

## **TOMINGLEY GOLD PROJECT**

# **Monthly Environmental Monitoring Report**

## **June 2017**

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### Document History

DATE	VERSION	REASON FOR CHANGE	AUTHOR
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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 2017.

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

# 2. Weather for May 2017

## A. Weather Station Data

TGO WEATHER DATA IS PRESENTED BELOW.

Figure 1. June 2017 wind rose

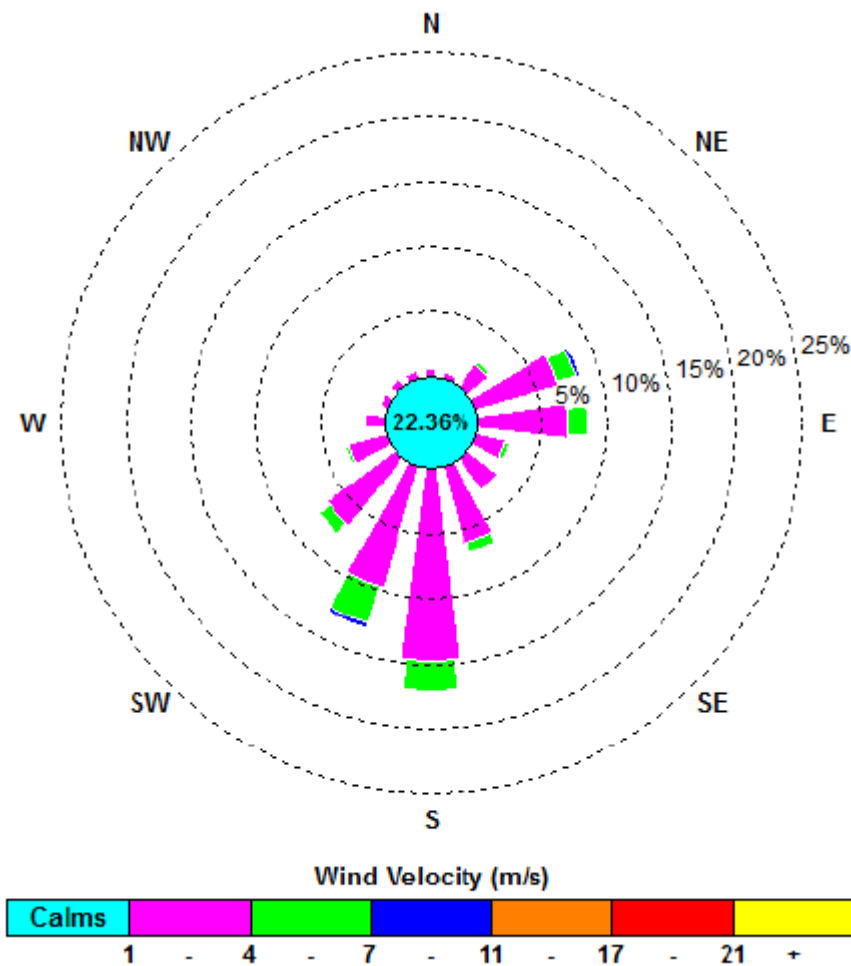


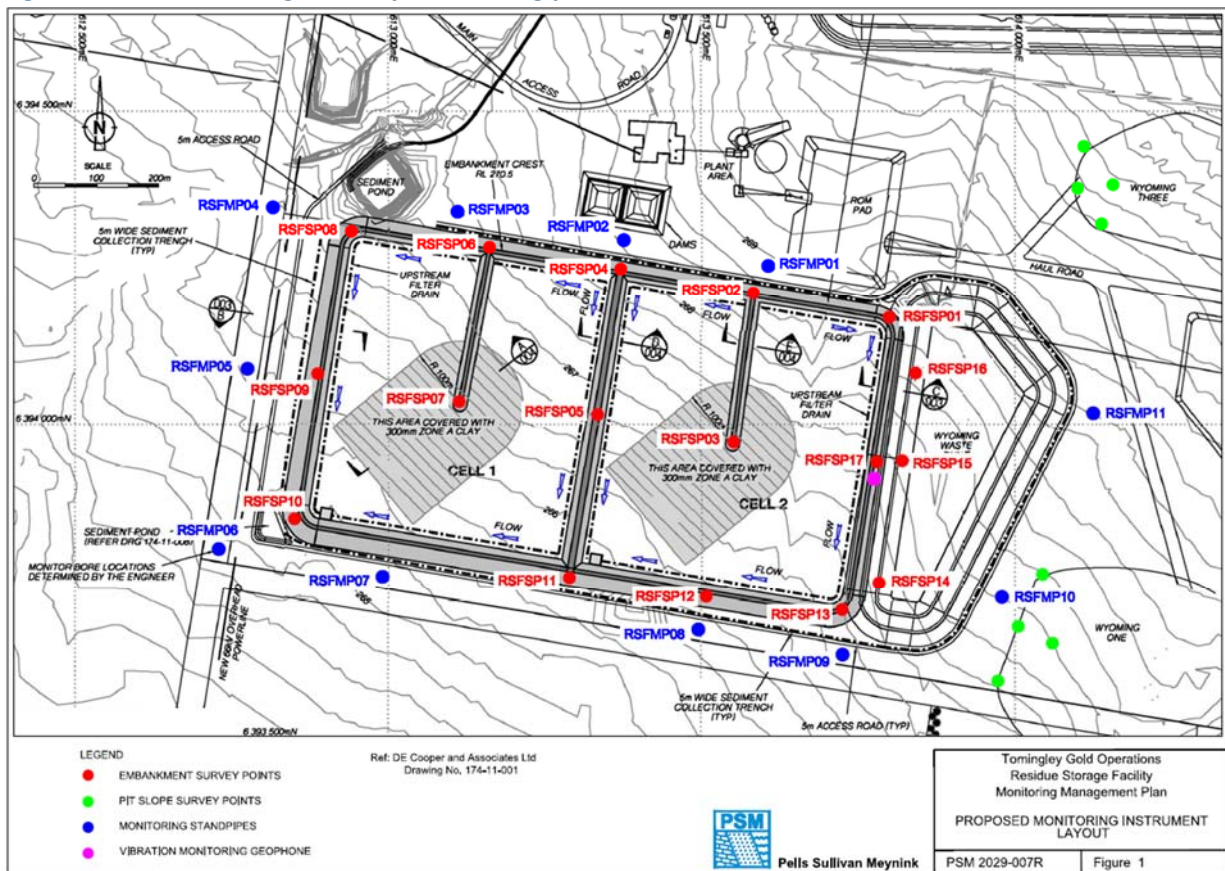
Figure 2. Rainfall June 2017

June 2017	Rainfall (mm)
June 7	0.2
June 19	0.2
June 21	0.2
June 24	0.2
June 28	0.4
June 29	0.4
Total Rainfall	1.6



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/m<sup>3</sup> and a 24-Hour Average of 50ug/m<sup>3</sup>.

The 24 hour average limit was not exceeded during June.

The annual average at the end of May was 17.8ug/m<sup>3</sup>, well below the license limit.



Figure 5. TEOM Data June 2017

Date	24 Hr Averages	Running Average	Comment
	(µg/m <sup>3</sup> )		
1/06/2017	14.5	17.1	
2/06/2017	22.0	17.1	
3/06/2017	24.1	17.1	
4/06/2017	16.7	17.2	
5/06/2017	22.0	17.2	
6/06/2017	23.6	17.3	
7/06/2017	14.5	17.3	
8/06/2017	10.9	17.3	
9/06/2017	15.7	17.3	
10/06/2017	7.6	17.3	
11/06/2017	9.5	17.3	
12/06/2017	11.6	17.3	
13/06/2017	15.3	17.3	
14/06/2017	10.3	17.3	
15/06/2017	16.4	17.3	
16/06/2017	20.1	17.4	
17/06/2017	21.1	17.4	
18/06/2017	NA	17.4	Insufficient data
19/06/2017	26.4	17.5	
20/06/2017	16.4	17.5	
21/06/2017	27.7	17.6	
22/06/2017	14.1	17.6	
23/06/2017	18.0	17.6	
24/06/2017	17.0	17.6	
25/06/2017	22.5	17.7	
26/06/2017	13.7	17.7	
27/06/2017	18.9	17.7	
28/06/2017	29.2	17.8	
29/06/2017	20.3	17.8	
30/06/2017	21.7	17.8	1-hour average data used
<b>Average</b>	<b>18.0</b>		
	<b>24 Hour Criteria Exceedance</b>		

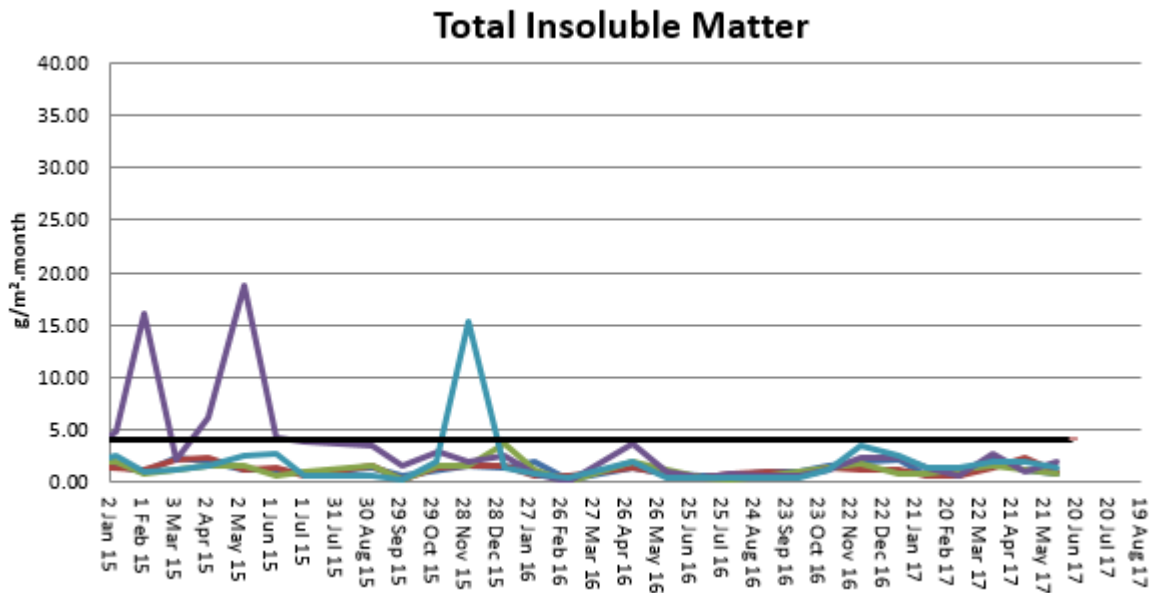
Note: For comparison purposes, highlighted results indicate levels above the EPA and NEPM 24-hour maximum criteria for PM<sub>10</sub>



## 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 2015 - 2017

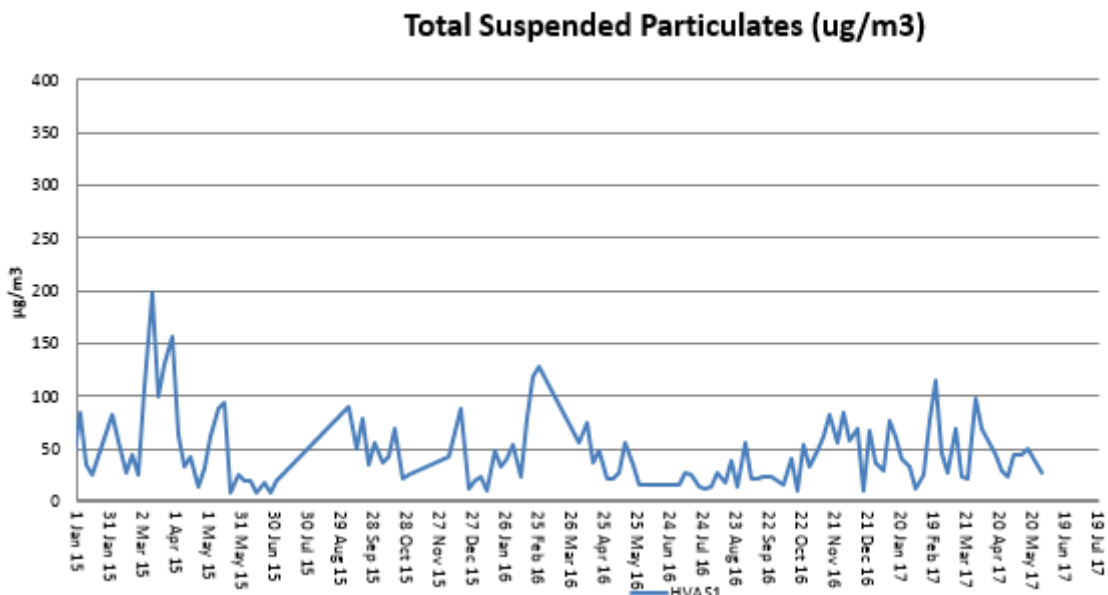


## C. High Volume Air Sampler - Total Suspended Particulates

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 2015 - 2017

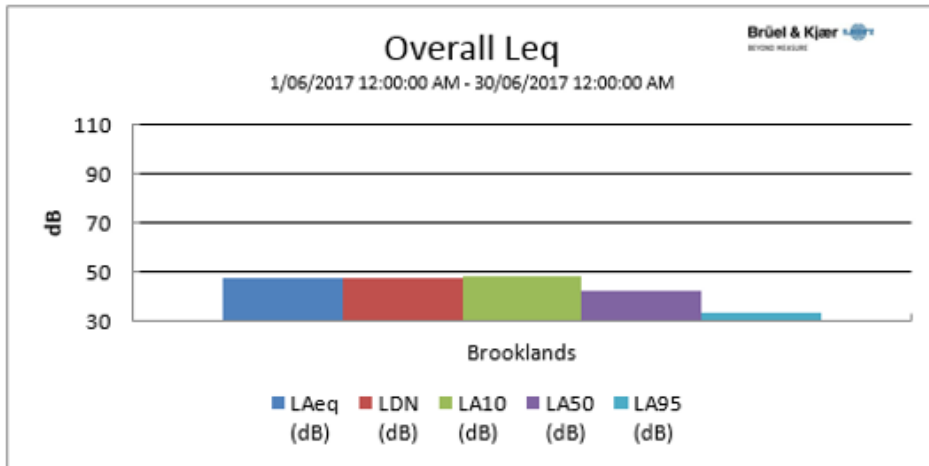


## 5. Noise Monitoring

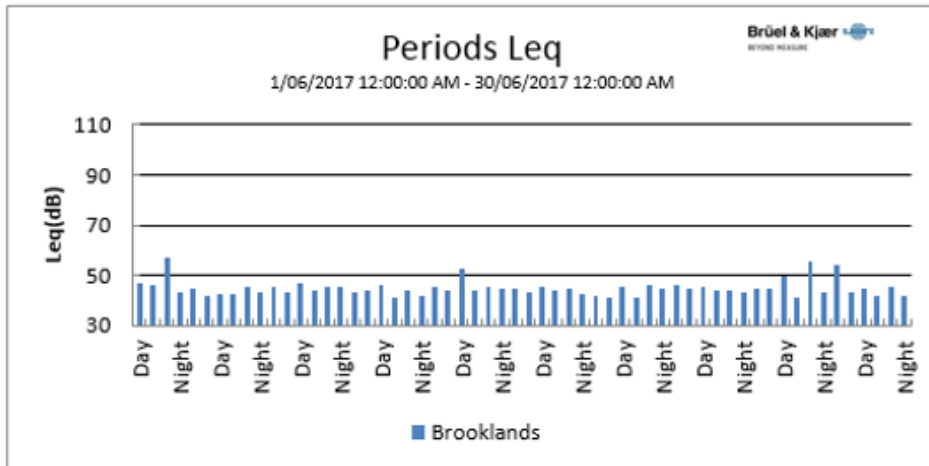
### A. Real-Time Noise Monitoring

See real-time noise monitoring data presented below.

Figure 8. TGO Noise Monitoring 1/6/2017 - 30/6/2017



Location	Start Time	End Time	Activity	LDN (dB)	L <sub>Aeq</sub> (dB)	L <sub>AF</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	30/06 12:00:00 AM	100%	47.6	47.6		21.9	48.3	41.9	33.1



## **6. Surface Water Monitoring**

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### **A. Gundong Creek**

Gundong Creek did not flow during June and as such, no water sampling was undertaken.

### **B. Sedimentation Ponds**

Sediment basins did not experience any discharges during the month of June.

## **7. Groundwater Monitoring**

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Groundwater was undertaken during June in line with license requirements.

Results from this round of monitoring fell within expected limits.

A further round of monitoring is scheduled in for September.

## 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 Hart's Cottage and Tomingley Village.

**Figure 9. Blast Monitoring**

EventKey	Date/Time	Max R (mm/s)	Location
78342	1/06/2017 13:09	0.07	Harts Cottage
78342	1/06/2017 13:09	0.12	Tomingley Village
78375	2/06/2017 13:06	0.27	Harts Cottage
78375	2/06/2017 13:06	0.61	Tomingley Village
78391	3/06/2017 13:01	0.04	Harts Cottage
78391	3/06/2017 13:01	0.06	Tomingley Village
78412	5/06/2017 13:05	0.24	Harts Cottage
78412	5/06/2017 13:05	0.3	Tomingley Village
78413	5/06/2017 13:16	0.05	Harts Cottage
78413	5/06/2017 13:16	0.06	Tomingley Village
78418	5/06/2017 13:20	0	Harts Cottage
78418	5/06/2017 13:20	0	Tomingley Village
78445	6/06/2017 13:06	0.08	Harts Cottage
78445	6/06/2017 13:06	0.1	Tomingley Village
78490	9/06/2017 11:09	0.18	Harts Cottage
78490	9/06/2017 11:09	0.22	Tomingley Village
78518	10/06/2017 12:57	0.11	Harts Cottage
78518	10/06/2017 12:57	0.14	Tomingley Village
78546	13/06/2017 14:21	0.13	Harts Cottage
78546	13/06/2017 14:21	0.15	Tomingley Village
78558	14/06/2017 14:59	0.29	Harts Cottage
78558	14/06/2017 14:59	0.54	Tomingley Village
78571	15/06/2017 13:01	0.04	Harts Cottage
78571	15/06/2017 13:01	0.06	Tomingley Village
78599	16/06/2017 13:10	0.61	Harts Cottage
78599	16/06/2017 13:10	1.42	Tomingley Village
78635	17/06/2017 14:04	0.11	Harts Cottage
78635	17/06/2017 14:04	0.15	Tomingley Village
78647	19/06/2017 12:59	0.09	Harts Cottage
78647	19/06/2017 12:59	0.14	Tomingley Village
78721	21/06/2017 12:58	0.11	Harts Cottage
78721	21/06/2017 12:58	0.14	Tomingley Village
78888	23/06/2017 16:49	0.18	Harts Cottage
78888	23/06/2017 16:49	0.34	Tomingley Village
78946	24/06/2017 12:05	0.01	Harts Cottage
78946	24/06/2017 12:05	0.02	Tomingley Village
78938	26/06/2017 12:58	0.11	Harts Cottage
78938	26/06/2017 12:58	0.16	Tomingley Village
78969	27/06/2017 13:05	0.42	Harts Cottage
78969	27/06/2017 13:05	0.75	Tomingley Village
78991	28/06/2017 13:59	0.09	Harts Cottage
78991	28/06/2017 13:59	0.14	Tomingley Village

## 9. Residue Storage Facility

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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.

WAD cyanide discharge levels are shown below with the maximum reading well below the 100<sup>th</sup> percentile limit of 30ppm.

- Monthly average: 4.38 ppm
- Daily maximum: 9.65 ppm on 4<sup>th</sup> June
- Daily minimum: 0.85 ppm on 28<sup>th</sup> June
- Number of exceedances: zero

## 10. Biodiversity Monitoring

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### Fauna deaths:

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

### Vertebrate pests

- A program of trapping feral cats and foxes has continued with no animals being caught during June.