



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

# Tomingley Gold Project

## Monthly Environmental Monitoring Report – June 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 June 2015.

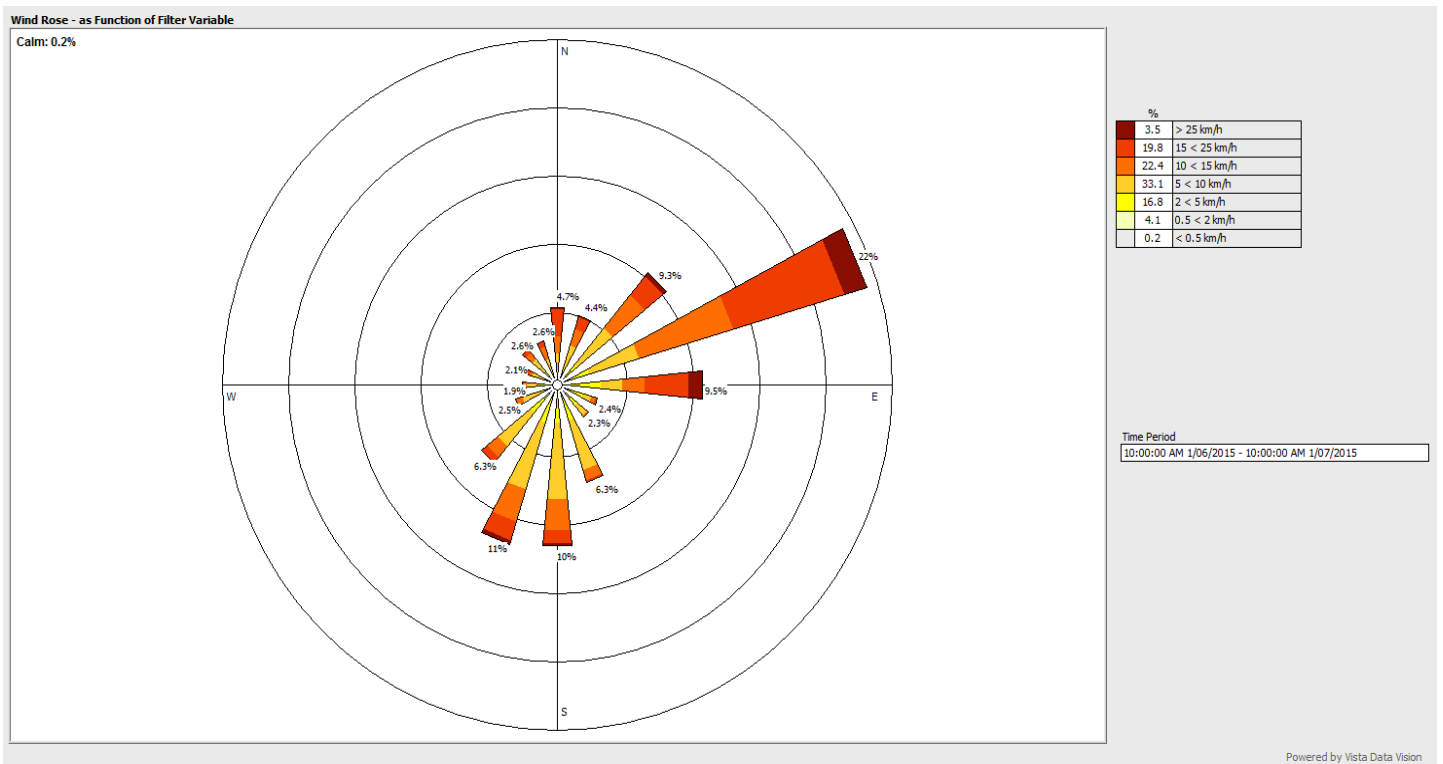
This report also compares data collected to targets and provides commentary on environmental issues during the month.

## 2. WEATHER FOR JUNE 2015

### 2.1 WEATHER STATION DATA

TGO weather data is presented below.

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



## 2.2 RAINFALL DATA

<i>June</i>	<b>Amount (millimetres)</b>
4	0.2
5	2.2
6	0.4
15	2.4
16	10.8
17	8.2
20	0.2
24	20.6
25	0.2
27	0.2
29	0.2
<b>Total</b>	<b>Approximately 45.6mm</b>

**Table 1.** June 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.

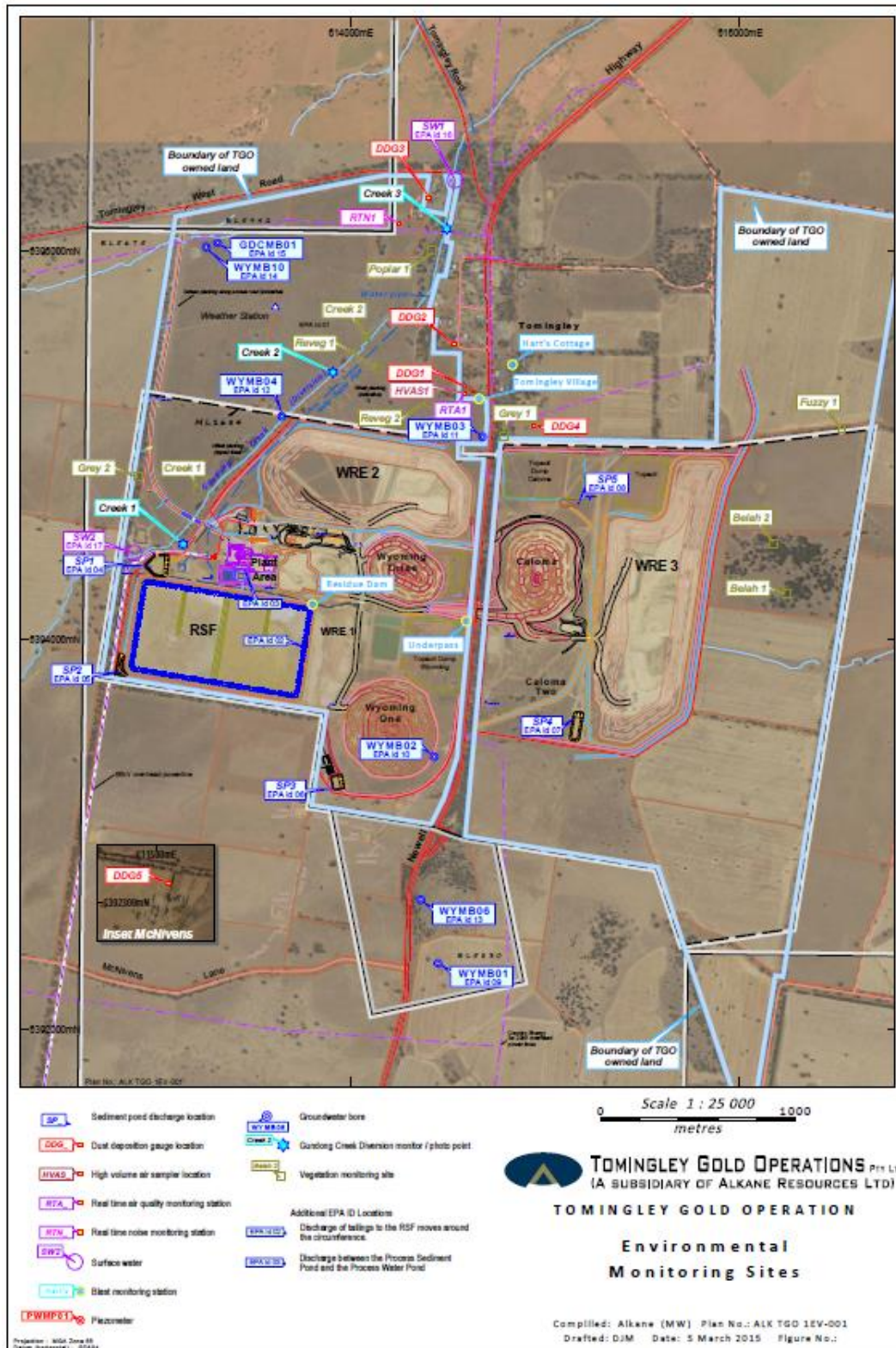


Figure 2. TGO water and vegetation monitoring points.



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

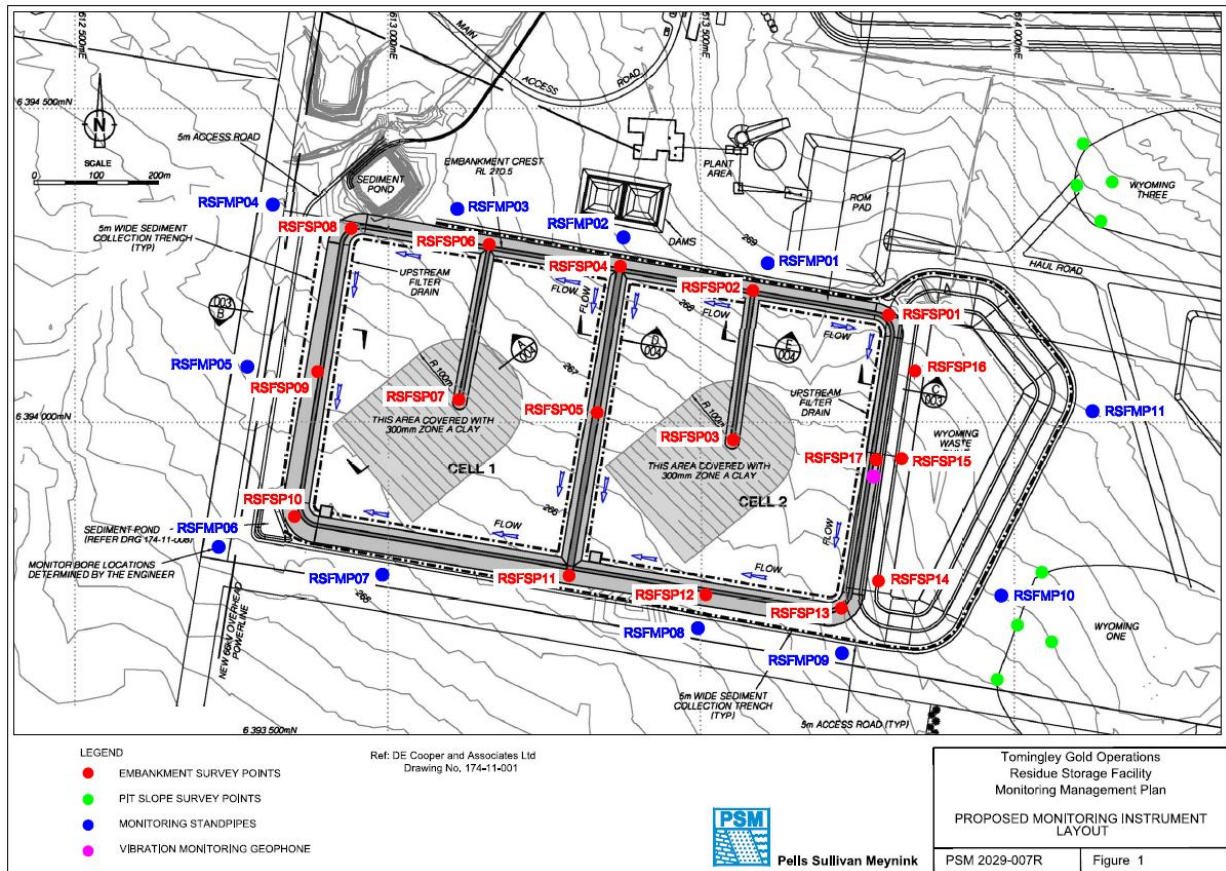


Figure 3. Residue Storage Facility monitoring points.

## 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 month.

Date	24 Hr Averages	Running Average	Comment
	(µg/m <sup>3</sup> )		
1/06/2015	8.4	21.8	1 hr average data used (8 hrs)
2/06/2015	12.3	21.7	
3/06/2015	16.0	21.7	
4/06/2015	15.2	21.7	
5/06/2015	8.3	21.7	
6/06/2015	14.4	21.7	
7/06/2015	12.4	21.6	
8/06/2015	12.5	21.6	
9/06/2015	14.5	21.6	1 hr average data used (14 hrs)
10/06/2015	20.2	21.6	
11/06/2015	9.3	21.6	
12/06/2015	7.5	21.5	
13/06/2015	7.4	21.5	
14/06/2015	9.1	21.4	
15/06/2015	10.4	21.4	
16/06/2015	6.3	21.4	1 hr average data used (20 hrs)
17/06/2015	3.4	21.3	
18/06/2015	8.7	21.3	
19/06/2015	6.4	21.3	
20/06/2015	15.6	21.2	
21/06/2015	9.6	21.2	
22/06/2015	10.0	21.2	
23/06/2015	13.1	21.2	
24/06/2015	7.6	21.1	
25/06/2015	6.3	21.1	
26/06/2015	12.9	21.1	
27/06/2015	17.2	21.1	
28/06/2015	9.4	21.0	
29/06/2015	17.8	21.0	
30/06/2015	15.4	21.0	
<b>Average</b>	<b>11.2</b>		
	<b>24 Hour criteria exceedance</b>		

**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. The performance criteria for deposited dust is averaged over 12 months.

Location	Date Monitored	Insoluble solids (g/m <sup>2</sup> /month)	Maximum increase in deposited dust level
DDG1	4/06/2015 – 2/07/2015	0.8	The greatest increase in deposited dust level was recorded at DDG3; an increase of 0.4 g/m <sup>2</sup> /month. All other results were less than last month.
DDG2	4/06/2015 – 2/07/2015	0.7	
DDG3	4/06/2015 – 2/07/2015	1.0	
DDG4	4/06/2015 – 2/07/2015	3.9	
DDG5	4/06/2015 – 2/07/2015	0.7	

**Table 3.** Deposited Dust results for June 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	9145992	01-Jun-15	02-Jun-15	20.0	90 µg/m <sup>3</sup> .
HVAS1	9145993	07-Jun-15	08-Jun-15	20.8	
HVAS1	9145994	13-Jun-15	14-Jun-15	9.5	
HVAS1	9153695	19-Jun-15	20-Jun-15	17.5	
HVAS1	9153696	25-Jun-15	26-Jun-15	8.8	

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

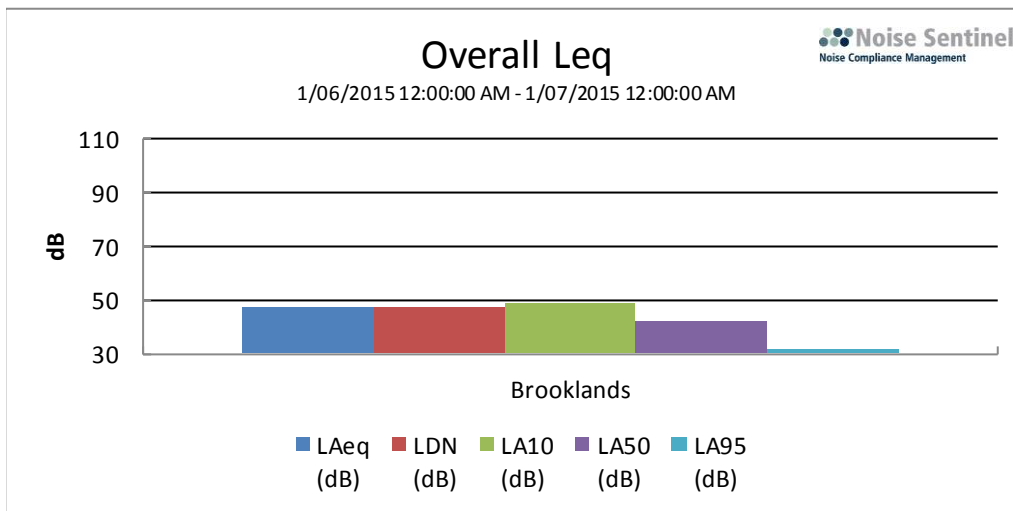
## 5. NOISE MONITORING

### 5.1 REAL-TIME NOISE MONITORING

See real-time noise monitoring data presented below.

#### Long Period

Tomingley Gold Site (1/06/2015 12:00 AM - 1/07/2015 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	1/06 12:00:00 AM	1/07 12:00:00 AM	100%	47.2	47.2	20.8	49.0	42.2	31.9

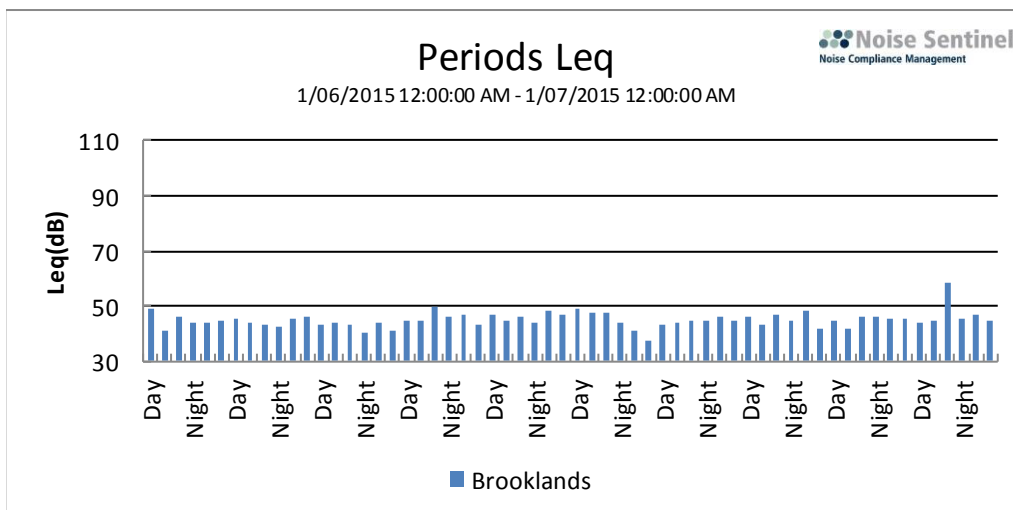


Figure 4. Fixed, real time noise monitoring data.

## 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 and associated water testing occurred this month.

## 7. GROUNDWATER MONITORING

Groundwater monitoring is carried out quarterly. Some sampling occurred in June and due to unforeseen circumstances the remainder of the June sampling will occur in early July. June groundwater data will be presented in the June monthly monitoring report.

## 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
62729	TMG06G	30/06/2015 14:33	0.37	4.25	106.5	Harts Cottage
62716	TMG06F	22/06/2015 13:33	0.2	1.43	97.1	Harts Cottage
62715	TMG06E	22/06/2015 13:33	0.12	1.57	97.9	Harts Cottage
62681	TMG06D	26/06/2015 14:20	0.5	7.26	111.2	Harts Cottage
62575	TMG06C	24/06/2015 13:18	0.39	1.92	99.6	Harts Cottage
62466	TMG06B	18/06/2015 13:33	0.38	2.42	101.6	Harts Cottage
62365	TMG06A	15/06/2015 12:57	0.29	3.06	103.7	Harts Cottage
62349	TMG069	13/06/2015 14:19	0.45	3.5	104.9	Harts Cottage
62327	TMG068	12/06/2015 12:54	0.28	10.07	114	Harts Cottage
62277	TMG067	9/06/2015 13:01	0.44	5.43	108.7	Harts Cottage
62257	TMG066	5/06/2015 15:58	0.39	5.09	108.1	Harts Cottage
62236	TMG065	4/06/2015 13:56	0.26	8.52	112.6	Harts Cottage
62074	TMG064	1/06/2015 13:56	0.32	8.43	112.5	Harts Cottage
62729	TMG06G	30/06/2015 14:33	0.43	3.79	105.5	Tomingley Village
62716	TMG06F	22/06/2015 13:33	0.19	2.05	100.2	Tomingley Village
62715	TMG06E	22/06/2015 13:33	0.17	1.79	99	Tomingley Village
62681	TMG06D	26/06/2015 14:20	0.64	7.81	111.8	Tomingley Village
62575	TMG06C	24/06/2015 13:18	0.43	2.04	100.2	Tomingley Village
62466	TMG06B	18/06/2015 13:33	0.46	3.17	104	Tomingley Village
62365	TMG06A	15/06/2015 12:57	0.42	3.2	104.1	Tomingley Village
62349	TMG069	13/06/2015 14:19	0.45	3.4	104.6	Tomingley Village
62327	TMG068	12/06/2015 12:54	0.42	10.3	114.2	Tomingley Village
62277	TMG067	9/06/2015 13:01	0.66	5.92	109.4	Tomingley Village
62257	TMG066	5/06/2015 15:58	0.55	4.64	107.3	Tomingley Village
62236	TMG065	4/06/2015 13:56	0.33	9.49	113.5	Tomingley Village
62074	TMG064	1/06/2015 13:56	0.32	6.15	109.8	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: 8.009 ppm
- Daily maximum: 18.415 ppm on 24 June.
- Daily minimum: 0.705 ppm on 2 June.
- Number of exceedances: zero

## 10. BIODIVERSITY MONITORING

- The number of fauna deaths during the month was one:
  - An Eastern Grey Kangaroo (sub-adult) *Macropus giganteus*, suspected vehicle interaction on access road.
- Native fauna sightings:
  - Yellow Spoonbill, *Platalea flavipes*, in a temporary water body on site.
  - Brown Goshawk, *Accipiter fasciatus* seen near administration building.
  - White-necked Heron, *Ardea pacifica*, farm dam near mine access road.
- Native animal rescue:
  - No native fauna required rescue this month.
- Vertebrate pests:
  - Foxes were observed during the day on two occasions.