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

December 2020

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Document History

DATE	VERSION	REASON FOR CHANGE	AUTHOR
	1	Submitted for Information	DP

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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 December 2020.

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

2. Weather for December 2020

A. Weather Station Data

TGO WEATHER DATA IS PRESENTED BELOW.

Figure 1. December 2020 wind rose

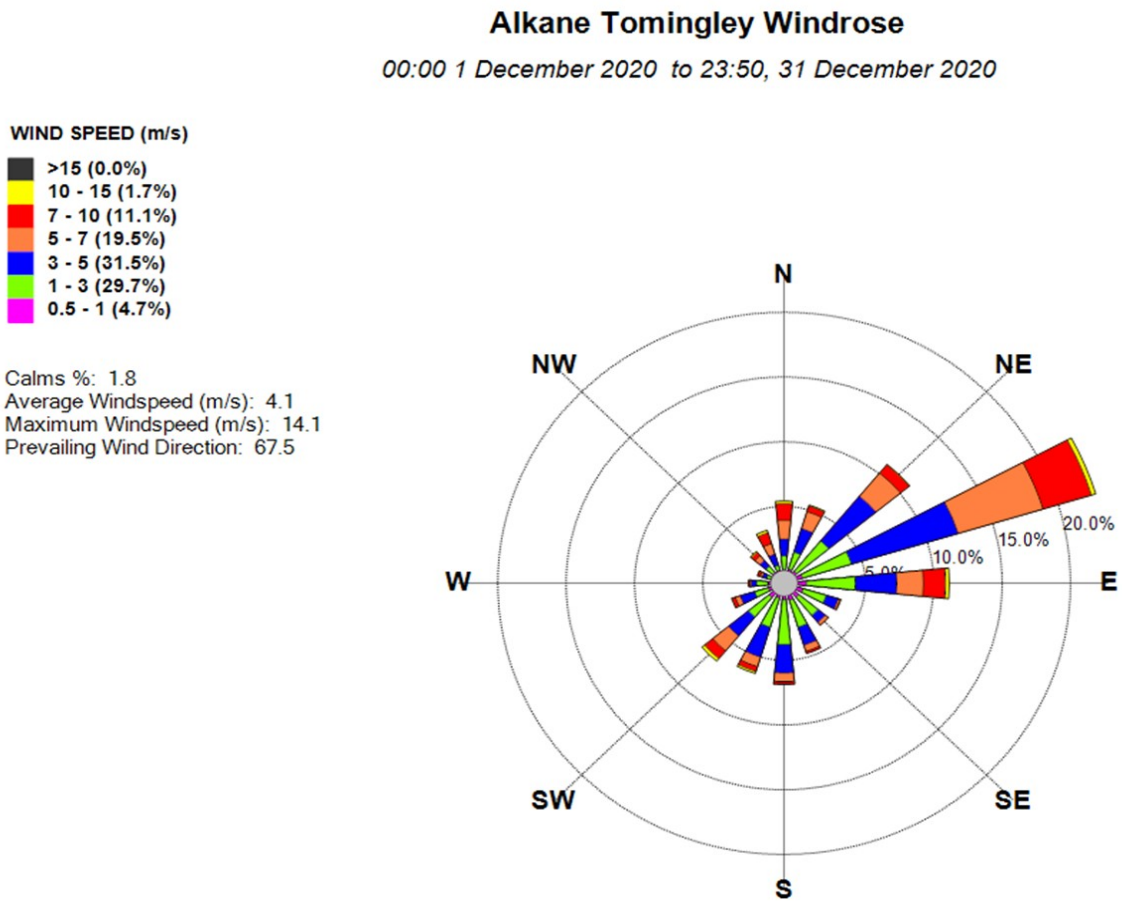


Figure 2. Rainfall December 2020

December 2020	Rainfall (mm)	Year to Date
Total Rainfall	56.4 mm	704.6 mm

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

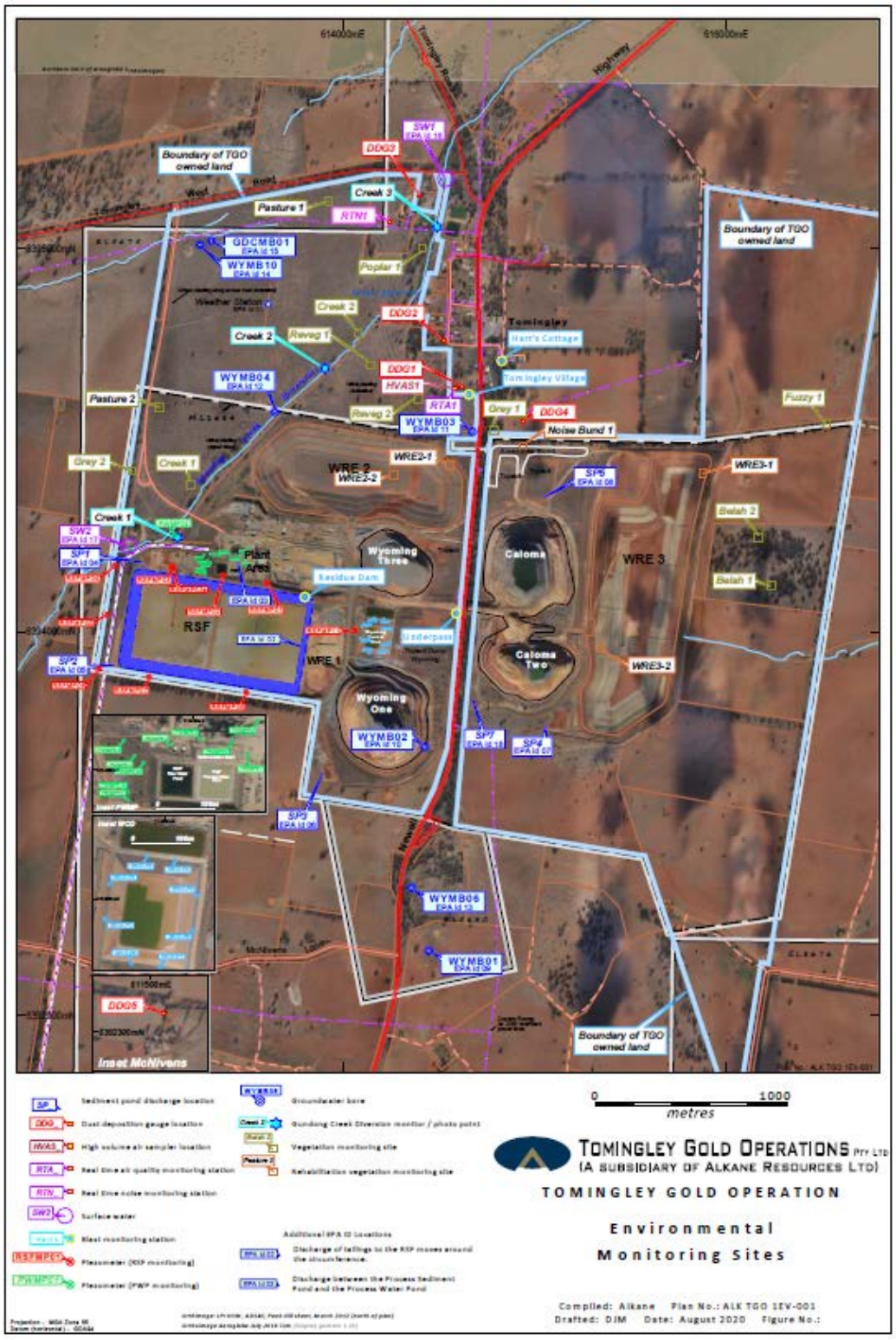
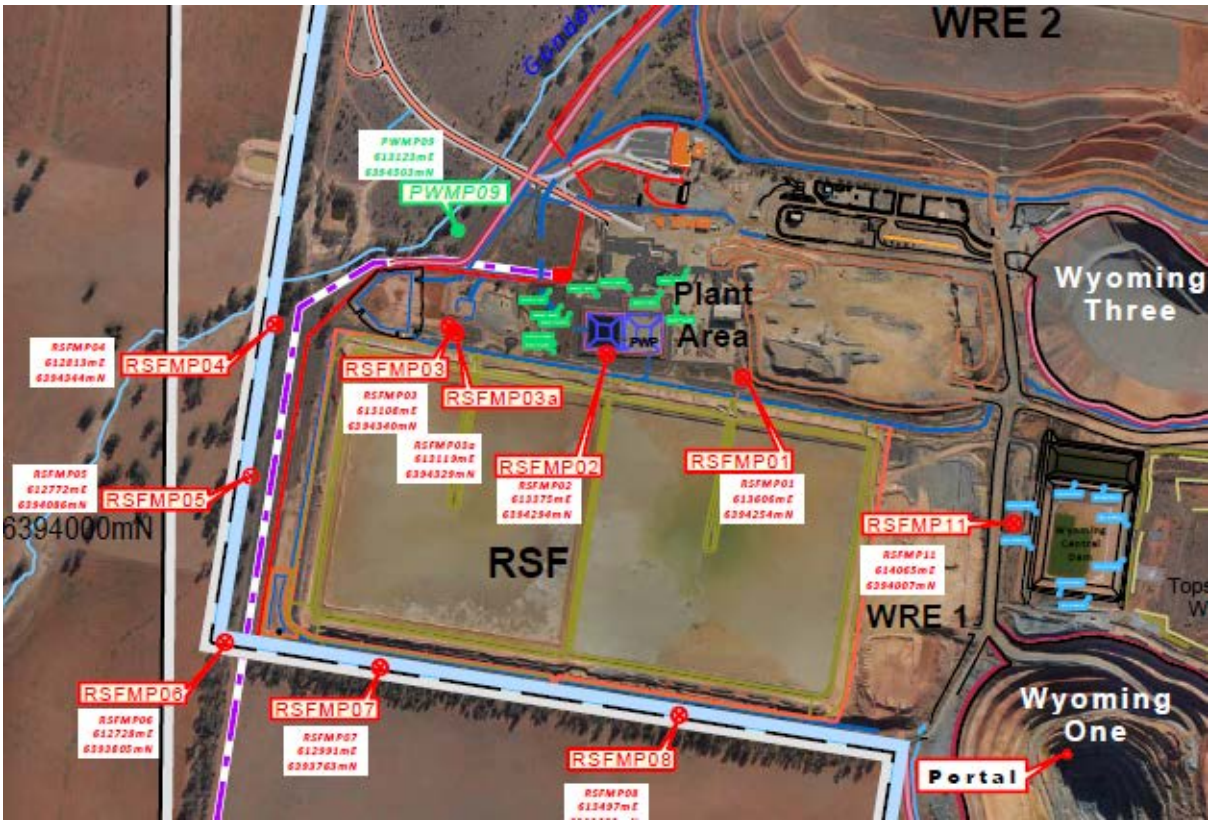


Figure 4 indicates the location of environmental and survey monitoring points on and around the Residue Storage Facility.

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 December was 39.2 ug/m^3, which is above the Approval limit, while the average for the month was 15.8 ug/m^3. The annual average has been calculated using all recorded data for 2020 to date which includes each of the numerous dust storms and smoke from bushfires in January and February 2020.

There were nil elevated readings recorded during December.

Figure 5. TEOM Data December 2020

Date	24-hour Average	Annual Rolling Average	Comment/s
1/12/2020	36.4	46.0	6 hours of missing data due to a power outage - Recalc using 18 hours of 1hr data
2/12/2020	31.6	45.8	
3/12/2020	23.6	45.8	
4/12/2020	23.4	45.8	
5/12/2020	19.8	45.7	
6/12/2020	24.6	45.6	
7/12/2020	18.5	45.6	
8/12/2020	14.0	45.4	
9/12/2020	17.4	45.0	
10/12/2020	23.5	44.9	
11/12/2020	22.1	44.5	
12/12/2020	14.5	44.4	
13/12/2020	13.9	44.3	3 hours of missing data due to a power failure - Recalc using 21 hours of 1hr data
14/12/2020	11.5	44.2	
15/12/2020	9.4	44.1	
16/12/2020	7.0	43.9	3 hours of missing data due to a power failure - Recalc using 21 hours of 1hr data
17/12/2020	11.4	43.5	
18/12/2020	13.4	43.1	
19/12/2020	20.4	43.0	
20/12/2020	11.7	42.5	
21/12/2020	12.2	41.9	
22/12/2020	4.8	41.3	
23/12/2020	14.7	41.0	
24/12/2020	9.8	40.7	
25/12/2020	13.0	40.5	
26/12/2020	15.0	40.4	
27/12/2020	12.5	40.2	
28/12/2020	15.1	40.1	
29/12/2020	11.0	40.0	1 hour of high negatives removed - Recalc using 23 hours of 1hr data
30/12/2020	6.5	39.8	
31/12/2020	7.1	39.2	
Average	**15.8**		
	Yellow shading indicates 24-hr criteria (50µg/m3) exceedance		*Units = µg/m3*

B. Depositional Dust

Depositional Dust monitoring undertaken during this month returned the results indicated in Table 1 below. The performance criteria for deposited dust are averaged over 12 months with a maximum total average of 4g/m2/month.

Table 1. Dust Deposition Results December 2020

Location	Date Monitored	Total Insoluble Matter (g/m2/month) December	Total Insoluble Matter (g/m2/month) November	Change in Total Insoluble Matter
DDG1	02/12/2020 – 05/01/2021	1.4	2.9	
DDG2	02/12/2020 – 05/01/2021	0.4	1.4	
DDG3	02/12/2020 – 05/01/2021	0.7	0.8	
DDG4	02/12/2020 – 05/01/2021	0.8	1.2	
DDG5	02/12/2020 – 05/01/2021	0.8	1.5	

C. High Volume Air Sampler - Total Suspended Particulates

High Volume Air Sampling (HVAS) for Total Suspended Particulates (TSP) was undertaken this month. Table 2 below provides the results.

The performance criteria for TSP are averaged over 12 months.

Table 2. Hi-Volume Air Sampler Data December 2020

Location	Sample Date	Results (TSP µg/m³)	Performance Criteria (Annual Average)
HVAS1	03/12/2020	48.4	90 µg/m3.
HVAS1	09/12/2020	54	
HVAS1	15/12/2020	20.1	
HVAS1	21/12/2020	20.8	
HVAS1	27/12/2020	36	

5. Noise Monitoring

A. Real-Time Noise Monitoring

Real-time noise monitoring data showed no exceedances during the month of December. A full report is provided separately on the Alkane webpage.

6. Surface Water Monitoring

A. Gundong Creek

Gundong Creek did not flow during December.

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 December in line with licence requirements.

Results from the monitoring fell within expected limits. The next round of monitoring is due in March 2021.

8. Blast Monitoring

Underground blasting has been continuing since January with blasts recording vibrations below the trigger level for the site monitoring equipment.

Blasts that trigger the monitoring equipment are recorded and the data is retained on site. There were no blast exceedances during December.

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 30 ppm.

- Monthly average: 2.10 ppm
- Daily maximum: 6.478 ppm
- Daily minimum: 0.62 ppm
- Number of exceedances: 0

10. Biodiversity Monitoring

Fauna deaths:

- No fauna deaths were recorded during December.