

HERA MONTHLY ENVIRONMENTAL MONITORING SUMMARY
NOVEMBER 2022



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|--------------|-----------------|
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1. Intent

This monthly environmental monitoring 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 the Hera mine's environmental performance and to maintain a transparent and accountable reporting system.

2. Scope

This report covers all of Hera's environmental monitoring conditions for November 2022. These conditions, where applicable, are measured against Hera's Environmental Protection Licence (EPL), development consent conditions and Australian Standards to determine Hera's compliance.

These conditions include;

- Weather Conditions
- Surface Water Monitoring results
- Ground Water Monitoring results
- Noise Monitoring results
- Blasting monitoring results
- Air Quality Monitoring results
- Gold Room Stack Monitoring
- Concentrate Transport
- Complaints

3. Definitions

| Term | Definition |
|---------------------------------|--|
| mm/s | The peak of the vibration in millimeters per second |
| Insoluble Solids | The insoluble portion of the dust deposited in dust deposition gauge |
| Total Lead | Including dissolved lead in the liquid portion and the lead particulates in the filter paper following laboratory analysis |
| g/m ² /month | Grams per square meter per month |
| dB (L) | Decibel (linear maximum) |
| dB LA _{eq} (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. Maps

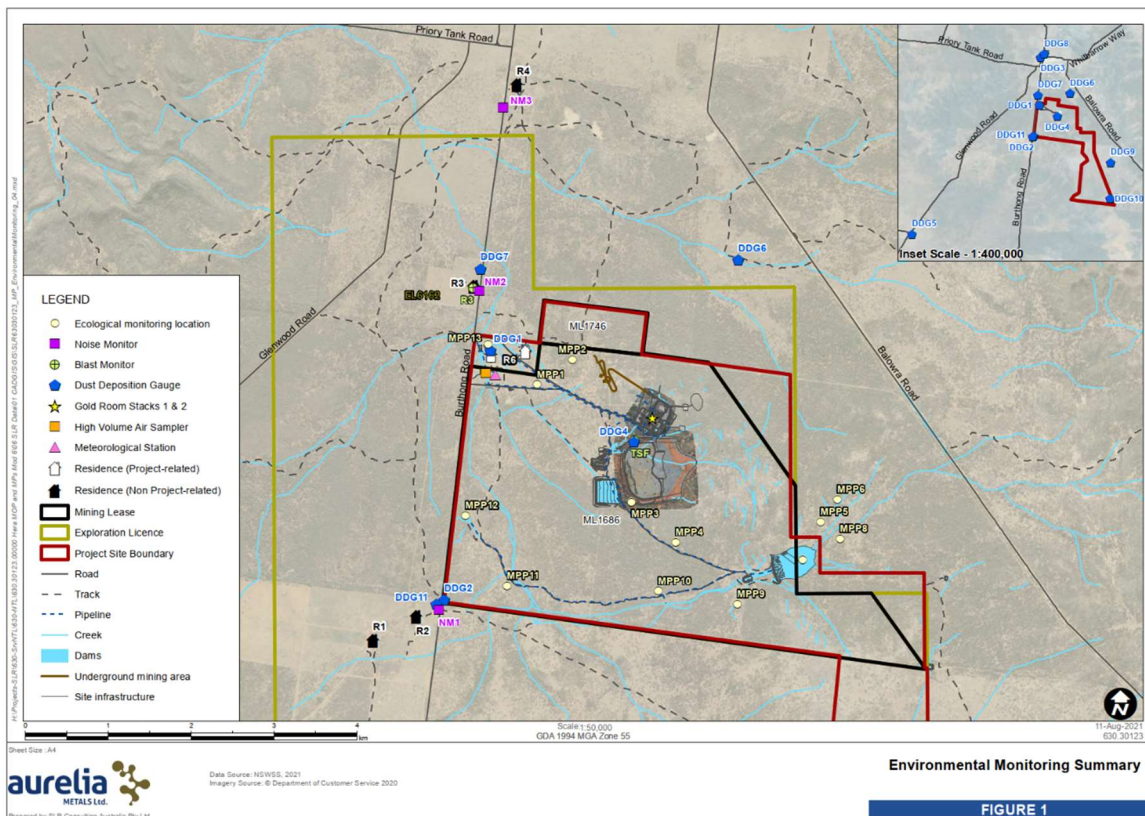


Figure 1 - Hera Environmental Monitoring Locations

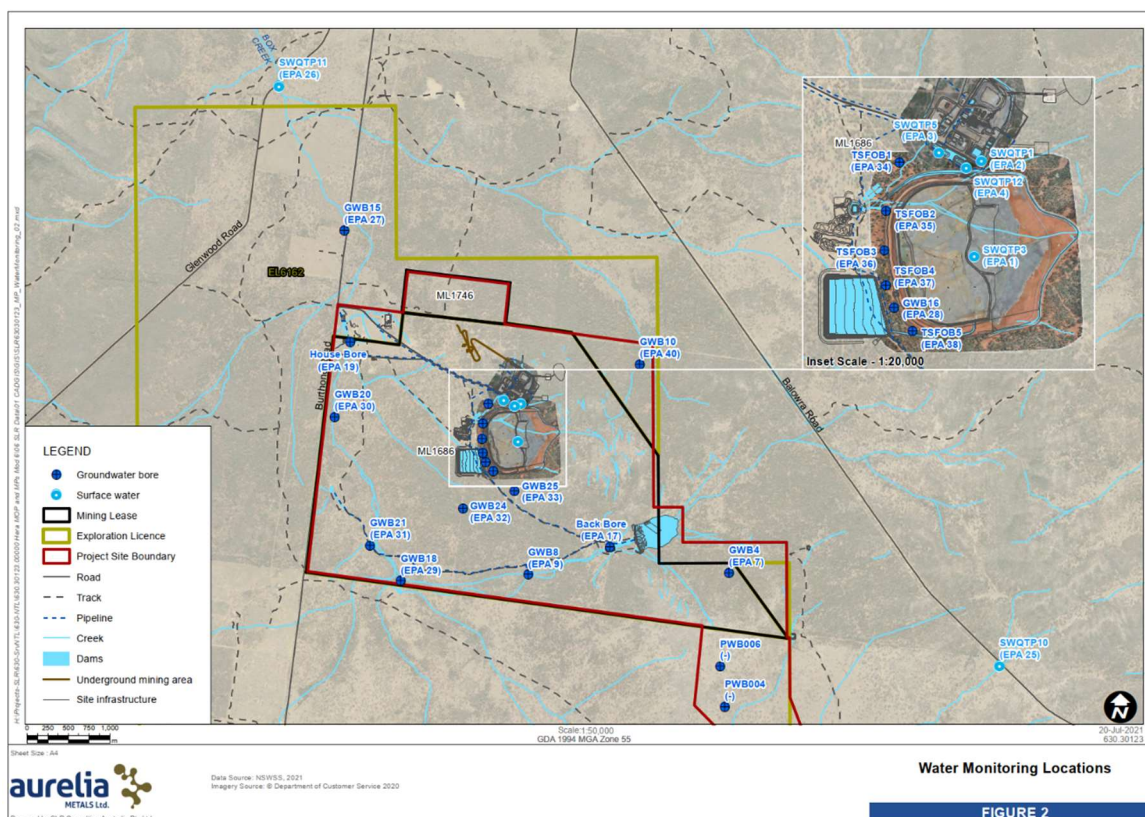


Figure 2 - Hera Water Monitoring Locations

5. Monitoring Results

5.1. Weather

The meteorology monitoring data is acquired through Hera’s weather station located on the Hera Mine site, approximately 4km south of the town of Nymagee, NSW, Refer **Figure 1**.

Meteorological monitoring is conducted on a continuous basis. **Table 1** shows a summary of the data collected by the weather station this month. **Figure 3** is the wind rose for the month of November.

TABLE 1: Summary of meteorological data for November 2022

| Parameter | No. of measurements for the month | Minimum Value | Mean Value | Median Value | Maximum value | Total |
|-----------------------|-----------------------------------|---------------|------------|--------------|---------------|-------|
| Air Temperature (°C) | Continuous | 2.17 | 16.89 | 16.90 | 30.85 | - |
| Wind Speed (m/s) | Continuous | 0.00 | 8.49 | 8.09 | 37.67 | - |
| Sigma Theta (°) | Continuous | 0.00 | 21.71 | 18.25 | 102.70 | - |
| Rainfall (mm) | Continuous | 0.00 | 0.03 | 0.00 | 13.60 | 115.8 |
| Relative Humidity (%) | Continuous | 20.31 | 65.37 | 66.81 | 99.89 | - |

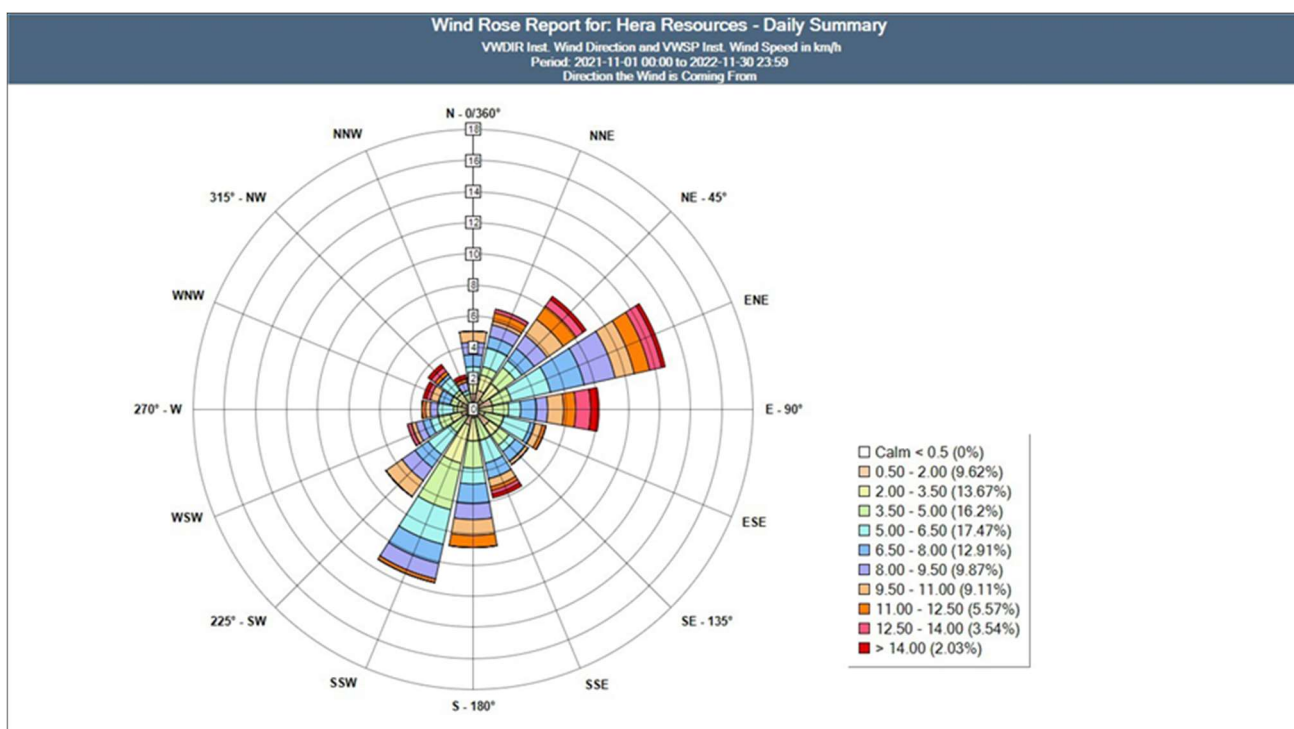


Figure 3 - Wind Rose for November 2022

5.2. Water

Water monitoring involves collecting water samples from several locations around site. The water samples are submitted to a NATA accredited laboratory for physical and chemical analysis. Analysis of pH and electrical conductivity are obtained in the field using a handheld monitor.

Surface Water

Hera has 6 licence points associated with surface water. Four of these points are located within the mining lease and two are located off the mining lease, with one upstream and another downstream of the lease, refer **Figure 2**.

Table 2 shows a summary of the surface water quality results for November 2022 for licence points 1 and 2. Licence points 3, 4, 25 and 26 did not discharge during December. No exceedances were recorded for the month.

TABLE 2: Surface Water monitoring results

| Monitoring Point | WAD Cyanide (mg/L) | | | EPL 90 th percentile concentration criteria |
|---------------------------------------|--------------------|---------|---------|--|
| | Minimum | Average | Maximum | |
| TSF Thickener Discharge (EPA Point 1) | 0 | 0.00 | 0 | 20 |
| Proces Water Dam (EPA Point 2) | 0 | 0.00 | 0 | 20 |

Groundwater

Hera has 17 licence points associated with groundwater. These points are located around the Project Area, (refer **Figure 2**) and are a combination of observation bores, productions bores and piezometers. Monitoring is conducted quarterly and was commenced in September however due to weather conditions was unable to be completed until November. Results are presented in **Table 3** and **Table 4**.

TABLE 3: Groundwater Monitoring - September/November 2022

| Licence Point | Analyte (mg/L) | | | | | | | | | | | | | |
|---------------|----------------|--------|-------|------|---------|-----|-------|------|--------|--------|------------|-------------|-----------|------------|
| | Sb | As | HCO3- | B | Cd | Ca | CO3-2 | Cl | Cr | Cu | CN- (Free) | CN- (Total) | CN- (WAD) | EC (mS/cm) |
| 7 | <0.001 | 0.001 | 709 | 0.39 | <0.0001 | 211 | <1 | 1310 | <0.001 | <0.001 | <0.004 | <0.004 | <0.004 | 5.61 |
| 9 | <0.001 | <0.001 | 611 | 0.6 | <0.0001 | 196 | <1 | 1130 | <0.001 | <0.001 | <0.004 | <0.004 | <0.004 | 5.74 |
| 17 | <0.001 | <0.001 | 549 | 0.39 | 0.0002 | 129 | <1 | 802 | <0.001 | <0.001 | <0.004 | <0.004 | <0.004 | 3.54 |
| 19 | Pump fault | | | | | | | | | | | | | |
| 27 | <0.001 | 0.002 | 459 | 1.24 | <0.0001 | 68 | <1 | 1360 | <0.001 | <0.001 | <0.004 | <0.004 | <0.004 | 6140 |
| 28 | <0.001 | 0.004 | 723 | 0.59 | <0.0001 | 196 | <1 | 1080 | <0.001 | <0.001 | <0.004 | <0.004 | <0.004 | 5.69 |
| 29 | 0.01 | 0.003 | 364 | 0.45 | <0.0001 | 45 | <1 | 324 | <0.001 | <0.001 | <0.004 | <0.004 | <0.004 | 1.94 |
| 30 | 0.004 | 0.003 | 597 | 1.78 | <0.0001 | 69 | <1 | 1540 | <0.001 | 0.005 | <0.010 | <0.004 | <0.010 | 7.16 |
| 31 | 0.002 | <0.001 | 376 | 0.87 | <0.0001 | 101 | <1 | 1380 | 0.002 | <0.001 | <0.004 | <0.004 | <0.004 | 5.84 |
| 32 | 0.002 | <0.001 | 633 | 0.86 | <0.0001 | 218 | <1 | 1070 | <0.001 | <0.001 | <0.004 | <0.004 | <0.004 | 6.31 |
| 33 | No pump | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | Dry | Dry | Dry | Dry |
| 35 | | | | | | | | | | | Dry | Dry | Dry | Dry |
| 36 | | | | | | | | | | | Dry | Dry | Dry | Dry |
| 37 | | | | | | | | | | | Dry | Dry | Dry | Dry |
| 38 | | | | | | | | | | | Dry | Dry | Dry | Dry |
| 40 | <0.001 | 0.001 | 622 | 0.32 | <0.0001 | 187 | <1 | 1290 | <0.001 | <0.001 | <0.004 | <0.004 | <0.004 | 5.4 |

TABLE 4: Groundwater Monitoring - September/November 2022

| Licence Point | Analyte (mg/L) | | | | | | | | | | | | | |
|---------------|----------------|--------|-----|---------|--------|--------|------|----|--------|------|--------|------|--------|---------|
| | Fe | Pb | Mg | Hg | Mo | Ni | pH | K | Ag | Na | Sn* | TDS | Zn | SWL (m) |
| 7 | 0.11 | <0.001 | 221 | <0.0001 | 0.001 | 0.004 | 6.96 | 20 | <0.001 | 670 | <0.001 | 3590 | <0.005 | 58.07 |
| 9 | 0.52 | <0.001 | 245 | <0.0001 | <0.001 | 0.022 | 7.19 | 29 | <0.001 | 772 | <0.001 | 3900 | 0.006 | Tap |
| 17 | <0.05 | <0.001 | 142 | <0.0001 | <0.001 | <0.001 | 7.07 | 15 | <0.001 | 437 | <0.001 | 2220 | 0.011 | Tap |
| 19 | Pump fault | | | | | | | | | | | | | Tap |
| 27 | 0.23 | <0.001 | 156 | <0.0001 | <0.001 | 0.001 | 7.13 | 44 | <0.001 | 1000 | <0.001 | 3630 | 0.017 | 57.78 |
| 28 | 1.38 | <0.001 | 238 | <0.0001 | <0.001 | 0.008 | 6.9 | 31 | <0.001 | 712 | <0.001 | 3800 | <0.005 | 99.59 |
| 29 | 1.15 | <0.001 | 56 | <0.0001 | 0.001 | 0.002 | 7.27 | 15 | <0.001 | 299 | <0.001 | 1100 | 0.008 | 78.12 |
| 30 | <0.05 | 0.007 | 103 | <0.0001 | 0.001 | 0.006 | 7.24 | 35 | <0.001 | 1400 | <0.001 | 438 | 0.024 | 68.64 |
| 31 | 0.06 | <0.001 | 147 | <0.0001 | <0.001 | 0.002 | 7.66 | 33 | <0.001 | 945 | <0.001 | 3580 | <0.005 | Tap |
| 32 | 0.12 | <0.001 | 239 | <0.0001 | <0.001 | 0.128 | 7.1 | 32 | <0.001 | 910 | <0.001 | 4420 | 0.139 | Tap |
| 33 | No pump | | | | | | | | | | | | | No pump |
| 34 | | | | | | | | | | | | | | Dry |
| 35 | | | | | | | | | | | | | | Dry |
| 36 | | | | | | | | | | | | | | Dry |
| 37 | | | | | | | | | | | | | | Dry |
| 38 | | | | | | | | | | | | | | Dry |
| 40 | 0.32 | <0.001 | 208 | <0.0001 | <0.001 | 0.002 | 7.18 | 18 | <0.001 | 679 | <0.001 | 3260 | <0.005 | 59.12 |

5.3. Noise

The Company has four licenced monitoring points (R1, R2, R3 and R4) located along the Burthong Road (**Figure 1**). The locations are strategically placed near the Hera Mine's nearest neighbours. R1 and R2 are measured from the same point as both neighbours are in very close proximity to each other.

A noise assessment was carried out on 20th September 2022 and results reported in the September website report. The next annual noise monitoring is due to be undertaken in August/September 2023. Hera holds a Noise and Blast agreement with the Landholder of R3. The agreement has been provided to the EPA and the Department of Planning and Environment (DPIE).

5.4. Blast Monitoring

The blast monitor is located adjacent to the dwelling on the nearest neighbour's property (**Figure 1**).

During November 2021 a new blast monitoring system was implemented which does not trigger monitoring for every blast. There were 53 blasts during November, of which 44 triggered monitoring at R3 (Refer to **Table 5**). No exceedances were recorded for the month.

Hera holds a Noise and Blast agreement with the Landholder of R3. The agreement has been provided to the EPA and DPE.

TABLE 5: Summary of blast monitoring results for November at R3

| Date | Time | Time Period | Vibration (mm/s) | Overpressure (dB) |
|------------|----------|-------------|------------------|-------------------|
| 1/11/2022 | 6:39 AM | Night | 0.02 | 99 |
| 1/11/2022 | 6:53 PM | Evening | 0.03 | 94.4 |
| 2/11/2022 | 6:30 AM | Night | 0.03 | 89.9 |
| 3/11/2022 | 2:28 AM | Night | 0.03 | 70.1 |
| 3/11/2022 | 6:51 AM | Night | 0.44 | 75.6 |
| 3/11/2022 | 11:21 PM | Night | 0.46 | 81.1 |
| 4/11/2022 | 7:20 AM | Night | 0.04 | 73.3 |
| 4/11/2022 | 6:57 PM | Evening | 0.14 | 73.3 |
| 5/11/2022 | 6:45 PM | Night | 0.06 | 88.26 |
| 5/11/2022 | 7:09 AM | Evening | 0.03 | 71.8 |
| 6/11/2022 | 6:53 AM | Sunday | 0.03 | 75.1 |
| 7/11/2022 | 6:45 PM | Night | 0.04 | 86.41 |
| 7/11/2022 | 6:36 AM | Evening | 0.02 | 75.1 |
| 8/11/2022 | 8:01 AM | Night | 0.03 | 88.3 |
| 8/11/2022 | 7:22 PM | Evening | 0.15 | 85.6 |
| 9/11/2022 | 6:29 AM | Night | 0.03 | 71.8 |
| 10/11/2022 | 6:56 AM | Night | 0.27 | 90.3 |
| 10/11/2022 | 6:53 PM | Evening | 0.13 | 71 |
| 11/11/2022 | 7:02 PM | Evening | 0.16 | 77 |
| 12/11/2022 | 6:39 PM | Evening | 0.07 | 71.8 |
| 13/11/2022 | 6:56 AM | Sunday | 0.03 | 73.9 |
| 14/11/2022 | 6:45 PM | Evening | 0.04 | 82.4 |

| Date | Time | Time Period | Vibration (mm/s) | Overpressure (dB) |
|------------|----------|-------------|------------------|-------------------|
| 15/11/2022 | 6:45 PM | Evening | 0.14 | 90.5 |
| 16/11/2022 | 6:45 PM | Evening | 0.59 | 105.11 |
| 17/11/2022 | 6:45 AM | Night | 0.33 | 71.8 |
| 18/11/2022 | 6:45 AM | Night | 0.04 | 73.3 |
| 18/11/2022 | 6:45 PM | Evening | 0.25 | 73.3 |
| 19/11/2022 | 6:45 PM | Night | 0.01 | 96.7 |
| 19/11/2022 | 6:38 AM | Evening | 0.13 | 70.1 |
| 20/11/2022 | 6:41 PM | Sunday | 0.02 | 100.9 |
| 21/11/2022 | 6:52 PM | Evening | 0.03 | 94.9 |
| 23/11/2022 | 1:04 AM | Night | 0.02 | 71 |
| 23/11/2022 | 6:07 AM | Night | 0.05 | 71.8 |
| 24/11/2022 | 6:34 PM | Night | 0.02 | 86.6 |
| 24/11/2022 | 11:01 PM | Evening | 0.02 | 71 |
| 25/11/2022 | 6:45 AM | Night | 0.01 | 71.82 |
| 25/11/2022 | 6:31 PM | Evening | 0.03 | 102.4 |
| 26/11/2022 | 1:19 AM | Night | 0.21 | 76.6 |
| 26/11/2022 | 6:38 PM | Evening | 0.02 | 73.9 |
| 27/11/2022 | 6:45 AM | Sunday | 0.01 | 79.94 |
| 28/11/2022 | 6:45 AM | Night | 0.13 | 79.62 |
| 29/11/2022 | 6:20 AM | Night | 0.06 | 73.3 |
| 29/11/2022 | 6:57 AM | Night | 0.03 | 71.8 |
| 30/11/2022 | 6:45 AM | Night | 0.01 | 72.58 |

5.5. Air Quality

The Company has two High Volume Air Samplers (HVAS), designed to sample Particulate matter less than 10 µm (PM10) or Total Suspended Particulate (TSP) matter and two Dust Deposition Gauges (DDG). Refer to **Figure 1** for location of the sampling points.

Results for air quality monitoring conducted in September have been summarised in **Table 6**. No exceedances were recorded.

TABLE 6: Summary of Air Quality monitoring results for November

| Pollutant | Unit | Limit | Averaging Period | Result |
|---|-------------------|-------|------------------|--------|
| TSP | µg/m ³ | 90 | Annual | 35.74 |
| PM-10 | µg/m ³ | 25 | Annual | 11.76 |
| High Volume Air Samplers (PM₁₀) | | | | |
| 6/11/2022 | µg/m ³ | 50 | 24 Hour | 5.9 |
| 12/11/2022 | µg/m ³ | 50 | 24 Hour | 8.6 |
| 18/11/2022 | µg/m ³ | 50 | 24 Hour | 3.4 |
| 24/11/2022 | µg/m ³ | 50 | 24 Hour | 4.6 |

| Pollutant | Unit | Limit | Averaging Period | Result |
|-------------------------------|-------------------------|-------|------------------|--------|
| 30/11/2022 | µg/m ³ | 50 | 24 Hour | 20.2 |
| Dust Deposition Gauges | | | | |
| Deposited Dust (DDG 1) | g/m ² /month | 4 | Annual | 1.66 |
| Deposited Dust (DDG2) | g/m ² /month | 4 | Annual | 2.67 |

5.6. Gold Room Stack Monitoring

Hera has two licenced gold room stack monitoring points (Refer to Figure 1).

Gold Room stack monitoring is conducted on an annual basis. Annual monitoring was conducted and reported on in January 2022.

5.7. Concentrate Transport

The Company is licenced to transport 60,000 tonnes of lead/zinc concentrate from the Hera site to Hermidale rail siding during daylight hours only. Hera is limited to eight truck movements per day averaged over a calendar month (two truck movements to Hermidale rail is defined as entering and leaving the site). A summary of concentrate haulage operations is presented in **Table 7**.

TABLE 7: Summary of concentrate truck movements for November

| Date | Load Time | Truck Dry Tonnes |
|------------|-----------|------------------|
| 1/11/2022 | 7:00 | 46.33 |
| 1/11/2022 | 10:45 | 47.61 |
| 1/11/2022 | 13:45 | 45.26 |
| 2/11/2022 | 6:20 | 44.65 |
| 7/11/2022 | 11:15 | 44.89 |
| 7/11/2022 | 13:15 | 45.72 |
| 10/11/2022 | 8:00 | 45.72 |
| 10/11/2022 | 11:35 | 45.28 |
| 10/11/2022 | 14:40 | 46.09 |
| 10/11/2022 | 16:00 | 48.36 |
| 11/11/2022 | 7:00 | 48.83 |
| 11/11/2022 | 10:30 | 45.85 |
| 18/11/2022 | 13:15 | 45.53 |
| 18/11/2022 | 14:00 | 44.45 |
| 18/11/2022 | 17:00 | 45.61 |
| 19/11/2022 | 7:30 | 45.69 |
| 19/11/2022 | 11:00 | 45.52 |
| 19/11/2022 | 14:30 | 45.79 |
| 20/11/2022 | 7:00 | 44.13 |
| 20/11/2022 | 10:00 | 43.93 |
| 20/11/2022 | 13:40 | 44.18 |

| Date | Load Time | Truck Dry Tonnes |
|--|-----------|------------------|
| 20/11/2022 | 16:45 | 44.30 |
| 21/11/2022 | 7:00 | 43.92 |
| 21/11/2022 | 9:30 | 46.48 |
| 21/11/2022 | 10:30 | 44.46 |
| 21/11/2022 | 12:30 | 43.98 |
| 21/11/2022 | 13:40 | 44.83 |
| 21/11/2022 | 15:30 | 45.32 |
| 21/11/2022 | 16:45 | 45.06 |
| 22/11/2022 | 6:30 | 44.64 |
| 22/11/2022 | 7:20 | 45.48 |
| 26/11/2022 | 13:45 | 48.46 |
| 26/11/2022 | 17:00 | 47.82 |
| 28/11/2022 | 8:10 | 44.19 |
| 28/11/2022 | 11:45 | 44.30 |
| 29/11/2022 | 14:00 | 48.38 |
| 30/11/2022 | 8:00 | 47.76 |
| 30/11/2022 | 11:00 | 44.82 |
| 30/11/2022 | 15:00 | 49.09 |
| Total Tonnes | | 1782.68 |
| Average truck movements per day | | 2.6 |

5.8. Complaints

Nil complaints were received this month as presented in **Table 8**.

TABLE 8: Summary of complaints received In November

| Date | Complaint Category |
|------|--------------------|
| - | - |