

TOMINGLEY GOLD PROJECT

Monthly Environmental Monitoring Report

March 2021

TOMINGLEY GOLD PROJECT

Monthly Environmental Monitoring Report

March 2021

Document History

DATE	VERSION	REASON FOR CHANGE	AUTHOR
	1	Submitted for Information	JL

Table of Contents

1. INTRODUCTION AND SCOPE	4
2. WEATHER STATION DATA	4
3. MONITORING LOCATIONS	5
4. AIR QUALITY MONITORING.....	6
A. TEOM PM ₁₀ Particulates Monitoring	6
B. Depositional Dust	8
C. High Volume Air Sampler - Total Suspended Particulates.....	8
5. NOISE MONITORING.....	9
6. SURFACE WATER MONITORING	9
A. RSF and Wyoming Central Dam.....	9
B. Sedimentation Basins	9
C. Gundong Creek	9
7. GROUNDWATER MONITORING	10
8. BLAST MONITORING.....	10
9. BIODIVERSITY MONITORING	10

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 March 2021.

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

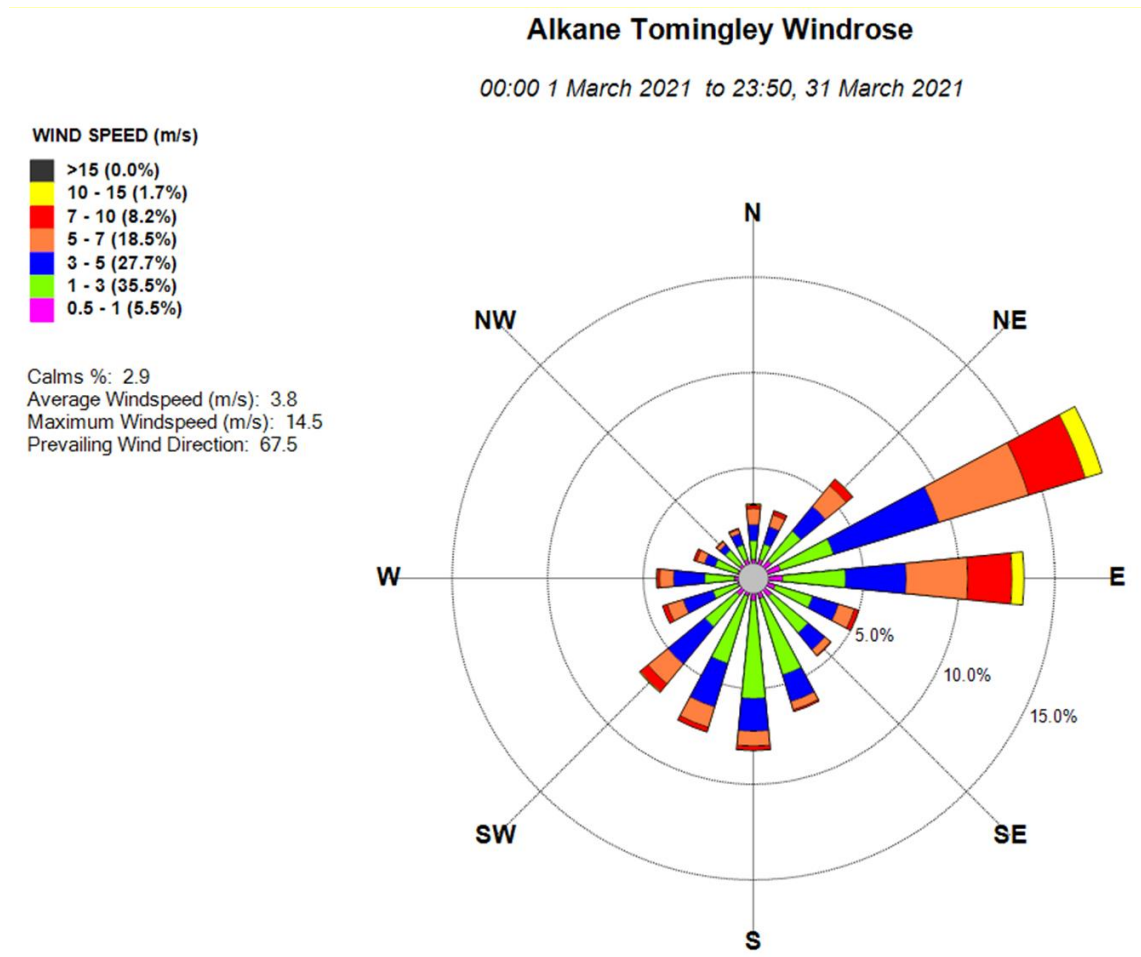


Table 1. TGO Rainfall Data

March 2021	Rainfall (mm)	Year to Date
Total Rainfall	193.4 mm	301.6 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

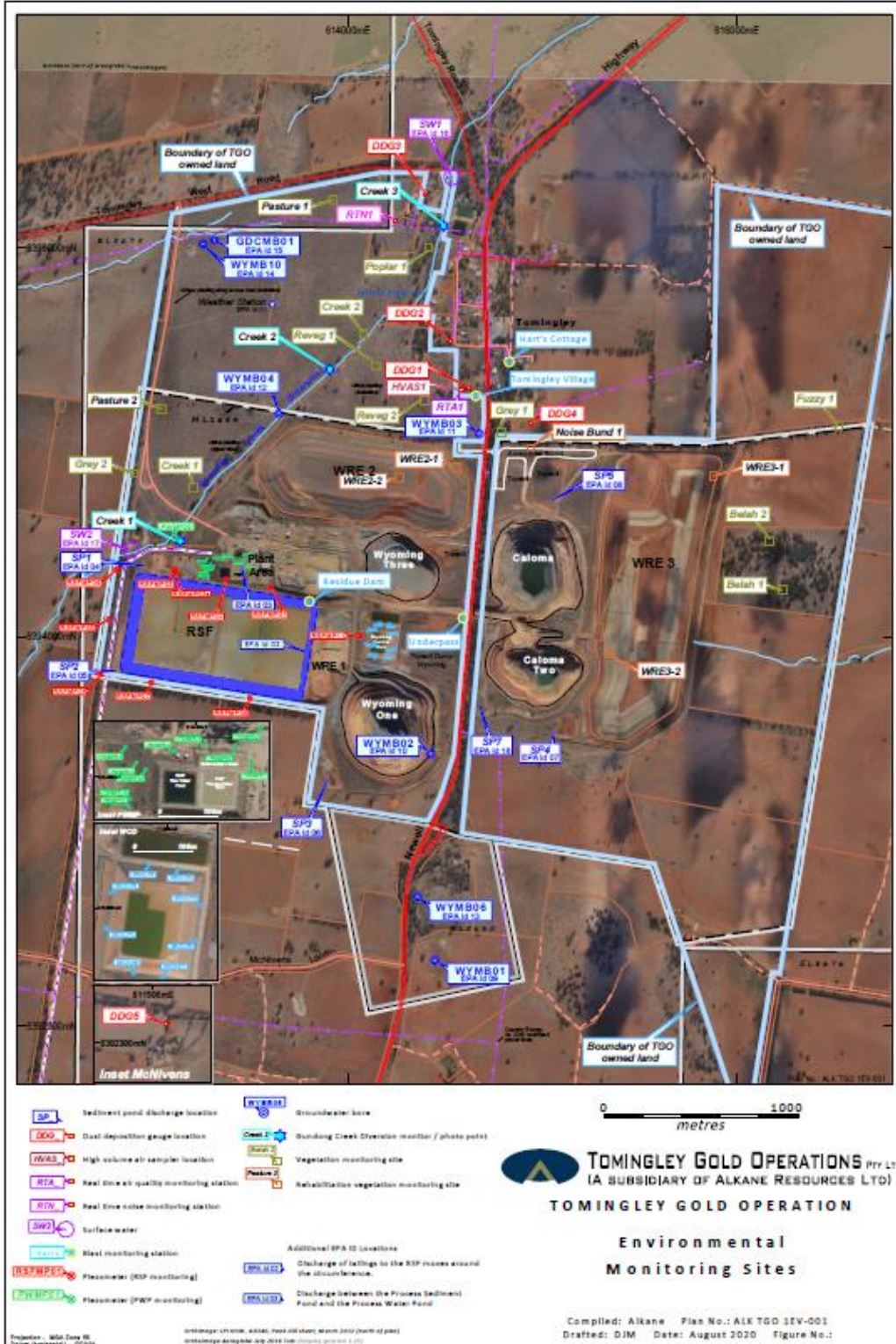
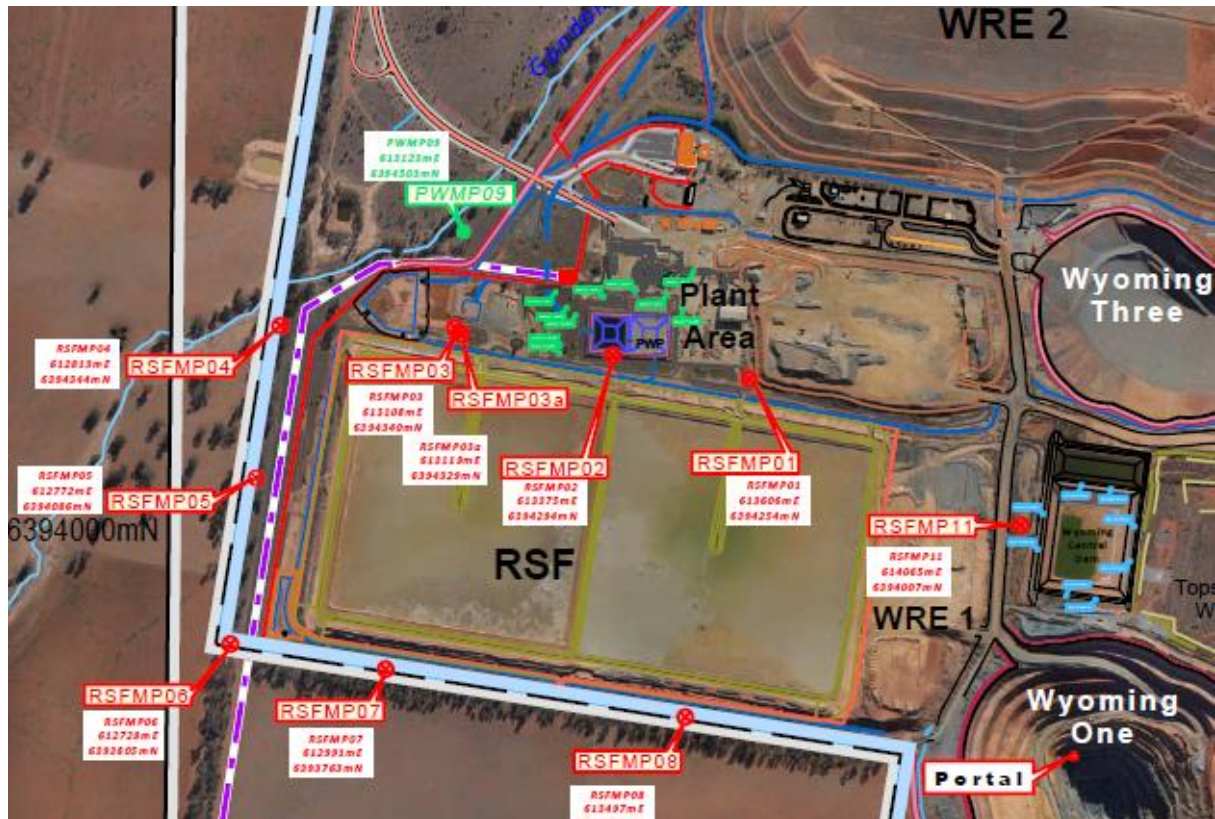


Figure 3 indicates the location of environmental and survey monitoring points on and around the Residue Storage Facility (RSF).

Figure 3. Residue Storage Facility monitoring points



4. Air Quality Monitoring

A. TEOM PM₁₀ Particulates 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.

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

<i>Pollutant</i>	<i>Averaging Period</i>	<i>d Criterion</i>
Total suspended particulate (TSP) matter	Annual	a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	a 30 µg/m ³

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

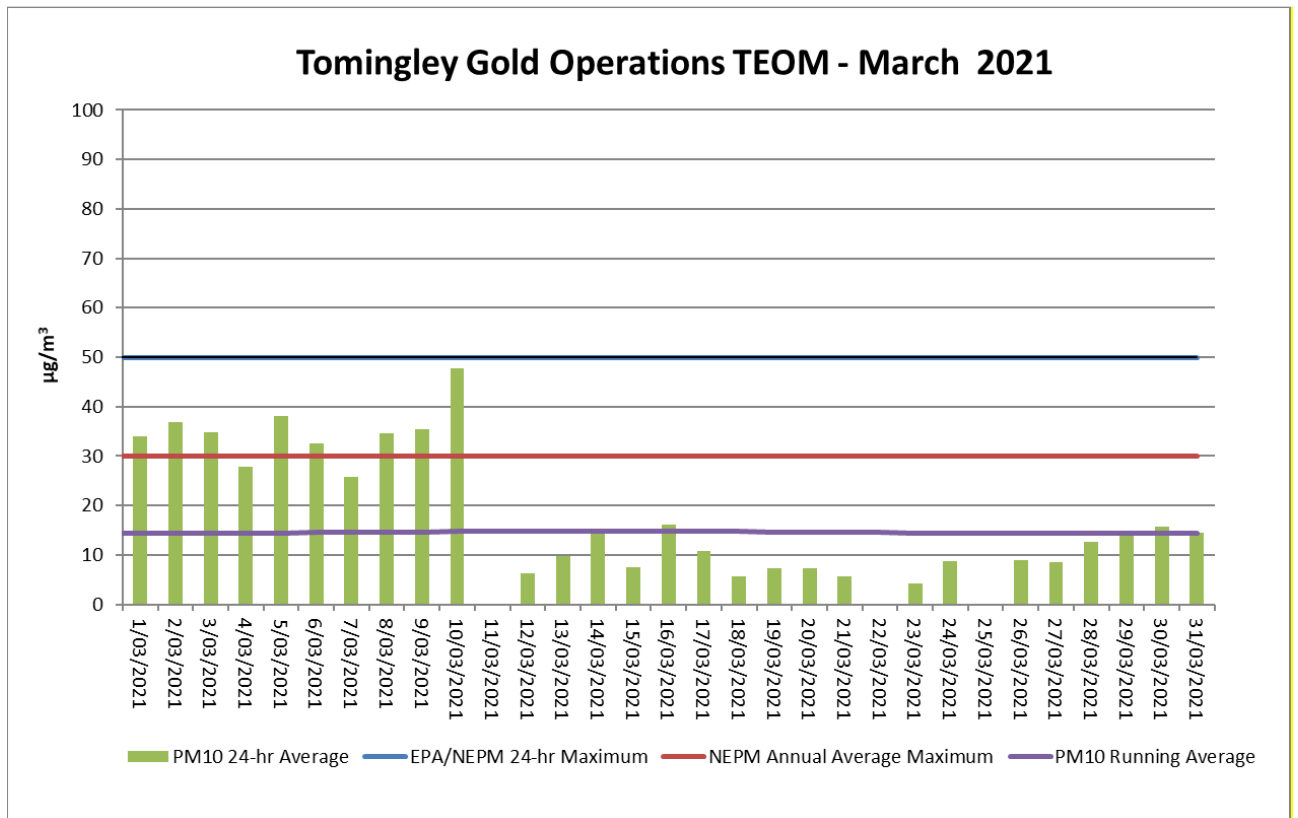
Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
c Deposited dust	Annual	b 2 g/m2/month	a, d 4 g/m2/month

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 4**.

Figure 4. 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/m²/month)	Total Insoluble Matter (g/m²/month) YTD Average	Complies
DDG1	02/03/2021 – 08/04/2021	1.6	1.7	Y
DDG2	02/03/2021 – 08/04/2021	0.6	1.05	Y
DDG3	02/03/2021 – 08/04/2021	0.8	1.05	Y
DDG4	02/03/2021 – 08/04/2021	1.1	1.03	Y
DDG5	02/03/2021 – 08/04/2021	0.8	0.87	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	03/03/2021	61.4	90 µg/m ³	Y
HVAS1	09/03/2021	82.6		Y
HVAS1	15/03/2021	32.7		Y
HVAS1	21/03/2021	8.3		Y
HVAS1	27/03/2021	13.8		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) with a 90-percentile concentration limit of 20mg/L and 100-percentile concentration limit of 30mg/L.

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

- Monthly average: 0.83 ppm
- Daily maximum: 2.158 ppm
- Daily minimum: 0.372 ppm

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 from any sediment basins 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.

Samples assessed during the month were within guidelines.

7. Groundwater Monitoring

TGO undertake quarterly groundwater monitoring in line with EPL and PA requirements. The results from monitoring undertaken in March were in line with licence requirements.

The next round of monitoring is due in June 2021.

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

Fauna deaths:

- No fauna deaths were recorded during the month.