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

TOMINGLEY GOLD MINE

Monthly Environmental Monitoring Report

February 2022

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Document History

DATE	VERSION	REASON FOR CHANGE	AUTHOR
	1	Submitted for Information	JL

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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 Operation (TGO) during the month of February 2022.

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

2. Weather Station Data

TGO operates a permanent weather monitoring station. This weather station provides the mine site with continuous real-time data. Reporting requirements as stipulated in EPL 20169 include wind direction and wind speed at 10 metres **Figure 1** and rainfall mm **Table 1**.

Figure 1. TGO Wind Rose

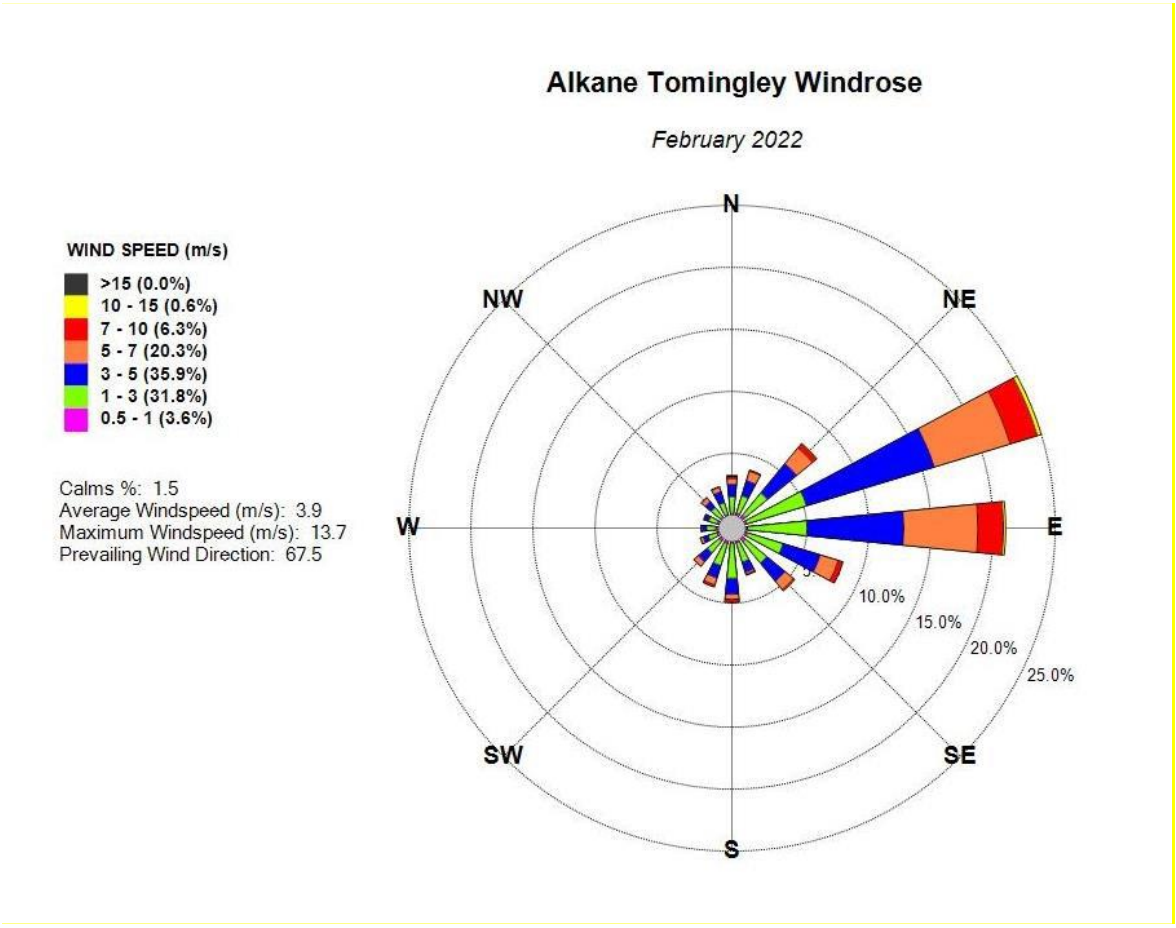


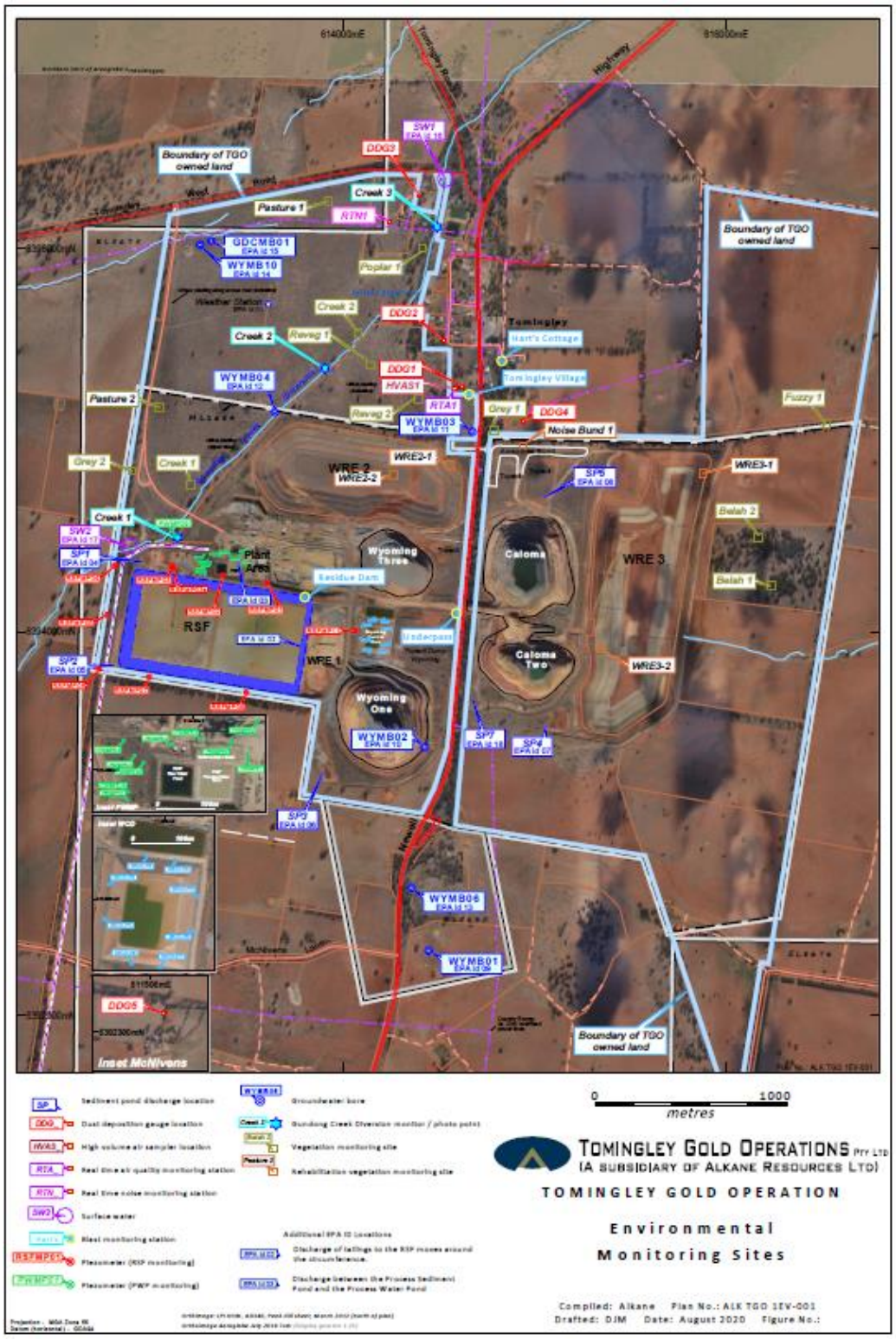
Table 1. TGO Rainfall Data

February 2022	Rainfall (mm)	Year to Date
Total Rainfall	14.2mm	222.2 mm

3. Monitoring Locations

Figure 2 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 2. TGO Environmental Monitoring Sites



4. Air Quality Monitoring

A. TEOM PM_{10} Particulates Monitoring

PM_{10} 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.

TGO monitor and report on compliance with the air quality conditions stipulated in TGO's Project Approval: Tomingley Gold Project. Impact assessment criteria as stipulated in the PA refers to any residence on privately-owned land or on more than 25 percent of any privately-owned land. Refer to **Tables 2 & 3** for conditions pertaining to TEOM monitoring.

Table 2: Long term impact assessment criteria for particulate matter

Pollutant	***Averaging Period***	*d* ***Criterion***
Total suspended particulate (TSP) matter	Annual	a 90 µg/m3
Particulate matter < 10 µm (PM10)	Annual	a 30 µg/m3

Table 3*:* Short term impact assessment criterion for particulate matter

Pollutant	***Averaging Period***	*d* ***Criterion***
Particulate matter < 10 µm (PM10)	24 hour	a 50 µg/m3

Table 4: Long term impact assessment criteria for deposited dust

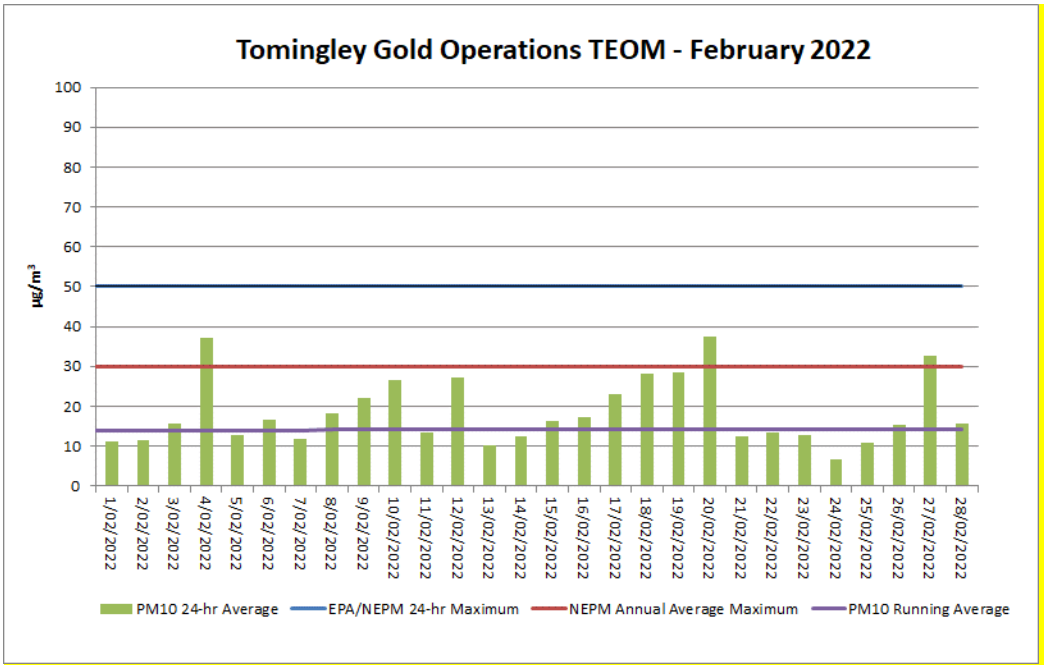
Pollutant	***Averaging Period***	***Maximum increase in deposited dust level***	***Maximum total deposited dust level***
c Deposited dust	Annual	b 2 g/m2/month	a, d 4 g/m2/month

Notes to Tables

- *a Total impact (ie incremental increase in concentrations due to the project plus background concentrations due to all other sources);*
- *b Incremental impact (ie incremental increase in concentrations due to the project on its own);*
- *c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2016: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method, or its latest version; and*
- *d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Secretary.*

There was nil exceedances of the assessment criteria as shown in **Figure 3**.

Figure 3. TGO TEOM Data



B. Depositional Dust

Depositional Dust monitoring undertaken during this month returned the results shown in **Table 5** below. There were nil exceedances for this monitoring period. Refer to **Table 4** for conditions pertaining to depositional dust monitoring.

Table 5. Dust Deposition Results

Location	Date Monitored	Total Insoluble Matter (g/m^2/month)	Total Insoluble Matter (g/m^2/month) YTD Average	Complies
DDG1	07/02/22 - 07/03/22	2.2	2.0	Y
DDG2		1.5	1.8	Y
DDG3		2.6	2.0	Y
DDG4		1.2	3.5	Y
DDG5		2.4	2.4	Y

C. High Volume Air Sampler - Total Suspended Particulates

One High Volume Air Sampling (HVAS) unit has been installed in Myall Street, Tomingley, (in the yard of the closest receptor) just north of the Project site. The HVAS measures Total Suspended Particulates (TSP) on a 24-hour, one-day-in-six frequency and is co-located with the TEOM. **Table 6** below provides the results.

The performance criteria for TSP are averaged over 12 months.

Table 6. Hi-Volume Air Sampler Results

Location	Sample Date	Results (TSP µg/m³)	Performance Criteria (Annual Average)	Complies
HVAS1	02/02/2022	41.4	90 µg/m^3	Y
HVAS1	08/02/2022	79.2		Y
HVAS1	14/02/2022	30.2		Y
HVAS1	20/02/2022	252		Y
HVAS1	26/02/2022	58.6		Y

5. Noise Monitoring

TGO uses a combination of real-time and attended monitoring to evaluate the performance of the project. For monitoring locations see **Figure 2**.

A review of monitoring data and operator attended observations determined that TGO contributions did not exceed relevant limits during applicable meteorological conditions. A full report is provided separately on the Alkane webpage.

6. Surface Water Monitoring

TGO undertakes water quality monitoring at several locations within and surrounding the site. Water quality monitoring locations (**Figure 2**) include those locations specified in EPL 20169, as well as additional sampling locations. The intent of the surface water monitoring program is to ensure that the water quality impacts associated with the mining operations are minimised.

EPL 20169 requires that surface water quality be monitored at two locations within the process water system (RSF) and (Wyoming Central Dam); six locations within the dirty water system (Sediment Basins); and two locations within the surrounding clean water system (Gundong Creek).

A. RSF and Wyoming Central Dam

The required monitoring frequency for both points is daily during discharge. TGO monitor for Cyanide (weak acid dissociable (WAD)) with a 90-percentile concentration limit of 20mg/L and 100-percentile concentration limit of 30mg/L.

WAD cyanide discharge levels for the month are summarised below.

- Monthly average: 1.13 mg/L
- Daily maximum: 5.71 mg/L
- Daily minimum: 0.17 mg/L

Samples assessed during the month were within guidelines.

B. Sedimentation Basins

TGO's six sediment basins are licenced discharged points. EPL 20169 monitoring frequency for these sediment basins is during discharge.

There was nil discharge during the month.

C. Gundong Creek

Due to the ephemeral nature of Gundong Creek, water quality sampling opportunities are limited. Gundong Creek does not provide a secure water supply either for human consumption or agricultural purposes. Gundong Creek may however provide additional irrigation and stock water. TGO's PA requires baseline water trigger levels to be maintained or improved.

Sample results for the month were within guidelines.

7. Groundwater Monitoring

TGO undertake quarterly groundwater monitoring in line with EPL and PA requirements. The purpose of the groundwater monitoring program is to provide a framework for monitoring and management of groundwater quality and levels.

8. Blast Monitoring

TGO operate to the blasting criteria as stipulated in our EPL and PA. These conditions include airblast overpressure, ground vibration, frequency, and timeframe.

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

9. Biodiversity Monitoring

TGO are required to report any incident of death or injury (including bogging or miring) of fauna (avian or terrestrial) associated with the RSF as stipulated in EPL 20169.

Reportable fauna incidents:

- No reportable incidents were recorded during the month.