TOMINGLEY
GOLD OPERATIONS PTY LTD
(A wholly owned subsidiary of Alkane Resources Ltd)
ABN 53 149 040 371

TOMINGLEY GOLD PROJECT

Monthly Environmental Monitoring Report

October 2019

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Document History

DATE	VERSION	REASON FOR CHANGE	AUTHOR
	Rev 1	Submitted for Information	CH

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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 October 2019.

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

2. Weather for October 2019

A. Weather Station Data

TGO WEATHER DATA IS PRESENTED BELOW.

Figure 1. October 2019 wind rose

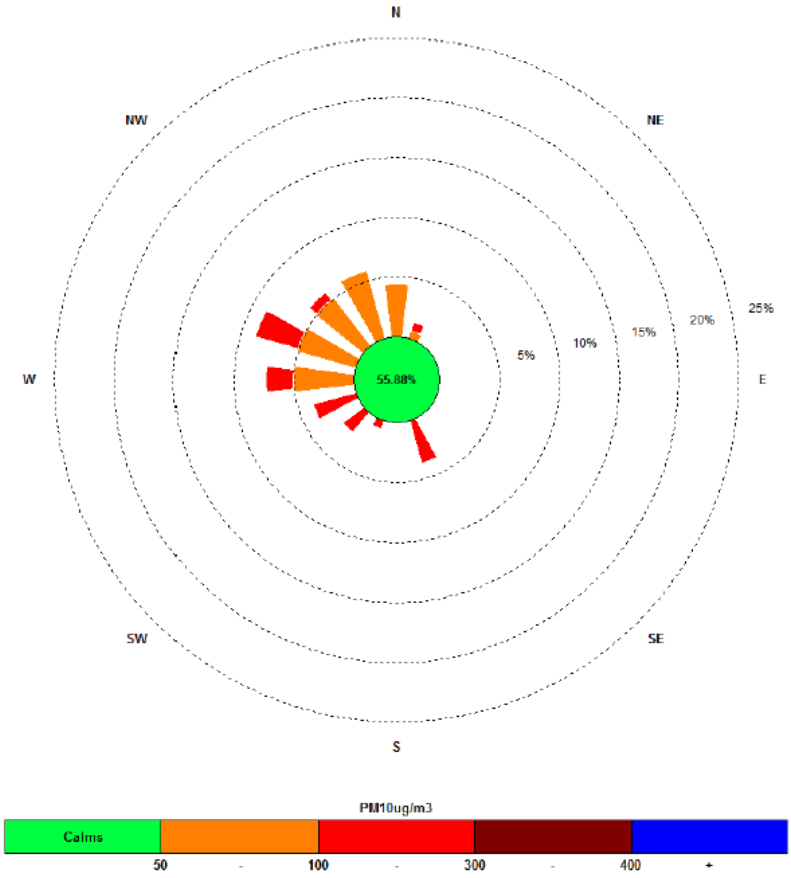


Figure 2. Rainfall October 2019

October 2019	Rainfall (mm)
Total Rainfall	8

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

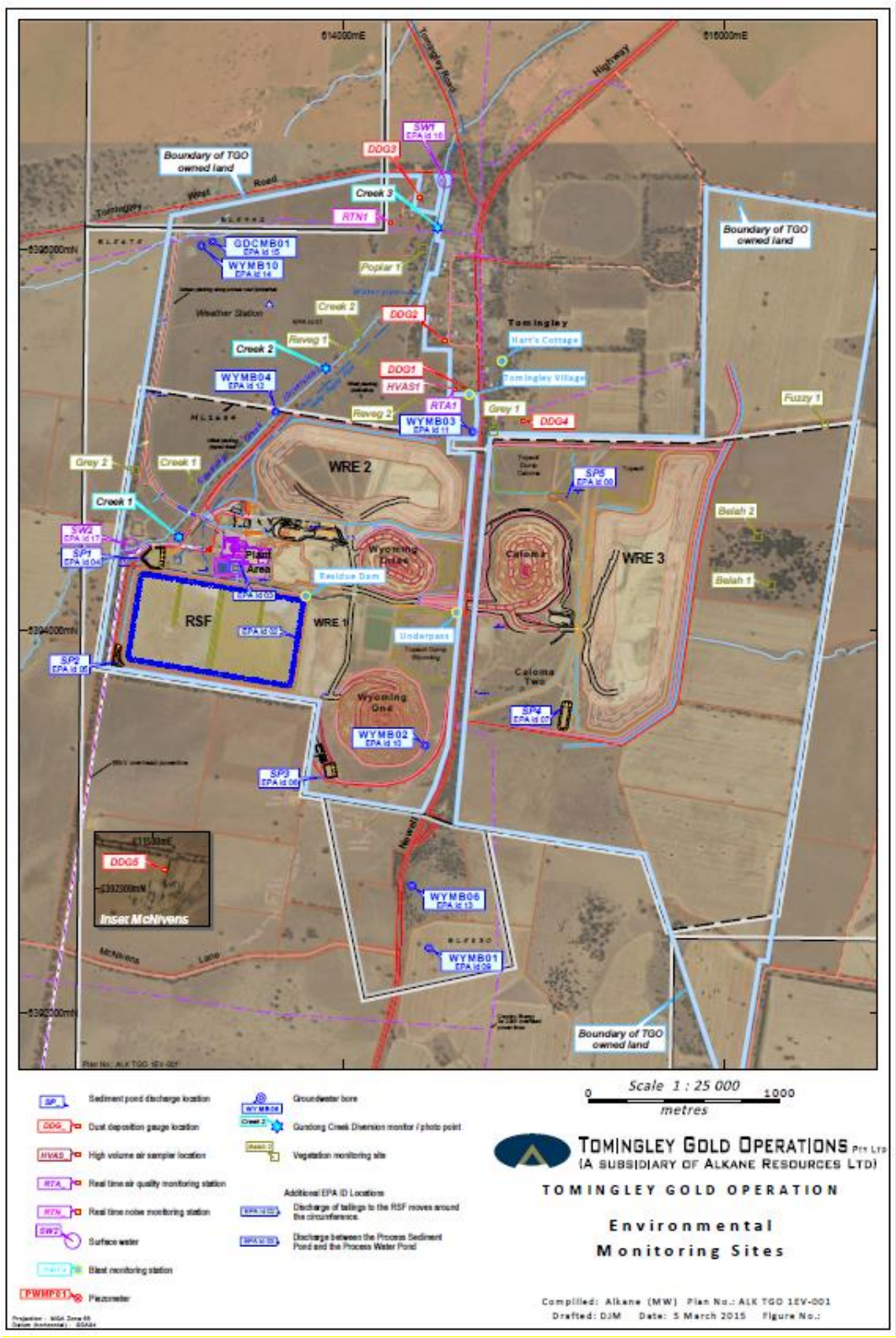
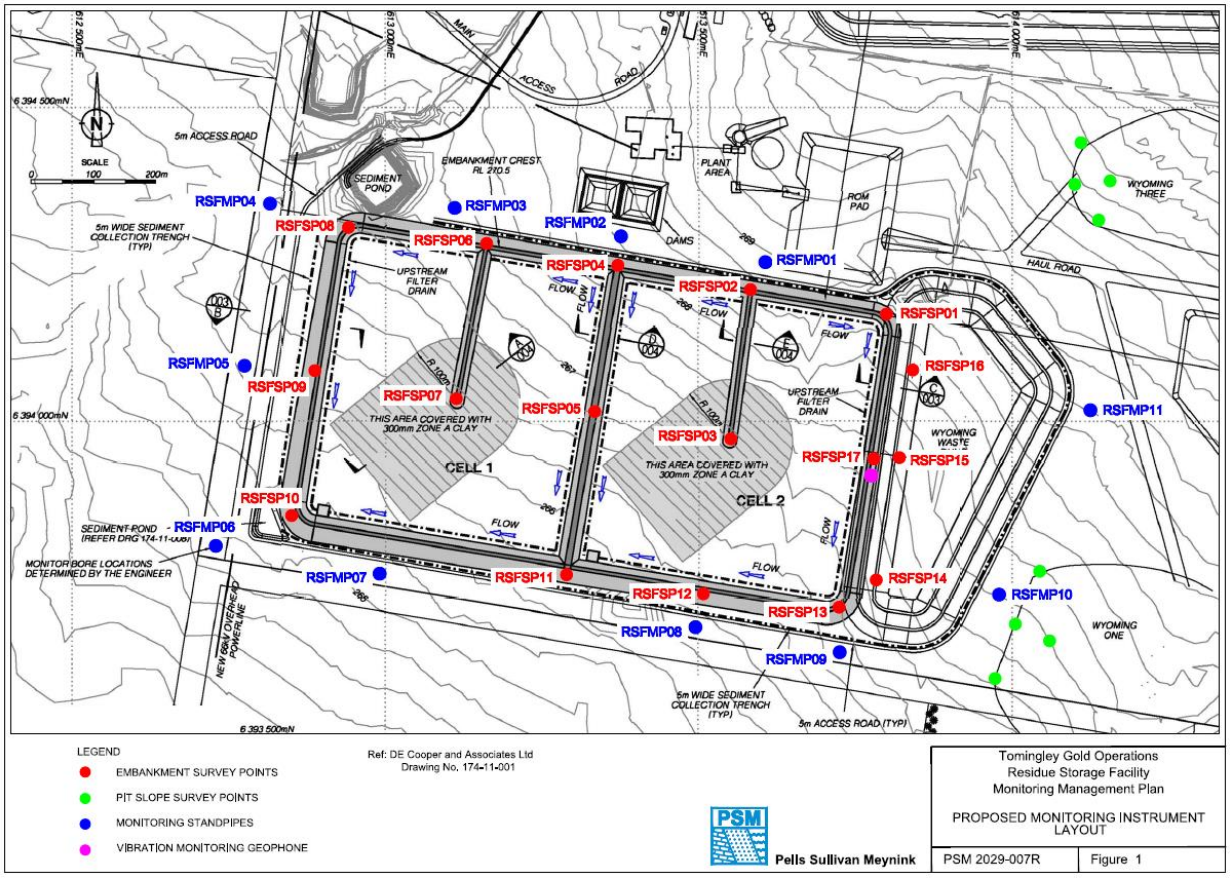


Figure 4 indicates the location of environmental and survey monitoring points on and around the Residue Storage Facility.

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/m^3 and a 24-Hour Average of 50ug/m^3.

The current annual average of all PM10 data at the end of October was 32.6ug/m^3, just above the Approval limit. This average has been calculated using all recorded data which includes each of the numerous recent dust storms.

There were eight elevated readings recorded during October, recorded on the 6th, 7th, 8th, 17th, 19th, 25th, 26th and the 29th. Following internal investigations, which included visual inspections and an assessment of prevailing wind direction during elevated days, it was concluded that the anomalous readings were the result of numerous dust storms that have been impacting the district associated with the ongoing severe drought and high winds and were not generated by the project.

Figure 5. TEOM Data October 2019

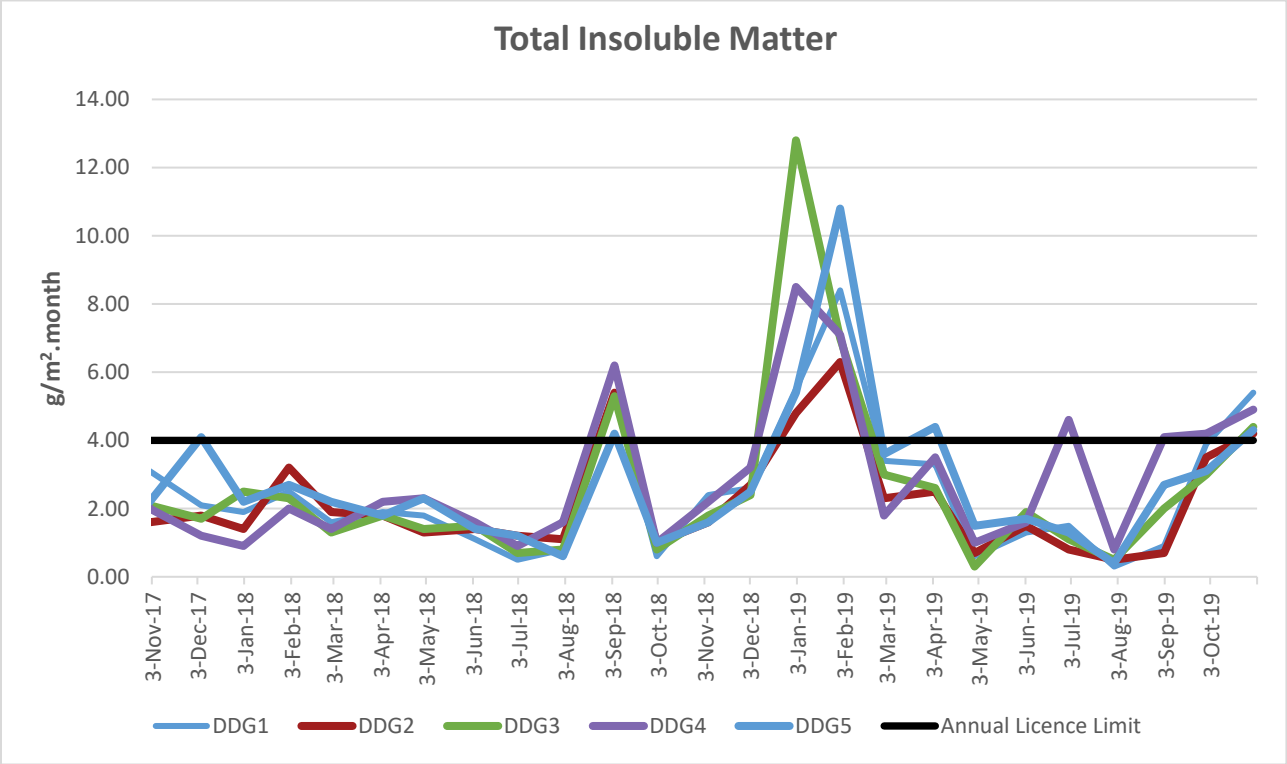
Date	24 Hr Averages (µg/m3)	Running Average (µg/m3)	Comment/s
1/10/2019	38.5	29.9	
2/10/2019	29.6	29.9	
3/10/2019	27.3	29.9	
4/10/2019	31.2	30.0	
5/10/2019	40.9	30.1	
6/10/2019	51.0	30.2	
7/10/2019	57.1	30.3	
8/10/2019	130.8	30.7	
9/10/2019	19.9	30.7	
10/10/2019	24.6	30.7	
11/10/2019	28.7	30.7	
12/10/2019	9.2	30.6	
13/10/2019	7.3	30.6	Recalc using 1hr average data. 1hr of machine outage excluded
14/10/2019	16.2	30.6	Recalc using 1hr average data. 1hr of machine outage excluded
15/10/2019	30.2	30.7	
16/10/2019	45.8	30.7	Recalc using 1hr average data. 2hrs of machine outage excluded
17/10/2019	69.3	30.9	
18/10/2019	28.7	31.0	
19/10/2019	74.8	31.1	
20/10/2019	27.6	31.1	
21/10/2019	33.9	31.2	
22/10/2019	33.5	31.2	Recalc using 1hr average data. 2hrs of machine outage excluded
23/10/2019	45.4	31.3	
24/10/2019	49.2	31.4	
25/10/2019	321.9	32.2	
26/10/2019	126.7	32.5	
27/10/2019	33.7	32.5	
28/10/2019	23.0	32.5	
29/10/2019	70.7	32.6	
30/10/2019	34.0	32.6	
31/10/2019	28.7	32.6	
Average	**51.3**		
	24 Hour Criteria Exceedance		

Note: For comparison purposes, yellow highlighted results indicate 24hr PM_{10} particulate levels above the NSWEPA and NEPM 24-hour maximum criteria.

B. Depositional Dust

Depositional Dust monitoring undertaken during this month returned the results indicated in the table below. The above average January results coincided with the increase of regional dust and dust storms due to ongoing drought conditions and were not generated by the project. All locations recorded higher than normal results for the month of October as a result of the ongoing dust storms caused by the severe drought conditions.

Figure 6. Dust Deposition Results 2017 – 2019

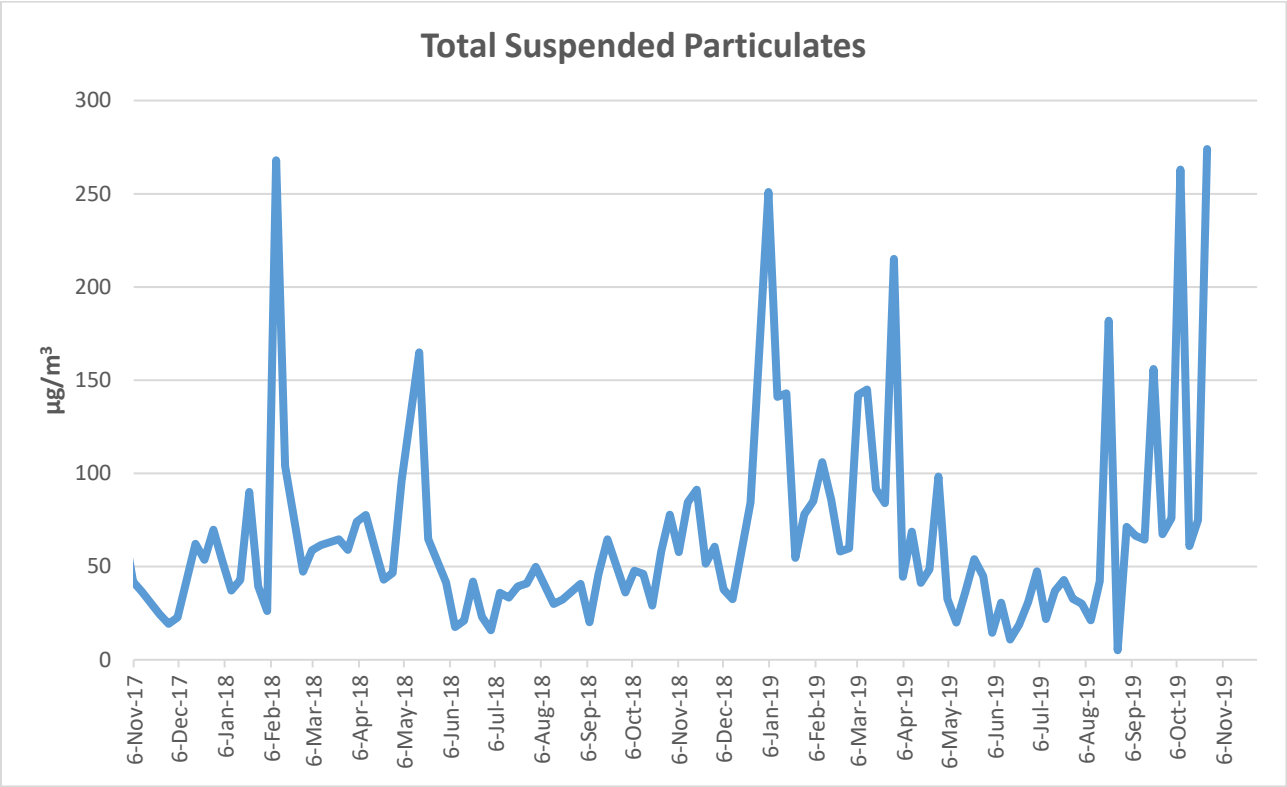


C. High Volume Air Sampler - Total Suspended Particulates

High Volume Air Sampling (HVAS) for Total Suspended Particulates (TSP) was undertaken this month. Figure 7 below provides the results. The above average results during October coincided with the occurance of severe regional dust storms due to ongoing drought conditions and were not generated by the project.

The performance criteria for TSP is averaged over 12 months.

Figure 7. Hi-Volume Air Sampler Data 2017 - 2019



5. Noise Monitoring

A. Real-Time Noise Monitoring

Real-time noise monitoring data showed no exceedances during the month of October. Full report provided separately on webpage.

6. Surface Water Monitoring

A. Gundong Creek

Gundong Creek did not flow during October and as such no samples were taken.

B. Sedimentation Ponds

No discharge was experienced from any of the sediment ponds during the month.

7. Groundwater Monitoring

Quarterly groundwater monitoring was undertaken during September in line with licence requirements.

Results from the monitoring fell within expected limits. The next round of monitoring is due December.

8. Blast Monitoring

Blasting is no longer carried out in the TGO open cut pits and vibration and decibels are monitored from several locations. Underground blasting commenced during January however since then the blasts recorded vibrations below the trigger for the site monitoring equipment.

In future, blasts that trigger the monitoring equipment will be recorded.

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.

WAD cyanide discharge levels are shown below with the maximum reading below the 100th percentile limit of 30ppm.

- Monthly average: 2.89ppm
- Daily maximum: 8.33ppm on 30th
- Daily minimum: 0.367ppm on 21st
- Number of exceedances: zero

10. Biodiversity Monitoring

Fauna deaths:

- No fauna deaths were recorded during October.