

TOMINGLEY GOLD PROJECT

Monthly Environmental Monitoring Report

February 2016

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Document History

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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 February 2016.

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

2. Weather for February 2016

A. Weather Station Data

TGO WEATHER DATA IS PRESENTED BELOW.

Figure 1. February 2016 Wind rose

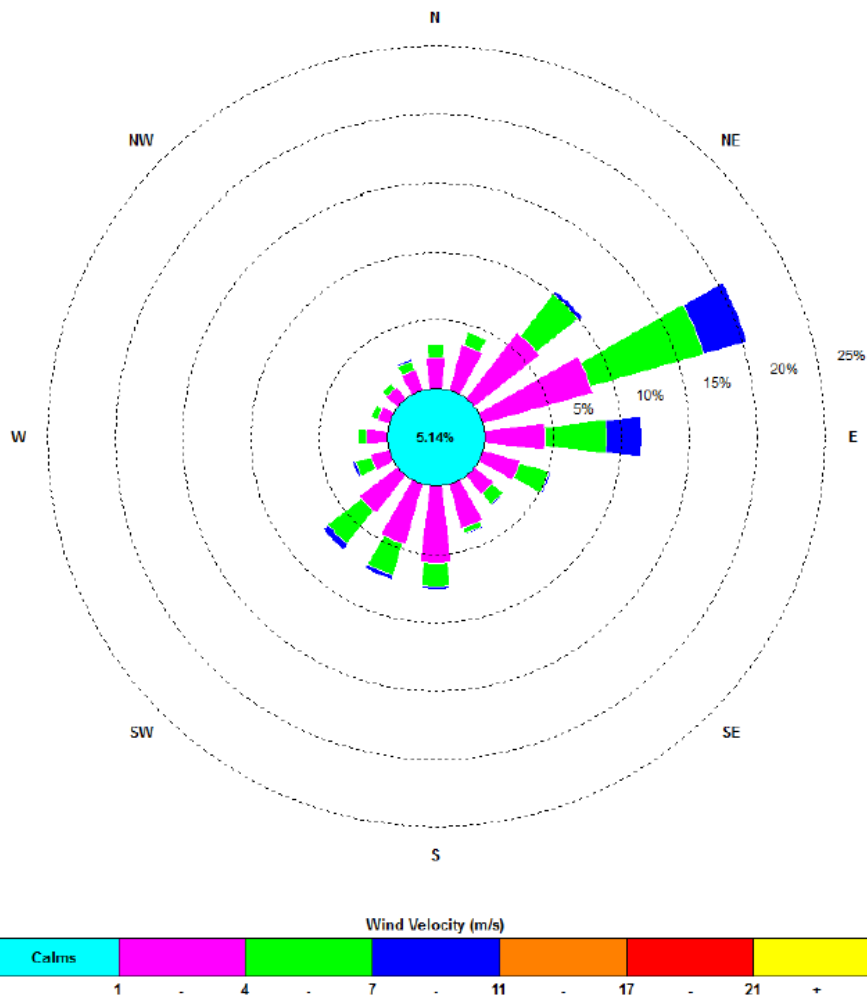


Figure 2.10: Tomingley Gold Operations Wind Rose –February 2016

Figure 2. Rainfall February 2016

February 2016	Rainfall (mm)
Total	0.00

3. Monitoring Locations

FIGURE 3 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 3. TGO water and vegetation monitoring points

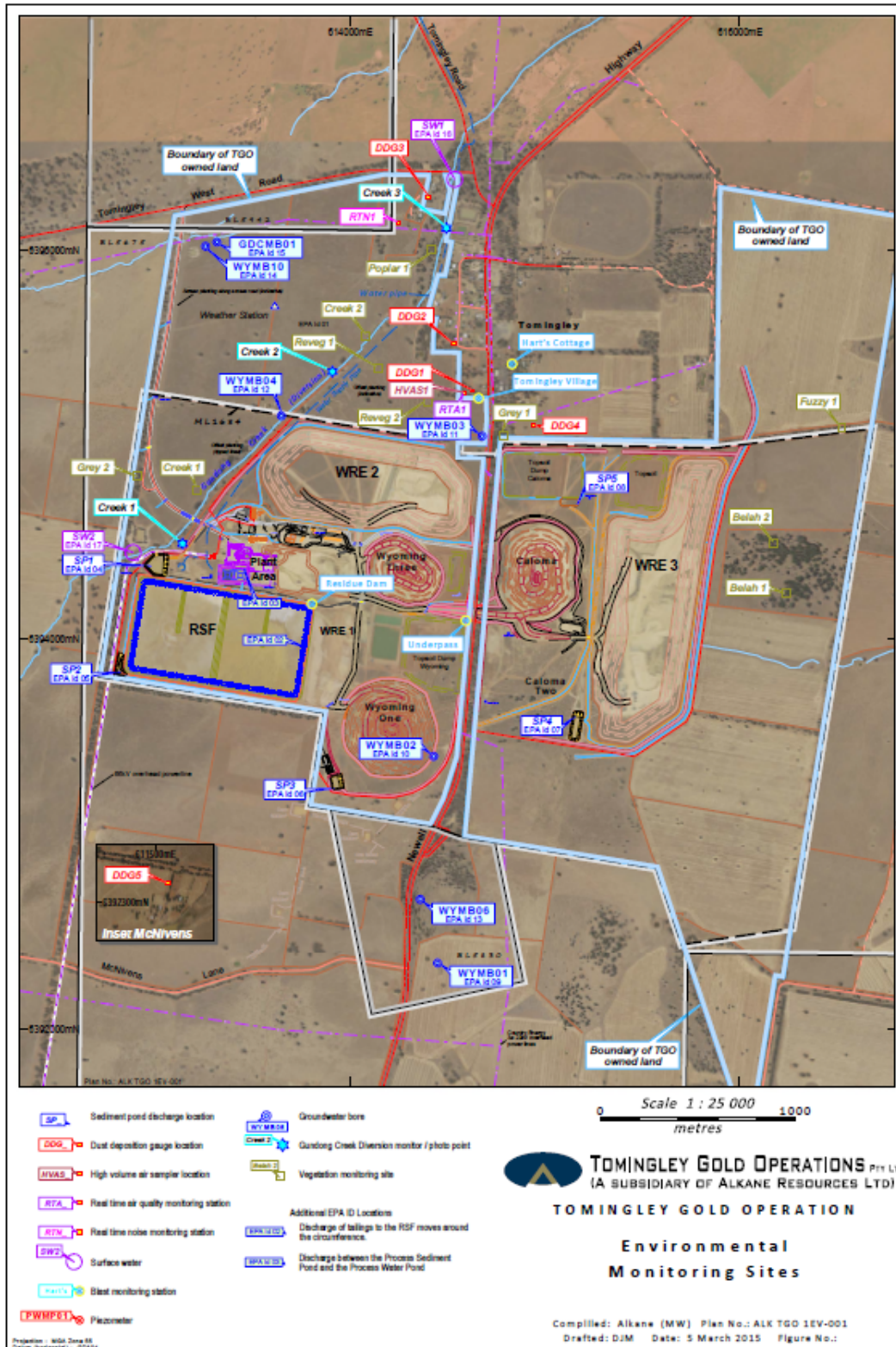
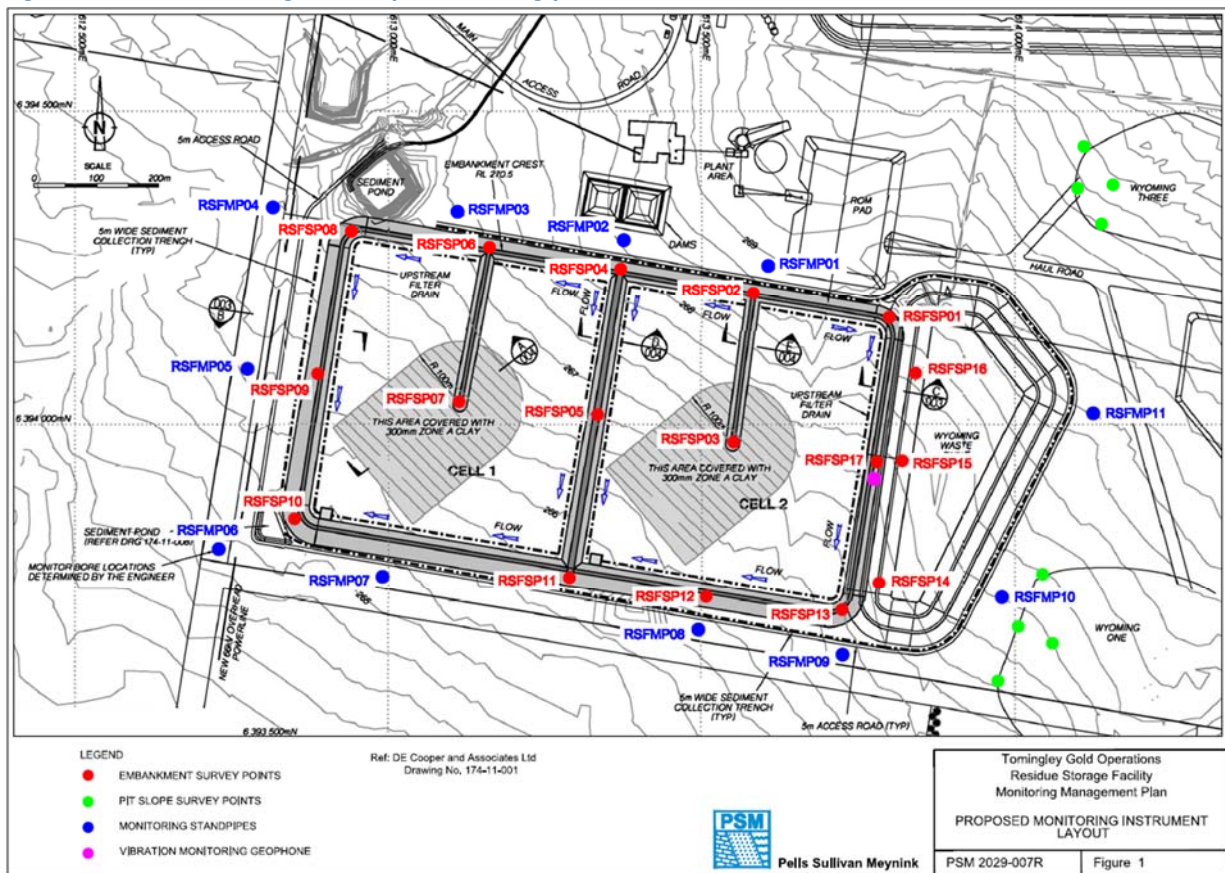


Figure 4 indicates the location of environmental and survey monitoring points on and around the Residue Storage Facility.

Figure 4. Residue Storage Facility monitoring points



4. Air Quality Monitoring

A. 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 on two occasions this month.

A 24hour reading of 60.0ug/m³ on February 15 was as a result of slashing works being undertaken immediately adjacent to the TEOM and as such was not mine generated dust.

A 24hour reading of 52.9ug/m³ on February 26 was as a result of mine generated dust and as such all relevant authorities were notified. At the time of writing an investigation into the cause of this dust is underway and a report is being prepared.

Figure 5. TEOM Data February 2016

Table 1: Average Daily 24 Hr TEOM PM₁₀ results for February 2016

Date	24 Hr Averages	Running Average	Comment
	(µg/m3)		
1/02/2016	22.8	19.8	
2/02/2016	13.5	19.8	
3/02/2016	23.9	19.8	
4/02/2016	13.4	19.8	1 hr avg data used
5/02/2016	14.2	19.7	
6/02/2016	21.0	19.7	
7/02/2016	21.1	19.7	
8/02/2016	16.2	19.7	
9/02/2016	19.3	19.6	
10/02/2016	24.2	19.6	1 hr avg data used
11/02/2016	24.9	19.7	1 hr avg data used
12/02/2016	19.0	19.7	1 hr avg data used
13/02/2016	18.6	19.7	
14/02/2016	35.1	19.7	
15/02/2016	60.0	19.9	
16/02/2016	46.1	20.0	
17/02/2016	20.7	20.0	1 hr avg data used
18/02/2016	31.2	20.0	
19/02/2016	43.3	20.0	
20/02/2016	44.0	20.1	
21/02/2016	25.8	20.2	
22/02/2016	28.6	20.2	
23/02/2016	22.4	20.2	
24/02/2016	33.8	20.2	
25/02/2016	36.5	20.3	
26/02/2016	52.9	20.4	
27/02/2016	32.5	20.4	
28/02/2016	27.0	20.4	
29/02/2016	23.7	20.3	
Average	28.1		
		24 Hour criteria exceedance	

B. Depositional Dust

Depositional Dust monitoring undertaken during this month returned the results indicated in the table below. The performance criteria for deposited dust is averaged over 12 months.

Figure 6. Dust Deposition Results January 2015

Location	Date Monitored	Insoluble solids (g/m²/month)	Maximum increase in deposited dust level
DDG1	4/1/2016-1/2/2016	2	The month of January saw a decrease in dust levels across all sites.
DDG2	4/1/2016-1/2/2016	0.7	
DDG3	4/1/2016-1/2/2016	1.2	
DDG4	4/1/2016-1/2/2016	0.9	
DDG5	4/1/2016-1/2/2016	0.9	

C. High Volume Air Sampler - Total Suspended Particulates

High Volume Air Sampling (HVAS) for Total Suspended Particulates (TSP) was undertaken this month. Figure 7 below provides the results.

The performance criteria for TSP is averaged over 12 months

Figure 7. Hi-Volume Air Sampler Data December 2015

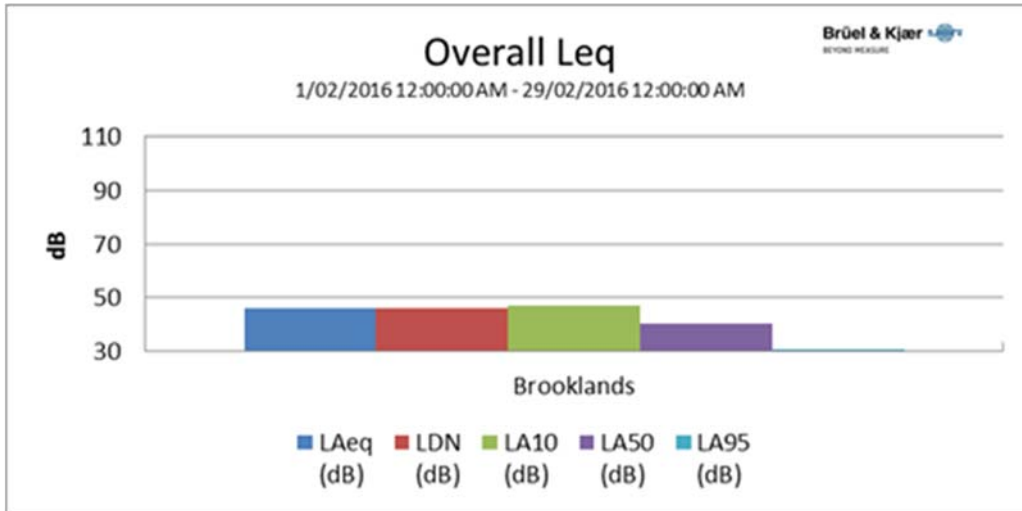
Location	Sample Date	Results (TSP µg/m³)	Performance Criteria (Annual Average)
HVAS1	03-Jan-16	24.8	90 µg/m ³ .
HVAS1	09-Jan-16	9.9	
HVAS1	15-Jan-16	47.9	
HVAS1	21-Jan-16	33.4	
HVAS1	27-Jan-16	41.9	

5. Noise Monitoring

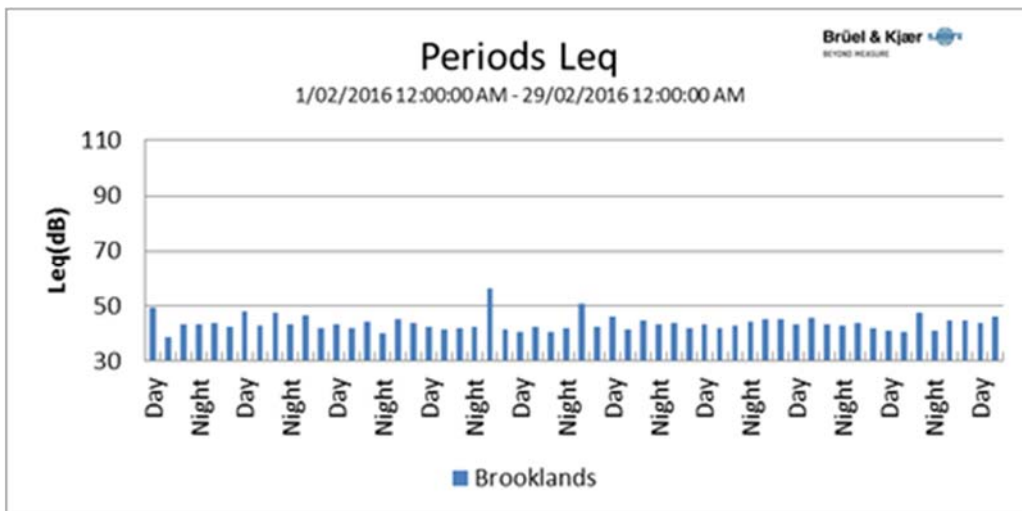
A. Real-Time Noise Monitoring

See real-time noise monitoring data presented below.

Figure 8. TGO Noise Monitoring 1/2/2015 - 29/2/2015



Location	Start Time	End Time	Activity	LDN (dB)	L _{Aeq} (dB)	L _{AF} (dB)	L _{AMin} (dB)	L _{A10} (dB)	L _{A50} (dB)	L _{A95} (dB)
Brooklands	1/02 12:00:00 AM	29/02 12:00:00 AM	100%	45.7	45.7		22.8	47.0	40.1	30.4



6. Surface Water Monitoring

A. Gundong Creek

Gundong Creek did not flow over the course of January and as such no samples were taken.

B. Sedimentation Ponds

No discharge and associated water testing occurred this month.

7. Groundwater Monitoring

Groundwater monitoring was undertaken in December with no concerning results recorded. Another round of groundwater results will be undertaken in March as per requirements.

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 9. Blast Monitoring

EventKey	Event	Date/Time	Max R (mm/s)	Location
67999	TMG09D	26/02/2016 13:43	0.3	Harts Cottage
67951	TMG09C	25/02/2016 13:01	0.4	Harts Cottage
67892	TMG09B	22/02/2016 13:03	0.27	Harts Cottage
67859	TMG09A	20/02/2016 12:58	0.13	Harts Cottage
67786	TMG099	17/02/2016 13:00	0.31	Harts Cottage
67724	TMG098	15/02/2016 13:00	0.23	Harts Cottage
67707	TMG097	13/02/2016 12:59	0.23	Harts Cottage
67593	TMG096	8/02/2016 12:57	0.54	Harts Cottage
67562	TMG095	5/02/2016 13:36	0.51	Harts Cottage
67426	TMG094	3/02/2016 11:05	0.21	Harts Cottage
67999	TMG09D	26/02/2016 13:43	0.29	Tomingley Village
67951	TMG09C	25/02/2016 13:01	0.77	Tomingley Village
67892	TMG09B	22/02/2016 13:03	0.3	Tomingley Village
67859	TMG09A	20/02/2016 12:58	0.26	Tomingley Village
67786	TMG099	17/02/2016 13:00	0.47	Tomingley Village
67724	TMG098	15/02/2016 13:00	0.24	Tomingley Village
67707	TMG097	13/02/2016 12:59	0.33	Tomingley Village
67593	TMG096	8/02/2016 12:57	0.81	Tomingley Village
67562	TMG095	5/02/2016 13:36	0.8	Tomingley Village
67426	TMG094	3/02/2016 11:05	0.25	Tomingley Village
67370	TMG093	1/02/2016 11:00	0.24	Tomingley Village

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 January 2016 are:

- Monthly average: 8.57 ppm
- Daily maximum: 17.59 ppm on 11th February
- Daily minimum: 3.45 ppm on 28th February
- Number of exceedances: zero

10. Biodiversity Monitoring

Fauna deaths:

- There were no fauna deaths in the RSF for the month.

Site Fauna

- On site fauna sightings for February included:
- 2nd February, 6 Blue Bonnet Parrots (*Northiella haematogaster*) on site access road.
- 16th 7 Australian wood ducks (*Chenonetta jubata*) on the pooled water in sediment basin 1.
- Juvenile kookaburra (*Dacelo novaeguineae*) has taken residence in trees adjacent to the administration building
- Juvenile sacred kingfisher (*Todiramphus sanctus*) was re-located from administration building to adjacent bushland on 26th February
- Regularly throughout January a number of grey crowned babbler *pomatostomus temporalis* were seen in the tree corridor to the south of the RSF

Vertebrate pests:

- Foxes and hares have been seen on occasion throughout the month
- A program of trapping feral cats and foxes has continued throughout February with a single feral cat being captured and taken to veterinarian in Dubbo for euthanasing.
- The program will continue on a monthly basis.