

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	March 2017
Date Published	29 May 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 March 2017. Figure 2 is a wind rose for the month.

Table 2. Summary of meteorological data for March 2017.

Pollutant	No. of measurements for month	Min. value	Mean value	Median value	Max. value
Air Temperature (°C)	Continuous	8.89	23.70	23.33	36.17
Wind Speed (m/s)	Continuous	0.00	2.65	2.65	10.09
Sigma Theta (°)	Continuous	2.98	20.65	25.80	97.86
Rainfall (mm)	Continuous	0.00	0.01	0.00	12.00
Relative Humidity (%)	Continuous	17.31	58.84	58.26	98.05

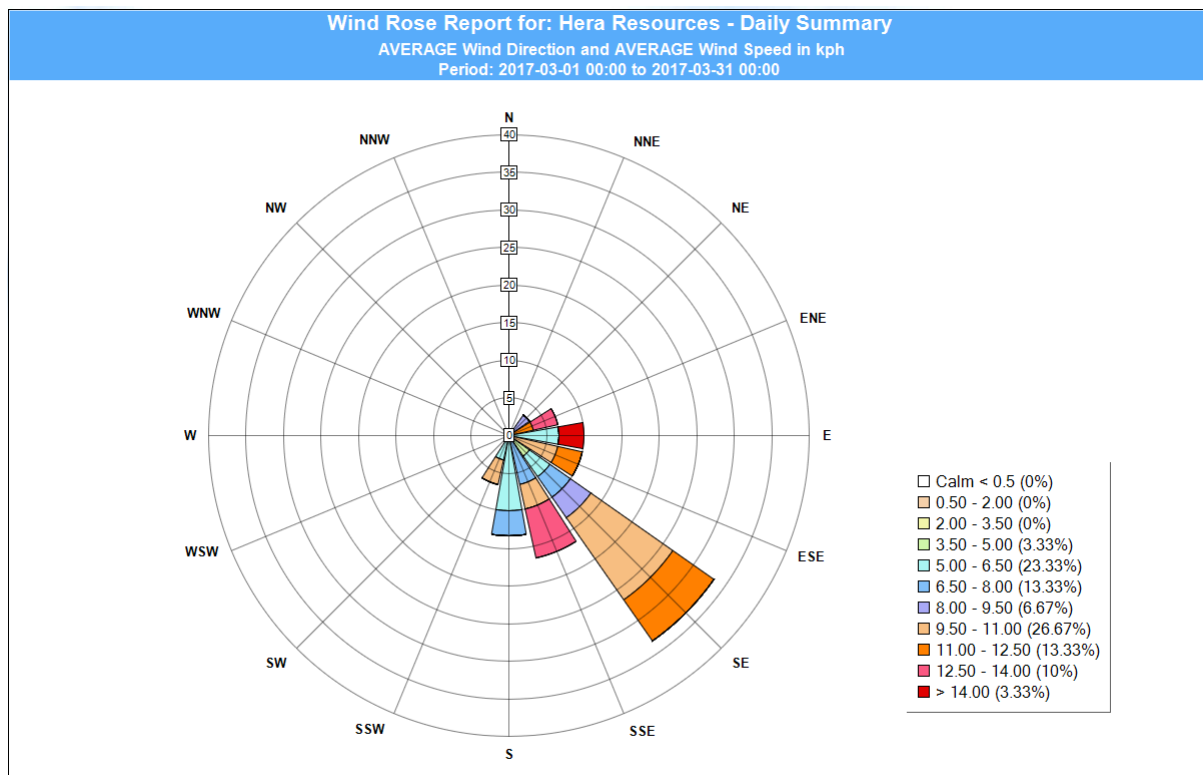


Figure 2. Wind rose March 2017.

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.

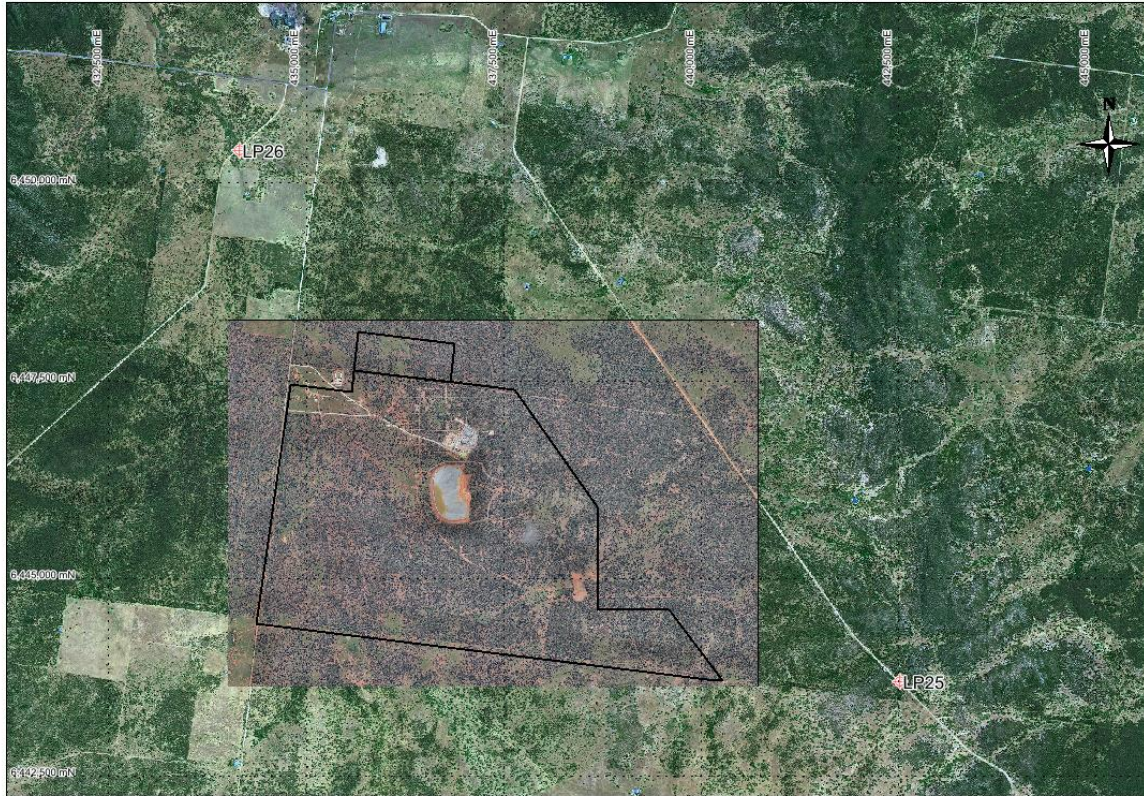


Figure 4. Licensed surface water monitoring points located offsite. The black outline represents the Project Area.

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 March 2017.

	Analytes (mg/L)																			
	WAD Cyanide				Al	As	B	Cd	Cu	EC ($\mu\text{S/cm}$)	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	4.68	0	10																
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 reported in January 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.

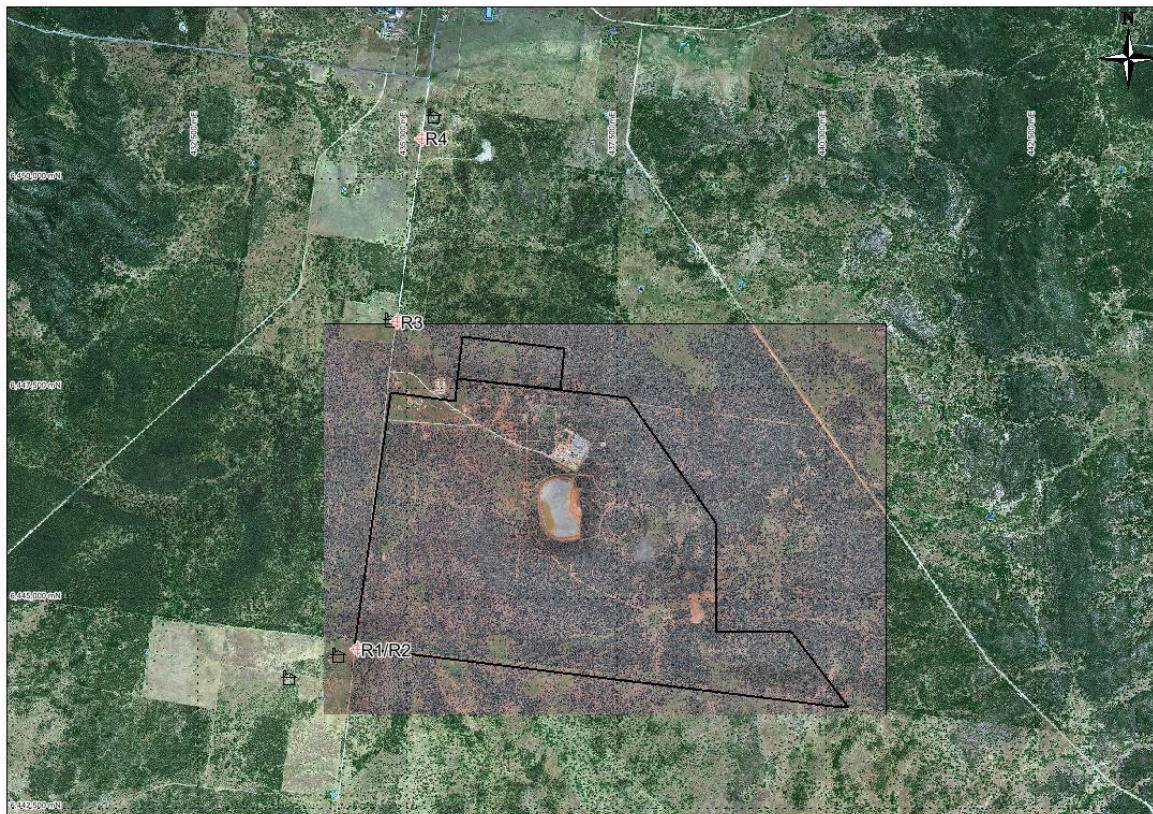


Figure 6. Licensed noise monitoring locations. The black outline represents the approximate project area.

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 was engaged to conduct a noise assessment in February 2017. All measurements were compliant to licence conditions.

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 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	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 75 blasts in March 2017. 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 March 2017.

Date	Time	Time period	Vibration (mm/s)	Overpressure (dB)
Wednesday, 1 March 2017	7:15	Day	<0.35	
Wednesday, 1 March 2017	7:15	Day	<0.35	
Thursday, 2 March 2017	7:15	Day	<0.35	
Thursday, 2 March 2017	7:15	Day	<0.35	
Thursday, 2 March 2017	19:00	Evening	<0.35	
Thursday, 2 March 2017	19:00	Evening	<0.35	
Friday, 3 March 2017	7:30	Day	<0.35	
Friday, 3 March 2017	7:30	Day	<0.35	
Saturday, 4 March 2017	6:40	Night	<0.35	
Saturday, 4 March 2017	18:30	Evening	0.497	93.98
Saturday, 4 March 2017	18:30	Evening	0.497	93.98
Sunday, 5 March 2017	6:45	Sunday	<0.35	
Sunday, 5 March 2017	6:45	Sunday	<0.35	
Monday, 6 March 2017	7:30	Day	<0.35	
Monday, 6 March 2017	7:30	Day	<0.35	
Tuesday, 7 March 2017	6:30	Night	<0.35	
Tuesday, 7 March 2017	6:30	Night	<0.35	
Wednesday, 8 March 2017	6:30	Night	<0.35	
Wednesday, 8 March 2017	6:30	Night	<0.35	
Wednesday, 8 March 2017	20:50	Evening	<0.35	
Thursday, 9 March 2017	6:50	Night	<0.35	
Thursday, 9 March 2017	6:50	Night	<0.35	
Friday, 10 March 2017	6:45	Night	<0.35	
Friday, 10 March 2017	6:45	Night	<0.35	
Saturday, 11 March 2017	6:45	Night	<0.35	
Saturday, 11 March 2017	6:45	Night	<0.35	
Saturday, 11 March 2017	7:00	Day	<0.35	
Sunday, 12 March 2017	6:45	Sunday	<0.35	
Sunday, 12 March 2017	6:45	Sunday	<0.35	
Monday, 13 March 2017	7:00	Day	<0.35	
Monday, 13 March 2017	7:00	Day	<0.35	
Tuesday, 14 March 2017	6:45	Night	<0.35	
Tuesday, 14 March 2017	6:45	Night	<0.35	
Tuesday, 14 March 2017	19:00	Evening	<0.35	
Wednesday, 15 March 2017	6:45	Night	<0.35	
Wednesday, 15 March 2017	6:45	Night	<0.35	
Wednesday, 15 March 2017	19:45	Evening	<0.35	
Thursday, 16 March 2017	7:20	Day	<0.35	
Thursday, 16 March 2017	7:20	Day	<0.35	
Friday, 17 March 2017	6:30	Night	<0.35	
Friday, 17 March 2017	6:30	Night	<0.35	
Friday, 17 March 2017	6:30	Night	<0.35	
Friday, 17 March 2017	6:30	Night	<0.35	
Friday, 17 March 2017	18:45	Evening	<0.35	

Saturday, 18 March 2017	6:45	Night	<0.35	
Saturday, 18 March 2017	6:45	Night	<0.35	
Sunday, 19 March 2017	6:40	Sunday	<0.35	
Sunday, 19 March 2017	6:40	Sunday	<0.35	
Monday, 20 March 2017	6:45	Night	<0.35	
Monday, 20 March 2017	6:45	Night	<0.35	
Monday, 20 March 2017	18:50	Evening	<0.35	
Tuesday, 21 March 2017	6:30	Night	<0.35	
Tuesday, 21 March 2017	6:30	Night	<0.35	
Wednesday, 22 March 2017	6:10	Night	<0.35	
Thursday, 23 March 2017	6:40	Night	<0.35	
Thursday, 23 March 2017	6:40	Night	<0.35	
Thursday, 23 March 2017	19:15	Evening	<0.35	
Friday, 24 March 2017	6:55	Night	<0.35	
Saturday, 25 March 2017	7:10	Day	<0.35	
Saturday, 25 March 2017	7:10	Day	<0.35	
Saturday, 25 March 2017	7:10	Day	<0.35	
Sunday, 26 March 2017	6:50	Sunday	<0.35	
Sunday, 26 March 2017	18:40	Sunday	<0.35	
Monday, 27 March 2017	6:45	Night	<0.35	
Monday, 27 March 2017	6:45	Night	<0.35	
Tuesday, 28 March 2017	6:58	Night	<0.35	
Tuesday, 28 March 2017	6:58	Night	<0.35	
Wednesday, 29 March 2017	6:45	Night	<0.35	
Wednesday, 29 March 2017	6:45	Night	<0.35	
Wednesday, 29 March 2017	18:45	Evening	0.367	<88
Thursday, 30 March 2017	6:30	Night	<0.35	
Thursday, 30 March 2017	6:30	Night	<0.35	
Friday, 31 March 2017	6:30	Night	<0.35	
Friday, 31 March 2017	6:30	Night	<0.35	
Friday, 31 March 2017	18:45	Evening	<0.35	

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 9.

Table 9. Summary of Project Approval conditions associated with dust monitoring.

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

Results for air quality monitoring conducted in March 2017 have been summarised in Table 10. No exceedances have been recorded this month.

Table 10. Summary of air quality monitoring results for March 2017.

Pollutant	Unit	Limit	Averaging Period	Result
TSP	$\mu\text{g}/\text{m}^3$	90	Annual	28.42
PM-10 ($\mu\text{g}/\text{m}^3$)	$\mu\text{g}/\text{m}^3$	30	Annual	13.53
	$\mu\text{g}/\text{m}^3$	50	1/03/2017	25.00
	$\mu\text{g}/\text{m}^3$	50	7/03/2017	23.00
	$\mu\text{g}/\text{m}^3$	50	13/03/2017	24.00
	$\mu\text{g}/\text{m}^3$	50	19/03/2017	10.00
	$\mu\text{g}/\text{m}^3$	50	25/03/2017	7.00
	$\mu\text{g}/\text{m}^3$	50	31/03/2017	25.00
Deposited Dust (DDG1)	$\text{g}/\text{m}^2/\text{month}$	4	Annual	2.00
Deposited Dust (DDG2)	$\text{g}/\text{m}^2/\text{month}$	4	Annual	1.53

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 11.

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

EPA ID No.	Monitoring Frequency
24	Yearly
39	
Pollutant	
Nitric Oxide (mg/m^3)	

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. This month, a total of 3,297.58 tonnes of concentrate

was transported to the Hermidale rail siding with an average of 2.19 truck movements per day (Table 12).

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
1/03/2017	07:30:00	1430	48.68
1/03/2017	10:00:00	1431	48.68
1/03/2017	11:15:00	1432	48.41
1/03/2017	15:15:00	1433	48.95
2/03/2017	15:30:00	1434	48.42
2/03/2017	15:45:00	1435	48.72
2/03/2017	16:00:00	1436	48.01
3/03/2017	12:03:00	1437	48.68
3/03/2017	12:20:00	1438	48.11
3/03/2017	13:00:00	1439	48.53
3/03/2017	15:11:00	1440	49.40
3/03/2017	16:15:00	1441	48.13
3/03/2017	16:30:00	1442	48.00
4/03/2017	14:30:00	1443	48.80
4/03/2017	15:00:00	1444	48.34
4/03/2017	16:00:00	1445	48.08
6/03/2017	11:45:00	1446	47.94
6/03/2017	12:00:00	1447	47.74
6/03/2017	14:15:00	1448	47.91
6/03/2017	15:15:00	1449	47.86
6/03/2017	16:00:00	1450	48.15
7/03/2017	07:15:00	1451	48.33
7/03/2017	08:00:00	1452	48.10
7/03/2017	12:45:00	1453	48.01
7/03/2017	13:15:00	1454	48.28
7/03/2017	16:30:00	1455	48.40
7/03/2017	17:00:00	1456	48.64
8/03/2017	07:45:00	1457	48.66
8/03/2017	08:45:00	1458	47.57
8/03/2017	09:00:00	1459	48.77
8/03/2017	12:30:00	1460	46.78
9/03/2017	07:45:00	1461	48.53
9/03/2017	08:15:00	1462	48.56
9/03/2017	11:30:00	1463	48.35
9/03/2017	12:30:00	1464	48.69
9/03/2017	16:15:00	1465	48.80
9/03/2017	16:45:00	1466	48.45
10/03/2017	11:00:00	1467	48.85
10/03/2017	11:30:00	1468	48.38

10/03/2017	12:00:00	1469	49.14
10/03/2017	16:00:00	1470	48.29
10/03/2017	16:30:00	1471	49.24
11/03/2017	07:15:00	1472	48.48
11/03/2017	10:00:00	1473	47.88
11/03/2017	11:15:00	1474	49.43
11/03/2017	15:15:00	1475	48.78
11/03/2017	16:10:00	1476	48.17
13/03/2017	09:45:00	1477	48.87
13/03/2017	13:15:00	1478	49.38
17/03/2017	10:30:00	1479	48.90
27/03/2017	16:00:00	1480	49.23
27/03/2017	16:15:00	1481	49.35
28/03/2017	11:40:00	1482	48.72
28/03/2017	15:00:00	1483	48.65
28/03/2017	18:00:00	1484	48.89
29/03/2017	17:35:00	1485	47.93
30/03/2017	08:30:00	1486	47.60
30/03/2017	11:20:00	1488	48.15
30/03/2017	11:20:00	1487	48.00
30/03/2017	12:50:00	1489	47.83
30/03/2017	15:30:00	1492	49.68
30/03/2017	15:30:00	1490	48.30
30/03/2017	16:05:00	1491	48.55
31/03/2017	08:50:00	1493	48.77
31/03/2017	11:45:00	1494	49.12
31/03/2017	12:45:00	1495	48.56
31/03/2017	15:30:00	1496	49.01
31/03/2017	16:00:00	1497	49.00
Average Truck Movements per day March 2017		2.19	
Total Tonnes			3,297.58

Complaints

One complaint was received in March 2017. The complaint related to a light vehicle interaction on the public road fronting the mine site. The complaint has been summarised in Table 13.

Table 13 Complaints received by the Company in March 2017.

Date	Pollution complaint category
6/03/2017	Light vehicle interaction on a public road