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 2016
Date Published	22 July 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.

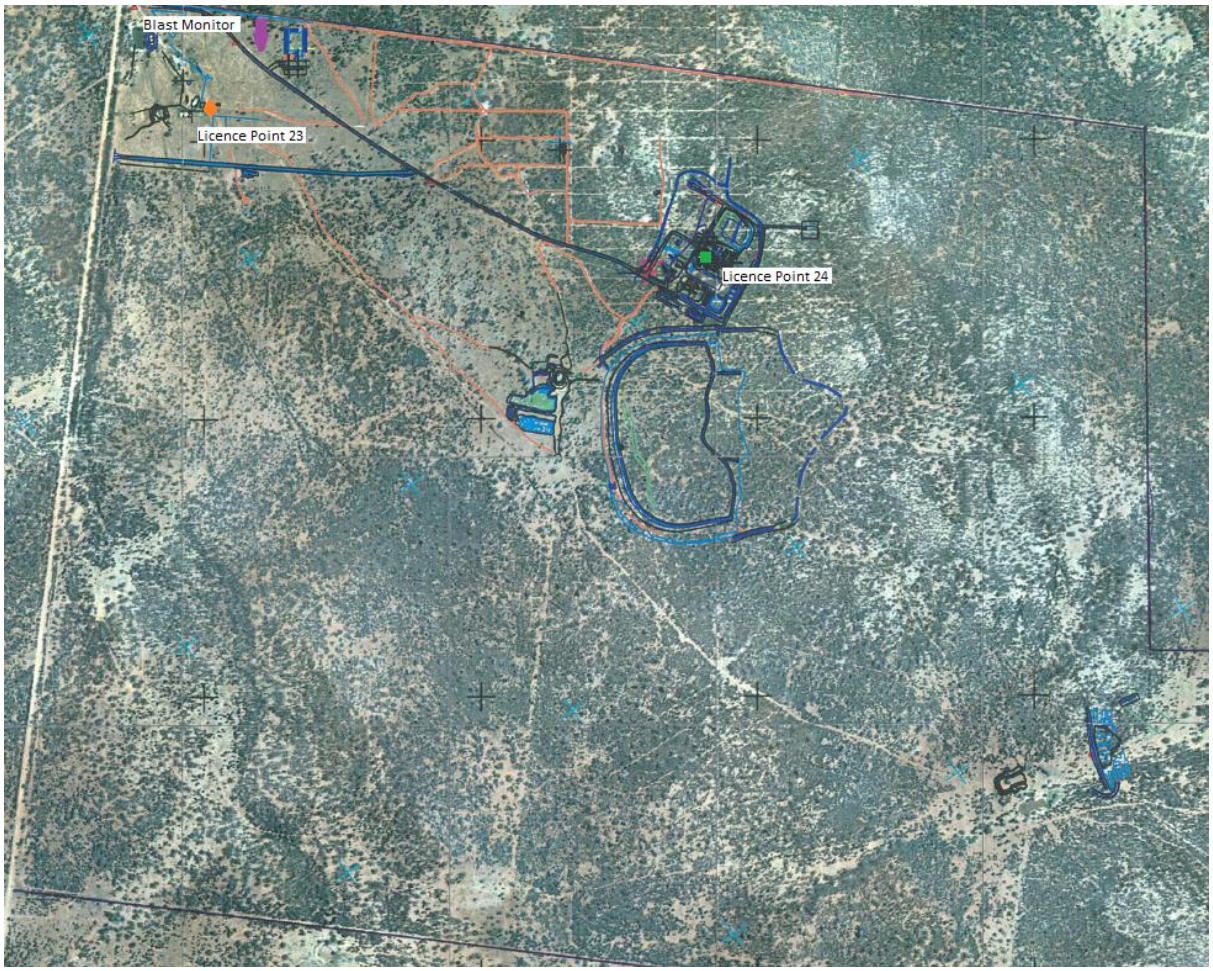

Figure 1. Location of the licence points associated with Gold Room Stack monitoring (Licence Point 24), Blast monitoring and meteorological monitoring (Licence Point 23).

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

Table 2. Summary of meteorological data for May 2016.

Pollutant	No. of measurements for month	Min. value	Mean value	Median value	Max. value
Air Temperature (°C)	Continuous	-0.90	12.77	12.63	24.47
Wind Speed (m/s)	Continuous	0.00	1.50	1.00	8.46
Sigma Theta (°)	Continuous	3.06	22.86	18.28	99.20
Rainfall (mm)	Continuous	0.00	0.02	0.00	5.40
Relative Humidity (%)	Continuous	36.96	82.32	90.74	98.43

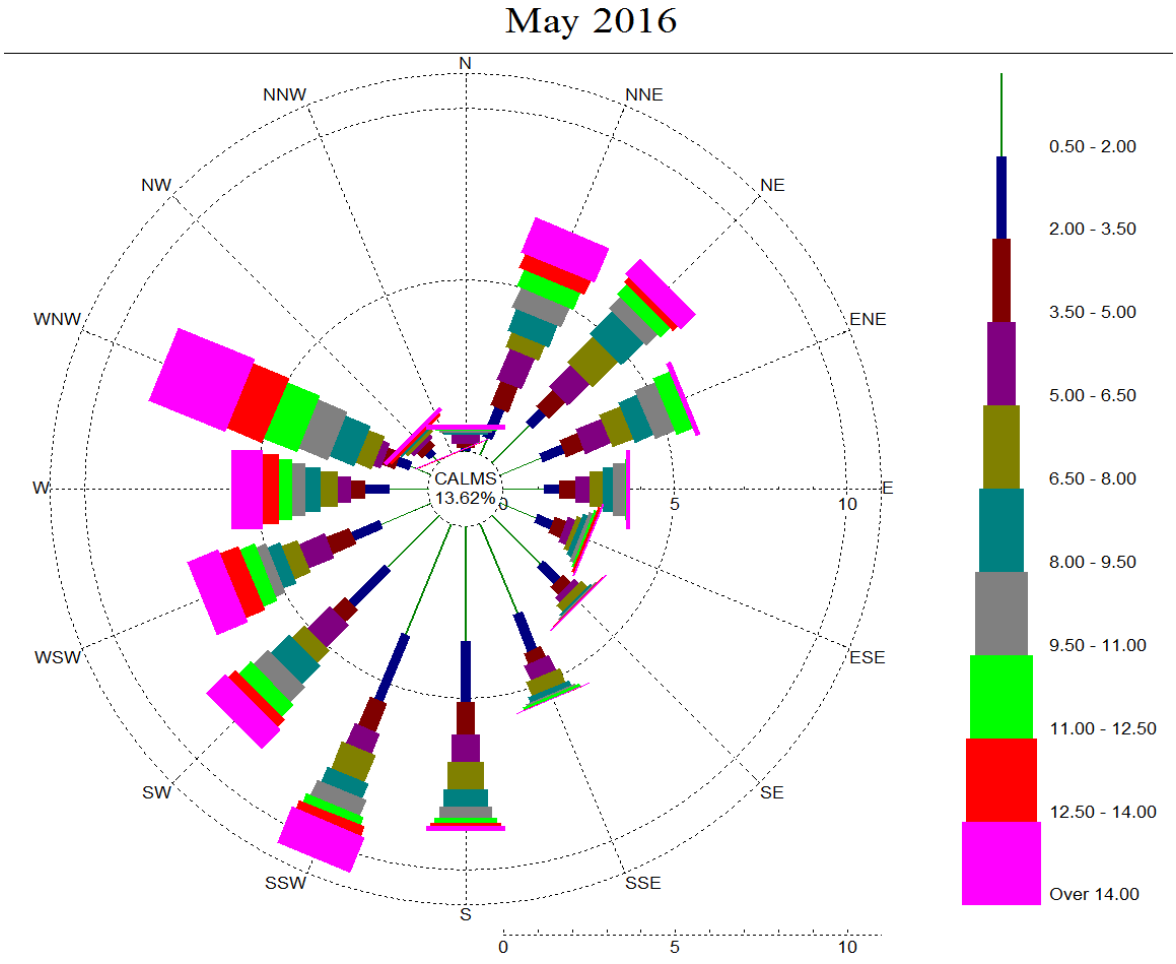

Figure 2. Wind rose May 2016.

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.

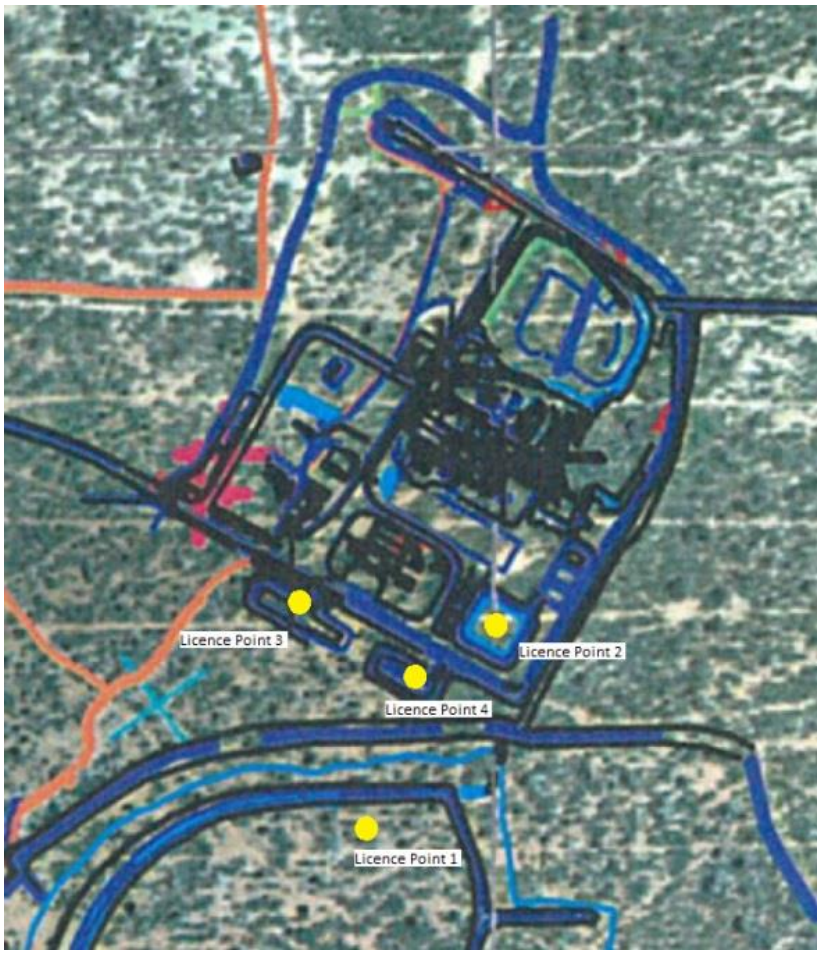

Figure 3. Licensed surface water monitoring points located onsite.

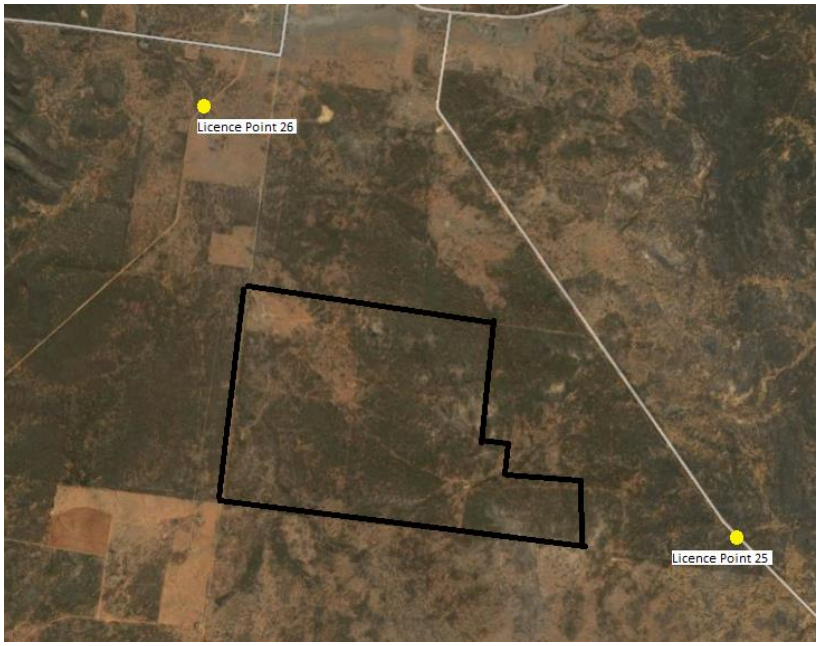

Figure 4. Licensed surface water monitoring points located offsite. The black outline represents the Project Area.

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

EPA ID No.	Monitoring Frequency	
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 4, 25 and 26 did not discharge for the month. Licence Point 3 discharged on 9 May 2016 following heavy rainfall (55.7mm in previous 48 hours). The results highlighted in red are exceedances to the EPL conditions. The incident was reported to the Environment Protection Agency, Division of Resources and Energy and the Department of Planning and Environment on 30 May 2016.

Table 4. Summary of surface water quality results for May 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	<0.004				0.59	<0.001	0.08	0.0358	0.012	647	0.3	0.936	0.049	8.8	<5	6.87	<0.001	0.03	23	11.6
4	No flow																			
25	No flow																			
26	No flow																			

Groundwater Monitoring

The Company has 13 licence points associated with groundwater. These points are located within 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.

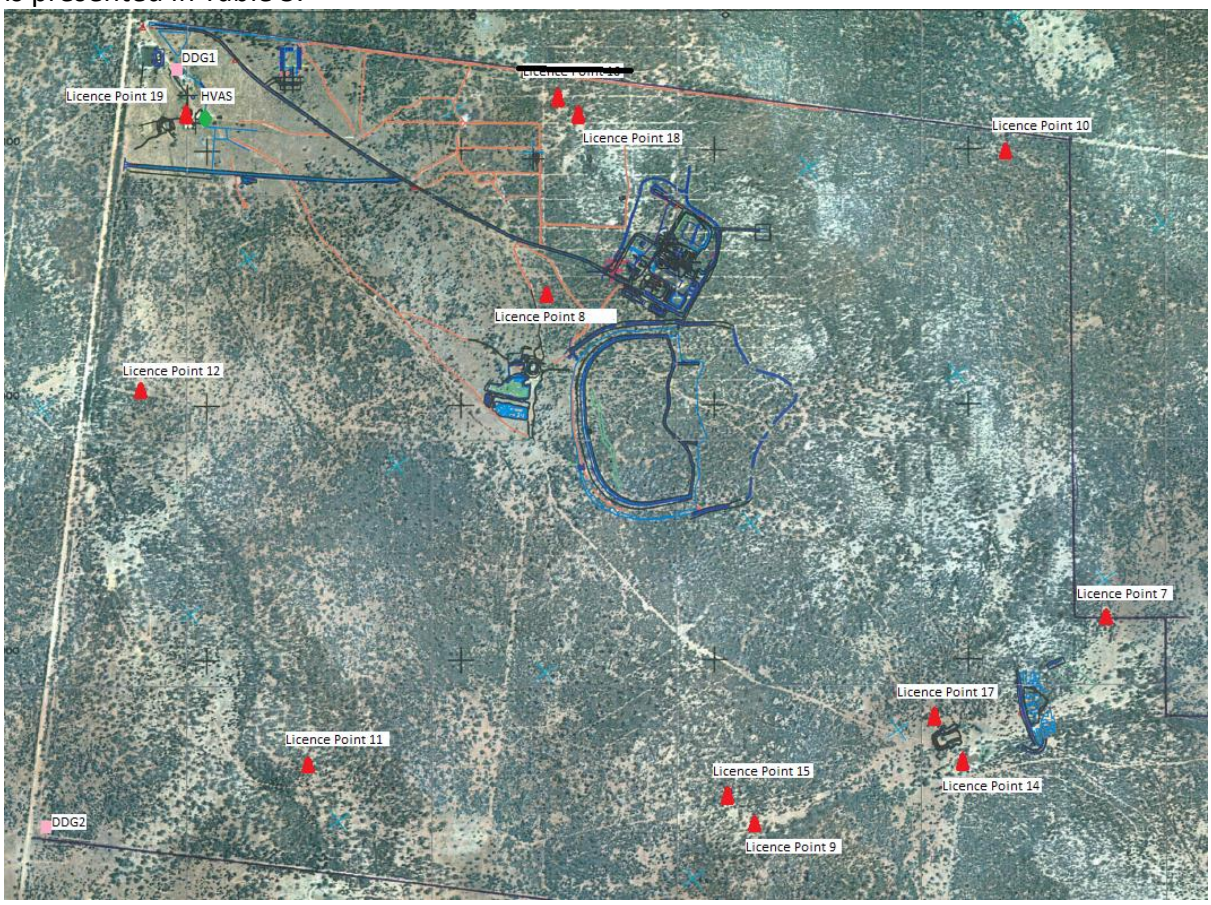

Figure 5. Licensed groundwater and air quality monitoring points.

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

EPA ID No.	Monitoring Frequency
	Quarterly
	Pollutant
7, 8, 9, 10, 11, 14, 15, 17, 18 ,19	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)
7, 8, 10, 12, 14, 15, 17, 18	Standing Water Level (m)

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.

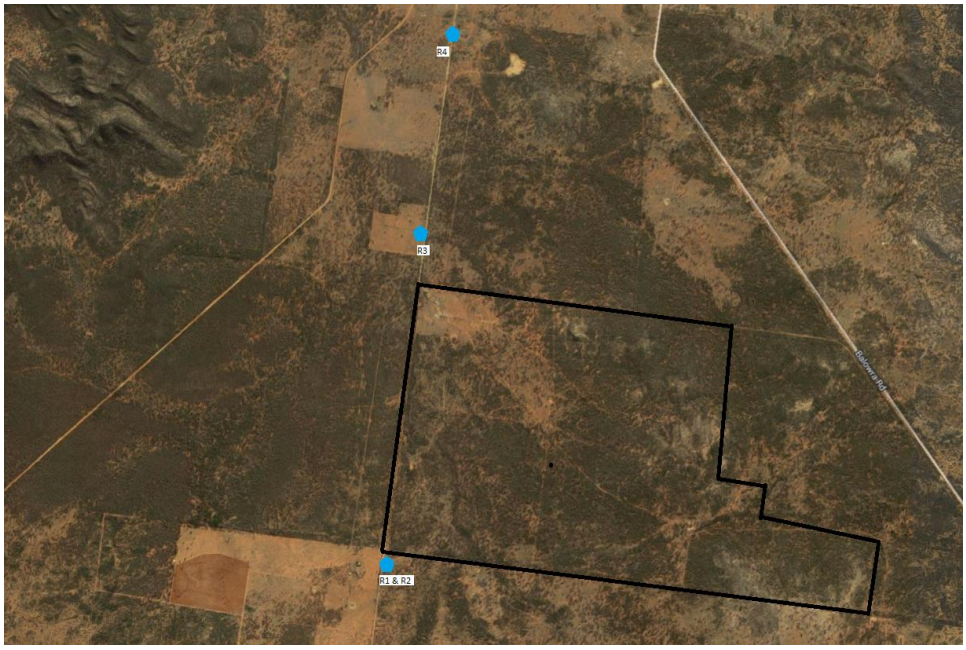

Figure 6. Licensed noise monitoring locations. The black outline represents the approximate project area.

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

Table 7 is a summary of the noise results for the month. No exceedances were recorded for the month.

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

Date	Time	Site	Period of day	Wind speed (m/s)	LA1 (dB)	LAeq (dB)	Mine Audible?	Noise heard
15/05/2016	6:29	R1/R2	Night	0.29	39.4	19.94	No	rooster, birds
15/05/2016	5:58	R3	Night	0.38	34.1	22.75	Yes	vent fan, mine vehicles
15/05/2016	5:30	R4	Night	0.34	34.8	19.46	Yes	frogs, vent fan, aeroplane, birds
13/05/2016	16:44	R1/R2	Day	0.81	n/a	19.98	Yes	birds, generator
13/05/2016	16:22	R3	Day	1.02	n/a	15.05	Yes	crickets, birds, mine heavy vehicle
13/05/2016	15:53	R4	Day	1.36	n/a	19.84	Yes	crickets, birds, mine heavy vehicle
14/05/2016	20:27	R1/R2	Evening	0.03	n/a	23.49	Yes	generator, bird
14/05/2016	20:01	R3	Evening	0.17	n/a	17.60	Yes	vent fan, bird, car in distance
14/05/2016	19:38	R4	Evening	0.17	n/a	14.21	No	frogs, vehicle in distance, birds, dog barking

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 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 77 blasts in May 2016. The characteristics of each blast are presented in Table 9. Two potential exceedances were recorded on 22 May 2016 (highlighted in red). The company is currently conducting further investigations of the blasts.

Table 9. Summary of blast monitoring results for May 2016.

Date	Time	Time period	Vibration (mm/s)	Overpressure (dB)
Sunday, 1 May 2016	6:45	Sunday	<0.350	
Sunday, 1 May 2016	6:45	Sunday	<0.350	
Monday, 2 May 2016	6:45	Night	<0.350	
Monday, 2 May 2016	6:45	Night	<0.350	
Monday, 2 May 2016	6:45	Night	<0.350	
Monday, 2 May 2016	6:45	Night	<0.350	
Monday, 2 May 2016	18:45	Evening	<0.350	
Monday, 2 May 2016	18:45	Evening	<0.350	
Tuesday, 3 May 2016	6:30	Night	<0.350	
Tuesday, 3 May 2016	6:30	Night	<0.350	
Wednesday, 4 May 2016	6:30	Night	<0.350	
Wednesday, 4 May 2016	14:00	Day	<0.350	
Thursday, 5 May 2016	6:30	Night	<0.350	
Thursday, 5 May 2016	6:30	Night	<0.350	
Thursday, 5 May 2016	18:30	Evening	<0.350	
Friday, 6 May 2016	6:30	Night	<0.350	
Saturday, 7 May 2016	6:30	Night	<0.350	
Saturday, 7 May 2016	6:30	Night	<0.350	
Sunday, 8 May 2016	6:30	Sunday	<0.350	

Sunday, 8 May 2016	6:30	Sunday	<0.350	
Monday, 9 May 2016	6:30	Night	<0.350	
Monday, 9 May 2016	13:15	Day	<0.350	
Monday, 9 May 2016	13:15	Day	<0.350	
Tuesday, 10 May 2016	6:40	Night	<0.350	
Tuesday, 10 May 2016	18:30	Evening	1.602	91.48
Tuesday, 10 May 2016	18:45	Evening	<0.350	
Wednesday, 11 May 2016	6:45	Night	<0.350	
Thursday, 12 May 2016	6:40	Night	<0.350	
Friday, 13 May 2016	6:45	Night	<0.350	
Friday, 13 May 2016	6:45	Night	<0.350	
Saturday, 14 May 2016	6:45	Night	<0.350	
Saturday, 14 May 2016	12:30	Day	2.154	93.98
Sunday, 15 May 2016	6:15	Sunday	<0.350	
Sunday, 15 May 2016	6:15	Sunday	<0.350	
Sunday, 15 May 2016	6:15	Night	<0.350	
Monday, 16 May 2016	6:45	Night	<0.350	
Monday, 16 May 2016	6:45	Night	<0.350	
Tuesday, 17 May 2016	6:15	Night	<0.350	
Tuesday, 17 May 2016	18:30	Evening	<0.350	
Wednesday, 18 May 2016	1:50	Night	<0.350	
Wednesday, 18 May 2016	6:45	Night	<0.350	
Wednesday, 18 May 2016	18:30	Evening	<0.350	
Wednesday, 18 May 2016	18:30	Evening	<0.350	
Thursday, 19 May 2016	6:30	Night	<0.350	
Thursday, 19 May 2016	6:30	Night	<0.350	
Friday, 20 May 2016	6:30	Night	<0.350	
Friday, 20 May 2016	6:30	Night	<0.350	
Friday, 20 May 2016	13:00	Day	<0.350	
Saturday, 21 May 2016	6:30	Night	<0.350	
Saturday, 21 May 2016	6:30	Night	<0.350	
Sunday, 22 May 2016	6:30	Sunday	<0.350	
Sunday, 22 May 2016	6:30	Sunday	<0.350	
Sunday, 22 May 2016	18:30	Sunday	1.221	<88
Sunday, 22 May 2016	18:30	Sunday	1.221	<88
Monday, 23 May 2016	6:30	Night	<0.350	
Monday, 23 May 2016	6:30	Night	<0.350	
Monday, 23 May 2016	14:00	Day	<0.350	
Monday, 23 May 2016	14:00	Day	<0.350	
Tuesday, 24 May 2016	6:30	Night	<0.350	
Tuesday, 24 May 2016	18:30	Evening	<0.350	
Wednesday, 25 May 2016	6:30	Night	<0.350	
Wednesday, 25 May 2016	6:30	Night	<0.350	
Thursday, 26 May 2016	6:30	Night	<0.350	
Friday, 27 May 2016	6:50	Night	<0.350	
Friday, 27 May 2016	6:50	Night	<0.350	

Friday, 27 May 2016	18:30	Evening	<0.350	
Saturday, 28 May 2016	6:30	Night	<0.350	
Saturday, 28 May 2016	6:30	Night	<0.350	
Saturday, 28 May 2016	18:30	Evening	<0.350	
Sunday, 29 May 2016	6:30	Sunday	<0.350	
Sunday, 29 May 2016	6:30	Sunday	<0.350	
Monday, 30 May 2016	6:50	Night	0.454	<88
Monday, 30 May 2016	6:50	Night	0.454	<88
Monday, 30 May 2016	18:30	Evening	1.370	91.48
Tuesday, 31 May 2016	6:30	Night	<0.350	
Tuesday, 31 May 2016	6:30	Night	<0.350	
Tuesday, 31 May 2016	6:30	Night	<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 (PM_{10}) 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 inTable 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 2016 have been summarised in Table 11. No exceedances have been recorded this month.

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

Pollutant	Unit	Limit	Averaging Period	Result
TSP	µg/m^3	90	Annual	38.50
PM-10 (µg/m^3)	µg/m^3	30	Annual	18.22
	µg/m^3	50	5/05/2016	13.00
	µg/m^3	50	11/05/2016	6.00
	µg/m^3	50	17/05/2016	7.00
	µg/m^3	50	23/05/2016	10.00
	µg/m^3	50	29/05/2016	3.00
Deposited Dust (DDG1)	g/m^2/month	4	Annual	2.89
Deposited Dust (DDG2)	g/m^2/month	4	Annual	1.92

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/m³)

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 3,113 tonnes of concentrate was transported to the Hermidale rail siding with an average of 2.13 truck movements per day (Table 13). 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 is currently underway. The Department of Planning and Environment was notified of the incident on 27 June 2016.

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
3/05/2016	14:15:00	873	47.72
3/05/2016	15:00:00	874	47.13
4/05/2016	08:20:00	875	47.53
4/05/2016	09:15:00	876	47.76
4/05/2016	12:30:00	877	48.05
4/05/2016	13:10:00	878	47.81
4/05/2016	16:00:00	879	48.05
4/05/2016	16:30:00	880	47.65
6/05/2016	10:30:00	881	47.04
6/05/2016	14:30:00	882	47.20
17/05/2016	08:30:00	883	47.93
17/05/2016	09:00:00	884	47.74
17/05/2016	11:45:00	885	23.92
17/05/2016	12:45:00	886	48.03
17/05/2016	15:30:00	887	47.53
18/05/2016	07:50:00	888	47.97
18/05/2016	09:20:00	889	47.89

18/05/2016	12:30:00	890	47.85
18/05/2016	16:00:00	891	47.80
19/05/2016	09:00:00	892	47.95
19/05/2016	09:45:00	893	48.03
19/05/2016	10:15:00	894	47.75
19/05/2016	12:30:00	895	46.64
19/05/2016	13:10:00	896	47.49
19/05/2016	14:15:00	897	46.97
19/05/2016	16:20:00	898	48.12
20/05/2016	09:00:00	899	47.70
20/05/2016	09:50:00	900	47.85
20/05/2016	12:50:00	901	47.93
23/05/2016	11:15:00	902	48.20
23/05/2016	12:15:00	903	48.23
23/05/2016	13:30:00	904	48.02
23/05/2016	15:30:00	905	48.03
23/05/2016	16:00:00	906	47.95
23/05/2016	17:30:00	907	48.11
23/05/2016	20:50:00	908	48.18
24/05/2016	07:40:00	909	48.02
24/05/2016	08:15:00	910	47.91
24/05/2016	08:50:00	911	48.08
24/05/2016	11:30:00	912	48.45
24/05/2016	12:50:00	913	47.78
24/05/2016	15:00:00	914	47.63
24/05/2016	16:15:00	915	47.91
24/05/2016	20:00:00	916	48.61
25/05/2016	09:00:00	917	48.00
25/05/2016	09:30:00	918	46.88
25/05/2016	13:40:00	919	47.65
25/05/2016	14:20:00	920	48.44
25/05/2016	14:50:00	921	48.10
25/05/2016	19:00:00	922	47.79
26/05/2016	15:30:00	923	46.77
26/05/2016	15:45:00	924	47.40
27/05/2016	09:40:00	925	46.80
27/05/2016	10:30:00	926	47.60
27/05/2016	11:00:00	927	47.26
27/05/2016	13:50:00	928	41.15
27/05/2016	14:30:00	929	41.00
27/05/2016	15:20:00	930	47.23
27/05/2016	17:45:00	931	47.66
27/05/2016	18:51:00	932	48.11

29/05/2016	09:00:00	933	48.05
29/05/2016	13:30:00	934	48.11
29/05/2016	14:00:00	935	46.85
29/05/2016	14:30:00	936	47.65
29/05/2016	17:50:00	937	47.39
29/05/2016	18:00:00	938	46.78
Average Truck Movements May 2016		**2.13**	
Total Tonnes			**3,112.82**

Complaints

No complaints were received in May 2016.