

<b>Licensee</b>	Hera Resources Pty Ltd
<b>Address</b>	'The Peak, Burthong Road, Nymagee, NSW 2831
<b>Environmental Protection Licence</b>	20179
<b>Link to Licence</b>	<a href="http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32372&amp;SYSUID=1&amp;LICID=20179">http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32372&amp;SYSUID=1&amp;LICID=20179</a>
<b>Project Approval</b>	10_0191
<b>Reporting Period</b>	April 2017
<b>Date Published</b>	30/05/2017

## 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).

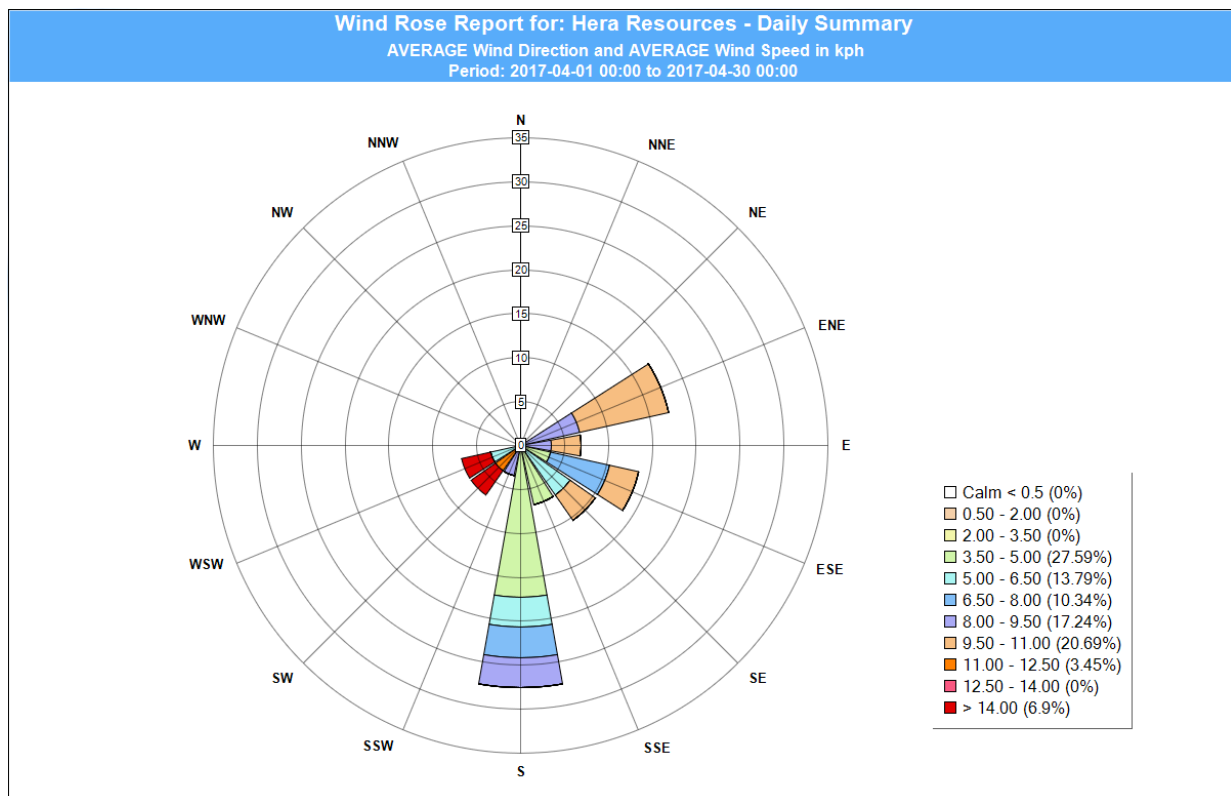
**Table 1.** Summary of EPL 20179 conditions associated with the licensed weather station.

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 April 2017. Figure 2 is a wind rose for the month. No Result (NR) was recorded for the Sigma Theta data this month as the firmware on the weather station was updated which lead to a system error and non-recording of this data. This issue has since been rectified.

**Table 2.** Summary of meteorological data for April 2017.

Pollutant	No. of measurements for month	Min. value	Mean value	Median value	Max. value
Air Temperature (°C)	Continuous	0.65	16.52	16.91	27.33
Wind Speed (m/s)	Continuous	0.00	2.10	1.91	8.76
Sigma Theta (°)	Continuous	NR	NR	NR	NR
Rainfall (mm)	Continuous	0.00	62.81	0.00	2.40
Relative Humidity (%)	Continuous	23.80	62.81	61.85	97.28



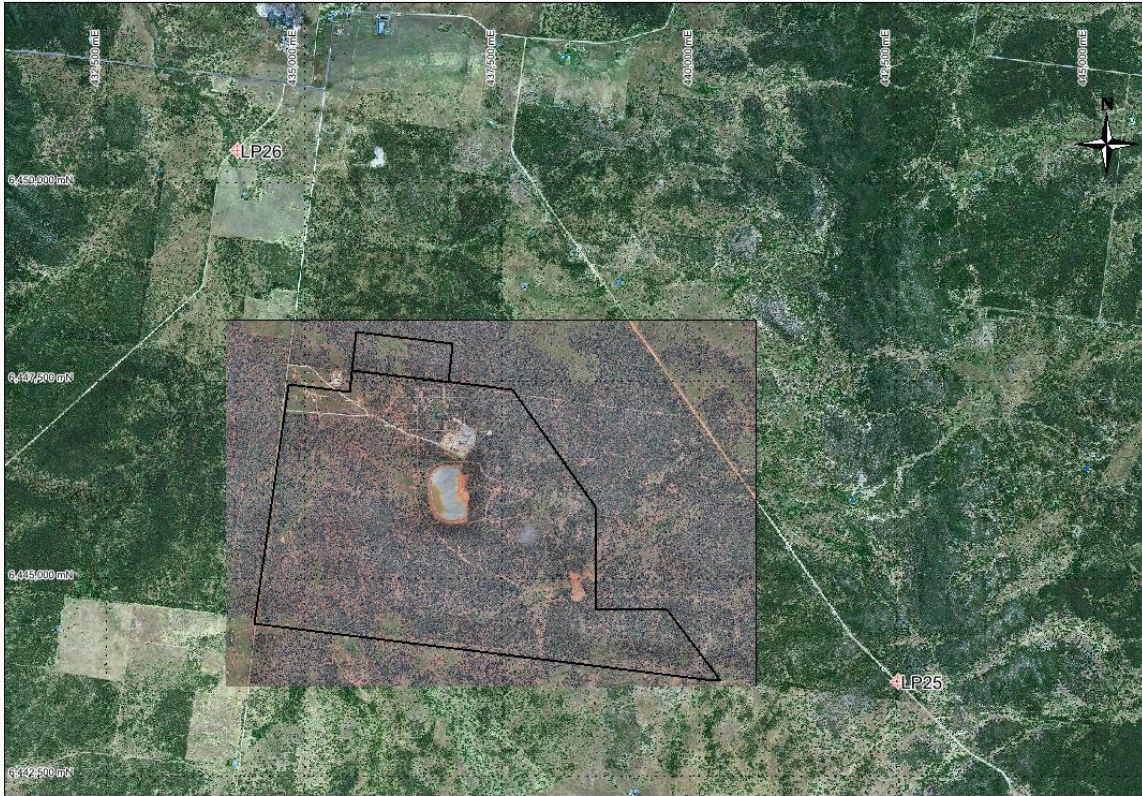
**Figure 2.** Wind rose April 2017.

## 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 April 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	3.17	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 ( $\mu\text{S}/\text{cm}$ )
	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 ( $\mu\text{S}/\text{cm}$ )
	pH

Quarterly groundwater results for April 2017 are reported in Table 6.

**Table 6:** Summary of April 2017 groundwater quality results.

Licence Point	Analyte (mg/L)													EC (mS/cm)
	Sb	As	HCO3-	B	Cd	Ca	CO3-2	Cl	Cr	Cu	CN- (Free)	CN- (Total)	CN- (WAD)	
7	<0.001	<0.001	597	0.46	<0.0001	193	<1	981	<0.001	<0.001	<0.004	<0.004	<0.004	3840
9	<0.001	<0.001	567	0.66	<0.0001	185	<1	908	<0.001	<0.001	<0.004	<0.004	<0.004	4470
17	<0.001	<0.001	304	0.32	<0.0001	48	<1	246	<0.001	<0.001	<0.004	<0.004	<0.004	1375
19	<0.001	<0.001	326	0.76	<0.0001	53	<1	753	<0.001	0.003	<0.004	<0.004	<0.004	2810
27	<0.001	<0.001	472	1.25	<0.0001	71	<1	1100	<0.001	0.002	<0.004	<0.004	<0.004	NR
28	0.002	<0.001	650	0.67	<0.0001	200	<1	951	<0.001	<0.001	<0.004	<0.004	<0.004	4150
29	0.02	<0.001	303	0.44	<0.0001	46	<1	313	<0.001	<0.001	<0.004	<0.004	<0.004	1643
30	<0.001	<0.001	698	1.84	<0.0001	72	<1	1460	<0.001	<0.001	<0.004	<0.004	<0.004	6790
31	<0.001	<0.001	329	0.9	<0.0001	100	<1	1240	<0.001	0.001	<0.004	<0.004	<0.004	5150
32	0.002	<0.001	658	0.91	<0.0001	237	<1	893	<0.001	<0.001	<0.004	<0.004	<0.004	5020
33	<0.001	0.004	460	0.37	<0.0001	155	<1	545	<0.001	<0.001	<0.004	<0.004	<0.004	3060
34											DRY	DRY	DRY	DRY
35											DRY	DRY	DRY	DRY
36											DRY	DRY	DRY	DRY
37											DRY	DRY	DRY	DRY
38											DRY	DRY	DRY	DRY
40	<0.001	<0.001	610	0.45	<0.0001	187	<1	1110	<0.001	<0.001	<0.004	<0.004	<0.004	4040
	Analyte (mg/L)													SWL (m)
	Fe	Pb	Mg	Hg	Mo	Ni	pH	K	Ag	Na	Sn	TDS	Zn	
7	0.06	0.003	166	<0.0001	0.001	<0.001	6.88	16	<0.001	563	<0.001	2900	0.01	53.4
9	1.24	<0.001	217	<0.0001	<0.001	<0.001	7.16	28	<0.001	681	<0.001	3410	<0.005	
17	<0.05	0.003	52	<0.0001	<0.001	0.001	6.78	10	<0.001	179	<0.001	792	0.02	
19	<0.05	<0.001	86	<0.0001	<0.001	<0.001	7.68	24	<0.001	593	<0.001	1950	0.066	
27	<0.05	<0.001	133	<0.0001	<0.001	0.001	7.33	31	<0.001	885	<0.001	3360	0.017	54.13
28	1.5	0.002	225	<0.0001	<0.001	0.003	6.93	28	<0.001	657	<0.001	3370	0.049	81.95
29	<0.05	0.004	57	<0.0001	0.001	0.002	7.21	14	<0.001	308	<0.001	1250	0.061	61.75
30	0.4	<0.001	100	<0.0001	<0.001	<0.001	7.35	34	<0.001	1350	<0.001	3990	0.015	59.96
31	<0.05	<0.001	134	<0.0001	<0.001	0.002	7.26	32	<0.001	924	<0.001	3510	0.034	
32	<0.05	0.002	244	<0.0001	<0.001	0.015	6.9	32	<0.001	923	<0.001	5010	0.043	
33	5.13	0.003	163	<0.0001	<0.001	0.013	6.68	19	<0.001	431	<0.001	2500	0.079	
34											DRY			
35											DRY			
36											DRY			
37											DRY			
38											DRY			
40	<0.05	<0.001	181	<0.0001	<0.001	<0.001	7.13	15	<0.001	625	<0.001	3390	0.01	53.8

## 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 7.



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

**Table 7.** 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 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 48 blasts in April 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 April 2017.

Date	Time	Time period	Vibration (mm/s)	Overpressure (dB)
Saturday, 1 April 2017	6:30	Night	<0.35	
Saturday, 1 April 2017	6:30	Night	<0.35	
Sunday, 2 April 2017	7:00	Sunday	<0.35	
Sunday, 2 April 2017	7:30	Sunday	<0.35	
Sunday, 2 April 2017	7:30	Sunday	<0.35	
Sunday, 2 April 2017	18:45	Sunday	<0.35	
Sunday, 2 April 2017	18:45	Sunday	<0.35	
Sunday, 2 April 2017	22:00	Night	<0.35	
Monday, 3 April 2017	7:05	Day	<0.35	
Monday, 3 April 2017	18:25	Evening	<0.35	
Tuesday, 4 April 2017	6:45	Night	<0.35	
Tuesday, 4 April 2017	6:45	Night	<0.35	
Tuesday, 4 April 2017	18:45	Evening	<0.35	
Wednesday, 5 April 2017	6:20	Night	<0.35	
Wednesday, 5 April 2017	18:55	Evening	<0.35	
Thursday, 6 April 2017	14:30	Day	<0.35	
Friday, 7 April 2017	6:45	Night	<0.35	
Friday, 7 April 2017	18:40	Evening	0.360	<88
Saturday, 8 April 2017	6:45	Night	<0.35	
Sunday, 9 April 2017	6:45	Sunday	<0.35	
Monday, 10 April 2017	6:45	Night	<0.35	
Monday, 10 April 2017	6:45	Night	<0.35	
Monday, 10 April 2017	13:35	Day	<0.35	
Monday, 10 April 2017	13:35	Day	<0.35	
Tuesday, 11 April 2017	6:30	Night	<0.35	
Tuesday, 11 April 2017	18:45	Evening	<0.35	
Wednesday, 12 April 2017	6:45	Night	<0.35	

Wednesday, 12 April 2017	18:45	Evening	<0.35	
Thursday, 13 April 2017	6:30	Night	<0.35	
Thursday, 13 April 2017	18:50	Evening	<0.35	
Friday, 14 April 2017	6:50	Night	<0.35	
Friday, 14 April 2017	6:50	Night	<0.35	
Saturday, 15 April 2017	6:40	Night	<0.35	
Saturday, 15 April 2017	18:45	Evening	<0.35	
Sunday, 16 April 2017	6:40	Sunday	<0.35	
Sunday, 16 April 2017	13:00	Sunday	<0.35	
Monday, 17 April 2017	6:45	Night	<0.35	
Monday, 17 April 2017	6:45	Night	<0.35	
Monday, 17 April 2017	13:40	Day	<0.35	
Tuesday, 18 April 2017	6:45	Night	<0.35	
Tuesday, 18 April 2017	18:40	Evening	<0.35	
Wednesday, 19 April 2017	6:45	Night	<0.35	
Wednesday, 19 April 2017	18:45	Evening	<0.35	
Friday, 21 April 2017	18:50	Evening	<0.35	
Sunday, 23 April 2017	19:30	Sunday	<0.35	
Tuesday, 25 April 2017	19:45	Evening	<0.35	
Friday, 28 April 2017	18:30	Evening	<0.35	
Saturday, 29 April 2017	19:00	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 (PM<sub>10</sub>) 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 <sup>3</sup>
PM <sub>10</sub>	Annual	30 µg/m <sup>3</sup>
PM <sub>10</sub>	24 Hour	50 µg/m <sup>3</sup>
Deposited Dust	Annual	2 g/m <sup>2</sup> /month (Max. increase)
	Annual	4 g/m <sup>2</sup> /month (Max. total)

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

**Table 11.** Summary of air quality monitoring results for April 2017.

Pollutant	Unit	Limit	Averaging Period	Result
TSP	µg/m <sup>3</sup>	90	Annual	30.68
PM-10 (µg/m <sup>3</sup> )	µg/m <sup>3</sup>	30	Annual	14.51
	µg/m <sup>3</sup>	50	6/04/2017	25.00
	µg/m <sup>3</sup>	50	12/04/2017	23.00
	µg/m <sup>3</sup>	50	18/04/2017	24.00
	µg/m <sup>3</sup>	50	24/04/2017	10.00
	µg/m <sup>3</sup>	50	30/04/2017	7.00
Deposited Dust (DDG1)	g/m <sup>2</sup> /month	4	Annual	2.04
Deposited Dust (DDG2)	g/m <sup>2</sup> /month	4	Annual	1.48

## 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/m <sup>3</sup> )	

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
1/04/2017	07:50:00	1498	49.25
1/04/2017	11:00:00	1499	49.18
1/04/2017	15:00:00	1500	49.15
2/04/2017	07:30:00	1501	48.66
2/04/2017	11:00:00	1502	48.31
2/04/2017	13:30:00	1503	48.29
2/04/2017	14:30:00	1504	48.21
2/04/2017	16:30:00	1505	48.63
2/04/2017	17:45:00	1506	48.78
3/04/2017	07:45:00	1507	48.09
3/04/2017	08:30:00	1508	48.37
3/04/2017	09:00:00	1509	47.57
3/04/2017	12:40:00	1511	49.41
3/04/2017	12:40:00	1510	48.67
3/04/2017	14:00:00	1512	49.18
3/04/2017	15:00:00	1513	48.88
4/04/2017	16:00:00	1514	49.33
5/04/2017	09:55:00	1515	49.13
5/04/2017	12:00:00	1516	48.59
5/04/2017	14:00:00	1517	49.78
5/04/2017	15:15:00	1518	48.79
7/04/2017	07:30:00	1519	47.33
7/04/2017	08:00:00	1520	46.75
12/04/2017	07:20:00	1521	51.19
12/04/2017	08:00:00	1522	47.68
12/04/2017	11:00:00	1523	43.58
12/04/2017	11:50:00	1524	47.56
12/04/2017	14:10:00	1525	47.54
12/04/2017	15:10:00	1526	48.04
13/04/2017	07:30:00	1527	49.21
13/04/2017	08:00:00	1528	47.84
13/04/2017	10:30:00	1529	48.47
13/04/2017	11:30:00	1530	48.83
13/04/2017	14:15:00	1531	49.10
13/04/2017	14:45:00	1532	49.14
14/04/2017	07:05:00	1533	48.60
18/04/2017	07:50:00	1534	48.79
18/04/2017	11:30:00	1535	48.35
18/04/2017	14:30:00	1536	49.18
18/04/2017	15:20:00	1537	48.46
19/04/2017	07:40:00	1538	48.09
19/04/2017	07:50:00	1539	47.95

19/04/2017	10:50:00	1540	47.77
19/04/2017	14:30:00	1541	48.55
20/04/2017	07:45:00	1542	48.40
20/04/2017	11:00:00	1543	48.74
24/04/2017	13:30:00	1544	48.82
24/04/2017	15:00:00	1545	47.90
26/04/2017	08:30:00	1546	47.93
26/04/2017	12:00:00	1547	47.88
26/04/2017	15:25:00	1548	47.95
<b>Average Truck Movements per day April 2017</b>		<b>1.61</b>	
<b>Total Tonnes</b>			<b>2,421.87</b>

## Complaints

Two complaints were received in April 2017. The complaints related to concentrate haulage trucks allegedly speeding on public roads. The complaints have been summarised in Table 14.

**Table 14** Complaints received by the Company in April 2017.

Date	Pollution complaint category
20/04/2017	Heavy vehicle speeds on public roads
21/04/2017	Heavy vehicle speeds on public roads