

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	August 2016
Date Published	19 September 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.

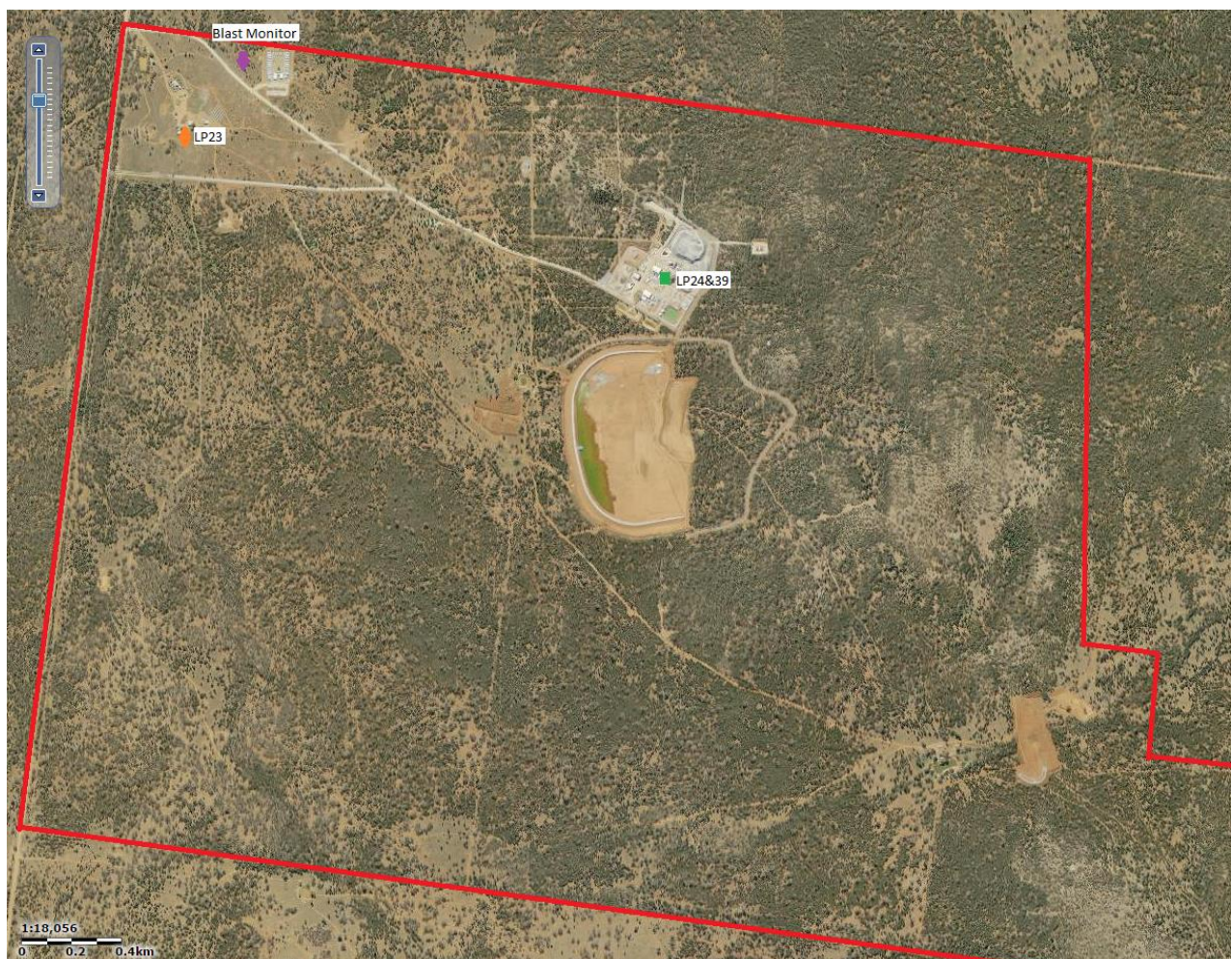


Figure 1. Location of the licence points associated with Gold Room Stack monitoring (Licence Point 24), Blast monitoring and meteorological monitoring (Licence Point 23).

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

Table 2. Summary of meteorological data for August 2016.

Pollutant	No. of measurements for month	Min. value	Mean value	Median value	Max. value
Air Temperature (°C)	Continuous	-3.35	9.47	9.43	21.30
Wind Speed (m/s)	Continuous	0.00	1.63	1.26	8.33
Sigma Theta (°)	Continuous	1.38	22.24	17.46	98.87
Rainfall (mm)	Continuous	0.00	0.01	0.00	2.00
Relative Humidity (%)	Continuous	40.48	80.85	88.53	99.16

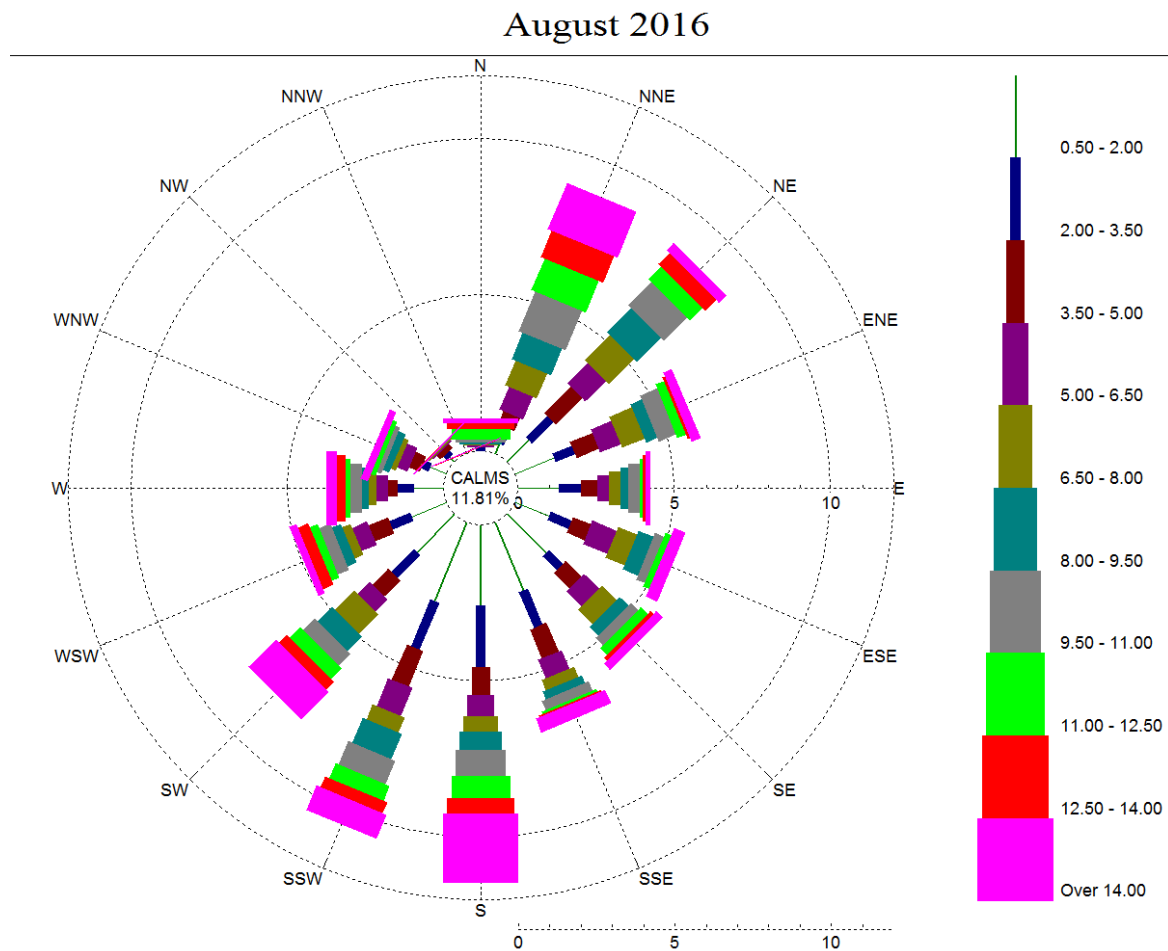


Figure 2. Wind rose August 2016.

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.

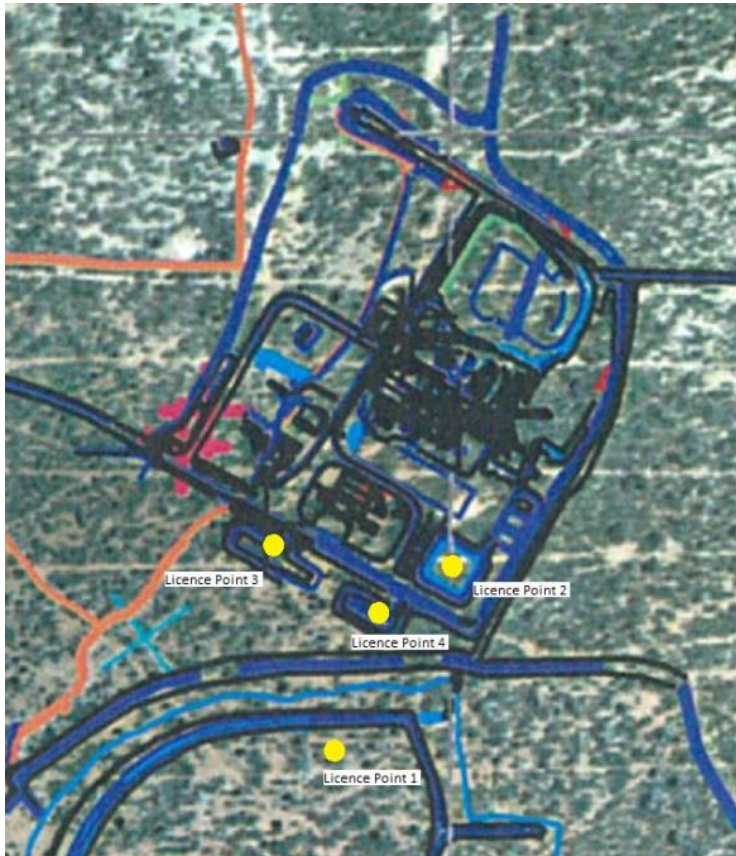


Figure 3. Licensed surface water monitoring points located onsite.

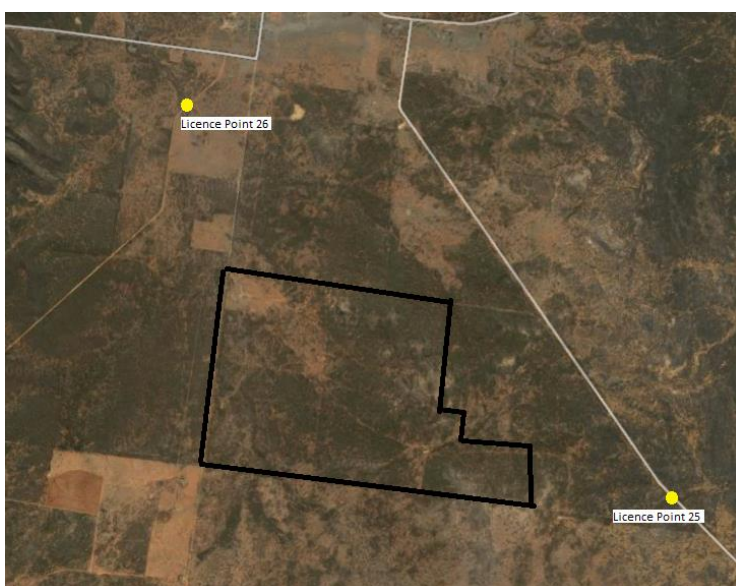


Figure 4. Licensed surface water monitoring points located offsite. The black outline represents the Project Area.

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 August 2016.

	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	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, productions bores (red points) and piezometers (purple points). A summary of the licence conditions associated with these licence points is presented in Table 5.

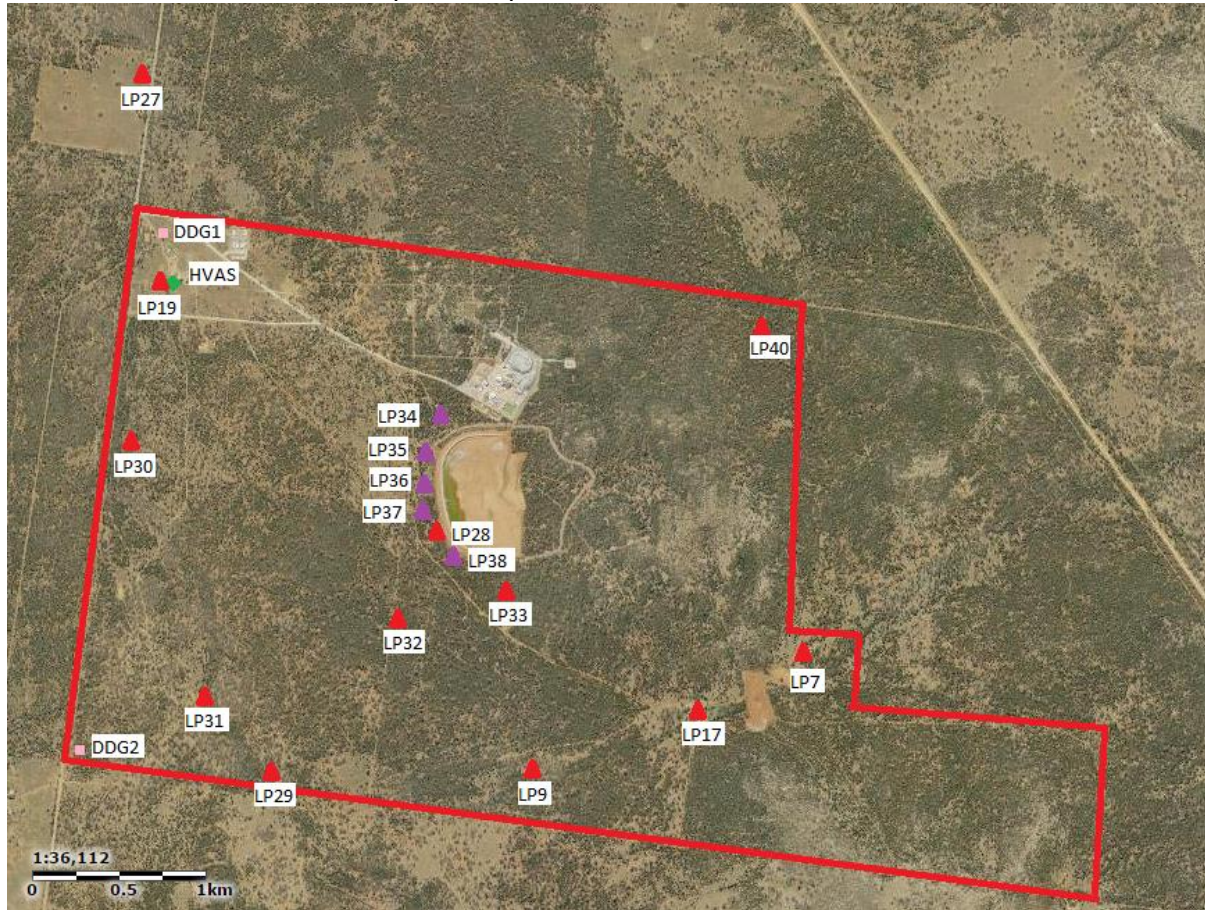


Figure 5. Licensed groundwater and air quality monitoring points.

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)
	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 (μ S/cm)
	pH

Quarterly groundwater results were last reported in July 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.

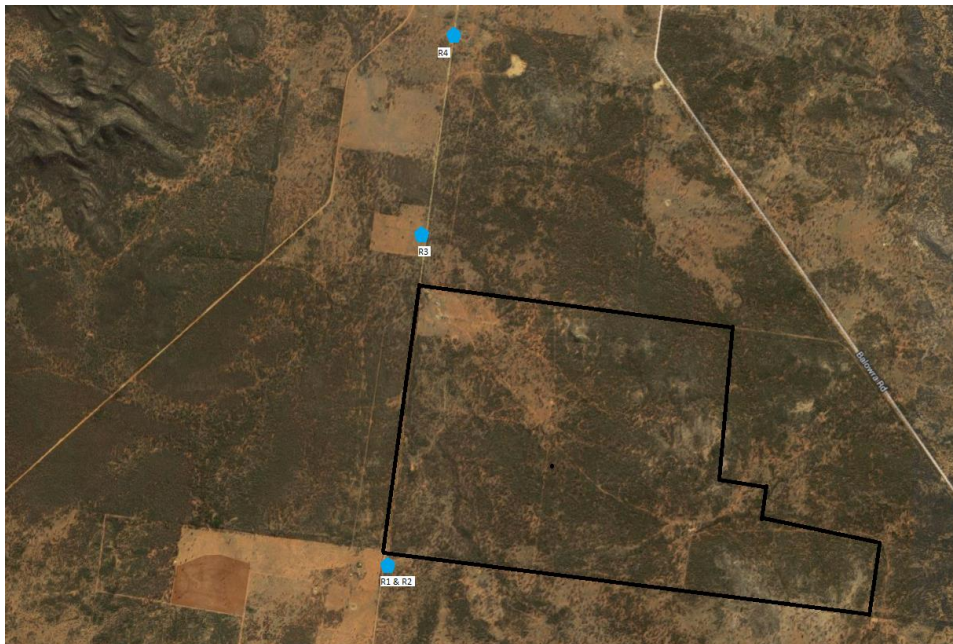


Figure 6. Licensed noise monitoring locations. The black outline represents the approximate project area.

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

Table 7 is a summary of the noise results for the month. No exceedances were recorded for the month. Results recorded in which wind speeds were greater than 3 m/s have been greyed out as they are n/a.

Table 7. Summary of noise monitoring results for August 2016.

Date	Time	Site	Period of day	Wind speed (m/s)	LA1 (dB)	LAeq (dB)	Mine Audible?	Noise heard
18/08/2016	2:16	R1/R2	Night	0.39	33.5	25.89	Yes	Dog barking, vent fan
18/08/2016	2:39	R3	Night	0.44	29.6	15.23	Yes	Vent fan, birds
18/08/2016	3:05	R4	Night	0.29	35.6	20.35	No	Dog barking, frogs
21/08/2016	9:46	R1/R2	Day	0.71	n/a	20.96	Yes	Birds, generator (barely audible), aeroplane
21/08/2016	15:51	R3	Day	3.44	n/a	33.25	No	Wind, birds
21/08/2016	15:23	R4	Day	2.98	n/a	34.31	No	wind, birds, cars passing
16/08/2016	18:34	R1/R2	Evening	1.60	n/a	24.87	Yes	Birds, vent fan, car door blew shut
16/08/2016	18:59	R3	Evening	1.34	n/a	24.51	Yes	Vent fan, vehicle on Priory Tank Rd, car passing
16/08/2016	19:24	R4	Evening	1.33	n/a	15.97	No	Wind

Blast Monitoring

The blast monitor is located to the east of the personnel accommodation (Figure 1). Blast site laws are used to predict the blast vibration at the nearest neighbour. 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.)
	<i>(monitor for every blast)</i>	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.)
	<i>(monitor for every blast)</i>	All times	115 dB (95% of total blasts)

The Company conducted a total of 64 blasts in August 2016. 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 August 2016.

Date	Time	Time period	Vibration (mm/s)	Overpressure (dB)
Tuesday, 2 August 2016	6:20	Night	<0.350	
Tuesday, 2 August 2016	7:00	Day	<0.350	
Tuesday, 2 August 2016	7:00	Day	<0.350	
Friday, 5 August 2016	6:25	Night	1.668	<88
Saturday, 6 August 2016	6:27	Night	1.155	<88
Sunday, 7 August 2016	6:15	Sunday	0.493	<88
Sunday, 7 August 2016	6:15	Sunday	0.493	<88
Monday, 8 August 2016	6:25	Night	1.173	91.48
Monday, 8 August 2016	6:25	Night	1.173	91.48
Monday, 8 August 2016	6:25	Night	1.173	91.48
Tuesday, 9 August 2016	6:10	Night	<0.350	
Tuesday, 9 August 2016	6:10	Night	<0.350	
Tuesday, 9 August 2016	7:15	Day	<0.350	
Tuesday, 9 August 2016	7:15	Day	<0.350	
Wednesday, 10 August 2016	19:22	Evening	1.448	91.48
Thursday, 11 August 2016	6:40	Night	0.527	<88
Thursday, 11 August 2016	6:40	Night	0.527	<88
Thursday, 11 August 2016	7:05	Day	<0.350	
Thursday, 11 August 2016	7:05	Day	<0.350	
Saturday, 13 August 2016	6:40	Night	<0.350	
Saturday, 13 August 2016	6:40	Night	<0.350	
Saturday, 13 August 2016	6:40	Night	<0.350	
Saturday, 13 August 2016	7:00	Day	<0.350	
Saturday, 13 August 2016	7:00	Day	<0.350	
Monday, 15 August 2016	6:30	Night	<0.350	
Monday, 15 August 2016	6:30	Night	<0.350	
Monday, 15 August 2016	6:30	Night	<0.350	
Monday, 15 August 2016	19:00	Evening	<0.350	
Tuesday, 16 August 2016	6:10	Night	<0.350	
Tuesday, 16 August 2016	6:10	Night	<0.350	
Tuesday, 16 August 2016	7:00	Day	<0.350	
Wednesday, 17 August 2016	7:00	Day	<0.350	
Wednesday, 17 August 2016	7:00	Day	<0.350	
Wednesday, 17 August 2016	7:00	Day	<0.350	
Thursday, 18 August 2016	7:30	Day	<0.350	
Thursday, 18 August 2016	11:07	Day	<0.350	
Friday, 19 August 2016	7:00	Day	<0.350	
Friday, 19 August 2016	11:05	Day	<0.350	
Saturday, 20 August 2016	7:15	Day	0.454	<88
Sunday, 21 August 2016	14:20	Sunday	<0.350	
Sunday, 21 August 2016	14:20	Sunday	<0.350	
Monday, 22 August 2016	6:50	Night	<0.350	
Monday, 22 August 2016	18:45	Evening	<0.350	

Tuesday, 23 August 2016	6:18	Night	<0.350	
Tuesday, 23 August 2016	7:00	Day	<0.350	
Tuesday, 23 August 2016	7:00	Day	<0.350	
Tuesday, 23 August 2016	14:30	Day	0.609	<88
Wednesday, 24 August 2016	7:30	Day	<0.350	
Wednesday, 24 August 2016	7:30	Day	<0.350	
Thursday, 25 August 2016	14:20	Day	1.163	91.48
Friday, 26 August 2016	6:45	Night	<0.350	
Friday, 26 August 2016	8:45	Day	<0.350	
Friday, 26 August 2016	8:45	Day	<0.350	
Saturday, 27 August 2016	7:30	Day	<0.350	
Saturday, 27 August 2016	7:30	Day	<0.350	
Saturday, 27 August 2016	7:30	Day	<0.350	
Saturday, 27 August 2016	18:45	Evening	<0.350	
Sunday, 28 August 2016	7:05	Sunday	<0.350	
Sunday, 28 August 2016	7:05	Sunday	<0.350	
Sunday, 28 August 2016	18:45	Sunday	<0.350	
Tuesday, 30 August 2016	6:35	Night	<0.350	
Tuesday, 30 August 2016	7:15	Day	<0.350	
Tuesday, 30 August 2016	7:15	Day	<0.350	

Air Quality Monitoring

The Company has two High Volume Air Samplers (HVAS), either 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 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 August 2016 have been summarised in Table 11. No exceedances have been recorded this month.

Table 11. Summary of air quality monitoring results for August 2016.

Pollutant	Unit	Limit	Averaging Period	Result
TSP	µg/m ³	90	Annual	36.93
PM-10 (µg/m ³)	µg/m ³	30	Annual	17.28
	µg/m ³	50	3/08/2016	<1.00
	µg/m ³	50	9/08/2016	1.00
	µg/m ³	50	15/08/2016	3.00
	µg/m ³	50	21/08/2016	<1.00
	µg/m ³	50	27/08/2016	7.00
Deposited Dust (DDG1)	g/m ² /month	4	Annual	2.28
Deposited Dust (DDG2)	g/m ² /month	4	Annual	1.42

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 12.

Table 12. 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 2,901 tonnes of concentrate was transported to the Hermidale rail siding with an average of 1.94 truck movements per day (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
1/08/2016	06:30:00	1065	48.91
1/08/2016	07:30:00	1061	49.50
1/08/2016	10:10:00	1062	49.01
1/08/2016	15:30:00	1063	48.19
1/08/2016	16:00:00	1064	47.15
2/08/2016	09:00:00	1066	48.64
2/08/2016	10:00:00	1067	48.41
2/08/2016	13:00:00	1068	47.91
2/08/2016	13:45:00	1069	48.65
2/08/2016	15:30:00	1070	48.43
2/08/2016	16:05:00	1071	48.30
3/08/2016	09:10:00	1072	48.10
3/08/2016	10:40:00	1073	49.16
5/08/2016	11:00:00	1074	48.53
10/08/2016	10:50:00	1075	48.61
10/08/2016	14:30:00	1076	49.01
11/08/2016	10:00:00	1077	48.86
11/08/2016	10:40:00	1078	48.94
11/08/2016	11:30:00	1079	49.08
11/08/2016	14:20:00	1080	48.31
12/08/2016	08:00:00	1081	49.05
12/08/2016	08:40:00	1082	48.89
12/08/2016	09:30:00	1083	48.88
12/08/2016	12:00:00	1084	48.04
12/08/2016	12:30:00	1085	49.41
12/08/2016	13:00:00	1086	48.63
12/08/2016	13:30:00	1087	48.44
13/08/2016	09:00:00	1088	49.00
13/08/2016	13:30:00	1089	48.37
14/08/2016	09:00:00	1090	47.66
14/08/2016	13:00:00	1091	47.93
15/08/2016	08:40:00	1092	47.36
15/08/2016	12:15:00	1093	48.65
15/08/2016	15:30:00	1094	48.14
16/08/2016	08:30:00	1095	47.80
16/08/2016	09:15:00	1096	48.31
16/08/2016	09:45:00	1097	50.68
16/08/2016	10:00:00	1098	50.84
21/08/2016	11:30:00	1099	47.48
22/08/2016	09:30:00	1100	47.41
22/08/2016	13:15:00	1101	47.57
23/08/2016	10:00:00	1102	47.81

23/08/2016	16:30:00	1103	47.66
24/08/2016	11:30:00	1104	48.46
24/08/2016	12:45:00	1105	47.89
25/08/2016	08:15:00	1106	48.15
25/08/2016	09:00:00	1107	47.89
25/08/2016	09:40:00	1108	48.20
26/08/2016	09:30:00	1109	48.08
26/08/2016	10:15:00	1110	47.81
27/08/2016	10:00:00	1111	47.71
27/08/2016	15:00:00	1112	47.90
28/08/2016	13:30:00	1113	47.28
29/08/2016	10:45:00	1114	48.14
29/08/2016	11:45:00	1115	48.09
29/08/2016	16:00:00	1116	48.03
30/08/2016	10:00:00	1117	47.85
30/08/2016	11:30:00	1118	47.94
30/08/2016	13:30:00	1119	48.16
31/08/2016	15:30:00	1120	48.01
Average Truck Movements per day August 2016		1.94	
Total Tonnes			2901.28

Complaints

No complaints were received in August 2016.