

Licensee	Hera Resources Pty Ltd
Address	'The Peak, Burthong Road, Nymagee, NSW 2831
Environmental Protection Licence	20179
Link to Licence	<a href="http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLi
cence.aspx?DOCID=32372&SYSUID=1&LICID=20179">http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLi cence.aspx?DOCID=32372&SYSUID=1&LICID=20179
Project Approval	10_0191
Reporting Period	June 2016
Date Published	10 August 2016

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.

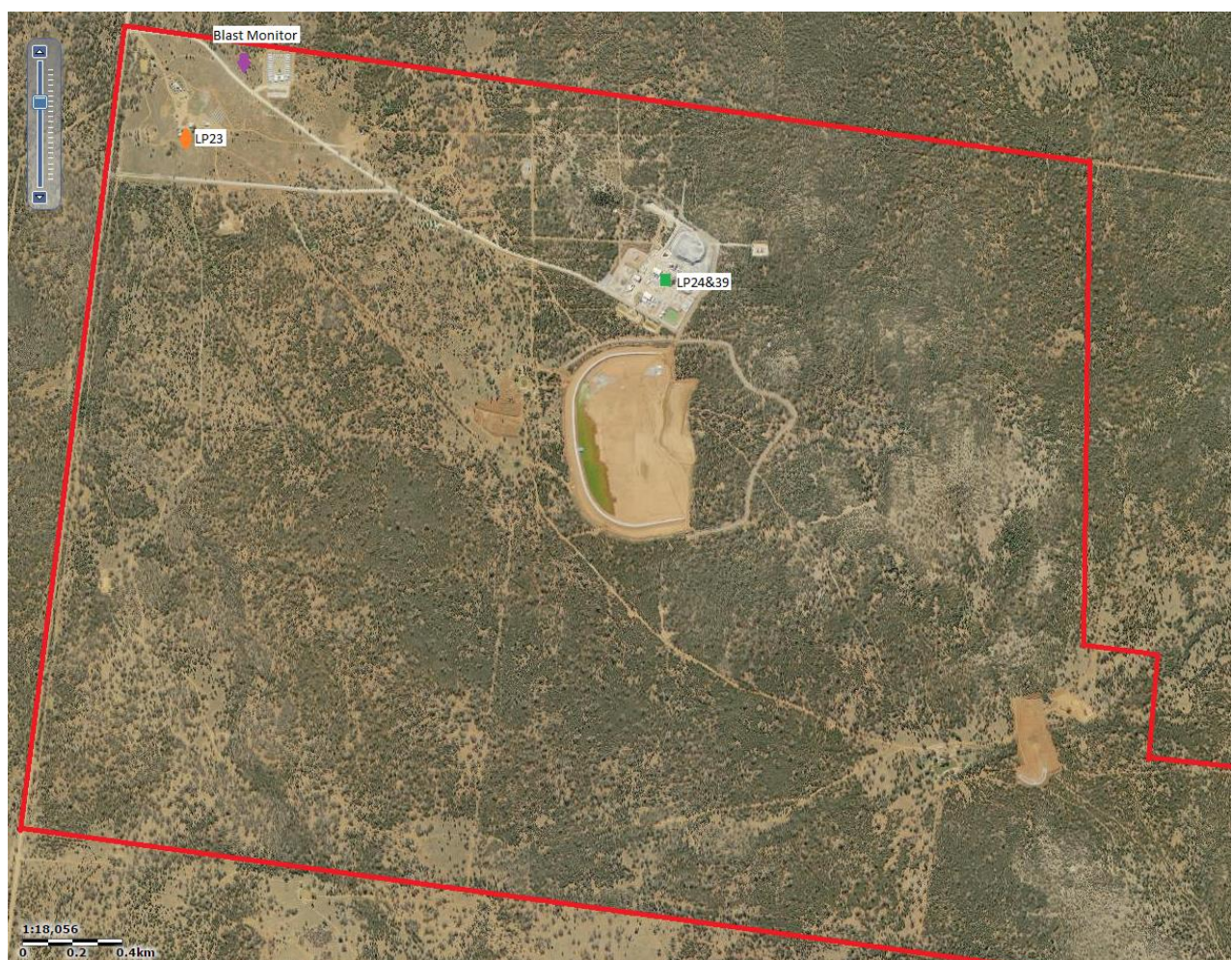


Figure 1. Location of the licence points associated with Gold Room Stack monitoring (Licence Point 24), Blast monitoring and meteorological monitoring (Licence Point 23).

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 June 2016. Figure 2 is a wind rose for the month.

Table 2. Summary of meteorological data for June 2016.

Pollutant	No. of measurements for month	Min. value	Mean value	Median value	Max. value
Air Temperature (°C)	Continuous	-2.89	9.65	10.88	18.79
Wind Speed (m/s)	Continuous	0.00	2.06	1.85	8.49
Sigma Theta (°)	Continuous	1.47	19.65	15.86	101.48
Rainfall (mm)	Continuous	0.00	0.03	0.00	7.60
Relative Humidity (%)	Continuous	52.73	87.66	93.23	98.79

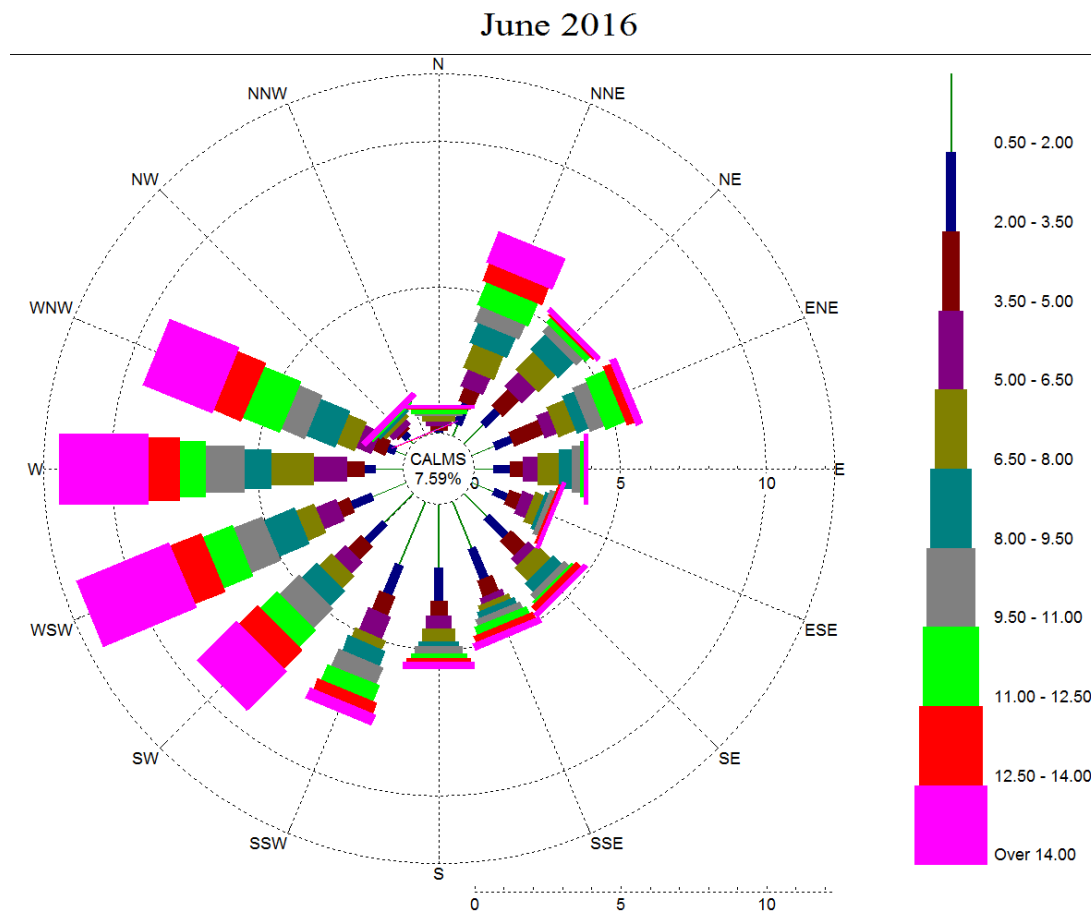


Figure 2. Wind rose June 2016.

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.

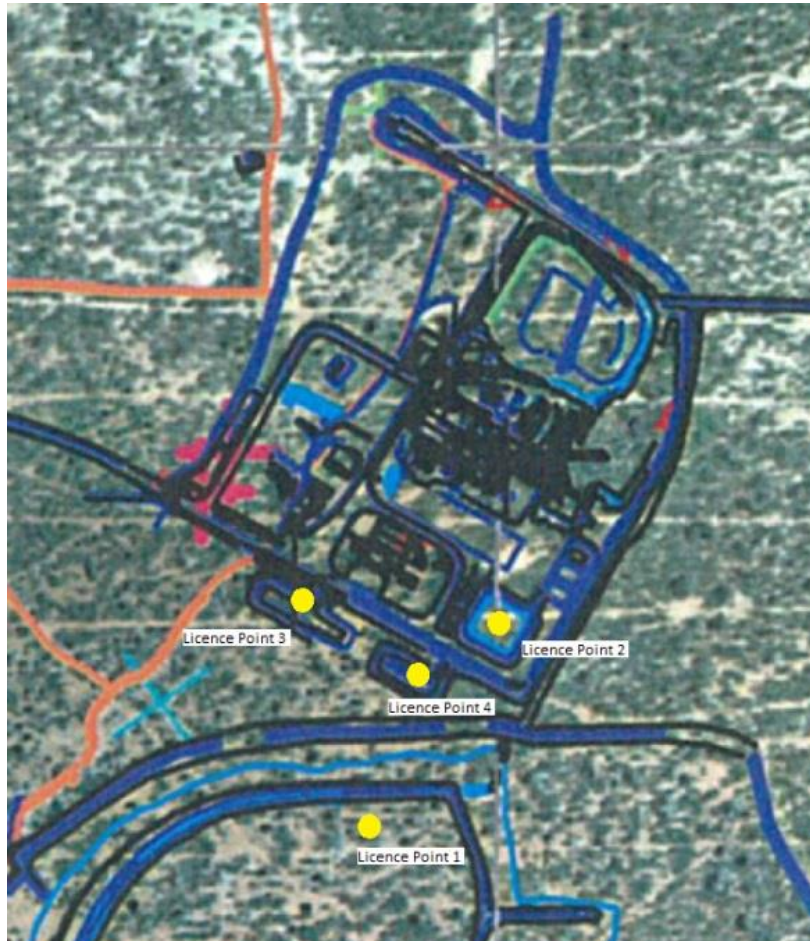


Figure 3. Licensed surface water monitoring points located onsite.

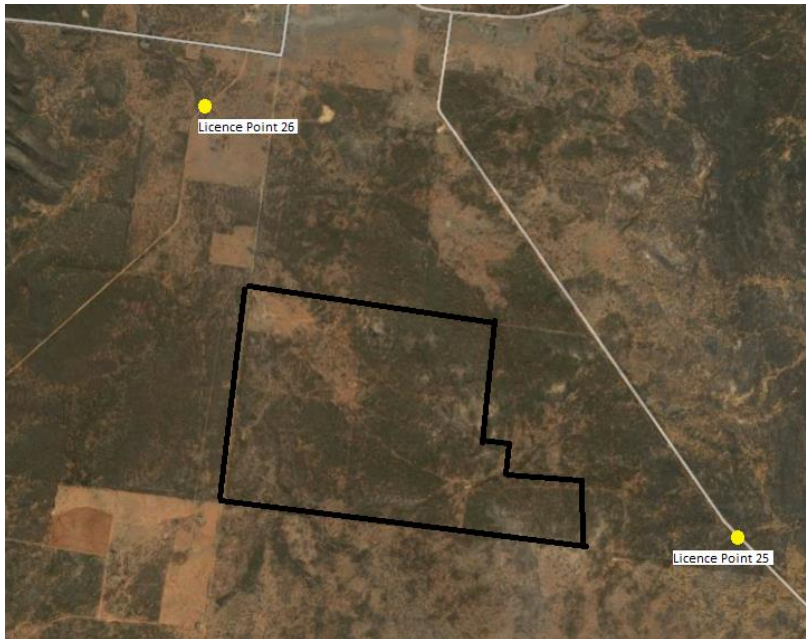


Figure 4. Licensed surface water monitoring points located offsite. The black outline represents the Project Area.

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

EPA ID No.	Monitoring Frequency	Limit
1, 2	Daily during discharge	
3, 4, 25, 26	During discharge	
	Pollutant	
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.

Table 4. Summary of surface water quality results for June 2016.

	Analytes (mg/L)																			
	WAD Cyanide				Al	As	B	Cd	Cu	EC ($\mu\text{S}/\text{cm}$)	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	0	0	0																
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 and productions bores. A summary of the licence conditions associated with these licence points is presented in Table 5.

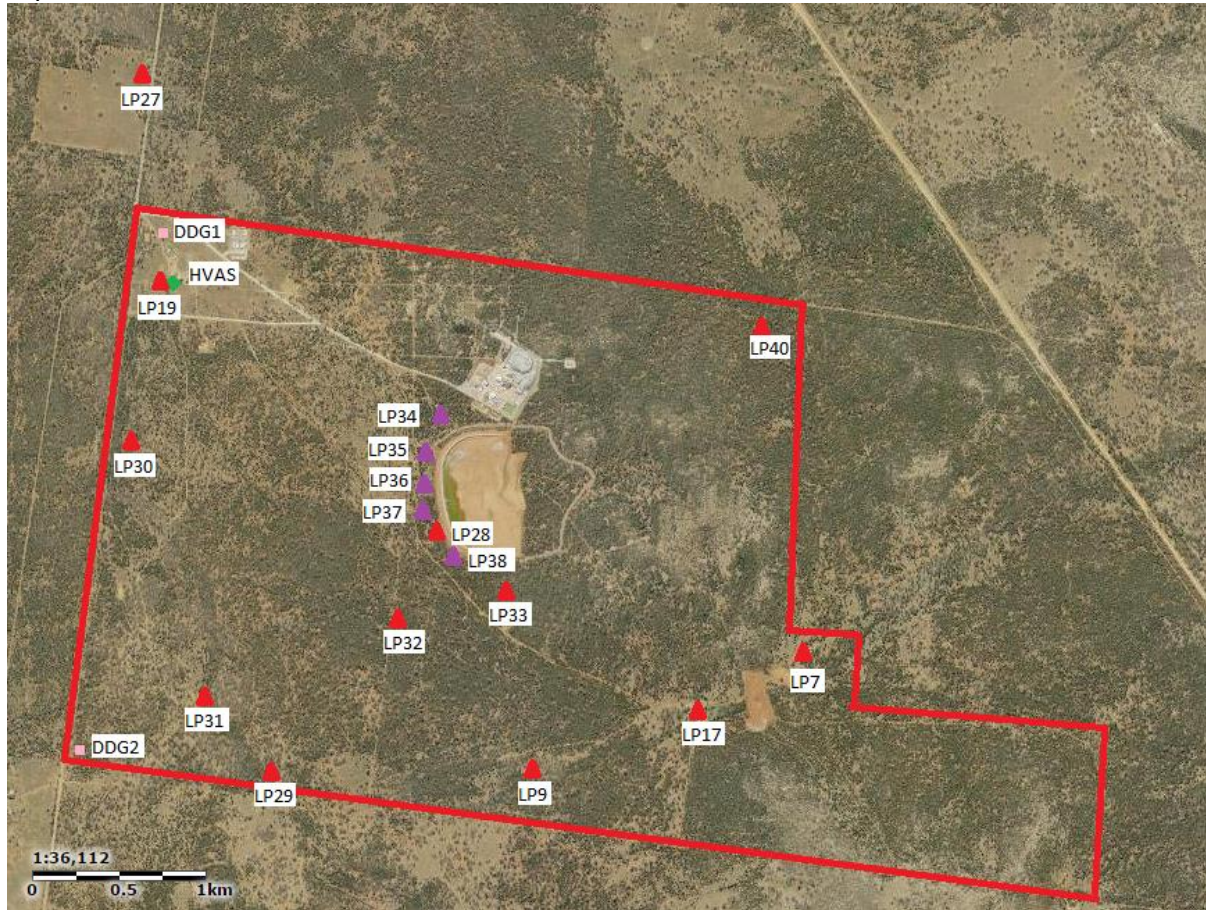


Figure 5. Licensed groundwater and air quality monitoring points.

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 (μ S/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)	
	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 (μ S/cm)	
	pH	

Quarterly groundwater results were last reported in April 2016.

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.

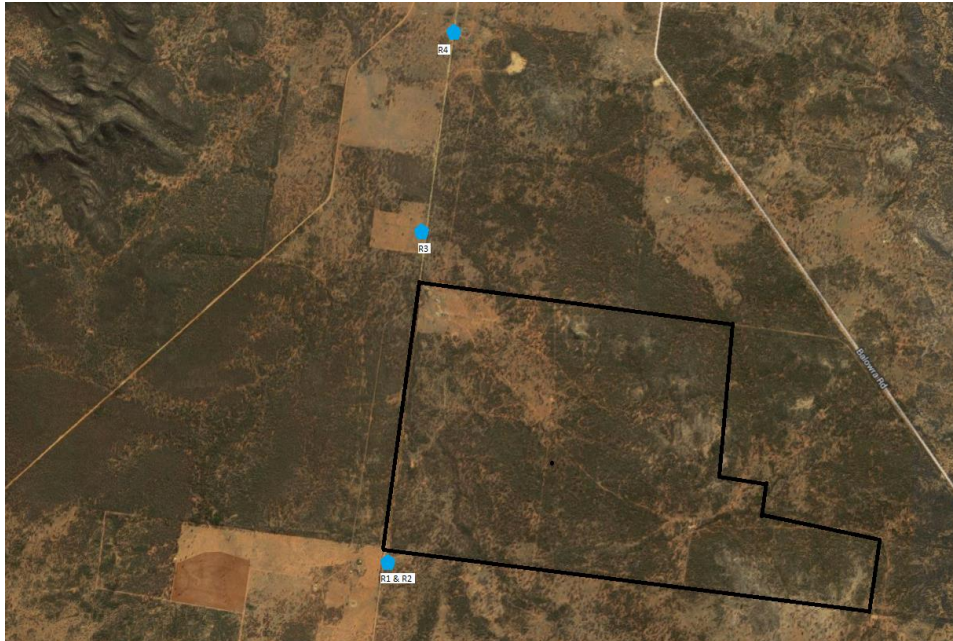


Figure 6. Licensed noise monitoring locations. The black outline represents the approximate project area.

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

No monitoring was conducted this month as the noise monitor was sent away for repairs.

Blast Monitoring

The blast monitor is located to the east of the personnel accommodation (Figure 1). A summary of the EPL and PA conditions associated with this licenced point are presented in Table 7.

Table 7. Summary of EPL 20179 and PA 10_0191 conditions associated with blast monitoring.

Location	Pollutant	Time Period	Limits
Blast monitoring	Ground vibration <i>(monitor for every blast)</i>	All times	10 mm/s (max.)
		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 <i>(monitor for every blast)</i>	All times	120 dB (max.)
		All times	115 dB (95% of total blasts)

The Company conducted a total of 69 blasts in June 2016. The characteristics of each blast are presented in Table 8. No exceedances were recorded for the month.

Table 8. Summary of blast monitoring results for June 2016.

Date	Time	Time period	Vibration (mm/s)	Overpressure (dB)
Wednesday, 1 June 2016	13:50	Day	<0.350	
Wednesday, 1 June 2016	18:30	Evening	1.449	<88
Thursday, 2 June 2016	6:30	Night	<0.350	
Thursday, 2 June 2016	6:30	Night	<0.350	
Thursday, 2 June 2016	6:30	Night	<0.350	
Thursday, 2 June 2016	7:00	Day	<0.350	
Friday, 3 June 2016	7:00	Day	<0.350	
Friday, 3 June 2016	7:00	Day	<0.350	
Friday, 3 June 2016	19:00	Evening	<0.350	
Saturday, 4 June 2016	7:00	Day	<0.350	
Saturday, 4 June 2016	7:00	Day	<0.350	
Sunday, 5 June 2016	7:00	Day	<0.350	
Sunday, 5 June 2016	7:00	Day	<0.350	
Sunday, 5 June 2016	19:00	Evening	<0.350	
Monday, 6 June 2016	7:00	Day	<0.350	
Monday, 6 June 2016	7:00	Day	<0.350	
Monday, 6 June 2016	19:00	Evening	<0.350	
Wednesday, 8 June 2016	6:40	Night	<0.350	
Wednesday, 8 June 2016	6:40	Night	<0.350	
Thursday, 9 June 2016	6:50	Night	<0.350	
Thursday, 9 June 2016	6:50	Night	<0.350	
Friday, 10 June 2016	6:40	Night	<0.350	
Friday, 10 June 2016	6:40	Night	<0.350	
Saturday, 11 June 2016	6:45	Night	<0.350	
Saturday, 11 June 2016	6:45	Night	<0.350	
Sunday, 12 June 2016	6:45	Sunday	<0.350	
Sunday, 12 June 2016	6:45	Sunday	<0.350	
Monday, 13 June 2016	6:45	Night	<0.350	
Monday, 13 June 2016	6:45	Night	<0.350	
Tuesday, 14 June 2016	6:45	Night	<0.350	
Tuesday, 14 June 2016	6:45	Night	<0.350	
Wednesday, 15 June 2016	6:45	Night	<0.350	
Thursday, 16 June 2016	6:45	Night	<0.350	
Thursday, 16 June 2016	6:45	Night	<0.350	
Thursday, 16 June 2016	6:45	Night	<0.350	
Thursday, 16 June 2016	7:15	Day	<0.350	
Thursday, 16 June 2016	7:15	Day	<0.350	
Friday, 17 June 2016	7:00	Day	<0.350	
Friday, 17 June 2016	7:00	Day	<0.350	
Saturday, 18 June 2016	7:00	Day	<0.350	

Saturday, 18 June 2016	7:00	Day	<0.350	
Saturday, 18 June 2016	19:00	Evening	1.540	91.48
Sunday, 19 June 2016	7:00	Sunday	<0.350	
Sunday, 19 June 2016	19:00	Sunday	<0.350	
Tuesday, 21 June 2016	6:25	Night	<0.350	
Tuesday, 21 June 2016	6:25	Night	<0.350	
Tuesday, 21 June 2016	6:25	Night	<0.350	
Tuesday, 21 June 2016	6:25	Night	<0.350	
Wednesday, 22 June 2016	6:30	Night	<0.350	
Wednesday, 22 June 2016	6:30	Night	<0.350	
Thursday, 23 June 2016	6:45	Night	<0.350	
Thursday, 23 June 2016	18:45	Night	<0.350	
Friday, 24 June 2016	6:40	Night	<0.350	
Friday, 24 June 2016	6:40	Night	<0.350	
Friday, 24 June 2016	18:30	Evening	2.196	95.92
Saturday, 25 June 2016	6:50	Night	<0.350	
Saturday, 25 June 2016	6:50	Night	<0.350	
Sunday, 26 June 2016	6:30	Sunday	<0.350	
Sunday, 26 June 2016	18:45	Sunday	<0.350	
Monday, 27 June 2016	6:30	Night	<0.350	
Monday, 27 June 2016	7:00	Day	<0.350	
Monday, 27 June 2016	7:00	Day	<0.350	
Monday, 27 June 2016	19:00	Evening	<0.350	
Tuesday, 28 June 2016	7:00	Day	<0.350	
Wednesday, 29 June 2016	7:00	Day	<0.350	
Wednesday, 29 June 2016	7:00	Day	<0.350	
Wednesday, 29 June 2016	13:00	Day	<0.350	
Thursday, 30 June 2016	7:00	Day	<0.350	
Thursday, 30 June 2016	7:00	Day	<0.350	

Air Quality Monitoring

The Company has two High Volume Air Samplers (HVAS), each designed to sample either Particulate matter less than 10 µm (PM₁₀) or Total Suspended Particulate (TSP) matter. The Company has 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 9.

Table 9. 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 June 2016 have been summarised in Table 10. No exceedances have been recorded this month.

Table 10. Summary of air quality monitoring results for June 2016.

Pollutant	Unit	Limit	Averaging Period	Result
TSP	µg/m ³	90	Annual	37.34
PM-10 (µg/m ³)	µg/m ³	30	Annual	17.81
	µg/m ³	50	4/06/2016	1.00
	µg/m ³	50	10/06/2016	2.00
	µg/m ³	50	16/06/2016	2.00
	µg/m ³	50	22/06/2016	6.00
	µg/m ³	50	28/06/2016	1.00
Deposited Dust (DDG1)	g/m ² /month	4	Annual	2.52
Deposited Dust (DDG2)	g/m ² /month	4	Annual	1.73

Gold Room Stack Monitoring

The Company has one licenced gold room stack monitoring (Figure 1). A summary of the licence conditions associated with this Licence Point is presented in Table 11.

Table 11. Summary of EPL 20179 conditions associated with gold room stack monitoring monitoring.

EPA ID No.	Monitoring Frequency
24	Yearly
	Pollutant
	Nitric Oxide (mg/m ³)

Gold Room stack monitoring is conducted on an annual basis. The last sample was taken in January 2016.

Concentrate Transport

The Company is licenced to transport 50,000 tpa of lead/zinc concentrate during daylight hours. The company is limited to two truck movements per day (entering and leaving the site) averaged over a calendar month. This month, a total of 2,818 tonnes of concentrate was transported to the Hermidale rail siding with an average of 2.00 truck movements per day (Table 12). Exceedances to PA conditions have been highlighted in red.

The company is currently investigating the transport of concentrate. Due to misinterpretation of the PA conditions a number of exceedances have been identified following a preliminary audit of the conditions. A full investigation report was provided to the Department of Planning and Environment and the Roads and Maritime Service on 4 August 2016.

Table 12. Summary of the concentrate truck movements from the Hera Mine to Hermidale rail siding for the month.

Date	Time	Company ID	Truck Dry Tonnes
8/06/2016	09:30:00	940	47.81
8/06/2016	13:30:00	941	47.98
8/06/2016	17:10:00	942	48.17
8/06/2016	17:45:00	943	48.17
10/06/2016	10:00:00	944	47.55
10/06/2016	14:00:00	945	47.56
13/06/2016	16:30:00	946	47.93
14/06/2016	10:30:00	947	47.11
14/06/2016	12:45:00	948	47.15
14/06/2016	14:40:00	949	47.58
14/06/2016	16:00:00	950	47.56
14/06/2016	18:00:00	951	47.34
15/06/2016	10:00:00	952	47.43
15/06/2016	13:50:00	953	47.54
15/06/2016	17:10:00	954	47.44
15/06/2016	18:20:00	955	47.57
16/06/2016	09:00:00	956	47.15
16/06/2016	10:00:00	957	47.56
16/06/2016	13:20:00	958	47.84
16/06/2016	16:30:00	959	48.06
17/06/2016	14:00:00	960	47.22
17/06/2016	14:30:00	961	47.39
17/06/2016	17:20:00	962	23.65
20/06/2016	16:00:00	963	47.43
20/06/2016	17:00:00	964	47.69
20/06/2016	18:00:00	965	47.39
20/06/2016	19:00:00	966	47.61
21/06/2016	11:40:00	967	47.34
21/06/2016	12:15:00	968	47.48
21/06/2016	12:40:00	969	47.89
21/06/2016	15:00:00	970	47.21
21/06/2016	15:30:00	971	47.17
21/06/2016	17:50:00	972	47.66
22/06/2016	14:15:00	973	47.46
22/06/2016	14:45:00	974	47.75
23/06/2016	12:00:00	975	48.51
24/06/2016	08:30:00	976	47.00
24/06/2016	13:40:00	977	47.85
24/06/2016	14:30:00	978	47.90
26/06/2016	12:00:00	979	47.82
27/06/2016	10:00:00	980	47.67
28/06/2016	08:20:00	981	48.44

28/06/2016	10:30:00	982	48.34
28/06/2016	11:00:00	983	48.28
28/06/2016	12:50:00	984	48.20
28/06/2016	14:00:00	985	48.19
28/06/2016	16:00:00	986	48.06
28/06/2016	17:15:00	987	48.13
29/06/2016	08:45:00	988	48.57
29/06/2016	10:50:00	989	48.14
29/06/2016	11:30:00	990	46.60
29/06/2016	13:00:00	991	24.72
29/06/2016	13:30:00	992	48.26
29/06/2016	14:30:00	993	48.14
29/06/2016	15:20:00	994	48.04
29/06/2016	15:30:00	995	48.73
29/06/2016	17:00:00	996	47.81
30/06/2016	07:30:00	997	47.96
30/06/2016	10:45:00	998	47.79
30/06/2016	15:10:00	999	47.93
Average Truck Movements June 2016		2.00	
Total Tonnes			2,817.91

Complaints

No complaints were received in June 2016.