L)	Daily during any discharge	10	<2	4	2		50	No	31/01/14	19/02/14
		Volume discharged	megalitres per day	Continuous during discharge	100%	0.00	2.17	0.00		5.0	No		

\*Note: pH and Conductivity are measured before the treated water from the RO Plant flows past a valve (**divert valve**) that either directs the water to Wilpinjong Creek or to an on-site storage dam. When the pH and conductivity of the treated water are within the EPL limits then the divert valve remains open and allows the treated water to flow to the Wilpinjong Creek. Alternatively, if pH and/or conductivity are outside the EPL limits then the divert valve closes and redirects the treated water to an on-site storage dam. It takes up to 30 seconds for the divert valve to close once a high/low pH or conductivity level is recorded. The pH and conductivity levels reported in the above table were recorded while the divert valve was closing. It is therefore very likely that this water would have mixed with, and so been diluted by, the treated water on the other side of the divert valve. On this basis the above result is not believed to have caused an 'actual' exceedance.

## 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 January 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))	Mean overpressure (dB(L))	EPL overpressure Limits (dB(L))	Exceedance (yes/no)
Wollar Public School	January	14	83.1	112.9	93.9	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)	Mean vibration (mm/sec)	EPL vibration Limits (mm/sec)	Exceedance (yes/no)
Wollar Public School	January	14	0.05	0.23	0.13	5 mm/s (95% blasts) 10 mm/s (100% blasts)	no



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

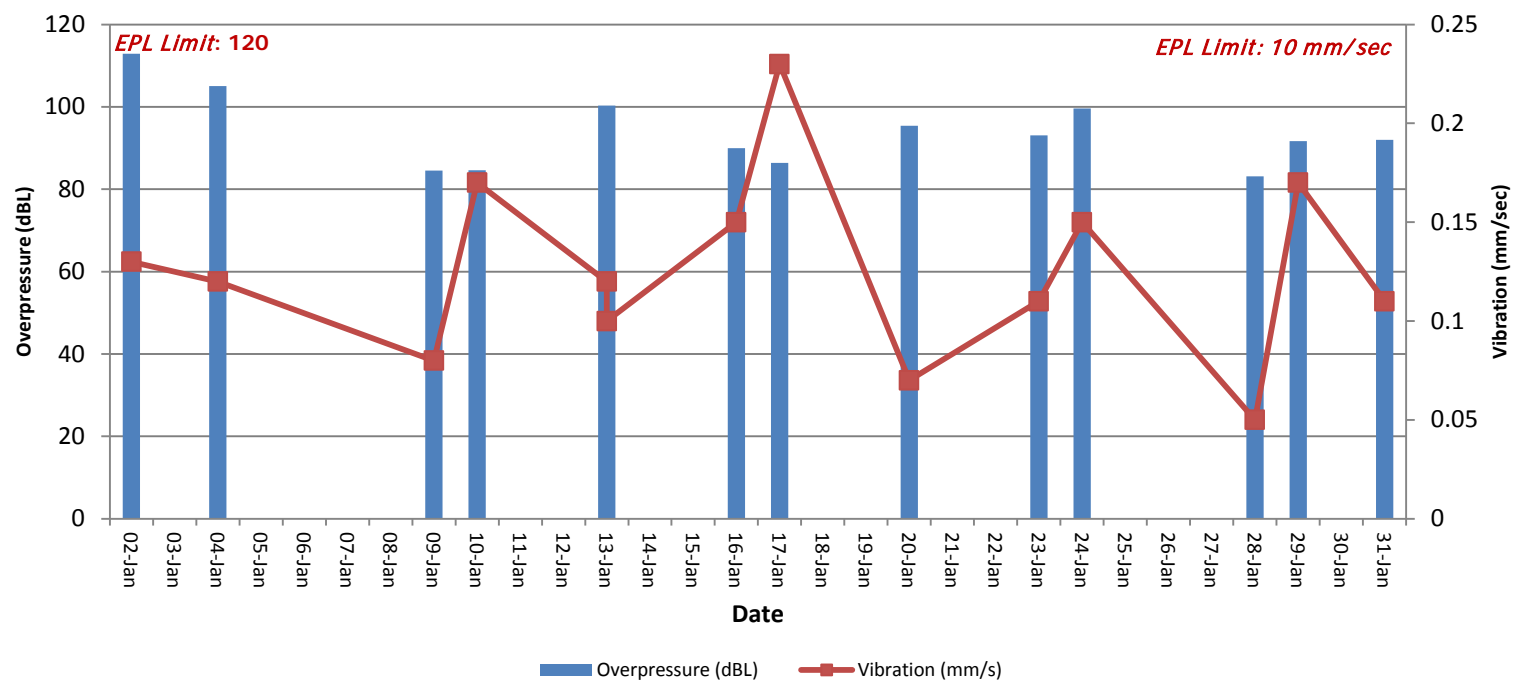


Figure 9 – Air & Water Monitoring Locations





Figure 10 – Attended Noise Monitoring Locations

