



Johns River Quarry

Environmental Monitoring Report

November 2018

Published: November 2018



Johns River 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 4812 (EPL 4812 – Boral Johns River Quarry)

| Johns River Quarry Information | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Premise Details | Boral – Johns River Quarry |
| Address | Bulleys Rd, Johns River, NSW 2443 |
| Licensee | Boral Resources (Country) Pty Ltd |
| EPL No | 4812 |
| EPL Location | http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=89225&SYSUID=1&LICID=4812 |

This report provides environmental monitoring data in this report relates to the monitoring undertaken in November 2018 for Johns River Quarry for the following environmental pollutants:

- Blasting, and
- Deposited Dust, and
- Surface Water.

Johns River Quarry Environmental Monitoring Report

Blast Monitoring

Blast monitoring is conducted as per condition M7.1 of EPL 4812. The blasting monitoring results are summarised below.

Sample Period: November 2018
Licensee: Johns River Quarry
Licensee Address: Bulleys Rd, Johns River NSW 2443
EPL No: 4812

Qualifications related to blasting:

L5.1 Blasting operations at the premises only take place between 9:00am and 3:00 pm Monday to Friday and 9:00am and 1:30 pm Saturday. Where compelling safety reasons exist, the Environment Protection Authority may permit a blast to occur outside the abovementioned hours. Prior written notification of any such blast must be made to the Environment Protection Authority at hunter.region@epa.nsw.gov.au.

L5.3 The overpressure level from blasting operations carried out in or on the premises must not:

- a) exceed 115 dB(L) for more than 5% of the total number of blasts carried out on the premises within the 12 months annual reporting period; and
- b) exceed 120 dB(L) at any time

at any residence or noise sensitive location (such as a school or hospital) that is not owned by the licensee or subject of a private agreement between the owner of the residence or noise sensitive location and the licensee as to an alternative overpressure level.

L5.4 The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not:

- a) exceed 5mm/second for more than 5% of the total number of blasts carried out on the premises within the 12 months annual reporting period; and
- b) exceed 10mm/second at any time

at any residence or noise sensitive location (such as a school or hospital) that is not owned by the licensee or subject of a private agreement between the owner of the residence or noise sensitive location and the licensee as to an alternative ground vibration level.

L5.5 Offensive blast fume must not be emitted from the premises.

Definition: Offensive blast fume means post-blast gases from the detonation of explosives at the premises that by reason of their nature, duration, character or quality, or the time at which they are emitted, or any other circumstances:

- a) are harmful to (or are likely to be harmful to) a person that is outside the premises from which it is emitted, or
- b) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premise from which it is emitted.

| Blast Monitoring Results | | | | | | | |
|--------------------------|------------|------------------|-------|-------------------------|--------------|---------------------|--------------|
| Monitor Location | Blast Date | Results Received | Time | Ground Vibration Result | GV Compliant | Overpressure Result | OP Compliant |
| Bawn's | 23/11/18 | yes | 12:22 | 0.771mm/s | yes | 95.9DbL | yes |
| Bulley's | 23/11/18 | Yes | 12:22 | 3.95mm/s | yes | 111dBL | yes |

Results for blast 1803 in November.

Johns River Quarry Environmental Monitoring Report

Johns River Quarry Environmental Monitoring Report

Deposited Dust Monitoring

Deposited dust monitoring is conducted as per condition M2.2 of EPL 4812. The deposited dust monitoring results are summarised below.

Sample Period: November 2018
 Licensee: Johns River Quarry
 Licensee Address: Bulleys Rd, Johns River NSW 2443
 EPL No: 4812

Qualifications related to Deposited Dust:

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

| <i>Air</i> | | | |
|------------------------|--------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EPA identification no. | Type of Monitoring Point | Type of Discharge Point | Location Description |
| 18 | Ambient Air Monitoring | | Monitor "Dust Point 1(Bulley Top Paddock)" located at coordinates -31.715331 152.691702 as shown on plan titled "Johns River Quarry - Dust Monitoring Locations" dated October 2017. EPA reference DOC17/477947-01. |
| 20 | Ambient Air Monitoring | | Monitor "Dust Point 2"(Bulley Flat Paddock)" located at coordinates -31.71948178 152.700485 as shown on plan titled "Johns River Quarry - Dust Monitoring Locations" dated October 2017. EPA reference DOC17/477947-01. |
| 21 | Ambient Air Monitoring | | Monitor "Dust Point 3 (Jones Property)" located at coordinates -31.7158934 152.707463 as shown on plan titled "Johns River Quarry - Dust Monitoring Locations" dated October 2017. EPA reference DOC17/477947-01. |
| 22 | Ambient Air Monitoring | | Monitor "Dust Point 4 (Bawn Property)" located at coordinates -31.71030485 152.7029657 as shown on plan titled "Johns River Quarry - Dust Monitoring Locations" dated October 2017. EPA reference DOC17/477947-01. |

M2.2 Air Monitoring Requirements

POINT 18,20,21,22

| Pollutant | Units of Measure | Frequency | Sampling Method |
|---------------------------------|----------------------------------|-----------|-----------------|
| Particulates – Deposited Matter | grams per square metre per month | Monthly | AM-19 |

Note: No limits apply to deposited dust monitoring as it is monitoring for the purposes of ambient air quality.

Johns River Quarry Environmental Monitoring Report

Results

| Location | Monitoring Frequency | Pollutant | Measurement | Unit |
|----------------------------------------------|----------------------|-----------------------|-------------|-------------------------|
| Monitoring Point 18 Bulley's Top Paddock | Monthly | Insoluble Solids | 9.38 | g/m ² /month |
| | | Ash | 8.46 | g/m ² /month |
| | | Soluble Matter | 0.85 | g/m ² /month |
| | | Total Solid Particles | 10.23 | g/m ² /month |
| Monitoring Point 20 Bulley's Flat Paddock | Monthly | Insoluble Solids | 9.96 | g/m ² /month |
| | | Ash | 5.40 | g/m ² /month |
| | | Soluble Matter | 2.57 | g/m ² /month |
| | | Total Solid Particles | 12.53 | g/m ² /month |
| Monitoring Point 21 Jones Property | Monthly | Insoluble Solids | 3.84 | g/m ² /month |
| | | Ash | 2.82 | g/m ² /month |
| | | Soluble Matter | 0.07 | g/m ² /month |
| | | Total Solid Particles | 3.91 | g/m ² /month |
| Monitoring Point 22 Bawn Property | Monthly | Insoluble Solids | 2.89 | g/m ² /month |
| | | Ash | 2.17 | g/m ² /month |
| | | Soluble Matter | 0.24 | g/m ² /month |
| | | Total Solid Particles | 3.13 | g/m ² /month |

NOTE: Results for Bulley's top paddock & Bulley's flat paddock are due to slashing operations

Johns River Quarry Environmental Monitoring Report

Surface Water Monitoring

Water quality monitoring is conducted as per condition M2.1 of EPL 4812. The water quality results for the reporting period are tabled below.

Sample Period: November 2018
 Licensee: Johns River Quarry
 Licensee Address: Bulleys Rd, Johns River NSW 2443
 EPL No: 4812

Qualifications related to Water

M2.2 Water and/or Land Monitoring Requirements

POINT 1,2,3,23

| Pollutant | Units of measure | Frequency | Sampling Method |
|------------------------|----------------------|---------------------|-----------------|
| Oil and Grease | Visible | Special Frequency 1 | Inspection |
| pH | pH | Special Frequency 1 | Probe |
| Total suspended solids | milligrams per litre | Special Frequency 1 | Grab sample |

POINT 4,5

| Pollutant | Units of measure | Frequency | Sampling Method |
|----------------|-------------------------------|---------------------|-------------------|
| Oil and Grease | Visible | Special Frequency 2 | Visual Inspection |
| pH | pH | Special Frequency 2 | Probe |
| Turbidity | nephelometric turbidity units | Special Frequency 2 | Probe |

Note: For the purpose of the above table Special frequency 1 means:

- a) prior to any controlled discharge; and
- b) daily during any discharge

For the purpose of the above table Special frequency 2 means at a minimum quarterly at a time when discharges are occurring from Points 2 and/or 3

L2.4 Water and/or Land Concentration Limits (In force as of 22/11/2017)

POINT 1,2,3,23

| 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 | | | | 5 &/or none visible |
| pH | pH | | | | 6.5 - 8.5 |
| Total suspended solids | milligrams per litre | | | | 50 |

Note: Points 4 & 5 are Ambient Water Quality Monitoring Points only, hence no limits apply.

Johns River Quarry Environmental Monitoring Report

Surface Water Monitoring (Continued)

| Results – Point 1 (Discharge from the Western Sediment Pond) | | | | |
|--------------------------------------------------------------|------------------|----|-------------------------------|-------------------------|
| Sampling Date | Results Received | pH | Total Suspended Solids (mg/L) | Oil & Grease (Visible?) |
| - | - | - | - | - |

| Results – Point 2 (Discharge from Basin 2C to diversion drain) | | | | |
|----------------------------------------------------------------|------------------|----|-------------------------------|-------------------------|
| Sampling Date | Results Received | pH | Total Suspended Solids (mg/L) | Oil & Grease (Visible?) |
| - | - | - | - | - |

| Results – Point 3 (Discharge from sediment pond to Stewarts River) | | | | |
|--------------------------------------------------------------------|------------------|------|-------------------------------|-------------------------|
| Sampling Date | Results Received | pH | Total Suspended Solids (mg/L) | Oil & Grease (Visible?) |
| 27/11/2018 | 27/11/2018 | 6.94 | 13 | N/V |

| Results – Point 4 (Ambient Water Quality Monitoring – Bulleys Road Bridge) | | | | |
|----------------------------------------------------------------------------|------------------|----|-------------------------|-------------------|
| Sampling Date | Results Received | pH | Oil & Grease (Visible?) | Turbidity (NTU's) |
| - | - | - | - | - |

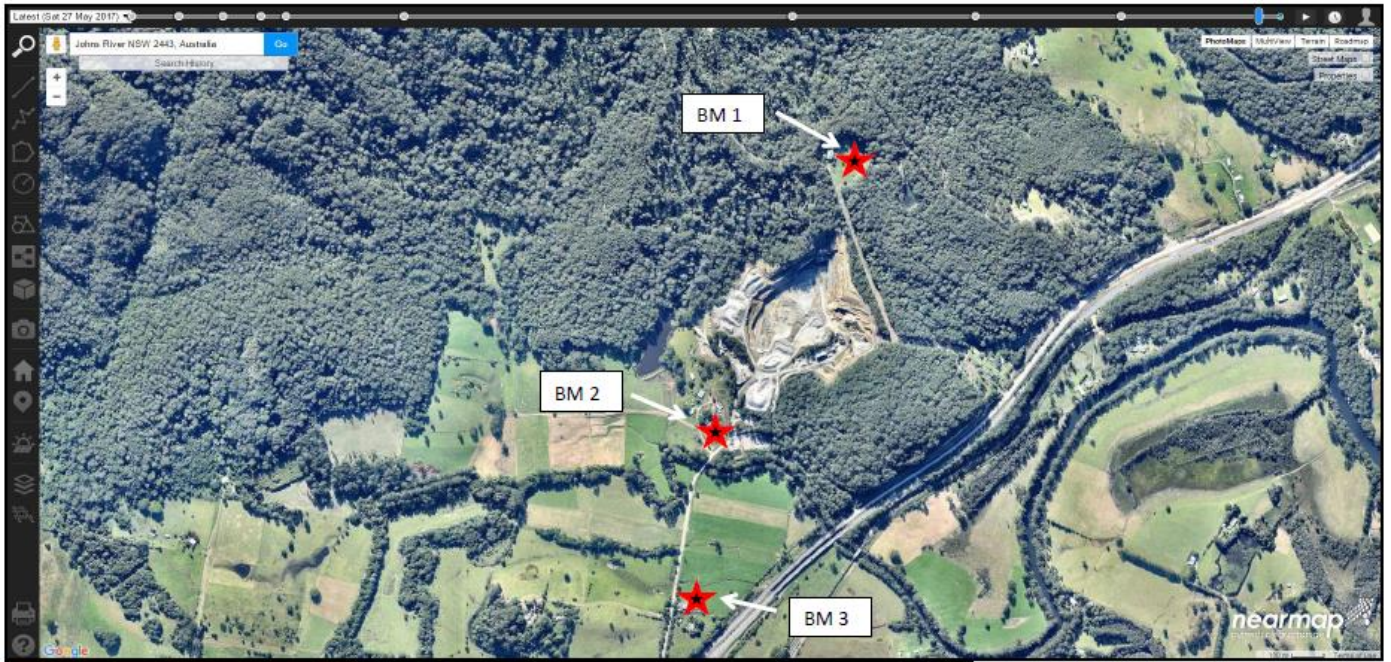
| Results – Point 5 (Ambient Water Quality Monitoring – Pacific Highway Bridge) | | | | |
|-------------------------------------------------------------------------------|------------------|----|-------------------------|-------------------|
| Sampling Date | Results Received | pH | Oil & Grease (Visible?) | Turbidity (NTU's) |
| - | - | - | - | - |

| Results – Point 23 (Discharge Water Quality Monitoring – Quarry Drop Cut to diversion drain) | | | | |
|----------------------------------------------------------------------------------------------|------------------|----|-------------------------------|-------------------------|
| Sampling Date | Results Received | pH | Total Suspended Solids (mg/L) | Oil & Grease (Visible?) |
| - | - | - | - | - |

NOTE: All water monitoring in the month of November 2018, were compliant with Licence conditions

Johns River Quarry Monitoring Locations

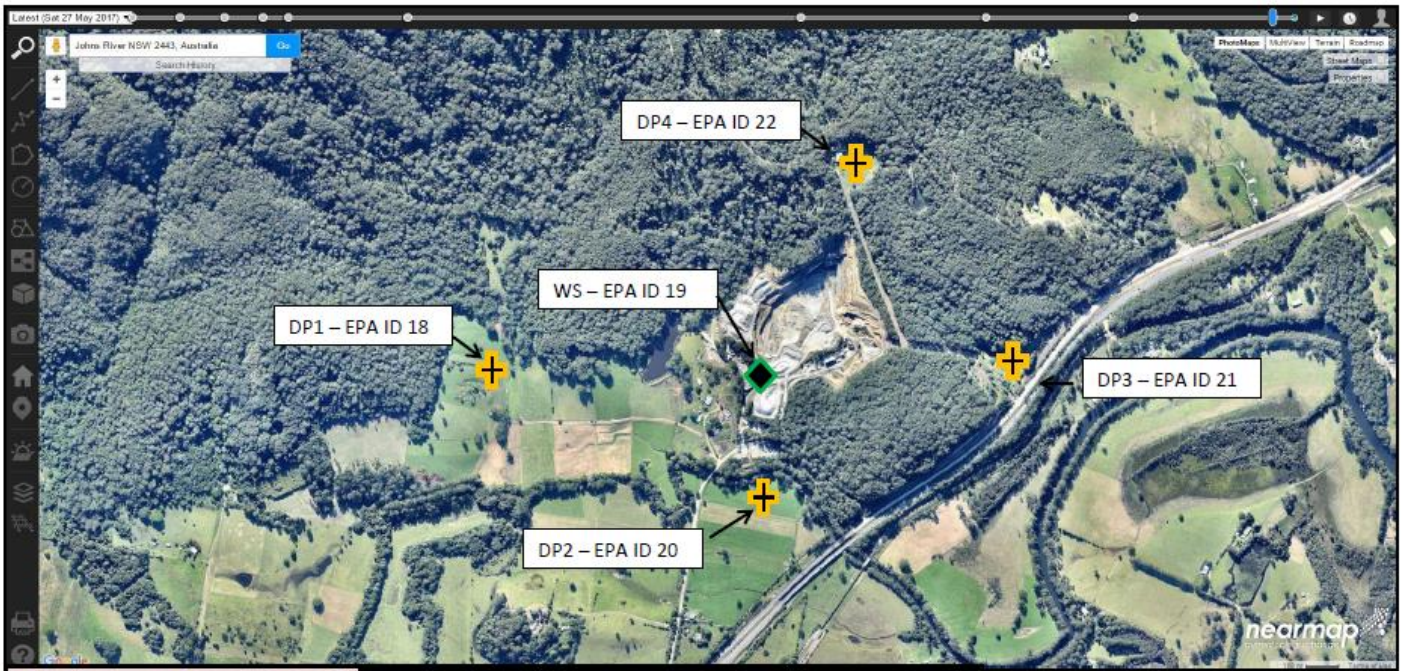
Blast Monitoring Location



NOTE: Blast Monitor 3 is the Licensed Monitoring Location under EPL 4812.

Johns River Quarry Environmental Monitoring Report

Deposited Dust Monitoring Locations



Surface Water Monitoring Locations



Description of water monitoring locations;

EPA ID 1 - Discharge from the Western Sediment Pond.

EPA ID 2 - Discharge from Basin 2C to diversion drain.

EPA ID 3 - Discharge from sediment pond to Stewarts River

EPA ID 4 – Ambient Water Quality Monitoring – Bulleys Road Bridge (Stewarts River)

EPA ID 5 – Ambient Water Quality Monitoring – Pacific Highway Bridge (Stewarts River)

EPA ID 23 – Quarry Drop Cut to diversion drain