Licensee	Aurelia Metals Limited
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 2015
Date Published	21/09/2015

Weather Monitoring

Aurelia Metals Limited (AMI) has one licenced weather station (licence point 23) associated with the site (**Figure 1**). A summary of the licence conditions (Environmental Protection Licence (EPL) 20179) associated with this point is presented in **Table 1**.

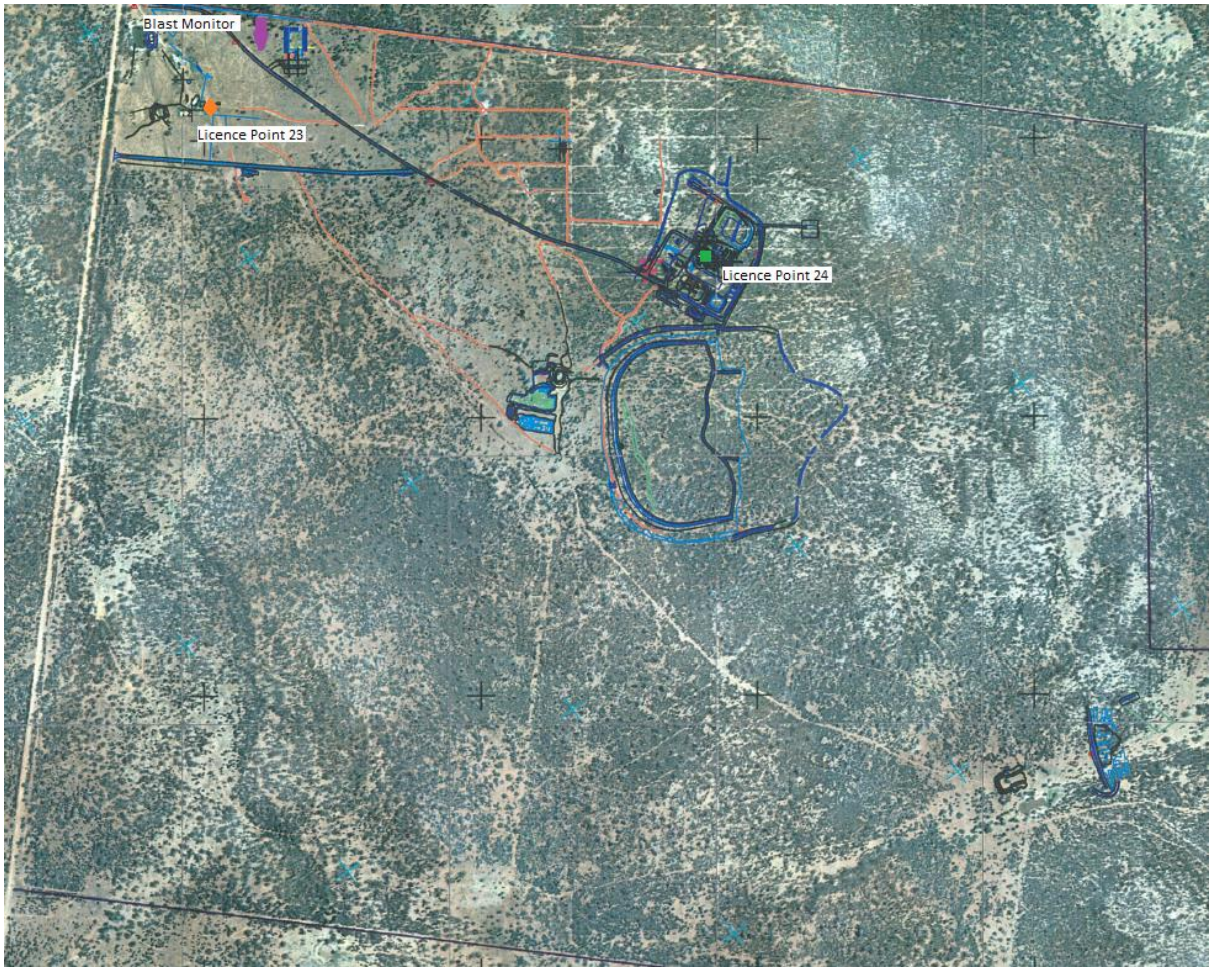

Figure 1. Location of the licence points associated with Gold Room Stack monitoring (Licence Point 24), Blast monitoring and meteorological monitoring (Licence Point 23).

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 2015.

Table 2. Summary of meteorological data for August 2015.

Pollutant	No. of measurements for month	Min. value	Mean value	Median value	Max. value
Air Temperature (°C)	Continuous	-2.98	9.66	10.01	24.93
Wind Direction (°)	Continuous	12.13	189.56	4.33	334.88
Wind Speed (m/s)	Continuous	0.00	1.64	1.37	7.07
Sigma Theta (°)	Continuous	1.48	21.61	16.55	102.57
Rainfall (mm)	Continuous	0.00	0.01	0.00	5.40
Relative Humidity (%)	Continuous	32.88	77.97	80.69	99.99

Surface Water Monitoring

AMI has six licence points associated with surface waters. Four of these points are located within the Mining Lease (**Figure 2**) and two are located on Box creek, upstream and downstream of the lease (**Figure 3**). A summary of the licence conditions associated with these licence points is presented in **Table 3**.

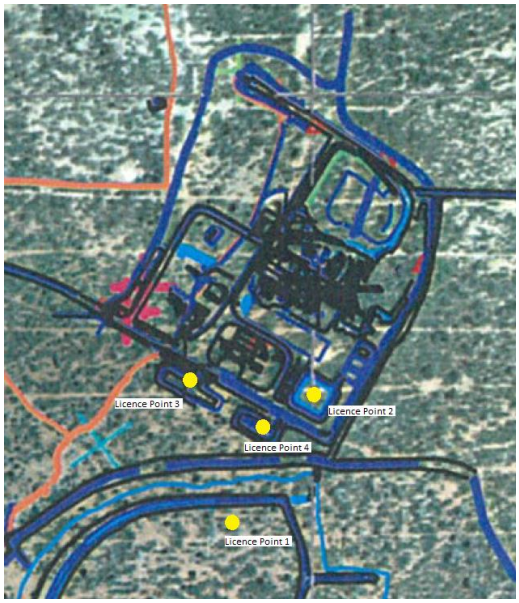

Figure 2. Licensed surface water monitoring points located onsite.

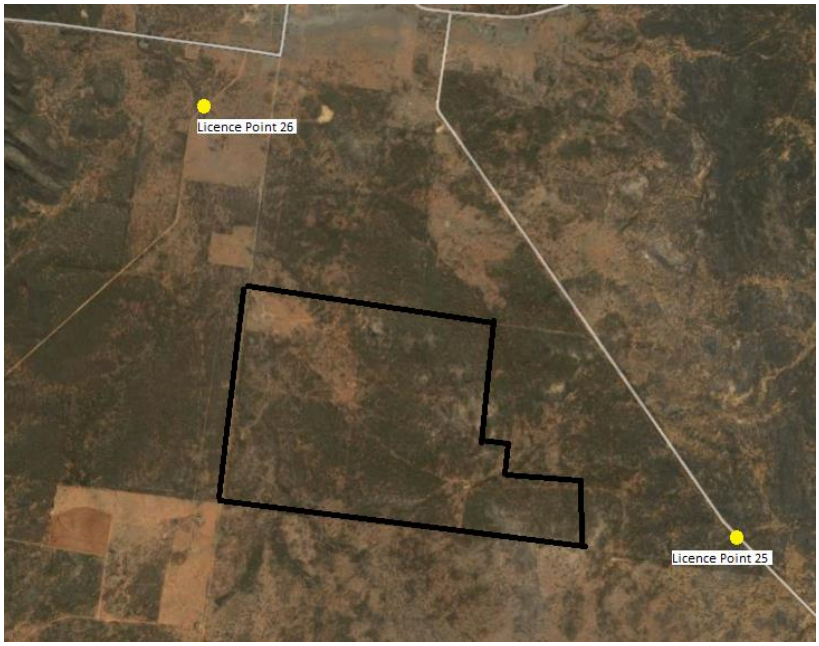

Figure 3. Licensed surface water monitoring points located offsite. The black outline represents the Mining Lease.

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 is 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 and 26 did not discharge for the month.

Table 4. Summary of surface water quality results for August 2015.

	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	2.67	0	10																
2	0	2.9	0	20																
3	No discharge																			
4	No discharge																			
25	No discharge																			
26	No discharge																			

Groundwater Monitoring

AMI has 13 licence points associated with groundwater. These points are located within the Mining Lease (**Figure 4**) 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**.

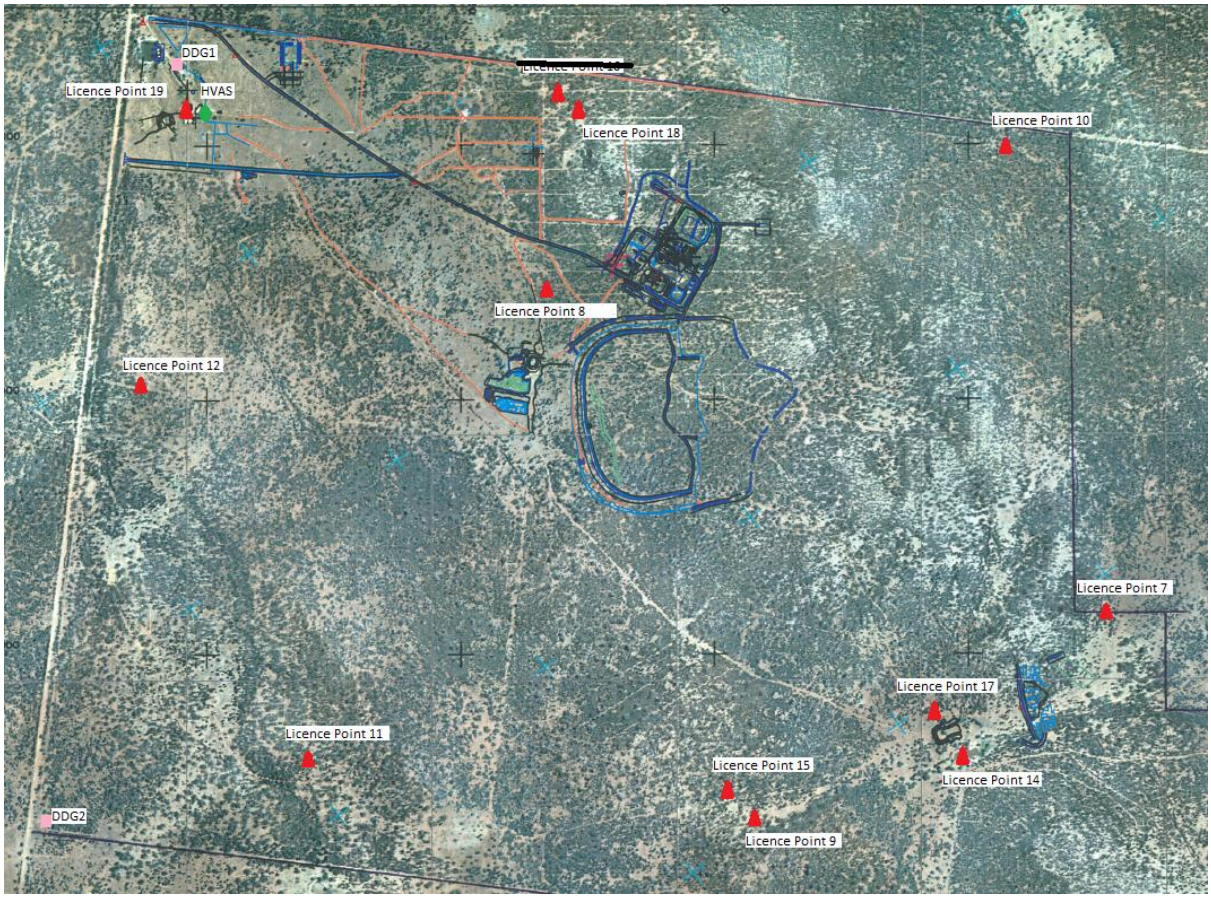

Figure 4. Licensed groundwater and air quality monitoring points.

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 sampled in July 2015.

Noise Monitoring

AMI has four licenced locations (R1, R2, R3 and R4) monitoring points located along the Burthong Road (**Figure 5**). The locations are strategically placed near AMI'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**.

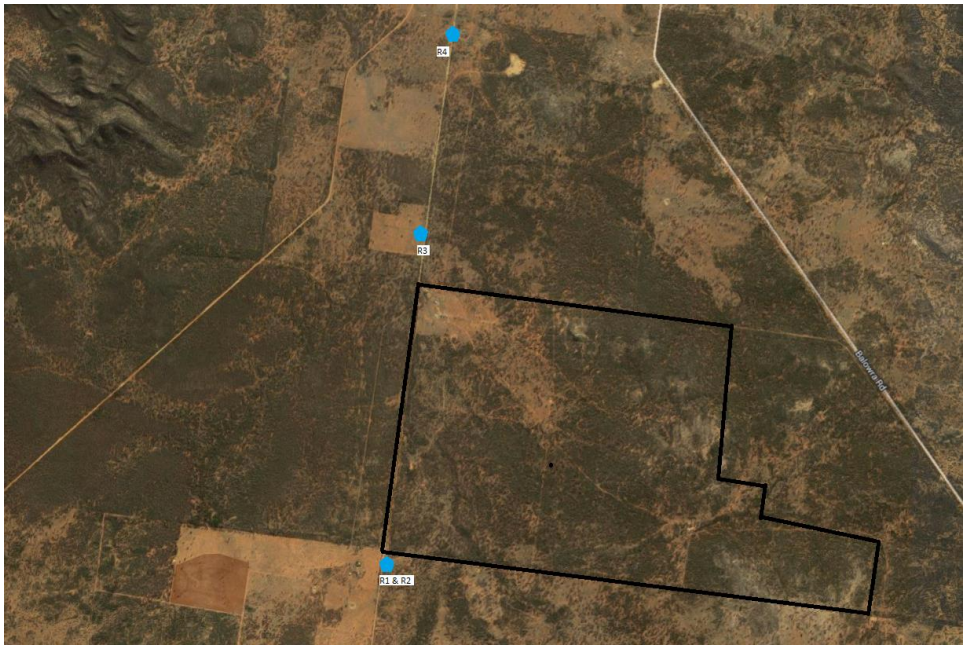

Figure 5. Licensed noise monitoring locations. The black outline represents the Mining Lease.

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
	Aluminium	LA1 (1 minute) 45 dB

Table 7 is a summary of the noise results for the month. All results are within licence conditions.

Table 7. Summary of noise monitoring results for August 2015.

Date	Time	Site	Period of day	Wind speed (m/s)	LA1 (dB)	LAeq (dB)	Mine Audible?	Noise heard
9/08/2015	7:46	R1/R2	Night	0.12	42.9	25.28	Yes	Birds, vent fan, rooster
9/08/2015	7:18	R3	Night	0.17	49.6	30.01	Yes	birds, vent fan, truck in distance (Nymagee)
9/08/2015	6:55	R4	Night	0.30	43.2	25.45	No	birds, truck in distance (Nymagee)
9/08/2015	15:36	R1/R2	Day	1.97	n/a	27.56	No	wind, dogs, birds
9/08/2015	15:12	R3	Day	2.72	n/a	28.72	No	wind, birds
9/08/2015	14:48	R4	Day	2.77	n/a	29.27	No	wind, car in distance, aeroplane, birds
9/08/2015	20:33	R1/R2	Evening	0.11	n/a	21.94	Yes	vent fan, reverse beeper, birds, mine truck, generator?
9/08/2015	20:10	R3	Evening	0.49	n/a	22.24	Yes	vent fan, mine truck, car in distance (Priory Tank Rd), bats
9/08/2015	19:44	R4	Evening	0.23	n/a	18.49	No	car in distance (Condo. Rd)

Blast Monitoring

AMI is required to monitor blasting. The 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 (95% of total blasts)
	Airblast overpressure	All times	120 dB (max.)
	(monitor for every blast)	All times	115 dB (95% of total blasts)

AMI conducted a total of 14 blasts in August 2015. The characteristics of each blast are presented in **Table 9**.

Table 9. Summary of blast monitoring results for August 2015.

Date	Time	Vibration (mm/s)	Overpressure (dB)	Comments
1/08/2015	18:45	Evening	<0.350	
5/08/2015	9:07	Day	0.890	93.98
8/08/2015	12:33	Day	0.608	<88
9/08/2015	0.7854167	Evening	1.071	<88
10/08/2015	0.7048611	Day	1.308	91.49
12/08/2015	9:00	Day	<0.350	
13/08/2015	0.5638889	Day	1.510	91.48
17/08/2015	0.7729167	Evening	1.955	93.98
21/08/2015	12:30	Day	<0.350	
21/08/2015	18:45	Evening	<0.350	
22/08/2015	14:45	Day	1.267	98.84
24/08/2015	18:40	Evening	<0.350	
26/08/2015	14:15	Day	<0.350	
31/08/2015	14:55	Day	<0.350	

Air Quality Monitoring

AMI has two High Volume Air Samplers (HVAS), each designed to sampled either Particulate matter < 10 µm (PM_{10}) or Total Suspended Particulate (TSP) matter. AMI has two Dust Deposition Gauges (DDG). Refer to **Figure 4** for location of the sampling points. A summary of the Project Approval 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 2015 have been summarised in **Table 11**. An elevated result was recorded at DDG2. However, an annual limit applies and the sample will be sent away for further analysis. No exceedances have been recorded this month.

Table 11. Summary of air quality monitoring results for August 2015.

Pollutant	Unit	Limit	Averaging Period	Result
TSP	µg/m³	90	Annual	13.17
PM-10 (µg/m³)	µg/m³	30	Annual	5.61
	µg/m³	50	3/08/2015	4.00
	µg/m³	50	9/08/2015	8.00
	µg/m³	50	15/08/2015	2.00
	µg/m³	50	21/08/2015	14.00
	µg/m³	50	27/08/2015	3.00
Deposited Dust (DDG1)	g/m²/month	4	Annual	2.30
Deposited Dust (DDG2)	g/m²/month	4	Annual	5.10

Gold Room Stack Monitoring

AMI 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 November 2014.

Complaints

No complaints were received in August 2015.