Government of **Western Australia**
Department of **Environment and Conservation**

Your ref: L8645/2012/1
Our ref: 2012/003600
Enquiries: Carmen Standring
Phone: 9195 5538
Fax: 9193 5027
Email: Carmen.Standring@dec.wa.gov.au

Ms Annette Latto
Boral Resources (WA) Ltd
PO Box 268
Belmont WA 6984

Dear Ms Latto

***ENVIRONMENTAL PROTECTION ACT 1986*: LICENCE GRANTED**

Premises: Weaner Creek Hardrock Quarry, Tenement M80/29, Victoria Hwy, East Kimberley
Licence Number: L8645/2012/1

A licence under the *Environmental Protection Act 1986* (the Act) has been granted for the above premises. The Department of Environment and Conservation will advertise the issuing of this licence in the public notices section of *The West Australian* newspaper.

The licence includes attached conditions. Under Section 58(1) of the Act, it is an offence to contravene a condition of a licence. This offence carries a penalty of up to $125,000 and a daily penalty of up to $25,000

In accordance with section 102(1)(c) of the Act, you have 21 days to appeal the conditions of the licence. Under section 102(3)(a) of the Act, any other person may also appeal the conditions of the licence. To lodge an appeal contact the Office of the Appeals Convenor on 6467 5190 or by email at admin@appealsconvenor.wa.gov.au.

Where a licence is issued for more than one year it requires payment of an annual fee and will cease to have effect if the fee is unpaid. It is the occupier's responsibility to lodge a fee application and pay the annual fee in sufficient time to avoid incurring a late payment fee and for processing to be completed before the licence anniversary date.

If you have any queries regarding the above information, please contact Carmen Standring on 9168 4200.

Yours sincerely

Carissa Aitken
Officer delegated under Section 20
of the *Environmental Protection Act 1986*

Thursday, 24 May 2012
enc: *Environmental Protection Act 1986* Licence (L8645/2012/1)
cc: Shire of Wyndham East Kimberley

Government of **Western Australia**
Department of **Environment and Conservation**

LICENCE FOR PRESCRIBED PREMISES
Environmental Protection Act 1986

LICENCE NUMBER: L8645/2012/1 **FILE NUMBER:** 2012/001778

LICENSEE
Boral Resources (WA) Ltd
63-69 Abernethy Road
Belmont WA 6984
ACN: 008 686 904

PREMISES
Weaner Creek Hardrock Quarry
Tenement M80/29
Victoria Highway
EAST KIMBERLEY WESTERN AUSTRALIA
(as depicted in Attachment 1)

PRESCRIBED PREMISES CATEGORY
Schedule 1 of the Environmental Protection Regulations 1987

CATEGORY NUMBER	CATEGORY DESCRIPTION	CATEGORY PRODUCTION OR DESIGN CAPACITY	PREMISES PRODUCTION OR DESIGN CAPACITY
12	Screening, etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	50,000 tonnes or more per year	200,000 tonnes per year

CONDITIONS OF LICENCE
Subject to the conditions of licence set out in the attached pages.

Carissa Aitken

Officer delegated under Section 20
of the *Environmental Protection Act 1986*

ISSUE DATE: Thursday, 24 May 2012
COMMENCEMENT DATE: Monday, 28 May 2012
EXPIRY DATE: Saturday, 27 May 2017

DEFINITIONS

In these conditions of licence, unless inconsistent with the text or subject matter:

"AS or Australian Standard" means the most recent version (unless otherwise stated) of the specified Australian Standard published by Standards Australia International Ltd. Sydney;

"AS 1940" means the most recent version of the Australian Standard for The storage and handling of flammable and combustible liquids;

"Director" means Director, Environmental Regulation Division of the Department of Environment and Conservation for and on behalf of the Chief Executive Officer as delegated under Section 20 of the *Environmental Protection Act 1986;*

"Director" for the purpose of correspondence means-

Regional Manager, Kununurra Region
Department of Environment and Conservation
PO Box 942
Kununurra WA 6743
Telephone: (08) +61 8 9168 4200 Facsimile: (08) +61 8 9168 2179.

"environmentally hazardous material" means material (either solid or liquid) which if discharged into the environment from or within the premises may cause pollution or environmental harm; and

"m/s" means metres per second.

GENERAL CONDITIONS

DUST EMISSIONS

1. The licensee shall ensure that no visible dust generated by the activities at the premises crosses the boundary of the premises.

2. The licensee shall employ measures to ensure that dust emissions from haul roads, access roads, stockpiles and active work areas are minimised. These may include but not be limited to:
   (a) use of water sprays, dust collection systems, coverings on conveyors and transfer points from the materials handling and plant operations;
   (b) paving or sealing of access roads, load-out and turn around areas;
   (c) use of water trucks to wet the quarry roads, access ways and traffic areas;
   (d) use of water sprays, sprinklers or cannons, on to working and non-working faces of stockpiles; and
   (e) routine maintenance and housekeeping practices to ensure no accumulation of waste materials in or around the premises.

DISCHARGE TO LAND

STORMWATER MANAGEMENT

3. The licensee shall ensure that no contaminated stormwater is discharged from the premises.

4. The licensee shall divert stormwater run-off away from stockpiles to minimise the threat of accidental loss of stored matter due to flooding or erosion.

HYDROCARBON AND CHEMICAL STORAGE

5. The licensee shall only store dangerous goods below placard quantities and environmentally hazardous materials not classified as dangerous goods including fuel, oil or other hydrocarbons (where the total volume of each substance stored on the premises exceeds 250 litres) if they are stored within
   (a) low permeability (10^{-9} m/s or less) bunded compounds designed to contain not less than 110% of the volume of the largest storage vessel or inter-connected system, and at least 25% of the total volume of vessels stored in the compound;
   (b) double-walled tanks complying with Australian Standard AS 1940.

6. The licensee shall ensure the compounds described in condition 5 shall:
   (a) be graded or include a sump to allow recovery of liquid;
   (b) be chemically resistant to the substances stored;
   (c) include valves, pumps and meters associated with transfer operations wherever practical. Otherwise the equipment shall be adequately protected (e.g. bollards) and contained in an area designed to permit recovery of spilled chemicals;
   (d) be designed such that jetting from any storage vessel or fitting will be captured within the bunded area [see for example Australian Standard 1940 Section 5.8.3(h); and
   (e) be controlled such that the capacity of the bund is properly maintained (e.g. regular inspection and pumping of trapped uncontaminated rainwater).

7. The licensee shall immediately recover, or remove and dispose of, liquid resulting from spills or leaks of chemicals including fuel, oil or other hydrocarbons, whether inside or outside the low permeability compound(s) or double walled tank.

8. The licensee shall collect waste oils, lubricants, hydraulic fluids and spent radiator coolant/inhibitors in impervious holding tanks for recycling or disposal off-site.

REPORTING CONDITIONS

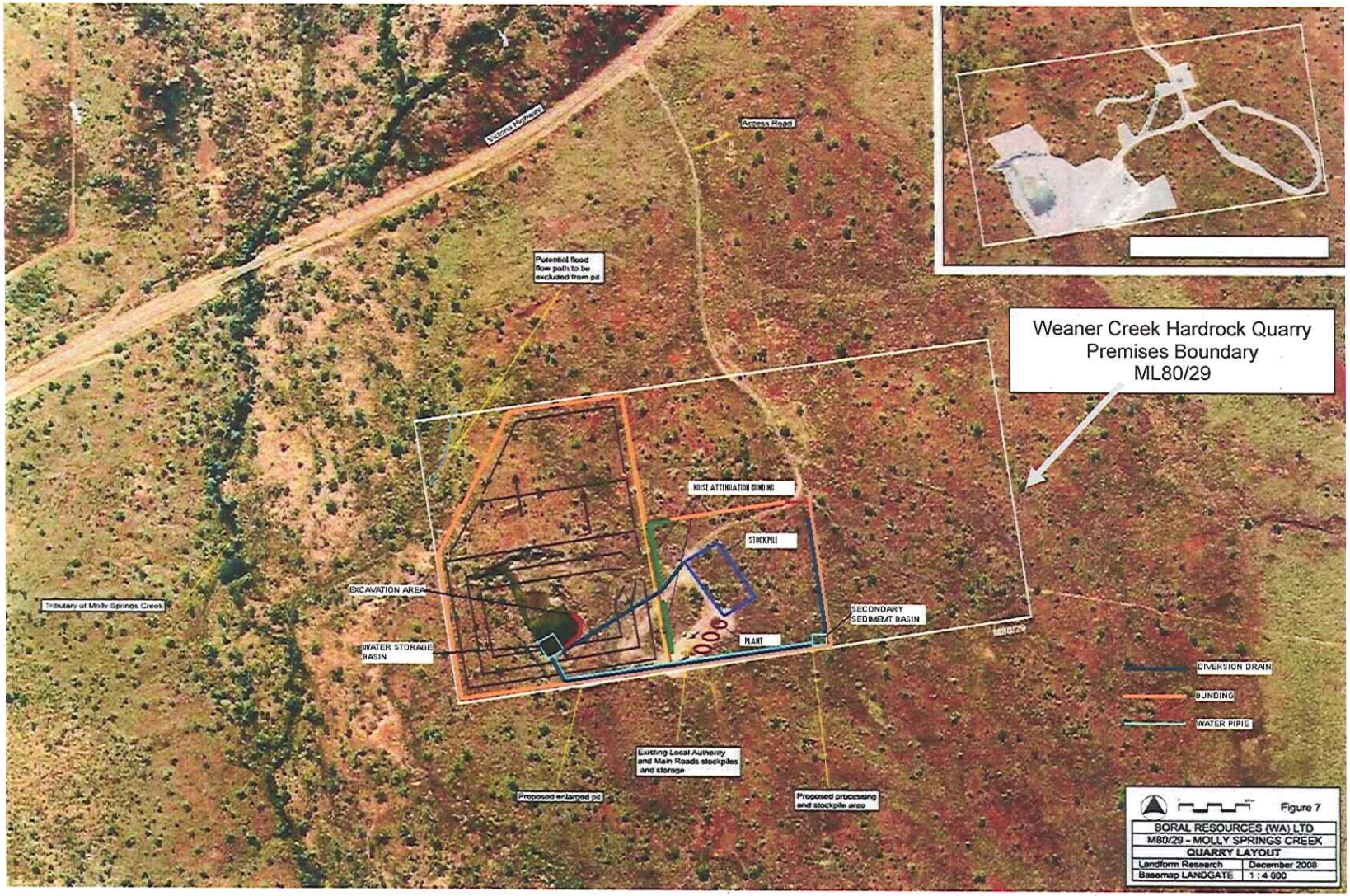
9. The licensee shall, by 31 August each year, provide to the Director a copy of an Annual Environmental Report containing data collected during the period beginning 1 July the previous year and ending on 30 June in that year. The report shall contain but not be limited to:
   (a) the estimated quantity of raw material processed for the reporting period;
   (b) measures taken to suppress dust;
   (c) measures taken to minimise noise;
   (d) the number and type of community complaints received including the nature of the complaint (where appropriate cross referenced with prevailing wind directions) and action taken; and
   (e) a record of any incident that included the loss of chemicals including fuel, oil or other hydrocarbons into the environment and provide a summary of each incident including the action taken.

10. The licensee shall by 31 August in each year, provide to the Director an Annual Audit Compliance Report in the form in Attachment 2 to this licence, signed and certified in the manner required by Section C of the form, indicating the extent to which the licensee has complied with the conditions of this licence, and any previous licence issued under Part V of the Act for the premises, during the period beginning 1 July the previous year and ending on 30 June in that year.

ATTACHMENT 1

LICENCE NUMBER: L8645/2012/1 **FILE NUMBER:** 2012/001778

PLAN OF PREMISES



ISSUE DATE: Thursday, 24 May 2012
COMMENCEMENT DATE: Monday, 28 May 2012
EXPIRY DATE: Saturday, 27 May 2017

ANNUAL AUDIT COMPLIANCE REPORT

SECTION A
LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of licence complied with within the reporting period? (please tick the appropriate box)

Yes □ Please proceed to Section C
No □ Please proceed to Section B

Each page must be initialed by the person(s) who signs Section C of this annual audit compliance report

INITIAL:_____

LICENCE NUMBER: L8645/2012/1 **FILE NUMBER:** 2012/001778

SECTION B - DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each licence condition that was not complied with.

a) Licence condition not complied with?	
b) Date(s) when the non compliance occurred, if applicable?	
c) Was this non compliance reported to DEC?	
☐ Yes ☐ Reported to DEC verbally Date _____ ☐ Reported to DEC in writing Date _____	☐ No
d) Has DEC taken, or finalised any action in relation to the non compliance?	
e) Summary of particulars of non compliance, and what was the environmental impact?	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram)	
g) Cause of non compliance	
h) Action taken or that will be taken to mitigate any adverse effects of the non compliance	
i) Action taken or that will be taken to prevent recurrence of the non compliance	

Each page must be initialed by the person(s) who signs Section C of this annual audit compliance report

INITIAL:_____

LICENCE NUMBER: L8645/2012/1 **FILE NUMBER:** 2012/001778

SECTION C - SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report may only be signed by a person(s) with legal authority to sign it. The ways in which the Annual Audit Compliance Report must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this Annual Audit Compliance Report is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
an individual	☐	by the individual licence holder, or
	☐	by a person approved in writing by the Chief Executive Officer of the Department of Environment and Conservation to sign on the licensee's behalf.
A firm or other unincorporated company	☐	by the principal executive officer of the licensee; or
	☐	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment and Conservation.
A corporation	☐	by affixing the common seal of the licensee in accordance with the Corporations Act 2001; or
	☐	by two directors of the licensee; or
	☐	by a director and a company secretary of the licensee, or
	☐	if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or
	☐	by the principal executive officer of the licensee; or
	☐	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment and Conservation.
A public authority (other than a local government)	☐	by the principal executive officer of the licensee; or
	☐	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment and Conservation.
a local government	☐	by the chief executive officer of the licensee; or
	☐	by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of $50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____ SIGNATURE: _____

NAME: (printed) _____ NAME: (printed) _____

POSITION: _____ POSITION: _____

DATE: _____/_____/_____ DATE: _____/_____/_____

SEAL (if signing under seal)

ENVIRONMENTAL ASSESSMENT REPORT

LICENCE NUMBER: L8645/2012/1
LICENCE FILE NUMBER: 2012/003200
APPLICATION DATE: 14/05/2012
EXPIRY DATE: 27/5/2017

PREMISES DETAILS

LICENSEE
Boral Resources (W.A.) Ltd
63 – 69 Abernethy Road
Belmont WA 6104
ACN: 008 686 904

PREMISES
Weaner Creek Hardrock Quarry
Mining Tenement M80/29
Victoria Highway
East Kimberley WA

PRESCRIBED PREMISES CATEGORY

Table 1: Prescribed premises category

Category number*	Category Description*	Category Production or Design Capacity*	Premises Production or Design Capacity#	Premises Fee Component**
12	Screening, etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	50,000 tonnes or more per year	200,000 tonnes per year	More than 100,000 but not more than 500,000 tonnes per year

* From Schedule 1 of the Environmental Protection Regulations 1987
# From application
** From Schedule 4 of the Environmental Protection Regulations 1987

This Environmental Assessment Report (EAR) has been drafted for the purposes of detailing information on the management and mitigation of emissions and discharges from the prescribed premises. The objective of the EAR is to provide a risk assessment of emissions and discharges, and information on the management of other activities occurring onsite which are not related to the control of emissions and discharges from the prescribed premises activity. This does not restrict the Department of Environment and Conservation (DEC) to assessing only those emissions and discharges generated from the activities that cause the premises to become prescribed premises.

Basis of Assessment
The Weaner Creek Hardrock Quarry (WCHQ) has been assessed as "prescribed premises" category number 12, under Schedule 1 of the Environmental Protection Regulations 1987, as detailed in Table 1 above.

Boral Resources (W.A.) Ltd (Boral) is proposing to re-open the WCHQ to extract approximately 30,000 to 200,000 tonnes per year of hardrock resources for supply to road, civil and site works across the East Kimberley region. The hardrock resource will be crushed and processed into a range of high strength products and used as aggregates for road base, asphalt and concrete manufacturing, fines for construction purposes, drainage and rock armouring of infrastructure etc.

DEC issued a works approval to Boral in relation to WCHQ on 10 May 2012. Boral have completed construction and commissioning works of the crushing and screening plant and associated infrastructure and subsequently submitted a compliance certificate to DEC on 23 May 2012. This EAR is in relation to the operation and licensing of WCHQ as a category number 12 prescribed premises.

1.0 BACKGROUND

1.1 GENERAL COMPANY DESCRIPTION

Boral has been a basic raw materials and construction materials supplier to the community for many years. Boral was registered as a public company in 1962 and has since expanded to develop and operate a number of extractive quarries around Western Australia.

1.2 LOCATION OF PREMISES

The WCHQ is located within Mining Tenement M80/29, which lies on Ivanhoe Station 25km west-southwest of Kununurra on the southern side of Victoria Highway. Attachment 1 shows the regional location of M80/29.

The quarry commenced with a large contract in 1984 but since that time has only been operational intermittently. Main Roads Western Australia and the Local Government Authority have used the site in the past for storage of road making materials.

Geology

The site is located on a low plain at an elevation of around 80 mAHD. It is gently sloping flat alluvial land that has low undulations due to the underlying basement rock. The rock present on the mining lease is listed by the Geological Survey of WA (1990) as vesicular and amygdaloidal basalt volcanic with minor agglomerate, tuff sandstone and siltstone. Boral has had samples of rock present on site classified as porphyritic trachyandesite with 10% phenocrysts and the groundmass dominated equally by plagioclase and potassic feldspars.

Soils

Soils in the area have not been mapped in detail but site observations have classified soils as red and red brown loams, with slightly sandy upper horizons. Depth of soil is minimal and rock is located at the surface and up to 1 metre (m) below the surface.

Climate

The East Kimberley Region experiences a tropical climate with two distinct seasons, a wet season that runs from November to March and a dry season that runs from April to October. Rainfall is highly variable with the majority experienced during the wet season months. Average annual rainfall experienced in Kununurra is 852.9 millimetres (mm). Temperatures can range from up to around 40 degrees Celsius (˚C) during the warmer months and minimums down to around 15 ˚C in the cooler dry season months.

Winds are predominantly from the south-east during the dry season. Wet season winds are more variable, ranging from northerlies, north-westerlies and south-easterlies in the afternoons.

Hydrology

The mining lease lies around 300m east of a tributary of Molly Springs Creek which drains the hills to the north-west. The creek is ephemeral, being dry for most of the year and only flows after cyclonic rains and tropical low rainfall events.

There are several additional tributaries that drain south-west, before turning to the north-east to join Pumpkin Lookout Creek and the Dunham River which joins the Ord River in Kununurra.

Groundwater

Depth to groundwater at the premises is unknown, no drilling has been undertaken to date as the resource is well exposed at the surface. The existing pit is up to 4m deep and has not intersected the Regional water table. Boral anticipates it is unlikely that the regional water table will be intersected as the pit is deepened in future years. The closest bore to the mining lease is approximately 12.5 km away, and has been measured having a depth to groundwater of around 12.9m. Should Boral intersect groundwater in the pit it will need to be retained on the premises and / or re-used for dust suppression. Further approval from DEC will need to be sought should Boral need to discharge de-watered water off the premises.

Flora and Fauna

Vegetation of the area was mapped on a broad scale by Beard in 1979, as Mitchell Grass and Mitchell / Bluegrass with Eucalypts. The vegetation complex is Savannah which is dominated by a variety of grasses such as *Eneapogon* spp, *Astrebla* spp and *Dicanthium* with scattered to isolated small *Eucalyptus* and other trees. The Savannah communities are widespread across the local area and remain largely unaltered apart from impacts resulting from occasional fire and grazing. The lease area is relatively small and is partly disturbed from previous activities such as excavation, processing, roads and tracks currently used by local government and Main Roads Western Australia.

Impacts to fauna from operation of the quarry are expected to be minimal and temporary. There has been a recording of a threatened fauna species (Bush Stone Curlew) around 1.9km from the premises boundary, however, operations of the quarry at this distance from the fauna is not likely to have any impacts. There is no threatened plant communities listed within a 5km radius from the premises.

1.3 PROPOSAL DESCRIPTION

The WCHQ is an existing quarry which presently consists of an open pit of 2 hectares (ha) in area approximately 2 - 3m deep. There is a previously cleared hardstand area where processing will occur, comprising crushing and stockpiling of the processed materials. Boral estimates annual throughput will be in the vicinity of 30,000 to 200,000 tonnes depending on the nature of future contracts.

The mobile crushing plant was trucked to site by Boral and took just over a week to set up. The mobile crushing and screening plant will consist of static primary, secondary and tertiary crushers with associated screens, conveyor belts and stockpiles. Other machinery operating at the quarry will include a bulldozer, water tanker truck, loaders, percussion drill rig, hydraulic drill rig, excavator and rock breaker / rock cruncher, haul truck and weigh-bridge.

In the initial stages of operation the crushing plant will be located behind bunds of overburden and stockpiles to minimise noise emitted from the premises. Stockpiles will be strategically placed to provide maximum noise and dust screening from Victoria Highway and sensitive premises to the North West. Noise bunds will also be constructed to further minimise noise levels emitted from the premises. After the WCHQ has been operational for

some years, when the pit is large enough, the mobile crushing / screening plant will be located on the pit floor. Attachment 2 shows the proposed layout of the WCHQ.

Dust will be minimised and controlled in accordance with a site Dust Management Plan and by using water sprayers and covers on crushing / screening equipment. Further discussion on the management of potential emissions and discharges from WCHQ can be found in Table 2 and Appendix A.

QUARRY PROCESS

The extraction of hardrock begins by clearing of surface vegetation and piling into windrows. There is little vegetation at the WCHQ. Vegetation is composed of native grasses with sparse trees. Vegetation is therefore normally taken with the topsoil and stockpiled for spreading over areas to be rehabilitated. Overburden (if available) will then be cleared for use in rehabilitation and construction of screening bunds as appropriate (such as along the northern and north-western edge of the pit and processing area as shown in Attachment 2).

Blast holes are drilled by hydraulic rig, and fired in campaign operations. The timing of each campaign varies depending on the nature of the rock to be extracted and operational considerations relating to safety, product requirements and potential blast impacts. Sequential blasting techniques are used to make each blast effectively a series of small explosions, which lifts and breaks the rock, rather than throwing it. The rock broken by each blast falls in a heap at the base of the face being excavated. Front end loaders or excavators are then used to load the broken rock into dump trucks for transportation to the crusher. Excavation and crushing campaigns will normally last around 30 days, but this will depend on the nature of the contracts won. At other times materials will be exported from the stockpiles at the quarry and there will be not excavation until the next campaign.

A temporary site office and service facilities will be located near the end of the access road to the east of the processing and stockpiling area.

1.4 REGULATORY CONTEXT

1.4.1 Part IV *Environmental Protection Act 1986*, Environmental Impact Assessment

The proposal was considered insignificant and did not require referral to the office of the Environmental Protection Authority (EPA) for assessment.

1.4.2 Part V *Environmental Protection Act 1986*, Environmental Management

Boral's proposal triggers section 52 of the *Environmental Protection Act 1986,* therefore construction works will require a works approval.

In addition to the works approval the premises will be subject to the following DEC administered legislation:

- Environmental Protection Regulations 1987;
- Environmental Protection (Unauthorised Discharges) Regulations 2004;
- Environmental Protection (Noise) Regulations 1997;
- Environmental Protection (Clearing of Native Vegetation) Regulations 2004;
- *Contaminated Sites Act 2003*; and
- Contaminated Sites Regulations 2006.

1.4.2 Other Making Authorities' Legislation which applies

This site is subject to the following legislation administered by the Department of Mines and Petroleum (DMP) and Department of Commerce (DoC):

- *Mining Act 1978*;
- Mining Regulations 1981;
- *Mines Safety and Inspection Act 1994*;
- Mines Safety and Inspection Regulations 1995;
- *Dangerous Goods Safety Act 2004;*
- Dangerous Goods Safety (General) Regulations 2007
- Dangerous Goods Safety (Storage And Handling Of Non-Explosives) Regulations 2007;
- Dangerous Goods Safety (Explosives) Regulations 2007;
- *Occupational Safety and Health Act 1984*;
- Occupational Safety and Health Regulations 1996;

1.4.3 *Rights in Water Irrigation Act 1914*

Boral do not hold a Groundwater Licence (GWL) under *the Rights in Water and Irrigation Act 1914*. Water used onsite for dust suppression will be sourced and recycled from rainwater falling within the pit and process area. Potable water will be brought to site as required.

1.4.4 Local Government Authority

The Shire of Wyndham East Kimberley (SWEK) is the nearest local government authority to the WCHQ, however, the premises is not within the SWEK town planning scheme. Boral have consulted with SWEK regarding operations of the WCHQ and have addressed concerns relating to dust and noise emissions from the premises.

2.0 STAKEHOLDER AND COMMUNITY CONSULTATION

SUBMISSIONS RECEIVED DURING 21 DAY PUBLIC COMMENT PERIOD

The Application for licence details for this facility was advertised in the West Australian newspaper on 14 May 2012 as a means of advising stakeholders and to seek public comments. No submissions were received.

3.0 EMISSIONS AND DISCHARGES RISK ASSESSMENT

DEC considers that conditions should focus on regulating emissions and discharges of significance. Where appropriate, emissions and discharges which are not significant should be managed and regulated by other legislative tools or management mechanisms.

The following section assesses the environmental risk of potential emissions from the Weaner Creek Hardrock Quarry. In order to determine the site's appropriate environmental regulation, an emissions and discharges risk assessment was conducted of the Weaner Creek Hardrock Quarry using the environmental risk matrix outlined in Appendix B. The results of this are summarised in Table 2.

Table 2: Risk assessment and regulatory response summary table.

Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DEC Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
Air emissions (point source)	**Construction – N/A** **Operation – N/A** There are no air emissions associated with the Weaner Creek Hardrock Quarry (WCHQ).	N/A	N/A	WA – no conditions LIC – no conditions	N/A N/A	General provisions of *the Environmental Protection Act 1986*
Dust emissions	**Construction – Significance of 1** There is minor potential for dust emissions during the construction phase from vehicles and trucks moving about onsite. Construction is expected to take only a few days and dust will be minimised in accordance with the site Dust Management Plan.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	E = No regulation, other management mechanisms	WA – no conditions	N/A	Occupational Safety and Health Regulations 1996. Mines Safety and Inspection Regulations 1995. General provisions of the *Environmental Protection Act 1986* Environmental Protection (Unauthorised Discharges) Regulations 2004 Kimberley Quarry (Premises Contract operator) Weaner Creek Dust Management Plan, December 2011
	Operation – Significance of 3 Dust may be generated during operations from vehicle and machinery movements' onsite and from processing activities such as blasting, crushing, grinding, screening and stockpiling of materials on-site. Dust emissions can impact the environment via smothering of flora and sedimentation of nearby watercourses. Control of dust from the premises will be important as during the dry season winds tend to predominate from the southeast and may impact Molly Springs Community located 1.8km to the west-northwest. Boral will implement a Dust Management Plan during operations to ensure dust from the crushers are controlled via atomised mist sprays, ensuring the Run-of-Mine (ROM) is kept damp and minimising transfer distances on the crushing plant. Haul roads will also be kept damp, traffic will be minimised and speeds controlled to reduce potential for dust. In the event of high strength winds fan sprays and cannons will be employed by the water cart operator to reduce dust lift-off. In severe conditions, activities will be halted if dust cannot be effectively controlled.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	D= EIPs, other management mechanisms / licence conditions (monitoring / reporting) / other regulatory tools	LIC –conditions have been added to the operating licence to ensure no dust emissions generated from activities at WCHQ crosses the premises boundary. Licence conditions will also be added to ensure appropriate maintenance and operation of dust control equipment employed onsite and annual reporting of measures taken to suppress dust.	**Appendix A**	

Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DEC Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
Odour emissions	**Construction – N/A** **Operation – N/A** There are no odour emissions associated with the construction and operation of the WCHQ.	N/A	N/A	WA – no conditions LIC – no conditions	N/A N/A	General provisions of *the Environmental Protection Act 1986*
Noise emissions	**Construction – Significance of 1** There will be minimal noise emissions during the construction phase of the WCHQ, which is expected to last only a few days.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	E = No regulation, other management mechanisms	WA – no conditions	N/A	Environmental Protection (Noise) Regulations 1997. Mines Safety and Inspection Regulations 1995.
	Operation – Significance of 3 There will be noise emissions associated with machinery movements on site, from periodic blasting and breaking of rocks, and crushers and screeners during operations. All blasting will be performed by experienced shot firers, and overpressure levels will be kept below 125dB. Blasting will generally occur during the same time each day. All operations at WCHQ will occur during daylight hours between 7am and 5.30pm Monday to Saturday inclusive. Boral has committed to complying with the Environmental Protection (Noise) Regulations 1997 during operations of the WCHQ. Boral has also committed to undertaking noise emission testing at the boundary of the mining lease during the first campaign to ensure the noise mitigation measures are effective and that compliance with the Environmental Protection (Noise) Regulations 1997 is occurring. Noise attenuation bunding will be constructed along the west and northern perimeter of the processing area as a barrier between the crusher / screener plant and the nearest noise sensitive receptor – Molly Springs Community.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	D= EIPs, other management mechanisms / licence conditions (monitoring / reporting) / other regulatory tools	LIC – N/A – Boral have made commitments to ensure compliance with Environmental Protection (Noise) Regulations 1997. A licence condition has been included requiring annual reporting of measures taken to minimise noise emissions from the premises and recording and reporting of any complaints received regarding WCHQ operations.	**Appendix A**	General provisions of the *Environmental Protection Act 1986.*

Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DEC Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
Light emissions	**Construction – Significance of 1** There will be no light emissions during construction of the WCHQ. **Operation – Significance of 1** There will be minimal light emissions during operations of the WCHQ as there will be no operations occurring at night. There may be some light emissions associated with security lighting; however these emissions are not expected to be significant.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	E = No regulation, other management mechanisms	WA – no conditions LIC– no conditions	N/A N/A	General provisions of the *Environmental Protection Act 1986.*
Discharges to water	**Construction – N/A** **Operation – N/A** There will be no discharges to water during construction and / or operation of the WCHQ.	N/A	N/A	WA – no conditions LIC – no conditions	N/A N/A	General provisions of the *Environmental Protection Act 1986* Environmental Protection (Unauthorised Discharges) Regulations 2004
Discharges to land	**Construction – Significance of 1** There will be no discharges to land during construction of the WCHQ.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	E = No regulation, other management mechanisms	WA – no conditions		Environmental Protection (Unauthorised Discharges) Regulations 2004 Mines Safety and Inspection Regulations 1995. General provisions of the *Environmental Protection Act 1986.*
	Operation – Significance of 3 Potential discharges to land during operations may occur from stormwater that has become contaminated with sediment. Such discharges may smother flora and fauna habitat adjacent to operational areas or cause sedimentation of nearby waterways. There is also the risk of spills or leaks of hydrocarbons on the premises from storage areas, vehicles and plant infrastructure. All hydrocarbon storage facilities will be compliant with AS/NZS 1940:2004 and Boral will implement regular monitoring and maintenance of equipment. Spills will be cleaned up immediately. Boral will manage the risk of these potential discharges to land by constructing and maintaining appropriate diversion and drainage systems to ensure runoff is not contaminated by crushing / screening activities. Surface flows will be directed away from operational areas. Runoff from incident rainfall falling in the pit and on stockpiles and operational areas will be directed to sediment basins and retained onsite for re-use in dust suppression.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	D= EIPs, other management mechanisms / licence conditions (monitoring / reporting)/ other regulatory tools	LIC – a condition relating to stormwater diversion from operational areas has been added to the licence. A condition to ensure that no contaminated stormwater is discharged from the premises has also been added to the licence.	**Appendix A**	

Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DEC Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
Solid / liquid wastes	**Construction** – N/A	N/A	N/A	WA – N/A		Environmental Protection (Unauthorised Discharges) Regulations 2004 General provisions of the *Environmental Protection Act 1986.* Mines Safety and Inspection Regulations 1995. *Litter Act 1979*
	Operation – Significance of 3 Solid / liquid wastes associated with operation of the WCHQ include general domestic waste and oils, recyclables, contaminated soils and stormwater. Licence conditions will require Boral to ensure all wastes must be retained onsite in appropriate containers or disposed of to an authorised facility.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	D= EIPs, other management mechanisms / licence conditions (monitoring / reporting) / other regulatory tools	LIC – a condition has been added to the licence to require all contaminated waste be retained onsite or disposed of to an authorised off-site facility.	**Appendix A**	
Hydrocarbon/ chemical storage	**Construction – Significance of 1** There will be no requirements for fuel storage during the construction phase, which is expected to last for only a few days.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	Construction – no conditions required	WA – no conditions required	N/A	Dangerous Goods Safety (Storage And Handling Of Non-Explosives) Regulations 2007 Environmental Protection (Unauthorised Discharges) Regulations 2004 Mines Safety and Inspection Regulations 1995. General provisions of the *Environmental Protection Act 1986.*
	Operation – Significance of 3 Boral have anticipated the requirement for diesel fuel storage during crushing / screening campaigns. Fuel will be stored in a self-bunded double lined tank and will comply with requirements of AS1940:2004 *The storage and handling of flammable and combustible liquids.* All fuel nozzles and fill connections will be located within the self-bunded portion of the tank. Top up oils, lubricants and other fluids will be stored in appropriate containers or in a shed brought to site as required. Waste oils and other fluids derived from routine maintenance of mobile machinery will be regularly transported offsite and disposed of to an approved liquid waste facility.	**No** – Closest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.	D= EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools	LIC – Conditions have been added to the operating licence to: • ensure hydrocarbon / chemical storage facilities comply with AS/NZS 1940:2004; • require regular monitoring / inspection of storage facilities; • require immediate clean up of any hydrocarbon spills and contaminated material; and • record and report any spills or loss of chemicals / hydrocarbons to DEC in an annual report.	**Appendix A**	

Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DEC Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
Native vegetation clearing	**Construction – N/A** **Operation – N/A** Applications for the clearing of native vegetation on *Mining Act 1978* tenements are assessed and approved/refused by DMP. An application for clearing permit to allow widening of the access road is currently being assessed by DMP (CPS 4920) Currently 3.4 hectares has been cleared for the access road, stockpiles, pit and previously cleared areas.	N/A	N/A	WA – N/A LIC – N/A		Environmental Protection (Clearing of Native Vegetation) Regulations 2004 managed by the Department of Mines and Petroleum. General provisions of the *Environmental Protection Act 1986*
Contaminated site identification	**Construction – N/A** **Operation – N/A** This premises is currently not a registered contaminated or potentially contaminated site.	N/A	N/A	WA – N/A LIC – N/A		*Contaminated Sites Act 2003* Contaminated Sites Regulations 2006 Tenement Conditions and Closure Plan (Department of Mines and Petroleum)

4.0 GENERAL SUMMARY AND COMMENTS

This Environmental Assessment Report is for the construction and operation of the Weaner Creek Hardrock Quarry located on Mining Lease M80/29.

All emissions and discharges associated with construction of the Weaner Creek Hardrock Quarry have been determined to have a low or insignificant environmental risk. No specific works approval conditions are required in regards to emissions and discharges associated with construction. General conditions will be placed on the works approval requiring Boral to construct the infrastructure as per the works approval documentation and to submit a compliance document following the completion of works.

The main discharges associated with the operation of Weaner Creek Hardrock Quarry have been identified as dust emissions, noise emissions, discharges to land, solid / liquid wastes and hydrocarbon / chemical storage. These discharges have been assessed as having a significant risk of impacting the environment if not managed and / or monitored appropriately.

It is recommended that the Weaner Creek Hardrock Quarry operate under licence conditions to manage these risks accordingly. General conditions regarding on-site dust management and management of other significant emissions and discharges from the Quarry will be included on the licence. Boral will be required to report the results of any monitoring programs to DEC as part of annual reporting requirements. Further discussion of discharges associated with the operation of Weaner Creek Hardrock Quarry can be found in Appendix A.

An operating licence for Weaner Creek Hardrock Quarry will be issued to Boral for a period of five years. The premises will be subject to inspections by DEC officers to assess compliance with licence conditions.

OFFICER PREPARING REPORT

Carmen Standring
Position: Environmental Officer
Kimberley Regional Office
Department of Environment and Conservation
9168 4200

April 2012

ENDORSEMENT

Damian Thomas
Position: Team Leader
Kimberley Regional Office
Department of Environment and Conservation
9168 4200

April 2012

ATTACHMENT 1 – LOCATION OF WEANER CREEK HARDROCK QUARRY

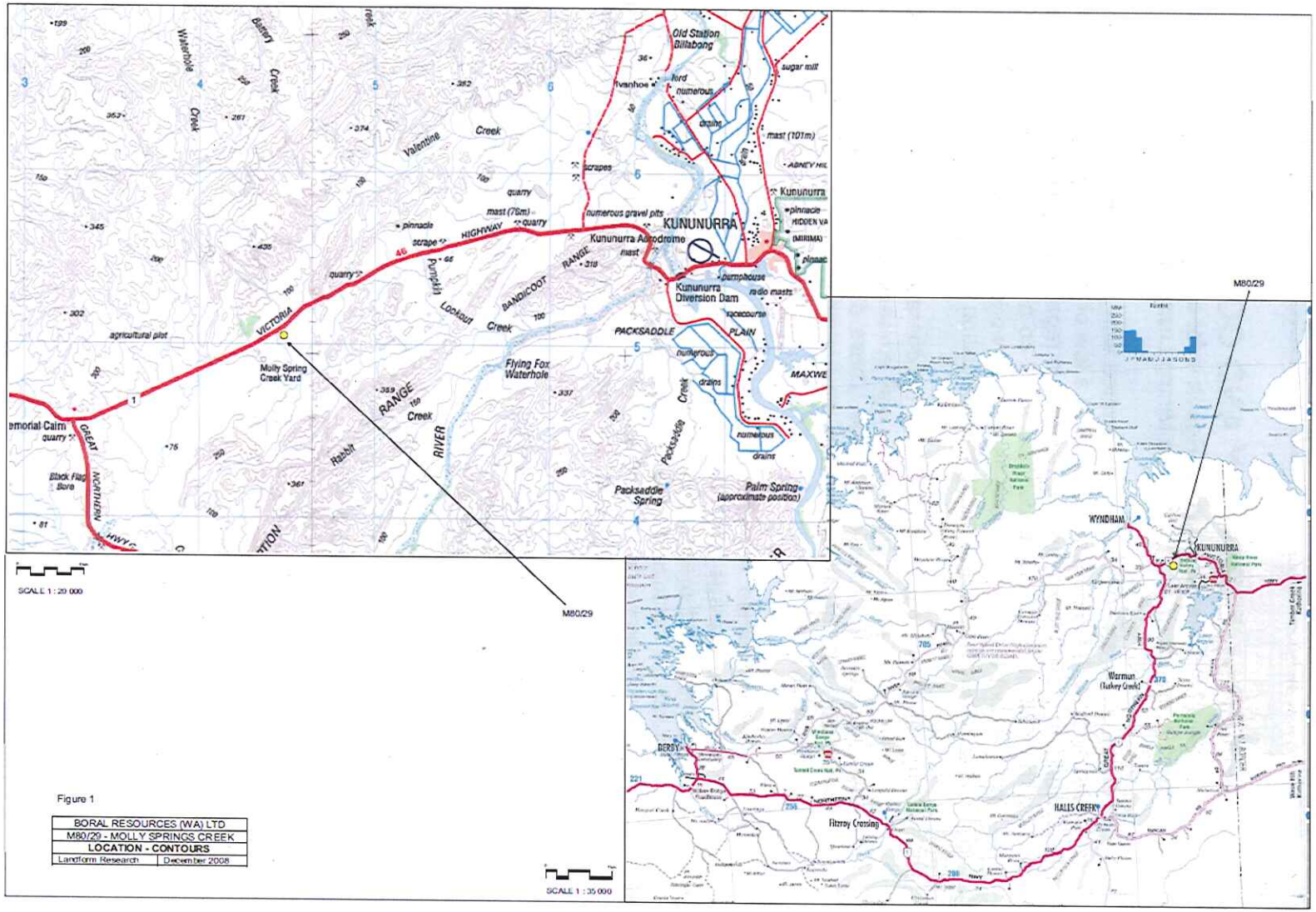
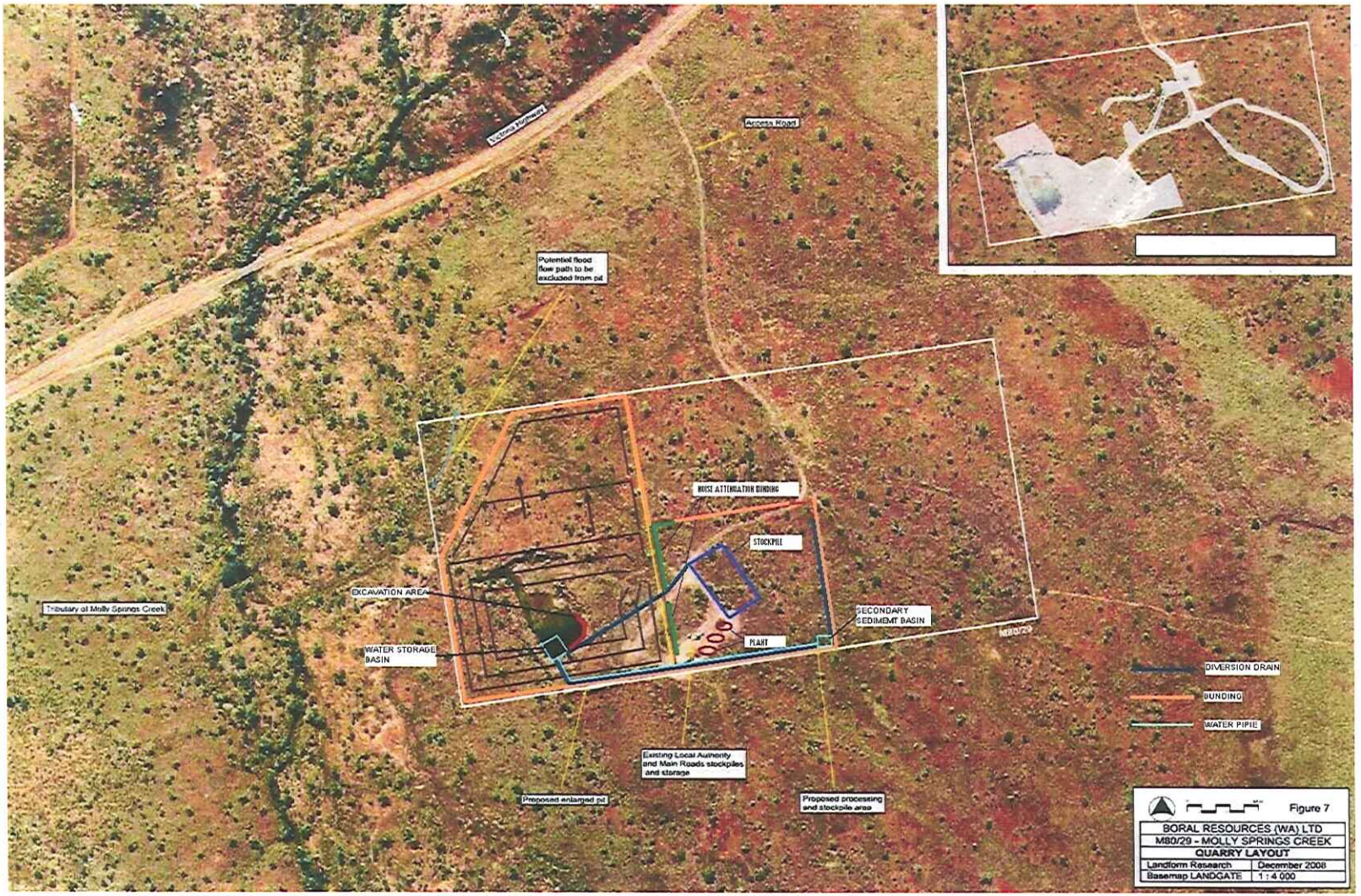


Figure 1

BORAL RESOURCES (WA) LTD	
M80/29 - MOLLY SPRINGS CREEK	
LOCATION - CONTOURS	
Landform Research	December 2008

ATTACHMENT 2 – PREMISES LAYOUT: WEANER CREEK HARDROCK QUARRY



APPENDIX A: EMISSIONS AND DISCHARGES OF SIGNIFICANCE

1.1 DUST EMISSIONS

Dust emissions will be generated from vehicle and excavation earthworks onsite as well as from the blasting, crushing and stockpiling of materials on the premises. Dust emissions will be fugitive and more prevalent in dry and windy conditions.

Dust emissions can impact the environment by smothering vegetation and causing sedimentation of nearby water bodies. It should also be noted that winds tend to predominate from the southeast during the dry season, and that these winds have the potential carry dust across to Molly Springs Community, 1.8km to the north-northwest. It is therefore prudent that Boral implement adequate dust management strategies to negate the likelihood of this occurring.

Boral will manage potential dust emissions by:

- Visually monitoring dust levels during operations;
- Suppression of dust using a water truck onsite to ensure stockpiles, roads, laydown areas and car parks are adequately dampened to reduce dust impacts; and
- Dust suppression systems (water sprays) on crusher / screener transfer and discharge points.

Water used in the production of aggregates will be recycled where possible. The site operators will adhere to a dedicated Dust Management Plan outlining control actions and persons responsible for the various sources of dust emissions during crushing / screening operations onsite.

DUST EMISSIONS RISK ASSESSMENT

The environmental risk of dust emissions from the WCHQ operations is seen to be significant due to the potential impacts on nearby vegetation and sedimentation of ephemeral watercourses. The potentially significant nature of dust emissions from WCHQ is therefore rated as "3" in accordance with Table 3 "Measure of Significance of Emissions".

The socio-political context was classed as "No" as there were no public submissions received in response to advertising Boral's application for works approval and the nearest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.

The risk assessment therefore gives a Priority Matrix Action Descriptor of "D" – EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools (refer to Appendix B for details of Emissions and Discharges Risk Assessment Matrix).

RECOMMENDED STRATEGY FOR MANAGING DUST EMISSIONS

The issue of dust emissions is suitable for licence conditions. It is recommended licence conditions be included on the WCHQ operating licence requiring Boral to ensure dust emissions from materials handling operations, stockpiles, open areas and unsealed roads do not cross the premises boundary. Licence conditions will also be added to ensure appropriate maintenance and operation of dust control equipment (such as crusher spray systems), and to ensure stockpiles, roads and car parks etc are maintained in a damp condition. In addition, Boral will be required to provide an annual report outlining measures taken to suppress dust emissions from the premises.

1.2 NOISE EMISSIONS

Noise emissions during operation of the WCHQ will be generated by moving machinery, blasting, drilling, excavating, crushing and screening activities on site.

Blasting and excavation campaigns will run intermittently, depending on contracts won, though hauling of materials may still occur when campaigns are not running. The hours of operation of the WCHQ will be from 7am to 5.30pm Monday to Saturday.

Boral has committed to complying with the Environmental Protection (Noise) Regulations 1997 during operations of the WCHQ. Contractors operating the crushing equipment have submitted a Noise Management Plan which outlines legislative accountabilities and compliance, Noise Monitoring requirements, Noise Reports and Complaints Management.

Boral has sought advice from a qualified noise consultant regarding noise emissions likely to be generated from the proposed plant at WCHQ. Their response indicated that the sound power at the quarry would be expected to be around 125dB, and taking into account the flat topography, mixed ground and atmospheric absorption, noise emissions at the nearest commercial premises (a disused gallery at the Molly Springs Community) 1.25km away would be around 43dB. This is 71% of the assigned level under the Environmental Protection (Noise) Regulations 1997 (assigned level is 60dB), which is not to be exceeded for more than 10% of the representative assessment period. Expected emissions would be even lower at the accommodation residences at Molly Springs Community located an additional 550m away. Provided these expected noise levels are not exceeded, Boral will be in compliance with the assigned noise levels outlined in the Environmental Protection (Noise) Regulations 1997.

To further reduce noise levels impacting residences 1.8km from the quarry, noise attenuation bunding around 2 – 3m high will be constructed along the west and northern perimeter of the processing area. In addition, if so required, Boral will fit low frequency reverse beepers on machinery operating at the premises to avoid these noise emissions becoming a nuisance noise to neighbours.

Boral have also committed to undertaking noise emission testing at the boundary of the mining lease during the first campaign to ensure the noise mitigation measures are effective and that compliance with the Environmental Protection (Noise) Regulations 1997 is occurring.

NOISE EMISSIONS RISK ASSESSMENT

The environmental risk of noise emissions from the WCHQ operations is seen to be significant due to the potential impacts on nearby sensitive receptors, accommodation residences at Molly Springs Community 1.8km to the west- northwest.

Under worst-case operating conditions, it is expected that noise emissions generated at WCHQ will be within 50-100% of the relevant emission standard specified in the Environmental Protection (Noise) Regulations 1997. Under normal operating conditions, when crushing / screening is not occurring and when the noise attenuation bunds have been constructed, noise emissions from the premises will be even lower, and can be expected to be around 20 – 50% of the emission standard of 60dB assigned under the Environmental Protection (Noise) Regulations 1997. The Measure of Significance (Table 3) of noise emissions is therefore assigned a "3".

The socio-political context was classed as "No" as there were no public submissions received in response to advertising Boral's application for works approval.

The risk assessment therefore gives a Priority Matrix Action Descriptor of "D" - EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools (refer to Appendix B for details of Emissions and Discharges Risk Assessment Matrix).

RECOMMENDED STRATEGY FOR MANAGING NOISE EMISSIONS

The Environmental Protection (Noise) Regulations 1997 apply to the WCHQ, and Boral have committed to implementing management practices to ensure compliance with these regulations is being achieved. These measures include:

- Commitment from Boral to undertake noise monitoring in the early stages of operations from the premises to ensure compliance with the Environmental Protection (Noise) Regulations 1997;
- Implementation of a site Noise Management Plan for WCHQ;
- noise attenuation bunding of around 2 – 3m high to be constructed along the west and northern perimeter of the processing area; and
- if so required, Boral will fit low frequency reverse beepers on machinery operating at the premises to avoid these noise emissions becoming a nuisance noise to neighbours.

A licence condition will be included requiring Boral to annual report to DEC measures taken to minimise noise emissions from the premises and recording and reporting to DEC the details of any complaints received regarding operations at the WCHQ.

1.3 DISCHARGES TO LAND

Unacceptable discharges to land from operation of the WCHQ may occur from stormwater that has become contaminated with sediment or hydrocarbons. Boral have committed to constructing diversion and drainage systems to ensure runoff is not contaminated by operational activities.

All surface water / stormwater from operational areas will be directed to a dedicated 337,500L capacity holding basin within the pit. This water will be retained onsite and used for dust suppression. The volume of water currently in the pit from the previous wet season rainfall is approximately 300,000L, which will be retained within the pit for use in dust suppression this coming dry season. Boral anticipate that all of the rain water received annually during wet seasons can be used for dust suppression on-site, without the need to discharge to the environment.

Appropriate bunding and drainage channels will be installed within and around the stockpile and process areas to ensure surface water from these areas is directed into the pit holding basin. Stormwater outside of operational areas will be diverted away from the holding basin and allowed to drain naturally. There will be an additional secondary sediment basin in the southeast corner of the processing / stockpile area, of approximately 25,000L capacity, which will capture some runoff from the processing area. This sediment basin can also be used to store pit water during the dry season months as required.

There is also the risk of spills or leaks of hydrocarbons contaminating soils on the premises from hydrocarbon storage areas, vehicles and plant infrastructure. All hydrocarbon storage facilities at WCHQ (if required) will be designed and constructed in accordance with AS/NZS 1940:2004 which will reduce the risk of leaks / spills from storage areas entering the environment.

Boral has an existing Maintenance and Spill Management Plan. Any accidental spills will be cleaned up immediately and residues disposed of to an authorised landfill. Any

significant spills (greater than 5L) will be recorded, investigated and remediated. Records of all incidents will be maintained and DEC will be notified within 24hours.

DISCHARGES TO LAND RISK ASSESSMENT

The environmental risk of potential discharges to land from WCHQ has been assessed as significant due to the potential impacts on nearby vegetation, which may be important habitat areas for a variety of fauna. The potentially significant nature of discharges to land from WCHQ is therefore rated as "3".

The socio-political context was classed as "No" as there were no public submissions received in response to advertising Boral's application for works approval and the nearest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.

The risk assessment therefore gives a Priority Matrix Action Descriptor of "D" - EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools (refer to Appendix B for details of Emissions and Discharges Risk Assessment Matrix).

RECOMMENDED STRATEGY FOR MANAGING DISCHARGES TO LAND

The issue of discharges to land is suitable for licence conditions. It is recommended licence conditions are included on the WCHQ operating licence requiring Boral to ensure discharges to land are appropriately managed / mitigated. Conditions will be added to the operating licence requiring Boral to:

- Ensure all contaminated stormwater runoff is appropriately retained and treated on site prior to reusing for dust suppression purposes;
- Ensure hydrocarbon / chemical storage facilities comply with AS/NZS 1940:2004;
- Conduct regular monitoring and inspections of hydrocarbon / chemical storage facilities; and
- Immediately clean up any hydrocarbon spills and contaminated material.

1.4 SOLID / LIQUID WASTES

There will be minimal wastes generated from the operation of the WCHQ. Wastes will be recycled where possible. All solid domestic and light industrial wastes will be stored in commercial waste storage containers and periodically removed and disposed of to an authorised facility.

There will be no washdown of machinery or major servicing of heavy machinery onsite. General re-fuelling and lubricating will be required, but will be performed in designated areas where equipment for the containment and clean up of spills will be available.

SOLID / LIQUID WASTES RISK ASSESSMENT

The environmental risk of solid / liquid wastes from WCHQ has been assessed as significant due to the potential for pollution to occur if wastes are not managed appropriately. The potentially significant nature of solid / liquid wastes from WCHQ operations is therefore rated as "3".

The socio-political context was classed as "No" as there were no public submissions received in response to advertising Boral's application for works approval and the nearest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.

The risk assessment therefore gives a Priority Matrix Action Descriptor of "D" - EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools (refer to Appendix B for details of Emissions and Discharges Risk Assessment Matrix).

RECOMMENDED STRATEGY FOR MANAGING SOLID / LIQUID WASTES

The issue of solid / liquid wastes generated at the WCHQ is suitable for licence conditions. It is recommended a condition be added to the operating licence requiring all contaminated waste be retained onsite or disposed of to an authorised facility.

1.5 HYDROCARBON / CHEMICAL STORAGE

During normal recovery from stockpiles, refuelling of machinery will be performed using a mobile fuel tanker truck. However, during excavation and crushing campaigns, onsite fuel storage will be required. Boral will deploy a mobile tank facility that will be bunded and lined in accordance with the Water Quality Protection Guideline for Mining and Mineral Processing "*Above ground fuel and chemical storage*" produced by DEC and the Department of Minerals and Energy (now Department of Mines and Petroleum). In addition, Boral have committed to ensuring compliance with Australian Standard AS1940:2004 *The storage and handling of flammable and combustible liquids* at the WCHQ.

HYDROCARBON / CHEMICAL STORAGE RISK ASSESSMENT

The environmental risk of hydrocarbon / chemical storage from WCHQ has been assessed as significant due to the potential for pollution to occur if these materials are not appropriately stored. The potentially significant nature of hydrocarbon / chemical storage from WCHQ operations is therefore rated as "3".

The socio-political context was classed as "No" as there were no public submissions received in response to advertising Boral's application for works approval and the nearest sensitive premises is Molly Springs Community located 1.8km to the west-northwest.

The risk assessment therefore gives a Priority Matrix Action Descriptor of "D" - EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools (refer to Appendix B for details of Emissions and Discharges Risk Assessment Matrix).

RECOMMENDED STRATEGY FOR MANAGING HYDROCARBON / CHEMICAL STORAGE

The issue of hydrocarbon /chemical storage is suitable for licence conditions. Conditions will be added to the operating licence to:

- ensure hydrocarbon / chemical storage facilities comply with AS/NZS 1940:2004;
- require regular monitoring / inspection of hydrocarbon storage facilities;
- require immediate clean up of any hydrocarbon spills and contaminated material; and
- record and report any spills or loss of chemicals / hydrocarbons to DEC in an annual report.

APPENDIX B: EMISSIONS AND DISCHARGES RISK ASSESSMENT MATRIX

Table 3: Measures of Significance of Emissions

Emissions as a percentage of the relevant emission or ambient standard		Worst Case Operating Conditions (95th Percentile)			
		>100%	50 – 100%	20 – 50%	<20%*
Normal Operating Conditions (50th Percentile)	>100%	5	N/A	N/A	N/A
	50 – 100%	4	3	N/A	N/A
	20 – 50%	4	3	2	N/A
	<20%*	3	3	2	1

*For reliable technology, this figure could increase to 30%

Table 4: Socio-Political Context of Each Regulated Emission

		Relative proximity of the interested party with regards to the emission				
		Immediately Adjacent	Adjacent	Nearby	Distant	Isolated
Level of Community Interest or Concern*	5	High	High	Medium High	Medium	Low
	4	High	High	Medium High	Medium	Low
	3	Medium High	Medium High	Medium	Low	No
	2	Low	Low	Low	Low	No
	1	No	No	No	No	No

Note: These examples are not exclusive and professional judgement is needed to evaluate each specific case

*This is determined by DEC using the DEC "Officer's Guide to Emissions and Discharges Risk Assessment" May 2006.

Table 5: Emissions Risk Reduction Matrix

		Significance of Emissions				
		5	4	3	2	1
Socio-Political Context	High	A	A	B	C	D
	Medium High	A	A	B	C	D
	Medium	A	B	B	D	E
	Low	A	B	C	D	E
	No	B	C	D	E	E

PRIORITY MATRIX ACTION DESCRIPTORS
A = Do not allow (fix)
B = licence condition (setting limits + EMPs - short timeframes)(setting targets optional)
C = licence condition (setting targets + EMPs - longer timeframes)
D= EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools
E = No regulation, other management mechanisms

Note: The above matrix is taken from the DEC Officer's Guide to Emissions and Discharges Risk Assessment May 2006.