Licensee	Hera Resources Pty Ltd
Address	'The Peak, Burthong Road, Nymagee, NSW 2831
Environmental Protection Licence	20179
Link to Licence	http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32372&SYSUID=1&LICID=20179
Project Approval	10_0191
Reporting Period	May 2017
Date Published	7 Aug 2017

Weather Monitoring

Hera Resources Pty Ltd (the Company), a wholly owned subsidiary of Aurelia Metals Limited, owns and operates the Hera Mine. The Company has one licenced weather station (licence point 23) associated with the mine (Figure 1). A summary of the licence conditions (Environmental Protection Licence (EPL) 20179) associated with this point is presented in Table 1.

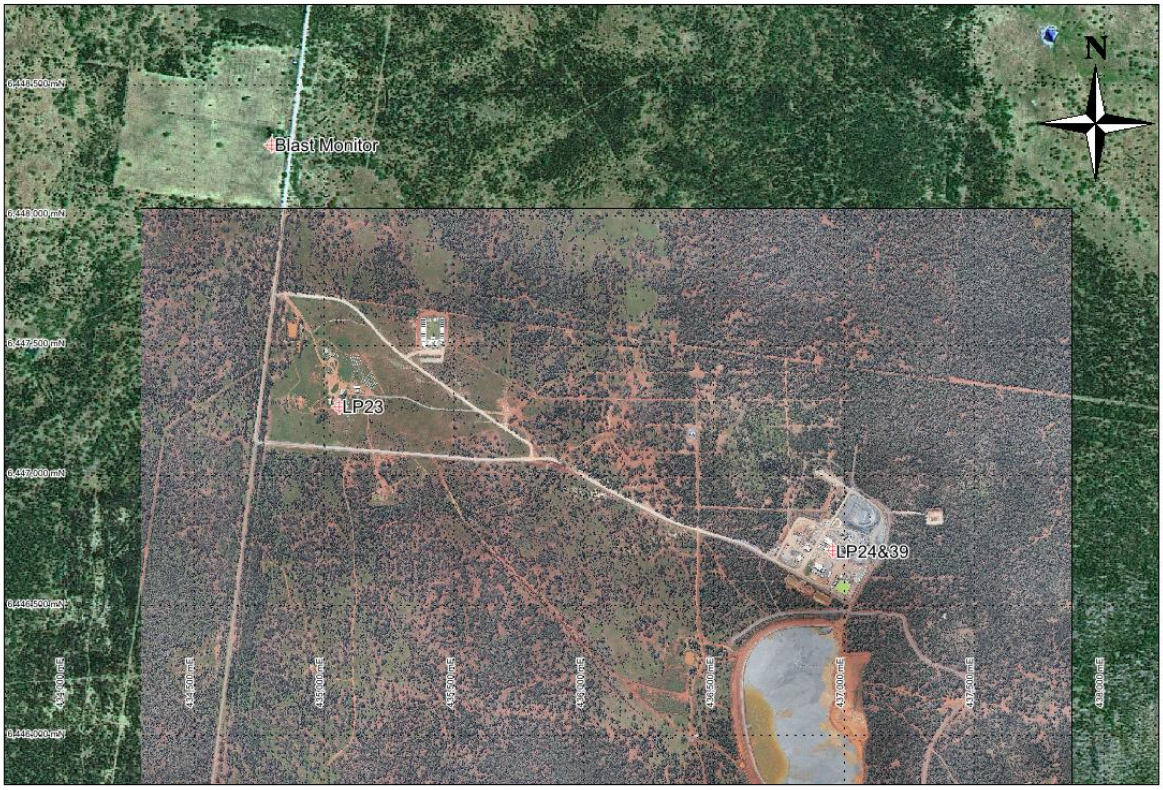

Figure 1. Location of the licence points associated with Gold Room Stack monitoring (Licence Point 24 and Licence Point 39), Blast monitoring and meteorological monitoring (Licence Point 23).

Table 1. Summary of EPL 20179 conditions associated with the licensed weather station.

Parameter	Frequency
Air Temperature (°C)	Continuous
Wind Direction (°)	Continuous
Wind Speed (m/s)	Continuous
Sigma Theta (°)	Continuous
Rainfall (mm)	Continuous
Relative Humidity (%)	Continuous

Meteorological monitoring is conducted on a continuous basis. Table 2 is a summary of the data collected by the weather station in May 2017. Figure 2 is a wind rose for the month.

Table 2. Summary of meteorological data for May 2017.

Pollutant	No. of measurements for month	Min. value	Mean value	Median value	Max. value
Air Temperature (°C)	Continuous	-3.66	11.11	12.10	24.52
Wind Speed (m/s)	Continuous	0.00	1.36	0.89	6.28
Sigma Theta (°)	Continuous	2.31	22.75	18.55	99.70
Rainfall (mm)	Continuous	0.00	0.01	0.00	5.80
Relative Humidity (%)	Continuous	27.48	73.34	79.08	98.23

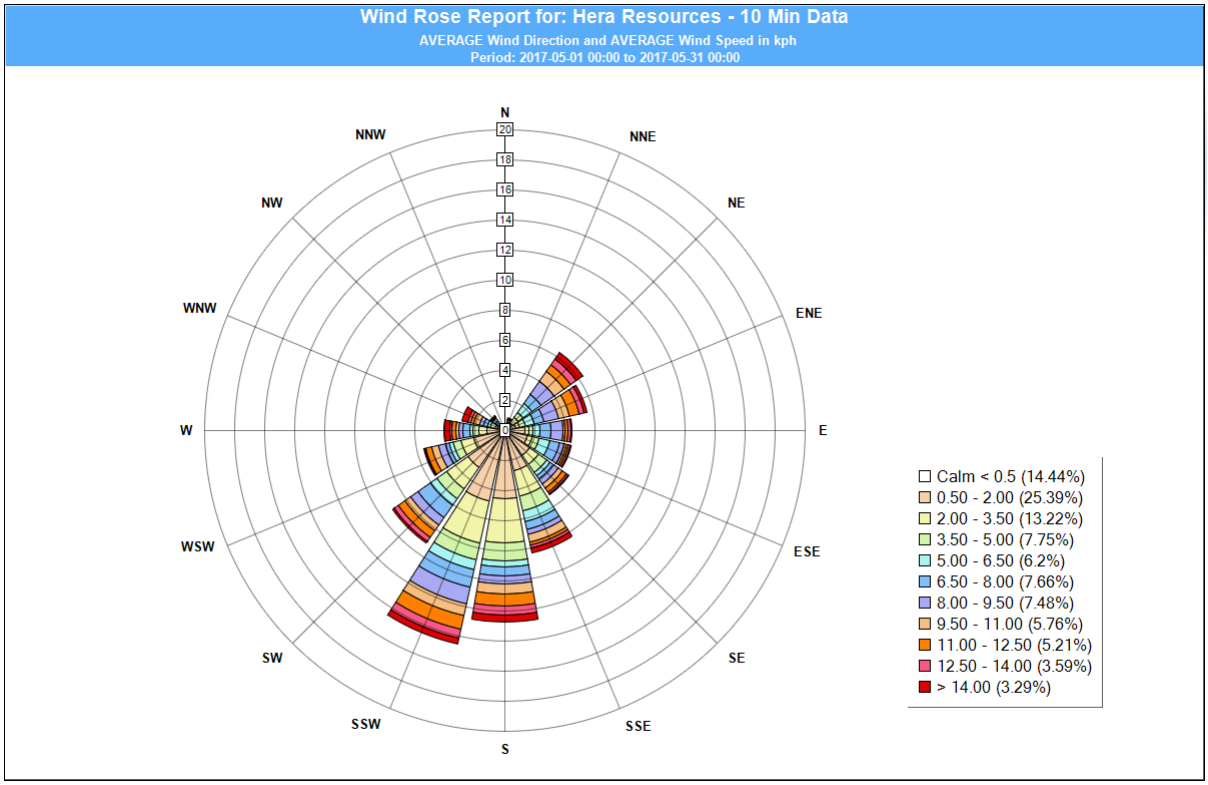

Figure 2. Wind rose May 2017.

Surface Water Monitoring

The Company has six licence points associated with surface waters. Four of these points are located within the Mining Lease (Figure 3) and two are located on Box creek, upstream and

downstream of the mining lease (Figure 4). A summary of the licence conditions associated with these licence points is presented in Table 3.

Figure 3. Licensed surface water monitoring points located onsite.

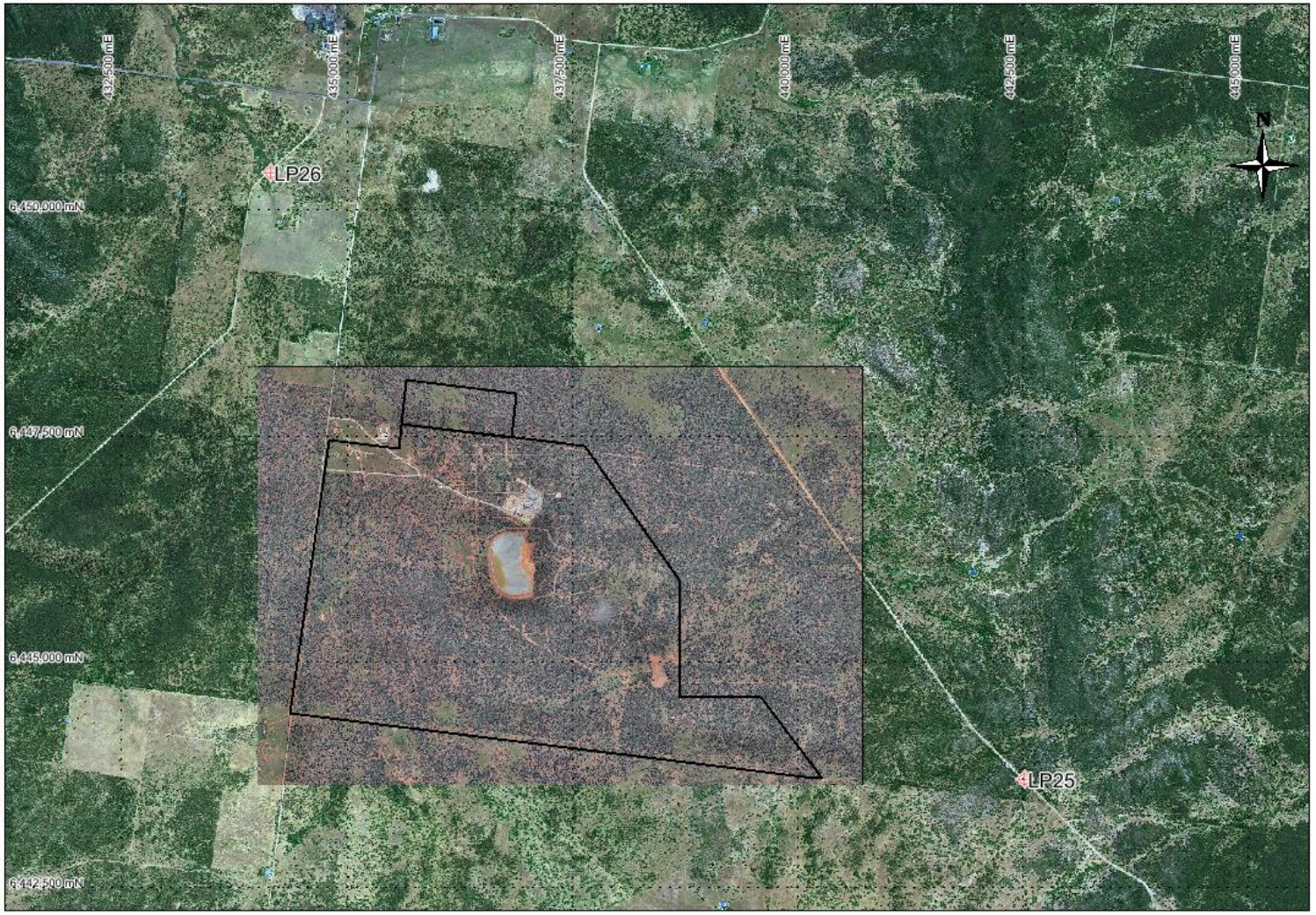

Figure 4. Licensed surface water monitoring points located offsite. The black outline represents the mining leases.

Table 3. Summary of EPL 20179 conditions associated with licensed surface water monitoring points.

EPA ID No.	Monitoring Frequency	
1, 2	Daily during discharge	
3, 4, 25, 26	During discharge	
	Pollutant	**Limit**
1	Cyanide (weak acid dissociable (WAD))	10 mg/L
2	Cyanide (WAD)	20 mg/L (90 percentile limit)
		30 mg/L (max. limit)
3, 4, 25, 26 (Please note: Limits apply only to Licence Points 3 and 4.)	Aluminium	0.055 mg/L
	Arsenic	0.024 mg/L
	Boron	0.370 mg/L
	Cadmium	0.0002 mg/L
	Copper	0.0014 mg/L
	Cyanide (WAD)	0.007 mg/L
	Electrical Conductivity	1000 (µS/cm)
	Lead	0.0034 mg/L
	Manganese	1.90 mg/L
	Nickel	0.011 mg/L
	Nitrogen (total)	0.5 mg/L
	Oil and Grease	10 mg/L
	pH	6.5-8.5
	Phosphorus (total)	0.025 mg/L
	Silver	0.00005 mg/L
	Total suspended solids	50 mg/L
	Zinc	0.008 mg/L

Table 4 a summary of the surface water quality results. The table has also been colour coordinated by the licence limit that applies to each licence point. Licence Point 3, 4, 25 and 26 did not discharge for the month. Licence Point 1 was not sampled daily during discharge on eight occasions this month. This non-compliance was reported to the Environment Protection Authority 24 Jul 2017.

Table 4. Summary of surface water quality results for May 2017.

	Analytes (mg/L)																		
	WAD Cyanide				Al	As	B	Cd	Cu	EC (µS/cm)	Pb	Mn	Ni	N	Oil & Grease	pH	Ag	P	TSS	Zn
	Min.	Mean	Median	Max.																
Licence Limits	10				0.055	0.024	0.37	0.0002	0.0014	1000	0.0034	1.9	0.011	0.5	10	6.5-8.5	0.00005	0.025	50	0.008
	20 (90 Percentile) 30 (max.)																			
	0.007																			
Licence Points																				
1	0	0	0	0																
2	0	4	5	20																
3	No flow																			
4	No flow																			
25	No flow																			
26	No flow																			

Groundwater Monitoring

The Company has 17 licence points associated with groundwater. These points are located around the Project Area (Figure 5) and are a combination of observation bores, productions bores and piezometers. A summary of the licence conditions associated with these licence points is presented in Table 5

Figure 5. Licensed groundwater and air quality monitoring points.

Table 5. Summary of EPL 20179 conditions associated with licensed groundwater monitoring points.

EPA ID No.	Monitoring Frequency
	Quarterly
	Pollutant
7, 9, 17, 19, 27, 28, 29, 30, 31, 32, 33, 40	Antimony (mg/L)
	Arsenic (mg/L)
	Bicarbonate (mg/L)
	Boron (mg/L)
	Cadmium (mg/L)
	Calcium (mg/L)
	Carbonate (mg/L)
	Chloride (mg/L)
	Chromium (mg/L)
	Copper (mg/L)
	Cyanide (free) (mg/L)
	Cyanide (total) (mg/L)
	Cyanide (WAD) (mg/L)
	Electrical Conductivity (µS/cm)
	Iron (mg/L)
	Lead (mg/L)
	Magnesium (mg/L)
	Mercury (mg/L)
	Molybdenum (mg/L)
	Nickel (mg/L)
	pH
	Potassium (mg/L)
	Silver (mg/L)
	Sodium (mg/L)
	Tin (mg/L)
	Total dissolved solids (mg/L)
	Zinc (mg/L)
7, 27, 28, 29 ,30, 34, 35, 36, 37, 38, 40	Standing Water Level (m)
EPA ID No.	**Monitoring Frequency**
	When water present
	Pollutant
34, 35, 36, 37, 38	Cyanide (free) (mg/L)
	Cyanide (total) (mg/L)
	Cyanide (WAD) (mg/L)
	Electrical Conductivity (µS/cm)
	pH

Quarterly groundwater results are sampled quarterly. The next round of results will be reported in Jul y 2017.

Noise Monitoring

The Company has four licenced monitoring points (R1, R2, R3 and R4) located along the Burthong Road (Figure 6). 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 located in very close proximity to each other. A summary of the EPL and Project Approval (PA) conditions associated with these licenced points is presented in Table 6.

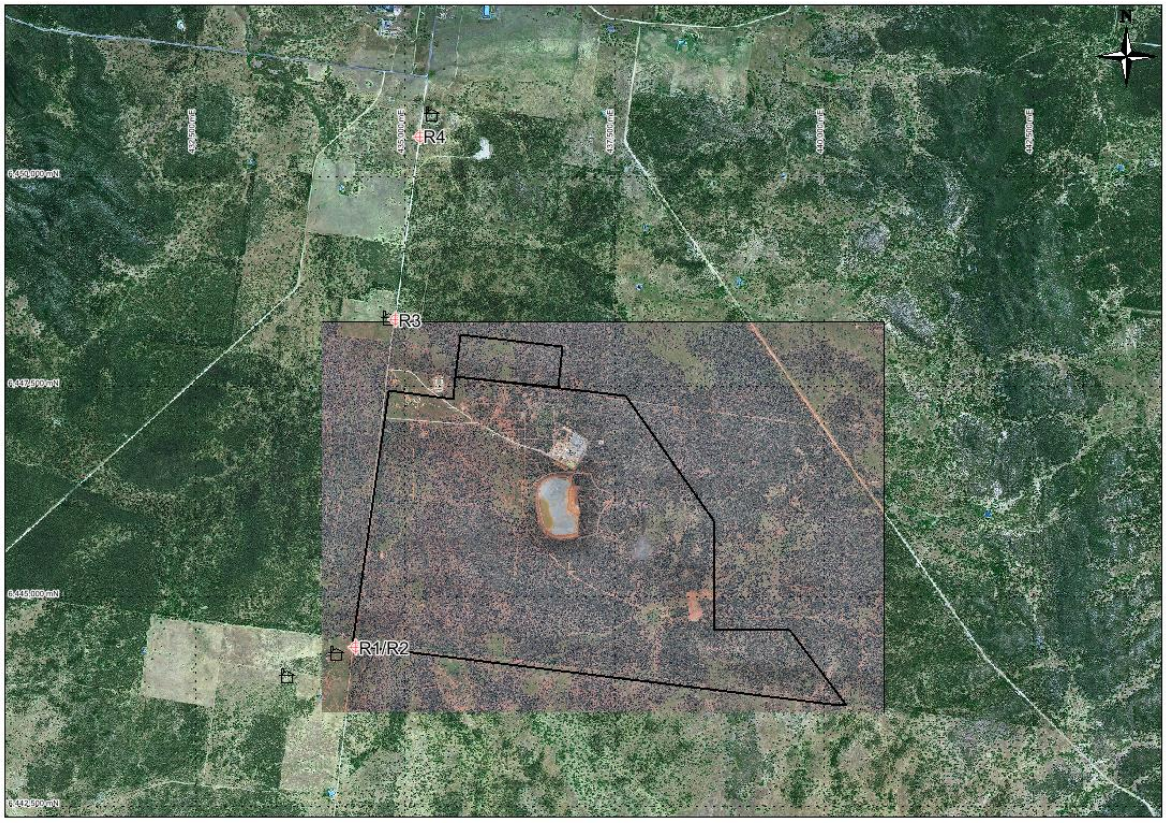

Figure 6. Licensed noise monitoring locations. The black outline represents the approximate project area.

Table 6. Summary of EPL 20179 conditions associated with noise monitoring.

Location	Pollutant - Noise	Limits
R1, R2, R3, R4	Monday to Friday - 0700 hours (hrs) to 1800 hrs	LAeq (15 minute) 35 decibels (dB)
	Monday to Friday - 1800 hrs to 2200 hrs	LAeq (15 minute) 35 dB
	All other times	LAeq (15 minute) 35 dB
		LA1 (1 minute) 45 dB

An independent consultant (EMM Consultants) was engaged to conduct a noise assessment in February 2017. The results are presented in Table 7.

Table 7. Summary of noise monitoring conducted by EMM Consultants in February 2017.

Receiever	Date	Time	LAeq Limit	LA Max Limit (dB)	LAeq Site Contribution (dB)	LA Max Site Contribution (dB)
R1-R2	16/02/2017	14:05	35	n/a	<20	n/a
R3	16/02/2017	13:40	35	n/a	Inaudible (IA)	n/a
R4	16/02/2017	13:08	35	n/a	IA	n/a
R1-R2	16/02/2017	20:54	35	n/a	<20	n/a
R3	16/02/2017	21:25	35	n/a	IA	n/a
R4	16/02/2017	21:44	35	n/a	IA	n/a
R1-R2	17/02/2017	0:15	35	45	26	27
R3	16/02/2017	22:48	35	45	20	23
R4	16/02/2017	22:16	35	45	18	18
R1-R2	17/02/2017	0:43	35	45	26	23
R3	16/02/2017	23:25	35	45	21	26
R4	16/02/2017	23:48	35	45	17	21

Blast Monitoring

The blast monitor is located adjacent to the house on the nearest neighbour's property (Figure 1). A summary of the EPL and PA conditions associated with this licenced point are presented in Table 8.

Table 8. Summary of EPL 20179 and PA 10_0191 conditions associated with blast monitoring.

Location	Pollutant	Time Period	Limits
Blast monitoring	Ground vibration	All times	10 mm/s (max.)
	(monitor for every blast)	Day	5 mm/s (95% of total blasts)
		Evening	2 mm/s (95% of total blasts)
		Night and all day on Sundays and Public Holidays	1 mm/s (max.)
	Airblast overpressure	All times	120 dB (max.)
	(monitor for every blast)	All times	115 dB (95% of total blasts)

The Company conducted a total of 58 blasts in May 2017. The characteristics of each blast are presented in Table 9. No exceedances were recorded for the month.

Table 9. Summary of blast monitoring results for May 2017.

Date	Time	Time period	Vibration (mm/s)	Overpressure (dB)
Tuesday, 2 May 2017	14:30	Day	<0.35	
Wednesday, 3 May 2017	8:00	Day	<0.35	
Wednesday, 3 May 2017	8:00	Day	<0.35	
Thursday, 4 May 2017	6:45	Night	<0.35	
Thursday, 4 May 2017	14:00	Day	<0.35	
Friday, 5 May 2017	6:45	Night	<0.35	
Friday, 5 May 2017	6:45	Night	<0.35	
Friday, 5 May 2017	6:45	Night	<0.35	
Saturday, 6 May 2017	18:40	Evening	<0.35	
Sunday, 7 May 2017	12:35	Sunday	<0.35	
Monday, 8 May 2017	21:00	Evening	0.425	<88
Thursday, 11 May 2017	18:40	Evening	<0.35	
Friday, 12 May 2017	6:45	Night	<0.35	
Friday, 12 May 2017	6:45	Night	<0.35	
Saturday, 13 May 2017	6:45	Night	<0.35	
Sunday, 14 May 2017	6:45	Sunday	<0.35	
Monday, 15 May 2017	6:45	Night	<0.35	
Monday, 15 May 2017	6:45	Night	<0.35	
Monday, 15 May 2017	18:20	Evening	<0.35	
Tuesday, 16 May 2017	6:45	Night	<0.35	
Wednesday, 17 May 2017	6:45	Night	<0.35	
Wednesday, 17 May 2017	6:45	Night	<0.35	
Thursday, 18 May 2017	6:30	Night	<0.35	
Thursday, 18 May 2017	6:30	Night	<0.35	
Thursday, 18 May 2017	19:00	Evening	<0.35	
Friday, 19 May 2017	6:00	Night	<0.35	
Saturday, 20 May 2017	6:50	Night	<0.35	
Saturday, 20 May 2017	6:50	Night	<0.35	
Saturday, 20 May 2017	6:50	Night	<0.35	
Saturday, 20 May 2017	18:30	Evening	<0.35	
Sunday, 21 May 2017	6:45	Sunday	<0.35	
Monday, 22 May 2017	6:45	Night	<0.35	
Monday, 22 May 2017	6:45	Night	<0.35	
Monday, 22 May 2017	19:00	Evening	<0.35	
Tuesday, 23 May 2017	7:00	Day	<0.35	
Tuesday, 23 May 2017	7:00	Day	<0.35	
Wednesday, 24 May 2017	6:00	Night	<0.35	
Wednesday, 24 May 2017	7:00	Day	<0.35	
Wednesday, 24 May 2017	7:00	Day	<0.35	
Thursday, 25 May 2017	6:30	Night	<0.35	
Thursday, 25 May 2017	20:00	Evening	<0.35	
Friday, 26 May 2017	8:30	Day	<0.35	
Friday, 26 May 2017	8:30	Day	<0.35	
Saturday, 27 May 2017	6:30	Night	<0.35	

Saturday, 27 May 2017	6:30	Night	<0.35	
Saturday, 27 May 2017	14:00	Day	<0.35	
Saturday, 27 May 2017	18:45	Evening	<0.35	
Saturday, 27 May 2017	18:45	Evening	<0.35	
Sunday, 28 May 2017	7:00	Sunday	<0.35	
Sunday, 28 May 2017	18:30	Sunday	<0.35	
Monday, 29 May 2017	7:00	Day	<0.35	
Monday, 29 May 2017	7:00	Day	<0.35	
Monday, 29 May 2017	7:00	Day	<0.35	
Tuesday, 30 May 2017	7:00	Day	<0.35	
Tuesday, 30 May 2017	7:00	Day	<0.35	
Tuesday, 30 May 2017	18:53	Evening	<0.35	
Wednesday, 31 May 2017	6:00	Night	<0.35	
Wednesday, 31 May 2017	6:00	Night	<0.35	

Air Quality Monitoring

The Company has two High Volume Air Samplers (HVAS), designed to sample Particulate matter less than 10 µm (PM_{10}) or Total Suspended Particulate (TSP) matter and two Dust Deposition Gauges (DDG). Refer to Figure 5 for location of the sampling points. A summary of the PA conditions associated with these monitoring points is presented in Table 10.

Table 10. Summary of Project Approval conditions associated with dust monitoring.

Pollutant	Averaging Period	Limits
TSP	Annual	90 µg/m^3
PM_{10}	Annual	30 µg/m^3
PM_{10}	24 Hour	50 µg/m^3
Deposited Dust	Annual	2 g/m^2/month (Max. increase)
	Annual	4 g/m^2/month (Max. total)

Results for air quality monitoring conducted in May 2017 have been summarised in Table 11. No exceedances have been recorded this month.

Table 11. Summary of air quality monitoring results for May 2017.

Pollutant	Unit	Limit	Averaging Period	Result
TSP	µg/m^3	90	Annual	31.74
PM-10 (µg/m^3)	µg/m^3	30	Annual	15.16
	µg/m^3	50	6/05/2017	11.00
	µg/m^3	50	12/05/2017	34.00
	µg/m^3	50	18/05/2017	18.00
	µg/m^3	50	24/05/2017	9.00
	µg/m^3	50	30/05/2017	4.00
Deposited Dust (DDG1)	g/m^2/month	4	Annual	2.16
Deposited Dust (DDG2)	g/m^2/month	4	Annual	1.57

Gold Room Stack Monitoring

The Company has two licenced gold room stack monitoring points (Figure 1). A summary of the licence conditions associated with this Licence Point is presented in Table 12.

Table 12. Summary of EPL 20179 conditions associated with gold room stack monitoring monitoring.

EPA ID No.	Monitoring Frequency
24	Yearly
39	
	Pollutant
	Nitric Oxide (mg/m³)

Gold Room stack monitoring is conducted on an annual basis. This was last conducted in February 2017.

Concentrate Transport

The Company is licenced to transport 50,000 tpa of lead/zinc concentrate during daylight hours. The company is limited to eight truck movements per day (entering and leaving the site) averaged over a calendar month (Table 13).

Table 13. Summary of the concentrate truck movements from the Hera Mine to Hermidale rail siding for the month.

Date	Time	Company ID	Truck Dry Tonnes
5/05/2017	14:00:00	1549	48.64
6/05/2017	12:40:00	1550	48.64
6/05/2017	13:20:00	1551	47.91
7/05/2017	07:10:00	1552	48.70
7/05/2017	07:30:00	1553	48.40
7/05/2017	10:45:00	1554	48.45
7/05/2017	11:20:00	1555	48.69
7/05/2017	11:40:00	1556	48.01
7/05/2017	14:00:00	1558	48.11
7/05/2017	14:00:00	1557	48.31
7/05/2017	15:20:00	1559	48.29
8/05/2017	11:15:00	1560	48.98
11/05/2017	11:15:00	1561	48.93
11/05/2017	15:00:00	1562	48.84
12/05/2017	13:45:00	1563	48.29
13/05/2017	08:20:00	1564	48.24
13/05/2017	12:20:00	1565	48.47
15/05/2017	15:50:00	1566	49.00
16/05/2017	07:30:00	1567	48.79
16/05/2017	11:30:00	1568	48.30
16/05/2017	15:00:00	1569	48.60
17/05/2017	07:30:00	1570	48.50
17/05/2017	11:30:00	1571	48.63
17/05/2017	14:45:00	1572	48.89
18/05/2017	08:15:00	1573	48.40
18/05/2017	11:20:00	1574	48.32
22/05/2017	16:30:00	1575	48.63
25/05/2017	07:15:00	1576	48.28
25/05/2017	11:45:00	1577	48.42
25/05/2017	14:45:00	1578	48.23
26/05/2017	07:10:00	1579	48.23
26/05/2017	07:30:00	1580	48.08
26/05/2017	10:00:00	1581	48.48
26/05/2017	10:30:00	1582	47.95
31/05/2017	07:10:00	1583	44.81
31/05/2017	07:40:00	1584	44.95
31/05/2017	11:50:00	1585	44.71
Average Truck Movements per day May 2017		**1.19**	
Total Tonnes			**1,782.1**

Complaints

One complaint was received in May 2017. The complaint related to a light vehicle interaction on a public road. The complaint has been summarised in Table 14.

Table 14 Complaints received by the Company in May 2017.

Date	Pollution complaint category
5/05/2017	Light vehicle interaction, public road