



# Wave Hill Quarry

## Environmental Monitoring Report

March 2019

Published: March 2019



## Wave Hill Quarry Environmental Monitoring Report

This monitoring report is to satisfy the requirements of Section 66 (6) of the Protection of the Environment and Operations Act 1997, to make available, within 14 days of obtaining any monitoring data that relates to pollution under an Environment Protection Licence.

The monitoring of pollutants provided in this report is undertaken as per the requirements of Environment Protection Licence 3778 (EPL 3778 – Boral Wave Hill Quarry)

This report provides environmental monitoring data for Wave Hill Quarry for the period February 2016 to March 2019.

Wave Hill Quarry Information	
Premise Details	Boral – Wave Hill Quarry
Address	Wave Hill Road, Narrabri NSW 2390
Licensee	Boral Resources (Country) Pty Ltd
EPL No	3778
EPL Location	<a href="http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=64878&amp;SYSUID=1&amp;LICID=3778">http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=64878&amp;SYSUID=1&amp;LICID=3778</a>

Monitoring data in this report relates to the monitoring undertaken for the following environmental pollutants:

- Blast Monitoring;
- Surface Water Monitoring;
- Noise Monitoring;

## Wave Hill Quarry Environmental Monitoring Report

### Blasting

Blast monitoring is conducted as per conditions L4.1 – L4.4 of EPL 3778. The blasting monitoring results are summarised below.

Monitoring Period: February 2016 – March 2019  
Licensee: Wave Hill Quarry  
Licensee Address: Wave Hill Road, Narrabri NSW 2390  
EPL No: 3778

#### Qualifications related to blasting:

L4.1 The overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) within 30 metres of any noise sensitive location at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L4.2 The overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) within 30 metres of any noise sensitive location for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L4.3 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec within 3.5 metres of any noise sensitive location at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L4.4 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec within 3.5 metres of any noise sensitive location for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L4.5 Blasting operations on the premises must only be carried out between the hours of 9am to 5pm, Monday to Friday, inclusive. Blasting is not permitted on Saturdays, Sundays or Public Holidays.

Results							
Monitor Location	Blast Date	Results Received	Blast Time	Ground Vibration Result	Ground Vibration Compliant	Overpressure Result	Over-pressure Compliant
A	None	N/A	-	-	-	-	-

No blasting occurred on site in September 2018, therefore no results are available for this reporting period. Historical blasting results are included in the table below.

Historical Results							
Monitor Location	Blast Date	Results Received	Blast Time	Ground Vibration Result	Ground Vibration Compliant	Overpressure Result	Over-pressure Compliant
A	31/05/2016	03/06/2016	10:49	4.191 mm/s	Yes	111.2dB	Yes
A	11/10/2017	18/10/2017	12:39	1.694mm/s	Yes	109dB	Yes

## Wave Hill Quarry Environmental Monitoring Report

### Water Monitoring

Water Quality Monitoring is conducted as per condition M2.1 of EPL 3778. The water quality results for the reporting period are tabled below.

Sample Period: March 2019  
 Licensee: Wave Hill Quarry  
 Licensee Address: Wave Hill Road, Narrabri 2360  
 EPL No: 3778

#### Qualifications related to Water

##### L2.4 Water and/or Land Concentration Limits

###### POINT 2,3,4

Pollutant	Units of Measure	50 Percentile concentration limit	90 Percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre				10
pH	pH				6.5-8.5
Total suspended solids	milligrams per litre				50

L2.5 The Total Suspended Solids concentration limits specified in the table above November be exceeded for water discharged from the sediment basins provided that:

- (a) the discharge occurs solely as a result of rainfall measured at the premises that exceeds 38.4 millimetres over any consecutive 5 day period immediately prior to the discharge occurring; and
- (b) all practical measures have been implemented to dewater all sediment dams within 5 days of rainfall such that they have sufficient capacity to store run off from a 38.4 millimetre, 5 day rainfall event.

Monitoring Frequency – as soon as practicable after overflow commences and in any case not more than 12 hours after any overflow commencing and prior to any controlled discharge from the sedimentation basins

Results								
Location	Sampling Date	Results Received	pH	Compliant?	Total Suspended Solids (mg/L)	Compliant?	Oil & Grease (mg/L)	Compliant?
Point 4	None	N/A	-	-	-	-	-	-

No discharge events occurred during this month, therefore no results are available for this reporting period. Historical discharge results dating back to November 2016 are included in the table below.

Historical Results								
Location	Sampling Date	Results Received	pH	Compliant?	Total Suspended Solids (mg/L)	Compliant?	Oil & Grease (mg/L)	Compliant?
Point 4	01/11/2016	08/11/2016	7.6	Yes	5	Yes	<5	Yes

The above sample is compliant with the water quality limits in EPL 3778.

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### Noise Monitoring

Annual noise monitoring is conducted as per condition M7.1 of EPL 3778. The noise monitoring results for the previous noise monitoring event is provided in the table below.

Sample Period: November 2016 – March 2019  
 Licensee: Wave Hill Quarry  
 Licensee Address: Wave Hill Road, Narrabri 2360  
 EPL No: 3778

#### Qualifications related to Noise

L3.1 Noise generated at the premises must not exceed the noise limits in the table below.

Locality and Location	Day LAeq (15 minute)	Evening LAeq (15 minute)	Night LAeq (15 minute)	Night LA1 (1 minute)
Any affected residence	35	35	35	45

L3.2 For the purpose of the table above:

- a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
- b) Evening is defined as the period from 6pm to 10pm;
- c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

Note: Wave Hill Quarry does not operate during the evening period, hence monitoring is not conducted during the evening.

No Noise monitoring occurred on site this month; therefore no results are available for this reporting period. Historical results are below.

<b>Results</b>				
Monitoring Location	Monitoring Date	Results Received	Predicted Site Noise Level Contribution LAeq, 15 minute (dB(A))	Operational Criteria (dB(A)) Day / Night (15 minute)
House	15/3/2016	4/4/2016	29	35
House	16/3/2016	4/4/2016	Quarry was inaudible	35
House	17/3/2016	4/4/2016	Quarry was inaudible	35

<b>Results</b>				
Monitoring Location	Monitoring Date	Results Received	Predicted Site Noise Level Contribution Night LA1, (1 minute) (dB(A))	Operational Criteria Night (1 minute) (dB(A))
House	15/3/2016	4/4/2016	Quarry was inaudible	45
House	16/3/2016	4/4/2016	Quarry was inaudible	45
House	17/3/2016	4/4/2016	Quarry was inaudible	45

### Wave Hill Quarry Environmental Monitoring Report

The results from the Annual Noise Monitoring conducted in March 2016 (summarised above) demonstrate that the site is compliant with the noise limits in its Environmental Protection Licence.

It has been agreed with the EPA that, if possible, the 2016/2017 annual noise monitoring assessment will occur at the time of the next crushing campaign conducted at site.

<b>Results</b>				
<b>Monitoring Location</b>	<b>Monitoring Date</b>	<b>Results Received</b>	<b>Predicted Site Noise Level Contribution LAeq, 15 minute (dB(A))</b>	<b>Operational Criteria (dB(A)) Day / Night (15 minute)</b>
House	15/3/2016	4/4/2016	29	35
House	16/3/2016	4/4/2016	Quarry was inaudible	35
House	17/3/2016	4/4/2016	Quarry was inaudible	35

<b>Results</b>				
<b>Monitoring Location</b>	<b>Monitoring Date</b>	<b>Results Received</b>	<b>Predicted Site Noise Level Contribution Night LA1, (1 minute) (dB(A))</b>	<b>Operational Criteria Night (1 minute) (dB(A))</b>
House	15/3/2016	4/4/2016	Quarry was inaudible	45
House	16/3/2016	4/4/2016	Quarry was inaudible	45
House	17/3/2016	4/4/2016	Quarry was inaudible	45

The results from the Annual Noise Monitoring conducted in March 2016 (summarised above) demonstrate that the site is compliant with the noise limits in its Environmental Protection Licence.



# Wave Hill Quarry Environmental Monitoring Report

## Wave Hill Quarry Monitoring Locations

### Blast Monitoring Location



# Wave Hill Quarry Environmental Monitoring Report

## Water Quality Monitoring Location





# Wave Hill Quarry Environmental Monitoring Report

## Noise Monitoring Location

