



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

Tomingley Gold Project

Monthly Environmental Monitoring Report – March 2015



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TABLE OF REVISIONS

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 March 2015.

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

2. WEATHER FOR MARCH 2015

2.1 WEATHER STATION DATA

TGO weather data is presented below.

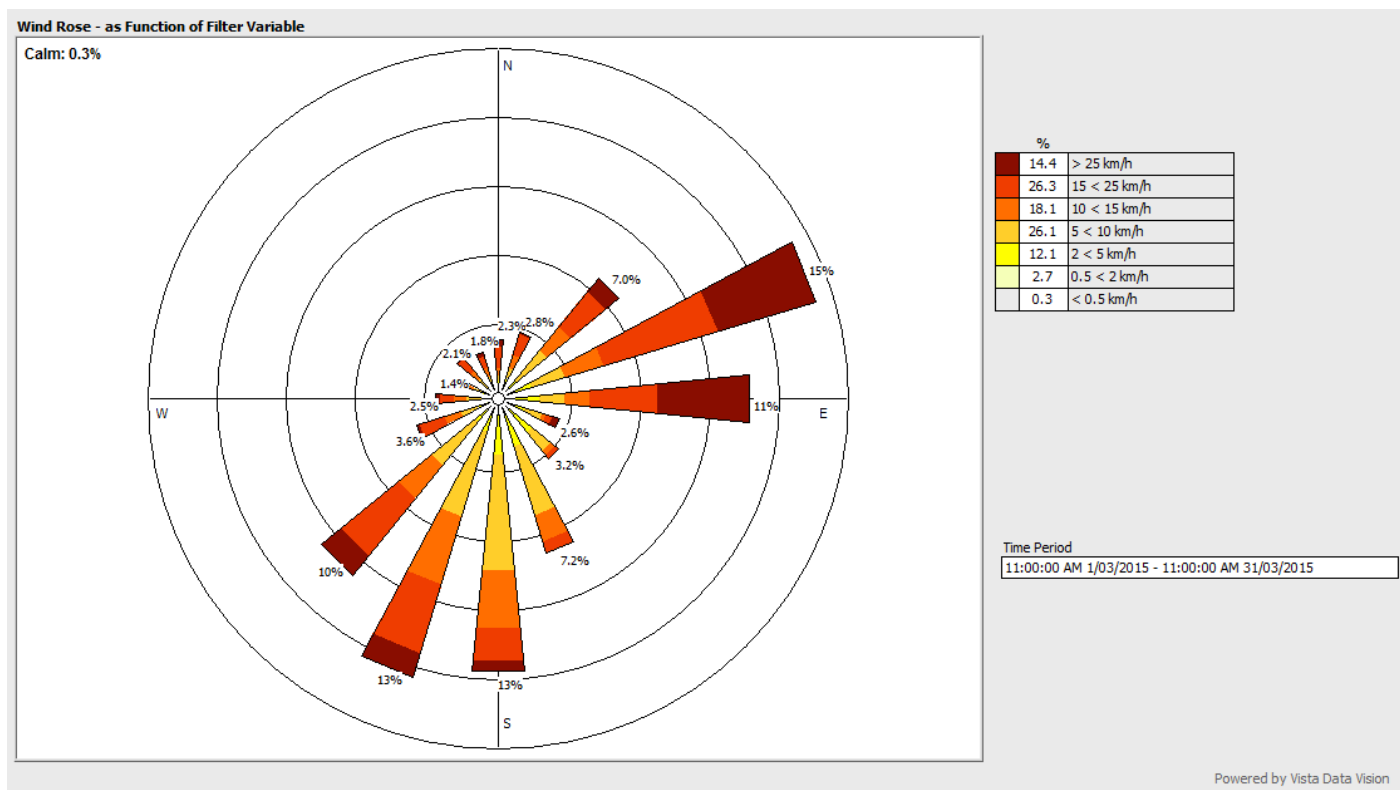


Figure 1. March 2015 wind monitoring station data

2.2 RAINFALL DATA

<i>February</i>	Amount (millimetres)
<i>11/03/2015</i>	0.6
<i>12/03/2015</i>	5.4
<i>24/03/2015</i>	10.2
<i>Total</i>	Approximately 16.2mm

Table 1. March 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.

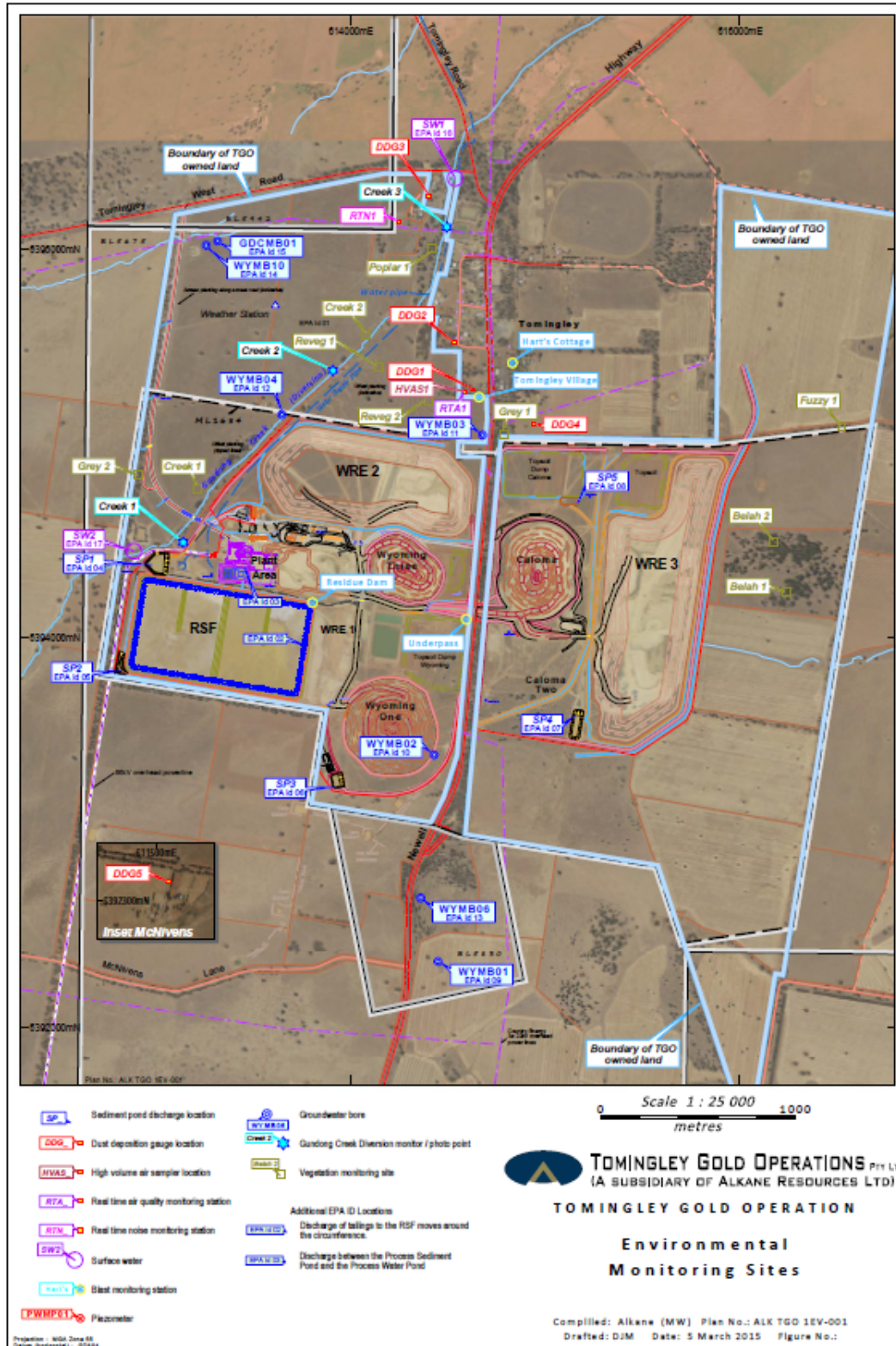


Figure 2. TGO water and vegetation monitoring points.

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

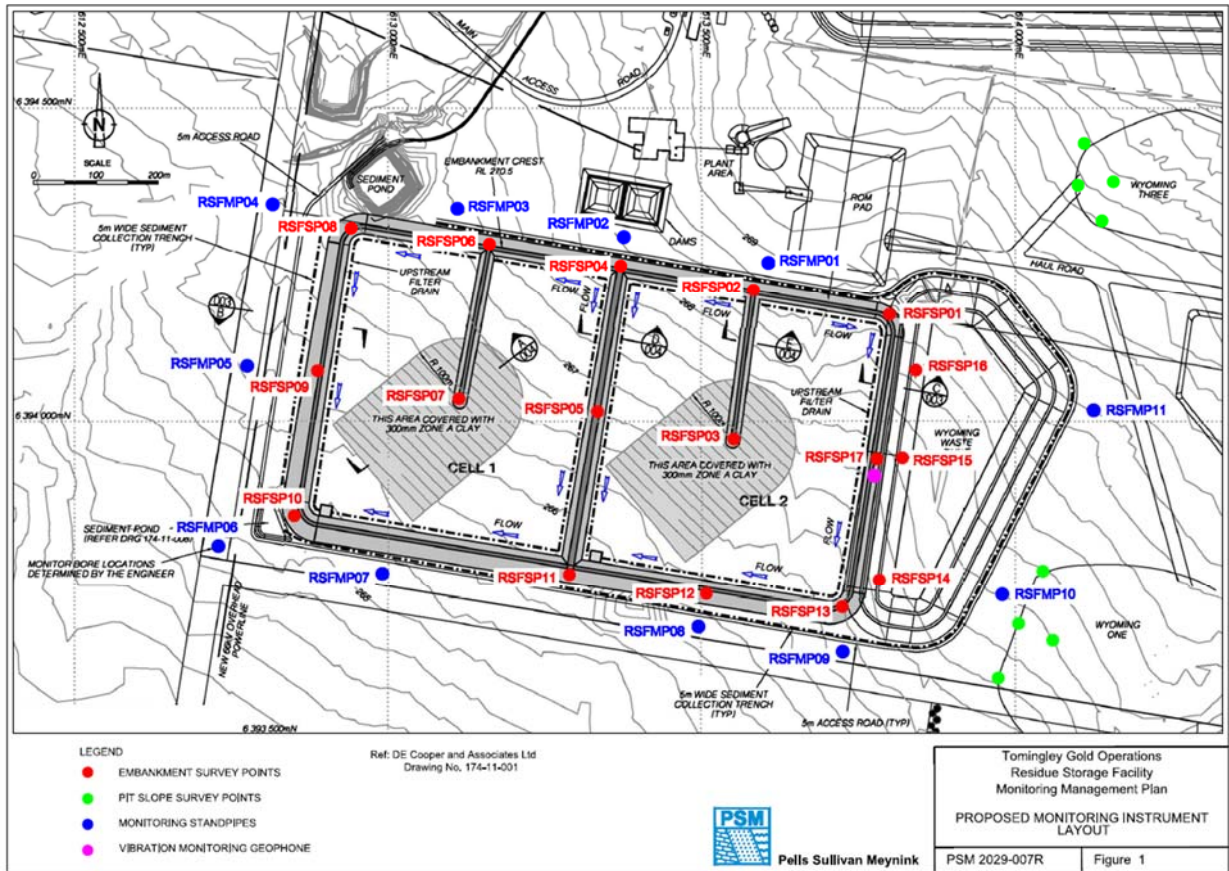


Figure 3. Residue Storage Facility monitoring points.

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/m³ and a 24-Hour Average of 50ug/m³. The 24 Hour Average was exceeded seven times this month.

Date	24 Hr Averages	Running Average	Comment
	(µg/m3)		
1/03/2015	55.7	19.8	
2/03/2015	27.9	19.9	
3/03/2015	37.6	19.9	
4/03/2015	59.3	20.1	
5/03/2015	142.4	20.5	
6/03/2015	69.3	20.6	
7/03/2015	55.5	20.8	
8/03/2015	44.9	20.8	
9/03/2015	49.0	20.9	
10/03/2015	47.5	21.0	
11/03/2015	31.8	21.0	1 hr average data used
12/03/2015	24.0	21.1	1 hr average data used
13/03/2015	31.5	21.1	
14/03/2015	20.2	21.1	
15/03/2015	37.0	21.1	
16/03/2015	20.5	21.1	
17/03/2015	29.2	21.2	
18/03/2015	38.3	21.2	
19/03/2015	33.8	21.3	
20/03/2015	62.4	21.4	
21/03/2015	45.8	21.5	
22/03/2015	19.4	21.5	
23/03/2015	13.2	21.4	
24/03/2015	30.9	21.5	1 hr average data used
25/03/2015	28.4	21.5	
26/03/2015	47.9	21.6	
27/03/2015	50.4	21.7	
28/03/2015	45.9	21.7	
29/03/2015	26.7	21.8	
30/03/2015	33.3	21.8	
31/03/2015	18.9	21.8	
Average	41.2		
	24 Hour criteria exceedance		

Note: For comparison purposes highlighted results indicate levels above the EPA and NEPM 24-hour maximum criteria for PM₁₀

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 ² /month)	Maximum increase in deposited dust level
DDG1	4/3/2015 – 2/4/2015	2.0	The greatest increase in deposited dust level was recorded at DDG4; an increase of 4.0 g/m ² /month. The dust recorded in DDG4 exceeds the annual limit
DDG2	4/3/2015 – 2/4/2015	2.4	
DDG3	4/3/2015 – 2/4/2015	1.6	
DDG4	4/3/2015 – 2/4/2015	6.2	
DDG5	4/3/2015 – 2/4/2015	1.6	

Table 3. Deposited Dust results for March 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 ³)	Performance Criteria (Annual Average)
HVAS1	9027563	03-Mar-15	04-Mar-15	108	90 µg/m ³ . All HVAS results for March exceeded the annual average limit.
HVAS1	9036592	09-Mar-15	10-Mar-15	198	
HVAS1	9036593	15-Mar-15	16-Mar-15	100	
HVAS1	9036594	21-Mar-15	22-Mar-15	130	
HVAS1	9036595	27-Mar-15	28-Mar-15	156	

Table 4. High Volume Air Sampler Data for March 2015

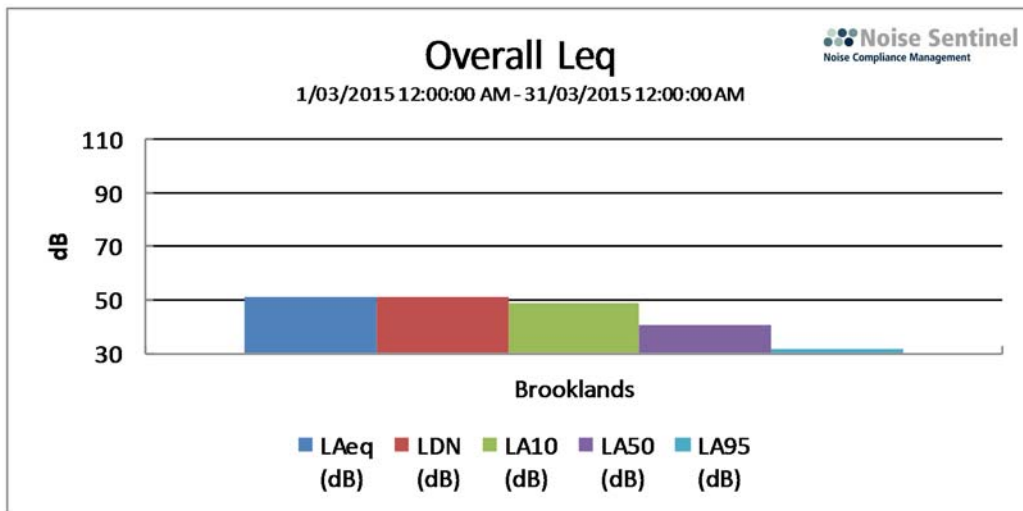
5. NOISE MONITORING

5.1 REAL-TIME NOISE MONITORING

See real-time noise monitoring data presented below.

Long Period

Tomingley Gold Site (1/03/2015 12:00 AM - 31/03/2015 12:00 AM)



Overall Data

Location	Start Time	End Time	Activity	LDN (dB)	L _{Aeq} (dB)	L _{AMin} (dB)	L _{A10} (dB)	L _{A50} (dB)	L _{A95} (dB)
Brooklands	1/03 12:00:00 AM	31/03 12:00:00 AM	99%	51.0	51.0	22.2	48.6	41.0	31.6

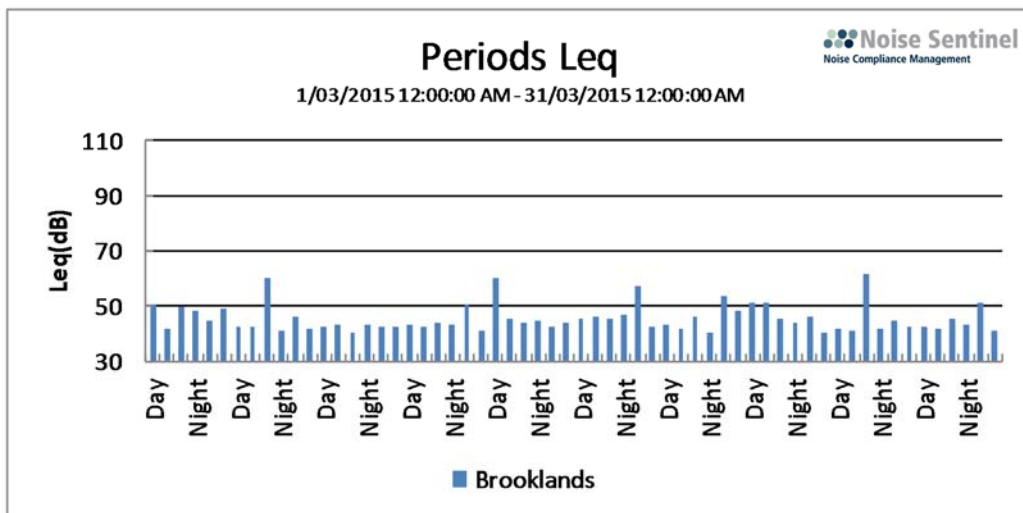


Figure 4. Fixed, real time noise monitoring data.

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 was completed in March 2015. Due to an administrative error resulted in Ammonia being overlooked for this analysis.

Parameter	WYMB01	WYMB02	WYMB03	WYMB04	WYMB06	WYMB10	GDCMB01
Total suspended solids	32	<5	<5	22	38	14	378
Total dissolved solids	7760	14600	14200	18700	8650	19300	390
Ionic balance	13.9	0.27	0.90	1.98	8.86	0.97	9.22
pH (lab)	7.51	7.39	7.23	7.38	7.90	7.36	6.95
pH (Field)	10.74	8.92	8.51	10.05	11.91	9.61	9.15
Electrical conductivity (Lab)	12200	22800	21500	27300	13000	28500	506
Electrical conductivity (Field)	13030	24410	23040	29900	13890	31100	540
Ammonia							
Alkalinity	362	1080	1220	1020	1160	965	55
Arsenic (mg/L)	0.005	0.003	0.002	<0.01	0.036	<0.01	0.004
Bicarbonate (mg/L)	362	1080	1220	1020	1160	965	55
Cadmium (mg/L)	<0.0001	<0.0001	<0.0001	<0.001	0.0002	<0.001	<0.0001
Calcium (dissolved)	239	134	171	254	101	220	2
Carbonate	<1	<1	<1	<1	<1	<1	<1

Parameter	WYMB01	WYMB02	WYMB03	WYMB04	WYMB06	WYMB10	GDCMB01
Chromium	0.005	0.001	<0.001	<0.01	0.005	<0.01	0.017
Chloride (mg/L)	3840	6950	6420	8590	2920	2690	13
Copper	0.012	0.003	0.001	<0.01	0.018	<0.01	0.015
Cyanide (free)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Cyanide (total)	0.01	<0.004	<0.004	<0.004	0.077	<0.004	<0.004
WAD Cyanide	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Hardness	1480	1960	2340	3060	1370	2690	13
Iron (total)	2.77	0.52	0.08	1.63	2.52	1.67	16.4
Lead	0.053	0.012	<.001	0.012	0.056	<0.01	0.012
Magnesium (mg/L)	214	395	466	588	271	521	2
Mercury (mg/L)	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	0.0001	<0.0001
Nickel (mg/L)	0.006	0.002	0.041	<0.01	0.041	<0.01	0.01
Nitrate (mg/L)	0.02	0.69	0.37	0.13	0.18	0.51	14.6
Phosphate (mg/L)	0.12	0.25	0.15	>0.03	0.06	0.37	0.09
Potassium	5	10	15	18	7	23	1
Sodium (dissolved)	1820	5060	4500	5590	2230	6110	95
Sulphates (mg/L)	1360	1940	2010	2600	2070	2920	22
Zinc (mg/L)	0.097	0.027	0.034	0.095	0.133	<0.05	0.033
Standing water level below top of casing (m)	38.56	59.10	54.27	62.59	37.17	72.20	2.17

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
60842	TMG052	30/03/2015 16:48	0.23	3.79	105.5	Harts Cottage
60817	TMG051	28/03/2015 13:02	0.19	3.11	103.8	Harts Cottage
60646	TMG050	23/03/2015 13:04	0.18	2.56	102.2	Harts Cottage
60645	TMG04Z	23/03/2015 12:57	0.27	3.1	103.8	Harts Cottage
60634	TMG04Y	21/03/2015 12:58	0.28	3.51	104.9	Harts Cottage
60563	TMG04X	18/03/2015 12:59	0.13	1.09	94.7	Harts Cottage
60529	TMG04W	17/03/2015 13:01	0.27	1.6	98	Harts Cottage
60507	TMG04V	16/03/2015 13:00	0.18	1.06	94.5	Harts Cottage
60376	TMG04U	9/03/2015 12:55	0.26	6.53	110.3	Harts Cottage
60332	TMG04T	6/03/2015 12:56	0.56	11.68	115.3	Harts Cottage
60285	TMG04S	4/03/2015 13:05	0.43	2.91	103.3	Harts Cottage
60842	TMG052	30/03/2015 16:48	0.26	4	106	Tomingley Village
60817	TMG051	28/03/2015 13:02	0.29	3.78	105.5	Tomingley Village
60646	TMG050	23/03/2015 13:04	0.21	2.23	100.9	Tomingley Village
60645	TMG04Z	23/03/2015 12:57	0.32	3.2	104.1	Tomingley Village
60634	TMG04Y	21/03/2015 12:58	0.3	4.75	107.5	Tomingley Village
60563	TMG04X	18/03/2015 12:59	0.16	1.43	97.1	Tomingley Village
60529	TMG04W	17/03/2015 13:01	0.35	1.9	99.5	Tomingley Village
60507	TMG04V	16/03/2015 13:00	0.2	1.55	97.8	Tomingley Village
60376	TMG04U	9/03/2015 12:55	0.31	7.75	111.8	Tomingley Village
60332	TMG04T	6/03/2015 12:56	0.53	15.49	117.8	Tomingley Village
60285	TMG04S	4/03/2015 13:05	0.49	3.67	105.3	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: 4.219 ppm
- Daily maximum: 13.295 ppm on 2 March.
- Daily minimum: 0.675 ppm on 25 March.
- Number of exceedances: zero

10. BIODIVERSITY MONITORING

- The number of fauna deaths during the month was one
 - A Central Bearded Dragon, *Pogona vitticeps*, vehicle interaction.

- Native fauna sightings:
 - Royal Spoonbill, *Platalea regia*, in a farm dam on site.
 - Tawny Frogmouth, *Podargus strigoides*, seen roosting in tree near administration building
 - Two Yellow Spoonbills, *Platalea flavipes*, on an onsite dam.
 - Three Wedge-tail Eagles, *Aquila audax*, over front paddocks and remnant vegetation.
 - White-necked Heron, *Ardea pacifica*, farm dam near mine access road.
- Native animal rescue:
 - An Inland Broadnosed Bat, *Scotorepens balstoni*, was rescued from stemming pile and released elsewhere on site.



Royal Spoonbill, *Platalea regia*



Tawny Frogmouth, *Podargus strigoides*