

2016 Annual Report



Development Consent (1995/292)
Condition No 4



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1. Introduction

This 2016 Annual Report aims to fulfil the requirements of Boral's Teven Quarry Development Consent (1995/292) Condition No 4 which states;

An annual report shall be prepared and submitted by the applicant to the Community Consultative Committee which will include the following:

- *details of tree and regenerative plantings;*
- *details of how the applicant has acted on, complied with or otherwise dealt with or responded to each condition of development consent within the period up to each annual report;*
- *results of all monitoring, as required by the EPA Licence conditions or otherwise by the EPA or other regulatory authorities, of water discharges, dust emissions and noise and blasting operations;*
- *alterations to the Plan of Management; and*
- *the applicant shall, if requested to do so in writing by the consultative committee or its authorised representative, provide to the members of the committee, reasonable access to the site for the purpose of allowing the committee to determine compliance with these conditions of consent.*

The format of this document is set out in order of the above dot points and covers the period from 1st July 2015 to the 30th June 2016. Additional information has also been provided on a number of improvement projects in sections 6 to 9 of this report.

The CCC as well as members of the community and Council have been shown around the site on multiple occasions in recent years and the above condition relating to allowing access to the CCC for the purposes of an inspection is still current and available.

The information required above has mostly been provided in the presentations presented to the Boral Teven Quarry Community Consultative Committee (CCC) over the previous few years. Copies of previous presentations given at the CCC meetings since 2014 can be viewed online at www.boral.com.au/tevenquarry.



2. Details of tree and regenerative plantings

Boral has continued to utilise the services of East Coast Bush Regeneration (ECBR) throughout the reporting period.

Between 1/7/2015 and the 30/6/2016, ECBR has spent 428 man hours (see Figure 1 below) undertaking weed control (using either herbicide or physical removal – cutting, lopping, bagging etc.).

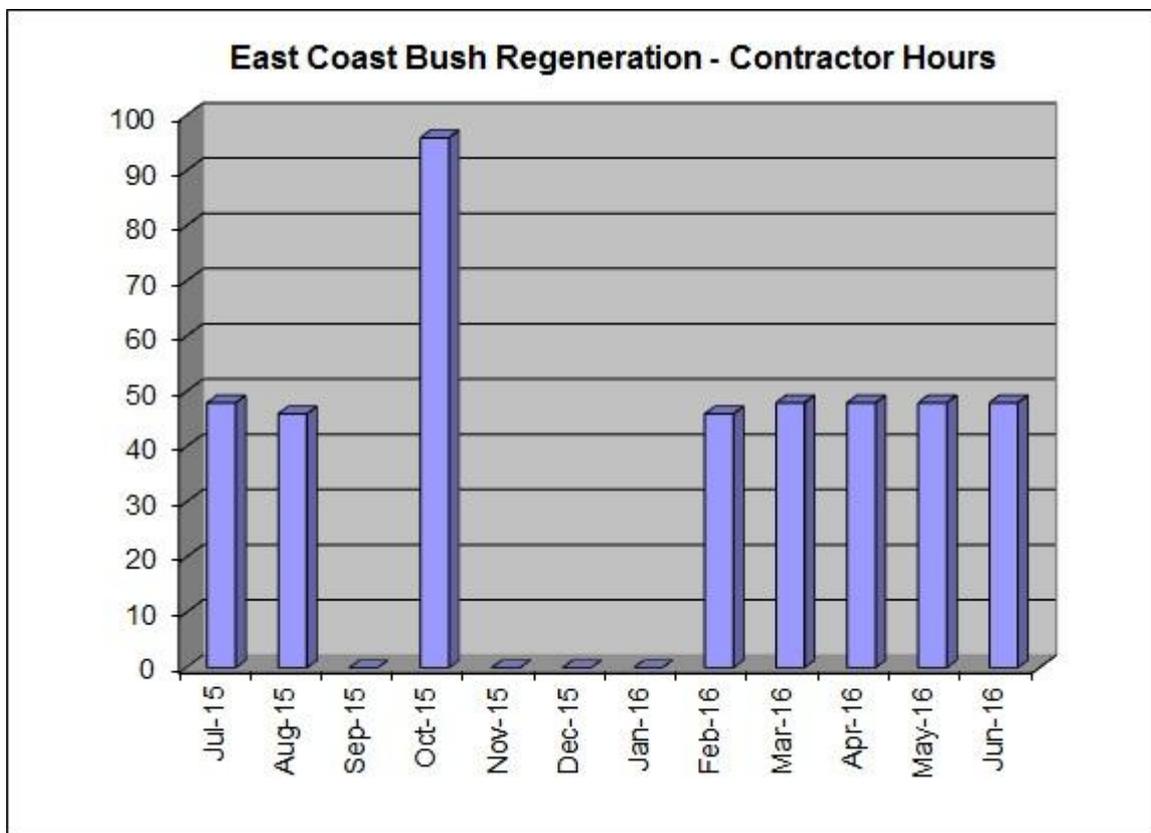


Figure 1 – Hours spend on weed control during the 2015/16FY.

The weed control activities have ensured the ongoing health and vitality of recently planted areas including the earth bunds in the basalt pits, shown in figures 2 and 3.





Figure 2 – Vegetation growth on earth bund between basalt pit and lower stockpile area. View of bund looking NW



Figure 3 – Planted vegetation along earth bund looking SE from basalt pit.



3. Compliance with Development Consent Conditions

Table 1: Teven Quarry Development Consent 1995/292 conditions and details of compliance for the period 1/7/2015 to 30/6/2016

Consent Condition Number	Consent Condition	Details of how the applicant has acted on, complied with or otherwise dealt with or responded to each condition
1	Development of the site shall be undertaken generally in accordance with the plans and associated documentation lodged with the Development Application, including the applicants additional information dated August 1995, and the Teven Quarry Plan of Management dated April 1996 (“POM”), subject to these conditions of consent.	The development of the site is generally in accordance with the requirements of these documents.
2	<p>Within six (6) months from date of this consent the applicant shall prepare and submit to Council for approval an environmental management plan (“EMP”) for the quarry which is not inconsistent with the POM and which provides information with respect to the following:</p> <ul style="list-style-type: none"> a) a detailed staged rehabilitation strategy for the site; b) measures outlined in the acoustical report prepared by JW Cotterill to reduce impact of adverse noise to adjacent residences and the impact of haul vehicles on public roads in proximity of the site; c) details of measures for dust suppression within the quarry; d) details for control and treatment of surface run-off, erosion and sedimentation measures within an d adjacent to the site; and e) a detailed hazard analysis and management plan. <p>The applicant shall demonstrate that the environmental management plan has been formulated in consultation with and to the satisfaction of relevant public authorities which have a licensing or regulatory role over the operations of the quarry.</p> <p>To the extent of any inconsistency between the EMP and</p>	<p>EMP was originally developed in accordance with these requirements and submitted to Council.</p> <p>EMP was updated in September 2012 and is available on the Teven quarry website.</p> <p>Boral is intending to update the EMP in 2017 following the resolution of the S96 modification.</p>



	the POM, the EMP shall prevail.	
3	Any changes or amendments to the POM shall be lodged with the Community Consultation Committee	POM has not been changed or amended.
4	<p>An annual report shall be prepared and submitted by the applicant to the Community Consultative Committee which will include the following:</p> <ul style="list-style-type: none"> • details of tree and regenerative plantings; • details of how the applicant has acted on, complied with or otherwise dealt with or responded to each condition of development consent within the period up to each annual report; • results of all monitoring, as required by the EPA Licence conditions or otherwise by the EPA or other regulatory authorities, of water discharges, dust emissions and noise and blasting operations; • alterations to the Plan of Management; and • the applicant shall, if requested to do so in writing by the consultative committee or its authorised representative, provide to the members of the committee, reasonable access to the site for the purpose of allowing the committee to determine compliance with these conditions of consent. 	This annual report aims to satisfy this requirement.
5	All operations within the quarry shall be conducted in accordance with the requirements of the NSW EPA, Workcover Authority and the Department of Mineral Resources.	The site is generally conducted in accordance with these requirements.
6	The applicant shall make application to the NSW Department of Land and Water Conservation for closure and purchase of the Crown public road which traverses the quarry. Until such time as the necessary road closure actions are finalised, no further development or use of the Crown public road or the immediately adjacent area shall be undertaken.	This condition was completed in the late 1990's.
7	The applicant shall consult with the Department of Land and Water Conservation to ascertain the need for a licence under the Water Act 1912 with respect to the spring to the north of the quarry site.	The surface flow from this spring has been diverted into Beacons Road as per the POM. No licence is required.
8	The normal hours of operation for the various components of the quarry shall, except as specified below, not exceed	The site has operated within these times at all



	<p>the following:</p> <p>Excavation, Processing, Loading and Transportation 7:00 am to 5:00 pm – Monday to Friday 7:00 am to 3:00 pm – Saturday</p> <p>Blasting 9:00 am to 4:00 pm – Monday to Friday</p> <p>Maintenance of Plant Outside Workshop 6:00 am to 6:00 pm – Monday to Saturday</p> <p>Maintenance Operations Inside the Workshop 6:00 am to 10:30 pm – Monday to Friday 6:00 am to 6:00 pm – Saturday*</p> <p>Domestic scale loading and transportation (where vehicles do not exceed 8 tonnes loaded capacity) Additional time for this domestic scale operation may extend the hours until 5:00 pm on Saturdays</p> <p>Extended Hours On any particular occasion, the applicant can extend the hours of the quarry operation and the transportation of product to 6:00 pm Monday to Friday and can extend the hours for maintenance outside the workshop up to 10:30 pm Monday to Friday after notifying and Community Consultative Committee representative.</p>	<p>times throughout the reporting period.</p>
<p>9</p>	<p>The applicant shall ensure the area adjacent to the quarry access remains clear of material spillages which may otherwise present a hazard to motorists.</p>	<p>This area is kept clear of material spillages. A street sweeper is engaged on a regular basis to ensure it is kept as clean as possible.</p>
<p>10</p>	<p>a) The applicant shall pay to Council a Road Maintenance Levy calculated in accordance with the Ballina Shire Council Section 94 Contributions Plan: Heavy Vehicle Traffic Generating Development – Maintenance and Construction of Roads, as adopted by the Ballina Council at its meeting on Friday 9th February 1996. The method of calculation of the levy shall be in accordance with the formula $C = (M \times K) \times (E/T)$. The contribution shall include payment for returning empty trucks as identified in the plan adopted by the Council for returning empty trucks. This rate currently stands at 23 cents per tonne hauled but</p>	<p>Road maintenance royalties are being paid to Council in accordance with the requirements of this condition.</p>



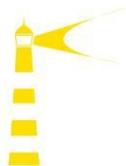
	<p>shall be adjusted annually in accordance with the provisions of the plan.</p> <p>b) Council will pay all of the contribution payments into a specially identified account for the payment towards the rehabilitation, restoration, repair and/or maintenance of the roads for which a contribution is made.</p>	
11	The applicant shall be responsible for the placement of improved road signage on Emigrant Creek Bridge, including the installation of a “give-way” sign facing south bound traffic. These works shall be conducted in consultation with and to the satisfaction of Council’s Engineering Department.	Records indicate signage was initially installed, however road works related to the Ballina Bypass removed the signs.
12	The applicant shall install Hinged Truck Warning signs in North Teven Road on either side of the quarry entrance and these signs shall be to the satisfaction of Council’s Engineering Department. The signs are to be operated by the development in accordance with the operational status of the quarry.	Records indicate that these signs were initially installed, however previous road works along North Teven Road have resulted in signs being removed.
13	All site rehabilitation and landscaping works shall be designed to ensure the maximum reasonable visual screening of quarry operations and shall be maintained so as to ensure optimum establishment and growth and shall be performed by qualified, professional persons, as approved by Council under Condition 2(a).	All rehabilitation and/or landscaping works are conducted using qualified and professional persons.
14	All loading and unloading of goods shall be undertaken wholly within the site.	The site is compliant with this condition.
15	The construction of Beacon Road shall be completed in accordance with design plans approved by Council’s Engineering Department. The applicant shall be responsible for placement of all signage within the realigned road, as determined by Council.	It is Boral’s understanding that Beacons Road was completed in accordance with Council requirements
16	The relocation of dwellings and connection to household services shall not be undertaken without obtaining prior building permits from Council.	It is Boral’s understanding that this was done in accordance with Council requirements.
17	A plan of subdivision which incorporates a consolidation of the respective parcels of land within the site, the	It is Boral’s understanding that this



	closure of the crown public road and the realigned Beacon Road shall be submitted to Council for certification prior to its registration.	was done in accordance with Council requirements.
18	All trade waste fluids and materials generated within the site shall be treated and disposed of to the satisfaction of Council's Health and Building Department.	The onsite Septic System is licenced with Ballina Shire Council.
19	A person or persons employed by the applicant shall be appointed to accept responsibility for compliance with the consent conditions.	Quarry Manager is responsible person.
20	The total amount of material which can be removed from the site shall not exceed 500,000 tonnes in any calendar year. Overburden or quarry spoil additional to the 500,000 tonnes can only be removed from the site in accordance with Section 4.5 of the EIS.	This site is compliant with this condition.
21	All fuel and bituminous products storage facilities are to be properly bunded in accordance with the relevant Australian Standards.	All fuel and bituminous products are bunded in accordance with Australian Standards.
22	The applicant shall maintain its truck driver education and training procedures, and shall require an equal standard of courtesy from all drivers accessing material from the North Teven Quarry.	Truck driver education and training procedures are regularly reviewed and maintained.
23	A roadside bus shelter shall be constructed by the applicant with Council approval at the intersection of North Teven Road and Teven Road adjacent to Emigrant Creek Bridge if this site is approved by Council's Traffic Committee or at such other site as approved by Council's Traffic Committee.	Records indicate that an initial bus shelter was constructed, however road works related to the Ballina Bypass removed the shelter.
24	These conditions shall be re-examined by Council and a final date for the termination of the consent determined 20 years after the date of commencement of this consent.	20 year time period has not yet been reached. Consent modification submitted to Ballina Council to address.
25	<p>A Community Consultative Committee shall be formed with the following representation:</p> <ul style="list-style-type: none"> a) the quarry manager; b) a senior representative of the applicant; c) two elected residents of the local community; d) a representative of the Ballina Environmental Society. <p>The Committee shall meet at least twice a year. The Council shall have no responsibility in relation to this condition or conditions 3, 4, 22 or 26.</p>	CCC is meeting every six months (generally March and September).



<p>26</p>	<p>After the noise reduction measures set out in the POM and EMP have been carried out, the applicant shall have a noise compliance check carried out by a qualified acoustic consultant.</p>	<p>A noise assessment has been conducted since the plant cladding was installed. A Noise Impact Assessment was submitted to Council with the S96 application.</p>
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4. Monitoring Results

The site holds an Environmental Protection Licence (No 2261) with the NSW EPA. Under the conditions of this licence, the following parameters are required to be monitored;

- Surface water discharge from Point 1 (main dam overflow), and
- Ground vibration and overpressure associated with blasting activities.

In addition to the above required monitoring, Boral voluntarily undertakes Deposited Dust monitoring at four locations around the site.

a. Surface Water Monitoring

Surface water is monitored at EPL Monitoring Point 1 and is a requirement of EPL 2261. The results of the monitoring of these two locations are shown in Figures 7 & 8 below.

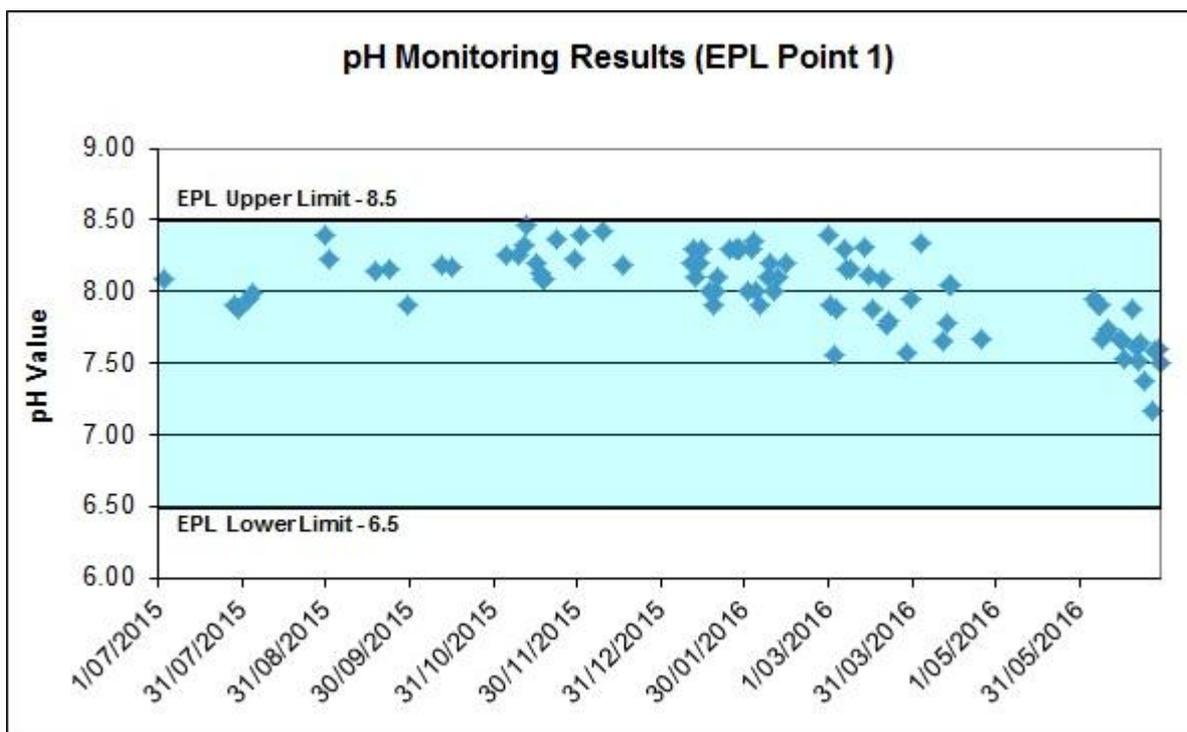


Figure 7: pH test results for surface water samples from EPL MP 1 between 1/7/2015 and 30/6/2016 inclusive.



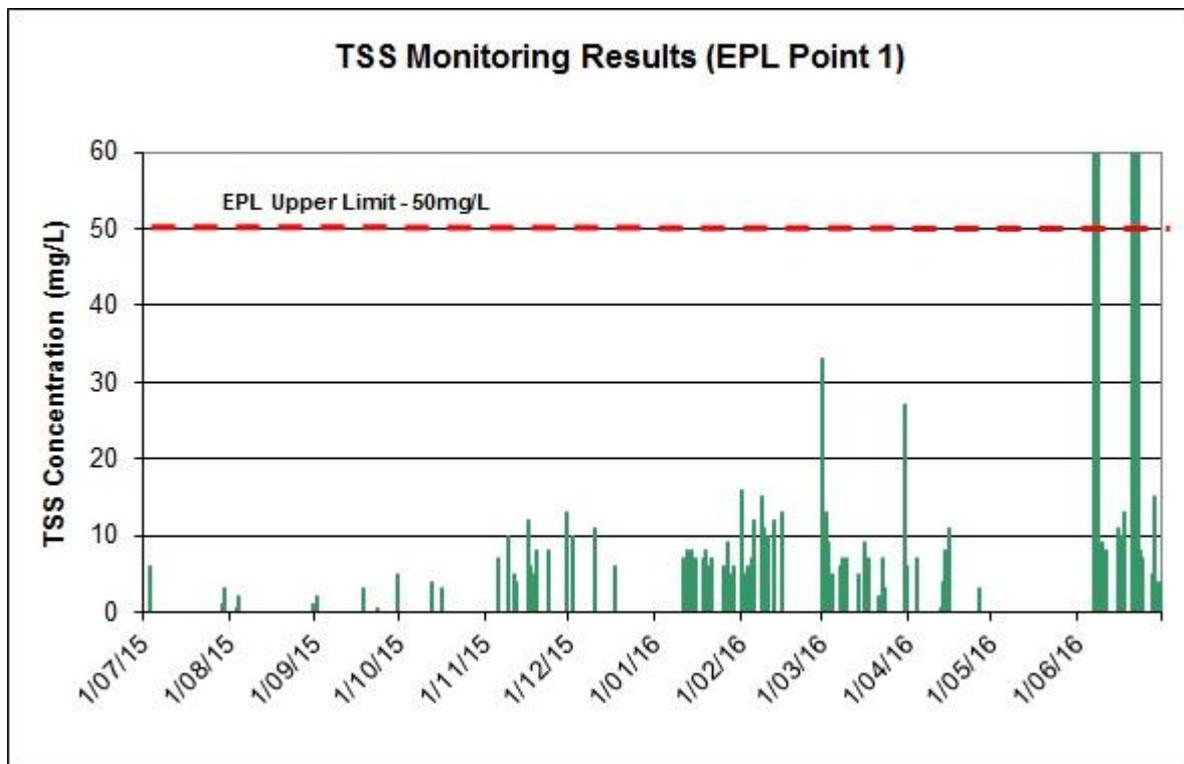


Figure 8 – TSS test results for surface water monitoring from EPL MP 1 between 1/7/2015 and 30/6/2016 inclusive.

Note: The EPL Upper Limit of 50mg/L for TSS does not apply if discharge is solely the result of rainfall at the premises exceeding 63.2mm over a consecutive five day period.

The high Total Suspended Solids (TSS) results indicated by Figure 8 in June 2016 occurred following the two East Coast Low pressure system rainfall events which dumped a significant amount of rain during very short periods. The first East Coast Low occurred from the 2-5th June inclusive and a total of 355mm of rain fell at the Teven Quarry. The second East Coast Low rain event occurred on the 19th June and a total of 86mm of rain fell on the Teven Quarry.

The results presented in Figures 7 & 8 and the accompanying notes above indicate that the Boral Teven Quarry was compliant with EPL 2261 limits in relation to surface water discharge during the reporting period.





Figure 9 – Location of surface water monitoring sampling points.



b. Blast Monitoring

Blast monitoring on the site is conducted in accordance with EPL 2261 and is undertaken at the nearest affected residence not associated with the quarry.

Blast monitoring for all blasts is normally conducted at a private residence to the South East of the quarry.

Table 2: Blast monitoring results at Teven quarry for the period 1/7/2015 to 30/6/2016

Date	Time	Over pressure	Peak Vibration
		(dB)	(mm/s)
Tuesday, 8 September 2015	11:48:58	109.9	2.03
Tuesday, 22 September 2015	13:20:50	114.4	1.52
Thursday, 1 October 2015	13:03:07	106.0	2.095
Friday, 16 October 2015	13:32:00	107.0	2.05
Friday, 23 October 2015	13:15:24	110.6	0.762
Thursday, 24 March 2016	11:05:00	104.9	1.14
Tuesday, 3 May 2016	15:03:00	107.5	2.54
Wednesday, 29 June 2016	12:20:00	102.8	0.73

EPL 2261 sets the following limits on ground vibration and overpressure;

L4.1 Blasting in or on the premises must only be carried out between 0900 hours and 1700 hours, Monday to Saturday. Blasting in or on the premises must not take place on Sundays or Public Holidays without the prior approval of the EPA.

L4.2 Blasting at the premises is limited to 1 blast on each day on which blasting is permitted.

L4.3 The airblast overpressure level from blasting operations in or on the premises must not exceed:

- a) 115 dB (Lin Peak) for more than 5% of the total number of blasts during each reporting period; and*
- b) 120 dB (Lin Peak) at any time.*

At most affected residence or noise sensitive location that is not owned by the licensee or subject to a private agreement between the owner of the residence or noise sensitive location and the licensee as to an alternative overpressure level.

L4.4 The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed:



- a) 5mm/s for more than 5% of the total number of blasts carried out on the premises during each reporting period; and
- b) 10 mm/s at any time.

At most affected residence or noise sensitive location that is not owned by the licensee or subject to a private agreement between the owner of the residence or noise sensitive location and the licensee as to an alternative overpressure level.

The results in Table 2 show that the site was compliant with the blast limits as specified in EPL 2261 during the period from 1/7/2015 to 30/6/2016.



c. Deposited Dust Monitoring

The Boral Teven quarry site currently has four deposited dust monitors which are used to monitor the dust levels around the Boral Teven Quarry site, these locations are identified in Figure 6 below.

Deposited dust is measured by determining the amount of insoluble solids collected in the monitoring stations during the sampling period, with the results averaged over a period of 12 months in accordance with EPA guidelines.

Table 3: Deposited Dust monitoring results for Boral Teven Quarry between 1/7/2015 and 30/6/2016.

	Site 1	Site 2	Site 3	Site 4
	Insoluble Solids	Insoluble Solids	Insoluble Solids	Insoluble Solids
	g/m2/mth	g/m2/mth	g/m2/mth	g/m2/mth
Jul-2015	0.20	0.40	1.00	0.50
Aug-2015	0.70	0.90	1.70	1.00
Sep-2015	0.50	5.00	2.70	0.90
Oct-2015	0.80	1.90	1.60	0.70
Nov-2015	0.80	4.40	4.70	0.40
Dec-15 to Jan-16	0.70	0.80	0.00	1.20
Feb-2016	0.90	0.70	3.40	7.60
Mar-2016	0.80	1.10	3.10	0.80
Apr-2016	0.60	0.80	1.20	0.90
May-2016	0.30	0.20	0.70	0.30
Jun-2016	0.90	1.20	1.10	1.20
12 month Average	0.65	1.58	1.93	1.41
EPA Guidelines*	4	4	4	4

* Note – The EPA Guideline Limit of 4g/m²/month is applied at the nearest offsite sensitive receiver (residence, hospital, school etc). These dust monitors have been placed within the boundaries of the Boral Teven Quarry in order not to intrude on neighbour’s amenity and provide an indication of the level of compliance with the EPA guidelines.

The deposited dust data from Table 4 above indicates that the site is expected to be compliant with deposited dust levels experienced at adjoining residential premises.





Figure 10 – Location of deposited dust monitoring stations during the period 1/7/2015 to 30/6/2016.



5. Alterations to the Plan of Management

There have been no alterations to the original Plan of Management dated April 1996.

