



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

# Tomingley Gold Project

## Monthly Environmental Monitoring Report – April 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

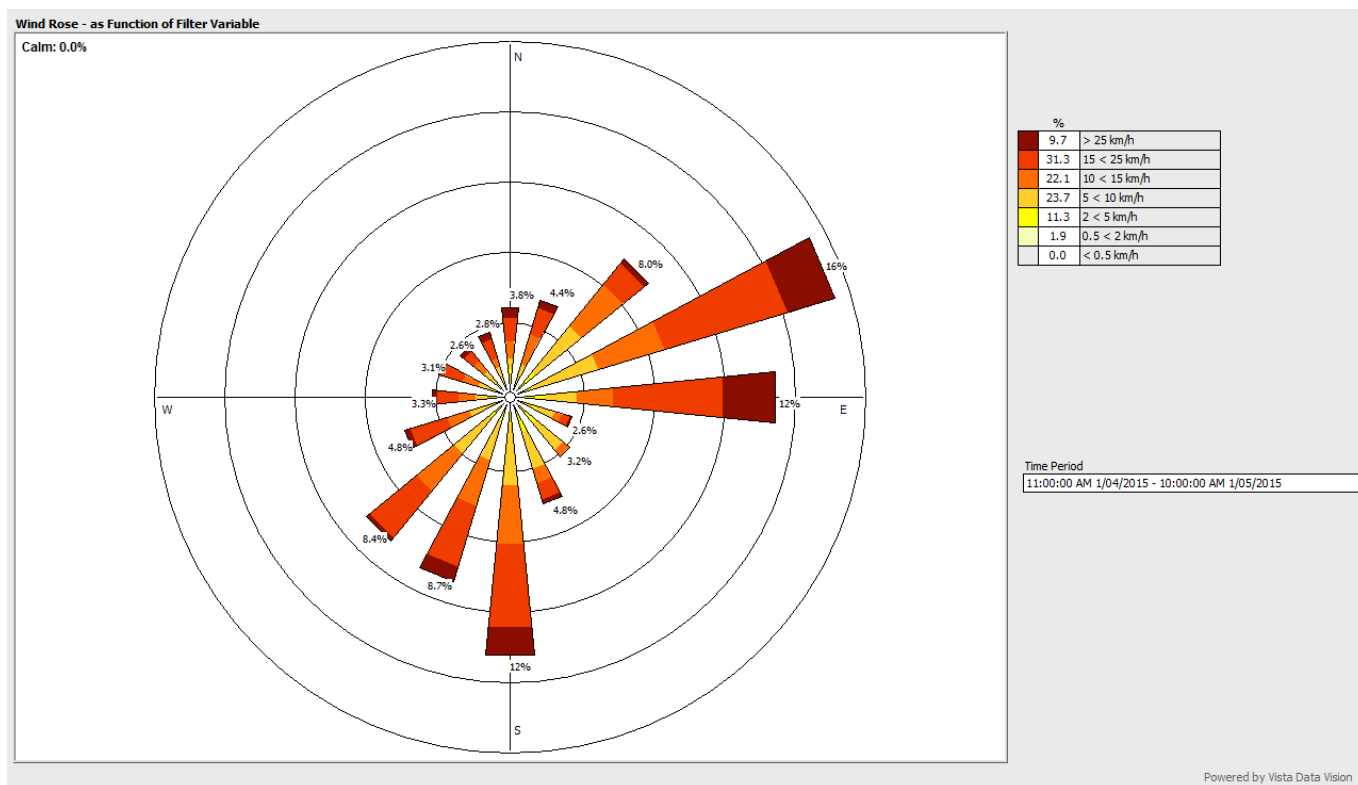
This Monthly Environmental Monitoring Report has been prepared to collate environmental monitoring data undertaken for the Tomingley Gold Project during the month of April 2015.

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

# 2. WEATHER FOR APRIL 2015

## 2.1 WEATHER STATION DATA

TGO weather data is presented below.



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

## 2.2 RAINFALL DATA

<i>February</i>	<b>Amount (millimetres)</b>
<i>3/04/2015</i>	1.0
<i>4/04/2015</i>	1.0
<i>6/04/2015</i>	10.4
<i>7/04/2015</i>	6.6
<i>18/04/2015</i>	8
<i>19/04/2015</i>	0.4
<i>20/04/2015</i>	17.0
<i>21/04/2015</i>	28.8
<i>25/04/2015</i>	0.8
<b>Total</b>	<b>Approximately 74mm</b>

**Table 1.** April 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.

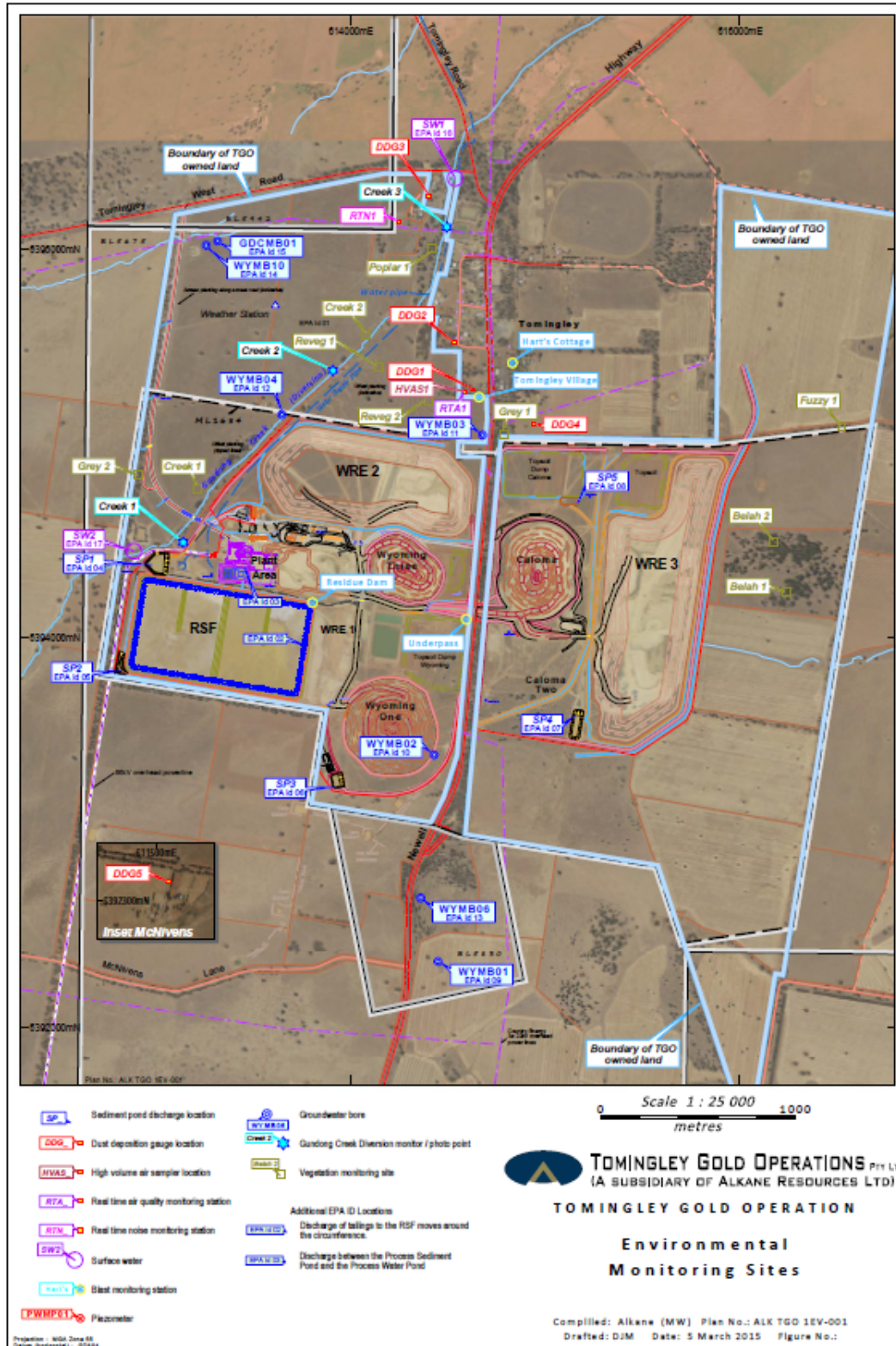


Figure 2. TGO water and vegetation monitoring points.

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

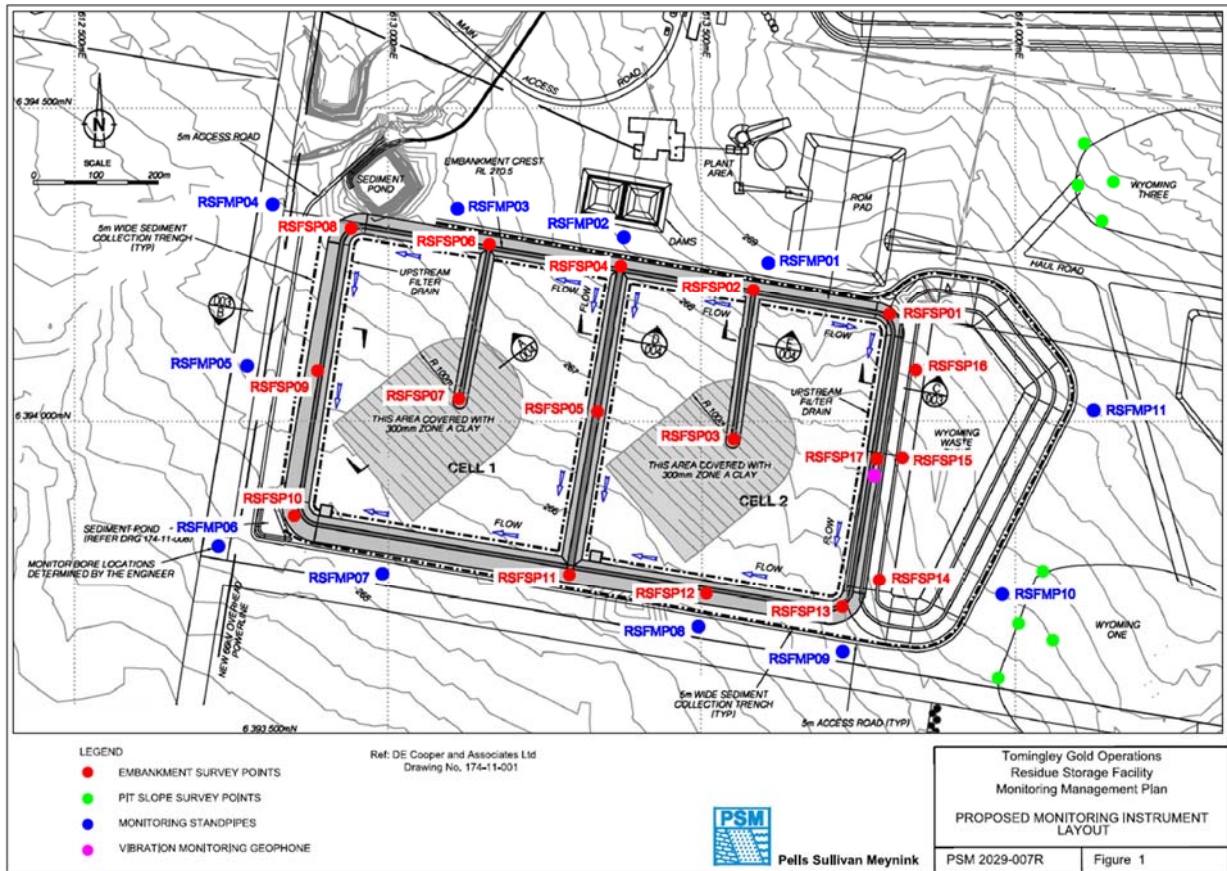


Figure 3. Residue Storage Facility monitoring points.



## 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 not exceeded this month.

Date	24 Hr Averages	Running Average	Comment
	(µg/m3)		
1/04/2015	17.9	21.8	
2/04/2015	23.3	21.8	
3/04/2015	27.5	21.8	
4/04/2015	5.4	21.7	
5/04/2015	14.2	21.7	
6/04/2015	7.9	21.7	
7/04/2015	7.0	21.6	
8/04/2015	13.2	21.6	
9/04/2015	16.5	21.6	
10/04/2015	12.2	21.6	
11/04/2015	14.1	21.5	1 hr average data used
12/04/2015	22.7	21.5	
13/04/2015	14.5	21.5	
14/04/2015	18.6	21.5	1 hr average data used
15/04/2015	28.4	21.5	
16/04/2015	29.0	21.6	
17/04/2015	28.5	21.6	
18/04/2015	28.7	21.6	
19/04/2015	9.0	21.6	
20/04/2015	6.6	21.5	
21/04/2015	5.3	21.5	
22/04/2015	9.7	21.4	
23/04/2015	26.4	21.5	
24/04/2015	12.0	21.4	
25/04/2015	14.7	21.4	
26/04/2015	13.1	21.4	
27/04/2015	20.0	21.4	
28/04/2015	16.8	21.4	
29/04/2015	12.7	21.3	
30/04/2015	10.1	21.3	
<b>Average</b>	<b>16.2</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	2/4/2015 – 6/5/2015	1.3	The greatest increase in deposited dust level was recorded at DDG4; an increase of 12.5 g/m <sup>2</sup> /month.  The dust recorded in DDG4 exceeds the annual limit
DDG2	2/4/2015 – 6/5/2015	1.2	
DDG3	2/4/2015 – 6/5/2015	1.6	
DDG4	2/4/2015 – 6/5/2015	18.7	
DDG5	2/4/2015 – 6/5/2015	2.6	

**Table 3.** Deposited Dust results for April 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	9036596	02-Apr-15	03-Apr-15	64.1	90 µg/m <sup>3</sup> .
HVAS1	9065578	08-Apr-15	09-Apr-15	33.7	
HVAS1	9065579	14-Apr-15	15-Apr-15	42.0	
HVAS1	9065580	20-Apr-15	21-Apr-15	14.5	
HVAS1	9065581	26-Apr-15	27-Apr-15	31.1	

**Table 4.** High Volume Air Sampler Data for April 2015

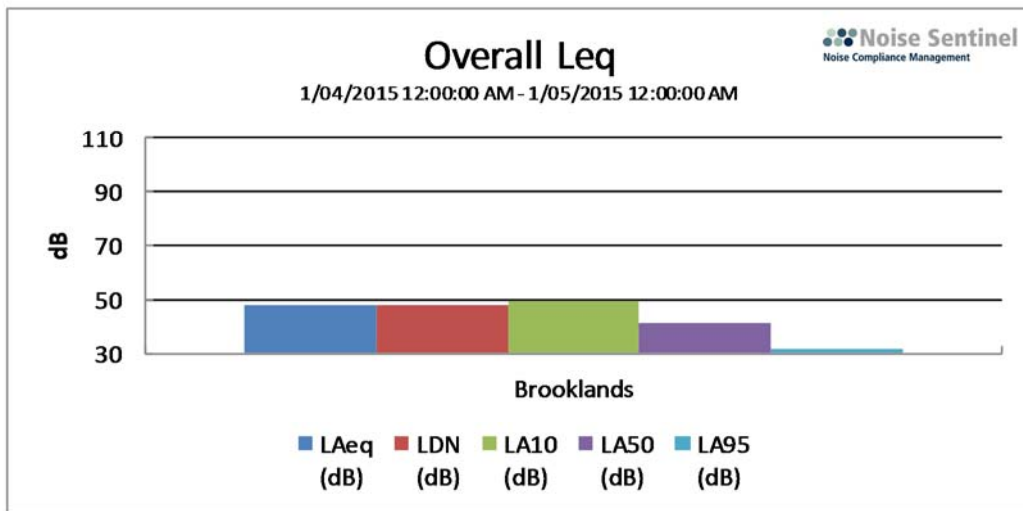
## 5. NOISE MONITORING

### 5.1 REAL-TIME NOISE MONITORING

See real-time noise monitoring data presented below.

#### Long Period

Tomingley Gold Site (1/04/2015 12:00 AM - 1/05/2015 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	1/04 12:00:00 AM	1/05 12:00:00 AM	100%	48.2	48.2	21.3	49.4	41.8	31.7

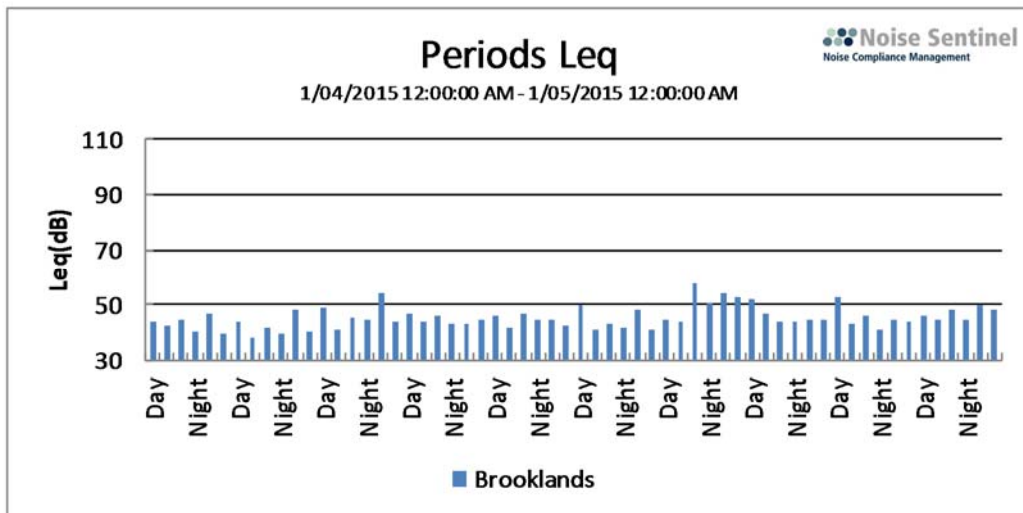


Figure 4. Fixed, real time noise monitoring data.

## **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.

EventKey	Event	Date/Time	Max R (mm/s)	Max AB (Pa)	Max AB (dBL)	Monitor location
61389	TMG05J	30/04/2015 13:06	0.41	6.18	109.8	Harts Cottage
61367	TMG05I	29/04/2015 14:05	0.26	5.53	108.8	Harts Cottage
61330	TMG05H	28/04/2015 13:09	0.24	2.07	100.3	Harts Cottage
61313	TMG05G	27/04/2015 13:08	0.19	5.33	108.5	Harts Cottage
61280	TMG05F	24/04/2015 16:23	0.21	9.81	113.8	Harts Cottage
61240	TMG05E	22/04/2015 13:56	0.2	3.84	105.7	Harts Cottage
61225	TMG05D	20/04/2015 12:58	0.23	5.9	109.4	Harts Cottage
61212	TMG05C	18/04/2015 12:56	0.27	4.92	107.8	Harts Cottage
61183	TMG05B	17/04/2015 12:56	0.24	2.57	102.2	Harts Cottage
61112	TMG05A	15/04/2015 13:01	0.41	1.29	96.2	Harts Cottage
61074	TMG059	13/04/2015 13:44	0.22	3.49	104.8	Harts Cottage
61073	TMG058	13/04/2015 13:40	0.28	3.7	105.4	Harts Cottage
61019	TMG057	10/04/2015 11:06	0.17	1.75	98.9	Harts Cottage
60974	TMG056	7/04/2015 12:58	0.19	2.63	102.4	Harts Cottage
60963	TMG055	4/04/2015 13:06	0.18	1.49	97.4	Harts Cottage
60962	TMG054	4/04/2015 12:57	0.31	2.18	100.8	Harts Cottage
60918	TMG053	2/04/2015 11:02	0.38	1.76	98.9	Harts Cottage
61389	TMG05J	30/04/2015 13:06	0.58	6.38	110.1	Tomingley Village
61367	TMG05I	29/04/2015 14:05	0.32	7.32	111.3	Tomingley Village
61330	TMG05H	28/04/2015 13:09	0.33	2.69	102.6	Tomingley Village
61313	TMG05G	27/04/2015 13:08	0.23	6.02	109.6	Tomingley Village
61280	TMG05F	24/04/2015 16:23	0.32	10.17	114.1	Tomingley Village
61240	TMG05E	22/04/2015 13:56	0.34	9.53	113.6	Tomingley Village
61225	TMG05D	20/04/2015 12:58	0.25	5.05	108	Tomingley Village
61212	TMG05C	18/04/2015 12:56	0.31	3.17	104	Tomingley Village
61183	TMG05B	17/04/2015 12:56	0.28	4.23	106.5	Tomingley Village
61112	TMG05A	15/04/2015 13:01	0.37	1.59	98	Tomingley Village
61074	TMG059	13/04/2015 13:44	0.21	4.68	107.4	Tomingley Village
61073	TMG058	13/04/2015 13:40	0.38	4.28	106.6	Tomingley Village
61019	TMG057	10/04/2015 11:06	0.21	3.74	105.4	Tomingley Village
60974	TMG056	7/04/2015 12:58	0.2	2.55	102.1	Tomingley Village
60963	TMG055	4/04/2015 13:06	0.19	1.92	99.7	Tomingley Village
60962	TMG054	4/04/2015 12:57	0.42	2.13	100.5	Tomingley Village
60918	TMG053	2/04/2015 11:02	0.66	2.85	103.1	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: 5.624 ppm
- Daily maximum: 12.655 ppm on 24 April.
- Daily minimum: 0.554 ppm on 1 April.
- Number of exceedances: zero

## **10. BIODIVERSITY MONITORING**

- The number of fauna deaths during the month was two:
  - A Noisy Miner – Vehicle interaction.
  - Australian Magpie – Mired in RSF
- Native fauna sightings:
  - Four Black Swans were seen on RSF dam.
- Native animal rescue:
  - None this month