



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

Tomingley Gold Project

Monthly Environmental Monitoring Report – September 2015



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TABLE OF REVISIONS

Revision Number	Revision Date	Prepared By	Comments
Revision 1		JL	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 September 2015.

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

2. WEATHER FOR SEPTEMBER 2015

2.1 WEATHER STATION DATA

TGO weather data is presented below.

Figure 1 September 2015 Wind rose

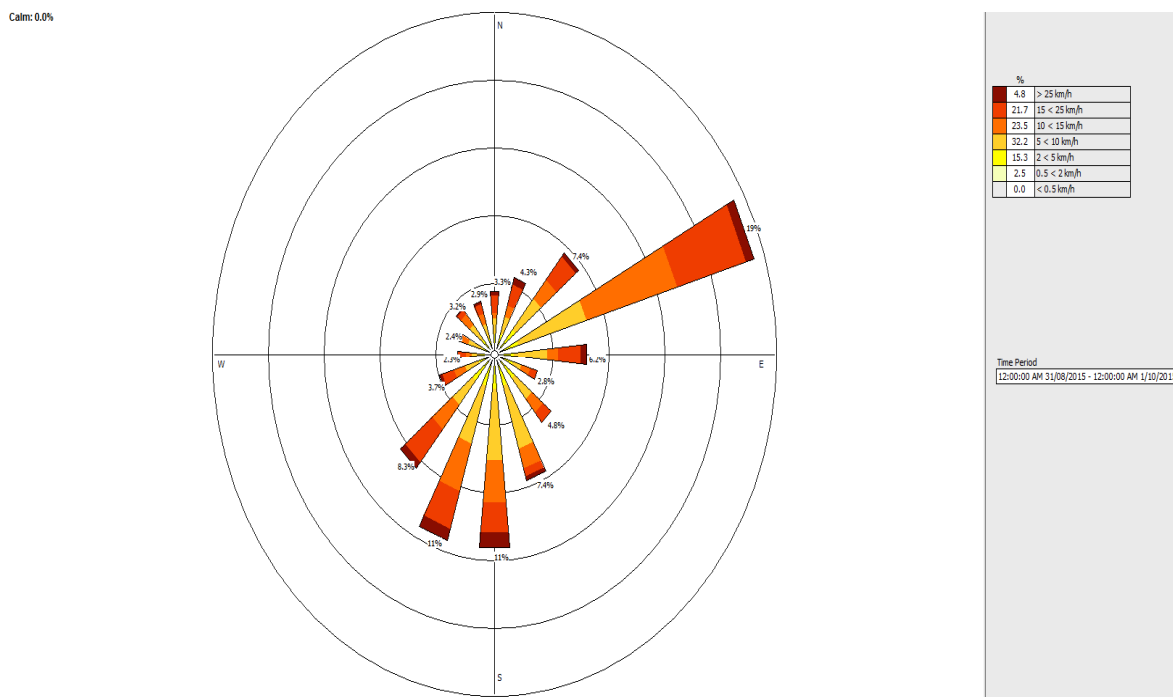
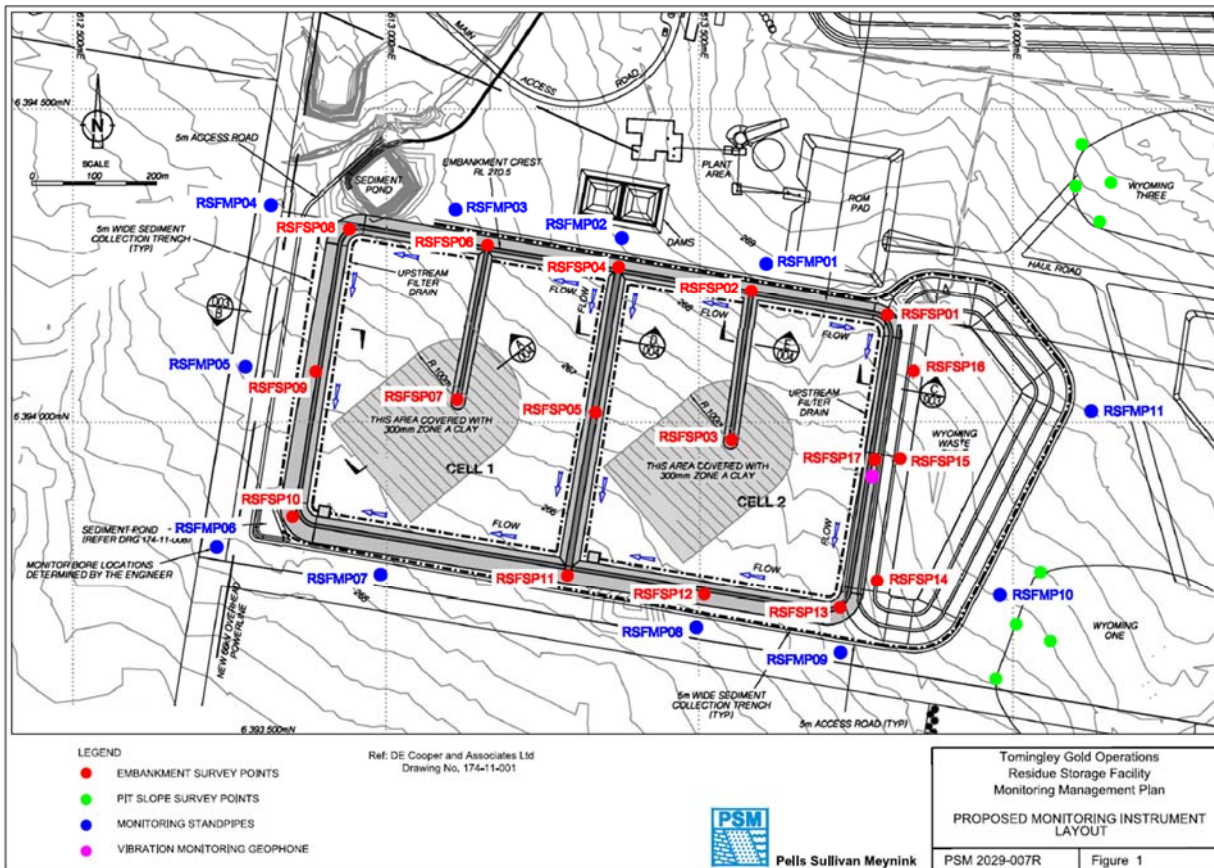


Figure 2 Rainfall September 2015

September 2015	Rainfall (mm)
2/09/2015	0.8
3/09/2015	3.4
4/09/2015	0.2
Total	4.4

Figure 4 indicates the location of environmental and survey monitoring points on and around the Residue Storage Facility.

Figure 4 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 not exceeded month.

Figure 5 TEOM Data September 2015

Date	24 Hr Averages	Running Average	Comment
	(µg/m3)		
1/09/2015	12.5	21.7	
2/09/2015	12.3	21.7	
3/09/2015	7.9	21.7	
4/09/2015	13.0	21.7	
5/09/2015	20.8	21.7	20.5 hrs 1 hr data used
6/09/2015	11.8	21.7	
7/09/2015	18.1	21.7	
8/09/2015	15.2	21.7	
9/09/2015	9.8	21.7	20.5 hrs 1 hr data used
10/09/2015	19.4	21.7	
11/09/2015	14.4	21.6	
12/09/2015	13.5	21.6	
13/09/2015	13.6	21.6	
14/09/2015	20.1	21.6	
15/09/2015	33.4	21.7	
16/09/2015	33.0	21.7	
17/09/2015	29.1	21.7	
18/09/2015	18.4	21.7	
19/09/2015	15.8	21.7	
20/09/2015	9.2	21.7	
21/09/2015	16.5	21.6	
22/09/2015	26.8	21.7	
23/09/2015	12.9	21.6	
24/09/2015	19.0	21.6	
25/09/2015	12.8	21.6	
26/09/2015	14.4	21.6	
27/09/2015	17.1	21.7	
28/09/2015	15.8	21.7	
29/09/2015	18.2	21.7	
30/09/2015	23.4	21.7	
Average	17.3		
	24 Hour criteria exceedance		

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.

Figure 6 Dust Deposition Results August 2015

Location	Date Monitored	Insoluble solids (g/m ² /month)	Maximum increase in deposited dust level
DDG1	04/08/2015–03/09/2015	1.4	The greatest increase in deposited dust level was recorded at DDG3; an increase of 0.9 g/m ² /month. This increase is due <ul style="list-style-type: none"> Seasonal variation
DDG2	04/08/2015–03/09/2015	1.6	
DDG3	04/08/2015–03/09/2015	1.7	
DDG4	04/08/2015–03/09/2015	3.6	
DDG5	04/08/2015–03/09/2015	0.6	

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

Figure 7 Hi-Volume Air Sampler Data August 2015

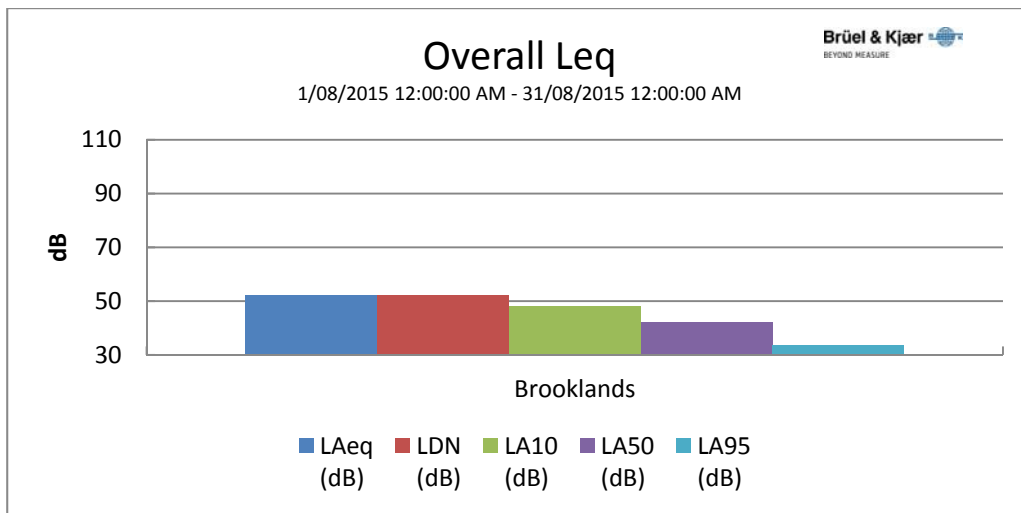
Location	Sheet ID	Date On	Date Off	Results (TSP µg/m ³)	Performance Criteria (Annual Average)
HVAS1	9127547	06/08/2015	07/08/2015	40.5	90 µg/m ³ .
HVAS1	9127548	12/08/2015	13/08/2015	12.8	
HVAS1	9127549	18/08/2015	19/08/2015	85.1	
HVAS1	9127550	24/08/2015	25/08/2015	16.0	
HVAS1	9127551	30/08/2015	31/08/2015	43.8	

5. NOISE MONITORING

5.1 REAL-TIME NOISE MONITORING

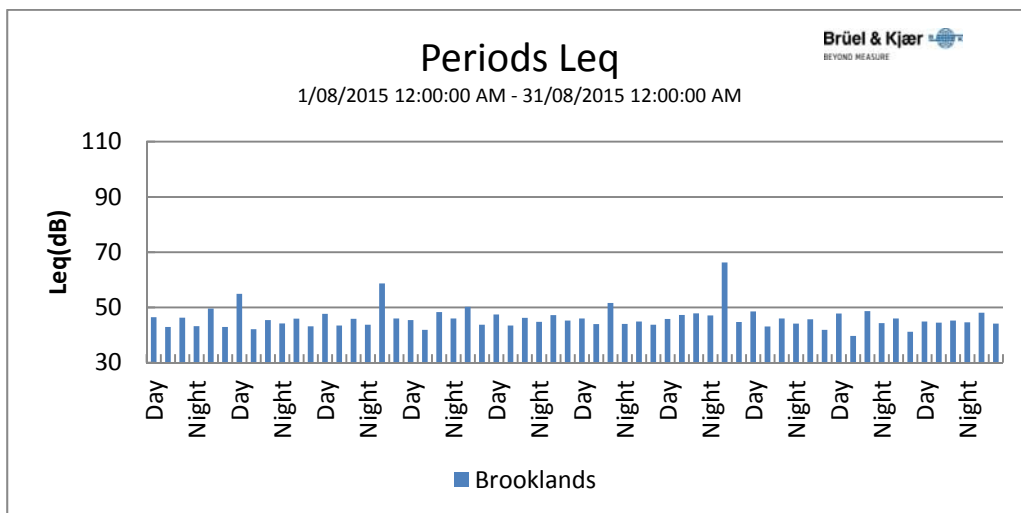
See real-time noise monitoring data presented below.

Figure 8 TGO Noise Monitoring 1/09/2015 - 30/09/2015



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	1/08 12:00:00 AM	31/08 12:00:00 AM	100%	52.0	52.0	25.2	48.0	42.0	33.4



6. SURFACE WATER MONITORING

6.1 GUNDONG CREEK

Gundong Creek ceased to flow at surface water sampling points 1 and 2 over the weekend of the 19/20th September.

6.2 SEDIMENTATION PONDS

No discharge and associated water testing occurred this month.

7. GROUNDWATER MONITORING

Ground water monitoring occurred on the 14 and 15 September. Results are outlined in Figure 9 below.

Figure 9 Ground water results September 2015

Parameter	WYMB01	WYMB02	WYMB03	WYMB04	WYMB06	WYMB10	GDCMB01
Sampling Date	15 Sept. 2015	14 Sept 2015	14 Sept 2015	14 Sept 2015	15 Sept. 2015	14 Sept 2015	14 Sept 2015
Time	1030	1130	1621	1500	0954	1300	1342
Sampler	CBE	CBE	CBE	CBE	CBE	CBE	CBE
Redox (mV)	N/A	186	189	218	173	198	191
Field_Oxy (Mg/L)	N/A	1.19	3.68	3.64	2.20	3.19	2.55
Field_pH	N/A	7.70	7.45	7.70	8.15	7.57	7.67
Field_EC_uS_cm	N/A	21460	20390	26200	12940	27200	511
Field_temp (C)	N/A	21.2	19.8	17.7	20.9	21.3	27.1
Water level below surface (m)	-38.90	-59.19	-53.97	-62.61	-37.45	-72.11	-2.02

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.

Figure 10 Blast Monitoring

EventKey	Event	Date/Time	Max R (mm/s)	Max AB (Pa)	Max AB (dBL)	Monitor location
64079	TMG07D	3/09/2015 15:35	0.75	7.33	111.3	Tomingley Village
64079	TMG07D	3/09/2015 15:35	0.53	6.51	110.3	Harts Cottage
64094	TMG07E	4/09/2015 13:53	0.22	3.59	105.1	Tomingley Village
64094	TMG07E	4/09/2015 13:53	0.18	3.06	103.7	Harts Cottage
64188	TMG07F	9/09/2015 12:57	0.44	5.33	108.5	Tomingley Village
64188	TMG07F	9/09/2015 12:57	0.31	4.35	106.8	Harts Cottage
64243	TMG07G	10/09/2015 13:03	0.18	7.84	111.9	Tomingley Village
64243	TMG07G	10/09/2015 13:03	0.19	7.6	111.6	Harts Cottage
64267	TMG07H	11/09/2015 12:58	0.27	3.14	103.9	Tomingley Village
64267	TMG07H	11/09/2015 12:58	0.23	2.66	102.5	Harts Cottage
64303	TMG07I	12/09/2015 12:57	0.34	2.06	100.3	Tomingley Village
64303	TMG07I	12/09/2015 12:57	0.25	2.08	100.4	Harts Cottage
64332	TMG07J	14/09/2015 14:06	0.23	2.06	100.3	Tomingley Village
64332	TMG07J	14/09/2015 14:06	0.24	1.02	94.2	Harts Cottage
64356	TMG07K	15/09/2015 13:02	0.58	2.81	102.9	Tomingley Village
64356	TMG07K	15/09/2015 13:02	0.44	2.75	102.8	Harts Cottage
64393	TMG07M	17/09/2015 13:03	0.11	5.31	108.5	Tomingley Village
64393	TMG07M	17/09/2015 13:03	0.17	2.61	102.3	Harts Cottage
64394	TMG07N	17/09/2015 13:17	0.59	3.64	105.2	Tomingley Village
64394	TMG07N	17/09/2015 13:17	0.53	2.75	102.8	Harts Cottage
64414	TMG07O	18/09/2015 14:58	0.33	1.46	97.2	Tomingley Village
64414	TMG07O	18/09/2015 14:58	0.31	1.38	96.8	Harts Cottage
64455	TMG07P	21/09/2015 16:04	0.66	1.69	98.5	Tomingley Village
64455	TMG07P	21/09/2015 16:04	0.59	1.55	97.8	Harts Cottage
64534	TMG07Q	24/09/2015 14:07	0.64	12.12	115.7	Tomingley Village
64534	TMG07Q	24/09/2015 14:07	0.43	10.34	114.3	Harts Cottage
64573	TMG07R	26/09/2015 12:58	0.41	2.48	101.9	Tomingley Village
64573	TMG07R	26/09/2015 12:58	0.24	2.18	100.7	Harts Cottage
64589	TMG07S	28/09/2015 13:01	0.49	4.58	107.2	Tomingley Village
64589	TMG07S	28/09/2015 13:01	0.25	3.24	104.2	Harts Cottage
64612	TMG07T	29/09/2015 12:58	0.23	2.86	103.1	Tomingley Village
64612	TMG07T	29/09/2015 12:58	0.23	2.86	103.1	Tomingley Village
64612	TMG07T	29/09/2015 12:58	0.27	2.72	102.7	Harts Cottage
64612	TMG07T	29/09/2015 12:58	0.27	2.72	102.7	Harts Cottage

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 September 2015 are:

- Monthly average: 1.95 ppm
- Daily maximum: 6.27 ppm on 29 Aug.
- Daily minimum: 0.40 ppm on 3 Sep.
- Number of exceedances: zero

10. BIODIVERSITY MONITORING

- Fauna deaths:
 - There were no fauna deaths in the RSF for the month.
- Native fauna sightings:
 - 7th September, Superb Parrot, *Polytelis swainsonii* was sighted at the NW corner of the RSF
 - 9th September, Grey-crowned Babbler, *Pomatostomus temporalis temporalis* were sighted nesting in the corridor of the mine lease boundary at the NW corner of the RSF.
 - 9th September, Spotted Harrier, *Circus assimilis* was seen soaring above WRE 1.
- Native animal rescue:
 - An Australian Pelican, *Pelecanus conspicillatus* was found (alive) near a farm dam on the access road of site and was taken to a veterinarian. The pelican unfortunately passed away during transit and an autopsy indicated major liver failure.
- Vertebrate pests:
 - Foxes and hares are seen occasionally.