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

May 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 May 2019.

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

2. Weather for May 2019

A. Weather Station Data

TGO WEATHER DATA IS PRESENTED BELOW.

Figure 1. May 2019 wind rose

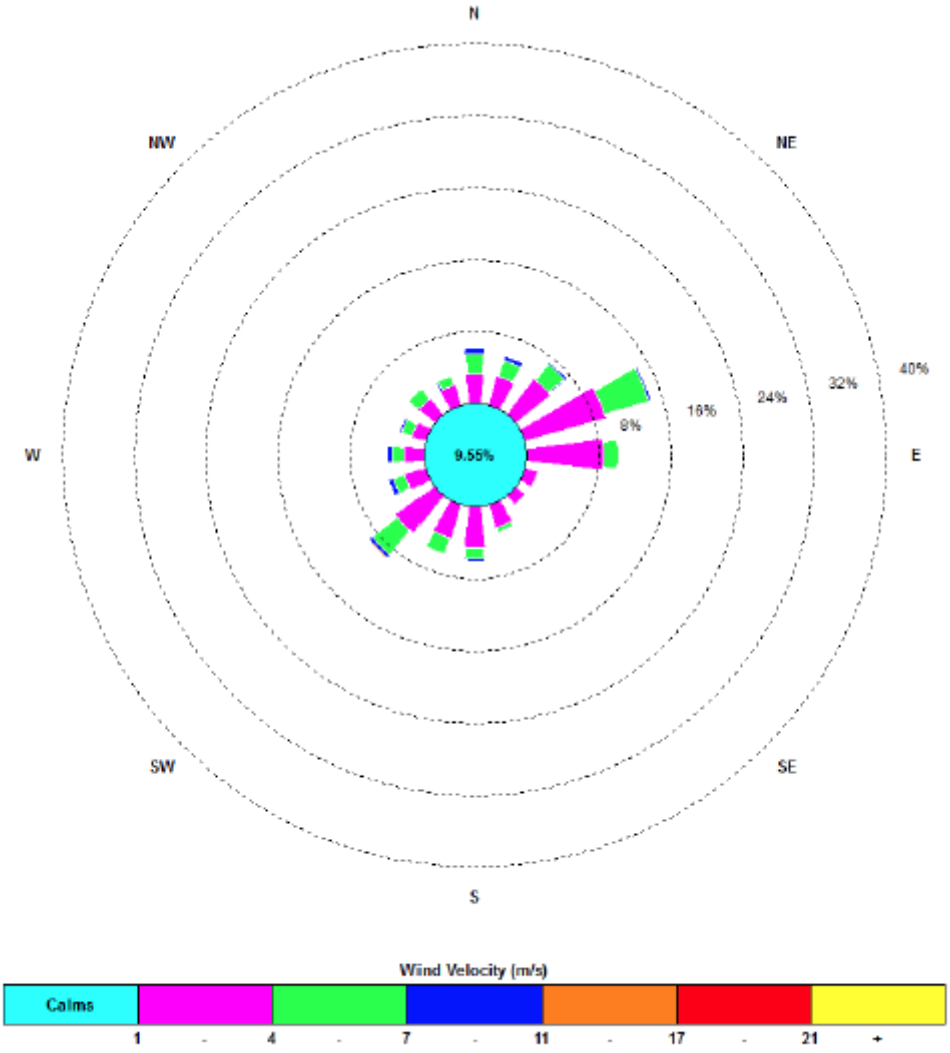


Figure 2. Rainfall May 2019

May 2019	Rainfall (mm)
Total Rainfall	7.8

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

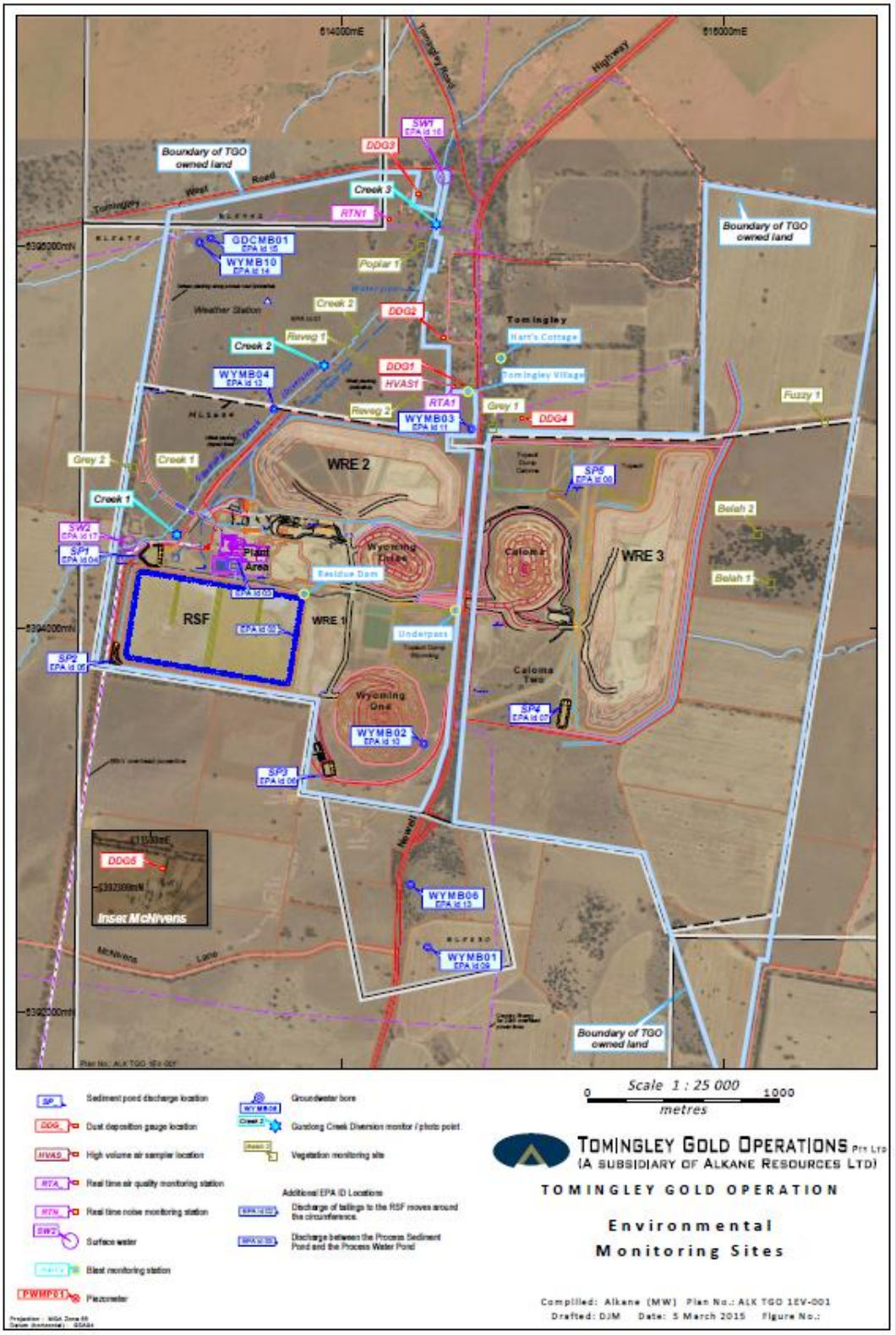
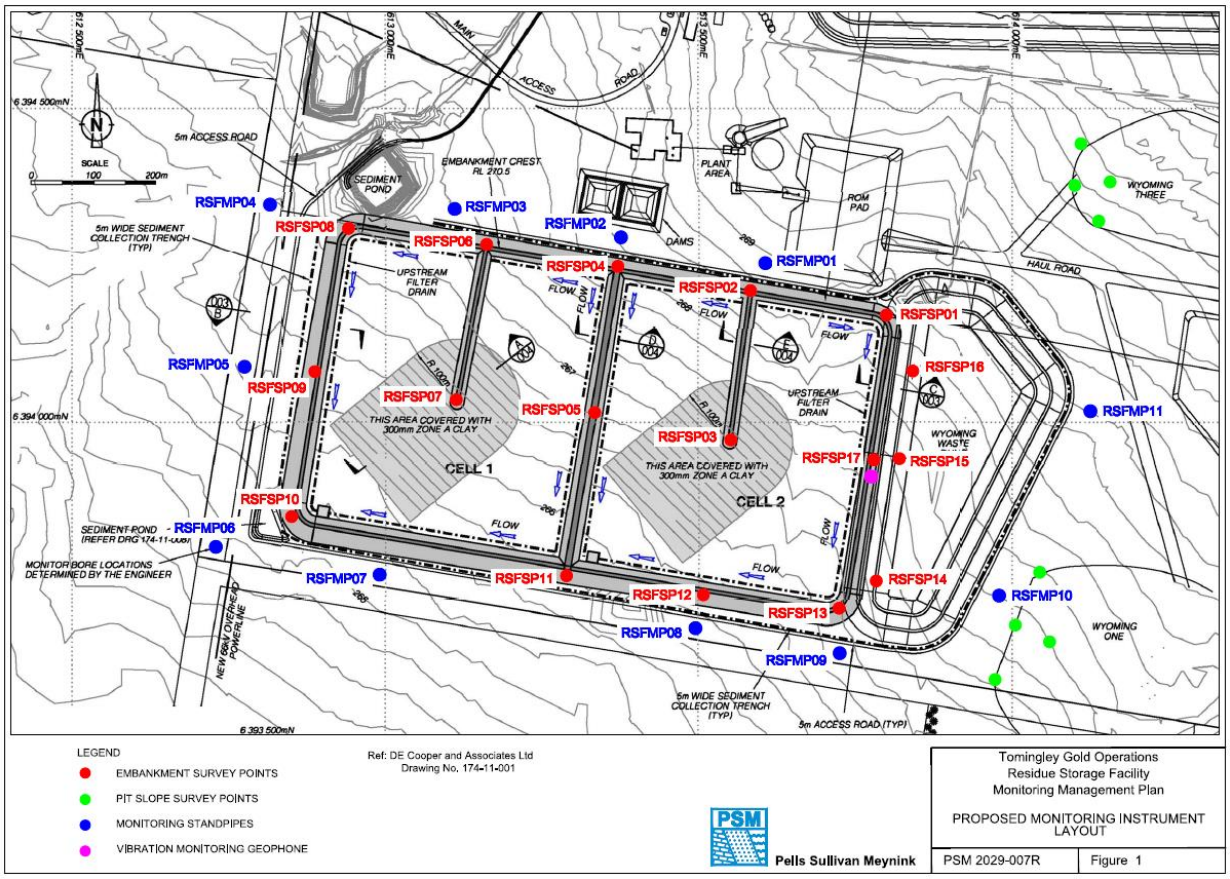


Figure 4 indicates the location of environmental and survey monitoring points on and around the Residue Storage Facility.

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 May was 29.1ug/m^3, just below the Approval limit.

There were no elevated readings recorded throughout May.

Figure 5. TEOM Data May 2019

Table 2: Average Daily 24 Hr TEOM PM_{10} results for May 2019

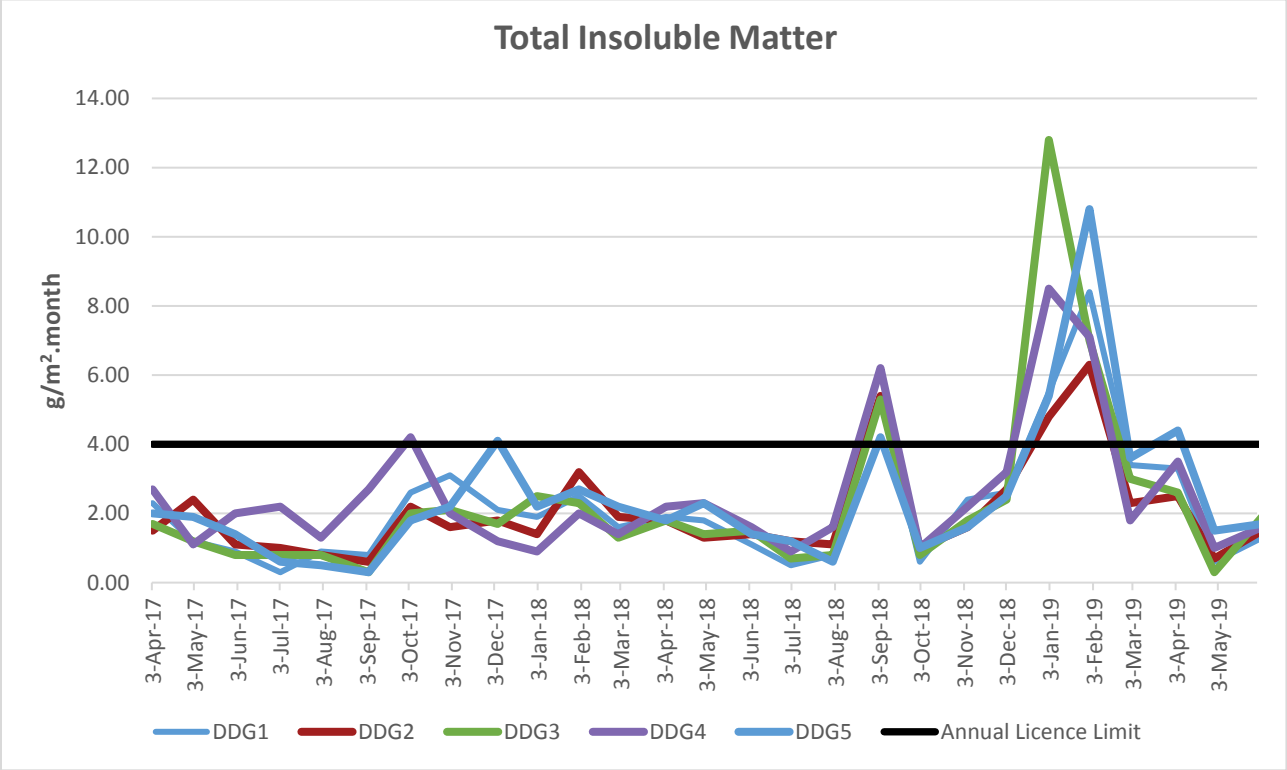
Date	24 Hr Averages (µg/m3)	Running Average (µg/m3)	Comment
1/05/2019	47.5	29.7	
2/05/2019	37.4	29.7	
3/05/2019	15.2	29.6	
4/05/2019	12.0	29.5	Recalc using 1hr average data. 2hrs of high negatives excluded
5/05/2019	10.2	29.5	
6/05/2019	19.8	29.5	
7/05/2019	13.2	29.4	
8/05/2019	28.2	29.5	
9/05/2019	21.5	29.4	
10/05/2019	18.2	29.4	Recalc using 1hr average data. 2hrs of high negatives excluded
11/05/2019	10.4	29.4	
12/05/2019	8.1	29.4	
13/05/2019	13.2	29.4	
14/05/2019	14.7	29.4	
15/05/2019	28.4	29.3	Recalc using 1hr average data. Quarterly calibration undertaken.
16/05/2019	19.1	29.3	
17/05/2019	16.2	29.3	
18/05/2019	20.0	29.3	
19/05/2019	18.2	29.3	
20/05/2019	19.1	29.3	
21/05/2019	18.7	29.2	Recalc using 1hr average data. 3hrs of machine outage excluded
22/05/2019	18.5	29.2	
23/05/2019	21.7	29.2	
24/05/2019	33.9	29.2	
25/05/2019	22.8	29.2	
26/05/2019	15.0	29.2	Recalc using 1hr average data. 3hrs of machine outage excluded
27/05/2019	18.2	29.1	
28/05/2019	13.6	29.1	
29/05/2019	15.2	29.1	
30/05/2019	19.1	29.1	
31/05/2019	14.8	29.1	
Average	**19.4**		
	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. The performance criteria for deposited dust is averaged over 12 months with a maximum total average of 4g/m2/month.

Figure 6. Dust Deposition Results 2017 - 2019

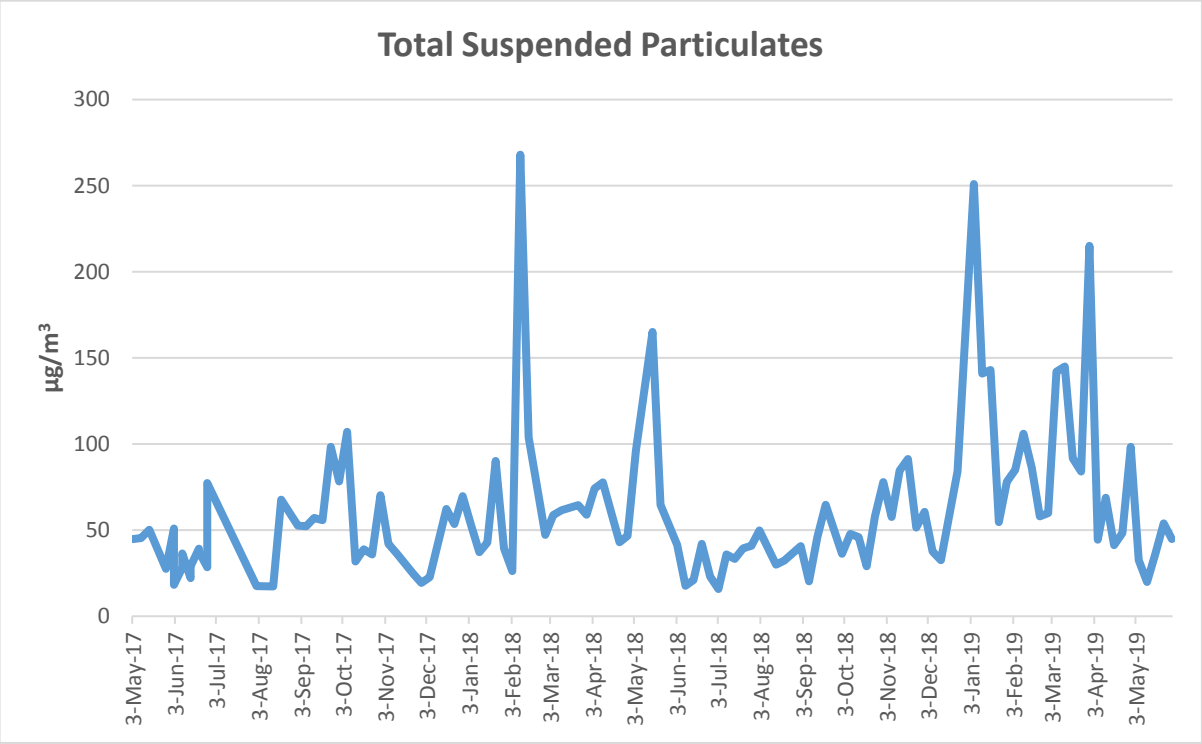


C. High Volume Air Sampler - Total Suspended Particulates

High Volume Air Sampling (HVAS) for Total Suspended Particulates (TSP) was undertaken this month. Figure 7 below provides the results. The above average January results coincided with the increase of regional dust and 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 May. Full report provided separately on webpage.

6. Surface Water Monitoring

A. Gundong Creek

Gundong Creek did not flow during May 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 March in line with licence requirements.

Results from the monitoring fell within expected limits.

A further round of monitoring will be undertaken in June.

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: 3.87ppm
- Daily maximum: 7.33ppm on 21st May
- Daily minimum: 0.894ppm on 31st May
- Number of exceedances: zero

10. Biodiversity Monitoring

Fauna deaths:

- No fauna deaths were recorded during May.