

TOMINGLEY GOLD PROJECT

Monthly Environmental Monitoring Report

December 2016

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Document History

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Table of Contents

| | |
|---|-----------|
| 1. INTRODUCTION AND SCOPE | 4 |
| 2. WEATHER FOR MONTH 2016 | 4 |
| A. Weather Station Data | 4 |
| 3. MONITORING LOCATIONS | 6 |
| 4. AIR QUALITY MONITORING | 7 |
| A. PM10 Monitoring | 7 |
| B. Depositional Dust | 9 |
| C. High Volume Air Sampler - Total Suspended Particulates | 9 |
| 5. NOISE MONITORING | 10 |
| A. Real-Time Noise Monitoring | 10 |
| 6. SURFACE WATER MONITORING | 11 |
| A. Gundong Creek | 11 |
| B. Sedimentation Ponds | 11 |
| 7. GROUNDWATER MONITORING | 11 |
| 8. BLAST MONITORING | 11 |
| 9. RESIDUE STORAGE FACILITY | 12 |
| 10. BIODIVERSITY MONITORING | 12 |

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 2016.

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

2. Weather for December 2016

A. Weather Station Data

TGO WEATHER DATA IS PRESENTED BELOW.

Figure 1. December 2016 wind rose

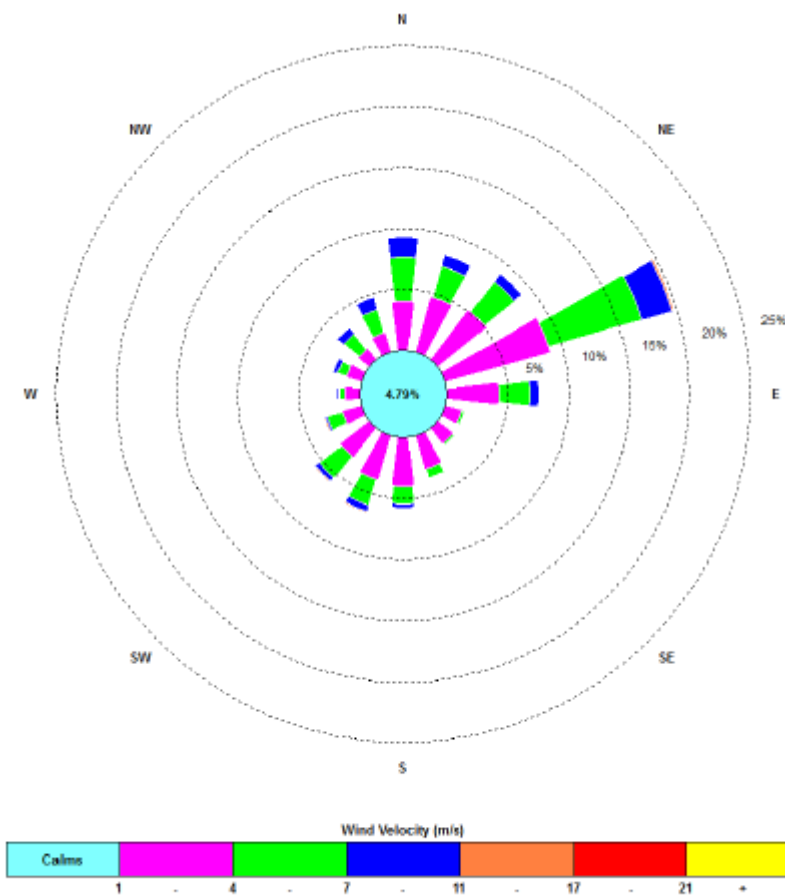


Figure 2.10: Tomingley Gold Operations Wind Rose – December 2016

Figure 2. Rainfall December 2016

| December 2016 | Rainfall (mm) |
|-----------------------|----------------------|
| December 6 | 1.4 |
| December 8 | 5.4 |
| December 15 | 4.0 |
| December 16 | 108.4 |
| December 17 | 0.2 |
| December 23 | 2.2 |
| December 24 | 6.2 |
| December 30 | 13.2 |
| December 31 | 0.2 |
| Total Rainfall | 141.2 |

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

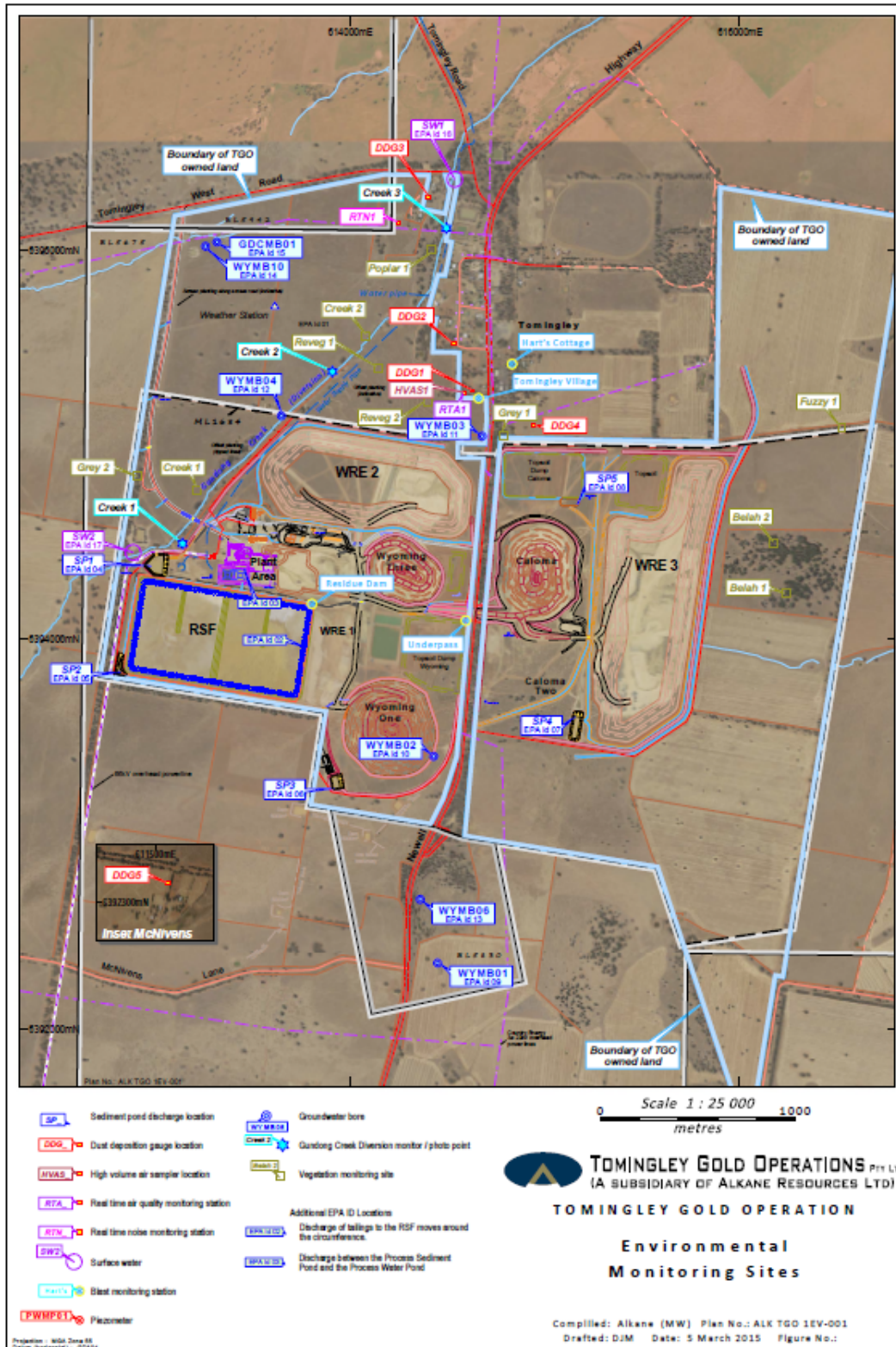
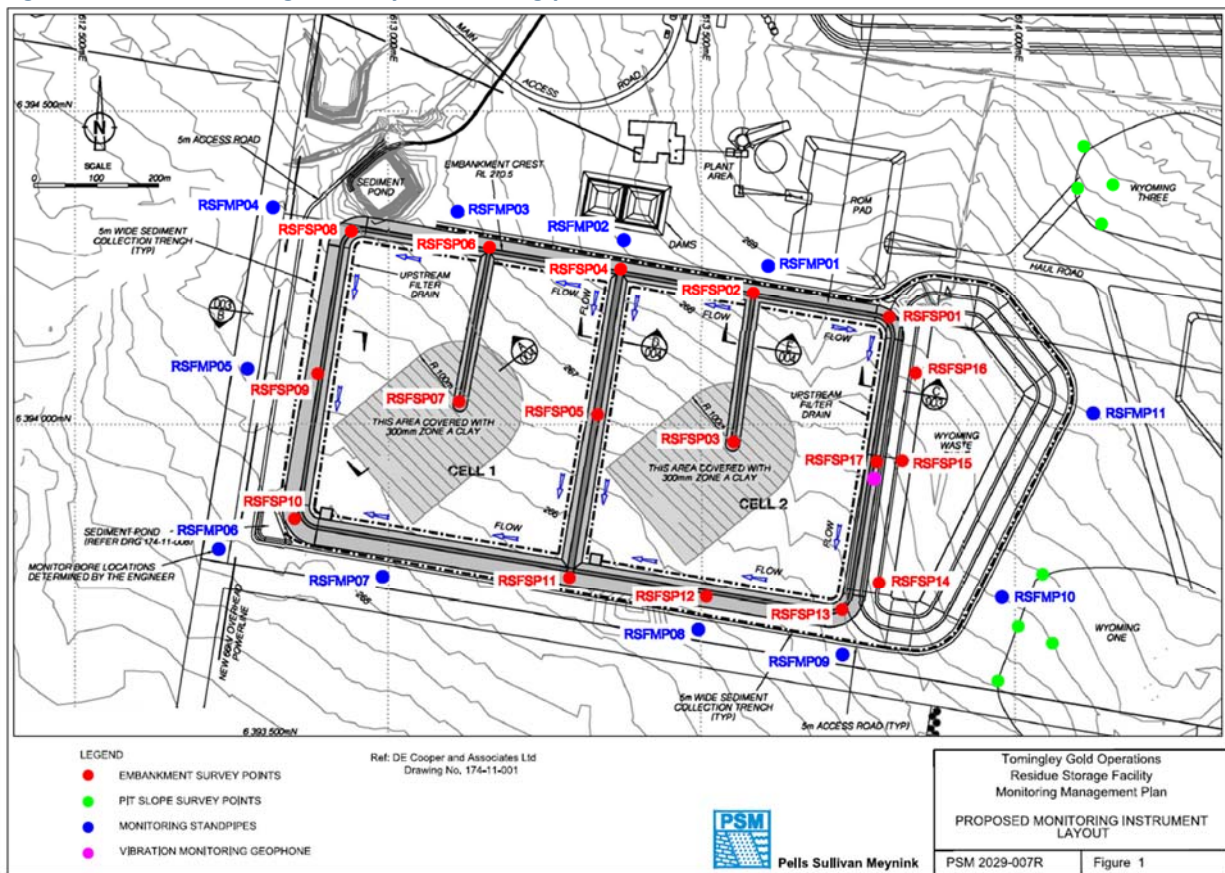


Figure 4 indicates the location of environmental and survey monitoring points on and around the Residue Storage Facility.

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/m³ and a 24-Hour Average of 50ug/m³.

The 24 hour average limit exceeded on one occasion during December. The annual average at the end of December was 18.2ug/m³, well below the license limit.

Figure 5. TEOM Data December 2016

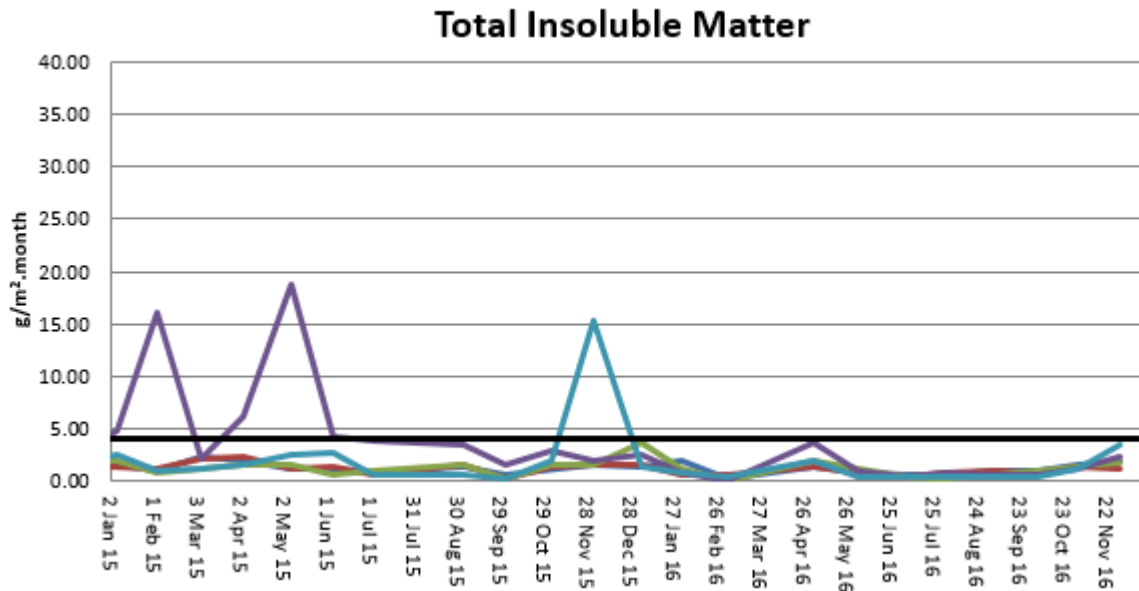
| Date | 24 Hr Averages | Running Average | Comment |
|------------------------------------|----------------|-----------------|------------------------|
| | (µg/m3) | | |
| 1/12/2016 | 37.2 | 18.2 | |
| 2/12/2016 | 57.2 | 18.3 | |
| 3/12/2016 | 26.0 | 18.3 | |
| 4/12/2016 | 26.9 | 18.3 | |
| 5/12/2016 | 29.3 | 18.3 | |
| 6/12/2016 | 14.9 | 18.3 | |
| 7/12/2016 | 17.4 | 18.3 | |
| 8/12/2016 | 36.0 | 18.3 | |
| 9/12/2016 | 28.6 | 18.3 | |
| 10/12/2016 | 20.7 | 18.3 | |
| 11/12/2016 | 35.9 | 18.3 | |
| 12/12/2016 | 29.9 | 18.3 | |
| 13/12/2016 | 27.3 | 18.3 | |
| 14/12/2016 | 37.5 | 18.3 | |
| 15/12/2016 | 8.2 | 18.2 | |
| 16/12/2016 | 5.9 | 18.2 | |
| 17/12/2016 | 10.8 | 18.1 | |
| 18/12/2016 | 15.4 | 18.1 | 1 hr average data used |
| 19/12/2016 | 14.2 | 18.1 | |
| 20/12/2016 | 23.6 | 18.1 | |
| 21/12/2016 | 27.5 | 18.1 | |
| 22/12/2016 | 23.1 | 18.1 | |
| 23/12/2016 | 16.6 | 18.2 | 1 hr average data used |
| 24/12/2016 | 6.4 | 18.1 | 1 hr average data used |
| 25/12/2016 | 6.9 | 18.1 | |
| 26/12/2016 | 10.3 | 18.1 | |
| 27/12/2016 | 12.9 | 18.1 | |
| 28/12/2016 | 18.0 | 18.2 | |
| 29/12/2016 | 18.2 | 18.2 | |
| 30/12/2016 | 16.6 | 18.2 | |
| 31/12/2016 | NA | 18.2 | Insufficient data |
| Average | 22.0 | | |
| 24 Hour criteria exceedance | | | |

Note: For comparison purposes highlighted results indicate levels above the EPA and NEPM 24-hour maximum criteria for PM₁₀

B. Depositional Dust

Depositional Dust monitoring undertaken during this month returned the results indicated in the table below. The performance criteria for deposited dust is averaged over 12 months.

Figure 6. Dust Deposition Results 2015 - 2016

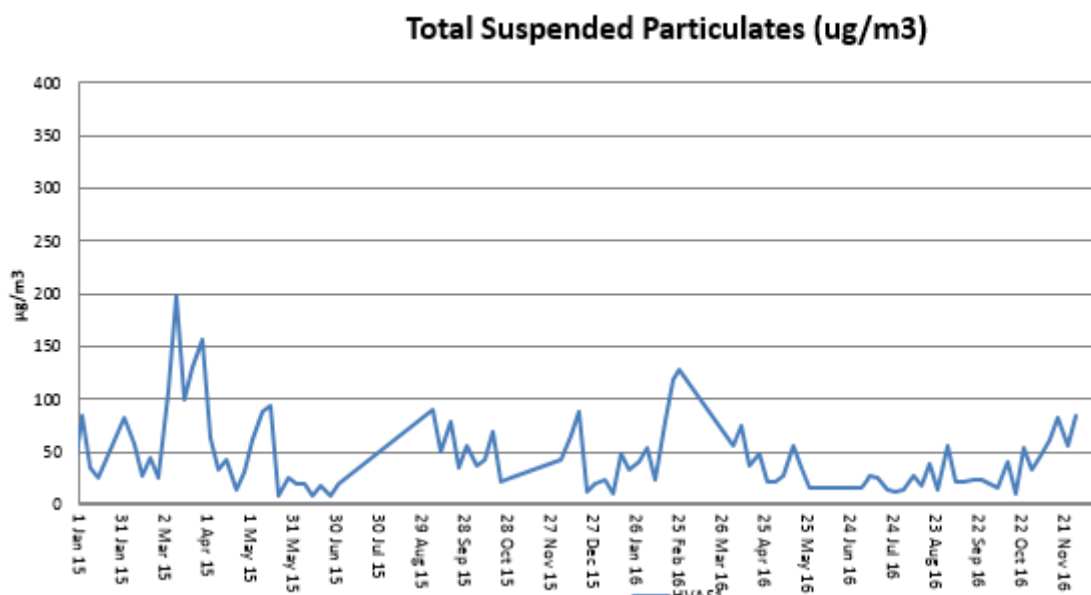


C. High Volume Air Sampler - Total Suspended Particulates

High Volume Air Sampling (HVAS) for Total Suspended Particulates (TSP) was undertaken this month. Figure 7 below provides the results.

The performance criteria for TSP is averaged over 12 months

Figure 7. Hi-Volume Air Sampler Data 2015 - 2016

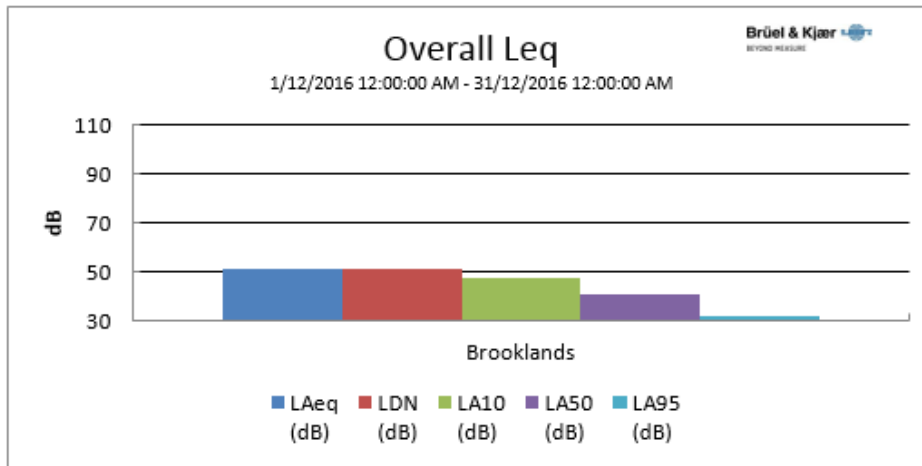


5. Noise Monitoring

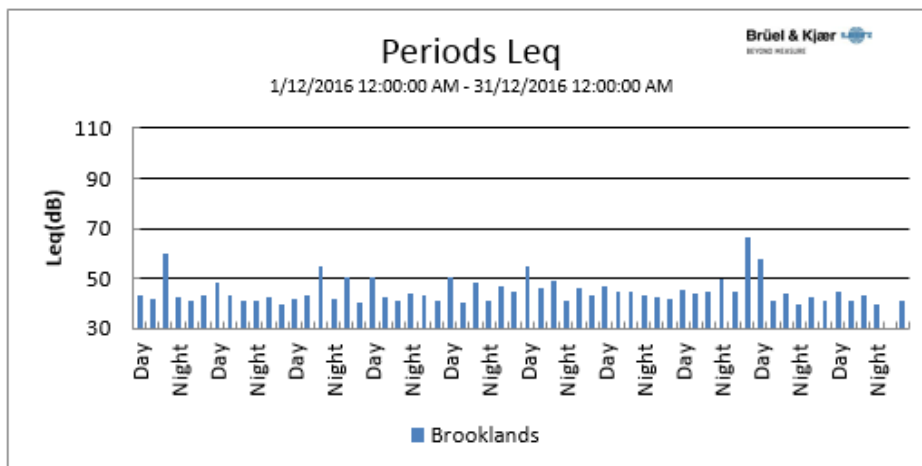
A. Real-Time Noise Monitoring

See real-time noise monitoring data presented below.

Figure 8. TGO Noise Monitoring 1/12/2016 - 31/12/2016



| Location | Start Time | End Time | Activity | LDN (dB) | L _{Aeq} (dB) | L _{AF} (dB) | L _{AMin} (dB) | L _{A10} (dB) | L _{A50} (dB) | L _{A95} (dB) |
|------------|------------------|-------------------|----------|----------|-----------------------|----------------------|------------------------|-----------------------|-----------------------|-----------------------|
| Brooklands | 1/12 12:00:00 AM | 31/12 12:00:00 AM | 91% | 51.4 | 51.4 | | 23.4 | 47.3 | 40.4 | 31.7 |



6. Surface Water Monitoring

A. Gundong Creek

Gundong Creek flowed strongly over the course of the month.

Results of this sampling fell within the expected range.

Weekly sampling will be undertaken while the creek continues to flow.

B. Sedimentation Ponds

Sediment basins did not experience any discharges during the month of December.

7. Groundwater Monitoring

Groundwater monitoring was undertaken throughout the month in line with license requirements.

Results are not yet available for this monitoring however it is expected that all samples fell within the expected range.

8. Blast Monitoring

Blasts are carried out in all open cut pits and vibration and decibels are monitored from several locations. Below are the vibration results recorded from the monitors at Hart's Cottage and Tomingley Village.

Figure 9. Blast Monitoring

| EventKey | Date/Time | Max R (mm/s) | Location |
|----------|------------------|--------------|-------------------|
| 74316 | 3/12/2016 13:01 | 0.27 | Harts Cottage |
| 74316 | 3/12/2016 13:01 | 0.67 | Tomingley Village |
| 74338 | 5/12/2016 13:00 | 0.24 | Harts Cottage |
| 74338 | 5/12/2016 13:00 | 0.41 | Tomingley Village |
| 74357 | 6/12/2016 13:05 | 0.17 | Harts Cottage |
| 74357 | 6/12/2016 13:05 | 0.36 | Tomingley Village |
| 74410 | 8/12/2016 13:59 | 0.01 | Harts Cottage |
| 74410 | 8/12/2016 13:59 | 0.01 | Tomingley Village |
| 74440 | 9/12/2016 13:01 | 0.2 | Harts Cottage |
| 74440 | 9/12/2016 13:01 | 0.36 | Tomingley Village |
| 74457 | 10/12/2016 13:23 | 0.19 | Harts Cottage |
| 74457 | 10/12/2016 13:23 | 0.41 | Tomingley Village |
| 74474 | 12/12/2016 12:59 | 0.16 | Harts Cottage |
| 74474 | 12/12/2016 12:59 | 0.32 | Tomingley Village |
| 74508 | 13/12/2016 13:00 | 0.03 | Harts Cottage |
| 74508 | 13/12/2016 13:00 | 0.04 | Tomingley Village |
| 74569 | 15/12/2016 10:31 | 0.23 | Harts Cottage |
| 74569 | 15/12/2016 10:31 | 0.5 | Tomingley Village |
| 74814 | 30/12/2016 12:57 | 0.26 | Harts Cottage |
| 74814 | 30/12/2016 12:57 | 0.39 | Tomingley Village |

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 well below the 100th percentile limit of 30ppm.

- Monthly average: 2.53 ppm
- Daily maximum: 10.96 ppm on 17th December
- Daily minimum: 0.358 ppm on 10th December
- Number of exceedances: zero

10. Biodiversity Monitoring

Fauna deaths:

- There were no fauna deaths in the RSF for the month.

Site Fauna

- On site fauna sightings for December included:
 - A number of snakes, suspected to be *Pseudonaja textilis*, were sighted in the Claoma two footprint.
 - 2 Tawny Frogmouth owls, *Podargus strigoides*, remain in residence adjacent to administration building
 - A number of Eastern Grey Kangaroos, *Macropus giganteus*, have been visible grazing in the Caloma 2 footprint and wester biodiversity area
 - Australian Wood Ducks, *Chenonetta jubata*, have been regularly spotted on sediment dams and farm dams around the site throughout August A single Red Backed Kingfisher, *Todiramphus pyrrhopygius*, was spotted roosting in trees around the Caloma 2 footprint
 - A wedge tailed eagle, *Aquila audax*, was sighted in the tree corridor along the site access road
 - Regularly throughout October Grey Crowned Babblers, *Pomatostomus temporalis*, were seen in the tree corridor to the South of the RSF.
 - A number of White Faced Herons, *Egretta novaehollandiae*, are continually spotted at the water point on the site access road.

Vertebrate pests

- A program of trapping feral cats and foxes has continued with no animals being captured throughout November