



**Peak Gold Mines**  
**MONTHLY ENVIRONMENTAL MONITORING SUMMARY**  
**REPORT**

**EPL 3596**  
**Hillston Road, Cobar**  
**NSW 2835**

**December 2018**



## Contents

1. INTENT .....	3
2. SCOPE .....	3
3. DEFINITIONS .....	3
4. MONITORING RESULTS .....	4
4.1. VIBRATION .....	4
4.2. AIR QUALITY .....	5
4.3. NOISE .....	7
4.4. WATER .....	9
4.5. WEATHER .....	9

## **1. INTENT**

This monthly environmental summary report is a requirement under section 66(6) of the NSW Protection of the Environment Operations Act 1997 (POEO Act), in which holders of an environment protection licence make their pollution monitoring data publicly available. This report is intended to keep the community, stakeholders, and regulators informed of Peak Gold Mine's (PGM's) environmental performance and to maintain a transparent and accountable reporting system.

## **2. SCOPE**

This report covers all of PGMs environmental monitoring conditions covered for December 2018. These conditions, where applicable, are measured against PGMs Environmental Protection Licence (EPL), development consent conditions and Australian Standard to determine PGMs compliance. The conditions include;

- Blasting monitoring results;
- Air Quality Monitoring results;
- Noise Monitoring results;
- Surface Water Monitoring results; and
- Weather Conditions.

## **3. DEFINITIONS**

mm/s – the peak of the vibration in millimetres per second

Insoluble Solids – the insoluble portion of the dust deposition

Total Lead – Including dissolved lead in the liquid portion and the lead particulates in the filter paper following laboratory analysis

g/m<sup>2</sup>/month – grams per square meter per month

dB (L) – decibel (linear maximum)

dB LAeq (15 minute) – Decibel (linear weighted average over 15 minutes)

CN Free – Free Cyanide (hydrogen cyanide and cyanide ions in solution)

CN WAD – Weak Acid Dissociable Cyanide (includes cyanide species liberated at moderate pH of 4.5)

TSS – Total Suspended Solids



4. MONITORING RESULTS

4.1. VIBRATION

The vibration monitoring results displayed in Table 4.1a represents all blast vibration events that were triggered at the New Occidental, Fort Bourke and/or Dellavale monitors (Figure 1).

As seen in Table 4.1a all blasting events for the month were below PGMs EPL limits. Vibration limits set by the NSW Environmental Protection Authority (EPA) can be viewed in Table 4.1b.

The compliance against the overall 12-month period will be reported in the EPL Annual Return and Annual Environmental Management Report (AEMR).

Table 4.1a New Occidental, Fort Bourke and Dellavale Vibration Results

Location	Date Sampled & Received	ID	New Occidental (mm/s)	Fort Bourke (mm/s)	Dellavale (mm/s)	Complies (Y/N)
New Cobar	07/12/18	41StpMainn670	No Trigger	4.137	2.067	Y
Peak	10/12/18	8810StpMainE500	0.385	No Trigger	No Trigger	Y
Peak	11/12/18	9590StpMainS525	No Trigger	No Trigger	No Trigger	Y
Peak	15/12/18	9590StpMainS525	0.330	No Trigger	No Trigger	Y
Peak	16/12/18	8810StpMainE500	0.325	No Trigger	No Trigger	Y
Peak	19/12/18	9590StpMainS525	No Trigger	No Trigger	No Trigger	Y
New Cobar	21/12/18	37StpMainN670	No Trigger	4.962	2.292	Y

Table 4.1b PGM EPL Limits

Peak Particle Velocity (mm/s)	Allowable Exceedance
5.00	<5% of the total number of blasts in a 12 month period are to be below 5mm/s
10.00	NIL



**Figure 1: Location of Vibration Monitors on PGM's Mining Leases.**

#### **4.2. AIR QUALITY**

Fall out dust deposition bottles are currently used to monitor air quality. The bottles are positioned in the field (Figure 2) for a period of  $30 \pm 2$  days. Monitoring is undertaken quarterly. The bottles are then sent to Australian Laboratory Services (ALS) for external analysis.

PGM has no set limits for air quality monitoring levels. However, takes on board the EPA's best practice limit of  $4\text{g}/\text{m}^2/\text{time}$  (limit is applicable to 12 month averaging period). If a single monitoring result is over the EPA's best practice limit of  $4\text{g}/\text{m}^2/\text{time}$ , the cause is investigated and reported in the AEMR.



## MONTHLY ENVIRONMENTAL MONITORING SUMMARY

Table 4.2a Air Quality Results

Site	Location	Date			Australian Standard Limit (g/m <sup>2</sup> /month)	Insoluble Solids (g/m <sup>2</sup> /month)	Total Lead (g/m <sup>2</sup> /month)	Complies
		Sampled	Obtained	Published				
DM1	NW corner of tailings dam	4/12/2018 – 4/1/2019	9/1/2019	24/1/2019	4	7.8	0.00051	Y
DM2	SW corner of tailings dam	4/12/2018 – 4/1/2019	9/1/2019	24/1/2019	4	9.6	0.00168	Y
DM3	Carpark	4/12/2018 – 4/1/2019	9/1/2019	24/1/2019	4	7.1	0.01846	Y
DM4	NE corner of PGM magazine	4/12/2018 – 4/1/2019	9/1/2019	24/1/2019	4	11.4	0.00240	Y
Dellavale	1.3km ESE of New Cobar	4/12/2018 – 4/1/2019	9/1/2019	24/1/2019	4	3.9	0.00121	Y
Bimbimbie	1.2km SW of New Cobar	4/12/2018 – 4/1/2019	9/1/2019	24/1/2019	4	8.9	0.00028	Y

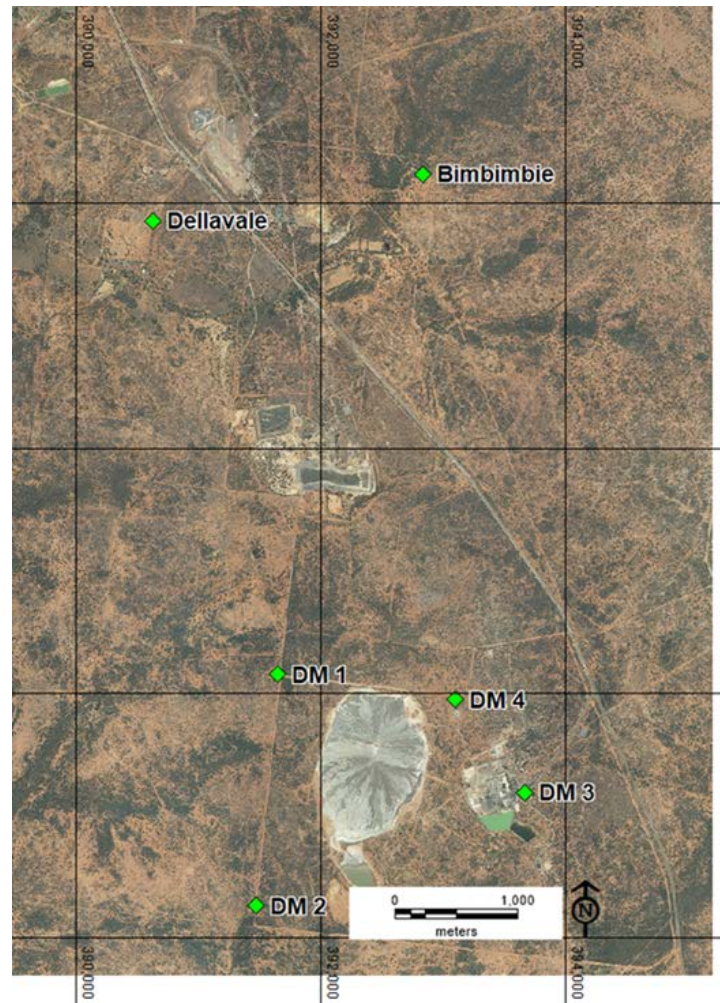


Figure 2: Location of dust gauges on PGM Mining Leases.

#### 4.3. NOISE

A hand-held monitor is used by PGM employees to monitor noise levels at times set out by the EPL and development consent conditions. Noise monitoring is conducted at the closest resident (figure 3) and sporadically depending on operational requirements. PGMs closest monitoring point is located at the Dellavale boundary, approximately 400m closer to the mine noise than the residence. To determine the noise level (dB) experienced at the residence, sound intensity  $I$  and the inverse square law  $1/r^2$  is calculated based on the residences distance from mine noise source.

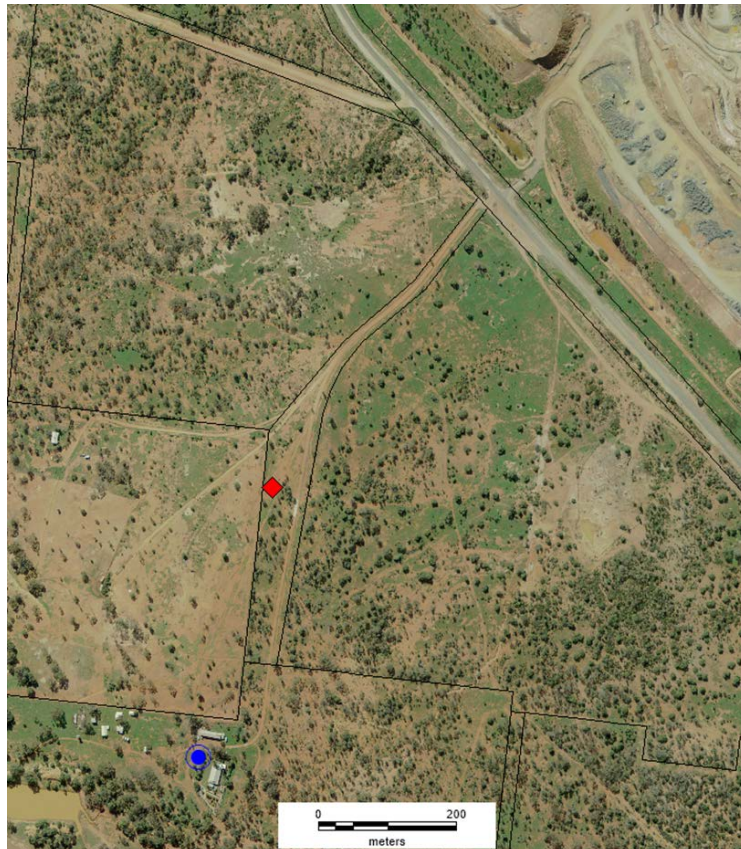
Noise monitoring results and licenced noise limits set by the EPL and Development Consent Conditions are given in Table 4.3a respectively.

**Table 4.3a Attended Noise Monitoring Results**

Location	Date Sampled & Obtained	Date Published	Time	LA 10 (dB) Limit	LA 10 (dB) Monitoring Result at Monitor Location	LA 10 (dB) Calculated Monitoring Result at Residence	Key Noise Source	Complies
Dellavale	28/12/2018	28/12/2018	7.35am	45	45.2	41.2	Bird Chirp, Mine Underground Truck. Cars and motorbike on Highway	YES

**Table 4.3b Noise Monitoring**

Time Band	Day	Noise Level (dB)
8:00am – 6:00pm	Mon – Fri	45
6:00pm – 10:00pm	Mon – Fri	40
10:00pm – 8:00am	Mon – Fri	35
8:00am – 1:00pm	Sat	45
1:00pm – 8:00am	Sat	35
12:00am – 12:00pm	Sun	35





**Figure 3: Location of the “Dellavale” properties house (blue circle) and noise monitoring location (red diamond).**

**4.4. WATER**

Surface water monitoring involves collecting water samples from a number of locations around site and submitted to external laboratory for physical and chemical analysis, pH and electrical conductivity are obtained using a handheld monitor. Table 4.4 gives the results as per the PGM EPL requirements.

**Table 4.4 Water Monitoring Data**

Point	Sampled	Received	Published	Limit	WAD CN (mg/L)	CN Free (mg/L)	TSS (mg/L)	Oil & Grease	Complies
Recycled Water Dam End (Peak)	18/12/2018	20/12/2018	11/1/2019	No Limit	<0.004	<0.004	76	*	Yes
Raw Water Tank (Peak)	18/12/2018	20/12/2018	11/1/2019	No Limit	<0.004	<0.004	21	*	Yes
Spain's Tank	18/12/2018	20/12/2018	11/1/2019	No Limit	*	*	18	<5	Yes
Young Australia	18/12/2018	20/12/2018	11/1/2019	No Limit	*	*	190	<5	Yes

\*No monitoring required.

**4.5. WEATHER**

PGM meteorology monitoring data has been acquired through the Bureau of Meteorology (BOM) weather station located 2km North West of Cobar.

The BOM can be used as an alternate source for this monitoring data.

