



**TOMINGLEY**  
GOLD OPERATIONS PTY LTD  
(A wholly owned subsidiary of Alkane Resources Ltd)

# Tomingley Gold Project

## Monthly Environmental Monitoring Report – May 2015



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Revision Number	Revision Date	Prepared By	Comments
Revision 1		Mark Williams	Submitted for Information

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# 1. INTRODUCTION AND SCOPE

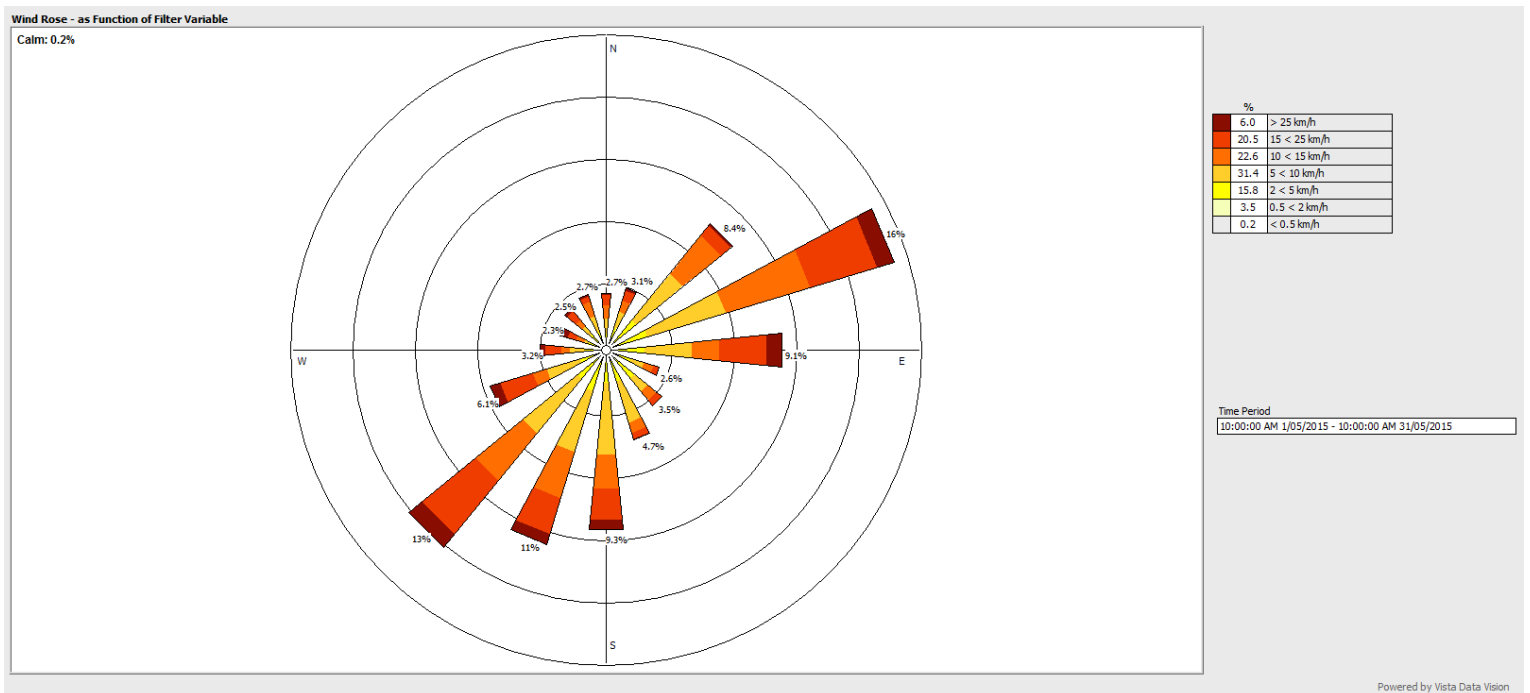
This Monthly Environmental Monitoring Report has been prepared to collate environmental monitoring data undertaken for the Tomingley Gold Project during the month of May 2015.

This report also compares data collected to targets and provides commentary on environmental issues during the month.

# 2. WEATHER FOR MAY 2015

## 2.1 WEATHER STATION DATA

TGO weather data is presented below.



**Figure 1.** May 2015 wind monitoring station data

## 2.2 RAINFALL DATA

<i>February</i>	<b>Amount (millimetres)</b>
<i>19/05/2015</i>	31.2
<i>20/05/2015</i>	11.6
<i>21/05/2015</i>	0.2
<i>22/05/2015</i>	1.2
<i>28/05/2015</i>	1.0
<i>29/05/2015</i>	2.6
<i>30/05/2015</i>	0.6
<i>31/05/2015</i>	6.0
<b>Total</b>	<b>Approximately 54.4mm</b>

**Table 1.** May 2015 rainfall data.

### 3. MONITORING LOCATIONS

Figure 2 indicates the location of where monitoring is undertaken for the project. Any additional monitoring undertaken will be discussed within the body of this report.

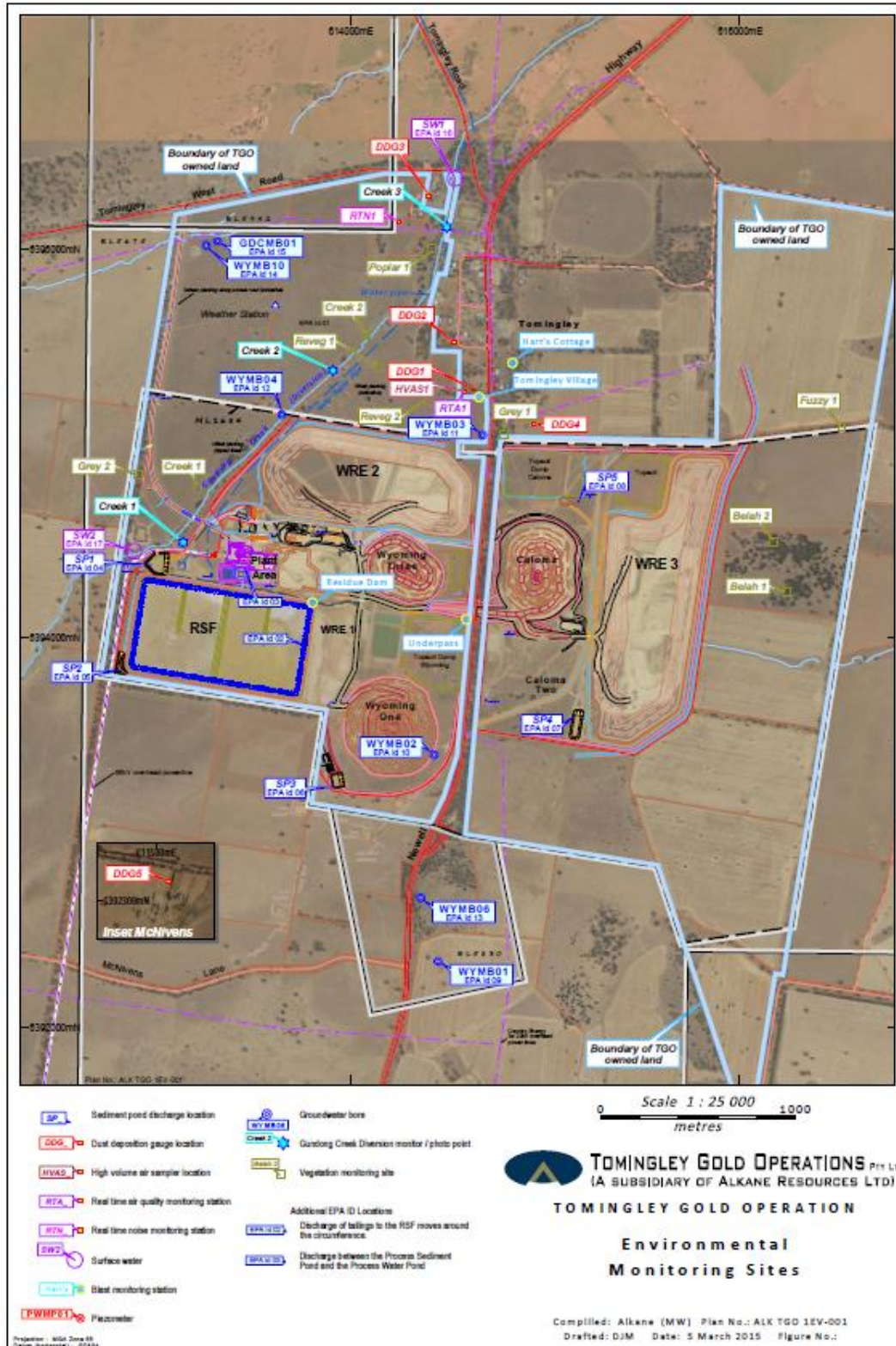


Figure 2. TGO water and vegetation monitoring points.



Figure 3 indicates the location of environmental and survey monitoring points on and around the Residue Storage Facility.

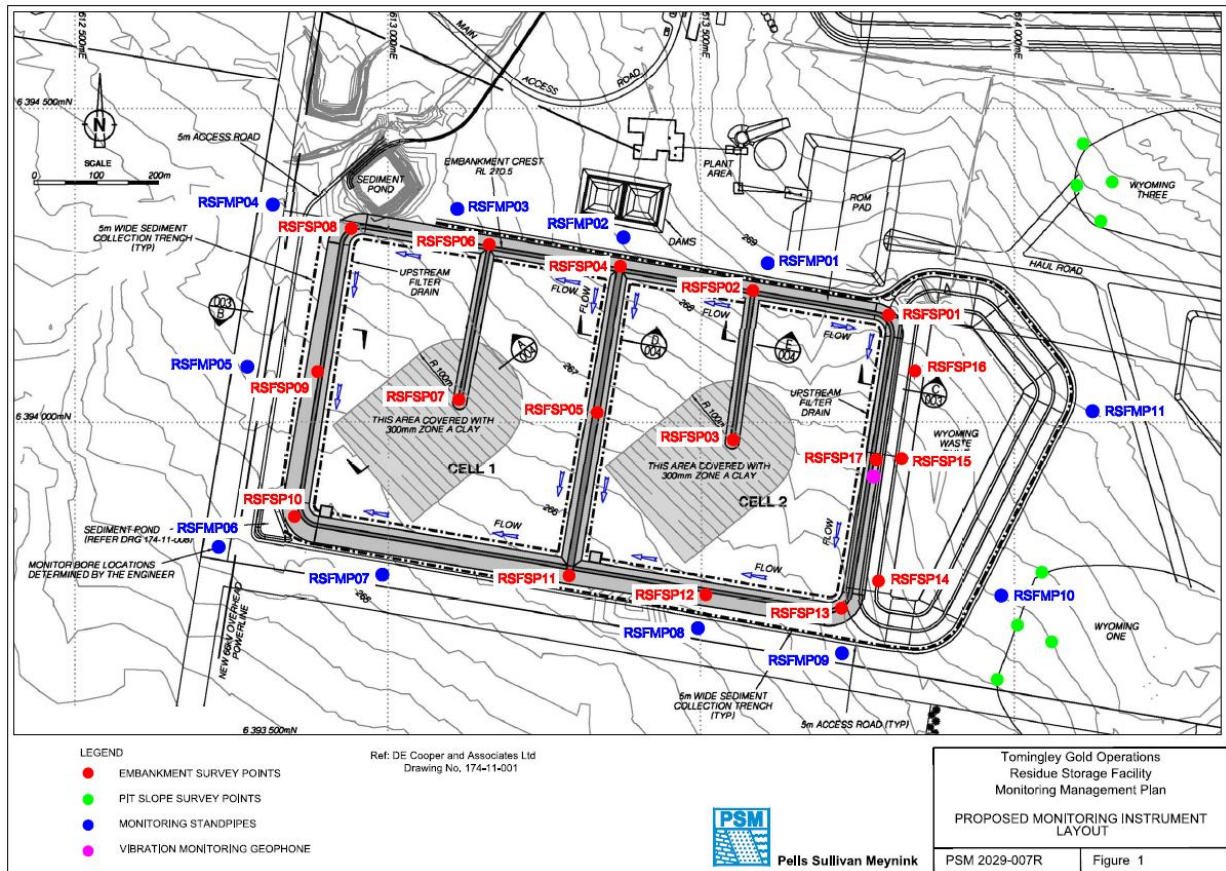


Figure 3. Residue Storage Facility monitoring points.

## 4. AIR QUALITY MONITORING

### 4.1 PM10 MONITORING

PM10 is measured via a Tapered Element Oscillating Microbalance (TEOM) located at the southern edge of the Tomingley Village. This machine transmits real-time data via the internet to a computer located on site.

The Performance Criteria for PM10 has been set at an Annual Average of 30ug/m<sup>3</sup> and a 24-Hour Average of 50ug/m<sup>3</sup>. The 24 Hour Average was exceeded twice this month however these were on days when high levels of smoke was visible in the locality.

Date	24 Hr Averages	Running Average	Comment
	(µg/m3)		
1/05/2015	7.6	21.3	
2/05/2015	18.7	21.3	
3/05/2015	15.6	21.2	
4/05/2015	24.5	21.3	
5/05/2015	33.9	21.3	
6/05/2015	142.4	21.6	
7/05/2015	40.4	21.7	
8/05/2015	25.9	21.7	
9/05/2015	31.7	21.7	
10/05/2015	16.3	21.7	
11/05/2015	21.7	21.7	
12/05/2015	24.8	21.7	
13/05/2015	55.1	21.8	
14/05/2015	35.8	21.8	
15/05/2015	31.4	21.9	
16/05/2015	15.7	21.8	
17/05/2015	11.2	21.8	
18/05/2015	16.2	21.8	
19/05/2015		21.8	No data - TEOM fault
20/05/2015		21.8	
21/05/2015		21.8	
22/05/2015		21.8	
23/05/2015		21.8	
24/05/2015		21.8	
25/05/2015		21.8	
26/05/2015		21.8	
27/05/2015		21.8	
28/05/2015		21.8	
29/05/2015		21.8	
30/05/2015		21.8	
31/05/2015		21.8	
<b>Average</b>	<b>31.6</b>		
<b>24 Hour criteria exceedance</b>			

Note: For comparison purposes highlighted results indicate levels above the EPA and NEPM 24-hour maximum criteria for PM<sub>10</sub>

**Table 2.** Real time dust monitoring



## 4.2 DEPOSITIONAL DUST

Depositional Dust monitoring undertaken during this month returned the results indicated in Table 3 below.

Location	Date Monitored	Insoluble solids (g/m <sup>2</sup> /month)	Maximum increase in deposited dust level
DDG1	6/5/2015 – 4/06/2015	1.3	The greatest increase in deposited dust level was recorded at DDG2; an increase of 0.2 g/m <sup>2</sup> /month.  The dust recorded in DDG4 exceeds the annual average limit
DDG2	6/5/2015 – 4/06/2015	1.4	
DDG3	6/5/2015 – 4/06/2015	0.6	
DDG4	6/5/2015 – 4/06/2015	4.2	
DDG5	6/5/2015 – 4/06/2015	2.7	

**Table 3.** Deposited Dust results for May 2015.

## 4.3 HIGH VOLUME AIR SAMPLER - TOTAL SUSPENDED PARTICULATES

High Volume Air Sampling (HVAS) for Total Suspended Particulates (TSP) was undertaken this month. Table 4 below provides the results.

The performance criteria for TSP is averaged over 12 months

Location	Sheet ID	Date On	Date Off	Results (TSP µg/m <sup>3</sup> )	Performance Criteria (Annual Average)
HVAS1	9065582	2 May 2015	3 May 2015	61.6	90 µg/m <sup>3</sup> .
HVAS1	9145989	8 May 2015	09 May 2015	89.1	
HVAS1	9145990	14 May 2015	15 May 2015	93.4	
HVAS1	9145991	20 May 2015	21 May 2015	9.0	
HVAS1	9145992	26 May 2015	27 May 2015	25.5	

**Table 4.** High Volume Air Sampler Data for May 2015. The annual average limit was exceeded on 14 May.

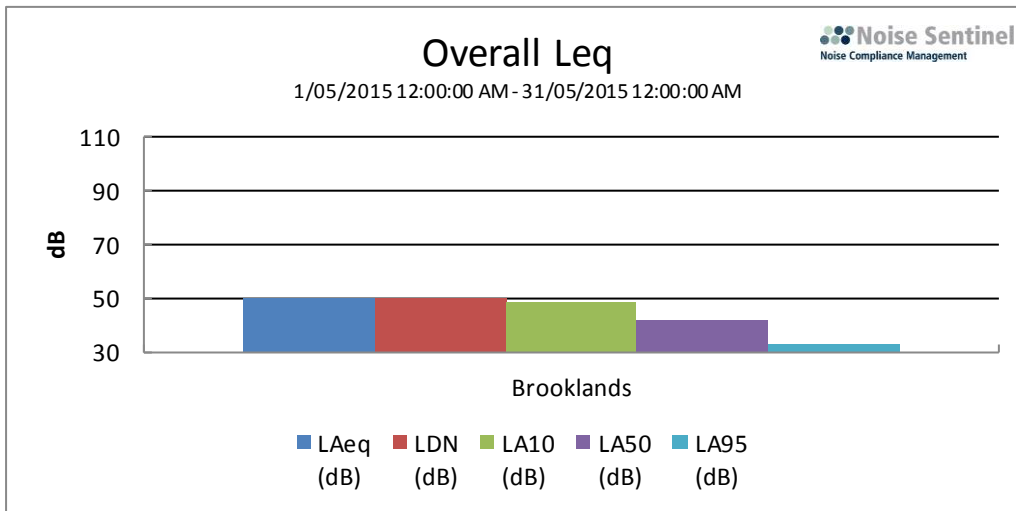
## 5. NOISE MONITORING

### 5.1 REAL-TIME NOISE MONITORING

See real-time noise monitoring data presented below.

#### Long Period

Tomingley Gold Site (1/05/2015 12:00 AM - 31/05/2015 12:00 AM)



#### Overall Data

Location	Start Time	End Time	Activity	LDN (dB)	L <sub>Aeq</sub> (dB)	L <sub>AMin</sub> (dB)	L <sub>A10</sub> (dB)	L <sub>A50</sub> (dB)	L <sub>A95</sub> (dB)
Brooklands	1/05 12:00:00 AM	31/05 12:00:00 AM	100%	50.7	50.7	21.9	48.8	42.4	33.2

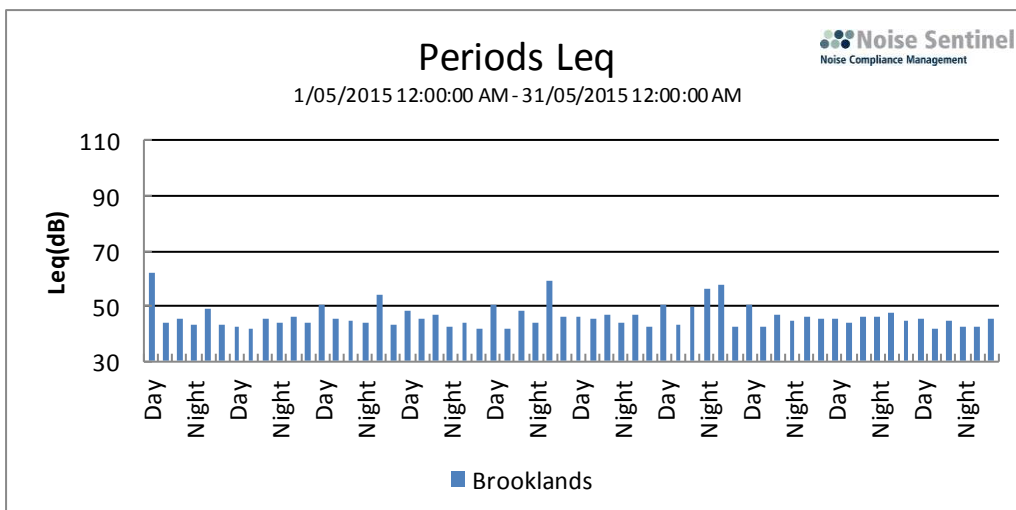


Figure 4. Fixed, real time noise monitoring data.

## **6. SURFACE WATER MONITORING**

### **6.1 GUNDONG CREEK**

Gundong Creek did not run the reporting period and hence water sampling did not occur.

### **6.2 SEDIMENTATION PONDS**

No discharge or water testing occurred this month.

## **7. GROUNDWATER MONITORING**

Groundwater monitoring is carried out quarterly and will next be completed in June 2015.

## **8. BLAST MONITORING**

Blasts are carried out in all open cut pits and vibration and decibels are monitored from several locations. Below are the vibration results recorded from the monitors at Harts Cottage and Tomingley Village.

On the 4<sup>th</sup> of this month, a blasting overpressure exceedance occurred. This was reported immediately to the EPA and the relevant figures are highlighted in the table below.

EventKey	Event	Date/Time	Max R (mm/s)	Max AB (Pa)	Max AB (dBL)	Monitor location
62054	TMG063	30/05/2015 13:56	0.31	4.37	106.8	Harts Cottage
62035	TMG062	29/05/2015 12:56	0.3	2.32	101.3	Harts Cottage
61987	TMG061	27/05/2015 10:59	0.3	3.45	104.7	Harts Cottage
61973	TMG060	26/05/2015 15:27	0.27	3.34	104.5	Harts Cottage
61936	TMG05Z	25/05/2015 13:06	0.16	2.11	100.5	Harts Cottage
61935	TMG05Y	25/05/2015 13:04	0.55	3.72	105.4	Harts Cottage
61913	TMG05X	23/05/2015 13:47	0.13	2.22	100.9	Harts Cottage
61904	TMG05W	22/05/2015 12:59	0.21	3.65	105.2	Harts Cottage
61831	TMG05V	19/05/2015 13:00	0.38	2.48	101.9	Harts Cottage
61813	TMG05U	18/05/2015 12:55	0.23	2.99	103.5	Harts Cottage
61755	TMG05T	15/05/2015 12:56	0.4	6.95	110.8	Harts Cottage
61738	TMG05S	14/05/2015 12:54	0.25	4.86	107.7	Harts Cottage
61651	TMG05R	12/05/2015 12:59	0.75	7.64	111.6	Harts Cottage
61564	TMG05Q	11/05/2015 12:58	0.28	2.75	102.8	Harts Cottage
61529	TMG05P	9/05/2015 13:18	0.23	6.49	110.2	Harts Cottage
61520	TMG05O	8/05/2015 13:13	0.26	5.04	108	Harts Cottage
61482	TMG05N	7/05/2015 13:03	0.32	4.63	107.3	Harts Cottage
61448	TMG05M	5/05/2015 14:25	0.21	2.19	100.8	Harts Cottage
61429	TMG05L	4/05/2015 14:53	0.75	21.52	120.6	Harts Cottage
61406	TMG05K	2/05/2015 12:55	0.22	4.8	107.6	Harts Cottage
62054	TMG063	30/05/2015 13:56	0.28	4.85	107.7	Tomingley Village
62035	TMG062	29/05/2015 12:56	0.44	2.62	102.4	Tomingley Village
61987	TMG061	27/05/2015 10:59	0.23	4.68	107.4	Tomingley Village
61973	TMG060	26/05/2015 15:27	0.26	3.58	105.1	Tomingley Village
61936	TMG05Z	25/05/2015 13:06	0.22	2.77	102.8	Tomingley Village
61935	TMG05Y	25/05/2015 13:04	0.58	4.65	107.3	Tomingley Village
61913	TMG05X	23/05/2015 13:47	0.17	3.3	104.4	Tomingley Village
61904	TMG05W	22/05/2015 12:59	0.2	4.15	106.3	Tomingley Village
61831	TMG05V	19/05/2015 13:00	0.38	3.62	105.1	Tomingley Village
61813	TMG05U	18/05/2015 12:55	0.32	3.48	104.8	Tomingley Village
61755	TMG05T	15/05/2015 12:56	0.47	10.02	114	Tomingley Village
61738	TMG05S	14/05/2015 12:54	0.23	8.47	112.5	Tomingley Village
61651	TMG05R	12/05/2015 12:59	0.71	9.27	113.3	Tomingley Village
61564	TMG05Q	11/05/2015 12:58	0.26	5.66	109	Tomingley Village
61529	TMG05P	9/05/2015 13:18	0.35	5.83	109.3	Tomingley Village
61520	TMG05O	8/05/2015 13:13	0.35	5.65	109	Tomingley Village
61482	TMG05N	7/05/2015 13:03	0.32	5.85	109.3	Tomingley Village
61448	TMG05M	5/05/2015 14:25	0.27	2.2	100.8	Tomingley Village
61429	TMG05L	4/05/2015 14:53	1.01	30.98	123.8	Tomingley Village
61406	TMG05K	2/05/2015 12:55	0.33	4.37	106.8	Tomingley Village

**Table 5.** Blast monitoring

## 9. RESIDUE STORAGE FACILITY

Residue from the processing plant is discharged into the Residue Storage Facility or RSF. The Environmental Protection Licences dictates that the Weak Acid Dissociable (WAD) Cyanide found in this residue must be less than 20 milligrams per litre for 90% of the time and less than 30 milligrams per litre for 100% of the time.

The WAD results for this month are:

- Monthly average: 7.859 ppm
- Daily maximum: 17.495 ppm on 15 May.
- Daily minimum: 1.902 ppm on 29 May.
- Number of exceedances: zero

## 10. BIODIVERSITY MONITORING

- The number of fauna deaths during the month was zero.
- Native fauna sightings:
  - Superb Parrots, *Polytelis swainsonii*, were seen on two occasions:
    - i. A group of nine flew over the site and descended into the biodiversity offset area.
    - ii. A group of five flew over the site.
  - Three Wedge-tailed Eagles, *Aquila audax*, flew over site.
  - Many groups of 5 – 10 Grey-Crowned Babblers, *Pomatostomus temporalis*, were through the Biodiversity Offset area to the east and north of site.
  - A Tawny Frogmouth, *Podargus strigoides*, was again seen roosting in Melaleuca trees very near to the administration building.
- Native animal rescue:
  - None this month
- Vertebrate pests:
  - A foxes and hares observed frequently across the site during the days and nights.