



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

Tomingley Gold Project

Monthly Environmental Monitoring Report – June 2014



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TABLE OF REVISIONS

Revision Number	Revision Date	Prepared By	Comments
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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 2014.

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

2. WEATHER FOR JUNE 2014

2.1 WEATHER STATION DATA

TGO weather data is presented below.

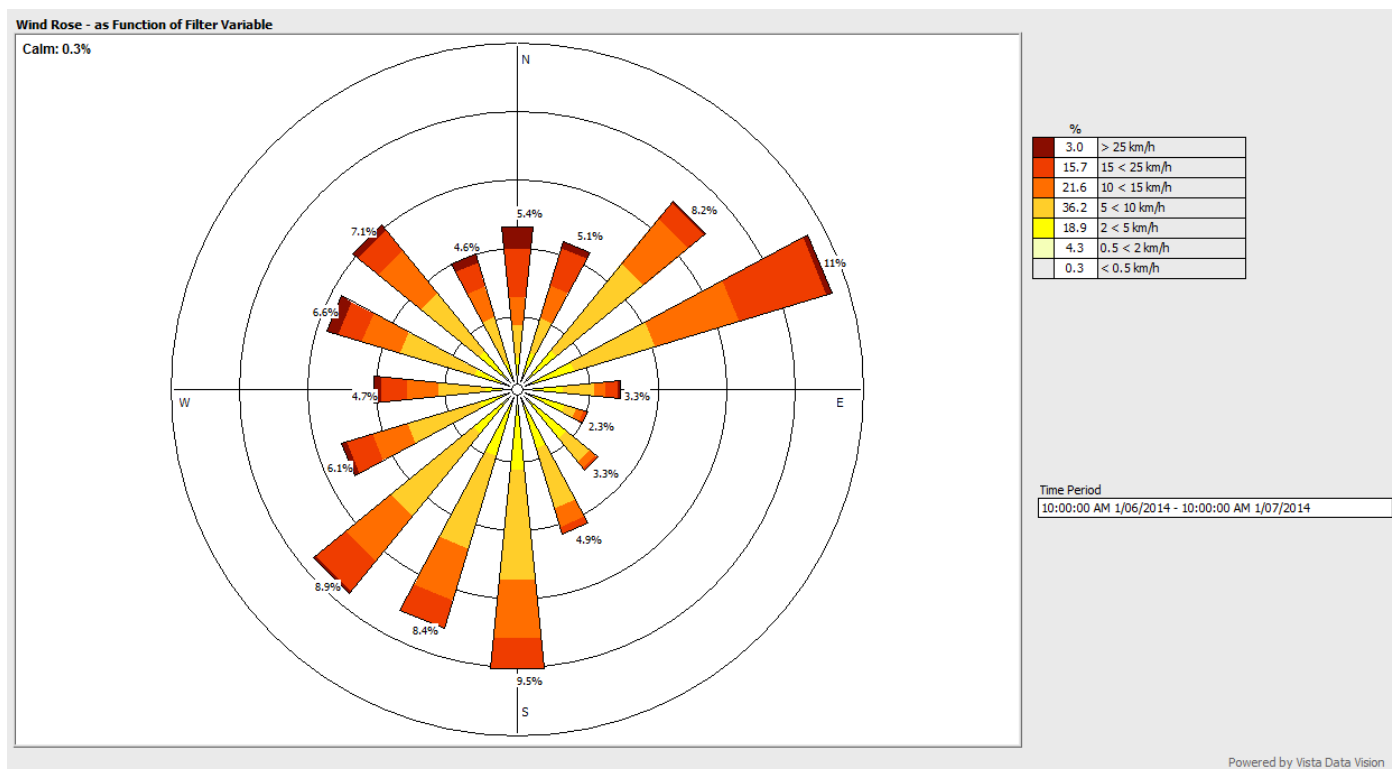


Figure 1. June 2014 wind monitoring station data

June	Amount (millimetres)
<i>01/06/2014</i>	46.0
<i>02/06/2014</i>	0.2
<i>03/06/2014</i>	0.2
<i>07/06/2014</i>	0.2
<i>13/06/2014</i>	1.8
<i>14/06/2014</i>	2.2
<i>20/06/2014</i>	0.6
<i>21/06/2014</i>	0.6
<i>22/06/2014</i>	0.2
<i>27/06/2014</i>	0.2
<i>28/06/2014</i>	0.8
Total	53.0 mm

Table 1. June 2014 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.

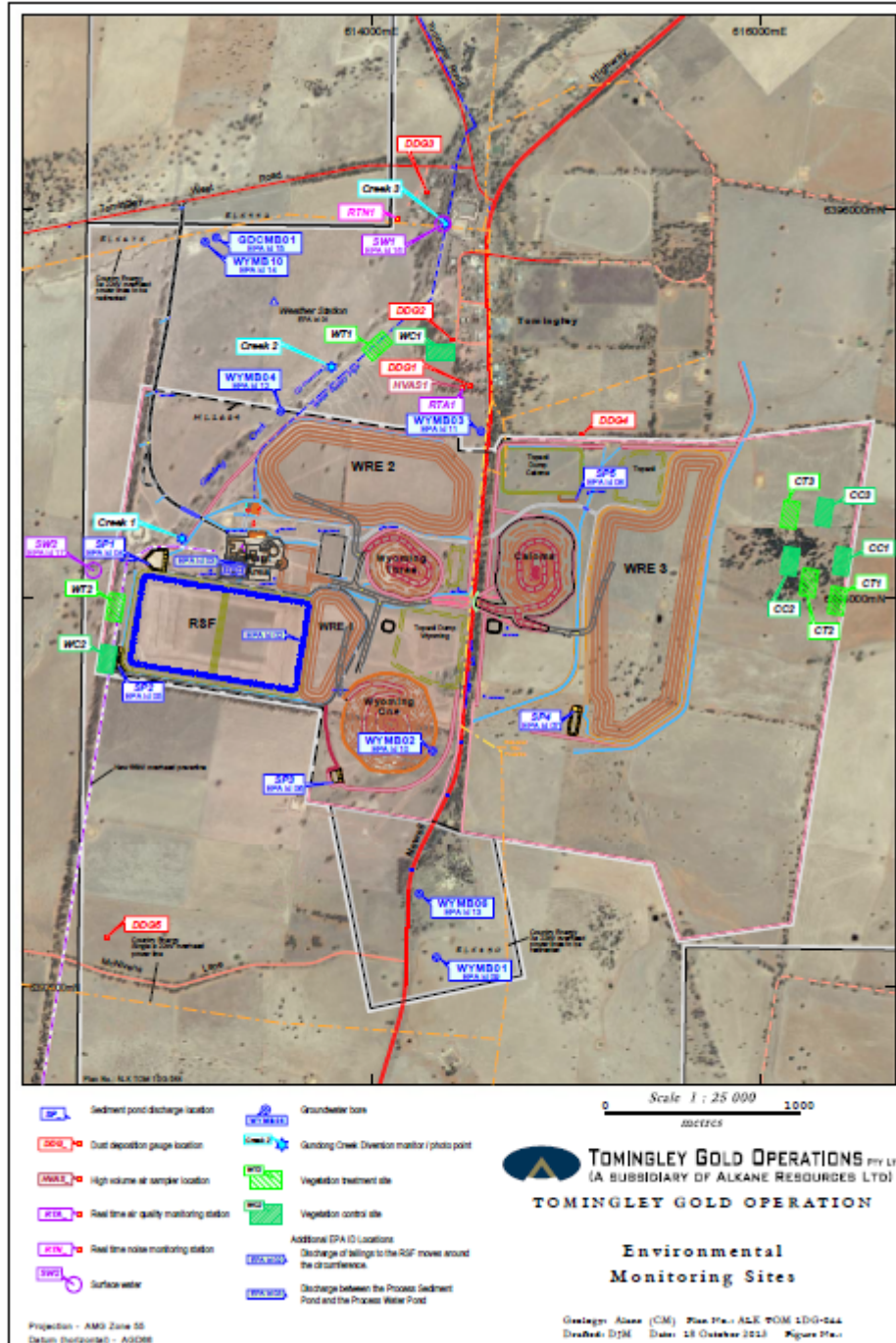


Figure 2. TGO water and vegetation monitoring points.

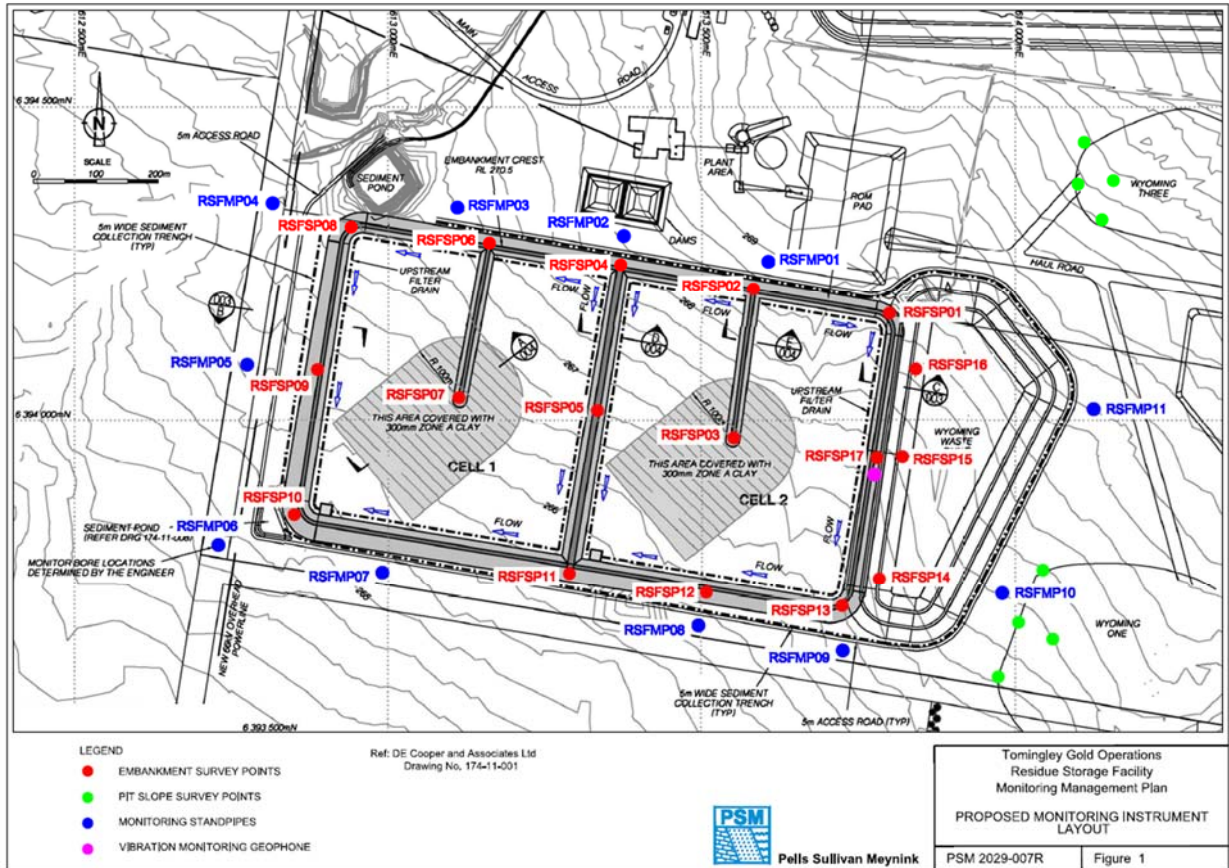


Figure 3. Residue Storage Facility monitoring points.

AIR QUALITY MONITORING

3.1 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. These parameters were not exceeded this month.

Time Period: 2014-06-01 - 2014-07-01		
Summary Time Period: day		
File Name: vdv_Alkane TEOM_2014-06-01_2014-07-01_day		
Data was saved using Vista Data Vision		
Saved: 2014-06-30 22:33:50		
	MC 24 Hour	MC 24 Hour
Timestamp	[µg/m3][Average]	[µg/m3][Max]
1/06/2014	8.885	11.45
2/06/2014	5.469	6.39
3/06/2014	5.817	7.91
4/06/2014	8.521	9.53
5/06/2014	8.76	10.01
6/06/2014	9.28	9.9
7/06/2014	9.312	10.6
8/06/2014	10.016	11.26
9/06/2014	10.917	15.67
10/06/2014	15.216	16.41
11/06/2014	13.133	13.78
12/06/2014	14.285	18.11
13/06/2014	17.226	18.92
14/06/2014	9.384	15.52
15/06/2014	1.434	9.28
16/06/2014	8.661	9.65
17/06/2014	11.936	13.84
18/06/2014	12.885	14.83
19/06/2014	13.74	15.21
20/06/2014	14.109	14.76
21/06/2014	13.807	14.4
22/06/2014	11.207	12.81
23/06/2014	11.818	13.08
24/06/2014	9.24	10.46
25/06/2014	10.748	14.29
26/06/2014	15.079	16.59
27/06/2014	16.751	18.39
28/06/2014	17.635	20.05
29/06/2014	9.877	13.81
30/06/2014	10.138	11.29

3.2 DEPOSITIONAL DUST

Depositional Dust monitoring undertaken during June 2014 returned the results indicated in Table 3 below.

Location	Date Monitored	Insoluble solids (g/m2/month)	Maximum increase in deposited dust level
DDG1	02/06/2014 – 01/07/2014	0.3	DDG4 again gives the highest reading. The value has increased by 16.9 g/m ² .
DDG2	02/06/2014 – 01/07/2014	0.6	

DDG3	02/06/2014 01/07/2014	-	0.5	
DDG4	02/06/2014 01/07/2014	-	26.0	
DDG5	02/06/2014 01/07/2014	-	1.3	

Table 3. Deposited Dust results for June 2014

3.3 HIGH VOLUME AIR SAMPLER - TOTAL SUSPENDED PARTICULATES

High Volume Air Sampling (HVAS) for Total Suspended Particulates (TSP) was undertaken during June 2014. Table 4 below provides the results.

The performance criteria for TSP is averaged over 12 months.

Due to equipment failure, HVAS samples are not available for early June.

Location	Sheet ID	Date On	Date Off	Results (TSP $\mu\text{g}/\text{m}^3$)	Performance Criteria (Annual Average)
HVAS1	8896206	18 June 14	19 June 14	36.0	90 mg/m ₃
HVAS1	8896207	24 June 14	25 June 14	13.6	
HVAS1	8896208	30 June 14	1 July 14	25.7	

Table 4. High Volume Air Sampler Data for June 2014

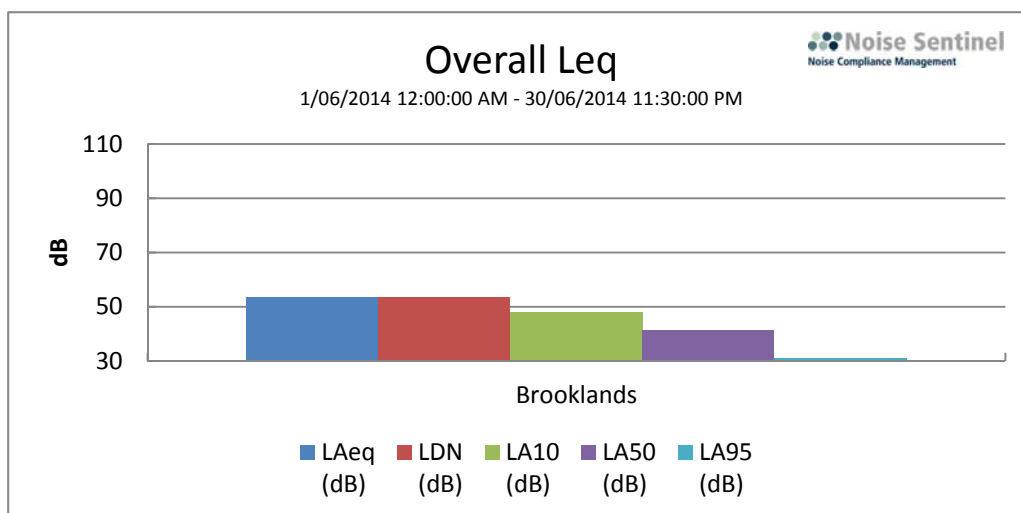
4. NOISE MONITORING

4.1 REAL-TIME NOISE MONITORING

See real-time noise monitoring data presented below. In addition, temporary, portable noise monitors were moved towards the end of June to enable a thorough understanding of the noise across Tomingley Village.

Long Period

Tomingley Gold Site (1/06/2014 12:00 AM - 30/06/2014 11:30 PM)



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	1/06 12:00:00 AM	1/07 12:00:00 AM	100%	53.4	53.4	21.2	47.9	41.3	30.9

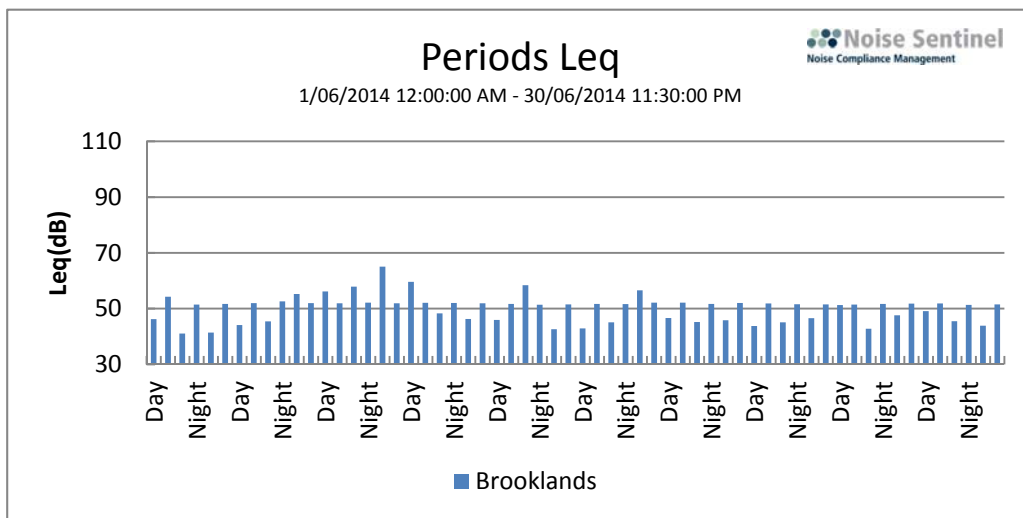


Figure 3. Noise monitoring data.

5. SURFACE WATER MONITORING

5.1 GUNDONG CREEK

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

5.2 SEDIMENTATION PONDS

Sediment pond 2 discharged in early June as a result of a large amount of rain during late May and early June. Since this time significant surface water management infrastructure has been installed to ensure that further rainfall events are more effectively managed.

Water from Sediment Pond 2 was sampled as it discharged and results are given here.

Parameter tested	Result
pH (pH unit)	7.68
Electrical conductivity ($\mu\text{S/cm}$)	116
Suspended solids (mg/L)	751
Aluminium (mg/L)	0.98
Arsenic (mg/L)	0.001
Cadmium (mg/L)	<0.0001
Chromium (mg/L)	0.001
Copper (mg/L)	0.006
Nickel (mg/L)	0.003
Lead (mg/L)	0.003
Zinc (mg/L)	0.015
Molybdenum (mg/L)	<0.001
Selenium (mg/L)	<0.01
Boron (mg/L)	<0.05
Mercury (mg/L)	<0.0001
Total cyanide (mg/L)	<0.004
Weak acid dissociable cyanide (mg/L)	<0.004
Nitrate (mg/L)	0.86
Total nitrogen (mg/L)	3.3
Total phosphorus (mg/L)	1.31
Oil and grease (mg/L)	<5

6. GROUNDWATER MONITORING

Groundwater monitoring is carried out quarterly and was undertaken in June.

Parameter	unit	WYMB01 (EPA09)	WYMB02 (EPA10)	WYMB03 (EPA11)	WYMB04 (EPA12)	WYMB06 (EPA 13)	WYMB10 (EPA14)	GDCMB01 (EPA 15)
Alkalinity (as calcium carbonate)	milligrams per litre	338	1100	1110	1090	1190	994	79
Ammonia	milligrams per litre	0.14	0.49	0.02	<0.01	0.02	<0.01	0.01
Arsenic	milligrams per litre	0.003	0.004	0.005	<0.01	0.033	<0.01	0.007
Bicarbonate	milligrams per litre	338	1100	1110	1090	1190	994	79
Cadmium	milligrams per litre	<0.0001	0.0002	0.0001	<0.001	<0.0001	<0.001	<0.0001
Calcium (dissolved)	milligrams per litre	228	129	160	268	138	215	1
Carbonate	milligrams per litre	<1	<1	<1	<1	<1	<1	<1
Chloride	milligrams per litre	3400	6110	5650	7310	2720	7600	68
Chromium	milligrams per litre	<0.001	0.005	0.011	<0.01	0.002	<0.01	0.024
Copper	milligrams per litre	0.002	0.022	0.02	<0.01	0.011	0.011	0.016
Cyanide (free)	milligrams per litre	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Cyanide (total)	milligrams per litre	0.007	<0.004	<0.004	<0.004	0.098	<0.004	<0.004
Cyanide (weak acid dissociable)	milligrams per litre	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Electrical Conductivity	microsiemens per centimetre	12500	22200	20800	26600	13400	27900	498
Hardness (as calcium carbonate)	milligrams per litre	1570	2130	2510	3620	1640	3140	11
Lead	milligrams per litre	0.004	0.047	0.022	<0.01	0.003	<0.01	0.01
Magnesium (dissolved)	milligrams per litre	244	439	512	717	316	633	2
Mercury	milligrams per litre	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel	milligrams per litre	0.004	0.012	0.028	<0.01	0.035	0.011	0.015
Nitrate	milligrams per litre	0.04	0.27	0.72	0.16	0.61	0.7	16.4
pH	pH	7.42	7.76	7.68	7.43	7.47	7.91	7.02
Reactive Phosphorus as P	milligrams per litre	0.03	0.16	0.17	0.03	0.02	0.15	0.07
Potassium (dissolved)	milligrams per litre	7	11	18	22	8	29	3
Sodium (dissolved)	milligrams per litre	2120	4730	4440	6090	2840	6700	121
Standing Water Level	metres							
Sulfate	milligrams per litre	1020	2140	2290	2790	2450	3070	24
Total dissolved solids	milligrams per litre	7550	12900	13400	16400	7960	17900	799
Total Iron	milligrams per litre	0.21	1.35	0.96	<0.5	0.41	<0.5	21.1
Total suspended solids	milligrams per litre	<5	22	15	<5	<5	<5	61
Zinc	milligrams per litre	0.011	0.274	0.206	0.160	0.116	0.264	0.052

7. BLAST MONITORING

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

Event	Date/Time	Max R (mm/s)	Max AB (dBL)	Monitor location
TMG01H	27/06/2014 12:48	0	88.9	Harts Cottage
TMG01G	27/06/2014 9:14	0	80.1	Harts Cottage
TMG01F	27/06/2014 9:12	0.02	80.1	Harts Cottage
TMG01E	27/06/2014 8:58	0.01	79.2	Harts Cottage
TMG01D	25/06/2014 9:57	0.1	94.8	Harts Cottage
TMG01C	23/06/2014 12:31	0.11	97.8	Harts Cottage
TMG01B	20/06/2014 12:31	0.1	94.7	Harts Cottage
TMG01A	19/06/2014 12:29	0.14	95.7	Harts Cottage
TMG019	17/06/2014 12:40	0.26	104.8	Harts Cottage
TMG018	11/06/2014 12:27	0.09	97.9	Harts Cottage
TMG017	10/06/2014 12:32	0.25	103.1	Harts Cottage
TMG016	7/06/2014 12:33	0.07	96	Harts Cottage
TMG015	6/06/2014 9:59	0.08	97.6	Harts Cottage
TMG014	4/06/2014 14:57	0.08	95.5	Harts Cottage
TMG013	3/06/2014 9:59	0.14	96.2	Harts Cottage
TMG01H	27/06/2014 12:48	0.01	102.3	Tomingley Village
TMG01G	27/06/2014 9:14	0	76.1	Tomingley Village
TMG01F	27/06/2014 9:12	0.02	85	Tomingley Village
TMG01E	27/06/2014 8:58	0	79.1	Tomingley Village
TMG01D	25/06/2014 9:57	0.11	98.7	Tomingley Village
TMG01C	23/06/2014 12:31	0.11	94.7	Tomingley Village
TMG01B	20/06/2014 12:31	0.12	94.8	Tomingley Village
TMG01A	19/06/2014 12:29	0.14	95.6	Tomingley Village
TMG019	17/06/2014 12:40	0.25	109.7	Tomingley Village
TMG018	11/06/2014 12:27	0.11	93	Tomingley Village
TMG017	10/06/2014 12:32	0.18	105.4	Tomingley Village
TMG016	7/06/2014 12:33	0.08	96.6	Tomingley Village
TMG015	6/06/2014 9:59	0.07	100.8	Tomingley Village
TMG014	4/06/2014 14:57	0.08	96.7	Tomingley Village
TMG013	3/06/2014 9:59	0.12	97.2	Tomingley Village

8. BIODIVERSITY MONITORING

Native fauna sightings:

- Spotted Harriers are frequently seen the site.
- Black snake seen on Caloma.

- Grey-crowned Babblers have been seen on three occasions occupying the tree lane on the southern and western boundary near the RSF.
- Two White-necked Herons were seen in the front paddock. Previously only a single member of this species has been seen in this area.
- Two Black-shouldered Kites were seen in the trees adjacent to the mine entrance gate. And over the grassy areas of site.

Native animal rescue:

No native animals required rescue this month.

Vertebrate pests:

- A feral cat was seen near the front access road.