



Licence

Environmental Protection Act 1986, Part V

Licensee: BGC (Australia) Pty Ltd

Licence: L8415/2010/2

Registered office: Level 6, 18 Mount Street
PERTH WA 6000

ACN: 005 736 005

Premises address: BGC Quarries Voyager II
Lot 14 on Diagram 87525 Horton Road
WOOTTATING WA 6556
as depicted in Schedule 1.

Issue date: Thursday, 17 March 2016

Commencement date: Wednesday, 23 March 2016

Expiry date: Saturday, 22 March 2036

Prescribed premises category

Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved 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	3,130,000 tonnes per annual period

Conditions

This Licence is subject to the conditions set out in the attached pages.

Date signed: 8 March 2016

.....
Tim Gentle

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



Contents

Licence	1
Contents	2
Introduction	2
Licence conditions	4
1 General	4
2 Emissions	5
3 Monitoring	6
4 Information	6
Schedule 1: Maps	9
Schedule 2: Reporting & notification forms	11

Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:

<http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.



Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary

BGC (Australia) Pty Ltd (BGC) is a Western Australian based group of companies with interests in:

- Residential and commercial building;
- Building and construction products manufacturing;
- Contract mining;
- Civil engineering construction and maintenance;
- Quarrying;
- Asphalt manufacture;
- Brick manufacture;
- Road transport;
- Property ownership and management; and
- Insurance.

BGC Quarries, a division of BGC (Australia), operates a crushing and screening plant at Voyager II premises. The BGC Asphalt and Quarry divisions produces 25% of the Western Australia's asphalt and aggregate requirements, which is the feedstock for the construction industry, construction and maintenance of highways, freeways and suburban roadways. The Voyager Quarry II is located at Lots 11 and 14 Horton Road, The Lakes, Shire of Northam. Voyager II integrated operations include the mining of hard rock which is delivered to the crushing and screening plant for the production of aggregates to market requirements.

At the premises, Run of Mine (ROM) is delivered to the primary crusher building. Primary crushed rock is then conveyed to the secondary cone crusher where product is screened for delivery either to the Surge Pile or to a secondary stack. Material from the Surge Pile is accessed from beneath and delivered via a tunnel of two Cone Crushers located in the Tertiary Crusher Building where material is screened and recirculated to the cone crushers until all oversize material has been reduced to a size suitable for processing via the remaining screens and stackers that deliver seven grades of product ready for pick-up.

The operation and management of the quarry is also subject to Ministerial Statement 706 of 1146.

This Licence is the successor to licence L8415/2010/1 and has been converted to the most current format.

The licences and works approvals issued for the Premises since 24/09/2010 are:

Instrument log		
Instrument	Issued	Description
L8415/2010/1	24/09/2010	New licence application
L8415/2010/2	21/09/2015	DER amendment to extend expiry date by 6 months
L8415/2010/2	10/03/2016	Licence re-issue



Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'annual period' means the inclusive period from 1 July to 30 June in the following year;

'AS 2187.2' means the Australian Standard AS 2187.2 *Explosives – Storage and use, Part 2 – Use of explosives*;

'AS 3580.9.8' means the Australian Standard AS 3580.9.8 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM₁₀ continuous direct mass method using tapered element oscillating microbalance analyser*;

'AS 3580.14' means the Australian Standard AS 3580.14 *Methods for sampling and analysis of ambient air - Meteorological monitoring for ambient air quality monitoring applications*

'averaging period' means the time over which a limit is measured or a monitoring result is obtained;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Chief Executive Officer

At the following address:

Department Administering the *Environmental Protection Act 1986*

Locked Bag 33

CLOISTERS SQUARE WA 6850

Telephone: (08) 9333 7510

Facsimile: (08) 9333 7550

Email: info@der.wa.gov.au

'dB (Lin Peak)' means a noise level reading in decibels (dB) obtained using the "P" time-weighting characteristics as specified in AS 1259.1-1990 with all frequency-weighting networks



inoperative and with sound level measuring equipment that complies with the requirements of Schedule 4 of the Environmental Protection (Noise) Regulations 1997;

‘Licence’ means this Licence numbered L8415/2010/2 and issued under the Act;

‘Licensee’ means the person or organisation named as Licensee on page 1 of the Licence;

‘NATA’ means the National Association of Testing Authorities, Australia;

‘NATA accredited’ means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

‘PM’ means total particulate matter including both solid fragments of material and miniscule droplets of liquid;

‘PM₁₀’ means particles with an aerodynamic diameter of less or equal to 10 µm;

‘Premises’ means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

‘Schedule 1’ means Schedule 1 of this Licence unless otherwise stated;

‘Schedule 2’ means Schedule 2 of this Licence unless otherwise stated;

‘spot sample’ means a discrete sample representative at the time and place at which the sample is taken; and

‘usual working day’ means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia.

- 1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.
- 1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.
- 1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:
 - (a) pollution;
 - (b) unreasonable emission;
 - (c) discharge of waste in circumstances likely to cause pollution; or
 - (d) being contrary to any written law.

2 Emissions

2.1 General

- 2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

2.2 Fugitive emissions

- 2.2.1 The Licensee must ensure fugitive emissions are managed in accordance with the documents, or parts of the documents specified in Table 2.2.1:

Table 2.2.1: Management Plans

Management Plan Reference	Parts	Date of Document
---------------------------	-------	------------------



Operational Dust Monitoring & Remedial Action Programme Voyager II Quarry, BGC Plant Crushing and Screening, The Lakes, WA - Version 1.8	4, 5, 6, 7, 8 and 9	January 2016
--	---------------------	--------------

3 Monitoring

3.1 General monitoring

3.1.1 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

3.1.2 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Ambient environmental quality monitoring

3.2.1 The Licensee shall undertake the monitoring in Tables 3.2.1 and 3.2.2 according to the specifications in those tables and record and investigate results that do not meet any limit specified.

Table 3.2.1: Monitoring of ambient air quality

Monitoring point reference and location	Parameter	Units ¹	Averaging period	Frequency	Method
AQ1 – AQ2	Particulates as PM ₁₀	µg/m ³	24 hours	Continuous	AS 3580.9.6

Note 1: All units are referenced to STP dry

Table 3.2.2: Monitoring of airblast levels

Monitoring point reference and location	Parameter	Units	Frequency	Method
Nearest sensitive receptor	Airblast overpressure ¹	dB (Lin Peak)	Each blast	AS2187.2
	Peak particle velocity ¹	mm/s		

Note 1: Measurements to be not more than 20 metres from a noise-sensitive site boundary

4 Information

4.1 Records

- 4.1.1 All information and records required by the Licence shall:
- (a) be legible;
 - (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
 - (c) except for records listed in 5.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
 - (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.



- 4.1.2 The Licensee shall ensure that:
- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
 - (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.
- 4.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.
- 4.1.4 The Licensee shall:
- (a) implement a complaints management system that shall record the following information (if known or provided) about complaints received at the Premises concerning any environmental impact of the activities undertaken at the Premises:
 - (i) name and address of the complainants (if consented);
 - (ii) date and time of complaint;
 - (iii) date and time of alleged incident;
 - (iv) alleged source of the incident;
 - (v) general description of the alleged incident, including any environmental or health impacts reported by the complainant;
 - (vi) wind direction, wind speed and temperature at time of alleged incident;
 - (vii) likely source of the alleged incident; and
 - (viii) actions taken by the Licensee to address the complaint, including the outcome of any investigation(s) and action(s) to verify any impacts.
 - (b) complete an annual analysis and review of complaints recorded under 5.1.4(a) to identify any common factors and root cause of complaints and proposals to address these.

4.2 Reporting

- 4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 31 July in each year. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form¹
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
-	Volume of material processed (tonnes per annum)	None specified
Table 3.2.1	Monitoring of ambient air quality	None specified
Table 3.2.1	Monitoring of airblast levels	None specified
5.1.3	Compliance	Annual Audit Compliance Report (AACR)
5.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

- 4.2.2 The Licensee shall ensure that the Annual Environmental Report also contains an assessment of the information contained within the report against previous monitoring results.
- 4.2.3 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.



Table 4.2.2: Non-annual reporting requirements				
Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form¹
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

Note 1: Forms are in Schedule 2

4.3 Notification

4.3.1 The Licensee shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement¹	Format or form²
3.2.2	Exceedance of any air blast level specified in Regulation 11 of the <i>Environmental Protection (Noise) Regulations 1997</i>	No later than 5pm of the next usual working day.	N1
3.1.2	Calibration report	As soon as practicable.	None specified

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act

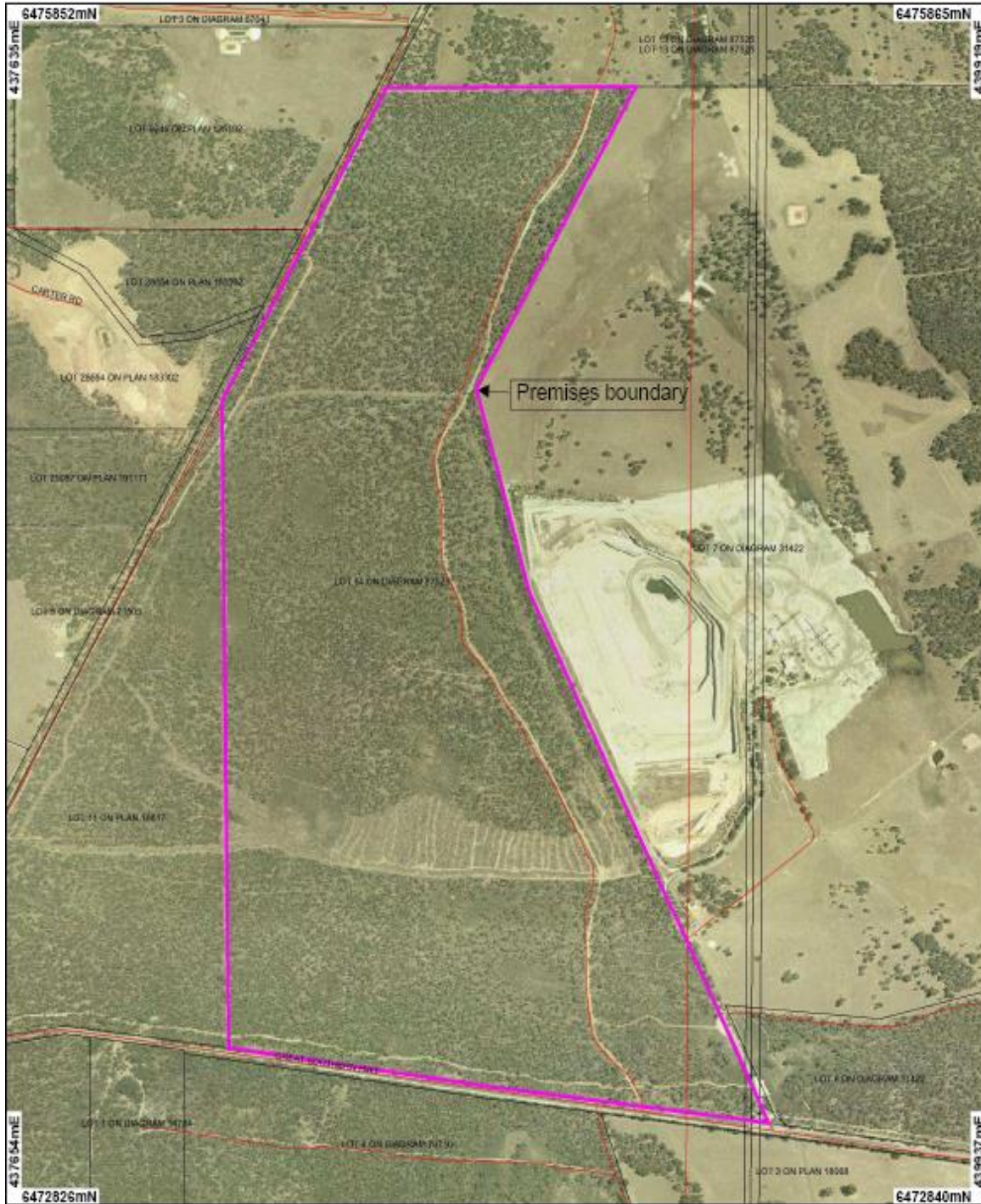
Note 2: Forms are in Schedule 2



Schedule 1: Maps

Premises map

The Premises is shown in the map below. The pink line depicts the Premises boundary.



Map of dust monitoring locations

The locations of the monitoring points defined in Tables 3.2.1 and 3.2.2 are shown below.

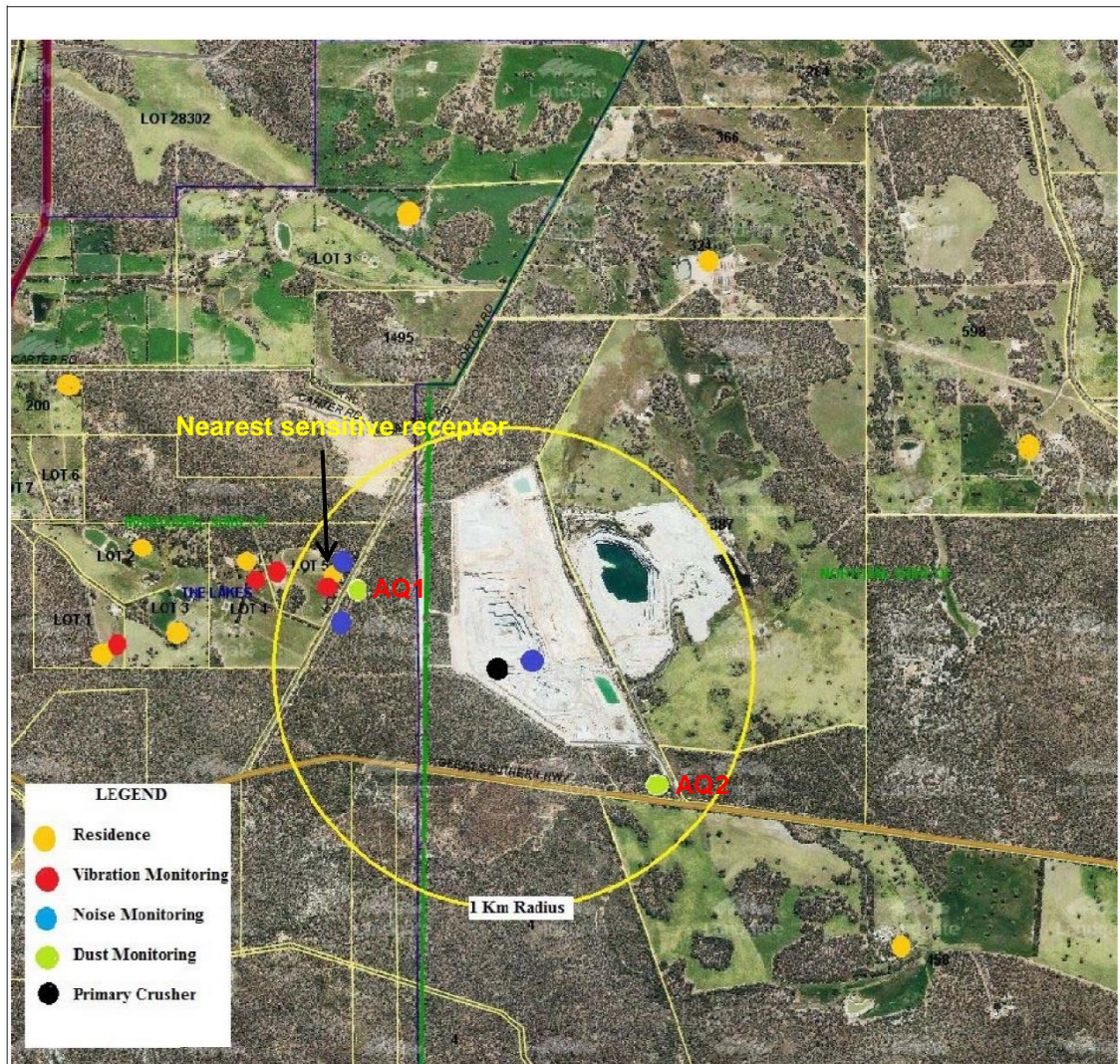


Figure 4. Voyager II Quarry Monitoring Locations with Residences indicated.
A One Kilometre Radius around the Primary Crusher is Shown (from LandGate).



Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

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 the 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 initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:



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 DER?:	
<input type="checkbox"/> Yes <input type="checkbox"/> Reported to DER verbally Date _____ <input type="checkbox"/> Reported to DER in writing Date _____	<input type="checkbox"/> No
d) Has DER taken, or finalised any action in relation to the non compliance?:	
e) Summary of particulars of the 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 initialled by the person(s) who signs Section C of this AACR

Initial:



SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) may only be signed by a person(s) with legal authority to sign it. The ways in which the AACR 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 AACR 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	<input type="checkbox"/> <input type="checkbox"/>	by the individual licence holder, or by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	<input type="checkbox"/> <input type="checkbox"/>	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 Regulation.
A corporation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	by affixing the common seal of the licensee in accordance with the <i>Corporations Act 2001</i> ; 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 Regulation.
A public authority (other than a local government)	<input type="checkbox"/> <input type="checkbox"/>	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 Regulation.
a local government	<input type="checkbox"/> <input type="checkbox"/>	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)



Licence: L8415/2010/2
 Form: N1

Licensee: BGC (Australia) Pty Ltd
 Date of breach:

Notification of detection of the breach of a limit.

These pages outline the information that the operator must provide.
 Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	



Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of BGC (Australia) Pty Ltd	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: **BGC (Australia) Pty Ltd**

Licence: **L8415/2010/2**

Registered office: Level 6, 18 Mount Street
PERTH WA 6000

ACN: 005 736 005

Premises address: BGC Quarries Voyager II
Lot 14 on Diagram 87525 Horton Road
WOOTTATING WA 6556

Issue date: Thursday, 17 March 2016

Commencement date: Wednesday, 23 March 2016

Expiry date: Saturday, 22 March 2036

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: **Fiona Sharpe**
Licensing Officer

Decision Document authorised by: **Tim Gentle**
Delegated Officer



Contents

Decision Document	1
Contents	2
1 Purpose of this Document	2
2 Administrative summary	2
3 Executive summary of proposal and assessment	3
4 Decision table	5
5 Advertisement and consultation table	10
6 Risk Assessment	11
Appendix A	12

1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER’s decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER’s assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent’s responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/> New Licence <input checked="" type="checkbox"/> Licence amendment <input type="checkbox"/> Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	12	3,130,000 tpa
Application verified	Date: 09/07/2015	
Application fee paid	Date: 27/07/2015	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>



Is the proposal subject to Ministerial Conditions?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No's: 706, 872 and 934 EPA Report No: 1169
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

BGC (Australia) Pty Ltd (BGC) is a Western Australian based group of companies with interests in :

- Residential and commercial building;
- Building and construction products manufacturing;
- Contract mining;
- Civil engineering construction and maintenance;
- Quarrying;
- Asphalt manufacture;
- Brick manufacture;
- Road transport;
- Property ownership and management; and
- Insurance.

BGC Quarries, a division of BGC (Australia), operates a crushing and screening plant at Voyager II premises. The BGC Asphalt and Quarry divisions produces 25% of the Western Australia's asphalt and aggregate requirements, which is the feedstock for the construction industry, construction and maintenance of highways, freeways and suburban roadways. The Voyager Quarry II is located at Lots 11 and 14 Horton Road, The Lakes, Shire of Northam. Voyager II integrated operations include the mining of hard rock which is delivered to the crushing and screening plant for the production of aggregates to market requirements.

At the premises, Run of Mine (ROM) is delivered to the primary crusher building. Primary crushed rock is then conveyed to the secondary cone crusher where product is screened for delivery either to the Surge Pile or to a secondary stack. Material from the Surge Pile is accessed from beneath and delivered via a tunnel of two Cone Crushers located in the Tertiary Crusher Building where material is screened and recirculated to the cone crushers until all oversize material has been reduced to a size suitable for processing via the remaining screens and stackers that deliver seven grades of product ready for pick-up.

The operation and management of the quarry is also subject to Ministerial Statement's 706, 872 and 934 under EPA Bulletin 1169.



The Licence is the successor to licence L8415/2010/1 and has been converted to the most current format. This decision document provides an assessment of all emissions and discharges associated with the operation of the premises.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.1.1. – 1.1.5	General conditions are included in the Licence, including definitions.	General provisions of the <i>Environmental Protection Act 1986</i> .
Premises operation	L – no conditions	There are no specified premises operation conditions for normal operating conditions.	N/A
Emissions general	L – no conditions	There are no specified emissions general conditions for normal operating conditions.	N/A
Point source emissions to air including monitoring	L – no conditions	There are no point source emissions to air expected or authorised during operation of the quarry. No specified conditions relating to point source emissions to air or the monitoring of these conditions are required on the Licence.	N/A
Point source emissions to surface water including monitoring	L – no conditions	There are no point source emissions to surface water expected or authorised during operation of the quarry. No specified conditions relating to point source emissions to surface water or the monitoring of these conditions are required on the Licence.	N/A
Point source emissions to groundwater including monitoring	L – no conditions	There are no point source emissions to groundwater expected or authorised during operation of the quarry. No specified conditions relating to point source emissions to groundwater or the monitoring of these conditions are required on the Licence.	N/A



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Emissions to land including monitoring	L – no conditions	There are no emissions to land expected or authorised during the operation of the quarry. No specified conditions relating to emissions to land or the monitoring of these emissions are required on the Licence.	N/A
Fugitive emissions	L2.2.1	<p><u>Emission Description</u></p> <p>Emission: Fugitive dust has the potential to be generated during most phases of the quarrying and crushing operations, particularly during summer. Occasional one-off dust is generated from blasting.</p> <p>Impact: Dust emissions can be harmful to human health and the environment. Elevated TSP levels can impact ambient environmental quality resulting in amenity impacts and can smother vegetation. PM₁₀ can be drawn into the lungs causing human health impacts. The closest receptor to the quarry is located 600 m away.</p> <p>Controls: As outlined in the Dust Management Plan, BGC have committed to a number of dust control methods including:</p> <ul style="list-style-type: none"> • watering the haul roads; • watering of benches and pit floors; • Watering of stockpiles; • watering of shot-rock in the pit before it is loaded and hauled to the crushing plant; • using wet drilling practices for the quarrying operations; • using water sprays throughout the plant and at transfer points; • watering and covering loads when transporting material offsite; • road sweeper on sealed roads; • implementing speed restrictions within the quarry; • enclosure of the primary crusher; • fogger system installed in primary crusher; and • wind sector wet down controls <p>Dust monitoring is conducted in order to assist with controlling dust emissions. A short-term ‘corrective action’ dust concentration target has been set to assist in maintaining ambient standards. If the target concentration of PM₁₀ is exceeded, this initiates management procedures. The dust monitors are configured to send an email message</p>	<p>Application supporting documentation</p> <p>DER Guidance Statement – Separation Distances (August 2015)</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>to the appointed staff, notifying of the exceedance. BGC have modified its blasting practices to minimise the potential for blast dust to reach residences and obtains a weekly (Monday to Friday) wind direction prediction. Quarry management can then set blasting times for when wind conditions are favourable. However, direct observations of wind conditions will over-ride decisions based on predicted wind direction. Also by law, any explosives which are in the ground during times of lightning must be detonated, as must they be on Friday afternoon as they can't be left unattended over the weekend.</p> <p><u>Risk Assessment</u> Consequence: Moderate Likelihood: Possible Risk Rating: Moderate</p> <p><u>Regulatory Controls</u> The risk of fugitive dust emissions impacting negatively on nearby receptors causing amenity impacts and smothering vegetation is deemed to be moderate in consideration of the distance to receptors being 600m away (less than the recommended separation distance of 1km). However, the risk is reduced if the management practices specified in the site's Dust Management Plan to control dust are implemented. As such, L2.2.1 has been included in the Licence to formalise this requirement.</p> <p><u>Residual Risk</u> Consequence: Moderate Likelihood: Unlikely Risk Rating: Moderate</p>	
Odour	L – no conditions	Odour is not expected from crushing and screening operations. No specified conditions relating to odour are required on the Licence.	N/A
Noise	L2.3.1	DER's risk assessment and decision making can be found in Appendix A.	<i>Environmental Protection (Noise)</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
			<i>Regulations 1997</i> Applicant supporting documentation
Monitoring general	L3.1.1 – 3.2.1	Standard general monitoring conditions in the Licence include calibration requirements.	N/A
Monitoring of inputs and outputs	L – no conditions	Monitoring of inputs and outputs is not required to adequately manage emissions during screening operations. No specified conditions relating to monitoring of inputs and outputs are included in the Licence.	N/A
Process monitoring	L – no conditions	Process monitoring is not required to adequately manage emissions during screening operations. No specified conditions to process monitoring are included in the Licence.	N/A
Ambient quality monitoring	L3.2.1	<p>Monitoring of ambient dust levels is also required to provide assurance over the effectiveness of the site dust management plan, outlined in condition L2.2.1. L3.2.1 has been added to formalise the requirement for continuous monitoring at the two monitoring locations.</p> <p>Monitoring of air blast levels during each blasting event is required in order to demonstrate compliance with the Noise Regulations and to provide assurance over the effectiveness of blast noise. L3.2.1 has been added to formalise the requirement to monitor levels at the nearest receptor during every blast. BGC also has a Voyager Quarry Blast and Vibration Management Plan which outlines management methods to ensure the minimisation of blast overpressure experienced by local residences. This includes:</p> <ul style="list-style-type: none"> • advising neighbours of intended blast schedule; • maintaining native forest between quarry and surrounding areas; • adopting an appropriate stemming design; • adopting an appropriate front row burden; • where possible taking weather conditions into account before firing a shot; • monitoring air overpressure at sensitive sites and reviewing results to assess 	<p>General provisions of the <i>Environmental Protection Regulations 1986</i>.</p> <p><i>Environmental Protection (Noise) Regulations 1997</i></p> <p>Application supporting documentation</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<ul style="list-style-type: none">need to blast design modification;maintaining a complaints register and investigating complaints; andmaintaining blast records.	
Meteorological monitoring	L – no conditions	Monitoring of meteorological conditions is not required.	N/A
Improvements	L – no conditions	No improvements are required.	N/A
Information	L4.1 – L4.3	Section 4 of the Licence requires the Licensee to undertake record keeping (including complaints register), annual reporting specific to Table 4.2.1, non-annual reporting specific to Table 4.2.2 and notifications. Note previous Licence required six monthly reporting. Annual environmental reporting is considered adequate with notification requirements of exceedances specified in Table 4.3.1.	N/A
Licence Duration	N/A	The expiry of this Licence has been determined in accordance with the DER guidance statement: Licence duration (May 2015) and as such, has been issued for a duration of 20 years.	Guidance Statement: Licence Duration (DER May 2015)



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
27/07/2015	Application advertised in West Australian (or other relevant newspaper)	No comments received	N/A
18/02/2016	Proponent sent a copy of draft instrument	Comment received regarding the note for Table 3.2.2 and a request to change this to 'measurements to be not more than 20 metres from a noise-sensitive site boundary' in order for compliance to be achieved. As the site is in a rural location and access to private property may not be given, therefore the specifying the distance from a building or structure is not appropriate.	Change accepted.



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



Appendix A

Noise Emissions

Emission Description

Emission: Air blast overpressure and ground vibration during blasting events; noise from crushing operations.

Impact: Noise emissions can become nuisance and cause a reduced quality of life and health for human populations, particularly when the source is located near sensitive receptors. Noise can affect the psychological status of human population nearby in terms of emotional stress, anger and physical symptoms. Frequency, intensity, duration, meteorological conditions and distance to receptors are all factors which may affect the impact of noise emissions on sensitive receptors. The nearest sensitive receptor to Voyager II is located approximately 600m from the operational boundaries of the quarry.

Controls: The following controls have been implemented by BGC for noise emissions:

- a noise bund has been constructed on the western side of the Voyager II Quarry boundary, in between the primary crusher building and nearest residences. BGC would like to extend the height and length of the bund to further improve residents' amenity;
- crushing, screening and loading noise emissions are reduced due to the operational platform being set 30m below the original ground level.
- total noise emissions from mining and processing are attenuated due to quarry design;
- primary crushing and building noise emissions are attenuated because the crusher building is constructed against the 30m berm wall on the western side of the processing area. The internal surfaces of the building are cladded with foil-backed R2 internal insulation to attenuate noise emissions.
- the ROM bin is inside the top of the primary crusher building – reducing noise by ROM bin enclosure;
- the ROM bin is mounted on concrete rather than steel which reduces vibration and hence noise. Rubber conveyor strips are installed on the opening of the ROM bin to reduce dust and noise emissions during haulpack dumping;
- the jaw crusher is mounted on concrete structure rather than steel which reduces vibration and hence noise;
- the vibrating grizzly is located inside the crusher building;
- the apron feeder beneath ROM bin is located inside the crusher building;
- the vibrating grizzly undersize chute is fully rubber lined to absorb flow and impact noise;
- the discharge conveyor from the jaw crusher is contained within concrete vault area that reduces noise escaping the building;
- the off-cone crushers – secondary and tertiary crushers, are enclosed in noise attenuating cladding. They are all mounted on concrete structures rather than steel which reduces vibrations and hence reduces noise. They are all fitted with new motors of modern design which will run quieter than older motors
- 5 off screens are all fitted with rubber or carbon poly-ripple screen decks which are quieter than existing quarry screens which have metal decks; and
- screen discharge chutes are all rubber lined to reduce noise of material flow and impact. Gaps between chutes and conveyors are closed to prevent dust and product escape.

Risk Assessment

Consequence: Moderate

Likelihood: Possible

Risk Rating: Moderate



Regulatory Controls

The risk of noise emissions impacting on nearby receptors causing amenity impacts is deemed to be moderate in consideration of the distance to receptors being less than the recommended separation of 1,000m. However, the Noise Regulations specify the statutory limit for blasting noise and noise from crushing and screening activities in order to prevent potential impacts to receptors. Ministerial Statement 706 requires that an Operational Noise Management Plan is required for all noise emissions from the quarry and that all noise from the quarry is required to be measured in accordance with the Noise Regulations. Throughout the life of the premises, there have been no exceedances of Noise Regulations, nor breaches of the noise conditions as imposed by Ministerial Statement 706. As such, noise emissions can be adequately regulated through the provisions of the Noise Regulations and no specified noise conditions or monitoring is required for the Licence.

Monitoring of airblasts is discussed under the 'Ambient quality monitoring' section of this document.

Residual Risk

Consequence: Moderate

Likelihood: Unlikely

Risk Rating: Moderate