

HERA MONTHLY ENVIRONMENTAL MONITORING SUMMARY  
MARCH 2023



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Author	Mark Williams
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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 March 2023. 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 <sup>2</sup> /month	Grams per square meter per month
dB (L)	Decibel (linear maximum)
dB LA <sub>eq</sub> (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

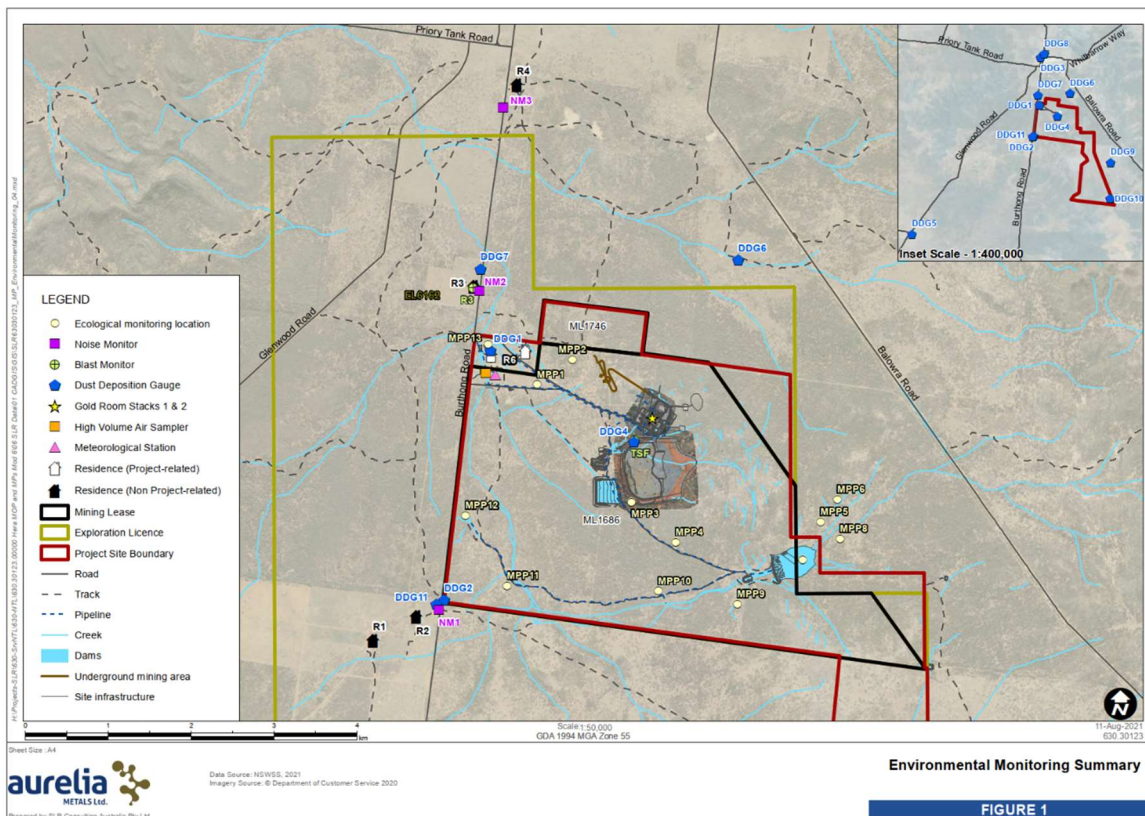


Figure 1 - Hera Environmental Monitoring Locations

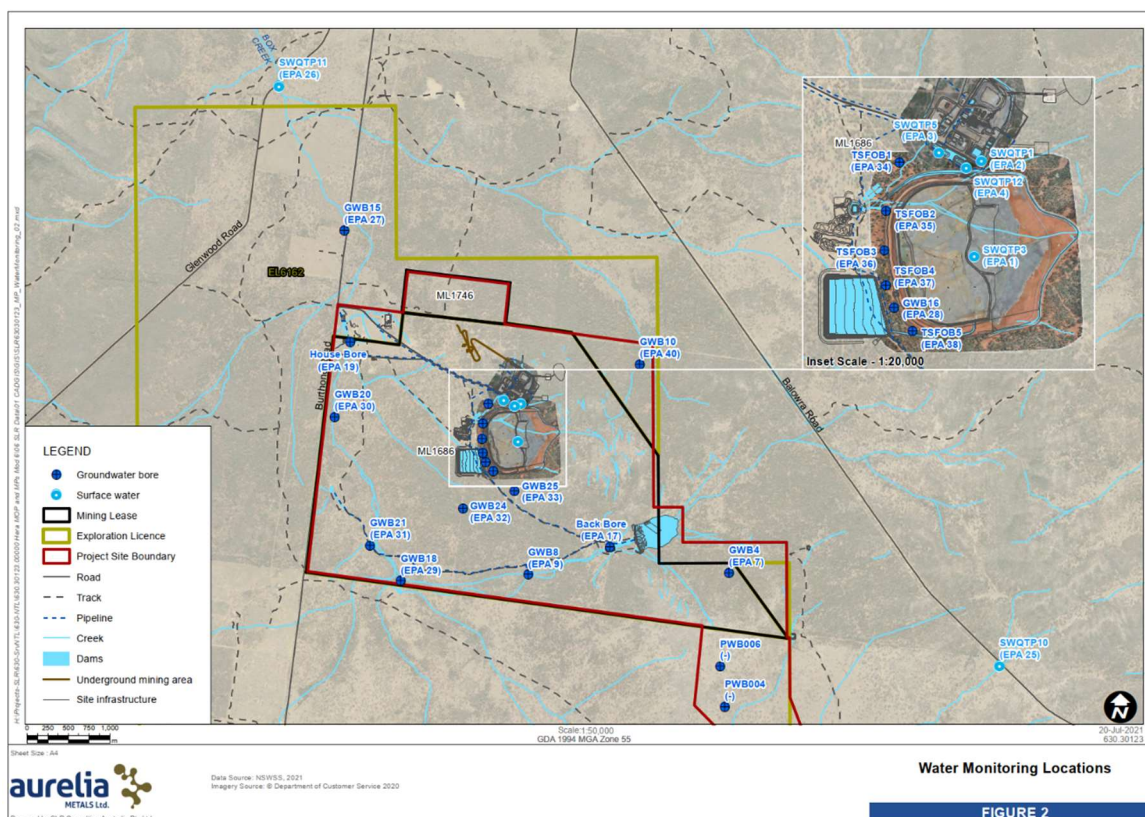


Figure 2 - Hera Water Monitoring Locations

## 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 March.

TABLE 1: Summary of meteorological data for March 2023

Parameter	No. of measurements for the month	Minimum Value	Mean Value	Median Value	Maximum value	Total
Air Temperature (°C)	Continuous	4.82	22.67	22.53	39.45	-
Wind Speed (m/s)	Continuous	0.00	7.42	6.76	34.91	-
Sigma Theta (°)	Continuous	1.89	23.59	18.49	101.56	-
Rainfall (mm)	Continuous	0.00	0.01	0.00	12.40	41
Relative Humidity (%)	Continuous	11.10	53.46	51.81	98.61	-

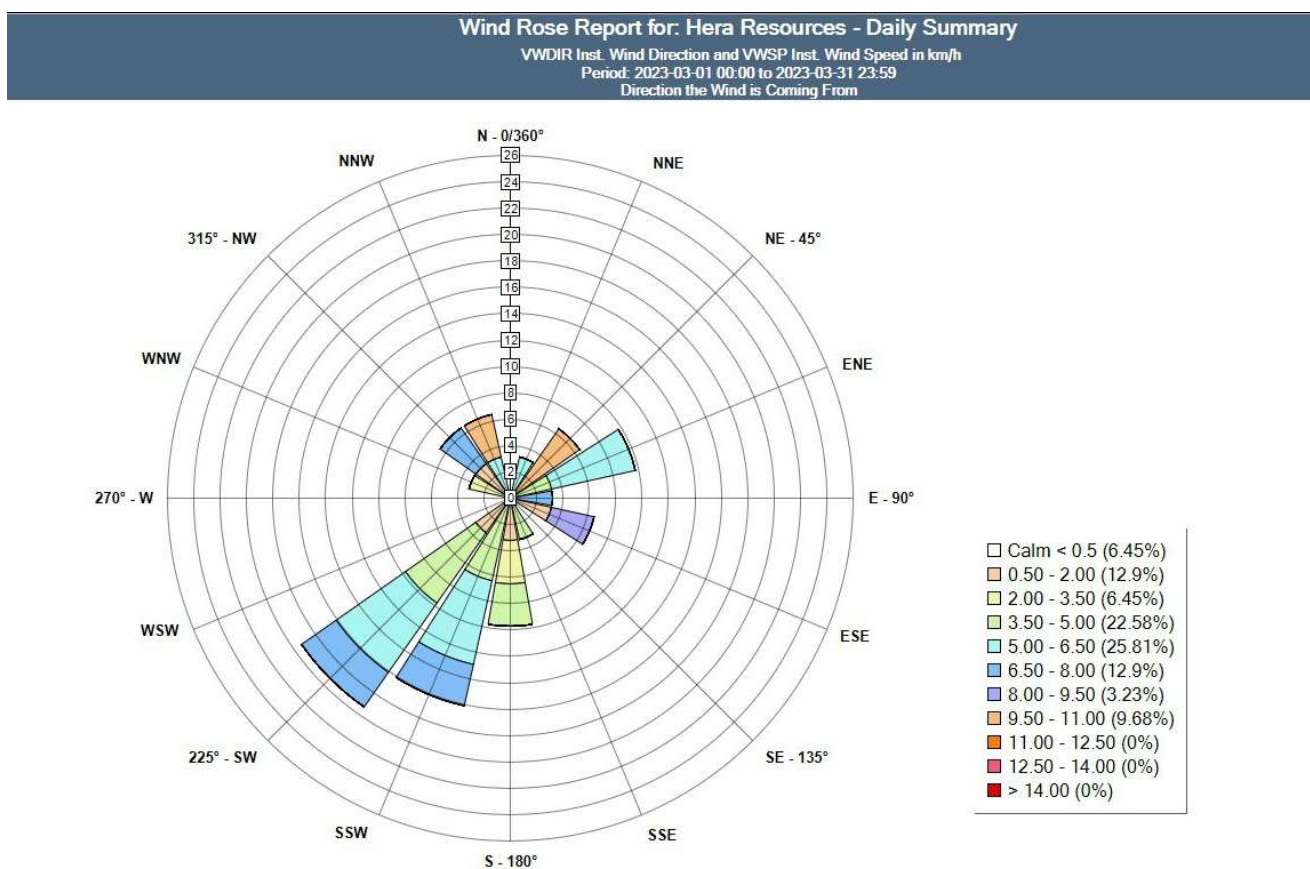


Figure 3 - Wind Rose for March 2023

## 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 March 2023 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 for March 2023

Monitoring Point	WAD Cyanide (mg/L)			EPL 90 <sup>th</sup> percentile concentration criteria
	Minimum	Average	Maximum	
TSF Thickener Discharge (EPA Point 1)	0	0.00	0	20
Proces Water Dam (EPA Point 2)	0	0.32	10	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 completed in March. Results are presented in **Table 3** and **Table 4**.

TABLE 3: Groundwater Monitoring - March 2023

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	742	0.44	<0.0001	203	<1	1230	<0.001	<0.001	<0.004	<0.004	<0.004	5.61
9	<0.001	<0.001	581	0.65	<0.0001	189	<1	1070	<0.001	<0.001	<0.004	<0.004	<0.004	5.81
17	<0.001	<0.001	457	0.36	0.0002	110	<1	675	<0.001	<0.001	<0.004	<0.004	<0.004	3
19	<0.001	<0.001	299	0.56	<0.0001	14	<1	305	<0.001	0.004	<0.004	<0.004	<0.004	1.68
27	0.004	0.001	471	1.18	<0.0001	68	<1	1200	<0.001	<0.001	<0.004	<0.004	<0.004	5.86
28	0.001	0.003	687	0.7	<0.0001	227	<1	1060	<0.001	<0.001	<0.004	<0.004	<0.004	6.08
29	0.008	0.003	349	0.38	<0.0001	42	<1	292	<0.001	0.002	<0.004	<0.004	<0.004	1.94
30	0.003	0.004	616	1.75	<0.0001	70	<1	1480	<0.001	0.004	<0.004	<0.004	<0.004	7.41
31	0.002	<0.001	371	0.89	<0.0001	101	<1	1280	<0.001	<0.001	<0.004	<0.004	<0.004	5.9
32	0.002	<0.001	644	0.88	<0.0001	207	<1	1010	<0.001	0.001	<0.004	<0.004	<0.004	6.41
33	<0.001	0.001	467	0.46	<0.0001	344	<1	1440	<0.001	<0.001	<0.004	<0.004	<0.004	7.52
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	605	0.47	<0.0001	188	<1	1220	<0.001	0.002	<0.004	<0.004	<0.004	5.53

TABLE 4: Groundwater Monitoring - March 2023

Licence Point	Analyte (mg/L)													
	Fe	Pb	Mg	Hg	Mo	Ni	pH	K	Ag	Na	Sn*	TDS	Zn	SWL (m)
7	0.16	<0.001	208	<0.0001	<0.001	0.002	6.86	21	<0.001	641	<0.001	3550	<0.005	59.57
9	0.4	<0.001	229	<0.0001	<0.001	0.044	7.34	28	<0.001	726	<0.001	3890	0.011	Tap
17	<0.05	<0.001	119	<0.0001	<0.001	0.002	7	14	<0.001	389	<0.001	1920	0.01	Tap
19	<0.05	<0.001	24	<0.0001	0.007	0.046	7.82	17	<0.001	308	<0.001	972	0.136	Tap
27	0.07	<0.001	133	<0.0001	0.001	0.005	7.08	37	<0.001	907	<0.001	3260	0.052	58.16
28	2.21	<0.001	255	<0.0001	<0.001	0.088	6.82	30	<0.001	691	<0.001	4100	0.008	98.22
29	0.99	<0.001	52	<0.0001	0.002	0.005	7.23	14	<0.001	280	<0.001	1090	0.006	77.26
30	<0.05	0.006	97	<0.0001	<0.001	0.006	7.13	34	<0.001	1330	<0.001	4420	0.026	68.24
31	<0.05	<0.001	141	<0.0001	<0.001	0.002	7.54	32	<0.001	903	<0.001	3490	<0.005	Tap
32	<0.05	<0.001	224	<0.0001	<0.001	0.056	7	31	<0.001	880	<0.001	4320	0.101	Tap
33	10.9	<0.001	353	<0.0001	<0.001	0.118	6.52	29	<0.001	769	<0.001	5160	0.17	Tap
34														Dry
35														Dry
36														Dry
37														Dry
38														Dry
40	<0.05	<0.001	202	<0.0001	<0.001	0.001	7.15	18	<0.001	647	<0.001	3360	0.005	66.80

### 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 2 blasts during March, of which 1 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 March at R3

Date	Time	Time Period	Vibration (mm/s)	Overpressure (dB)
2/03/2023	18:47	Evening	1.04	103.1

### 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 December have been summarised in **Table 6**. No exceedances were recorded.

TABLE 6: Summary of Air Quality monitoring results for March 2023

Pollutant	Unit	Limit	Averaging Period	Result
TSP	µg/m <sup>3</sup>	90	Annual	32.96
PM-10	µg/m <sup>3</sup>	25	Annual	10.93
<b>High Volume Air Samplers (PM<sub>10</sub>)</b>				
6/03/2023	µg/m <sup>3</sup>	50	24 Hour	32.5
12/03/2023	µg/m <sup>3</sup>	50	24 Hour	43.0
18/03/2023	µg/m <sup>3</sup>	50	24 Hour	26.9
24/03/2023	µg/m <sup>3</sup>	50	24 Hour	20.5
30/03/2023	µg/m <sup>3</sup>	50	24 Hour	3.9
<b>Dust Deposition Gauges</b>				
Deposited Dust (DDG 1)	g/m <sup>2</sup> /month	4	Annual	1.39
Deposited Dust (DDG2)	g/m <sup>2</sup> /month	4	Annual	2.23

## 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 March 2023

Date	Load Time	Truck Dry Tonnes
1/03/2023	8:40	48.12
1/03/2023	9:00	48.09
1/03/2023	11:35	49.59
1/03/2023	12:00	49.54
1/03/2023	15:00	48.91
1/03/2023	15:45	50.10
2/03/2023	13:00	47.98
2/03/2023	16:00	50.55
4/03/2023	6:30	48.33
4/03/2023	6:59	48.07
4/03/2023	10:00	50.15
4/03/2023	10:30	49.11
4/03/2023	13:45	49.10
4/03/2023	14:00	49.45
4/03/2023	15:30	49.60
4/03/2023	17:30	49.31
5/03/2023	9:30	49.98
5/03/2023	13:30	49.73
6/03/2023	7:00	49.72
6/03/2023	14:00	49.87
6/03/2023	17:00	49.48
7/03/2023	7:00	48.71
7/03/2023	10:00	48.93
7/03/2023	14:30	48.68
8/03/2023	7:45	50.09

Date	Load Time	Truck Dry Tonnes
8/03/2023	12:00	48.75
9/03/2023	7:30	48.39
9/03/2023	11:00	49.30
9/03/2023	14:00	47.54
10/03/2023	7:30	48.72
10/03/2023	15:30	48.63
11/03/2023	16:00	49.78
12/03/2023	15:30	49.93
13/03/2023	6:40	42.77
13/03/2023	16:00	49.51
15/03/2023	10:00	49.32
15/03/2023	13:15	49.62
16/03/2023	16:00	49.56
16/03/2023	16:30	49.70
17/03/2023	10:40	49.37
17/03/2023	13:25	48.22
18/03/2023	11:45	48.98
22/03/2023	6:55	49.72
22/03/2023	8:30	49.78
22/03/2023	10:30	48.11
22/03/2023	13:30	50.43
22/03/2023	14:15	49.00
22/03/2023	15:50	49.10
23/03/2023	7:15	50.79
23/03/2023	10:15	49.27
23/03/2023	14:30	49.14
25/03/2023	7:30	49.11
25/03/2023	11:45	47.89
25/03/2023	14:45	48.25
26/03/2023	7:30	48.67
26/03/2023	8:00	49.17
26/03/2023	11:00	49.24
26/03/2023	11:10	49.09
26/03/2023	13:30	49.05
26/03/2023	13:45	48.21
26/03/2023	14:15	47.67
27/03/2023	7:30	48.66
27/03/2023	8:00	49.91
27/03/2023	10:15	49.48

Date	Load Time	Truck Dry Tonnes
29/03/2023	7:00	47.30
29/03/2023	11:30	48.61
29/03/2023	15:30	48.51
29/03/2023	16:35	45.99
30/03/2023	6:45	48.60
30/03/2023	6:50	48.37
30/03/2023	10:30	44.43
30/03/2023	11:00	46.10
30/03/2023	14:30	47.95
<b>Total Tonnes</b>		<b>3564.87</b>
<b>Average truck movements per day</b>		<b>4.71</b>

## 5.8. Complaints

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

TABLE 8: Summary of complaints received In March 2023

Date	Complaint Category
-	-