



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

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

**December 2019**



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## 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 2019. 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	01/12/19		No Trigger	4.463	1.148	Y
Peak	06/12/19	9590 STH 480	No Trigger	No Trigger	No Trigger	Y
New Cobar	08/12/19		No Trigger	1.366	0.87	Y
New Cobar	11/12/19		No Trigger	3.006	0.789	Y
New Cobar	14/12/19		0.365	1.565	1.648	Y
New Cobar	17/12/19		No Trigger	1.945	0.697	Y
Peak	24/12/19	56 STH 270	0.47	2.112	2.064	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	25/11/19-23/12/19	06/01/20	07/01/20	4	3.3	0.000078	Y
DM2	SW corner of tailings dam	25/11/19-23/12/19	06/01/20	07/01/20	4	3.8	0.000186	Y
DM3	Carpark	25/11/19-23/12/19	06/01/20	07/01/20	4	5.6	0.00893	Y
DM4	NE corner of PGM magazine	25/11/19-23/12/19	06/01/20	07/01/20	4	13.5	0.000796	Y
Dellavale	1.3km ESE of New Cobar	25/11/19-23/12/19	06/01/20	07/01/20	4	2.3	0.000067	Y
Bimbimbie	1.2km SW of New Cobar	25/11/19-23/12/19	06/01/20	07/01/20	4	4.3	0.000103	Y

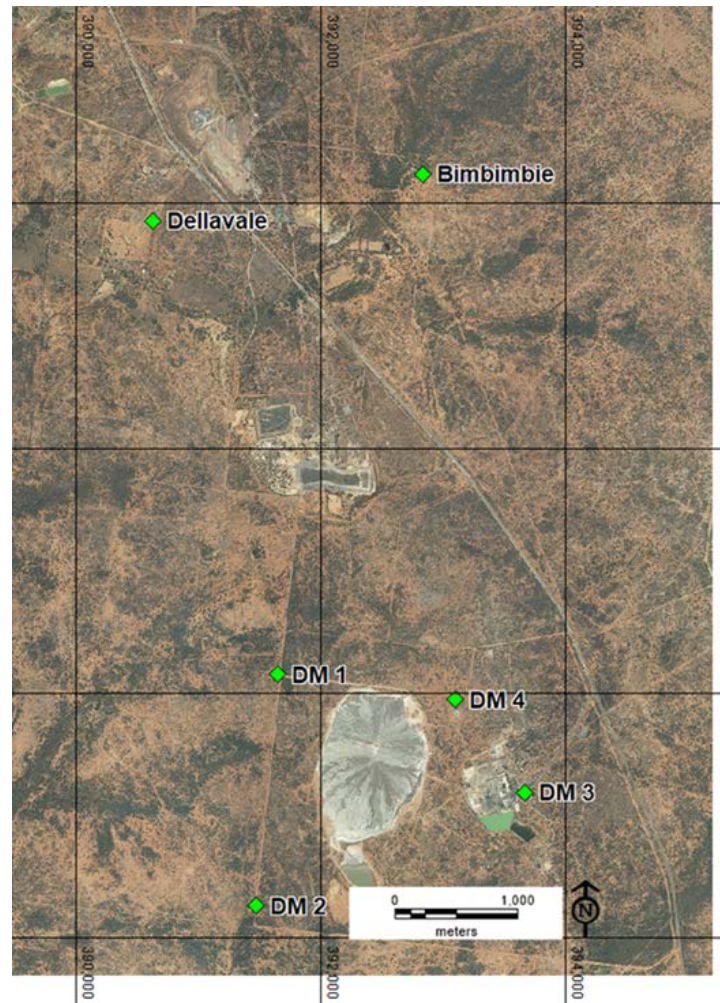


Figure 2: Location of dust gauges on PGM Mining Leases.

#### 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.

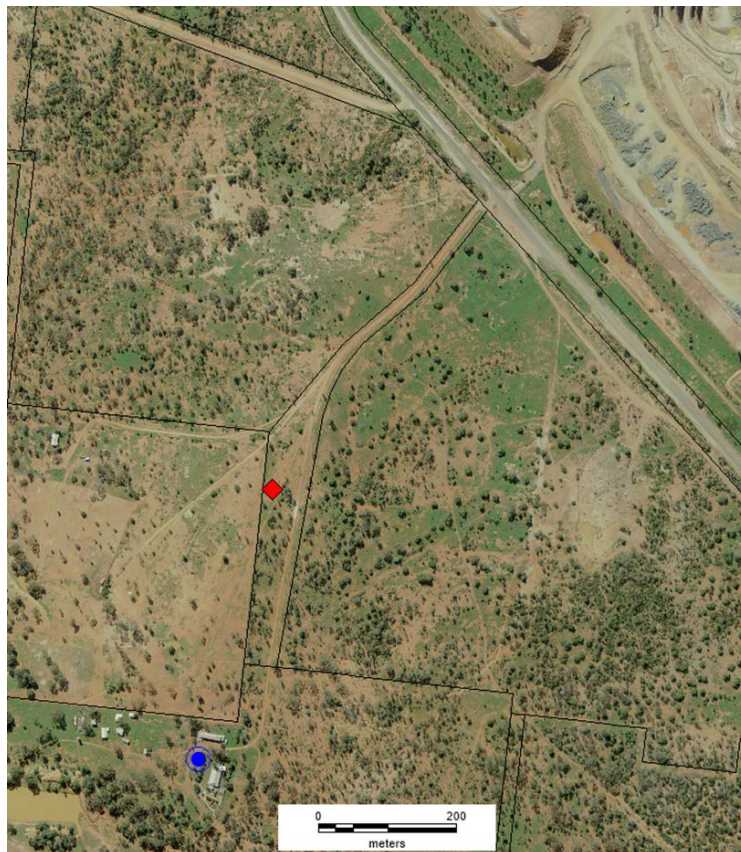
Noise monitoring results and licenced noise limits set by the EPL and Development Consent Conditions are given in Table 4.3a respectively.

**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	10/12/2019	20/12/2019	11.10am	45	37.7	33.7	Slight breeze, fly on monitor	YES
Dellavale	20/12/19	20/12/19	7.15am	45	36.5	32.5	Mine vehicle (reversing beeper), bird chirping, non- mine truck	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)	09/12/19	19/12/19	20/12/19	No Limit	<0.004	<0.004	124	*	Yes
Raw Water Tank (Peak)	09/12/19	19/12/19	20/12/19	No Limit	0.004	<0.004	35	*	Yes
Spain's Tank	09/12/19	19/12/19	20/12/19	No Limit	*	*	<5	<5	Yes
Young Australia	09/12/19	19/12/19	20/12/19	No Limit	*	*	10	<5	Yes

\*No monitoring required.

**4.5. HAULAGE MOVEMENTS**

PGM is required to monitor the number of haulage movements undertaken from New Cobar to Peak site as per current consent conditions. A trucking movement includes the travel from New Cobar, to Peak site, return to New Cobar. In the month of December, 775 truck movements were permitted to be undertaken. In total, 501 truckloads were completed. Table 4.5 shows a summary of the trucking movements for the month.

**Table 4.5 Haulage Summary**

Date	Truck Movements
1/11/2019	0
2/11/2019	15
3/11/2019	28
4/11/2019	24
5/11/2019	24
6/11/2019	22
7/11/2019	0
8/11/2019	0
9/11/2019	25
10/11/2019	22
11/11/2019	24
12/11/2019	22
13/11/2019	17

14/12/2019	0
15/12/2019	0
16/12/2019	23
17/12/2019	15
18/12/2019	8
19/12/2019	20
20/12/2019	20
21/12/2019	20
22/12/2019	0
23/12/2019	22
24/12/2019	18
25/12/2019	0
26/12/2019	0
27/12/2019	47
28/12/2019	32
29/12/2019	23
30/12/2019	22
31/12/2019	8
<b>Daily Average</b>	<b>21.7</b>

#### 4.6. WEATHER

The meteorology monitoring data has been acquired through PGM's weather station located 2km South of Cobar. Installed in May 2019, the weather station now has enough data for use in the monthly PGM reports.

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

