

TOMINGLEY GOLD PROJECT

**Monthly Environmental
Monitoring Report
September 2019**

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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 September 2019.

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

2. Weather for September 2019

A. Weather Station Data

TGO WEATHER DATA IS PRESENTED BELOW.

Figure 1. September 2019 wind rose

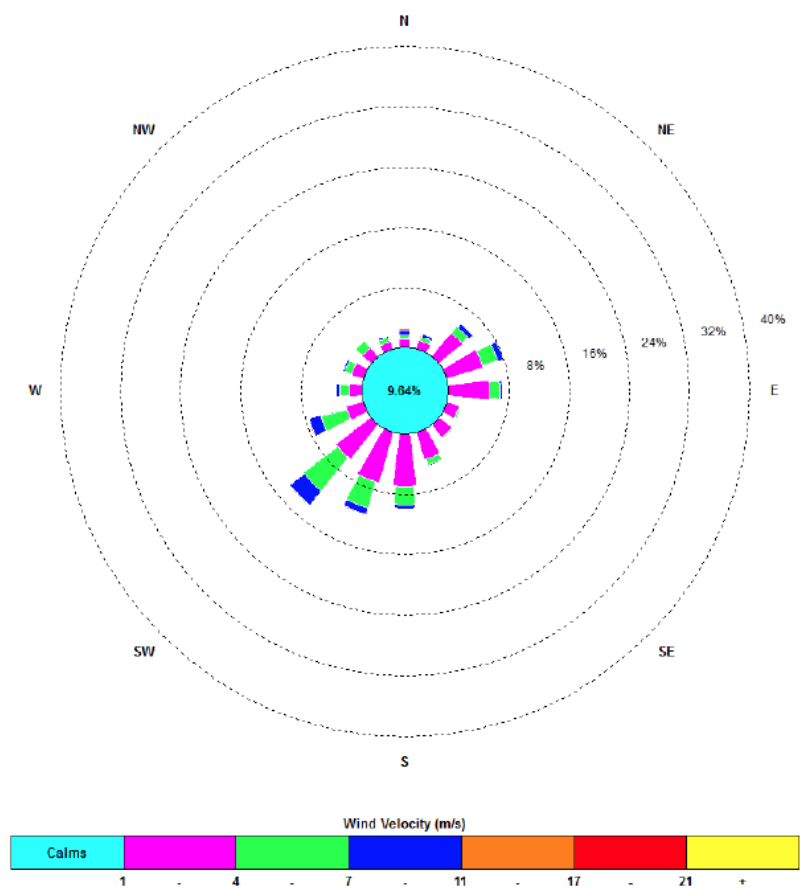


Figure 2. Rainfall September 2019

September 2019	Rainfall (mm)
Total Rainfall	13

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

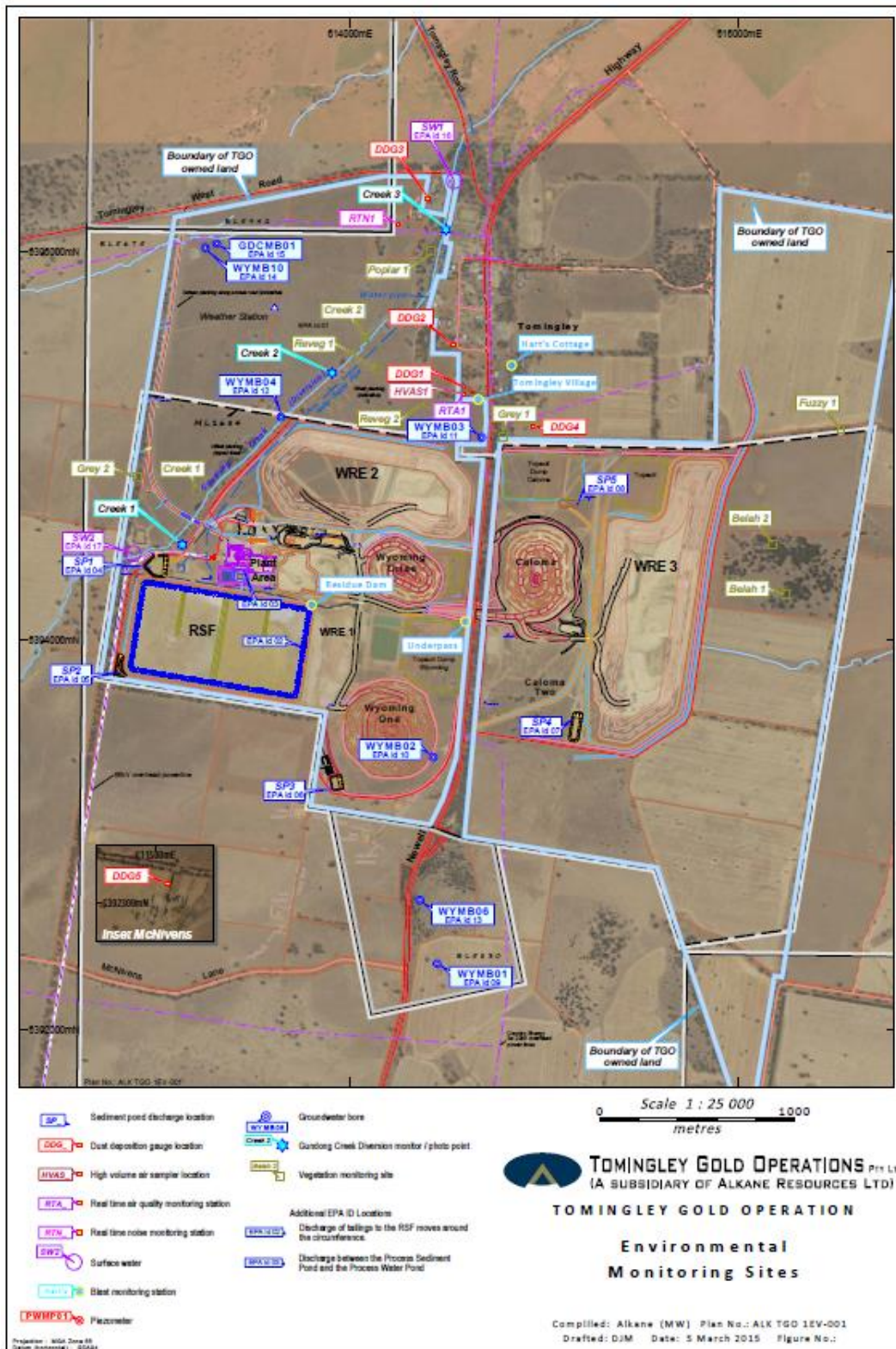
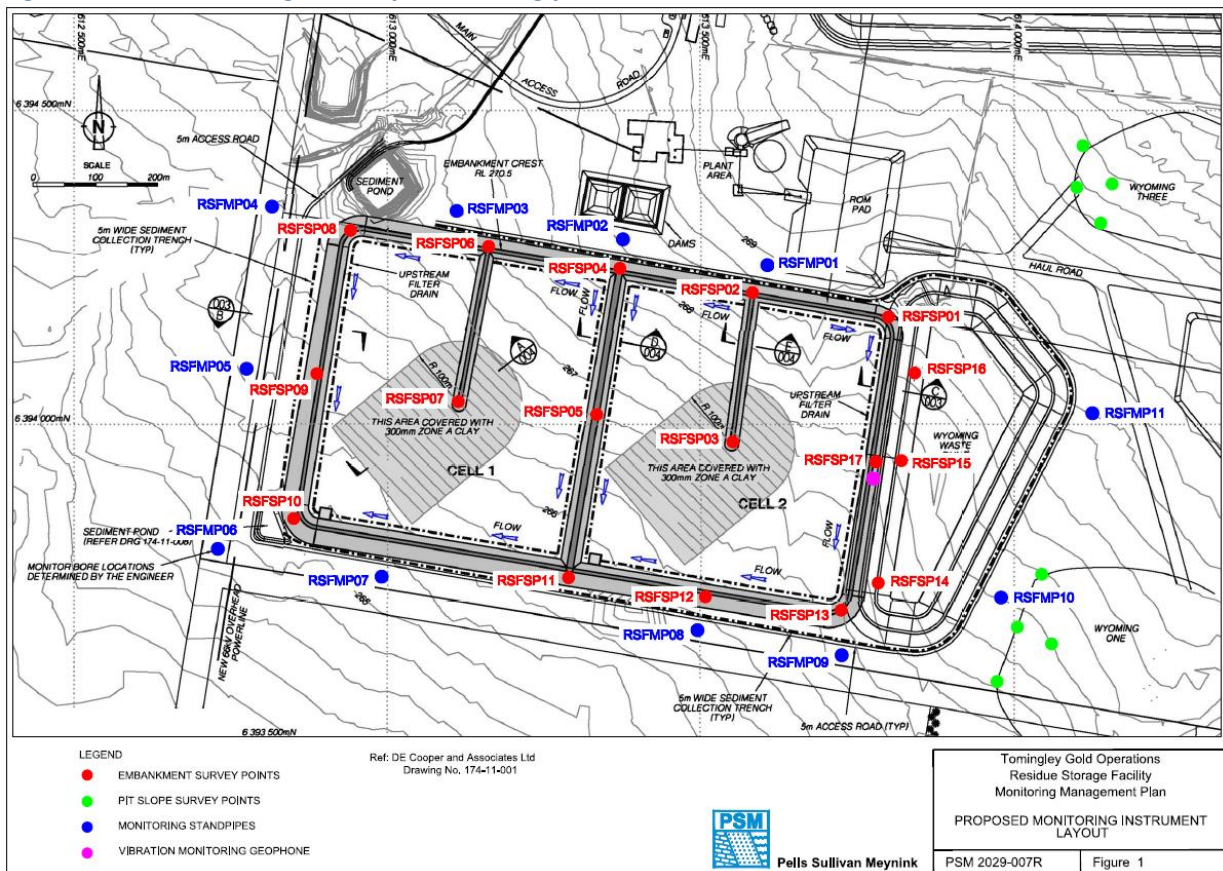


Figure 4 indicates the location of environmental and survey monitoring points on and around the Residue Storage Facility.

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 current annual average of all PM10 data at the end of September was 29.9ug/m³, just below the Approval limit.

There were four elevated readings recorded during September, recorded on the 6th, 9th, 16th and the 21st. 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 September 2019

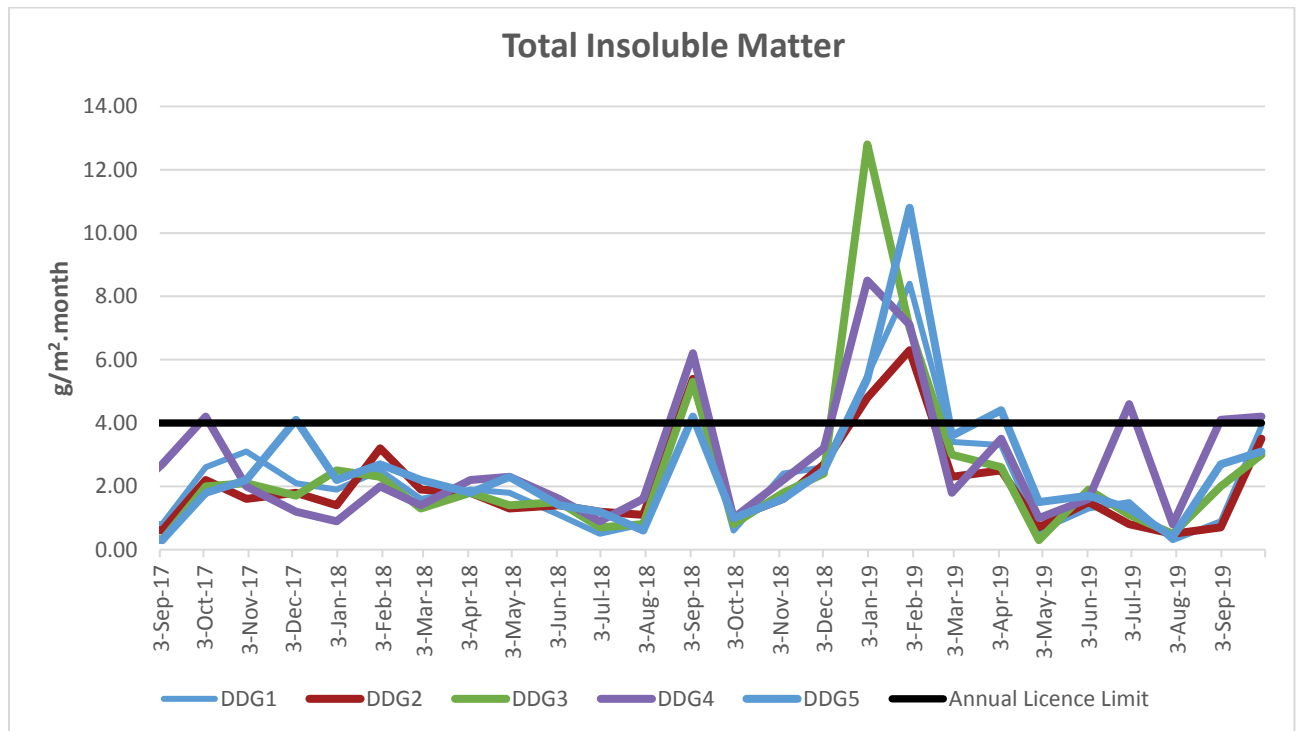
Date	24-hour Average	Running Average	Comment/s
1/09/2019	13.5	27.8	
2/09/2019	24.4	27.8	
3/09/2019	28.5	27.9	
4/09/2019	40.1	28.0	
5/09/2019	17.4	28.0	
6/09/2019	80.8	28.2	
7/09/2019	23.1	28.2	
8/09/2019	21.4	28.2	
9/09/2019	56.0	28.3	
10/09/2019	20.8	28.4	
11/09/2019	22.1	28.4	Recalculation using one (1) hour average data. Two (2) hours of machine outage excluded.
12/09/2019	21.0	28.3	Recalculation using one (1) hour average data. One (1) hour of machine outage excluded.
13/09/2019	29.8	28.4	
14/09/2019	27.9	28.4	
15/09/2019	22.8	28.3	
16/09/2019	52.1	28.4	
17/09/2019	9.2	28.3	
18/09/2019	6.4	28.3	
19/09/2019	14.0	28.2	
20/09/2019	42.6	28.3	
21/09/2019	594.4	29.9	
22/09/2019	15.8	29.8	
23/09/2019	27.4	29.8	
24/09/2019	18.9	29.8	
25/09/2019	18.5	29.8	
26/09/2019	20.5	29.9	
27/09/2019	17.6	29.9	
28/09/2019	21.8	29.8	
29/09/2019	29.8	29.8	
30/09/2019	28.5	29.9	
Average	45.6	n/a	
Criteria	50*	30**	

Notes Units = $\mu\text{g}/\text{m}^3$
 *EPA NSW / NEPM PM10 24-hour maximum
 **NEPM annual average maximum
 Yellow highlight indicates exceedance of relevant 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 September as a result of the ongoing dust storms caused by the severe drought conditions.

Figure 6. Dust Deposition Results 2017 – 2019

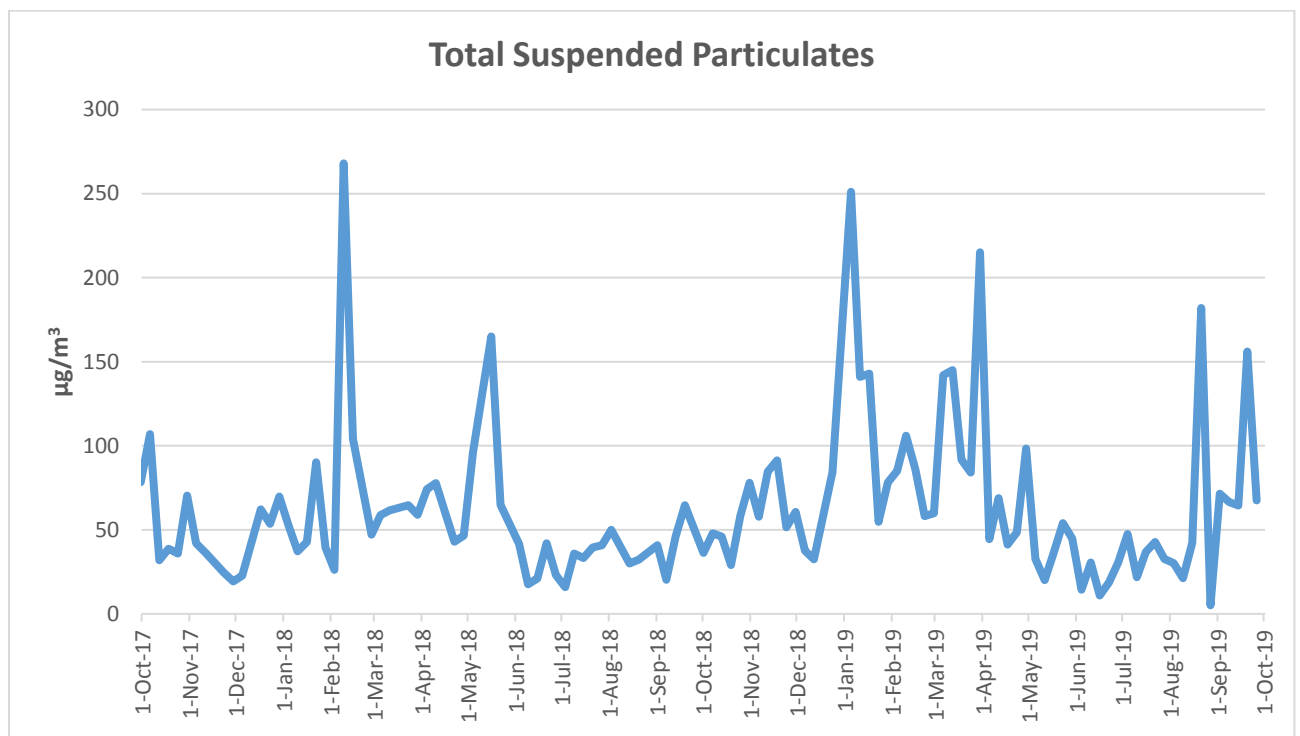


C. High Volume Air Sampler - Total Suspended Particulates

High Volume Air Sampling (HVAS) for Total Suspended Particulates (TSP) was undertaken this month. Figure 7 below provides the results. The above average 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 September. Full report provided separately on webpage.

6. Surface Water Monitoring

A. Gundong Creek

Gundong Creek did not flow during September 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: 3.79ppm
- Daily maximum: 8.88ppm on 9th
- Daily minimum: 0.522ppm on 18st
- Number of exceedances: zero

10. Biodiversity Monitoring

Fauna deaths:

- No fauna deaths were recorded during September.