

Enquiries      Rod Kent  
Telephone      4046 6628  
Your reference      MIN100489906  
Our reference      ISA27

Department of  
**Environment and Resource  
Management**

7 January 2010

Ric Jose  
General Manager  
Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
PERTH WA 6000

Dear Mr Jose,

**Replacement Plan of Operations for Birla Mt Gordon Operations  
Environmental Authority MIN100489906**

I refer to the plan of operations lodged by Birla Mount Gordon Operations for environmental authority MIN100489906 received at this office electronically on 11 November 2009.

Please be advised that the plan of operations does not meet the content requirements under section 234 of the *Environmental Protection Act 1994* and as such must be re-submitted.

- No audit statement was supplied with the submitted plan of operations.
- No action plan was included for achieving or implementing the environmental protection commitments and control strategies under the submitted EMOS.
- The submitted rehabilitation program does not outline a program for rehabilitation of all land disturbed or proposed to be disturbed under each relevant mining lease.

Financial assurance has not been calculated in accordance with EPA Guideline 17: Financial assurance for mining activities. The amount proposed to be lodged as financial assurance by Birla Mt Gordon Pty Ltd is \$8,285,077. The amount of financial assurance calculated by the Department of Environment and Resource Management is significantly higher.

The plan of operations must describe each activity that is to be undertaken on the site. There are several activities known to be undertaken on site which are not detailed in the plan of operations. Several activities referred to in the plan of operations are not currently authorised

and will require an application to amend environmental authority MIN100489906.

The previous plan of operations for Birla Mt Gordon operations expired on 1 November 2009, whilst the application for the new plan of operations was not received until 11 November 2009. It is an offence under section 233 of the *Environmental Protection Act 1994* to carry out mining activities under a mining lease without a valid plan of operations.

Additionally, under section 236 of the *Environmental Protection Act 1994*, the environmental authority holder must not cause the plan of operations to be amended in a way so that the plan is no longer inconsistent with the environmental authority, within 28 days of becoming aware of the inconsistency.

Birla Mt Gordon Pty Ltd must submit a plan of operations that is consistent with environmental authority MIN100489906 within 28 days of receiving this letter.

The Department of Environment and Resource Management seeks to schedule a meeting with representatives of Birla Mt Gordon Pty Ltd to review issues with the submitted plan of operations, highlight matters which must be included in a re-submitted plan of operations and discuss activities that will require an application to amend environmental authority MIN100489906.

Please contact Rod Kent on (07) 4046 6638 in order to arrange a meeting.

Yours faithfully

s78B(2) - Privacy

Dean Sharpe  
Manager  
North Region  
Environmental Services  
Department of Environment and Resource Management

CC/ Dan Towne  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825



Enquiries      Dean Sharpe  
Telephone      (07) 4646 6725  
Your reference  
Our reference      ISA27

Department of  
Environment and Resource  
Management

15 June 2010

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Building  
256 Adelaide Terrace  
PERTH WA 6000

Dear Sir,

**Impact of evaporation cell construction on heap leach rehabilitation**

I refer to your letter dated 9 June 2010 relating to your letter of 12 May 2010 concerning the construction of evaporation cells to facilitate the removal of excess water currently stored at the Mt Gordon Mine site. The need to reduce excess water from the Mount Gordon mine site has previously been discussed on a number of occasions, most recently at the fortnightly teleconference with Mount Gordon representatives on 2 June 2010. DERM considers the reduction of poor quality water at the Mount Gordon site to be of critical importance prior to the upcoming wet season and expects all reasonable and practical measures in achieving this goal be undertaken.

The concerns outlined in your letter of 12 May 2010 in relation to the rehabilitation requirements of Environment Protection Order (EPO) 438 (outlined in the plan prepared by MBS Environmental 2010) and the pressing need to remove excess water from the site have been noted. DERM is in agreement with your assessment that rehabilitation works at the Heap Leach Rehabilitation site and the old tailings storage facility would be temporarily delayed by construction of the required evaporation cells.

The changes to the rehabilitation task timetables lodged in response to requirement 13(b) of EPO 438 provided in your letter dated 12 May 2010 are considered acceptable. As such, design and construction of appropriate evaporation cells should be undertaken immediately, in order for operation of the evaporation cells to proceed expeditiously.

It should be noted that evaporation cells are temporary infrastructure and as such can be removed when required and should cause no future impediment to possible alterations to mining operations and required rehabilitation works, an issue previously raised at the teleconference on 5 May 2010.

I wish to clarify some elements of your letter dated 12 May 2010:

- Your letter identified 'rehabilitation works as required by conditions 2a-e of EPO 438'. This should read; '2b-e'.
- Table 4: Old TSF Rehabilitation Timeline needs to specify 2010 in relation to the completion timeframe for each task.

In regards to your most recent letter of 9 June 2010, it should be noted that DERM do not consider operation of evaporation cells during the wet season as an appropriate management technique.

If you require further assistance in this matter, please contact me on (07) 4046 6725.

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Dean Sharpe  
Principal Environmental Officer  
North Region  
Environmental Services  
Department of Environment and Resource Management

cc. Dan Towne  
Environmental Coordinator  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

cc. Mr Ric Jose  
General Manager  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825





Queensland  
Government

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Our reference    ISA27

Department of  
Environment and Resource  
Management

15 June 2010

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Building  
256 Adelaide Terrace  
PERTH WA 6000

Dear Sir,

#### Site Water Management

I refer to your letter dated 3 May 2010 regarding site water management issues.

The updates that you have provided regarding; bund walls; current water levels and storage capacity; and your concerns in relation to the draft Transitional Environmental Program have been noted.

In regard to concerns relating to the current water quality limitations for pH of discharge water, it should be noted that according to ANZECC 2000 guidelines the default upper limit for pH to protect ecosystem values is 7.5. Until such time as an adequate data set for physico-chemical and biological parameters to establish site specific reference values for Gunpowder Creek is undertaken, discharge water quality requirements will be based on ANZECC 2000 default values.

Furthermore, during the most recent flow events in Gunpowder Creek, it should be noted that there was insufficient pumping infrastructure on site in order to release treated water at authorised rates, and this issue must be rectified prior to the next wet season.

If you require further assistance in this matter, please contact me on (07) 4046 6725.

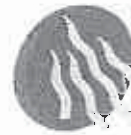
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Dean Sharpe  
Principal Environmental Officer  
North Region  
Environmental Services  
Department of Environment and Resource Management

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PO Box 2543  
MOUNT ISA QLD 4825

cc. Mr Ric Jose  
General Manager  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

RTI DL RELEASE - EHP



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Our reference    SA-27

Department of  
Environment and Resource  
Management

15 June 2010

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Birla Mt Gordon Pty Ltd  
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The updates that you have provided regarding; bund walls; current water levels and storage capacity; and your concerns in relation to the draft Transitional Environmental Program have been noted.

In regard to concerns relating to the current water quality limitations for pH of discharge water, it should be noted that according to ANZECC 2000 guidelines the default upper limit for pH to protect ecosystem values is 7.5. Until such time as an adequate data set for physico-chemical and biological parameters to establish site specific reference values for Gunpowder Creek is undertaken, discharge water quality requirements will be based on ANZECC 2000 default values.

Furthermore, during the most recent flow events in Gunpowder Creek, it should be noted that there was insufficient pumping infrastructure on site in order to release treated water at authorised rates, and this issue must be rectified prior to the next wet season.

If you require further assistance in this matter, please contact me on (07) 4046 6725.

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Principal Environmental Officer  
North Region  
Environmental Services  
Department of Environment and Resource Management

cc. Dan Towne  
Environmental Coordinator  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

cc. Mr Ric Jose  
General Manager  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

RTI DL RELEASE - EHP

**Environmental Protection Act 1994;  
s 361(2)**

**QUEENSLAND  
JUSTICES ACT 1886 – AS AMENDED  
[Form 4]**

**COMPLAINT AND SUMMONS**

**THE COMPLAINT** of Richard KIDSTON of the Department of Environment and Resource Management in the State of Queensland, a Public Officer within the meaning of Section 142A of the *Justices Act 1886* made this 10<sup>th</sup> day of June 2010:

**COUNT 1**

On or about the thirteenth day of June 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, BIRLA MT. GORDON PTY LTD (ACN 106 396 801) did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 2**

On or about the thirteenth day of June 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, BIRLA MT. GORDON PTY LTD (ACN 106 396 801) did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 3**

On or about the thirteenth day of June 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, BIRLA MT. GORDON PTY LTD (ACN 106 396 801) did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 4**

On or about the thirteenth day of June 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, BIRLA MT. GORDON PTY LTD (ACN 106 396 801) did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 5**

On or about the thirteenth day of June 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, BIRLA MT. GORDON PTY LTD (ACN 106 396 801) did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

Contrary to the Acts and regulations in such case made and provided:

**WHEREUPON** the said complainant prays that I, the said Justice, will proceed in the premises and according to law.

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(Signature of Complainant)

Made before me the date and year first abovementioned at Mount Isa in the State of Queensland.

(A Justice of the Peace)

#### **PARTICULARS OF COUNT 1**

Location: Birla Mt. Gordon Mine, 120km north of Mt Isa  
Recipient: Birla Mt. Gordon Pty Ltd (ACN 106 396 801)  
Environmental protection order: EPO STAT 438 dated 20 January 2009  
Requirement: Item 2 (a)  
Contravention: Failed to investigate the source, cause and extent of seepage being released from the old Tailings Storage Facility to the receiving environment by 12 June 2009.

#### **PARTICULARS OF COUNT 2**

Location: Birla Mt. Gordon Mine, 120km north of Mt Isa  
Environmental protection order: EPO STAT 438 dated 20 January 2009  
Requirement: Item 11 (b)  
Contravention: Failed to investigate the extent of groundwater seepage from the Esperanza Tailings Storage Facility by 12 June 2009.

#### **PARTICULARS OF COUNT 3**

Location: Birla Mt. Gordon Mine, 120km north of Mt Isa  
Recipient: Birla Mt. Gordon Pty Ltd (ACN 106 396 801)  
Environmental protection order: EPO STAT 438 dated 20 January 2009  
Requirement: Item 12 (a)  
Contravention: Failed to investigate the source, cause and extent of all hazardous contaminants being released from the new rockface seepage (GPS co-ordinate 54K 0327635, 7822046) to the receiving environment by 12 June 2009.

#### **PARTICULARS OF COUNT 4**

Location: Birla Mt. Gordon Mine, 120km north of Mt Isa  
Environmental protection order: EPO STAT 438 dated 20 January 2009  
Requirement: Item 18 (b)  
Contravention: Failed to complete and submit to the Environmental Protection Agency an investigation to identify the source, cause and extent of limit exceedences in Gunpowder Creek and the likelihood of environmental harm by 12 June 2009.



## PARTICULARS OF COUNT 5

|                                 |                                                                                                     |
|---------------------------------|-----------------------------------------------------------------------------------------------------|
| Location:                       | Birla Mt. Gordon Mine, 120km north of Mt Isa                                                        |
| Environmental protection order: | EPO STAT 438 dated 20 January 2009                                                                  |
| Requirement:                    | Item 22 (a)                                                                                         |
| Contravention:                  | Failed to develop and implement a stormwater management plan for the whole of site by 12 June 2009. |

RTI DL RELEASE - EHP

## SUMMONS

To: **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)**  
of: **Septimus Roe Building  
Level 3, 256 Adelaide Terrace  
Perth WA 6000**

**WHEREAS** a Complaint, a copy of which is attached hereto, was made before me on 10 June 2010.

**YOU ARE HEREBY COMMANDED**, in Her Majesty's name, to appear at the Magistrates Court situated at:

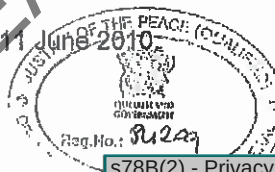
Place: **Isa Street, Mount Isa**

Date: **10 August 2010**

Time: **9.30am**

to answer the said Complaint and to be further dealt with according to law.

Given under my hand, at Mount Isa in the said State on 11 June 2010



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(A Justice of the Peace) *[Signature]*

## NOTICES TO DEFENDANT

This Complaint is one of a simple offence.

**TAKE NOTICE** that where such a Complaint is made by a public officer (this term includes a person acting in his official capacity as an officer or employee of a state authority) then if the Court before which the Complaint comes for hearing (whether on the return date or on an adjournment date) is satisfied that reasonably sufficient particulars are set out in the Complaint then the Court can fully and effectually deal with and determine the matter of the Complaint as if the facts and particulars therein had been established by evidence under oath before it and as if the defendant has personally appeared before it.

**AND FURTHER TAKE NOTICE** that you or Counsel or a Solicitor on your behalf may, within twenty-eight days after the determination of the matter of the Complaint by the Court, apply to the Court for a re-hearing of the Complaint and this may be granted by the Court upon such terms and subject to the payment of such costs as it thinks fit.

**QUEENSLAND**  
**JUSTICES ACT 1886 – AS AMENDED**  
**[Form 4]**

**COMPLAINT AND SUMMONS**

**THE COMPLAINT** of **Richard KIDSTON** of the Department of Environment and Resource Management in the State of Queensland, a Public Officer within the meaning of section 142A of the *Justices Act 1886* made this ninth day of July 2010:

**COUNT 1**

On or about the eleventh day of July 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 2**

On or about the eleventh day of July 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 3**

On or about the eleventh day of July 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 4**

On or about the eleventh day of July 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 5**

On or about the twenty second day of August 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 6**

On or about the twenty second day of August 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 7**

On or about the twenty second day of August 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 8**

On or about the twenty second day of August 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

## SUMMONS

To: **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)**

of: Septimus Roe Building  
Level 3, 256 Adelaide Terrace  
Perth WA 6000

**WHEREAS** a Complaint, a copy of which is attached hereto, has this day been made before me.

**YOU ARE HEREBY COMMANDED**, in Her Majesty's name, to appear at the Magistrates Court situated at:

Place: Isa Street, Mount Isa

Date: 10 August 2010

Time: 9.30am

to answer the said Complaint and to be further dealt with according to law.

Given under my hand, at Cairns in the said State the ninth day of July 2010.

s78B(2) - Privacy

(A Justice of the Peace)

## NOTICES TO DEFENDANT

This Complaint is one of a simple offence.

**TAKE NOTICE** that where such a Complaint is made by a public officer (this term includes a person acting in his official capacity as an officer or employee of a state authority) then if the Court before which the Complaint comes for hearing (whether on the return date or on an adjournment date) is satisfied that reasonably sufficient particulars are set out in the Complaint then the Court can fully and effectually deal with and determine the matter of the Complaint as if the facts and particulars therein had been established by evidence under oath before it and as if the defendant has personally appeared before it.

**AND FURTHER TAKE NOTICE** that you or Counsel or a Solicitor on your behalf may, within twenty-eight days after the determination of the matter of the Complaint by the Court, apply to the Court for a re-hearing of the Complaint and this may be granted by the Court upon such terms and subject to the payment of such costs as it thinks fit.

801) did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 9**

On or about the twenty second day of August 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 10**

On or about the twenty second day of August 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 11**

On or about the twenty second day of August 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 12**

On or about the twenty second day of August 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 13**

On or about the twenty second day of August 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

**COUNT 14**

On or about the first day of October 2009 in the Magistrates Court District constituted by the Mt Isa District appointed under the *Justices Act 1886*, **BIRLA MT. GORDON PTY LTD (ACN 106 396 801)** did, in contravention of section 361(2) of the *Environmental Protection Act 1994*, contravene an environmental protection order.

Contrary to the Acts and regulations in such case made and provided:

**WHEREUPON** the said complainant prays that I, the said Justice, will proceed in the premises and according to law.

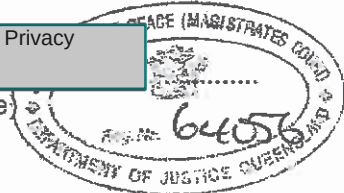
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(Signature of Complainant)

Made before me the date and year first abovementioned at Cairns in the State of Queensland.

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(A Justice of the Peace)



## **PARTICULARS COMMON TO COUNTS 1 – 13**

Location: Birla Mt. Gordon Mine, 120km north of Mt Isa  
Environmental protection order: EPO STAT 438 dated 20 January 2009  
Recipient: Birla Mt Gordon Pty Ltd

### **PARTICULARS OF COUNT 1**

Requirement: Item 2 (b) which stated:  
"By 10 July 2009 submit to the Environmental Protection Agency a report detailing actions and works required for temporary and long term remediation of groundwater seepage from the Old Tailings Storage Facility."  
Contravention: Failed to submit the required report by 10 July 2009.

### **PARTICULARS OF COUNT 2**

Requirement: Item 11 (c) which stated:  
"By 10 July 2009 submit to the Environmental Protection Agency a report detailing actions and works required for temporary and long term remediation of the Esperanza Tailing Storage Facility so as to contain and prevent groundwater seepages."  
Contravention: Failed to submit the required report by 10 July 2009.

### **PARTICULARS OF COUNT 3**

Requirement: Item 11 (d) which stated:  
"The report submitted as per requirement 11 (c) must include an appropriate timetable and costing for the implementation of the actions and works identified."  
Contravention: Failed to include appropriate timetable and costing in the required report.

### **PARTICULARS OF COUNT 4**

Requirement: Item 12 (b) which stated:  
"By 10 July 2009 submit to the EPA a plan detailing timeframes, actions and works required to prevent and/or contain seepage into the receiving environment."  
Contravention: Failed to submit the plan required by 10 July 2009.

### **PARTICULARS OF COUNT 5**

Requirement: Item 1 (e) which stated:  
"By 21 August 2009 construct and implement a dedicated truck loading area with provisions for equipment to ensure residual concentrate is removed from tyres and bodies of trucks (i.e. wash down bay, shaker)."

Contravention:

Failed to construct and implement a dedicated truck loading area by 21 August 2009 with provisions for equipment to ensure residual concentrate was removed from tyres and bodies of trucks, including a wash down bay.

#### **PARTICULARS OF COUNT 6**

Requirement:

Item 2 (d) which stated:

"By 21 August 2009 submit to the Environmental Protection Agency a report detailing actions and works required to rehabilitate the Old Tailings Storage Facility. Actions and works must include:

- i. capping designs,
- ii. prevention of ponding and pooling on the surface,
- iii. prevention of erosion of the surface,
- iv. the interception of seepage."

Contravention:

Failed to submit the required report by 21 August 2009.

#### **PARTICULARS OF COUNT 7**

Requirement:

Item 2 (e) which stated:

"From the actions determined in requirement 2(d) submit a report to the EPA by 21 August 2009 that nominates an appropriate timetable and costing for implementation of the necessary works identified."

Contravention:

Failed to submit the required report by 21 August 2009.

#### **PARTICULARS OF COUNT 8**

Requirement:

Item 13 (a) which stated:

"By 21 August 2009 submit a report to the EPA identifying areas available for rehabilitation of the Heap Leach Pads."

Contravention:

Failed to submit the required report by 21 August 2009.

#### **PARTICULARS OF COUNT 9**

Requirement:

Item 13 (b) which stated:

"The report submitted under requirement 13 (a) must include a progressive rehabilitation plan for the Heap Leach Pads in accordance with MIN100489906 and nominate appropriate timetable and costing for rehabilitation."

Contravention:

Failed to nominate an appropriate timetable and costing for rehabilitation in the report submitted under requirement 13 (a).

#### **PARTICULARS OF COUNT 10**

Requirement:

Item 20 (a) which stated:

"By 21 August 2009 ensure dams containing hazardous waste are fenced so as to prevent access by all livestock and minimise access by fauna."



Contravention: Failed to ensure any of the dams containing hazardous waste were fenced by 21 August 2009 so as to prevent access by all livestock and minimise access by fauna.

#### **PARTICULARS OF COUNT 11**

Requirement: Item 20 (b) which stated:  
"By 21 August 2009 ensure Mandatory Reporting Levels are suitably marked on all hazardous dams."

Contravention: Failed to ensure Mandatory Reporting Levels were suitably marked on the retention pond and evaporation ponds by 21 August 2009.

#### **PARTICULARS OF COUNT 12**

Requirement: Item 20 (c) which stated:  
"By 21 August 2009 submit to the EPA an assessment of all onsite dams undertaken by a suitably qualified and experienced person detailing the following;

- i. Name and location
- ii. Size (area, volume, depth)
- iii. Purpose
- iv. Actual and predicted content quality with reference to criteria in Table 1 of the EPA Information Sheet for Determining Dams Containing Hazardous Waste
- v. An assessment of the hazard category based on documented evidence sufficient to define or confirm the current nature and extent of environmental consequences of dam failure
- vi. For dams containing hazardous waste, an assessment of the adequacy of measures to prevent and contain seepages."

Contravention: Failed to submit the required assessment by 21 August 2009.

#### **PARTICULARS OF COUNT 13**

Requirement: Item 20 (d) which stated:  
"By 21 August 2009 ensure that all dams determined to contain hazardous waste under requirement 20 (c) have adequate measures to prevent, control and contain seepage."

Contravention: Failed to ensure that any of the dams determined to contain hazardous waste under requirement 20(c) had adequate measures by 21 August 2009 to prevent, control and contain seepage.

#### **PARTICULARS OF COUNT 14**

Location: Birla Mt. Gordon Mine, 120km north of Mt Isa

Environmental protection order: EPO STAT 457 dated 17 April 2009

Recipient: Birla Mt Gordon Pty Ltd

Requirement: Item 4 which stated:



"By no later than 5pm (AEST) on the 30 September 2009 submit to the administering authority certified Operation Plans for Mill Creek Dam and the Esperanza TSF. The plans must include but not be limited to:

- a. Details of the operation of each dam; and
- b. Monitoring procedures for settlement survey points and piezometers."

Contravention:

Failed to submit the required operation plans by 30 September 2009.

RTI DL RELEASE - EHP



17 September 2010

Department of  
**Environment and Resource  
Management**

Henry Prokuda  
Corrs Chambers Westgarth  
By email: [henry.prokuda@corrs.com.au](mailto:henry.prokuda@corrs.com.au)

Dear Mr Prokuda

I refer to your letter dated 19 August 2010 requesting a Statement of Reasons concerning the decision to set the financial assurance for the Birla Mt Gordon mine site operated by your clients (Birla) under environmental authority MIM100489906 (Mining Leases 5407, 5412, 5413, 5418, 5419, 5420, 5429, 5430, 5441, 5442, 5443, 5444, 5451, 5454, 5457, 5459, 5467, 5485, 5486, 5489, 5500, 5548, 5549, 5550, 5562, 5563, 90180, 90181, 90182) at \$40,502,261, forwarded to your clients by the Department of Employment, Economic Development and Innovation (DEEDI) on 22 July 2010.

Pursuant to Part 4 of the *Judicial Review Act 1991*, I provide you with the following Statement of Reasons for my decision.

#### **BACKGROUND MATTERS**

##### **Background to and details of the Decision**

- Birla's previous Plan of Operations expired on 1 November 2009 and a replacement Plan of Operations was lodged by Birla on 11 November 2009.
- The Plan of Operations lodged on 11 November 2009 was reviewed by the department and found to be inadequate. Therefore, the department advised in correspondence dated 7 January 2010 that a new Plan of Operations needed to be submitted. This correspondence also noted there was a significant difference in the financial assurance calculated by Birla and the department and Birla's calculations did not comply with Guideline 17.
- A meeting took place between representatives of Birla and the department on 19 January 2010. It was agreed that due to the large discrepancy between the amount of financial assurance calculated by Birla and the department, further discussions regarding financial assurance were needed.
- A replacement Plan of Operations was lodged by Birla on 27 January 2010.
- The replacement Plan of Operations included the following proposed works during the term of the plan (until 1 February 2011):
  - A three to six-month reprocessing trial of the Esperanza Waste Dump low grade material at 132,000 tonnes per month
  - An underground ventilation shaft to be converted to a hoisting shaft
  - Raising of the Esperanza tailings storage facility
  - Water reduction in the Esperanza Pit by use in the process plant
  - Treatment of pit water by BioteQ
  - Dewatering underground operations
  - Performing a feasibility study for recommencement of underground mining operations

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*in*

- Limnology program to study macro invertebrates populations in receiving water.
- The financial assurance proposed by Birla in this Plan of Operations was \$8,285,077.
- The department advised Birla in correspondence dated 2 February 2010 that the Plan of Operations met the content requirements under s234 of the *Environmental Protection Act 1994*, but that the proposed level of financial assurance required for the mine was \$38,039,033. Feedback from Birla on the proposed level of financial assurance was sought.
- MBS consultants on behalf of Birla lodged a revised financial assurance submission on 5 March 2010 that proposed a revised financial assurance of \$11,441,832.
- Department calculations were revised based on the information provided by Birla on 5 March 2010. This information incorporated revised domain areas, inclusion of additional areas requiring contaminated land assessment, additional infrastructure removal and utilised third party quotes provided by Birla resulting in a revised estimate of \$40,502,261, excluding the costs for treatment of 7.5GL of water on site.
- Following this calculation, correspondence was provided to DEEDI on 30 June 2010 setting the required level of financial assurance for the site at \$40,502,261.

#### **Section of the *Environmental Protection Act 1994* authoring the making of the decision**

- I made the decision to set an amount of financial assurance pursuant to section 364(1), which states:  
**364 When financial assurance may be required**  
 (1) The administering authority may, by condition of an environmental authority (mining activities) or approval of a transitional environmental program or site management plan, require the holder of the environmental authority or approval to give the administering authority financial assurance as security for—  
 (a) compliance with the environmental authority, transitional environmental program or site management plan and any conditions of the program or plan; and  
 (b) costs or expenses, or likely costs or expenses, mentioned in section 367.
- The amount of financial assurance was determined pursuant to Guideline 17 – Financial Assurance for mining activities, as authorised by section 364(4).

#### **Details of Request for a Statement of Reasons**

- By letter dated 19 August 2010, Corrs requested reasons for the decision advised in DEEDI's letter of 22 July 2010, pursuant to section 32 of the *Judicial Review Act 1991*.

#### **Evidence or other material on which findings of fact were based**

In arriving at my decision I considered the following material:

- The Plan of Operations lodged by Birla on 27 January 2010
- The revised financial assurance proposal lodged by Birla on 5 March 2010
- Departmental Guideline 17 - Financial assurance for mining activities
- Version 1.7 of New South Wales, Department of Primary Industries - MR Rehabilitation Cost Calculation Tool, was used to obtain unit rates where the rates in the revised financial assurance proposal lodged by Birla on 5 March 2010 were not suitable or no rates were used. The Cost Calculation Tool is available at:  
<http://www.dpi.nsw.gov.au/data/assets/file/0006/115278/Rehabilitation-Cost-Calculation-Tool-V1.7.xls>

### Reason for my decision

I made my decision for the following reasons:

- I applied Departmental Guideline 17 - Financial assurance for mining activities in the review of the revised financial assurance proposal lodged by Birla on 5 March 2010. A copy of the Guideline is included at Attachment 1.
- The department reviewed the revised financial assurance proposal and in doing so, included rehabilitation requirements that were necessary but were not included by Birla. The department's comments and additional requirements for rehabilitation are shown highlighted in blue on the MBS FA tab of the revised financial assurance proposal. This is at Attachment 2. The department has included what it considers are necessary activities and associated costs for the rehabilitation of each domain.
- In assessing the rehabilitation costs as required by section 3 of the Guideline, for the majority of domains the department used the schedule of rates proposed by Birla. Where Birla's rates were considered inappropriate or no rates were specified, the rates from the NSW Department of Primary Industries - MR Rehabilitation Cost Calculation Tool.
- The assessment of financial assurance was then calculated for each of the 50 domain areas proposed by Birla by using the Birla's revised financial assurance proposal.
- The changes and additions made are shown for each domain in the revised financial assurance proposal highlighted in blue.
- In particular, additional costs relating to items such as scarification and seeding, contaminated land investigations and removal of contaminated material were identified for each domain where needed but the majority of costs reflected those calculated by Birla.
- In utilising information in the revised financial assurance proposal a number of issues were highlighted, some of which are listed below:
  - The estimate made by Birla for rehabilitation of the Esperanza Waste Rock only costed the rehabilitation of 20% of current dump area, while the department considers that 100% of the dump area needs to be rehabilitated. This accounts for the difference in Birla's and the department's cost estimate for rehabilitating the Esperanza Waste Rock. Birla estimate: \$1,986,400 and department estimate: \$12,424,485
  - The department costed a contemporary best practice cap of a double capillary break for the Esperanza Tailings Storage Facility. Birla's proposed rehabilitation strategy was not considered best practice and there was no evidence provided to show their rehabilitation proposal would succeed in rehabilitating the Storage Facility. Birla estimate: \$1,681,946 and department estimate: \$4,844,896
  - The department costed a contemporary best practice cap for the Mammoth Waste Rock Dump (Birla contends the Waste Rock Dump has been capped and the department believes it has not been capped in accordance with Court Order 3089 of 2006, which is the subject of a current prosecution). Birla estimate: \$282,825 and department estimate: \$2,583,335.
- The revised financial assurance proposal at Attachment 2, as amended by the department, shows all changes the department made to Birla's financial assurance proposal and outlines how the department decided that a financial assurance of \$40,502,261 was required.

Should you have any questions in regard to this matter, please contact me on (07) 4222 5337 or by email at [Ingrid.Minnesma@derm.qld.gov.au](mailto:Ingrid.Minnesma@derm.qld.gov.au), quoting reference numbers ISA27.

Yours sincerely  
s78B(2) - Privacy

Ingrid Fomiatti Minnesma  
**Manager - Heavy Industry and Mining**  
**North Region**  
**Environmental Services**

RTI DL RELEASE - EHP

Enquiries      Dean Sharpe  
Telephone      (07) 4222 5325  
Your reference  
Our reference      ISA27

Department of  
**Environment and Resource  
Management**

21 September 2010

s78B(2) - Privacy

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

### **Site water management**

Dear Sir,

I refer to the meeting held between Birla Mount Gordon Pty Ltd (BMG) and the Department of Environment and Resource Management (the department) on 9 August 2010 at the department's office in Cairns, and the fortnightly teleconferences held between BMG and the department. Your concerns relating to site water management at the Mount Gordon mine (the mine) highlighted in the meeting are shared by the department, in particular the large volume (approximately 7.5 gigalitres) of poor quality water currently stored at the mine.

The department requires BMG to take action to reduce the risk of environmental harm as a matter of priority. As advised on numerous prior occasions (such as fortnightly teleconferences), and as implementation of a combination of water reduction methods is now urgently required, the following water reduction options discussed at our meeting on 9 August 2010 currently being considered by BMG need to be enacted immediately:

- enhanced evaporation (such as high-capacity units and evaporation cells);
- reverse osmosis water filtration;
- irrigation within existing contaminated catchments on-site;
- upgraded pumping infrastructure to allow the discharge of authorised volumes of treated water to Gunpowder Creek (capable of taking advantage of short-duration peak flow events characteristic of this regions hydrology);
- construction of intermediate water storages on Magazine Creek;
- remedial works on the Upper Esperanza diversion dam to address seepage through the dam wall; and,
- construction of additional diversion works immediately upstream of the Esperanza waste rock dump.



The options listed above have been available to BMG since the 2008/ 2009 wet season, and effective implementation since this time would have significantly reduced the volume of poor quality water currently stored at the mine, and the associated risk of an uncontrolled release to the receiving environment.

As you highlighted in our meeting on 9 August 2010, BMG are well aware of the high risk to the environment during the upcoming wet season unless there is a significant reduction in the volume of contaminated water stored at the mine. Failure to reduce contaminated water volumes stored at the mine may result in overtopping of storages, and subsequent contamination of Gunpowder Creek. Such an outcome would be unacceptable to the department.

The reduction of contaminated water stored at the mine is of critical importance to minimise the risk of an uncontrolled release of poor quality water to the receiving environment, and you are advised that BMG have a general environmental duty under section 319 of the *Environmental Protection Act 1994* to ensure all reasonable and practicable measures are undertaken to prevent or minimise environmental harm resulting from activities undertaken at the mine.

The department requires you to take the action outlined as a matter of priority. However, BMG should be aware that remedying matters at this time that are already part of a legislative requirement or order do not alleviate BMG of any previous statutory responsibility

Should you have any further enquiries, please do not hesitate to contact Dean Sharpe of the department on telephone (07) 4222 5325.

Yours sincerely,

s78B(2) - Privacy

Dean Sharpe  
Manager Cairns  
Mining and Heavy Industry  
North Region, Environmental Services  
Department of Environment and Resource Management

cc. Mr Ric Jose  
Acting General Manager  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

cc. Mr Dan Towne  
Environmental Coordinator  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825



Ref CTS 17341/10

30 SEP 2010

Department of  
Environment and Resource  
Management

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Building  
256 Adelaide Terrace  
PERTH WA 6000

Dear Sir

I refer your letter dated 22 September 2010 addressed to me concerning the Birla Mt Gordon mine and the significant volumes of contaminated water currently contained on the site.

I understand that a large portion of this contaminated water was captured on the site during the 2008/2009 wet season and that the 2009/2010 wet season has further increased the volumes being stored on site.

Departmental officers have met with your company representatives on numerous occasions since the 2008/2009 wet season and stressed the urgent need to reduce the levels of contaminated water on site. As you are aware, this water reduction is necessary to reduce the risk of an uncontrolled release of highly contaminated water to the environment and to comply with the provisions of Environmental Authority MIN100489906 held by Birla Mt Gordon Pty Ltd ('BMG').

While I recognise that this is a complex problem, we are within two months of the next wet season and there has been no significant reduction in contaminated water levels on this site since the end of the 2008/2009 wet season; in fact, the volume of contaminated water stored on site has increased.

I have been advised that BMG has been progressing towards submission of four Transitional Environmental Programs ('TEP'), with two TEP applications already lodged dealing with discharges to Lake Waggaboonya and to Gunpowder Creek during the wet season. I will outline briefly the department's assessment to date on each of these.

1. **TEP – Dry Season Discharge (yet to be lodged):** This proposal to discharge large quantities of contaminated water into Gunpowder Creek when there is no flow in the creek carries high risk to the environment. Any such proposal would need to be supported by scientific evidence to demonstrate that the discharge would not adversely affect the environmental values downstream of the mine. Such supporting information has not been provided. The department's water experts consider, based on the very limited information available, that such a discharge would cause significant adverse impacts to environmental values downstream. From discussions

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ABN 46 640 294 485

with your consultants the department understands that BMG will not be pursuing this proposal any further at this stage.

2. **TEP – Pre Wet Season Discharge (yet to be lodged):** There is limited information regarding this proposal, however based on the information to date it also carries high risk to the environment. As highlighted above, the department's water experts consider, based on the very limited information available, that such a discharge would cause significant adverse impacts to environmental values downstream. This is particularly because these discharges would occur at a time when the remaining water holes are refuges for aquatic fauna. The high likelihood of detrimental impacts on these waterholes would therefore have a major impact on the ecological sustainability of the entire creek system. Again, any such proposal would need to be supported by rigorous scientific evidence to demonstrate that the discharge would not affect the environmental values downstream of the mine. However, this information has not been provided to the department.
3. **TEP – Discharge to Lake Waggaboonya (under assessment):** This TEP proposes a discharge of contaminated water to Lake Waggaboonya. This is another proposal which carries a high risk to the environment. The information presented by BMG to date demonstrates a significant deterioration of the water quality of the lake, even at low discharge volumes. Given the high environmental risks associated with this proposal the department must be confident that the proposal is supported by scientific evidence. To date that has not been the case and it remains unclear what data was used to arrive at the water quality calculations provided in BMG's letter of 22 September 2010 and what upper and lower water quality is expected in the lake after discharge based on the variances in both treated water and lake water quality. Therefore, scientific evidence is required to demonstrate that a release will maintain the identified environmental values of the lake and thus achieve the objectives of the *Environmental Protection (Water) Policy 2009* ('EPP').

I note your comments that the lake is not a natural feature and that the water in the lake is for 'industrial application'. The lake was never constructed to contain waste water from BMG, and the approved uses include town water supply and industrial and mining uses. While the lake is not natural it does have ecological values.

You need to be aware that the *Environmental Protection Act 1994* requires that a statutory decision made for a TEP includes consideration of the standard criteria. These include consideration of the relevant Environmental Protection Policies, which in this case is the EPP and the relevant plans and guidelines. Therefore, the environmental values as described in section 6 of the EPP must be considered.

4. **TEP – Discharge during the Wet Season (under assessment):** This TEP proposes a discharge to Gunpowder Creek during the wet season when the creek is flowing. This is a strategy which this department can support, provided the discharge occurs during certain threshold high flow circumstances and ceases in time to ensure that a sufficient tail flow occurs in the river after the release.

The department will complete its assessment of the two TEPs that have been lodged and formally respond to BMG shortly.

Based on current information provided to the department, TEP proposals 1-3 pose an unacceptably high risk to the environment; if BMG intend pursuing these the department will require scientific evidence that supports these proposals. To date, and despite repeated requests by the department, BMG has not provided this supporting data. These strategies also require consultation with stakeholders including landowners, other users of the water and traditional owners; the department has not been informed that such consultation has occurred nor of any outcomes of consultation. The department has received

correspondence from another user of Lake Waggaboonya that indicates strong opposition to the discharge of contaminated waters from the mine site into the lake.

I understand that BMG is also researching the use of reverse osmosis water treatment systems on site. If appropriately constructed and operated, a reverse osmosis water treatment system will be capable of producing water of a quality that can be discharged to both Lake Waggaboonya and Gunpowder Creek throughout the year whilst preserving the identified environmental values.

The department commissioned Cardno (Qld) Pty Ltd to investigate the risks to the environment associated with the volume of contaminated water currently held on site. That risk assessment concluded that the likelihood of a release from the mine in the 2010/2011 wet season was assessed as 'likely', the consequences of such a release were assessed as 'catastrophic', giving an overall risk of 'extreme'.

I understand that BMG's own consultants have advised that, even with the most optimistic calculations, the plant site will be flooded in the upcoming wet season and there is between a 17 and 50 percent chance that Mill Creek dam will overtop and discharge to the environment.

The lack of on-ground action by BMG over almost two complete dry seasons to effect any net reduction in contaminated water levels across the mine site since early 2009 is very disappointing. This inaction has meant that there is now a very significant risk that highly contaminated water will be discharged to the environment in the upcoming wet season with potentially catastrophic impacts.

I note your comments regarding actions recently completed/initiated, including the ordering of the high capacity evaporators, installation of irrigation and sprinklers etc. I understand that these measures have all been discussed with BMG on numerous occasions. It is unclear why these systems are only just being utilised or trialled.

I am also informed that BMG has ordered three high capacity water evaporators, but that these are yet to be commissioned. At a meeting between the department and BMG in Brisbane on 25 June 2009, evaporators were identified as one of the options for assisting in reducing water levels on site. Department officers even provided contact details of a supplier, yet some 15 months later evaporators are yet to be commissioned.

The lack of any effective action by BMG to reduce water levels is disappointing and places the environment at an unacceptable risk of harm. I implore you to ensure BMG immediately undertakes all lawful and practical action necessary to reduce this significant risk.

Should you have any further enquiries, please do not hesitate to contact Mr Rob Lawrence, Regional Manager of the department on telephone (07) 4222 5338.

Yours sincerely

s78B(2) - Privacy

Terry Wall  
Associate Director-General



**Queensland  
Government**

Enquiries Dean Sharpe  
Telephone (07) 4222 5325  
Your reference  
Our reference ISA27

567404566018

D. TOWNE

567404564014

Kulwal

567404565011

Rc Jose

Department of  
Environment and Resource  
Management

1 October 2010

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

### **Approval of Discharge Water Quality Modifications draft Transitional Environmental Program**

Dear Sir,

I refer to the draft Transitional Environmental Program (TEP) titled 'Discharge Water Quality Modifications' that was submitted to the Department of Environment and Resource Management (the department) by Birla Mount Gordon Pty Ltd (BMG) on 20 September 2010.

I can advise that your draft TEP submission referred to above has been approved by the department subject to conditions listed on the certificate of approval attached.

As stressed at our meeting in Cairns on 9 August 2010 between the department and BMG, existing discharge infrastructure at the mine used for the release of treated water to Gunpowder Ck will not allow BMG to discharge the volumes of treated water approved in the TEP. Discharge infrastructure must be designed to take full advantage of both large volume short duration and small volume long duration flow events. As such, in order to maximise your opportunity to release treated water to Gunpowder Ck in accordance with the approved TEP, your pumping and discharge infrastructure will need to cater for variable treated water discharge rates. This issue has been raised with BMG on multiple occasions, including recent teleconferences between the department and BMG.

The reduction of poor quality water stored at the mine is of critical importance to minimise the risk of an uncontrolled release of this water to the receiving environment.

Should you have any further enquiries, please do not hesitate to contact Mr Dean Sharpe of the

department on telephone (07) 4222 5325.

Yours sincerely.

s78B(2) - Privacy

Andrew Buckley  
Regional Service Director  
North Region  
Department of Environment and Resource Management

cc. Mr Ric Jose  
Acting General Manager  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

cc. Mr Dan Towne  
Environmental Coordinator  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

RTI DL RELEASE





Queensland  
Government

Enquiries      Dean Sharpe  
Telephone      (07) 4222 5325  
Your reference      MIN100489906  
Our reference      ISA27

Department of  
Environment and Resource  
Management

20 October 2010

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

s78B(2) - Privacy

Dear Sir,

**Financial assurance for the Mt Gordon Mine MIN100489906**

I refer to the proposed amount of financial assurance (FA) submitted to the Department of Environment and Resource Management (the department) on 5 March 2010 by MBS consultants on behalf of Birla Mt Gordon Pty Ltd (BMG) for the Mt Gordon Mine (the mine).

As advised in correspondence provided to you on 22 July 2010, the department has calculated that the amount of FA required for the mine is \$40,502,261.

As such, the department considers that the amount of FA currently held for the mine (\$10,597,902) is insufficient to offset any expenditure the state of Queensland may incur in the event that the licence holder is unable to discharge their responsibilities for rehabilitation of the mine.

Consequently, the department requires BMG to lodge the outstanding amount of FA required (\$29,904,359) by 3 November 2010.

If the outstanding amount of FA is not lodged by this date, the department will commence suspension of Environmental Authority MIN100489906 under the *Environmental Protection Act 1994*.

Should you require any assistance regarding this matter, please do not hesitate to contact Dean Sharpe of the department on (07) 4222 5325.

Regards.



Ingrid Fomiatti Minnesma  
Manager  
Mining and Heavy Industry  
North Region  
Department of Environment and Resource Management

cc. Mr Ric Jose  
Acting General Manager  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

cc. Ms Kristy Sell  
Director Environmental Science  
MBS Environmental  
4 Cook Street  
WEST PERTH WA 6005

RTI DL RELEASE - EPR





Queensland  
Government

Enquiries Andrew Kwan  
Telephone (07) 3330 5519  
Email andrew.kwan@derm.qld.gov.au  
Your reference HPBIRL8378-9003901  
Our reference BNE44497 LIT596

Department of  
Environment and Resource  
Management

4 November 2010

Henry Prokuda  
Partner  
Corrs Chambers Westgarth Lawyers

*By email: henry.prokuda@corrs.com.au*

Dear Henry

**Chief Executive, Department of Environment & Resource Management v Birla Mt Gordon Pty Ltd;  
Planning and Environment Court No 3052 of 2010)**

Thank you for your letters sent last night.

Request for further particulars

Given that I only received the letters this morning, it will not be possible to respond in full to all of your queries by the end of today. However, I immediately sought the requested information from Mr Giles and am awaiting his response. I will provide this to you as soon it is available and will be actively pursuing the information tomorrow.

In the meantime, I can respond to the following points.

1.1(c): The system is required to have an output of 6 ML/day.

1.1(e): DERM is seeking for removal of 'treated water' from the mine site. Whereas discharge point W1 is an appropriate location for release to Gunpowder Creek, DERM is not opposed to removal from the mine site by other lawful methods, providing that the treated water does not accumulate back on the site (i.e. is not discharged within the mine's catchment). DERM also considers that treated water is suitable for addition to Lake Waggaboonya.

1.1(f): The system is to be operated to output a minimum of 6 ML/day.

1.2(c): Enclosed.

1.3: The minimum discharge requirement for 'discharge quality water' is stated in the definitions of the application as 50ML/day.

Directions orders

It is clear that the direction order contemplates for the application to be heard on 18 November 2010. DERM maintains that the proposed orders must be made as soon as possible to address the escalating environmental risk with the wet season drawing closer.

As previously indicated, and as is required by the directions order, DERM is prepared to enter into discussions to seek to resolve all matters prior to the hearing.

Yours sincerely

s78B(2) - Privacy

Andrew Kwan  
Lawyer

Enc.

RTI DL RELEASE - EHP



Enquiries      Matthew Peate  
Telephone      (07) 33305523  
Your reference      MIN100489906  
Our reference      ISA27

Department of  
Environment and Resource  
Management

09 November 2010

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

*By facsimile: (08) 9366 8805*

Dear Sir,

**Internal review of original decision to refuse a draft Transitional Environmental Program (TEP) - water treatment and Lake Waggaboonya discharge – Birla Mt Gordon Pty Ltd**

I refer to the application for review of an original decision regarding the draft TEP - Birla Mt Gordon Pty Ltd (water treatment and Lake Waggaboonya discharge), submitted by Corrs Chambers Westgarth Lawyers on behalf of Birla Mt Gordon Pty Ltd by letter dated 25 October 2010.

The matter has been assessed, and a review decision was made on 08 November 2010.

The review decision of the administering authority, the Department of Environment and Resource Management, is to confirm the original decision. A statement of reasons in respect of the review decision is **attached**.

You may appeal against the review decision to the Planning and Environment Court within 22 business days after the day you receive notice of the decision. Information regarding appeals is **attached**.

Should you require any assistance regarding this matter, please do not hesitate to contact the undersigned of the department on (07) 3330 5523.

Kind Regards,



Matthew Peate  
Team leader and A/Principal Lawyer  
Environment and Natural Resource Regulation  
Department of Environment and Resource Management

Att: reasons for decision  
Appeals Information sheet

cc. Mr Ric Jose  
Acting General Manager  
Birla Mt Gordon Pty Ltd  
c/- Birla Mt Gordon site  
*by facsimile: 07 4748 9164*

cc. Henry Prokuda  
Corrs Chambers Westgarth Lawyers  
GPO Box 9925  
Brisbane QLD 4001  
*by facsimile: 07 3228 9444*

RTI DL RELEASE UNDER OIA

## **Statement of reasons in relation to the decision to confirm the original decision made on 12 October 2010 to refuse to approve a draft transitional environmental program submitted by Birla Mount Gordon Pty Ltd**

### **Background**

1. Birla Mount Gordon Pty Ltd (Birla), has managed the Mount Gordon Operations formerly known as the Gunpowder Copper project since 2003. The site has been mined at some scale for some time, and on a large scale since 1969, using underground and open cut mining methods.
2. The Mount Gordon mine site (Mt Gordon) is currently in care and maintenance. Activities undertaken on-site at present may include: underground dewatering; seepage collection; water treatment; and some limited water reduction strategies.
3. Birla submitted a voluntary draft Transitional Environmental Program (TEP) on 27 July 2010, in order to reduce the volume of poor quality water stored at Mt Gordon, in particular the water in the 'Esperanza Pit'. The issue (the subject of the proposed TEP) is large volume (approximately 7.5 GL) of very poor-quality water (pH 2, high [SO<sub>4</sub>], and high [Cu] & [Co]) currently stored on the site, requiring treatment and discharge.
4. This TEP proposal involves the discharge of treated water to Lake Waggaboonya (the lake), a man-made freshwater lake damming lower Greenstone Creek, constructed in 1969 to supply water to the mining operation in the area.
5. On 12 October 2010, Ingrid Fomiatti Minnesma, a delegate of the administering authority (DERM) made a decision to refuse to approve the draft TEP (an original decision under the *Environmental Protection Act 1994* [the EP Act]).
6. By letter dated 25 October 2010, Birla lodged an application for review of original decision, seeking an internal review of the decision to refuse to approve the TEP. The application attached submissions in support of Birla's application.

### **Jurisdiction**

7. My position within DERM, as Team Leader and A/Principal Lawyer, is not a less senior office than that of the original decision maker (as required by s521(7) of the EP Act).
8. As this matter relates to specific scientific issues in addition to general submissions, I have also relied on and adopted a scientific review conducted concurrently with my review. This review has been conducted by Dr Ian Ramsay, Chief Scientist, Water Quality & Aquatic Ecosystem Health, DERM.

Dr Ramsay's position is not a less senior office than that of the original decision maker (as required by s521(7) of the EP Act).

9. I am satisfied that Birla has complied with subsections 521(2) and (3) of the EP Act.
10. In passing, I note the decision notice was sent (by email) at 5.30pm on 12 October 2010. It is not clear whether it should be constructed as being received by Birla on 12 or 13 October 2010. Similarly, the application for review was received by DERM (via email) at 5.23pm on 25 October 2010, making it unclear as to whether the receipt date should properly be 25 or 26 October 2010. For the purposes of reckoning of time, I will take both of these as being the later date, being 13 October and 26 October respectively. I note that a determination (either way) as to the appropriate date(s) will not affect the rights of Birla, as even if receipt of the application for review by DERM is taken as being the later date (26 October) Birla will have still satisfied the requirement of s521(2)(a)(i).
11. In reviewing the decision to refuse to approve the draft TEP, I am to "review the original decision" (s521(5)(a) of the EP Act), and make a decision to confirm or revoke the original decision, or vary the original decision in a way I consider appropriate. I must therefore consider, in light of the information provided by Birla, whether the decision made on 12 October 2010 was properly made and whether I should confirm, revoke or vary that decision.
12. The application for review of the decision to refuse the TEP contains various matters of a legal nature. Accordingly, I am an appropriate person to conduct the review.
13. Although not relevant to this review, for the purposes of transparency I disclose prior knowledge in respect of Birla Mt Gordon. I have previously acted, in a capacity as legal representative, for DERM, against Birla. I confirm I do not presently hold any files in relation to Birla, nor have I had carriage of any file in respect of this site for approximately 8 months. I confirm this review is conducted in my capacity as a person of not less senior office than the original decision maker, and I am not acting on instruction in respect of conducting the review decision.
14. As this review relates to specific scientific issues in addition to legal submissions, a scientific review was conducted concurrently/as part of my review. This review has been conducted by Dr Ian Ramsay, Chief Scientist, Water Quality & Aquatic Ecosystem Health, and I have adopted his findings and conclusions as part of this internal review. As part of these reasons for decision, I have **attached** in full the assessment conducted by Dr Ramsay.

### **Material considered in conducting the review**

15. In conducting the review, I have considered the following material:
  - Application for TEP dated 26 July 2010 from MBS (for Birla Mt Gordon), including TEP summary document and supporting technical document

“Supporting Information for Transitional Environmental Program Lake Waggaboonya Option, July 2010”.

- Assessment Report by Neil Tripodi, for a voluntary transitional environmental program- Birla Mt Gordon (September 2010).
  - Various excel data sheets provided and collected by Dr Neil Tripodi, received from Environmental Services, DERM, containing raw monitoring data for Lake Waggaboonya
  - Notice of decision (signed by Ingrid Fomiatti Minnesma) to refuse to approve a draft transitional environmental program dated 12 October 2010.
  - Letter and application for review of original decision dated 25 October 2010 from Corrs Chamber Westgarth (for Birla Mt Gordon), including supporting information.
  - Memorandum from Dr Ian Ramsay Water Quality & Aquatic Ecosystem Health, Environment & Resource Sciences, DERM, regarding the application for internal review of a decision to refuse a draft TEP for Birla Mt Gordon (dated November 2010).
  - Various legislation and statutory instruments, and supporting material (such as explanatory notes and a regulatory impact statement).
  - Water licences 401063 and 43672JA, and historical licence 43671J, in respect of water entitlements to Lake Waggaboonya.
  - *Telstra Corporation v Hornsby Shire Council* [2006] NSWLEC 133 (BC 200601529).
  - Discussion paper: ‘The Precautionary Principle- its origins and role in environmental law’, David Cole LL.B., Master of Environmental Studies, Adelaide, February 2005.
  - Weier, A. and Loke, P: *Precaution and the Precautionary Principle: two Australian case studies*, Productivity Commission Staff Working Paper, Melbourne, September 2007.
  - DERM Operational Policy *Waste water discharge to Queensland waters*.
  - Various emails and other correspondence with DERM staff, in particular with Dr Ian Ramsay.
15. I have also had conversations with Ingrid Fomiatti Minnesma about her reasons for making the decision to refuse to approve the TEP. Where I have relied on specific information from correspondence or conversations in conducting the review, I have endeavoured to note this below.
16. As identified above, to the extent these reasons consider or discuss scientific matters, the reasons adopt the opinion and assessment by Dr Ian Ramsay.

### Reasons for the decision and Birla’s submissions

17. The decision notice sets out a number of reasons, totalling 16 pages, for the decision to refuse to approve the TEP. Birla has made submissions with respect to four general points, and has also attached a table with specific matters. I address each accordingly.



### Submission Reason 3.1

18. Birla submits that the reasons for decision are fundamentally flawed in that the reasons erroneously apply the Environmental Protection Policies, specifically the *Environmental Protection (Water) Policy 2009* (the EPP Water). Birla appears to submit two reasons for this being flawed, specifically:
- A) that the assessment has “ignored” the “fundamental principle of statutory interpretation” that “later, more specific provisions in an Act will qualify earlier, more general provision”; and also that
- B) the reasons for decision erroneously “assumed that the TEP can only be approved if it complies in all respects with relevant statutory requirements”.
- A)
19. In respect of the interpretation principle, as a matter of statutory construction, I do not accept that s346 would override s338.
20. Section 338 of the EP Act contains statutory requirements for assessing a TEP, and is specific in certain requirements. Section 346 contains matters relating to a TEP if approved, and it also contains some specific provisions. The two sections are of at least equal footing in application, and deal with separate matters (being an application for a TEP, and the potential effect of an approved TEP). Accordingly, I find that as a matter of statutory construction, s338 is not a more general provision than s346.
21. Furthermore, I note that s338 contains mandatory considerations for assessing a proposed TEP. Section 346 is only relevant to an *approved* TEP. Section 346 has no direct application until such time as a TEP is approved. As such, it could not be said to override another provision that mandatorily applies to an assessment of a *proposed* TEP.
22. Accordingly, I consider that for s346, although recognising an *approved* TEP may otherwise over-ride a policy or regulation, this section does nothing to prevent a decision maker from considering the EPP Water (or aspects thereof), in a determination of whether a TEP *ought to be approved*.
23. As an aside, as will be discussed further below, I find that in fact that the decision maker is *required* to consider certain regulations and policies (or aspects thereof).
24. I find that the approach taken by the original decision maker is consistent with a correct application of the principles of statutory interpretation.
- B)
25. In respect of the submission in relation to an “erroneous” application of the EPP Water, I find that the submission of Birla does not correctly apply the statutory regime in respect of what is required to be considered.
26. The submission by Birla states there was an “apparent assumption that the TEP could only be approved if it complies in all respects with relevant statutory

requirements, namely the *Environmental Protection Regulation 2008* and the *Environmental Protection (Water) Policy 2009*".

27. The relevant requirements are as follows:

- pursuant to s338(1)(a) of the *Environmental Protection Act 1994* (the EP Act), when considering whether to approve a proposed TEP, a decision maker is required to comply with any relevant regulatory requirement

- pursuant to the definition in the EP Act a **regulatory requirement** means a requirement under an environmental protection policy or a regulation for the administering authority to—

- (a) grant or refuse to grant, or follow stated procedures for evaluating, any of the following applications—

- ...

- (iii) an application for approval of a transitional environmental program

- Chapter 4 of the *Environmental Protection Regulation 2008* (the EP Regulation) is entitled "Regulatory Requirements". Section 46 of the EP Regulation defines the purpose of the Chapter as "the regulatory requirements with which the administering authority is required to comply for making environmental management decisions".

- Section 48(1) of the EP Regulation defines an **environmental management decision** as "a decision under the Act for which the administering authority making the decision is required to comply with regulatory requirements".

- Part 2 and Part 3 of Chapter 4 of the EP Regulation prescribe further mandatory considerations for 'environmental management decisions', including decisions relating to specific activities or conduct. I specifically mention s51 of the EP Regulation, which contains "matters to be considered for environmental management decisions". In particular I note s51(1)(a), which prescribes relevant matters within Environmental Protection Policies that must be considered.

28. Pursuant to s338 of the EP Act, the department is required to comply with regulatory requirements when assessing a proposed TEP. As the department is required to comply with regulatory requirements, the decision on the proposed TEP is an 'environmental management decision' under the EP Regulation. As an environmental management decision, the department is required to consider matters outlined in various sections of the EP Regulation, including s51.

29. The correct provisions were identified in the reasons for decision, and consideration of each mandatory provision is also included in the reasons for decision. I am satisfied that the correct statutory interpretation was applied by the decision maker. I am not satisfied that there is any demonstrated error by the decision maker, in the interpretation of the relevant statutory requirements for matters to be considered in assessing the draft TEP.

30. Birla submits "it is not the case that the measures stated in the TEP must achieve complete compliance with all aspects of relevant Regulations and EPP's". I am

unsure whether this is intended to mean complete compliance with Regulations and EPPs in totality, or compliance with 'relevant aspects' of applicable Regulations and EPPs.

31. If it is intended to mean the former, that is, a TEP should not achieve *absolute compliance with all* EPPs and policies, then the statement is generally accurate (although of course each TEP must be considered on its individual merits). However I am satisfied that such an approach was not taken by the decision maker. There is no evidence to suggest that such an approach has been taken, and Birla do not elaborate on the comment.
32. I find that, to the extent (if any) it is intended to mean the latter (that is, 'it is not the case that measures in the TEP must comply with all *relevant aspects of* Regulations and EPPs'), that this submission is not entirely correct. The decision maker is required to consider matters set out in s338 of the EP Act. As outlined above, this also includes *mandatory* consideration of at least certain provisions within the EP Regulation and/or applicable EPPs (as outlined in the EP Regulation).
33. I find that the decision maker is not required to strictly *follow* the relevant EPPs. However, pursuant to s51 of the EP Regulation, the decision maker is required to *consider* specific sections of the EPP.
34. Pursuant to s4 and 5 (of the EPP Water), the EPP Water applies to all waters in Queensland. Lake Waggaboonya unquestionably falls within this. If there was any doubt, a reading of the explanatory notes and Regulatory Impact Statement in relation to the original *Environmental Protection (Water) Policy 1997* clearly demonstrate the wide application of the EPP Water. Accordingly the EPP Water is a 'relevant EPP' for the purposes of considerations for an assessment of a proposed TEP.
35. In response to a direct question on whether the decision maker considered themselves bound by the EPP, the following email response was received from the original decision maker:  
  
*"I understand that we are not "bound" as such to the EPP but it is a relevant consideration. In terms of weighting the Act does not state what weight to put one [sic] each criteria so they were all considered ( as you can see in the assessment report) and a decision made after considering all the standard criteria."*
36. Accordingly, the submission by Birla that there is an "apparent assumption" is not founded. In contrast, I am satisfied that the relevant provisions, including mandatory considerations, were properly constructed and considered, and given appropriate weight by the original decision maker.

Summary:

37. I find that:

A) there is no demonstrated incorrect application of statutory interpretation principles;

B) the relevance, application and consideration of the EPP Water was correctly identified and appropriately considered.

**Submission Reason 3.2**

38. Birla submits that it is “highly questionable” whether ‘water quality objectives’ under the EPP Water apply to the lake. Birla specifically rely on s10(3)(b) of the EPP Water, being:
- (3) However, water quality objectives do not apply to—
    - (a) ...
    - (b) drinking water in a domestic water supply system, including, for example, water in a local government or privately owned water supply system
39. Birla submit that the lake is such that is contemplated by s10(3)(b). Birla state that the lake was originally created to “supply water to the mines”. Birla submit that the purpose of s10(3)(b) is to “clearly avoid inappropriate application of water quality objectives under the EPP Water 2009 to such water bodies”.
40. I have reviewed s10(3), including reviewing the explanatory notes for the original *Environmental Protection (Water) Policy 1997* (EPP Water 1997), which contains the same provision (albeit renumbered). I have also reviewed the Regulatory Impact Statement in relation to the EPP Water 1997.
41. For clarity, I confirm the EPP Water generally is applicable to the lake.
42. The submission of Birla challenges whether specific criteria will apply, that is the “water quality objectives” as defined and identified in the EPP Water.
43. The Water Licenses attached to the lake variously allow “Industrial, Town Water Supply, and Mining” [licence 401063- Lady Annie Operations], and “Any” [43672J- Birla Mt Gordon]. A historical (expired 2006) licence authorises taking for “Industrial, Mining” [43671J- Western Metals]. I am satisfied that water may be taken for, among other purposes, drinking water.
44. The EPP Water does not contain a relevant definition for “drinking water in a domestic water supply system”, or of any of the key terms [“drinking water”; “domestic”; or “water supply system”]. The explanatory notes do not shed any further light on the meaning of the term(s).
45. Birla do not include in the application for review any documents or information that they seek to rely upon in respect of defining the above terms.
46. I have reviewed documentation in respect of the EPP Water, to consider what was intended to be within s10(3)(b).

‘Water Quality Objectives’

47. The Regulatory Impact Statement (RIS) for the original *Environmental Protection (Water) Policy No. 136, 1997* comments that:

*"Pollutants present in intake water force suppliers to incur higher treatment costs for reasons other than, or in addition to, the protection of health. In achieving water quality objectives, the net result will be that local governments will need to spend less money pre-treating water withdrawn for municipal water supply systems."*

48. The above recognises that "water quality objectives" will improve municipal water supply systems. As the RIS recognises that water quality objectives will apply even to municipal drinking water supplies, it is reasonable that private water supply water bodies would also be expected to be subject to water quality objectives. As such, it seems quite clear that water supply dams are intended to be subject to water quality criteria under the EPP Water.
49. A distinction appears to be drawn between the water supply 'body' (i.e, the dam itself, to which the EPP will apply), and the "water supply system" that provides domestic drinking water through infrastructure subsequent to/beyond the "intake water". On the basis of the above, I find that the EPP Water 'water quality objectives' were intended to apply to a lake/ water body even if such a water body was used ultimately for the purpose of drinking water supply. The water quality objectives would not apply only to the water within a domestic infrastructure system (as opposed to the origin water body).

'Domestic'; 'Water Supply'

50. For information/assistance only, I have also considered other statutory tools that deal with "domestic" and "water supply". The submission by Birla does not address the concepts of "domestic" or "water supply" in support of its position.
51. The *Water Supply (Safety and Reliability) Act 2008* (WSSRA) provides the statutory regulation for water suppliers in Queensland. The *Water Act 2000* (WA) deals with water as a natural resource, including allocation and planning for water use.
52. I note that Schedule 3 WSSRA, and Schedule 4 of the WA state that:
- "domestic purposes includes irrigating a garden, not exceeding .25ha, being a garden cultivated for domestic use and not for sale, barter or exchange of goods produced in the garden."*
53. For the purposes of assessable development<sup>1</sup>, under the *Self-Assessable Code for the Development of Riparian Water Access Works on a Watercourse, Lake or Spring*, domestic needs are defined as:
- "limited to all purposes for which water is used ordinarily in or in connection with a dwelling house and garden not exceeding 2,500 square metres. It does not include any business, commercial or manufacturing purposes carried on, in or in connection with a dwelling house. It does not include irrigation of produce grown for sale, barter or exchange or the generation of electricity by the use of water".*

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<sup>1</sup> Pursuant to the *Sustainable Planning Act 2009*



54. The WSSRA also defines *drinking water* as follows:  
*"I Drinking water means water, for human consumption, intended primarily as water for drinking, whether or not the water is used for other purposes."*

55. Although noting it is of minimal persuasiveness, to the extent it is useful, I also note the internet dictionary [http://www.wordiq.com/definition/Domestic\\_water\\_system](http://www.wordiq.com/definition/Domestic_water_system) defines "domestic water system" as follows:

*"A domestic water system is a system within a building, generally a house or a business, that provides water, provides ways to use water, and provides means of removing waste water."*

56. Accordingly, it appears (in the broader context) that the concept of "domestic" indicates an intention to only be that part of a system that is or immediately directly relates to supply for household or garden use.

#### Conclusion

57. Considering the broader statutory usage of the term "domestic" in the context of water supply and use, in conjunction with the recognition in the RIS that a drinking water body will still be subject to 'water quality objectives', I find that the term "drinking water in a domestic water supply system" should be read to mean only that part of a system that contains residential/ household water (and indeed only the drinking water part thereof, i.e. excludes water in a septic system), and cannot include the 'source point' general body of water that may ultimately be used for the 'domestic' consumption.

58. As an aside, it is conceivable that the term 'domestic water supply system' may in some instances extend to a pipe/ transmission system for such domestic drinking water (i.e. the water supply infrastructure "system"), however in light of the above analysis it is not necessary to determine this point (as the term should not be construed to mean a source point water body, which the lake is), so I make no specific finding in that regard.

59. Further in support of the above interpretation, I note that the lake is accessed for multiple purposes, including relevantly for mining and industrial use. These uses are specifically designed to be captured by "water quality objectives". See, for example, the RIS comment that:

*"Where industrial activities withdraw water for in-plant use, pollution may either degrade the productivity of that water, or impose higher treatment costs....In meeting EPP water quality objectives, less treatment for industry will be required and in addition, industrial water supply equipment will last longer or be cheaper".*

60. In light of the above, and in the absence of further material from Birla to support their submission, I find that 'water quality objectives' will apply to the lake.

61. Insofar as it is relevant, I note that Birla also submit that DERM "have not considered Section 10(3)(b)". On review of the information available, there is evidence that the decision maker was aware of this provision, and also sought

advice on its application, before making a determination. Accordingly, I am satisfied that this section was properly considered in making the original decision.

Summary:

62. I find that the statutory and ordinary context of the phrase “drinking water in a domestic water supply system” does not support an interpretation that would include Lake Waggaboonya as being within that concept in the EPP Water.
63. I am satisfied the s10(3) was properly considered in making the original decision.

**Submission Reason 3.3**

64. For the reasons outlined above, I find that the water quality objectives are applicable.
65. To the extent that the lake is characterised as “slightly to moderately disturbed”, I have sought expert opinion of Dr Ramsay, as follows:

*“The approach to determining the level for aquatic ecosystem protection is presented in a number of documents including the ANZECC/ARMCANZ 2000 Water Quality Guidelines, the DERM Queensland Water Quality Guidelines 2009 and the DERM Policy for Licensing discharges to Queensland waters. In general, a water body or guidelines to assess the condition of a water body, should be classified as slightly-moderately disturbed in the first instance unless sufficient information is provided to demonstrate otherwise. The following is a quote from the Policy document in regards to highly disturbed classifications: “For toxicants listed in Section 3.4 of the ANZECC Water Quality Guidelines, environmental management decisions .. trigger values for toxicants for slightly to moderately ecosystems would be adopted first, although lower levels of protection (for example 90 percent of species) may apply in some cases. An application for a discharge into HD (highly disturbed) waters should be supported by reference to local monitoring data.” The aforementioned documents also document the requirements for data collection required for determining local/ reference condition.*

*It is clear from the information available that there was insufficient data for all indicators to meet the requirements specified in the National and State water quality guidelines. ANZECC/ARMCANZ 2000 Water Quality Guidelines recommends 24 data values for derivation of reference based guidelines. Typically, 10 to 12 data points are required to assess condition, say over one year. Other considerations in determining the number of samples is also dependent on how representative the samples are of the overall system – both spatially and temporally. Given the potential for poor mixing and stratification in lakes over hotter times of the year, a greater number of samples are probably warranted in such cases. The majority of the 28 data points mentioned in the BMG response were not recent (significantly prior to 2009) years old) and potentially did not reflect more recent condition or available assimilative capacity. Secondly, the data collected were for a limited set of indicators and not covering all of the indicators of potential concern for an activity such as the*



*BMG mine. Therefore, in my view the use of guidelines for "slightly to moderately disturbed" aquatic ecosystems was appropriate for the TEP decision."*

66. I note the assessment of Dr Ramsay also considers the specific issues raised by Birla in respect of the ecosystem classification. Accordingly I find that an appropriate ecosystem classification was made.
67. I also note that the ecosystem characterisation is not the only water quality characteristic required to be considered. In particular, I note the following may also be a relevant consideration [EPP Water, s6(2)]:
- (g) for waters that may be used for agricultural purposes—the suitability of the water for agricultural purposes;
  - (h) for waters that may be used for recreation or aesthetic purposes, the suitability of the water for—
    - (i) primary recreational use; or
    - (ii) secondary recreational use; or
    - (iii) visual recreational use;
  - (i) for waters that may be used for drinking water—the suitability of the water for supply as drinking water;
  - (j) for waters that may be used for industrial purposes—the suitability of the water for industrial use.
68. Birla's submissions have not raised any issue in respect of the other water quality characteristics required to be considered.

#### Summary

69. Based on the expert assessment of Dr Ramsay, an appropriate ecosystem assessment was used in the original decision.

#### **Submission Reason 3.4**

70. Birla raises submissions in relation to the 'precautionary principle'. The submission by Birla appears to be that:
- A) the application of the principle "cannot displace clear statutory provisions as are referred to above" [I take this to be a reference to the submission in relation to s338 and s346]; and
  - B) the principle has been misapplied in order to "magnify" uncertainty or provide a disproportionate response to the uncertainty.
- A)
71. For the reasons discussed above [in submission 3.1], I have found that the relevant statutory provisions have been correctly interpreted and applied by the decision maker. Accordingly, I do not accept that there has been a "misapplication of the precautionary principle...in the context of the regulatory requirements".
72. To the extent that it is relevant, I also find that the submission by Birla that "the purpose of a TEP is to allow temporary non-compliance with a regulation or

policy or conditions of an EA" is misconstrued. The purpose of a TEP (EP Act, s330) is to achieve compliance with the EP Act by—

- (a) reducing environmental harm; or
- (b) detailing the transition to an environmental standard.

73. A TEP is intended to secure environmental protection in a way that also promotes best practice and minimises or avoids the potential for environmental harm. The purposes of a TEP are derived from s330 -333 of the EP Act.
74. This is to be distinguished from the (possible) *effect* of an approved TEP, which may (under s346) have the lawful consequence of temporary non-compliance with a regulation or policy or conditions of an EA. It should not be an automatic assumption that a TEP *will* authorise activities that would otherwise be non-compliances with the regulatory requirements.
75. I am satisfied that the decision has not applied the precautionary principle to displace statutory provisions.
- B)
76. Although the case referred to in Birla's submission referenced sources from legislation specific to NSW, I find the principles are generally accepted for the purposes of applying the precautionary principle.
77. Birla submit that "the reasons have assumed that there is a scientifically established risk of serious or irreversible environmental harm".
78. Enquiries have determined that the following was undertaken by the decision maker:
- "Calculation were completed which showed that at around 400ML of water being discharges [sic] (and assuming full mixing) the various EV's would be impacted upon i.e. various levels set out in relevant guidelines such as the drinking water guidelines, ANZECC 2000 water quality guidelines which have limits for stock watering as well as for protection of ecosystems would be exceeded.*
- Given the issues with the assumption that would be considered "best case scenario" and therefore it is highly likely that at 2Gigaltres [sic] of water the environmental impacts would be much higher."*
79. Potential for adverse impact is also recognised in the draft TEP itself- For example TEP p3:
- "Discharge of treated water to cease immediately if monitoring indicates water quality that is not suitable for livestock consumption."*
80. I have sought expert comment from Dr Ramsay on whether there is a threat of environmental damage- that is, whether there is, "based on plausible scientific reasoning, scenarios or models of possible harm" occurring from the activity proposed in the TEP. The correspondence response is as follows:

*"From a scientific and technical perspective, the decision-maker's approach described above is a reasonable method to screen potential risk of environmental harm of the proposed TEP and in my view is not over precautionary. The reality is that the lake system will not be well mixed and the more saline wastewater is likely to accumulate at the bottom of the lake, increasing the potential for environmental harm on the lake and ultimately on downstream waterways if water overflowed from the lake."*

81. Dr Ramsay also makes further comment in his assessment as follows:

*"if approved the proposed discharge would have significantly affected the currently "good" water quality and related environmental values of the lake with high likelihood of resulting in environmental harm. This is based on the information provided in the original TEP, knowledge of water quality guidelines and prior experience with assessment of wastewater discharges. The major contaminants of concern were salinity (measured by TDS) and sulfate and their potential impacts on aquatic ecosystem protection (TDS only) and human drinking water values. There was also a potential that copper and some other metals in the discharge are of some concern although there is insufficient information to assess this with any certainty. The potential area of impacts included:*

- (i) Local (near-field) impact on the Lake from poor mixing of the discharge, particularly in terms of high TDS*
- (ii) Further field impact on the environmental values (aquatic ecosystem and drinking water) of the Lake due from elevated levels of TDS and sulphate (and potentially copper).*
- (iii) Impacts on downstream waterways such as Gunpowder Creek as a result of overflows from the Lake."*

82. This constitutes a reasonable scientific conclusion that there is a risk of serious or irreversible environmental damage, sufficient to satisfy the precautionary principle threshold.
83. Birla also submit that "the way in which the Reasons for Refusal rely on purported scientific uncertainty flows from an incorrect appreciation and application of the precautionary principle". There is no elaboration by Birla on what is meant by their submission "incorrect appreciation and application of the precautionary principle".
84. In the absence of such information, I have reviewed the rationale for the original decision (in the context of the principle), and have also sought further information as to the reasons for the decision, and sought input from scientific opinion.
85. I have sought Dr Ramsay's expert scientific comment on whether there is a degree of uncertainty as to the nature and scope of the threat of environmental damage as a result of the actions proposed in the TEP, as follows:

*"From a scientific perspective, the assessment of potential environmental harm for a discharge to any waterway, including a static lake system, requires substantial prior monitoring and assessment. It is my view that sufficient*

relevant scientific and technical information was not provided in the original TEP application. This includes each of the following areas:

- (i) the data for baseline assessment of the lake - see Comments 2 and 9a above,
- (ii) information on mixing of the discharge with lake water based on both near-field effects (i.e. diffuser related) and further field impacts (lake mixing, dilution, evaporation, overflow, extraction, etc) – see Comments 3 and 4 above,
- (iii) the ultimate/worse case change to the lake water quality and effect on environmental values – see Comments 3, 4, 5 and 6 above, and
- (iv) potential effects on connected water bodies as a result of overflows – see Comments 7 above.

*Based on my assessment, I would conclude that the potential degree of uncertainty for the case of approving the proposed TEP was significant."*

86. I am satisfied that the preconditions for the precautionary principle appear to have been satisfied, that is it was determined that:
- a) there was a serious threat of environmental harm (demonstrated by a "best case" calculation still exceeding recognised scientific standards for safe contaminant levels, and also the potential for additional contamination); and
  - b) there was substantial uncertainty as to the nature and scope of the threat (demonstrated by the incomplete or inadequate scientific measures used to assess the level of the threat).

87. Accordingly I find the precautionary principle is validly enlivened. From the judgment (as identified by Birla) of *Felstra Corporation v Hornsby Shire Council* [2006] NSWLEC 133 (BC 200601529), at paragraph 150, it follows:

*"At this point, there is a shifting of an evidentiary burden of proof. A decision-maker must assume that the threat of serious or irreversible environmental damage is no longer uncertain but is a reality. The burden of showing that this threat does not in fact exist or is negligible effectively reverts to the proponent of the economic or other development plan, programme or project.*

*The rationale for requiring this shift of the burden of proof is to ensure preventative anticipation; to act before scientific certainty of cause and effect is established. It may be too late, or too difficult and costly, to change a course of action once it is proven to be harmful. The preference is to prevent environmental damage, rather than remediate it. The benefit of the doubt is given to environmental protection when there is scientific uncertainty. To avoid environmental harm, it is better to err on the side of caution.*

*The function of the precautionary principle is, therefore, to require the decision-maker to assume that there is, or will be, a serious or irreversible threat of environmental damage and to take this into account, notwithstanding that there is a degree of scientific uncertainty about whether the threat really exists."*



88. Birla submit that "The response to that perceived uncertainty, namely a refusal of the TEP is a completely disproportionate response to any residual risk". Birla cites the monitoring program and response measures in support of this statement.
89. I find that, in accordance with the precautionary principle (as outlined in the case cited above), 'monitoring and response measures' are inappropriate channels to resolve the uncertainties. Dr Ramsay's scientific assessment also concludes:
- "Given the potential for environmental harm, it is not appropriate to rely on a reactive monitoring program to manage this risk. Such a response should only be used when environmental risks are considered low because environmental variable and potentially slow monitoring and management response means significant harm can occur prior to changing or ceasing activities."*
90. The concept of proportionality in the precautionary principle is that measures should not go beyond what is appropriate and necessary in order to achieve the objectives in question. In this instance, the qualitative data used to make determinations is in question, therefore it is a proportionate response (and consistent with the precautionary principle) to refuse the TEP until such time as Birla can provide the requisite comprehensiveness required.
91. The comments regarding the precautionary principle, in the reasons for decision, identify a number of unsatisfactory assumptions and incomplete assessment data, as the reasons for the "uncertainties". The reasons for decision also identify various measures that could have addressed some of the uncertainties.
92. Birla have not addressed any of these unsatisfactory assumptions or assessments in their application for review.
93. Finally, in light of the discussion above regarding the statutory regime, I find that the precautionary principle has been applied in the reasons for decision in conjunction with all relevant statutory provisions/ requirements (such as s319 and s338), and not as the singular reason for refusal. This is consistent with the principle being applied not in isolation, but considered in light of all facts and circumstances.
94. To the extent that it is relevant, I also note that the uncertainties identified and referenced for the application of the principle comprise only one part of the reasons for the decision. The reasons that ultimately discuss the precautionary principle comprise only 2 pages of a 16 page reasons; accordingly, to the extent that there is any misapplication of the principle (and I do not make any finding that there has been), I find that it does not affect the overall reason for the decision to refuse the TEP.

#### **Specific reasons**

95. The specific reasons identify a number of matters to be considered, in relation to various aspects of the original decision.

96. In terms of submissions, the specific reasons repeat a number of the matters raised in the submissions reviewed above. To the extent that matters raised in the specific comments are a repeat of the 'general' submissions, I adopt the determination made in the general submissions in respect of those matters.
97. In respect of matters of a technical nature, these have been assessed by Dr Ramsay, and are addressed in the attached review document completed by Dr Ramsay. To the extent that the application for review refers to these specific submissions, I adopt the conclusions of Dr Ramsay in the attached.

### Other matters

98. Section 330 of the EP Act states:  
"A transitional environmental program is a specific program that, when approved, achieves compliance with this Act for the matters dealt with by the program by—  
(a) reducing environmental harm; or  
(b) detailing the transition to an environmental standard."
99. It is of note that this requires that a TEP be a "program that achieves compliance with the Act for the matters dealt with in it". A program that does not achieve compliance with the EP Act cannot be a TEP, and so cannot be approved by DERM.
100. I note the draft program notice only proposed to reduce the total volume of poor quality water. The TEP states that it would reduce the volume "by 20% to 30%" of the current level. It does not propose to dispose of all of the contaminated water, or even to guarantee it will meet the MRL levels as set out in the EA for the mine. Accordingly it cannot be said the proposed TEP would transition to an environmental standard or achieve compliance with the Act.
101. Furthermore, I note Dr Ramsay's opinion that:  
*"if approved, the proposed discharge would have significantly affected the currently 'good' water quality and related environmental values of the lake and resulted in environmental harm."*  
And further that:  
*"the information available indicates that there is still a significant potential for impact on aquatic ecosystem and drinking water values downstream if the treated water discharge was approved."*
102. Accordingly, it could not be said the proposed TEP would reduce environmental harm
103. In conducting a review, I may confirm or revoke the original decision, or vary it. The EP Act does not give me the power to amend the draft TEP. Accordingly, I cannot vary the original decision by amending the draft TEP. Seeking amendments from Birla is also not a decision that the EP Act allows me to make. Accordingly, even if it were appropriate to amend the draft TEP to



satisfy its shortcomings (and for the reasons given above I am not of the view that it is), that is not a decision that is open to me in making my review decision.

### **Review decision**

104. Having reviewed the decision made on 12 October 2010 to refuse to approve a draft TEP submitted by Birla, and having considered the submissions of Birla, my decision is to confirm the original decision.
105. My review decision was made on 08 November 2010. The reasons for making my decision are those set out in the preceding discussion.

s78B(2) - Privacy

Matthew Peate  
Team Leader/ A/Principal Lawyer  
Delegate of the administering authority  
Department of Environment and Resource Management

Attached (as part of these reasons): Assessment conducted by Dr Ian Ramsay

## Memorandum



**Queensland  
Government**

Department of  
**Environment and Resource  
Management**

Enquiries      Dr Ian Ramsay  
Telephone      (07) 3896 9277  
Your reference      ISA27  
Our reference      Work Request 25/10/10

5 November 2010

**To:**      **Matt Peate, Team leader and acting principal lawyer**  
            **Litigation – Environment and Natural Resource Regulation**

**From:**    **Dr Ian Ramsay, Chief Scientist**  
            Water Quality & Aquatic Ecosystem Health, Environment & Resource  
            Sciences

**Subject:**   **Mt Birla TEP Review – Dr Ian Ramsay Comments, November 2010**

### General Comments:

Further to the work request dated 25 October 2010, Dr Ian Ramsay of the Water Quality & Aquatic Ecosystem Health (Water Sciences) group has reviewed the Mt Birla Transitional Environmental Program (TEP) and related DERM decision to refuse the TEP. The focus of the review was on the scientific and technical aspects of the proposal with consideration of legislation, guidelines and Departmental policies relevant to licensing of point source discharges to aquatic environments. The overarching policy is the DERM Policy for Licensing Discharges to Queensland waters, which provides an interpretation of the national and State water quality guidelines (ANZECC and Queensland Water Quality Guidelines 2009).

The specific documents reviewed that were of a technical and scientific nature included:

- Birla Mt Gordon Transitional Environmental Program, Water Treatment and Lake Waggaboonya Discharge, 26 July 2010
- Supporting Information for Transitional Environmental Program, Lake Waggaboonya Options, Prepared for Birla Mt Gordon Pty Ltd by MBS Environmental, July 2010
- Letter and related application for Review of original decision for "Approval of draft TEP – Birla Mt Gordon Pty Ltd (Water treatment and Lake Waggaboonya discharge)" including "REASONS WHY BIRLA MT GORDON PTY LTD (BMG) BELIEVES DECISION DATED 12 OCTOBER 2010 TO REFUSE APPROVAL FOR A TRANSITIONAL ENVIRONMENTAL PROGRAM (TEP) FOR DISCHARGE OF TREATED WATER TO LAKE WAGGABOONYA IS UNREASONABLE AND INAPPROPRIATE"

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- Assessment Report, Voluntary Transitional Environmental Program TEP MAN9059, DERM, September 2010, pages 1 to 12.
- Various excel data sheets provided collected by Dr Neil Tripodi, received from Environmental Services, containing raw monitoring data for Lake Waggaboonya

In general, the information provided by the proponent for the TEP application for the proposed discharge to Lake Waggaboonya included a number of unsupported assumption, misapplication of water quality guidelines and significant omissions. Regardless, it is my view that if approved, the proposed discharge would have significantly affected the currently "good" water quality and related environmental values of the lake and resulted in environmental harm. The major contaminants of concern were salinity (measured by TDS) and sulfate and their potential impacts on aquatic ecosystem protection and human drinking water values. There was also a potential that copper and some other metals in the discharge are of some concern although there is insufficient information to assess this with any certainty. Further information is provided below in regards to the basis for these conclusions (see Part A).

Also provided is my response to the specific response to the technical aspects of the reasons why Mt Birla believes the decision to refuse the TEP is unreasonable and inappropriate (Part B) with specific responses from Table 1 addressed in Part C. In general, I believe that there was no significant case for not classifying the lake as slightly to moderately disturbed in terms of aquatic ecosystem protection and that there was both a potential for environmental harm and significant uncertainty related to the proposal based on the information provided. Therefore, I conclude that the decision for refusal of the TEP did not involve misapplication of the precautionary principle.

## **Specific Comments/Issues:**

### **Part A - Review of Birla Mt Gordon Transitional Environmental Program Submission**

#### **1. Existing Lake Water Quality – evidence of "good" water quality**

Information is provided on the water quality of Lake Waggaboonya in Table 9 of the TEP Supporting Information Document (and raw data sheets) and suggests that the water at the time of sampling could be considered "good" quality. This is based on consideration of pH, EC/TDS, DO, sulphate and metals concentrations and comparison to guidelines and typically "good" water quality. For example, the EC is around 400uS/cm which is within the National Water Quality Guideline values for Tropical Australia for lakes (which is 90 to 900uS/cm). The in-situ pH results are around 7.7 which are slightly about neutral but within the National Water Quality Guideline values for Tropical Australia lakes (which is 6.0 to 8.0). The slightly higher pH is consistent with a lake with algal activity which produces CO<sub>2</sub> which typically pushes pH higher. The majority of metal results are either below National Water Quality Guideline triggers or near detection levels – except for copper. See note below in regards to the technical issue regarding sampling of metals. Given the technical issue of the sampling that potentially overestimates dissolved concentrations, the copper concentration in the Lake are unlikely to be a major concern.

Note that there is a major issue with the presentation of dissolved oxygen concentrations in Table 9 which has the units % (which is assumed to mean percent saturation). At these levels, the water would be considered "anoxic" and would be smelly and extremely poor quality. In raw data spreadsheets it shows DO units as % for some sheets while others show units as mg/L. It is therefore assumed that the units should be mg/L. This would be consistent with

what would be expected of a water supply lake and high levels of oxygen (i.e. supersaturation) can result for algal activity.

## 2. Assessment of Lake Water Quality limited

- (i) **Dissolved metals:** There is a technical issue with the sampling of dissolved metals for assessing the Lake water quality. Samples were added to bottles with preservative and filtered in the laboratory. This would result in an overestimate of dissolved metal concentrations and are more likely to reflect total metal concentrations. For aquatic ecosystem protection, dissolved metal concentrations are needed to assess the condition and risk where total metals exceed toxicant trigger values. Therefore, the results presented have only limited application for the copper results.
- (ii) **Limited indicator assessment of aquatic ecosystem protection:** The results presented in Table 10 of the TEP Supporting Information Document show only a limited number of indicators, and for those shown, only compares four of them to aquatic ecosystem guidelines. Comparison should have been made for pH and TDS (using EC).
- (iii) **No lead, cadmium or chromium concentration assessment:** It is noted that no data or assessment is provided for lead concentration despite that request for a discharge limit which is significantly higher than the aquatic ecosystem protection toxicant trigger value. The raw data spreadsheets indicate that lead levels in the lake are generally below the National Water Quality Guidelines' toxicant trigger value for slightly moderately disturbed systems. Similarly there is no information on cadmium or chromium concentrations although the discharge limits proposed for these are much lower.
- (iv) **No Sediment Quality Data:** Sediment quality is a useful way of characterising historical changes in water quality and benchmarking background concentrations. No data was provided.
- (v) **Limited temporal data set for assessment:** The water quality data provided by the proponent includes some spatial coverage (including 4 locations at 3 depths) for one sampling event. In order to assess water quality with any confidence, sampling over a number of events is required. To assess condition, typically 10 to 12 samples are required typically over 1 to 2 years.

## 3. Diffuse design and related discharge mixing unsubstantiated

As indicated in the TEP Application Reports, the treated discharge water is denser than the lake water (because it has higher salinity) and is likely to sink to the bottom of the lake and not readily mix with the lake water. If this occurs, there is a higher likelihood of major impacts on the values of the lake. The need for some type of mixing to promote near-field mixing is acknowledged in the proposal. It is proposed that a 500m slotted pipe will be used on the surface of the lake to maximise the area for receiving treated water. The effectiveness of this approach is unsubstantiated. Typically for discharges involving diffusers, some type of technical assessment (such as modelling) is provided to help demonstrate the effectiveness of the proposal and also assist with optimising the design. The slotted pipe proposal is a primitive form of diffuser and has potentially major operational concerns. For example, there is no guarantee that sufficient velocities will be achieved through the slots to adequately promote mixing and the slot sizes of the pipe may be such that treated water is only released from a fraction of the 500m length. Both of these risks increase the likelihood of poor near-field mixing. In summary, the need for near field mixing and some type of diffuser is agreed but there is insufficient information to show that the proposed diffuser will provide adequate near-field mixing to avoid significant impacts on the lake.

## 4. Estimates for Lake Dilution and Assimilation unsubstantiated and insufficiently conservative

The TEP application reports (e.g. Table 13 of supporting information) predict the water quality of Lake Waggaboonya following release of treated water. There is no supporting information about the model used to make these predictions other than conservative dilution (which we assume to mean no assimilation/dissipation of contaminants was considered). Back calculation suggests that a static volume of approximately 5.8GL was used for the lake volume. It is not clear how conservative this is but if it does not include evaporation, overflow and water extraction over the period then it is not adequately conservative. Overflow and water extraction which usually occurs from the surface of the dam is likely to remove better quality water while evaporation will concentrate the contaminant concentrations in the dam. In addition, the use of median values for treated water parameters should also be included with expected worse case numbers which are being requested in the TEP. Again, the numbers and calculations behind the predictions should be provided. It is acknowledged that assimilation of some contaminants is likely to occur and that prediction without this consideration is appropriate in such a case to be conservative. Nonetheless, the predictions are not likely to be conservative in a dilution/hydrodynamic sense as complete mixing is unlikely to occur.

Therefore, the numbers presented could only be used to give a "rough" estimate of ultimate concentrations assuming there was complete mixing of treated wastewater and no removal of water (both of which are highly unlikely). In some locations of the lake, the concentrations are likely to be much higher, particularly for a contaminant such as salinity that does not assimilate.

## **5. Misapplication of water quality guidelines – particularly salinity and sulfate**

The information presented in the discussion about potential impacts from the discharge of treated wastewater to the lake involves a couple of major omissions and misapplications of guidelines. These are discussed below:

- (i) **Salinity (TDS) impacts** – Firstly, the Australian Drinking Water Guideline have been misinterpreted in the TEP application documents. The TDS guideline is 500mg/L (classified as "good") and not 1000mg/L as stated. Secondly, TDS (or electrical conductivity – EC) should have been considered in terms of aquatic ecosystem protection. As mentioned previously, the National Water Quality Guideline values for Tropical Australia has a reference-based EC guideline for lakes as between 90 to 900uS/cm (which can be estimated as 54mg/L or 540mg/L TDS using a conversion factor of 1/1.67). Note that the measurements of the lake were in this range at around 400uS/cm (approx 240mg/L TDS). Appendix G of the Queensland Water Quality Guidelines also presents reference-based guidelines for EC for parts of Queensland. The guidelines (based on 75<sup>th</sup> percentiles of reference sites) are all less than 1120uS/cm (or approximately 670 mg/L TDS). These guidelines are all significantly less than the proposed discharge TDS limit and the likely concentrations that will result in the lake. Although there is no toxicity guidelines published in the National Water Quality Guideline for salinity, published literature (can be provided on request) suggests that chronic toxicity to macroinvertebrates and to early-life cycle stages of fish can occur at concentrations less than 1500uS/cm (approx 900mg/L TDS) and 1000uS/cm (approx 600mg/L TDS), respectively. Therefore, there is a strong likelihood of non-compliance with both toxicity and reference based guidelines for the lake received treated wastewater under the proposed TEP discharge TDS limit of 4600mg/L.
- (ii) **Sulfate impacts** – The Australian Drinking Water Guideline recommend a sulfate guideline of 250mg/L to avoid aesthetic issues. This has largely been largely avoided in the discussion about impacts from the discharge in the TEP Application documents. Note that the current sulfate concentrations in the lake are around 6mg/L which is significantly under the drinking water guideline. The proposed sulfate discharge limit in the TEP in Table 5 is 3500mg/L while all but one of the scenarios for the predicted lake water quality in Table 6 are above 250mg/L. This information indicates a potential major risk from elevated sulfate levels in the discharge on drinking water values for the lake.



## 6. No consideration of aquatic ecosystem protection for elevated copper limit for discharge

The proposed TEP discharge limit for copper concentrations in the treated water discharge is 0.3 mg/L. The predicted water quality concentrations of the lake were 0.012mg/L and above. These values are significantly higher than both the existing water quality in the lake and the National Water Quality Guidelines toxicant trigger values (95% and 80% level species protection are 0.0014 and 0.0025mg/L respectively). The issue of aquatic ecosystem protection in regards to discharge of copper seems to be largely ignored in the determination of the proposed discharge limit.

## 7. Impacts on Gunpowder Creek not include aquatic ecosystem protection

A broader concern is the potential impact of the discharge on Gunpowder Creek and other downstream waterways if there was an overflow from the lake. It is stated in the TEP Supporting Information Document that "Given the current close to full status of the lake and significantly reduced abstraction by both Mt Gordon and Lady Annie in 2009 and 2010, the likelihood of the lake flowing over the wall and into Greenstone Creek and subsequently Gunpowder Creek in the upcoming wet season can reasonably be considered to be high, particularly if treated water is also discharged into the Lake." The section then goes on to consider the impacts of the release of water from the Lake to Gunpowder Creek. This is based on comparison against stock watering and the potential impact on aquatic ecosystem protection is not considered. This is a major omission in the assessment. Although the impact on Gunpowder Creek is expected to be less than the more localised impacts on the Lake, the information available indicates that there is still a significant potential for impact on aquatic ecosystem and drinking water values downstream if the treated water discharge was approved. The impacts should either be avoided or assessed further to demonstrate risks are adequately low to allow approval.

## Part B. Response to comments made Birla Mt Gordon regarding TEP Refusal

### 8. Extent should the lake be characterised as "slightly to moderately disturbed" or "highly disturbed (Submission Reason 3.3)

The case is made by Birla Mt Gordon that the Lake should not be classified as "slightly to moderately" disturbed because of various reasons including being "man-made" and the frequent occurrence of algal blooms. These factors are potentially significant but on their own are not necessarily grounds for not classifying the Lake as slightly to moderately disturbed.

The approach to determining the level for aquatic ecosystem protection is presented in a number of documents including the ANZECC/ARMCANZ 2000 National Water Quality Guidelines, the DERM Queensland Water Quality Guidelines 2009 and the DERM Policy for Licensing discharges to Queensland waters. In general, a water body or guidelines to assess the condition of a water body, should be classified as slightly-moderately disturbed in the first instance unless sufficient information/data is provided to demonstrate otherwise. A system may be modified in regards to some components, such as nutrients, but may be unmodified in regards to others, such as metals/metalloids. The following is a quote from the Policy document in regards to highly disturbed classifications: "For toxicants listed in Section 3.4 of the ANZECC Water Quality Guidelines, environmental management decisions would include, trigger values for toxicants for slightly to moderately ecosystems to be adopted first, although lower levels of protection (for example 90 percent of species) may apply in some cases. An application for a discharge into HD (*highly disturbed*) waters should be supported by reference to local monitoring data." The aforementioned documents also document the requirements for data collection required for determining local/ reference condition.



It is clear from the TEP submission documents and raw data sheets that there was insufficient data for all indicators to meet the requirements specified in the National and Queensland Water Quality Guidelines. The National Guidelines recommends 24 data values for derivation of reference based guidelines preferably over two year. Typically, 10 to 12 data points are required to assess condition, preferably over one year. Other considerations in determining the number of samples is also dependent on how representative the samples are of the overall system – both spatially and temporally. Given the potential for poor mixing and stratification in lakes over hotter times of the year, a greater number of samples are probably warranted in such cases. The majority of the 28 data points mentioned in the Birla Mt Gordon response were either not recent (7 samples were from 2001 to 2005) or from one sampling event (12 samples were taken from one day in July 2009) and potentially did not reflect more recent condition or available assimilative capacity. Secondly, the data collected were for a limited set of indicators and did not cover all of the indicators of potential concern for an activity such as the BMG mine. Clear omissions included chromium, cadmium and lead. Therefore, in my view the use of guidelines for “slightly to moderately disturbed” aquatic ecosystems was appropriate for the TEP decision based on the information available.

## 9. Application of the Precautionary Principle

**9a. Is there a threat of environmental damage- that is, whether there is, “based on plausible scientific reasoning, scenarios or models of possible harm” occurring from the activity proposed in the TEP?**

As stated in the previous section, it is my view that if approved the proposed discharge would have significantly affected the currently “good” water quality and related environmental values of the lake with high likelihood of resulting in environmental harm. This is based on the information provided in the original TEP, knowledge of water quality guidelines and prior experience with assessment of wastewater discharges. The major contaminants of concern were salinity (measured by TDS) and sulfate and their potential impacts on aquatic ecosystem protection (TDS only) and human drinking water values. There was also a potential that copper and some other metals in the discharge are of some concern although there is insufficient information to assess this with any certainty. The potential area of impacts included:

- (i) Local (near-field) impact on the Lake from poor mixing of the discharge, particularly in terms of high TDS
- (ii) Further field impact on the environmental values (aquatic ecosystem and drinking water) of the Lake due from elevated levels of TDS and sulphate (and potentially copper).
- (iii) Impacts on downstream waterways such as Gunpowder Creek as a result of overflows from the Lake.

There is no significant relevance, mitigation or alleviation of uncertainty or potential for harm by the comments made by Birla Mt Gordon within its review applications from a technical perspective. Given the potential for environmental harm, it is not appropriate to rely on a reactive monitoring program to manage this risk. Such a response should only be used when environmental risks are considered low because environmental variable and potentially slow monitoring and management response means significant harm can occur prior to changing or ceasing activities.

**9b. Is there is a degree of uncertainty as to the nature and scope of the threat of environmental damage as a result of the actions proposed in the TEP?**

From a scientific perspective, the assessment of potential environmental harm for a discharge to any waterway, including a static lake system, requires substantial prior monitoring and

assessment. It is my view that sufficient relevant scientific and technical information was not provided in the original TEP application. This includes each of the following areas:

- (i) the data for baseline assessment of the lake - see Comments 2 and 9a above,
- (ii) information on mixing of the discharge with lake water based on both near-field effects (i.e. diffuser related) and further field impacts (lake mixing, dilution, evaporation, overflow, extraction, etc) – see Comments 3 and 4 above,
- (iii) the ultimate/worse case change to the lake water quality and effect on environmental values – see Comments 3, 4, 5 and 6 above, and
- (iv) potential effects on connected water bodies as a result of overflows – see Comments 7 above.

Based on my assessment, I would conclude that the potential degree of uncertainty for the case of approving the proposed TEP was significant.

### Part C – Matters Raised in Table 1 of the TEP Review Application

| No. | BNG Technical Issue Raised                                                         | Response                                                                                                                                                                                                                                                                           |
|-----|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Nil – legal issue                                                                  | -                                                                                                                                                                                                                                                                                  |
| 2.  | WQ Data us sufficient                                                              | See Comments 2. Reactive monitoring is not an acceptable way to manage risk.                                                                                                                                                                                                       |
| 3.  | Not possible to monitor all potential contaminants                                 | Monitoring of all contaminants is not required. The application should have considered all contaminants of potential concern. Why did monitoring of the lake not consider contaminants such as chromium, cadmium and lead since limits have been requested for these contaminants? |
| 4.  | All predictive modelling has assumed 'worse case' scenarios.                       | See Comments 3 and 4. Non conservative approach adopted for diffuser and mixing. Limnology report was not available for the assessment.                                                                                                                                            |
| 5.  | Sulphate considered constituent of most impact                                     | See Comment 5. Salinity is also considered constituent of much concern and can cause toxicity.                                                                                                                                                                                     |
| 6.  | Propose use of 500m slotted pipe for diffuser and use of powered boats for mixing. | See Comment 3. Lack of mixing is a major risk and is not addressed by any information provided.                                                                                                                                                                                    |
| 7.  | Much higher concentrations of copper and sulfate using algicides.                  | See Comments 3 and 4. Acute toxicity likely to be from changes in salinity or anoxia (low DO) caused from saline layers smothering benthic organisms. Copper may be an issue but insufficient information to assess.                                                               |
| 8.  | Nil – non technical                                                                | -                                                                                                                                                                                                                                                                                  |
| 9.  | Data provided by BMG for 28 samples from 2001 to 2010                              | See Comments 2 and 8. Data provided is clearly insufficient based on guideline requirements.                                                                                                                                                                                       |
| 10. | Nil – management issue                                                             | -                                                                                                                                                                                                                                                                                  |
| 11. | Data, limnology survey and current EA contaminants assessed to address uncertainty | See above. Information listed does not sufficiently address uncertainty concerns.                                                                                                                                                                                                  |
| 12. | Data submitted adequate and modelling conservative                                 | See above. Information listed does not sufficiently address information needs for the assessment.                                                                                                                                                                                  |
| 13. | Reactive monitoring to be used to assess                                           | See Comment 9a. Where a high risk exists, reactive monitoring alone is not an appropriate solution.                                                                                                                                                                                |

|     |                                                                                                             |                                                                                                                                                                                                                                                                             |
|-----|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | assumptions of assessment                                                                                   |                                                                                                                                                                                                                                                                             |
| 14. | Precautionary principle inappropriately used                                                                | See Comment 9b. Insufficient information provided to demonstrate low risk.                                                                                                                                                                                                  |
| 15. | Use of evaporation ponds in Magazine Creek over Esperanza TSF for intermediate storage.                     | No comment                                                                                                                                                                                                                                                                  |
| 16. | BMG classified lake as moderately disturbed.                                                                | See Comment 8. Slightly to moderately disturbance should be assumed for indicators unless modification is shown based on monitoring data. Data indicated no significant disturbance.                                                                                        |
| 17. | Overflow will involve significant dilution. WQ will be lessened over time.                                  | See Comment 7. Potential impact still warrants assessment considering aquatic ecosystem protection values.                                                                                                                                                                  |
| 18. | Nil – non discharge issue                                                                                   |                                                                                                                                                                                                                                                                             |
| 19. | Nil – management issue                                                                                      |                                                                                                                                                                                                                                                                             |
| 20. | BMG has evidence that additional contaminants are below guidelines.                                         | Information should have been provided in the application. Nonetheless, probably not the most significant issue resulting in refusal.                                                                                                                                        |
| 21. | Sediment assessment provided in TEP and limnology survey indicates concentration of copper below ISQG - Low | Sediment data would still assist with future assessment. The increase in sediment copper in the TEP for 100% assimilation did not take into account potential for poor mixing. As mentioned, it is not clear from the information provided whether copper is a major issue. |
| 22. | Nil – management issue                                                                                      |                                                                                                                                                                                                                                                                             |

DESPATCHED

24 DEC 2010

R. Jose 569042744018.  
 D. Towne 569042745015.  
 S. Kulwal 569042746012.



**Queensland  
Government**

Enquiries Dean Sharpe  
 Telephone (07) 4222 5325  
 Our reference ISA27

Department of  
**Environment and Resource  
 Management**

24 December 2010

Mr Sunil Kulwal  
 Chief Executive Officer  
 Birla Mt Gordon Pty Ltd  
 Level 3 Septimus Roe Square  
 PERTH WA 6000

Dear Sir,

**Pre wet season inspection of Birla Mt Gordon Mine, Environmental Authority  
 MIN100489906**

As you are aware, Department of Environment and Resource Management (the department) officers conducted an inspection on 8 and 9 November 2010 at the Birla Mt Gordon Mine to assess site preparedness for the upcoming wet season and assess compliance with some conditions of Environmental Authority MIN100489906.

The purpose of this letter is to highlight non-compliance issues and areas of concern arising from the inspection and to further reiterate the importance of preparing for the upcoming wet season. The pending application for amendment of Environmental Authority MIN100489906 lodged by Birla Mt Gordon Pty Ltd (BMG) has been taken into account in providing this response.

**Compliance issues**

At the time of the inspection there were several instances of non-compliance with the conditions of Environmental Authority MIN100489906 identified. Specifically, the following conditions were found to be in non-compliance.

07 JAN 2011



**Queensland  
Government**

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Towne

Department of  
Environment and Resource  
Management

7 January 2011

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

## 2010 Annual Hazardous Dam Safety Review Report

Dear Sir,

I refer to the 2010 Annual Hazardous Dam Safety Review Report (the report) for the Mt Gordon mine (the mine) prepared by Allan Watson Associates, provided by Birla Mt Gordon Pty Ltd (BMG) to the Department of Environment and Resource Management (the department) on 9 December 2010.

The report outlines suggested actions/recommendations to ensure the safe operation of hazardous dams at the mine (refer to pages 18 to 23 of the report). In accordance with this report, the department considers the following recommended actions to be of immediate concern:

- Construction of a suitably engineered spillway for the Esperanza Pit (and retention pond), which is a requirement of Environmental Authority MIN100489906 (EA) condition C1-12.
- Develop a plan for significantly reducing water levels in the Esperanza Pit, which should involve:
  - development of a suitable water balance model for the mine.
- Modification of the Tailings Storage Facility (TSF) spillway to comply with EA conditions (at a minimum designed to withstand a 1:1000 yr ARI storm event, although the report recommends constructing to a 1:10,000 yr ARI standard).
- Minimise water storage within the TSF to limit seepage (based on recent advice from BMG water is still pumped to TSF for intermediate storage).

It should be noted that the recommendation for development of a site water balance model was made in the 2009 Annual Hazardous Dam Safety Review Report. In addition to this recommendation, the department has previously advised BMG that a site water balance model should be implemented, and it is unclear why this fundamental water management tool has yet



to be adopted by BMG.

In regards to regulatory requirements outlined in Section 3.0 – Regulatory Requirements of the report, no mention is made regarding the unauthorised bunds that were constructed to increase the storage capacity of the Esperanza Pit and Mill Ck Dam during the 2009-2010 wet season. The unauthorised construction of these bunds is a clear breach of EA condition F5-3, which states:

*(F5-3) The holder of the environmental authority must design, construct, operate, maintain and decommission all high-hazard dams containing hazardous in accordance with the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste.*

Due to the lack of detail regarding the construction of these unauthorised bunds, and the low level of scrutiny evident in the report, it appears that BMG are not taking all reasonable and practicable measures to assess the level of risk associated with potential failure of these bunds. The risk of failure for the unauthorised bunds should be considered as high, particularly in the event of overtopping, and to date no information has been provided to suggest otherwise.

As previously advised (most recently during the fortnightly teleconference on 8 December 2010) and during the site inspection of the mine on 9 November 2010, this matter is of great concern to the department. A failure of these structures could constitute a breach of EA and potentially cause serious environmental harm to the receiving environment.

The department requires BMG to outline how it will address all of the reports recommendations and supply timeframes for completing these works. If BMG plan not to implement some of the reports recommendations, justification must be provided outlining why these works are not required.

The department requires a response to this letter by **24 January 2011** addressing the issues highlighted above. BMG is reminded that breach of your EA is a serious issue and that action must be taken to ensure dam safety at the mine.



Should you have any further enquiries, please contact Jacob Toe of the department on telephone (07) 4222 5332.

Yours sincerely,

s78B(2) - Privacy

Hamish Butler  
A/Manager  
Mining and Heavy Industry  
North Region  
Department of Environment and Resource Management

cc. Mr Ric Jose  
Acting General Manager  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

cc. Mr Dan Towne  
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PO Box 2543  
MOUNT ISA QLD 4825

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Department of  
**Environment and Resource  
Management**

14 February 2011

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

### **Water treatment infrastructure at the Mt Gordon Mine**

Dear Sir,

The Department of Environment and Resource Management (the department) has been informed by Birla Mt Gordon Pty Ltd (BMG) that approximately 600 mega litres of treated water has been discharged to Gunpowder Creek since 28 December 2010, as authorised in the Discharge Water Quality Modifications Transitional Environmental Program (TEP) and Environmental Authority MIN100489906 (EA). However, a large volume of water is still stored in the Esperanza Pit, which constitutes a non-compliance with the EA as well as an unacceptably high risk of harm to the receiving environment.

Based on rainfall predictions and historic rainfall data, there are likely to be further opportunities over the remainder of the wet season to discharge large volumes of water remaining at the Mt Gordon Mine (the mine).

It is understood that Mill Creek Dam is currently at a comparatively low level (below approximately 400 mega litres), providing capacity to treat poor quality water from Esperanza Pit for temporary storage in Mill Creek Dam pending discharge to Gunpowder Creek. However the department understands that the lime neutralisation system is currently not operating at full capacity. The inability to maximise water treatment on-site is of concern to the department as is the need to ensure the availability of adequate water treatment capacity at the mine as previously raised with BMG on a number of occasions. You are reminded of the need to maximise authorised discharges from the mine over the remainder of the wet season and ensure an adequate volume of suitable quality water is available for discharge when conditions permit.

The department expects you to immediately undertake all necessary repairs and/or upgrades to water treatment infrastructure at the mine in order to facilitate maximum reduction of water

stored at the mine over the remainder of the wet season and expedite a return to compliance with your EA.

Should you have any further enquiries, please contact Jacob Toe of the department on telephone (07) 4222 5332.

Yours sincerely,

Dean Sharpe  
Team Leader Cairns  
Mining and Heavy Industry  
Environmental Services  
North Region  
Department of Environment and Resource Management

cc. Mr Ric Jose  
Acting General Manager  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

cc. Mr Dan Towne  
Environmental Coordinator  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825



**Queensland  
Government**

**DISPATCHED**

24 FEB 2011

s78B(2) - Privacy

Enquiries      Jacob Toe  
Telephone      (07) 4222 5332  
Your reference  
Our reference      ISA27

Department of  
**Environment and Resource  
Management**

24 February 2011

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

req post:

568539974013

568539973016

568539972019

### **Water treatment infrastructure at the Mt Gordon Mine**

Dear Sir,

The Department of Environment and Resource Management (the department) has been informed by Birla Mt Gordon Pty Ltd (BMG) that approximately 600 mega litres of treated water has been discharged to Gunpowder Creek since 28 December 2010, as authorised in the Discharge Water Quality Modifications Transitional Environmental Program (TEP) and Environmental Authority MIN100489906 (EA). However, a large volume of water is still stored in the Esperanza Pit, which constitutes a non-compliance with the EA as well as an unacceptably high risk of harm to the receiving environment.

Based on rainfall predictions and historic rainfall data, there are likely to be further opportunities over the remainder of the wet season to discharge large volumes of water remaining at the Mt Gordon Mine (the mine).

It is understood that Mill Creek Dam is currently at a comparatively low level (below approximately 400 mega litres), providing capacity to treat poor quality water from Esperanza Pit for temporary storage in Mill Creek Dam pending discharge to Gunpowder Creek. However, the department understands that the lime neutralisation system is currently not operating at full capacity; and, the processing plant treatment circuit is also not operating at present. The inability to maximise water treatment on-site is of concern to the department as is the need to ensure the availability of adequate water treatment capacity at the mine as previously raised with BMG on a number of occasions. You are reminded of the need to maximise authorised discharges from the mine over the remainder of the wet season and ensure an adequate volume of suitable quality water is available for discharge when conditions permit.

The department expects you to immediately undertake all necessary repairs and/or upgrades to

water treatment infrastructure at the mine in order to facilitate maximum reduction of water stored at the mine over the remainder of the wet season and expedite a return to compliance with your EA.

Should you have any further enquiries, please contact Jacob Toe of the department on telephone (07) 4222 5332.

s78B(2) - Privacy

Dean Sharpe  
Team Leader Cairns  
Mining and Heavy Industry  
Environmental Services  
North Region  
Department of Environment and Resource Management

cc. Mr Ric Jose  
Acting General Manager  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

cc. Mr Dan Towne  
Environmental Coordinator  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

**DISPATCHED**

25 JUL 2011

s78B(2) - Privacy



**Queensland  
Government**

Enquiries: Jacob Toe  
Telephone: (07) +222 5332  
Your reference:  
Our reference: ISA27

Department of  
Environment and Resource  
Management

25 July 2011

Mr Bryce Atkinson  
Site Senior Executive  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
Mt Isa QLD 4825

**Mt Gordon Mine compliance inspection 23 June 2011**

Dear Sir,

I refer to the recent compliance inspection of the Mt Gordon Mine (the mine) undertaken by officers from the Department of Environment and Resource Management (the department) on 23 June 2011.

The following issues were identified during the inspection:

1. Regulated waste storage – Regulated waste (processing chemical pods) is currently stored at the Old Plant Site.
2. Concentrate storage area – Spillage of concentrate was observed outside of the designated concentrate storage shed.
3. Seepage of contaminated water adjacent to the Old Tailings Storage Facility (TSF) – Uncontained seepage in the vicinity of Gunpowder Creek was observed.
4. Management of the Sewage Treatment Plant (STP) near the Township of Gunpowder.
5. High Capacity Evaporators inoperative.
6. Northern Waste Rock Dump seepage.

**Regulated waste storage**

During the inspection, containers (for processing chemicals) identified as regulated waste by the Birla Mt Gordon Pty Ltd (BMG) site representative, were observed in the area known as the Old Plant Site. BMG have previously been advised that storage of regulated waste is listed in the *Environmental Protection Regulation 2008* as an Environmentally Relevant Activity (number 56), which BMG are not authorised to undertake at the mine. Therefore, BMG is required to immediately implement measures to remove all regulated waste stored at the mine and dispose of this waste at a facility/location lawfully allowed to accept such waste.



### **Concentrate storage area**

During the inspection, mineral concentrate was observed outside of the mineral concentrate storage shed. The department requests advice from BMG regarding management practices for storage and handling of mineral concentrate at the mine, particularly in regards to stormwater run-off from the concentrate storage area.

### **Seepage adjacent to the Old Tailings Storage Facility**

Seepage adjacent to the Old TSF has caused contamination of the receiving environment as determined by analysis of water and sediment samples taken from this area during the compliance inspection of 16 March 2011. It was evident from observations made on 23 June 2011 that seepage is continuing, and previous contaminants released into this area from the mine have not been removed (as indicated by extensive salt precipitate). This contamination potentially constitutes non-compliance with an EA condition (C6-1), an offence under section 430 of the *Environmental Protection Act 1994 (EP Act 1994)*, and/or section 440ZG (*depositing prescribed water contaminants in waters and related matters*) of the *EP Act 1994*. As such, the department requires BMG to nominate measures and time-frames to remediate the contaminated area below the Old TSF and prevent/reduce future recurrence of contaminated seepage.

### **Management of the Sewage Treatment Plant (STP)**

Due to increased numbers of staff requiring accommodation at the mine camp at Gunpowder Township, the department holds concerns regarding the operation of the STP. During the inspection on 23 June 2011, department officers were unable to inspect the STP as the BMG site representative could not locate the STP, and no other BMG environmental officers with knowledge of the STP's location were present. Please provide the department with advice regarding the following:

1. Current responsibility for management of the STP.
2. A description of the STP including system capacity and processes.
3. Location co-ordinates of the STP.
4. Confirmation that discharges from the STP to the receiving environment have not occurred since 20 February 2009, as required by Environmental Protection Order STAT438.
5. The status of the Development Approval application for the STP.

### **High Capacity Evaporators inoperative**

The High Capacity Evaporator's (HCE) located at the Esperanza Pit were not operational at the time of the compliance inspection. As the HCE's are a fundamental component of BMG's water reduction program, please advise the department if the problem has been resolved and if all three HCE's are currently operating.

### **Northern Waste Rock Dump seepage**

Seepage from the Northern Waste Rock Dump (WRD) that reports to the Northern WRD seepage collection system (seepage system), is an ongoing issue at the mine. Observations of

the seepage system on 16 March 2011 suggested the seepage collection dam was at full capacity and in danger of overflowing or had recently overflowed, while observations of the Northern WRD on 23 June 2011 confirmed expression of very poor quality water is still occurring, despite the lack of rainfall for a period of several months. The department requests BMG provide advice on proposed measures and implementation time-frames to reduce or limit seepage from the Northern WRD, particularly in light of the considerable water management issues at the mine.

The department requires BMG to provide written advice on all matters outlined above by 4 August 2011, and BMG are advised to immediately undertake all reasonable and practicable measures to address any concerns listed in this letter. However, you are reminded that remedying any of these issues at this time does not alleviate statutory responsibility for any previous non-compliance.

Should you have any enquiries in relation to these matters, please contact Jacob Toe of the department by telephone (07 4222 5332).

Yours sincerely,

s78B(2) - Privacy

Dean Sharpe  
Team Leader - Cairns  
Mining and Heavy Industry, North Region  
Environmental Services  
Department of Environment and Resource Management

cc. Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

cc. Mr Dan Towne  
Environmental Coordinator  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

**DISPATCHED**

25 JUL 2011

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**Queensland  
Government**

Enquiries      Jacob Toe  
Telephone      (07) 4222 5332  
Your reference  
Our reference      ISA27

Department of  
**Environment and Resource  
Management**

25 July 2011

Mr Bryce Atkinson  
Site Senior Executive  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
Mt Isa QLD 4825

**Pre-wet season inspection letter response from Birla Mt Gordon Pty Ltd**

Dear Sir,

I refer to Birla Mt Gordon Pty Ltd's (BMG) letter dated 18 January 2011 from Mr Dan Towne, in which he responds to the Department of Environment and Resource Management's (the department) letter of 24 December 2010 regarding the pre-wet season inspection of the Mt Gordon Mine (the mine) that was conducted on 8 and 9 November 2010.

The department's letter of 24 December 2010 highlighted findings from the aforementioned compliance inspection of the mine.

In regards to BMG's letter dated 18 January 2011 (BMG's letter), the following points detail the department's response, including comments and further requested information from BMG.

**Environmental authority MIN100489906 (EA) condition (A1-2)**

Firstly, I wish to clarify that at no stage during discussions over Financial Assurance (FA) did the department reach an agreement with BMG "*on deferment of payment of the financial assurance*". As previously advised, there are no grounds under the relevant legislation for deferment of FA.

In addition, the letter states that improvements have been made on-site to ensure compliance with environmental authority MIN100489906 (EA). It should be noted that BMG are currently non-compliant with the EA in a number of areas (particularly in regards to site water management).

**EA condition (A6-1)**

BMG's response to non-compliance of EA condition A6-1 identified several issues regarding environmental compliance at the Mt Gordon mine (the mine) prior to the department's

inspection on 8 and 9 November 2010; the BMG environment department at the mine appears to have been under-staffed and there may have been inadequate training/induction of BMG environment department staff in regards to their environmental duties. This is of concern to the department, and BMG should be aware that as outlined in condition A3-2 of the EA, BMG are required to ensure that all staff who undertake monitoring under the EA are a "*competent person(s)*".

**EA condition (C1-3)**

In BMG's letter, Mr Towne lists the 2010 limnology study as a means of identifying any impacts to the receiving environment that may have resulted from non-compliance with condition C1-3 of the EA (elevated sulphate levels at WC01 and WC02). The department is currently considering the non-compliance of EA condition C1-3 in accordance with enforcement guidelines.

**EA condition (C1-11)**

As previously advised, the department considers the water reduction measures adopted by BMG during the 2010 dry season (and during the entirety of 2009) were inadequate. The department consider that BMG should have ensured storages at the mine had far greater capacity and were at levels that complied with the EA prior to the 2010/2011 wet season.

**EA condition (C2-1)**

1. It is stated in BMG's letter that further erosion control work has been scheduled to commence at the end of April for the area adjacent to Saddle Dam 3, please describe what this work entailed and the projected date of completion.
2. BMG identify that eroded material deposited in Magazine Creek West is captured in sediment ponds which are cleaned out during the dry season, please advise if this material is contaminated and what measures are in place for removal of potentially contaminated sediment from sediment ponds in Magazine West.
3. It is stated in BMG's letter that measures are being implemented to rectify the erosion identified at the outlet pipe from the seepage collection system below the UEDD. Please describe what this work entails and when it is scheduled to be completed, particularly in light of the increased discharge volumes of water from the UEDD seepage collection sump at this location.

**EA condition (C4-2)**

BMG's letter identifies that investigations are ongoing regarding options to prevent/reduce the seepage of contaminated water to Gunpowder Creek, please identify what these investigations involve and when they are scheduled for completion.

**EA condition (C6-1)**

The use of the Esperanza TSF as an intermediate water storage is not authorised in the EA, and it is highlighted that advice has been provided since 2009 (AWA Hazardous Dam report for the Mt Gordon Mine of 2009 and 2010) that the TSF is not suitable for storing water. As



previously advised, the department does not consider that BMG have implemented all reasonable and practicable measures to reduce the large volume of contaminated water stored at the mine. Implementation of available measures to reduce the large volume of water stored at the mine could have prevented the storage of excess water in the TSF, thus reducing seepage to the receiving environment.

#### **EA condition (F5-3) and (F5-5)**

In regards to justification for non-compliance of EA conditions F5-3 and F5-5 provided in BMG's letter, BMG are advised that non-compliance with an EA condition is not acceptable. Furthermore, the presence of the unauthorised bunds at the Pit ramp and at Mill Creek Dam potentially increases the risk of flooding should overtopping and failure of these structures occur, as these structures have not been certified as safe by suitably qualified engineers.

#### **Hazardous Dams Inspection Report 2010**

The following points summarise the main issues identified with BMG's response to departmental concerns outlined in BMG's letter of 18 January 2011:

##### Esperanza Tailings Storage Facility (TSF)

- As previously advised, it is not appropriate to use the TSF for the intermediate storage of water. The TSF was designed to store tailings from the processing of ore at the mine and should be managed in a manner that minimises volumes of water stored within this structure.
- The construction of a suitably engineered spillway to the required specifications as outlined in the EA must be undertaken as a matter of priority to ensure compliance with the EA. Please advise the department on progress in engaging contractors to complete the spillway upgrade at the TSF.

##### Mill Creek Dam

- BMG's letter identifies a number of measures to address recommendations of the AWA 2010 Hazardous Dam Report, these measures must be adopted as soon as practicable. Please provide the department with an update in regards to progress on completing these works.

##### Esperanza Pit

- The unauthorised bund on the ramp at the Pit must be removed and a suitably engineered spillway constructed as a matter of priority. BMG are advised to ensure that engineers are engaged immediately to develop suitable plans for removal of the bund and construction of a suitable spillway, so that contractors can be sought and this EA requirement can be completed as soon as possible. The department requests BMG provide an immediate update on progress in regards to required works at the Esperanza Pit.

### **Esperanza Low Grade Ore and Direct Shipping Ore stockpiles**

BMG claim appropriate measures have been implemented and observed to effectively ensure incident rainfall is shed from the surface of the Esperanza WRD. Based on observations of the Esperanza WRD during an inspection of the mine on 16 March 2011, it is apparent that a significant amount of water is pooling on the surface of the dump, with potential to generate large volumes of contaminated water. As such, the department requires BMG to detail measures to rectify this situation before the next wet season.

### **Water management**

As previously advised on multiple occasions, the department requires the development and application of a site water balance model at the mine. BMG's letter identifies that a consultant is currently working on a water management plan that will include a site water balance model. Please advise when this plan will be submitted to the department.

The department requires a response from BMG on the matters detailed in this letter by 4 August 2011 and BMG are advised to immediately undertake all reasonable and practicable measures to address the concerns listed above. However, BMG are reminded that remedying any of these issues at this time does not alleviate statutory responsibility for any previous non-compliance.

Should you have any enquiries in relation to these matters, please contact Jacob Toe of the department on telephone (07) 4222 5332.

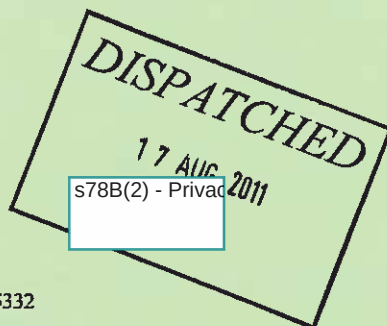
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Dean Sharpe  
Team Leader - Cairns  
Mining and Heavy Industry, North Region  
Environmental Services  
Department of Environment and Resource Management

cc. Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

cc. Mr Dan Towne  
Environmental Coordinator  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825





Queensland  
Government

Enquiries Jacob Toe  
Telephone (07) 4222 5332  
Your reference  
Our reference ISA27

Department of  
Environment and Resource  
Management

17 August 2011

Mr Bryce Atkinson  
Site Senior Executive  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

**Amendment of Environmental Authority MIN100489906 – Birla Mt Gordon Mine**

Dear Sir,

I refer to the recent amendment of environmental authority MIN100489906 (EA) which came into effect on 19 July 2011 and the letter from the Department of Environment and Resource Management (the department) dated 21 July 2011 advising Birla Mt Gordon Pty Ltd (BMG) of this amendment.

As outlined in the letter, due to amendment of the EA the Birla Mt Gordon Plan of Operations 1 October 2010 – 1 October 2012 (the PoO) is now inconsistent with the current EA (as amended on 19 July 2011).

I bring your attention to section 236(3) of the *EP Act*; which states,

**236 Environmental authority overrides plan**

*(1) This section applies if there is any inconsistency between the environmental authority and a plan of operations.*

*(2) The authority prevails to the extent of the inconsistency.*

*(3) The environmental authority holder must, within 28 days after the holder becomes aware of the inconsistency, cause the plan to be amended in a way so that the plan is no longer inconsistent with the authority.*

*Maximum penalty for subsection (3)—100 penalty units.*

As such, BMG are required to take immediate action to rectify the inconsistency between the EA and PoO by resubmitting an amended PoO pursuant to section 235 of the *Environmental Protection Act 1994* (the *EP Act*).

If you wish to discuss this matter further, please contact Jacob Toe on (07) 4222 5332.

Yours faithfully

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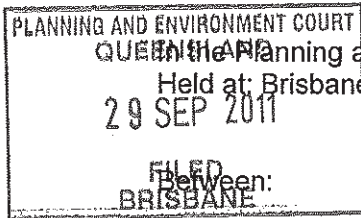
Hamish Butler  
Team Leader - Mt Isa  
Mining and Industry, North Region  
Environmental Services  
**Department of Environment and Resource Management**

cc. Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

cc. Mr Dan Towne  
Environmental Coordinator  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

40

# FINAL ORDER



No 3052 of 2010

Between: **JOHN BRADLEY, CHIEF EXECUTIVE UNDER THE ENVIRONMENTAL PROTECTION ACT 1994** Applicant

And: **BIRLA MT GORDON PTY LTD (ACN 106 396 801)** Respondent

## ORDER

Before: *Griffin SC DCJ*  
Date of Hearing: *28* September 2011  
Date of Order: *28* September 2011

UPON THE COURT BEING SATISFIED pursuant to section 505(5) of the *Environmental Protection Act 1994*, the Court makes the following orders with respect to the Mt Gordon Copper Mine on land described as Lot 4 on Plan UN 803944, Lot 1 on Plan TG 38 and Lot 5 on Plan CP 865892, located 120 kilometres north west of Mt Isa in the State of Queensland;

### IT IS ORDERED:

1. Terms used in this Order are those defined in the Further Amended Originating Application, as added to and amended below.

**'Alternative Discharge System'**: means a system, independent of Mill Creek Dam, with the capacity to discharge a minimum 90 megalitres of **Discharge-quality water** per week to Gunpowder Creek.

**'Discharge infrastructure'**: means infrastructure required by Orders 4 and 5 of the Order of His Honour Judge Jones dated 18 November 2010.

**'Required Water Levels'**: water levels specified as the Mandatory Reporting Levels listed in Schedule C - Table 6 of Environmental Authority MIN100489906 as amended from time to time;

### ORDER

Filed on behalf of the Applicant  
Form PEC-7

Department of Environment and  
Resource Management  
Level 7, 400 George Street,  
Brisbane  
Telephone: (07) 3330 5519  
andrew.kwan@derm.qld.gov.au



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**'Water Treatment Infrastructure':** infrastructure required to treat contaminated water to **Discharge quality water**, including but not limited to reagent storage, **Water treatment system/s**, pumps and pipes.

**'Wet Season':** means the period between 1 November of each year and 31 March of the following year.

#### **Mill Creek Dam**

2. Until the Required Water Levels are met, the Respondent must:
  - (a) ensure that by 1 November of each year, Mill Creek Dam contains at least 600 ML of Discharge-quality water; and
  - (b) during the Wet Season, take all reasonable measures to maintain water in Mill Creek Dam as Discharge-quality water to maximise releases of Discharge-quality water to Gunpowder Creek in accordance with Order 7; and
  - (c) during the Wet Season, undertake representative water quality monitoring of Mill Creek Dam at a minimum twice daily frequency for pH, Electrical Conductivity and Total Suspended Solids; and,
  - (d) If water quality in Mill Creek Dam is determined by the Respondent pursuant to 2(c) not to be Discharge-quality water at any time during the Wet Season, the Respondent must report this to the Applicant in writing or by telephone as soon as is reasonably practicable.

#### **Water Treatment Infrastructure**

3. By 1 November 2011, the Respondent must ensure Water Treatment Infrastructure at the site sufficient to treat a minimum of 10 ML of Contaminated water per day to Discharge-quality water is fully operational.
4. From 1 November 2011, the Respondent must treat a minimum of 60 megalitres of Contaminated water per week to Discharge-quality water during the Wet Season, unless Mill Creek Dam contains a minimum of 600 megalitres of Discharge quality water.

#### **Alternative Discharge System**

5. By 28 February 2012, the Respondent must submit a report to the Applicant proposing an Alternative Discharge System; the report must include operational specifications, implementation timeframes and weekly discharge capacity to



Gunpowder Creek.

6. If the Respondent fails to comply with Order 2(b), or if water in Mill Creek Dam is not Discharge-quality water for any period exceeding 7 consecutive days during the Wet Season, the Respondent must:
  - (a) Commence preparations for construction of the Alternative Discharge System described in the report submitted pursuant to Order 5; and,
  - (b) Complete construction of the Alternative Discharge System before the next Wet Season; and,
  - (c) Upon completion of the Alternative Discharge System, the Respondent must commence and continue operation of the Alternative Discharge System to maximise releases of discharge-quality water to Gunpowder Creek in accordance with Order 7, until all Required Water Levels are met.

#### **Water discharge**

7. When flow volumes in Gunpowder Creek exceed those stated in paragraph 6 to Appendix 1, the Respondent must release any Discharge quality water on the site, in excess of that which it reasonably requires to retain for its own operational purposes, using Discharge infrastructure and in accordance with the criteria in Appendix 1.

#### **Dry season net water reductions**

8. By 1 November 2011, the Respondent must implement all reasonable measures to achieve a minimum dry season net reduction of 233.4 ML of water at the site, calculated from 1 April 2011.
9. After 31 March 2012, the Respondent must implement all reasonable measures to achieve a minimum dry season net reduction of 553 ML at the site, calculated between 1 April and 1 November of the relevant year, until all Required Water Levels are met.

#### **Variation of Order**

10. Where circumstances reasonably require a variation to any time limits or other aspects of this Order, the parties will not unreasonably oppose any order for such variation.

#### **~~Force Majeure~~**

- ~~11. The obligations of the Respondent under this Order are subject to "force majeure" circumstances. Force Majeure, for this Order, means any act, event~~

~~-or cause, which is beyond the reasonable control of the Respondent, including war, civil disturbance, blockade, riot, embargo, earthquake, storm, flood, explosion, fire, strikes and other labour conflicts, Government action or inaction (including a change of Law), breakdown of machinery, equipment or facilities or shortages of material or equipment.~~

#### Avoidance of doubt

12. For the avoidance of doubt, nothing in this Order is intended to interfere with any current or future authority or direction issued by the Applicant for the site.

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Registrar

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RTI DL RELEASE - EHP



## Appendix 1

### Discharge criteria

Water can only be discharged into Gunpowder Creek if all of the following criteria are met.

1. Water quality limits defined in Table 1 must be met:
  - (a) at a flow volume in Gunpowder Creek that is at least ten (10) times the volume of the water discharged; or
  - (b) for all parameters except for sulphate and TDS, which must not exceed 6,000 mg/L and 9,000 mg/L respectively, at a flow volume in Gunpowder Creek that is at least twenty (20) times the volume of the water discharged.
2. Water must only be discharged from release point W1 and in a manner that ensures effective dilution and dispersion.
3. The volume of water discharged to Gunpowder Creek from W1 must be recorded in megalitres and on a daily basis.
4. Receiving waters must be monitored for each discharge event:
  - (a) at the locations and frequencies defined in Table 2 for all parameters listed in Table 3; and
  - (b) either during a discharge, or immediately after a discharge, and in both instances only when conditions are safe to access the monitoring site.
5. Water quality at receiving water monitoring locations defined in Table 2 must not exceed the contaminant limits defined in Table 3.
6. Flow volumes in Gunpowder Creek must exceed the 25<sup>th</sup> percentile for wet season flows, which corresponds to a height of 0.78m on the height gauge at the Gunpowder Gauging Station or AHD 194.430m, and:
  - (a) during any discharge the Respondent must conduct a daily inspection to ensure that Gunpowder Creek is flowing above the 25<sup>th</sup> percentile flow figure at the Gunpowder Creek gauging station and the Gunpowder Creek causeway;
  - (b) written and photographic records must be kept of each daily inspection clearly showing the flows within Gunpowder Creek at the gauging station and at the causeway; and
  - (c) should Gunpowder Creek cease to flow at the gauging station or at the causeway due to changes in stream hydrology, any discharge must cease, even if the height of 0.78m at the Gunpowder Gauging Station or AHD 194.430 is exceeded.

**Note** – To remove any doubt, Environmental Authority conditions C1-8 and C1-9 which restrict volumes of discharges do not apply for discharges conducted under this Court Order. All other Environmental Authority conditions continue to apply.

**Table 1 End of pipe water quality release limits for W1**

| Parameter     | Units | Limit | Limit Type |
|---------------|-------|-------|------------|
| Total Copper  | mg/L  | 2.5   | Maximum    |
| Total Arsenic | mg/L  | 0.25  | Maximum    |
| Total Cobalt  | mg/L  | 5     | Maximum    |
| Total Lead    | mg/L  | 0.05  | Maximum    |

|                        |          |                                                                             |         |
|------------------------|----------|-----------------------------------------------------------------------------|---------|
| Total Zinc             | mg/L     | 10                                                                          | Maximum |
| Total cadmium          | mg/L     | 0.002                                                                       | Maximum |
| Total chromium         | mg/L     | 0.001                                                                       | Maximum |
| Total Sulphate         | mg/L     | 6,000                                                                       | Maximum |
| Suspended Solids       | mg/L     | 30 mg/L or 10% above background levels in Gunpowder Creek during flow event | Maximum |
| pH                     | pH units | 7.0 - 9.0                                                                   | Range   |
| Total Dissolved Solids | mg/L     | 9,000                                                                       | Maximum |
| Dissolved Oxygen       | mg/L     | 2                                                                           | Minimum |
| Oil & Grease           | mg/L     | 20                                                                          | Maximum |

**Table 2 Receiving water monitoring locations and monitoring frequency for discharges from release point W1**

| Monitoring point                                                                | Latitude (GDA 94)                   | Longitude (GDA 94)                    | Monitoring frequency                     |
|---------------------------------------------------------------------------------|-------------------------------------|---------------------------------------|------------------------------------------|
| WC02 - Gunpowder Creek 50 metres downstream of confluence of Mill Creek         | S 19° 41' 39.1"<br>(S19° 41' 34.6") | E 139° 21' 48.2"<br>(E139° 21' 56.1") | Daily when releasing treated water at W1 |
| WC04 - Gunpowder Creek 50 metres downstream of confluence with Greenstone Creek | S 19° 40' 09.8"                     | E 139° 22' 63.9"                      | Daily when releasing treated water at W1 |
| WC01 - Gunpowder Creek - Mount Oxide Road Causeway (upstream side)              | S 19° 41' 43.4"                     | E 139° 21' 34.3"                      | Daily when releasing treated water at W1 |
| Gunpowder Creek – reference site <sup>1</sup>                                   | S 19° 70' 82"                       | E 139° 33' 59"                        | Daily when releasing treated water at W1 |

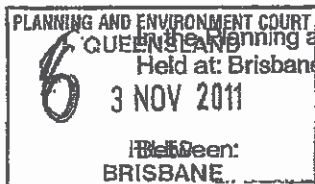
<sup>1</sup> Reference sites must:

- be from the same biogeographic and climatic region; and
- have similar geology, soil types and topography; and
- contain a range of habitats similar to those at the test sites; and
- a similar flow regime; and
- not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.

**Table 3 Receiving water contaminant limits**

| Parameter      | Units    | Limit   | Limit Type |
|----------------|----------|---------|------------|
| TDS            | mg/L     | 4000    | Maximum    |
| pH             | pH units | 5.5 - 9 | Range      |
| Sulphate       | mg/L     | 1000    | Maximum    |
| Total Arsenic  | mg/L     | 0.5     | Maximum    |
| Total Cobalt   | mg/L     | 1       | Maximum    |
| Total Copper   | mg/L     | 1       | Maximum    |
| Total Lead     | mg/L     | 0.1     | Maximum    |
| Total Zinc     | mg/L     | 20      | Maximum    |
| Total cadmium  | mg/L     | 0.01    | Maximum    |
| Total chromium | mg/L     | 1       | Maximum    |

"DRBOB - 3"  
SCANNED



BIRLA MT GORDON PTY LTD  
(ACN 106 396 801)

No 4354 of 2011

Applicant

And: CHIEF EXECUTIVE OF THE DEPARTMENT  
OF ENVIRONMENT AND RESOURCE  
MANAGEMENT

Respondent

### ORDER

Before: His Honour Judge Rackemann  
Date of Hearing: 1 November 2011  
Date of Order: 1 November 2011

#### IT IS ORDERED BY CONSENT:

- 1 The limit for Total Chromium in Table 1, Appendix 1 of the order of his Honour Judge Griffin SC in Planning and Environment Court Proceedings 3052 of 2010 dated 28 September 2011 be amended to "1 mg/L"; and
- 2 Pursuant to Rule 660(3) of the Uniform Civil Procedure Rules, Order 1 is to take effect from 28 September 2011.

Filed on .....

Filed by: Corrs Chambers Westgarth  
Lawyers on behalf of the Applicant  
Service address: Level 35  
Waterfront Place  
1 Eagle Street  
Brisbane Qld 4000  
Phone: Tel (07) 3228 9333  
Fax: Fax (07) 3228 9444

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Registrar



6220576/1

ORDER  
Filed on behalf of the Applicant  
Form PEC-7

## FINAL ORDER

Corrs Chambers Westgarth  
Lawyers  
Level 35  
Waterfront Place  
1 Eagle Street  
Brisbane Qld 4000  
Tel (07) 3228 9333  
Fax (07) 3228 9444  
Ref HP/DOB9003901



Posted 4/11/2011

# Notice

## Environmental Protection Act

### Conduct or commission an environmental evaluation<sup>1</sup>

*This statutory notice is issued by the administering authority pursuant to sections 323 and 324 of the Environmental Protection Act 1994, to advise you of a decision to require an environmental investigation to be conducted or commissioned.*

Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

Attention: Mr Sunil Kulwal

Environmental investigation required for mining activities carried out on mining lease numbers 5407, 5412, 5413, 5419, 5420, 5429, 5430, 5441, 5442, 5443, 5444, 5451, 5454, 5457, 5459, 5467, 5485, 5486, 5489, 5500, 5548, 5549, 5550, 5562, 5563, 90180, 90181 and 90182 known as the Mt Gordon Mine (the mine) under Environmental Authority MIN100489906.

Under section 323 of the *Environmental Protection Act 1994* (the *EP Act*) this notice requires you to conduct an environmental investigation.

#### A. Grounds

The administering authority is satisfied that mining activities carried out at the mine are causing, or are likely to cause environmental harm.

The specific actions that are causing, or are likely to cause environmental harm include:

- Release of contaminants to the receiving environment via sub-surface flows/seepage from contaminated areas and/or storages at the mine.
- Release of contaminants to the receiving environment resulting from the overflow of contaminated water from storage/s at the mine.

<sup>1</sup> An environmental evaluation may be either an environmental audit under section 322 or an environmental investigation under section 323.

## Conduct or commission an environmental evaluation

### B. Facts and circumstances

The facts and circumstances forming the basis for these grounds are:

1. Birla Mt Gordon Pty Ltd (BMG) carries out mining activities at the Mt Gordon Mine (the mine) on ML 5407, 5412, 5413, 5419, 5420, 5429, 5430, 5441, 5442, 5443, 5444, 5451, 5454, 5457, 5459, 5467, 5485, 5486, 5489, 5500, 5548, 5549, 5550, 5562, 5563, 90180, 90181 and 90182.
2. Environmental Authority MIN100489906 is issued to:  
Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
PERTH WA 6000
3. Environmental Authority MIN100489906 (EA) has been issued by the Department of Environment and Resource Management (the department) in respect to carrying out mining activities at the mine.
4. The EA authorises mining activities and limits the actual and potential environmental harm that can lawfully be caused.
5. As of September 2011, a large volume of poor quality water in excess of levels authorised under the EA continues to be stored at the mine, with an associated high risk to the receiving environment from an uncontrolled release due to overtopping of water storages over the coming wet season and/or seepage expressions.
6. The EA specifies the following limits/trigger levels for certain contaminants:
  - Receiving water trigger levels (Schedule C – Table 2) – These contaminant trigger levels are either percentiles of reference site levels or default ANZECC (2000) 95% species protection guideline levels for freshwaters (whichever of the two is higher). Trigger levels indicate potential for adverse impacts to aquatic biota if exceeded. The EA requires an investigation into the potential for environmental harm if monitoring detects a contaminant above the trigger level.
  - Receiving water contaminant limits (Schedule C – Table 3) - These limits aim to protect environmental values of the receiving environment and are based on ANZECC 2000 livestock drinking water guidelines. Note: The threshold for sulphate is 1,000 mg/L, beyond which adverse impacts to livestock may occur, chronic or acute health problems have been detected at sulphate levels above 2,000 mg/L.
  - Contaminated water release conditions – Water quality release limits (Schedule C – Table 5) which had been calculated to allow controlled release of contaminated water from the mine to Gunpowder Creek. Water quality release limits are intrinsically linked to conditions detailing minimum diluting flows in the receiving environment and maximum annual release volumes from the mine. Failure to adhere to all EA contaminated water release conditions (water quality, dilution and volume limits) for contaminant releases from the mine is likely to cause environmental harm.
7. The mining activities carried out by BMG cause, or are likely to cause, environmental harm not authorised by the EA, including, sulphate contamination of Gunpowder Creek caused by seepage from the mine to the receiving environment, as detailed below:
  - (i) On 14 May 2010, department officers conducting an inspection of the mine observed seepage from Saddle Dam 3 of the Esperanza TSF reporting to Gunpowder Creek, a water sample of this seepage was collected. Analysis of this sample determined that levels of sulphate, copper and cobalt exceeded receiving water contaminant limits specified in EA condition (C1-3).
  - (ii) On 31 August 2010, BMG notified the department by e-mail that sulphate levels in Gunpowder Creek had exceeded receiving water contaminant limits specified in EA



## Conduct or commission an environmental evaluation

condition (C1-3), as had occurred in previous years. A report submitted with this notification stated that the cause of contamination is likely to be surface expression in Gunpowder Creek of sub-surface seepage from the Esperanza TSF.

- (iii) On 5 October 2010, consultants from Martinick Bosch Sell Pty Ltd (MBS), acting on behalf of BMG, provided e-mail advice to the department following a teleconference between the department and BMG that had taken place on 4 October 2010. The e-mail indicated that BMG intended to further investigate and conclusively identify the source of the seepage after review of their receiving environment water quality monitoring program, although no time-frame was provided. The department understands this work is yet to be completed.
  - (iv) On 8 and 9 November 2010, the department collected water samples from Gunpowder Creek during a compliance inspection. Analysis of these samples demonstrated that sulphate levels exceeded the receiving environment contaminant limits specified in the EA, with levels of sulphate at EA monitoring sites WC01 and WC02 at concentrations of 2,290 mg/L and 2,230 mg/L respectively (with the EA contaminant limit set at 1,000 mg/L). It should be noted that the sulphate level measured at the upstream reference site during this inspection was 6 mg/L, indicating the source of contamination is the mine.
  - (v) As highlighted in BMG's report of 31 August 2010, sulphate levels at WC01 and WC02 had also exceeded the EA receiving environment contaminant limits during the 2008 and 2009 dry seasons; and as such, it appears that the sulphate contamination of Gunpowder Creek is an ongoing issue.
8. The mining activities carried out by BMG are causing, or are likely to cause environmental harm not authorised by the EA, including, release of contaminants from the mine to Magazine Creek West, as detailed below:
- (i) The department received a letter from BMG dated 31 May 2010 detailing the findings from an investigation into detected contamination of Magazine and Greenstone Creek. BMG identified extensive sediment contamination (principally copper) that exceeded ANZECC (2000) sediment quality guidelines at multiple locations (particularly adjacent to contaminated areas at the mine such as the Old Heap Leach Pads and Mammoth Portal area). In addition, water quality analysis indicated some contaminants exceeded EA receiving environment limits in Magazine Creek (including pH and copper). It is highly likely that this contamination occurred as a result of mobilisation and transport of contaminated material from the mine to the receiving environment.
  - (ii) On 11 March 2011, BMG notified the department by telephone of two unauthorised releases from the mine; including, a release of contaminated water from the Mammoth Portal retention pond (MPRP) and a release from the Evaporation Ponds. Water that overflowed from the MPRP was of poor quality with elevated levels of copper and low pH, the level of these contaminants exceeded the EA water quality release limits.
  - (iii) On 16 March 2011, officers from the department conducted a site inspection of the mine, during this inspection, water and sediment samples were taken from various locations. Analysis of water samples demonstrated that the MPRP contained contaminants (copper and pH) at levels that exceeded the EA water quality release limits.
9. The mining activities carried out by BMG are causing, or are likely to cause environmental harm not authorised by the EA; including, contamination of Gunpowder Creek caused by sub-surface seepage from the Old Tailings Storage Facility (Old TSF) at the mine to the receiving environment, as detailed below:
- (i) On 16 March 2011, during a site inspection of the mine, department officers observed a surface expression of seepage with a pale blue colouration below the Old TSF (Old TSF seepage) in a rocky area of the Gunpowder Creek floodplain. The water quality of this

## Conduct or commission an environmental evaluation

seepage exceeded the EA receiving environment contaminant limits for copper and sulphate, and arsenic exceeded the EA water quality release limit.

- (ii) Contaminated seepage has been reported in this area previously, and several seepage collection sumps have been installed; however, these seepage collection sumps had not captured and removed the Old TSF seepage observed on 16 March 2011. It should be noted that seepage collection sumps would be inundated by wet season flood levels in Gunpowder Creek.
10. The mining activities carried out by BMG are causing, or are likely to cause environmental harm not authorised by the EA, including, contamination of Gunpowder Creek caused by failure to capture and remove seepage from Saddle Dam 3 of the Esperanza Tailings Storage Facility (Esperanza TSF), as detailed below:
  - (i) On 6 May 2010, department officers identified a release from Saddle Dam 3 located at the southern end of the Esperanza TSF at the mine. Salt crusting of the creek bed was evident for approximately 400m downstream of saddle dam 3 and analysis of a sample of the release demonstrated that levels of total dissolved solids, sulphate, cobalt and copper exceeded the EA receiving environment contaminant limits.
11. The mining activities carried out by BMG are causing, or are likely to cause environmental harm not authorised by the EA; including, contamination of Gunpowder Creek caused by failure to prevent overflow and release to the receiving environment of contaminated seepage from the Northern Waste Rock Dump (WRD), as detailed below:
  - (i) On 8 April 2010, during an inspection of the mine by department officers, a release of blue liquid from the vicinity of the Northern WRD to Gunpowder Creek was identified and a water sample of the release was taken. Analysis of this sample demonstrated that total dissolved solids, sulphate, cobalt and copper were present at levels that exceeded the EA receiving environment contaminant limits.
  - (ii) On 16 March 2011, during a site inspection of the mine, department officers identified poor quality water (low pH and high electrical conductivity) ponding below the downstream wall of the Northern WRD seepage collection sump. These contaminants could have been released into Gunpowder Creek via surface run-off.
12. Sub-surface seepage flow-paths at the mine are complicated and poorly understood, due in part to the complex hydrogeology of the area (with fractures and faults in underlying geological formations). As such, sub-surface seepage of contaminated water poses a considerable risk of uncontrolled release of contaminants to the receiving environment (including contamination of underlying aquifers). Known (but unquantified) sub-surface flow exists between contaminated storages, including:
  - (i) Seepage from the Esperanza Pit to Mill Creek Dam.
  - (ii) Seepage from the Mammoth waste rock dump to Mill Creek Dam.
  - (iii) Seepage from the Esperanza waste rock dump to Mill Creek Dam (via the Esperanza Pit; however, there is the potential of direct hydraulic connectivity).
  - (iv) Furthermore, it is possible that previously unidentified seepage of contaminated water from the mine to the receiving environment has or is likely to occur.

As outlined above, there are multiple examples of unauthorised release of contaminants from the mine to the receiving environment, which has occurred over an extended period of time and are ongoing.

## Conduct or commission an environmental evaluation

Due to the identified contamination of the receiving environment from multiple sources and types of contaminants, the department is satisfied on reasonable grounds that environmental harm has or is likely to occur as a direct result of activities carried out at the mine.

In addition, potential sub-surface flow-paths for seepage and mobilisation of contaminants from the mine are poorly understood, hampering BMG's ability to achieve effective water management at the mine, and posing an unacceptably high risk of environmental harm to the receiving environment.

Therefore, BMG is required to conduct the following environmental investigation pursuant to section 323 of the *Environmental Protection Act 1994*.

### C. Relevant matters for the investigation

Pursuant to this Environmental Investigation Notice, BMG is required to conduct an investigation that must address the following matters:

1. Identify the source of all **contaminants** that are being, or are likely to be released from **the mine** to the **receiving environment**. This investigation must include but not be limited to the following areas at **the mine**;
  - a. all tailings storage facilities (including the Esperanza tailings storage facility and the Old tailings storage facility); and,
  - b. all dams/storages/ponds containing contaminated water (including the Esperanza Pit, Mill Creek Dam and, Process Ponds); and,
  - c. all waste rock dumps (including Mammoth, Esperanza and Northern waste rock dumps); and,
  - d. all processing plants/areas (including the Process Mill, Run of Mine, Low-Grade Ore stockpiles and Heap Leach Pads); and,
  - e. all underground workings (including the Mammoth and Esperanza underground); and,
  - f. all underlying groundwaters (including any shallow ephemeral aquifers).
2. For all identified current sources of **contaminants** that are being, or are likely to be released from **the mine** to the **receiving environment**, identify and describe;
  - a. the current pathways/mechanisms for release of **contaminants** from **the mine** to the **receiving environment**; and,
  - b. the current volume of any **contaminants** released from **the mine** to the **receiving environment**; and,
  - c. the current concentration of **contaminants** released from **the mine** to the **receiving environment**.
3. Identify the existing environmental values of the **receiving environment** in accordance with relevant guidelines and policies; including, the *Environmental Protection (water) Policy 2009*, and **ANZECC (2000)** methodology.

## Conduct or commission an environmental evaluation

4. Determine the current geographical extent of **contamination** of the **receiving environment** due to the release of **contaminants** from **the mine**; the investigation must,
  - a. be in accordance with the **ANZECC (2000)** methodology; and,
  - b. include comparison to valid reference sites.
  
5. Determine the amount (concentration and mass), partitioning and fate of all **contaminants** being released or likely to be released from **the mine** to the **receiving environment**; the investigation must,
  - a. be in accordance with **ANZECC (2000)** methodology; and,
  - b. Assess impacts on the receiving environment and all identified environmental values, the assessment must include consideration of:
    - i. Water quality for surface and groundwaters (including any shallow ephemeral aquifers).
    - ii. Sediment quality.
    - iii. Soils.
    - iv. Flora and fauna.
  
6. Determine a current water balance for **the mine**, which includes but is not limited to:
  - a. The inflows and outflows for the source/s of contaminants identified in this investigation.
  - b. Modelling of the adequacy of the existing water management system **at the mine** during the storm events\* listed below;
    - i. to prevent discharges of contaminants not in accordance with environmental authority MIN100489906; and
    - ii. to protect the environmental values of the receiving environment in accordance with **ANZECC (2000)** methodology

Modelling must be based on real weather data from a representative weather station for a minimum of 100 years where available and must be completed on a daily time step basis or higher frequency.

\*Storm events for requirement 6b include:

- Design rainfall events for AEP 1 in 10, 1 in 25, 1 in 50, 1 in 100, 1 in 200 and 1 in 1000 year for durations from 1 to 5 days.
  - 2 month wet season AEP of 1 in 25, 1 in 100, and 1 in 200 year using the 'deciles method' as outlined in the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).
- c. Documentation for any water balance model that specifies the modelling input parameters and assumptions used; including,
    - i. **calibration** and validation; and,
    - ii. **assessment** and comparison of relevant parameter values **at the mine**, as well as any external catchments or aquifers.



## Conduct or commission an environmental evaluation

7. Determine all potential options for the prevention or reduction of any further release of **contaminants** from the mine to the **receiving environment**; for all options, provide,
  - a. a detailed description of each option; and,
  - b. costs for implementation of each option; and,
  - c. a timeframe for implementation of each option.
8. Identify a preferred option/s for both the remediation of identified impacts to the **receiving environment**, and measures to prevent or limit any future impacts. Provide justification for the nominated option/s, which includes assessment against best practice environmental management; and, identify a time-frame for implementation and completion of the nominated option/s.
9. Reports provided to the department as a requirement of this environmental investigation must include but not necessarily be limited to:
  - a. The methodology applied in conducting this investigation including any assumptions relied upon.
  - b. The results of any studies, assessments or analyses that were carried out during this investigation.
  - c. The outcomes and findings of the investigation and provide justification for conclusions.
  - d. Costs incurred in completing the requirements of this environmental investigation.

### Definitions

**AEP** means annual exceedence probability.

**ANZECC (2000)** means the 'Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)' produced by the Australian and New Zealand Environment and Conservation Council.

**Contaminants** include but are not limited to: pH and total acidity (if pH <8.3), electrical conductivity, total dissolved solids, major anions (including sulphate and chloride), major cations (including calcium, magnesium, sodium and potassium), total hardness, hydrogen sulphide, zinc, lead, cadmium, arsenic, copper, cobalt, chromium, aluminium, molybdenum, iron and manganese.

**Receiving environment** includes but is not limited to groundwater, surface waters, flora and fauna, land and sediments within and beyond the boundaries of **the mine**; including but not necessarily limited to, Magazine Creek (East and West branches), Greenstone Creek and Gunpowder Creek.

An environmental report on the investigation must be submitted to the Department of Environment and Resource Management's Cairns office (at 5b Sheridan Street PO Box 937 CAIRNS QLD 4870) by:

- **27 January 2012** for requirement 3.
- **20 April 2012** for requirement 6.
- **28 September 2012** for requirements 1, 2, 4 and 5.
- **21 December 2012** for requirements 7 and 8.



## Conduct or commission an environmental evaluation

Both BMG and the person/s who conducted the environmental investigation must complete the enclosed statutory declarations.

BMG is responsible for the costs of meeting the requirements of this Notice.

BMG may apply to the Department of Environment and Resource Management for a review of this decision within 10 business days of receiving this Notice.

Information outlining the review and appeal processes under the *Environmental Protection Act 1994* is included with this notice. This information is intended as a guide only. BMG may have other legal rights and obligations.

Should BMG have any queries in relation to this notice, Jacob Toe of the Department of Environment and Resource Management on telephone (07) 4222 5332 would be happy to assist.

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Signature

Date

Richard Kidston  
Delegate of Administering Authority  
*Environmental Protection Act 1994*

**Enquiries:**  
Department of Environment and Recourse  
Management  
Ph. (07) 4222 5334  
Fax. (07) 42225070

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02 DEC 2011

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Queensland  
Government

Enquiries Jacob Toe  
Telephone (07) 4222 5332  
Your reference MIN100489906  
Our reference ISA27

RP: 483832554017  
483832555014  
483832556011

Department of  
Environment and Resource  
Management

2 December 2011

Mr Bryce Atkinson  
Site Senior Executive  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
Mt Isa QLD 4825

### October 2011 Audit of the Mt Gordon Mine

Dear Sir,

I refer to the Department of Environment and Resource Management's (the department) Audit of the Mt Gordon Mine (the mine) on 24 to 28 October 2011.

Firstly, the department would like to thank you and your staff for making yourselves available and providing assistance during the inspection.

As previously discussed, the inspection was focussed on determining Birla Mt Gordon Pty Ltd's (BMG) compliance with environmental authority MIN100489906 (EA) as issued 21 July 2011 and determining preparedness for the upcoming wet season, particularly in regards to water management.

In addition, compliance with other statutory requirements was assessed, including:

- Environmental Protection Order (EPO) STAT438.
- EPO STAT457.
- Court Order 3089/2006 (2006 Order) as further amended 4 December 2009.
- Court Order 3052/2010 as further amended 26 September 2011.

During the Audit of the mine, the following non-compliances with EA conditions were identified:

1. **Condition (A3-1)** - The department requested all monitoring data required to be recorded, maintained and kept for a minimum of five years under the EA. BMG were

unable to provide all required data, particularly in regards to groundwater monitoring data.

2. **Condition (A6-1)** - BMG is required to report any exceedence of EA contaminant limits to the department "as soon as practicable". It was identified during the inspection that sulphate contaminant limits had been exceeded in Gunpowder Creek at EA monitoring locations WC01 and WC02, BMG failed to comply with this condition. Despite the department having recently requested all monitoring data relating to Gunpowder Creek as soon as it became available.
3. **Condition (A7-5)** - There is no formal operating procedure in place which was required by 26 July 2011.
4. **Condition (C1-1)** - During the Audit, gaps in the required monitoring data for receiving environment surface water monitoring sites were identified and discussed.
5. **Condition (C1-2)** - Contaminant trigger levels are regularly exceeded at receiving water monitoring locations. To the best of the department's knowledge, required investigations (into potential for environmental harm followed by reporting to the department) have not been undertaken for all trigger level exceedences identified by review of BMG's monitoring data.
6. **Condition (C1-3)** - Receiving water contaminant limits have been exceeded, based on analysis of samples collected during the Audit as follows:
  - (a) Sulphate levels exceeded the EA contaminant limit of 1,000 mg/L at WC01 (2,070 mg/L) and WC02 (2,020 mg/L).
  - (b) Copper levels exceeded the EA contaminant limit of 1 mg/L in Magazine Creek downstream of the Mt Oxide Rd causeway (sample contained 13.1 mg/L of copper).
  - (c) Copper levels exceeded the EA contaminant limit of 1 mg/L in runoff from the Old TSF/concentrate storage/ROM pad areas that reported directly to Gunpowder Creek below the Old TSF (sample contained 12.3 mg/L of copper). In addition, pH measured in situ was 3.42, which is below the lower limit of 5.5.
  - (d) Cobalt and sulphate levels exceeded the EA contaminant limit of 1 mg/L and 1,000 mg/L respectively in a surface expression of seepage located adjacent to Gunpowder Creek (in the flood plain) and immediately below the Esperanza TSF (cobalt measured 1.1 mg/L and sulphate measured 7,230 mg/L). It is almost certain this seepage expression is a direct result of mining activities carried out at the Mt Gordon mine.
7. **Condition (C1-12)** - The Esperanza Pit does not have an appropriately engineered spillway and the Esperanza TSF spillway is reportedly not designed to the required

tolerance of a 1:1000 year ARI storm event (see AWA 2010 annual hazardous dam report), as specified in Schedule C – Table 6.

8. **Condition (C5-1)** – Contaminant trigger levels are regularly exceeded at receiving water monitoring locations. To the best of the department's knowledge, required investigations into potential for environmental harm (followed by reporting to the department) have not been undertaken for all trigger level exceedences identified by reviewing BMG's monitoring data. Furthermore, BMG have failed to establish site specific trigger levels as required.
9. **Condition (C5-2)** – As per condition (C1-1), there are gaps in the required monitoring data for groundwater. Also, in some instances sampling has been undertaken at an incorrect frequency; for example, 4 samples taken within several months of each other rather than 'quarterly'.
10. **Condition (C5-3)** – As per condition (C1-1), groundwater contaminant trigger levels are regularly exceeded at groundwater monitoring locations. To the best of the department's knowledge, required investigations have not been undertaken as required.
11. **Condition (C5-4)** – Review of BMG's groundwater monitoring data revealed multiple exceedences of groundwater contaminant limits; for example, GWMB 10 copper and cobalt levels (EA contaminant limit of 1 mg/L for both) have been recorded at up to 230 mg/L and 8.1 mg/L respectively.
12. **Condition (F5-1)** – The volume of water stored in the Esperanza Pit exceeds the maximum allowable volume specified in Schedule F – Table 2 (Size and purpose of dams containing hazardous waste).
13. **Condition (F5-3)** – The two unauthorised bunds are still present at Mill creek Dam and the Esperanza Pit ramp. These structures were not certified as suitably engineered; as such, the integrity of these structures is unknown and contravenes the departments *Code of Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste*.

In addition to the non-compliance with EA conditions outlined above, the following non-compliance with statutory requirements and other concerns were also identified during the Audit:

- **Exploration disturbance** – During the Audit, department officers observed a permanent pool of water on an access track adjacent to the mine (on the opposite side of Gunpowder Creek). Information provided to the department suggests this disturbance was caused by an exploration drill hole established during BMG's exploration program. Observations of surrounding low lying areas indicate that this pool of water was not caused by recent rainfall. This may constitute a breach of the *Code of Environmental Compliance for Exploration and Mineral Development Projects* in regards to the standard environmental conditions for *exploration drill holes*

and/or *rehabilitation*. The department requires BMG to promptly provide the following information; the relevant Exploration Permit or Mineral Development License under which authorised this disturbance, the date when this exploration drill hole was established and capped, details of the capping method and materials (if this has in fact occurred), and proposed actions and time-frames to properly cap this drill hole.

- **Unlicensed operation of an Environmentally Relevant Activity (ERA)** - BMG are continuing to carry out ERA number 63(1)(a) in regards to the sewage treatment system near Lake Waggaboonya. As this activity is occurring outside of the mining leases listed on the EA, a separate development approval and registration certificate is required. BMG's operation of the sewage treatment system constitutes an offence under section 427 of the *Environmental Protection Act 1994 (EP Act)* (carrying out a chapter 4 activity without a registration certificate) and also constitutes a separate offence under section 578 of the *Sustainable Planning Act 2009 (SPA)* (carrying out an assessable development without an effective development permit). The department advises BMG to apply for a Development Approval (DA) (under the SPA and the EP Act) no later than 16 December 2011 and then apply for a Registration Certificate (under the EP Act) upon confirmation of the DA. If BMG fail to take this action and provide confirmation by the required date, the department will commence appropriate enforcement action.
- **Plan of Operations (PoO)** – Section 233 of the EP Act specifies that an EA holder must not carry out an activity under a relevant mining lease unless a PoO's for all relevant mining activities has been submitted to the department. As such, an amended PoO's must be submitted to the department before 9 December 2011, or appropriate enforcement action will be taken.
- **Mammoth WRD** – As previously discussed, the department requires this WRD to be appropriately capped to achieve (at a minimum) the requirements outlined in the 2006 Order. Further discussion between BMG and the department may be needed to determine a mutually acceptable means of achieving the required environmental outcomes.
- **Esperanza Low Grade Ore and Direct Shipping Ore stockpiles** - Based on recent observations of the Esperanza WRD during the Audit, it is apparent that significant works including re-profiling and compacting are required prior to the wet season to prevent ponding and infiltration of incident rainfall. Please outline proposed measures to rectify this situation.
- **Water management** – The lack of an effective water balance and validated model to assist with mine water management is an ongoing concern given the persistent water management issues. The department has discussed this deficiency with BMG on numerous occasions over the last few years, yet no action of any consequence has resulted thus far.



- **Hydrocarbon management** – As discussed during the Audit with BMG environmental staff, hydrocarbon management at the Barmingo/Mammoth Portal area is well below acceptable industry standards in regards to collection and treatment of spilt hydrocarbons. Examples of poor hydrocarbon management include:
  - (1) The oil-water separator near the Mammoth Portal, which was overflowing hydrocarbon contaminated water in the direction of the Portal, this system clearly does not have the capacity to treat the volume of water reporting to it. BMG are advised to take immediate action to improve hydrocarbon management practices and infrastructure.
  - (2) Two containers (1,000L plastic cubes) were observed at the Magazine Creek West upstream diversion system that appeared to contain hydrocarbons. The containers were not banded and any spill/leak would report to the receiving environment. For temporary storage of small volumes of hydrocarbons (or any chemical) at the mine, self banded containers/pallets are recommended at minimum.
- **Data management and record keeping** – It was apparent during the Audit and review of monitoring data and environmental management records that BMG's data management and record keeping systems are not up to industry standards. It is advised that these systems be upgraded as soon as possible (for example, to a system under ISO 14000 environmental management standards).

BMG are required to immediately undertake all reasonable and practicable measures to address the non-compliances and concerns listed above.

However, BMG are reminded that remedying any of these issues at this time does not alleviate statutory responsibility for any previous non-compliance. As such, please be advised that the department reserves the right to take further action in regards to any identified non-compliance or concerns detailed in this letter as deemed appropriate.

The department requests BMG provide a written response no later than 16 December 2011 detailing any proposed actions (and time-frames) to address the non-compliances and concerns detailed in this letter.

Should you have any enquiries in relation to these matters, please contact Jacob Toe of the department on telephone (07) 4222 5332.

Yours sincerely,

s78B(2) - Privacy

Darryl Chandler  
Team Leader  
Compliance and Reporting  
North Region  
Department of Environment and Resource Management

Cc. Mr Sunil Kulwal  
Chief Executive Officer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
PERTH WA 6000

Cc. Mr Jonathan Cowie  
Environmental Manager  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

ITEM 2034708  
NOR/ 045024



Department of  
Environment and  
Heritage Protection

Reference: NOR/045024

1 March 2013

Mr Agi Patrikios  
Site Senior Executive  
Birla Mt Gordon Pty Ltd  
PO Box 2543  
MOUNT ISA QLD 4825

DISPATCHED

01 MAR 2013

TCollins  
498618567013

**Pre-wet season compliance inspection of the Mt Gordon Operation – Environmental authority MIN100489906**

Dear Sir,

I refer to the compliance inspection of the Mt Gordon Operation (MGO) conducted by the Department of Environment and Heritage Protection (EHP) on 19 November 2012.

Firstly, I would like to thank Birla Mt Gordon Pty Ltd (BMG) for their assistance during the inspection of the MGO which was conducted in the presence of Mr Jonathan Cowie and Mr Wendell Hearl, who were representing BMG.

The purpose of the inspection was to evaluate compliance with conditions of environmental authority MIN100489906 (EA) and preparedness for the upcoming wet season.

During the inspection of the MGO, the following contraventions of EA conditions were identified:

| Condition | Details of contravention                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (C4-2)    | <p>Contaminant levels in receiving waters (for water quality and sediment quality) must not exceed any of the contaminant limits specified in Schedule C - Table 5 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits).</p> <p>The facts and circumstances forming the basis of this contravention are:</p> <ol style="list-style-type: none"> <li>Review of contaminant limit exceedence notification provided by BMG and analysis of water samples collected by EHP indicate an exceedence of the EA sulphate contaminant limit in Gunpowder Creek at WC01 (from 1 June 2012 to 3 November 2012), WC02 (from 2 July 2012 to 3 November 2012) and WC04 (from 16 October 2012 to 3 November 2012);</li> <li>At the time of these exceedences, water quality at the Gunpowder Creek reference site indicate naturally occurring sulphate concentrations were significantly lower than measurements recorded adjacent to (WC01 and WC02) and immediately downstream of the MGO (WC04).</li> </ol> <p>EHP understands that BMG are contemplating measures to reduce impacts from contaminant release to receiving waters and this issue has been considered as part of the investigations required for the environmental evaluation notice issued by EHP on 4 November 2011 (EE Notice).</p> |

|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (C6-2)  | <p>(C6-2) <i>Groundwater from compliance bores identified in Schedule C - Table 6 (Groundwater Monitoring Locations and Frequency) must not exceed any of the contaminant limits defined in Schedule C - Table 7 (Groundwater Trigger Levels and Contaminant Limits).</i></p> <p>The facts and circumstances forming the basis of this contravention are:</p> <ol style="list-style-type: none"> <li>Review of groundwater monitoring data obtained from BMG identified numerous exceedence of EA groundwater contaminant limits at multiple compliance bores (see attachment 1);</li> <li>Review of water quality data from reference bore GWMB38 indicate groundwater up-gradient of the MGO is characterised by significantly lower contaminant levels than those detected in compliance bores.</li> </ol> <p>EHP understands that BMG are investigating measures to reduce contaminant releases to groundwater and this issue has been considered as part of the investigations required for the EE Notice.</p>     |
| (G10-3) | <p>(G10-3) <i>Each regulated dam named in column 1 of Schedule G - Table G1 (Location of Regulated Dams), must meet the hydraulic performance criteria noted in columns 2 through to and including 4 of Schedule G - Table G3 (Hydraulic Performance of Regulated Dams), below, for that dam.</i></p> <p>The facts and circumstances forming the basis of this contravention are:</p> <ol style="list-style-type: none"> <li>The Esperanza TSF is listed in the EA as a regulated dam;</li> <li>One of the required hydraulic performance criteria is a functional spillway sufficient to pass an AEP 1:10,000 6 hour storm event;</li> <li>Based on advice provided by BMG (including the 2012 annual assessment of hazardous dams) and observations made of the Esperanza TSF during the inspection, it is apparent that a spillway achieving the required performance specifications has not been constructed.</li> </ol>                                                                                            |
| (H1-2)  | <p>(H1-2) <i>During the transitional period, the holder must ensure that any dam listed in Schedule H - Table 1 (Location of Dams) is operated and maintained to achieve all requirements outlined in Schedule H - Table 2 (Dam Performance Criteria).</i></p> <p>The facts and circumstances forming the basis of this contravention are:</p> <ol style="list-style-type: none"> <li>The Esperanza Pit is a dam listed in Schedule 1 – Table 1 (Location of Dams) of the EA.</li> <li>The Esperanza Pit does not have an appropriately engineered spillway based on review of recent hazardous dam reports (including the 2012 annual assessment of hazardous dams) and observations by EHP officers during the site inspection.</li> </ol> <p>EHP acknowledges receipt of reports purporting to demonstrate that the Esperanza Pit does not require a spillway. However, as noted in EHP's letter to BMG dated 19 February 2013, the assertions that the Esperanza Pit does not require a spillway are incorrect.</p> |

Please be advised that contravention of an environmental authority condition is an offence under section 430 of the *Environmental Protection Act 1994*.

On this occasion, EHP has decided to issue you a warning for contravention of conditions (C4-2), (C6-2), (G10-3), (H1-2) of environmental authority MIN100489906. Failure to ensure compliance with these conditions in the future may attract further enforcement action in accordance with EHP's Enforcement Guideline.

In addition to identified contraventions, EHP identified a number of concerns during the inspection (and following review of information requested during the inspection). These concerns are matters that do not necessarily constitute a contravention of an EA condition, but EHP considers attention is required to ensure compliance with the site's general environmental duty pursuant section 319 of the *Environmental Protection Act 1994*. The following concerns were identified during the inspection:

1. (A8-2) – This condition requires BMG to notify EHP of any EA contaminant limit exceedence within 24 hours of becoming aware of the sample analysis results. From review of monitoring data, the sulphate level exceedence at WC03 (sample taken on 3 July 2012) and WC04 (sample taken on 8 October 2012) should have been reported to EHP prior to the inspection on 19 November 2012. Review of site procedures and staff training may be required to prevent recurrence.
2. (A12-1) - EHP officers were advised during the inspection that BMG consider that the Plan of Operation's Audit (the Audit) submitted with the *Birla Mt Gordon Plan of Operations 23 August 2012 – 23 August 2014* meets the requirements of the third party audit specified for EA condition (A12-1). Following review of this Audit against the requirements of condition (A12-1), EHP does not consider this document meets the specified requirements. Please note that a third party audit in accordance with condition (A12-1) must be completed before 1 June 2013.
3. (C2-1) - Seepage from the Old (Mammoth) TSF appears to be an ongoing issue based on salt efflorescence observed in the Gunpowder Creek floodplain in the vicinity of the TSF downstream embankment. This efflorescence is likely to contain copper sulphate based on previous monitoring of ponded seepage, BMG should note that this location is not an EA authorised contaminant release point. EHP understands this matter is being addressed as part of the investigations undertaken in response to the environmental evaluation notice issued on 4 November 2011.
4. During the inspection, EHP officers observed that the vehicle wash-down bay at the concentrate storage shed was being utilised as a mineral concentrate storage area. As such, the facility could not be operated for its intended purpose of washing vehicles transporting mineral concentrate prior to leaving site. There is a significant risk that this practice may result in contamination of the receiving environment. BMG are reminded of the general environmental duty pursuant to section 319 of the *Environmental Protection Act 1994* and the requirements of EA condition (A9-3) (as amended on 17 January 2013).
5. During the inspection, the poly-tank located on saddle dam 2 that receives seepage collected from the new saddle dam 2 seepage collection system was overflowing. Whilst this overflow would likely report to downstream seepage collection systems, it is not considered an efficient way of managing TSF seepage. It is understood that significant upgrades are planned for these systems, please advise on planned completion timeframes.
6. Schedule J Maps / Plans of the EA stipulate that specified plans must be provided to the administering authority by 1 November 2012.

It would be appreciated if you could provide a written response by no later than 15 March 2013 detailing proposed actions (including timeframes) to address the matters outlined in this letter, along with any further representations BMG may wish to make.

I would like to take this opportunity to acknowledge the significant work that BMG has undertaken to improve environmental management practices at the Mount Gordon Operation, particularly in regards to reducing the large volume of poor quality water stored on-site. EHP is keen to continue the ongoing professional relationship with BMG to achieve continual environmental improvements on-site while balancing the ongoing operation of the mine.



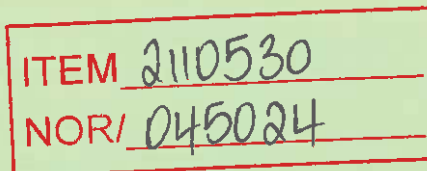
Should you have any enquiries in relation to these matters, please contact Jacob Toe of EHP on telephone (07) 4222 5332.

Yours sincerely,

s78B(2) - Privacy

Hamish Butler  
**A/Team Leader – Northern Region**  
**Mining and Heavy Industry**  
**Environmental Services and Regulation**  
**Department of Environment and Heritage Protection**

RTI DL RELEASE - EHP

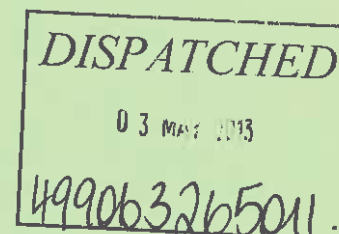


Department of  
Environment and  
Heritage Protection

Reference: NOR/045024

3 May 2013

Mr Agi Patrikios  
General Manager  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
Perth WA 6000



Dear Mr Patrikios,

**Planning and Environment Court Order No. 3052 of 2010**

I refer to the Planning and Environment Court Order made by His Honour Judge Griffin on 28 September 2011 (the Order) and the letters from Birla Mt Gordon Pty Ltd (BMG) dated 21 February 2013 and 26 March 2013, proposing amendment's to the Order.

During a meeting held on 7 February 2013 between the Department of Environment and Heritage Protection (EHP) and Mr Agi Patrikios and Mr Jonathan Cowie of BMG, the prescriptive nature of the Order was raised as a significant issue. EHP was advised that the Order is affecting BMG's ability to balance operational requirements of the Mt Gordon Operation whilst meeting BMG's environmental obligations under the *Environmental Protection Act 1994*. The major issue raised by BMG was the current lack of flexibility regarding water reduction requirements of the Order and the likely need for water currently stored in the Esperanza Pit for the processing plant.

BMG's letter dated 21 February 2013 identified potential impacts to Gunpowder Creek as a result of treated water releases at the tail end of the wet season and outlined a proposed amendment to address this issue.

Most recently, BMG's letter dated 26 March 2013, proposed a further amendment to the Order along with supporting documentation (a water balance assessment by GHD) requesting water reduction requirements of the Order be amended to reflect current operational circumstances.

Based on the above matters, please be advised that EHP will agree to a stay of the current Order for a period of two years subject to agreement of a new Order, with the following wording:

1. *The Respondent must implement all reasonable measures to achieve a minimum **annual net water reduction** from the **Esperanza Pit** of 311 Mega litres, until the water level in the Esperanza Pit is at or below 184 metres AHD.*
2. *The respondent must ensure the water level in the **Esperanza Pit** is at or below 184 metres AHD by 1 January 2019.*

**Annual net water reduction** means the total net volume of water removed from the Esperanza Pit by lawful means over a calendar year.

**Esperanza Pit** means the open cut pit located at easting -19.699413 and northing 139.356457\*.  
\*Coordinates are in GDA94 and identify the approximate centre of the Esperanza Pit.

EHP considers that the proposed actions outlined above address the issues raised by BMG during the meeting on 7 February 2013 and in BMG's letters of 21 February 2013 and 26 March 2013, whilst progressively reducing the environmental risk posed by excess water stored in the Esperanza Pit.

I look forward to continue working with BMG to achieve improved environmental outcomes whilst meeting BMG's operational requirements.

Should you have any queries in relation to this matter, please contact Jacob Toe on (07) 4222 5332.

Yours sincerely,

s78B(2) - Privacy

Ingrid Fornati Minnesma  
**A/Regional Manager - Northern Region**  
**Environmental Services and Regulation**  
**Department of Environment and Heritage Protection**

RTI DL RELEASE - EHP

ITEM 2135109  
NOR/ 045024

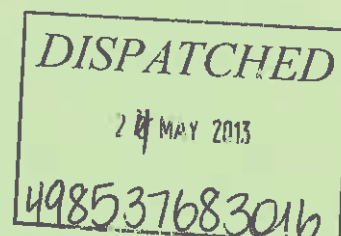


Department of  
**Environment and  
Heritage Protection**

Reference: NOR/045024

24 May 2013

Mr Gopal Hota  
Group Chief Mining Engineer  
Birla Mt Gordon Pty Ltd  
Level 3 Septimus Roe Square  
Perth WA 6000



Dear Mr Hota,

**Financial assurance for the Mt Gordon Operation (Mining Leases: 5407, 5412, 5413, 5418, 5419, 5420, 5429, 5430, 5441, 5442, 5443, 5444, 5451, 5454, 5457, 5459, 5467, 5485, 5486, 5489, 5500, 5548, 5549, 5550, 5562, 5563, 90180, 90181 & 90182)**

I refer to the letter from the Department of Natural Resources and Mines (DNRM) to Birla Mt Gordon Pty Ltd (BMG) c/o Hetherington Exploration and Mining Title Services Pty Ltd, dated 22 March 2013. This letter requested BMG lodge an additional \$5,369,713.43 of financial assurance for the Mt Gordon Operation. I understand that this additional financial assurance has yet to be lodged.

In accordance with condition (A3-3) of environmental authority MIN100489906, BMG are required to lodge the amount of financial assurance requested by the administering authority within 20 business days of a request pursuant to the *Environmental Protection Act 1994*.

Please be advised that in accordance with section 364 of the *Environmental Protection Act 1994*, the Department of Environment and Heritage Protection requires BMG to lodge an additional \$5,369,713.43 of financial assurance to the DNRM in the form of a bank guarantee from a financial institution or cash. BMG must provide the full amount of financial assurance, as requested in the DNRM letter of 22 March 2013, before 24 June 2013. Should BMG fail to comply with this requirement, EHP may consider further action in accordance with EHP's Enforcement Guideline.

If you wish to discuss this matter further, please contact Jacob Toe on (07) 4222 5332.

Yours sincerely,

s78B(2) - Privacy

Warwick Fegan  
A/Team Leader - Mining and Heavy Industry  
Environmental Services and Regulation - Northern Region  
Department of Environment and Heritage Protection

ITEM 2218845.

NOR/ 045024(2)

DISPATCHED

02 AUG 2013

409179094017

# Notice

**Environmental Protection Act 1994**

## Notice requiring a draft transitional environmental program

*This notice requiring a draft transitional environmental program is issued by the administering authority pursuant to section 332 of the Environmental Protection Act 1994.*

Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
256 Adelaide Terrace  
PERTH WA 6000

Your reference: EPML00911413 (formerly MIN100489906)

Our reference: NOR/045024

2 August 2013

**Take notice:** that under the *Environmental Protection Act 1994* (the Act), a notice requiring a draft transitional environmental program (TEP) is served on you by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Heritage Protection (the department).

The notice requiring a draft TEP is issued in respect to the activities of Birla Mt Gordon Pty Ltd (BMG) at the Mt Gordon Operation, conducted on mining leases ML5412, ML5413, ML5419, ML5420, ML5429, ML5430, ML5441, ML5442, ML5443, ML5444, ML5451, ML5454, ML5457, ML5459, ML5467, ML5485, ML5486, ML5489, ML5500, ML 5548, ML5549, ML5550, ML5562, ML5563, ML90180, ML90181 and ML90182.

### A. Grounds

The notice requiring a draft TEP is issued on the following grounds:

- Under section 332(2)(a) of the Act, the department considers that BMG is carrying out an activity that is causing, or may cause, unlawful environmental harm; and
- Under section 332(2)(c) of the Act, the department is satisfied that BMG has or is contravening condition (C4-2) of environmental authority EPML00911413.

The facts and circumstances forming the basis for these grounds are:

- BMG carries out mining activities at the Mount Gordon Operation on mining leases: ML5407, ML5412, ML5413, ML5419, ML5420, ML5429, ML5430, ML5441, ML5442, ML5443, ML5444, ML5451, ML5454, ML5457, ML5459, ML5467, ML5485, ML5486, ML5489, ML5500, ML 5548, ML5549, ML5550, ML5562, ML5563, ML90180, ML90181 and ML90182 (the 'mine').
- Environmental authority EPML00911413 (EA), formerly MIN100489906, is issued to: Birla Mt Gordon Pty Ltd, Level 3 Septimus Roe Square, 256 Adelaide Terrace, PERTH WA 6000.



## Notice requiring a draft transitional environmental program

- The EA has been issued by the department in respect to carrying out environmentally relevant activities (mining activities) at the Mt Gordon Operation, authorising the actual and potential environmental harm that can lawfully be caused in carrying out those activities.

### Contravention of an EA condition

- EA condition (C4-2) states that the contaminant limits specified in Schedule C – Table 5 of the EA must not be exceeded in receiving waters.
- On 3 June 2013, BMG advised the department via email that sulphate concentrations at EA monitoring locations WC01 and WC02 had exceeded the EA contaminant limit specified in Schedule C – Table 5.
- The exceedance of a contaminant limit specified in Schedule C – Table 5 of the EA is a contravention of condition (C4-2) of the EA.

### Activity is causing, or may cause, unlawful environmental harm

- On 4 November 2011, BMG were issued with a notice to conduct environmental evaluation STAT650 (the Notice).
- On 28 September 2012, BMG submitted an environmental report to the department as a requirement of the Notice titled "*Birla Mt Gordon Environmental Report 3 For Environmental Evaluation Notice Dated 4 November 2011*" prepared by NRA Environmental Consultants (Report 1).
- On 1 February 2013, BMG submitted an environmental report to the department as a requirement of the Notice titled "*Environmental Evaluation, Mt Gordon Operations - Report 4 (Items 7 and 8)*" prepared by NRA Environmental Consultants (Report 2).
- Review of Report 1 identified that the mining activities have caused impacts to environmental values of Gunpowder Creek and Greenstone Creek in regards to water quality, sediment quality and directly measurable impacts to aquatic ecosystems.
- Review of Report 1 also identified that the release of contaminants not authorised under the EA was contributing to impacts on environmental values in Gunpowder Creek and Greenstone Creek. Any contaminant release not authorised under the EA is unlawful.

### Reasons for requiring a draft TEP under sections 326 and 332 of the Act

- Report 2 outlines potential remedial options to reduce environmental impacts caused by the mining activities. Review of this report identifies that considerable works by the EA holder are likely to be required to transition back into compliance with the EA and prevent the unauthorised release of contaminants to the environment.
- The department considers that works are required to reduce environmental harm caused by the activity and to transition the activity into compliance with the conditions of the EA; therefore, BMG are required to prepare and submit a draft TEP.

## **B. Matters to be addressed by the TEP**

You are required to address the following matters in the draft TEP:

1. Development and implementation of a program of lawful works to remediate contamination within Gunpowder Creek and Greenstone Creek that achieves compliance with the Receiving Waters Contaminant Limits specified in Schedule C – Water of environmental authority EPML00911413. Any program of works must not result in further environmental harm; and

## Notice requiring a draft transitional environmental program

Notice

2. Development and implementation of a program of works and measures that prevents the unlawful release of contaminants from the mining activities to receiving waters. These works and measures must prevent the unauthorised release of contaminants to the receiving environment from the following contaminant sources:

- a) The Heap Leach Pads;
- b) The Old (Mammoth) Tailings Storage Facility;
- c) The Esperanza Tailings Storage Facility;
- d) The Mammoth Waste Rock Dump;
- e) Mill Creek Dam; and
- f) Any other identified source of contaminant releases not authorised by the EA.

### Definitions

"EA" means environmental authority EPML00911413 as amended from time to time.

"Receiving waters" means Gunpowder Creek, Magazine Creek and Greenstone Creek.

### Take notice:

- The TEP is to be carried out within a timeframe specified by BMG in the draft TEP of no greater than five years.
- The requirements of the notice requiring a draft TEP take effect immediately upon service of the notice.
- This notice remains in force until further notice from the administering authority.
- The draft TEP must be prepared and submitted to the department by **23 September 2013**.

### C. Appeal rights

The provisions regarding reviews of decisions and appeals are found in ss519 to 539 of the Act.

A person who is dissatisfied with certain decisions of the department, may be able to apply to have the department review that original decision.

Generally, a request to have a decision reviewed must be made:

- within 10 business days of the decision being notified to the person;
- be supported by enough information to enable the department to decide the application for review; and
- be made using the application for review of an original decision form (EM709).<sup>1</sup>

Where an application has been made for a decision to be reviewed, the applicant may also apply to the relevant court for a stay of the decision to secure the effectiveness of the review.

Once the original decision has been reviewed, a person who is dissatisfied with the review decision may be able to appeal against that decision to the relevant court within **22 business days** after receiving notice of the review decision.

<sup>1</sup> This is the publication number. The publication number can be used as a search term to find the latest version of a publication at [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au).

## Notice requiring a draft transitional environmental program

A person whose interests are or would be adversely affected by a decision of the department may be able to request a statement of reasons for a decision or a statutory order review under the *Judicial Review Act 1991*.

For further information about reviews and appeals see the attached information sheet - internal review and appeal to the Planning and Environment Court (EM1866).

You may have other legal rights or obligations and should seek your own legal advice.

### D. Penalties

It is an offence not to comply with this notice requiring a draft TEP, unless you have a reasonable excuse.

- The maximum penalty for an individual is 100 penalty units, totalling \$11,000.
- The maximum penalty for a corporation is 500 penalty units, totalling \$55,000.

Should you have any queries in relation to this notice, please contact Jacob Toe of the department on telephone number (07) 4222 5332.

s78B(2) - Privacy

Signature

Date

Hamish Butler

A/Manager - Environment

Delegate of the Chief Executive

Department of Environment and Heritage Protection

*Environmental Protection Act 1994*

### Enquiries:

Environmental Services and Regulation

Phone: (07) 4222 5340

Email: [jacob.toe@ehp.qld.gov.au](mailto:jacob.toe@ehp.qld.gov.au)



In the Planning and Environment Court  
Held at Brisbane

No 3267 of 2013

Between:

**BIRLA MT GORDON PTY LTD ACN 106 396 801**

Applicant

And:

**CHIEF EXECUTIVE OF THE DEPARTMENT OF  
ENVIRONMENT AND RESOURCE  
MANAGEMENT**

Respondent

### ORDER

Before: The Honourable Judge Rackemann  
Date of Hearing: 30 August 2013  
Date of Order: 30 August 2013

### IT IS ORDERED THAT:

1 The orders made by His Honour Judge Griffin SC dated 28 September 2011 in Planning and Environment Court proceedings 3052 of 2010, as amended by the orders of His Honour Judge Rackemann on 1 November 2011, His Honour Judge Dorney QC on 27 February 2012 and His Honour Judge Griffin SC on 31 October 2012 are stayed for two years from the date of this order and substituted by orders (2) – (7) which will automatically lapse upon expiry of the stay.

2 In these Orders the following terms have the following meanings:

**‘Applicant’** means the Applicant in Planning and Environment Court proceedings 3052 of 2010.

**‘Discharge Quality Water’** means water on the Site that meets the discharge criteria set out in Appendix 1 to these Orders.

**‘Environmental Authority’** means Environmental Authority EPML00911413 (formerly MIN100489906) as amended from time to time.

**‘Esperanza Pit’** means the open cut pit located at 19.699413° S and 139.356457° E (coordinates are in GDA94 and identify the approximate centre of the Esperanza Pit).

**‘Mandatory Reporting Level’** means the water levels listed in Schedule H – Table 2 (Dam Performance Criteria) of the Environmental Authority.

#### ORDER

Filed on behalf of the Applicant  
Form PEC-7

**Corrs Chambers Westgarth**  
Lawyers  
Level 35  
Waterfront Place  
1 Eagle Street  
Brisbane Qld 4000  
Tel (07) 3228 9333  
Fax (07) 3228 9444  
Ref HP/SDB9003901





**‘Respondent’** means the Respondent in Planning and Environment Court proceedings 3052 of 2010.

**‘Site’** means the Mt Gordon Copper Mine on land described as Lot 4 on Plan UN 803944, Lot 1 on Plan TG 38 and Lot 5 on Plan CP 865892, located 120 kilometres north west of Mt Isa in the State of Queensland.

**‘Year’** means the period commencing on 1 April each year and ending on 31 March the following year.

- 3 The Respondent must implement all reasonable measures to achieve a minimum net water reduction of 311ML from the Esperanza Pit each Year until the water level in the Esperanza Pit is at or below the Mandatory Reporting Level.
- 4 By 31 March 2019, the Respondent must ensure the water level in the Esperanza Pit is at or below the Mandatory Reporting Level for the Esperanza Pit as specified in the Environmental Authority.
- 5 When flow volumes in Gunpowder Creek exceed those stated in paragraph 6 of Appendix 1, the Respondent may release any Discharge Quality Water from the Site, when in accordance with Appendix 1, or by another criteria as mutually agreed in writing by both parties.
- 6 Where circumstances reasonably require a variation to any time limits or other aspects of this Order, the parties will not unreasonably oppose any order for such variation.
- 7 For the avoidance of doubt, nothing in this Order is intended to interfere with any current or future authority or direction issued by the Applicant for the Site.

s78B(2) - Privacy

Registrar

DEPUTY REGISTRAR

BRISBANE



## Appendix 1

### Discharge criteria

Water can only be discharged into Gunpowder Creek if all of the following criteria are met.

1. Water quality limits defined in Table 1 must be met:
  - a) at a flow volume in Gunpowder Creek that is at least ten (10) times the volume of the water discharged; or
  - b) for all parameters except for sulphate and TDS, which must not exceed 6,000 mg/L and 9,000 mg/L respectively, at a flow volume in Gunpowder Creek that is at least twenty (20) times the volume of the water discharged.
2. Water must only be discharged from release point W1 and in a manner that ensures effective dilution and dispersion.
3. The volume of water discharged to Gunpowder Creek from W1 must be recorded in megalitres and on a daily basis.
4. Receiving waters must be monitored for each discharge event:
  - a) at the locations and frequencies defined in Table 2 for all parameters listed in Table 3; and
  - b) either during a discharge, or immediately after a discharge, and in both instances only when conditions are safe to access the monitoring site.
5. Water quality at receiving water monitoring locations defined in Table 2 must not exceed the contaminant limits defined in Table 3.
6. The flow rate in Gunpowder Creek exceeds 1.1 cubic metres/second upstream of release point W1.

**Note** – To remove any doubt, Environmental Authority conditions C1-8 and C1-9 which restrict volumes of discharges do not apply for discharges conducted under this Court Order. All other Environmental Authority conditions continue to apply.

**Table 1 End of pipe water quality release limits for W1**

| Parameter              | Units    | Limit                                                                       | Limit Type |
|------------------------|----------|-----------------------------------------------------------------------------|------------|
| Total Copper           | mg/L     | 2.5                                                                         | Maximum    |
| Total Arsenic          | mg/L     | 0.25                                                                        | Maximum    |
| Total Cobalt           | mg/L     | 5                                                                           | Maximum    |
| Total Lead             | mg/L     | 0.05                                                                        | Maximum    |
| Total Zinc             | mg/L     | 10                                                                          | Maximum    |
| Total cadmium          | mg/L     | 0.002                                                                       | Maximum    |
| Total chromium         | mg/L     | 0.001                                                                       | Maximum    |
| Total Sulphate         | mg/L     | 6,000                                                                       | Maximum    |
| Suspended Solids       | mg/L     | 30 mg/L or 10% above background levels in Gunpowder Creek during flow event | Maximum    |
| pH                     | pH units | 7.0 - 9.0                                                                   | Range      |
| Total Dissolved Solids | mg/L     | 9,000                                                                       | Maximum    |
| Dissolved Oxygen       | mg/L     | 2                                                                           | Minimum    |
| Oil & Grease           | mg/L     | 20                                                                          | Maximum    |

**Table 2 Receiving water monitoring locations and monitoring frequency for discharges from release point W1**



| Monitoring point                                                                | Latitude (GDA 94)                   | Longitude (GDA 94)                    | Monitoring frequency                     |
|---------------------------------------------------------------------------------|-------------------------------------|---------------------------------------|------------------------------------------|
| WC02 - Gunpowder Creek 50 metres downstream of confluence of Mill Creek         | S 19° 41' 39.1"<br>(S19° 41' 34.6") | E 139° 21' 48.2"<br>(E139° 21' 56.1") | Daily when releasing treated water at W1 |
| WC04 - Gunpowder Creek 50 metres downstream of confluence with Greenstone Creek | S 19° 40' 09.8"                     | E 139° 22' 63.9"                      | Daily when releasing treated water at W1 |
| WC01 - Gunpowder Creek - Mount Oxide Road Causeway (upstream side)              | S 19° 41' 43.4"                     | E 139° 21' 34.3"                      | Daily when releasing treated water at W1 |
| Gunpowder Creek – reference site <sup>1</sup>                                   | S 19° 70' 82"                       | E 139° 33' 59"                        | Daily when releasing treated water at W1 |

<sup>1</sup> Reference sites must:

- be from the same biogeographic and climatic region; and
- have similar geology, soil types and topography; and
- contain a range of habitats similar to those at the test sites; and
- a similar flow regime; and
- not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.

**Table 3 Receiving water contaminant limits**

| Parameter      | Units    | Limit   | Limit Type |
|----------------|----------|---------|------------|
| TDS            | mg/L     | 4000    | Maximum    |
| pH             | pH units | 5.5 - 9 | Range      |
| Sulphate       | mg/L     | 1000    | Maximum    |
| Total Arsenic  | mg/L     | 0.5     | Maximum    |
| Total Cobalt   | mg/L     | 1       | Maximum    |
| Total Copper   | mg/L     | 1       | Maximum    |
| Total Lead     | mg/L     | 0.1     | Maximum    |
| Total Zinc     | mg/L     | 20      | Maximum    |
| Total cadmium  | mg/L     | 0.01    | Maximum    |
| Total chromium | mg/L     | 1       | Maximum    |

ITEM 2210562  
NOR/ 045024

DISPATCHED

19 SEP 2013



Department of  
Environment and  
Heritage Protection

Ref EPML00911413 / NOR/045024

19 September 2013

Mr Gopal Hota  
Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
256 Adelaide Terrace  
Perth WA 6000

Dear Sir,

**Old (Mammoth) Tailings Storage Facility at the Mt Gordon Operation**

I refer to the meeting held on 22 August 2013 between the Department of Environment and Heritage Protection (EHP) and representatives of Birla Mt Gordon Pty Ltd (BMG) in Cairns. During this meeting, the Old (Mammoth) tailings storage facility (Old TSF), located on mining leases ML5489 and ML5467, was discussed.

As articulated during the meeting, EHP considers BMG to be wholly responsible for the ongoing management and rehabilitation of the Old TSF in accordance with legislative requirements of the *Environmental Protection Act 1994* (the Act).

At present, the Old TSF is known to be a source of unauthorised contaminant releases from the Mt Gordon Operation and BMG are reminded of the need to prevent further unauthorised releases from this structure. EHP issued BMG with a notice requiring a draft transitional environmental program on 2 August 2013, as this is considered to be the most appropriate statutory measure to reduce environmental harm and enable BMG to return to compliance with environmental authority EPML00911413. Please be advised that should no action be taken to prevent the ongoing unauthorised release of contaminants from the Old TSF, EHP may take further enforcement action in accordance with the EHP Enforcement Guidelines.

EHP understands that BMG do not agree with EHP's position regarding responsibility for the ongoing management of the Old TSF. Should BMG's position remain unchanged, an application for partial surrender of the EA (for the Old TSF area) would be the appropriate legislative process to resolve this matter. Any surrender application must be made in accordance with section 262 of the Act, including sufficient information for EHP to decide the application.

Information regarding surrender applications is available on the Queensland Government's Business Portal website at: <http://www.business.qld.gov.au/business/running/environment/licences-permits/surrendering-transferring-environmental-authority/surrender>

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ABN 46 640 294 485

Should you wish to discuss any of the matters outlined in this letter, please contact Jacob Toe of EHP on (07) 4222 5332.

Yours sincerely,

s78B(2) - Privacy

Hamish Butler  
**A/Regional Manager – North Region**  
**Environmental Services and Regulation**  
**Department of Environment and Heritage Protection**

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ITEM 2280099  
NOR/ 045024



Department of  
Environment and  
Heritage Protection

Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
256 Adelaide Terrace  
PERTH WA 6000

DISPATCHED

26 SEP 2013

26 September 2013

Dear Mr Hota,

**Compliance Inspection of the Mt Gordon Operation (Mining Leases: 5407, 5412, 5413, 5418, 5419, 5420, 5429, 5430, 5441, 5442, 5443, 5444, 5451, 5454, 5457, 5459, 5467, 5485, 5486, 5489, 5500, 5548, 5549, 5550, 5562, 5563, 90180, 90181 & 90182) – 14 August 2013**

I refer to the compliance inspection of the Mt Gordon Operation (MGO) on 14 August 2013, conducted by environmental officers Chris De Roma and Renee Farkas of the Department of Environment and Heritage Protection (EHP). I also refer to monitoring data requested by EHP officers during the inspection and provided by Birla Mt Gordon Pty Ltd (BMG) via email on 31 August 2013.

The purpose of the inspection was to evaluate BMG's preparedness for the upcoming wet season, particularly in regards to site water management. Thank you for ensuring relevant staff were available to assist during the site inspection.

EHP has identified the following areas of non-compliance with environmental authority EPML00911413 (EA) conditions, as documented in Table 1 below:

**Table 1: Non-compliance with EA conditions**

| Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Detail of non-compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>(A12-5) <i>Within one (1) month of completing the audit, the holder must provide a written report to the administering authority, the certification from the third party auditor must be included in this report. In addition, the report must outline all:</i></p> <p>(a) <i>Actions taken by the holder to ensure compliance with this environmental authority; and</i></p> <p>(b) <i>Actions taken to prevent a recurrence of any non-compliance issues identified.</i></p> | <p>Condition (A12-1) requires BMG to have engaged a third party auditor to complete an audit for compliance with all conditions of the EA by 1 June 2013. EHP understands that this audit was completed, although the completion date is not known.</p> <p>Condition (A12-5) requires BMG to undertake a number of actions including provision of a copy of the third party audit report to EHP within 1 month of completing the audit, which must be no later than 31 July 2013. EHP has not received a copy of the third party audit report as of 26 September 2013.</p> |
| <p>(C4-1) <i>The quality of the receiving waters must be monitored at the locations specified in Schedule C - Table 4 (Receiving Waters Monitoring Locations) and identified in Schedule J – Plan 2 (Receiving Waters Monitoring Locations) for each parameter stated in Schedule C - Table 5 (Receiving Waters Contaminant Trigger Levels and</i></p>                                                                                                                            | <p>This condition outlines surface water and sediment monitoring requirements.</p> <p>Review of sediment quality monitoring data identified that total organic carbon and particle size distribution was not analysed for sediment samples taken in November 2012, as required by EA condition (C4-1)(a) and specified in Schedule C – Table 5 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits).</p>                                                                                                                                                   |

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ABN 46 640 294 485



|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <p><i>Contaminant Limits), at the following monitoring frequency:</i></p> <p><i>(a) For receiving waters sediment quality, biannually (once at the end of the wet season and once at the end of the dry season); and</i></p> <p><i>(b) For receiving waters (water quality), monthly when waters are not flowing; and</i></p> <p><i>(c) For receiving waters (water quality) during flow events (where no release event is occurring):</i></p> <p><i>(i) Weekly for all parameters; and</i></p> <p><i>(ii) Continuously at monitoring points 'Gunpowder Ck Ref' and 'WC04' as defined in Schedule C - Table 4 (Receiving Waters Monitoring) for in situ monitoring of pH and electrical conductivity...</i></p> | <p>EA condition (C4-1)(c)(ii) requires BMG to undertake continuous monitoring of pH and electrical conductivity during stream flow events in Gunpowder Creek, at monitoring locations 'Gunpowder Ck Ref' and 'WC04' as defined in Schedule C – Table 4 (Receiving Waters Monitoring Locations). EHP understands that BMG have not been meeting the continuous in situ monitoring requirements for EA condition (C4-1)(c)(ii).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| (C4-2) | <p><i>Contaminant levels in receiving waters (for water quality and sediment quality) must not exceed any of the contaminant limits specified in Schedule C - Table 5 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>This condition specifies contaminant limits for surface waters and sediment that must not be exceeded.</p> <p>A number of sediment quality contaminant limit exceedences were identified by EHP following review of monitoring data provided by BMG. Exceedences identified by EHP for samples taken on 4 November 2012 include:</p> <ul style="list-style-type: none"> <li>• WC01 – Cobalt and manganese;</li> <li>• WC02 – Cobalt and manganese;</li> <li>• WC04 – Cobalt;</li> <li>• WC03 – Cobalt and copper;</li> <li>• WC13 – Cobalt, copper and manganese.</li> </ul> <p>Exceedences identified by EHP for samples taken on 12 June 2013 include:</p> <ul style="list-style-type: none"> <li>• WC01 – Cobalt, copper, manganese &amp; nickel;</li> <li>• WC02 – Cobalt and manganese;</li> <li>• WC04 – Cobalt;</li> <li>• WC03 – Cobalt, copper and uranium;</li> <li>• WC13 – Cobalt and manganese.</li> </ul> <p>Receiving waters contaminant limit exceedences were identified from notifications by BMG and review of water quality monitoring data as follows:</p> <ul style="list-style-type: none"> <li>• WC03 –pH and copper from 13 February 2013 to 16 March 2013;</li> <li>• WC01 &amp; WC02 – Sulphate from 4 May 2013 to 12 August 2013;</li> <li>• WC04 – Sulphate from 21 July 2013 to 13 August 2013.</li> </ul> |

|        |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (C6-2) | <i>Groundwater from compliance bores identified in Schedule C - Table 6 (Groundwater Monitoring Locations and Frequency) must not exceed any of the contaminant limits defined in Schedule C - Table 7 (Groundwater Trigger Levels and Contaminant Limits).</i> | <p>This condition specifies contaminant limits for groundwater that must not be exceeded.</p> <p>A large number of groundwater quality contaminant limit exceedences were identified by EHP following review of monitoring data provided by BMG. All contaminant limit exceedences identified by EHP are presented as an attachment to this letter.</p>                                                                              |
| (G4-1) | <i>The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.</i>                                                                                           | <p>This condition requires that any structure being operated as a regulated dam must have an MRL clearly marked at all times.</p> <p>During the inspection, EHP officers requested to be shown the MRL markers for Mill Creek Dam and the Esperanza TSF. Richard Vieira of BMG informed the officers that the MRL's were not currently marked but this would be rectified following the pre-wet regulated structures inspection.</p> |

Pursuant to section 430 of the *Environmental Protection Act 1994*, it is an offence to contravene a condition of an environmental authority and significant penalties apply. The maximum penalty is \$220,000 or two years imprisonment.

In regards to the contravention of EA condition (G4-1) as outlined above, EHP has decided to issue BMG with a warning on this occasion, in accordance with EHP's enforcement guidelines.

For all other contraventions of EA conditions outlined above, EHP is currently assessing a draft transitional environmental program (TEP) submitted by BMG in response to the notice requiring a draft TEP as issued by EHP on 2 August 2013. EHP considers that a TEP is the most appropriate measure to address these compliance matters.

Please be advised that EHP may take further enforcement action in accordance with the EHP Enforcement Guidelines should BMG not adequately address the compliance matters outlined in this letter or additional information becomes available.

In addition to the non-compliances identified above, EHP also identified some areas of concern during the inspection, which are documented in Table 2 below:

**Table 2: Areas of concern**

| Condition                                | Details of concern                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>(A1-1)</p> <p>&amp;</p> <p>(C1-1)</p> | <p><i>The holder must ensure that contaminants with the potential to cause environmental harm are not released directly or indirectly to land, air or waters except as permitted under the conditions of this environmental authority.</i></p> <p><i>Contaminants that will, or have the potential to cause environmental harm, must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.</i></p> <p>During the inspection, EHP officers observed white precipitation in the drainage line downstream of the Saddle dam 2 seepage collection system. This precipitation was located downstream of the final seepage collection point and is likely to be released to Gunpowder Creek following the next significant rainfall event. It is considered likely that this precipitation contains elevated sulphate caused by evaporation of seepage from the Esperanza TSF.</p> |

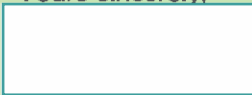
|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A5-4) | <p><i>The following information must be recorded for all monitoring and measurements required under a condition of this environmental authority:</i></p> <p>(a) <i>The date and time when the sample was taken;</i></p> <p>(b) <i>The person/s conducting the sampling;</i></p> <p>(c) <i>The location where the sample was taken;</i></p> <p>(d) <i>Pertinent details relating to the sampling (i.e., stream flow or relevant observations);</i></p> <p>(e) <i>For laboratory analyses, all chain of custody, certificate of analysis and quality control/assurance documents.</i></p>                                                | <p>The monitoring data provided by BMG was insufficient to verify that all information required to be recorded under EA condition (A5-4) had been undertaken.</p> <p>As such, it was not possible to identify if all required monitoring had been undertaken (in accordance with EA conditions (C4-1) and (C6-1)). Significant sampling event gaps were apparent for multiple groundwater monitoring bores and receiving water sites WC03 and WC18. It was assumed that water was not present to be sampled on these occasions, although this could not be confirmed.</p> <p>Please advise how BMG comply with EA condition (A5-4) and give consideration to updating environmental databases so that all relevant information pertaining to sampling events is readily available.</p> |
| (A8-2) | <p><i>The holder must promptly (but within twenty-four (24) hours) notify the administering authority by telephone, facsimile or email after becoming aware of any monitoring result that demonstrates the exceedence of a contaminant limit specified in a condition of this environmental authority.</i></p>                                                                                                                                                                                                                                                                                                                         | <p>Condition (A8-2) requires BMG to notify EHP within 24 hours of identifying an exceedence of any EA contaminant limit. EHP was not notified of the exceedence of sediment and groundwater contaminant limits noted previously in this letter. BMG should ensure that monitoring results are reviewed in a timely manner and must notify EHP within the required timeframe after becoming aware of any exceedence.</p>                                                                                                                                                                                                                                                                                                                                                                |
| (A8-6) | <p><i>The environmental authority holder must promptly notify the occupiers of registered owners of affected land and any other potentially impacted stakeholder by telephone, email or facsimile after becoming aware of any emergency, event or exceedence that has the potential to impact on environmental values or breaches any condition of this environmental authority concerning the release of contaminants to the receiving environment.</i></p> <p><i>Note: Potentially impacted stakeholders include anyone potentially impacted directly by an emergency, event or exceedence such as recreational water users.</i></p> | <p>This condition requires BMG to notify potentially impacted stakeholders following identification of any exceedence with potential to impact on environmental values or breaches any condition of the environmental authority.</p> <p>EHP is concerned that not all relevant landholders have been notified of the contaminant limit exceedences that have occurred during 2013 (as outlined in this letter). Please confirm what landholder notifications have occurred during 2013 including the names, dates and method of notification.</p>                                                                                                                                                                                                                                      |

EHP would like to remind BMG that all reasonable and practicable measures must be implemented prior to the upcoming wet season to prevent the release of contaminants with the potential to cause unlawful environmental harm. During the wet season, EHP would strongly encourage BMG to regularly review Bureau of Meteorology updates to receive the latest information on predicted rainfall in the local area.

Please provide a written response to EHP by **10 October 2013** outlining how the non-compliance issues and areas of concern (listed in table 1 table 2 respectively) will be addressed to comply with environmental authority EPML00911413.

Should you wish to discuss any of the matters raised in this letter, please contact Jacob Toe by telephone on (07) 4222 5332 or via email at [jacob.toe@ehp.qld.gov.au](mailto:jacob.toe@ehp.qld.gov.au).

Yours sincerely,



Rebecca McAuley  
**A/Team Leader - North Region**  
**Mining and Heavy Industry**  
**Environmental Services and Regulation**  
**Department of Environment and Heritage Protection**

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Attachment 1 - EHP letter of 26 September 2013

| Sample Date | Monitoring bore | pH   | EC    | SO4  | F    | Br (D) | Al (D) | Al (T) | As (D) | As (T) | B (D) | B (T) | Cd (D)  | Cd (T)  | Cr (D) | Cr (T) | Co (D) | Co (T) | Cu (D) | Cu (T) | Pb (D) | Pb (T) | Mn (D) | Mn (T) | Ni (D) | Ni (T) | U (D)  | U (T)  | Zn (D) | Zn (T) | Total Hardness |      |
|-------------|-----------------|------|-------|------|------|--------|--------|--------|--------|--------|-------|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------|------|
| 3/01/2013   | GWMB12          | 6.82 | 4990  | 7590 | 1.4  |        | 0.02   | 8.22   | 0.024  | 0.065  | 0.18  | 0.34  | <0.0001 | 0.0007  | 0.001  | 0.009  | 0.219  | 0.808  | <0.001 | 4.1    | <0.001 | 0.005  | 25.3   | 54.2   | 0.055  | 0.261  | 0.016  | 0.032  | 0.009  | 0.196  | 2620           |      |
| 3/01/2013   | GWMB19          | 7.1  | 3410  | 7380 | 0.5  |        | 0.04   | 1.46   | 0.005  | 0.01   | 0.07  | 0.09  | <0.0001 | 0.0002  | <0.001 | 0.004  | 0.353  | 0.42   | 1.14   | 2.16   | <0.001 | <0.001 | 1.56   | 2.24   | 0.11   | 0.132  | 0.004  | 0.004  | 0.086  | 0.101  | 2300           |      |
| 3/01/2013   | GWMB36          | 5.25 | 4900  | 4290 | 1    |        | 0.74   | 2.63   | 0.017  | 0.026  | 0.06  | 0.1   | 0.0004  | 0.0007  | <0.001 | 0.001  | 3.34   | 4.73   | 0.161  | 0.256  | <0.001 | <0.001 | 23.4   | 37.8   | 1.33   | 2.62   | <0.001 | <0.001 | 0.18   | 0.271  | 3360           |      |
| 3/01/2013   | GWMB38          |      |       |      |      |        |        | 1.19   |        | 0.007  |       | 0.05  |         | <0.0001 |        | 0.004  |        | 0.126  |        | 0.332  |        | 0.003  |        | 2.59   |        | 0.041  |        | 0.003  |        | 0.039  |                |      |
| 4/01/2013   | GWMB02          | 7.11 | 822   | 320  | 0.5  | <0.1   | 0.04   | 0.24   | 0.002  | 0.004  | <0.05 | <0.05 | <0.0001 | <0.0001 | 0.001  | 0.009  | 0.006  | 0.01   | 0.177  | 0.362  | 0.009  | 0.001  | 0.093  | 0.129  | 0.027  | 0.037  | <0.001 | <0.001 | 0.045  | 0.054  | 368            |      |
| 4/01/2013   | GWMB30          | 7.42 | 2190  | 1090 | 1.1  |        | 0.01   | 0.47   | 0.006  | 0.027  | <0.05 | 0.05  | <0.0001 | <0.0001 | <0.001 | 0.008  | 0.033  | 0.082  | 0.04   | 0.307  | <0.001 | 0.007  | 1.44   | 3.07   | 0.032  | 0.069  | 0.009  | 0.004  | 0.021  | 0.038  | 1400           |      |
| 17/01/2013  | GWMB16          | 4.29 | 3680  | 2050 | 0.2  |        | 1      | 4.45   | 1.16   | 1.65   | 0.16  | 0.17  | 0.0003  | 0.0005  | <0.001 | 0.009  | 8.06   | 8.34   | 2.17   | 2.66   | <0.001 | 0.008  | 12.4   | 13.7   | 1.71   | 1.78   | 0.002  | 0.002  | 0.624  | 0.649  | 1900           |      |
| 17/01/2013  | GWMB35          | 7.17 | 1140  | 208  | 0.2  |        | 0.02   | 0.6    | 0.002  | 0.004  | 0.08  | 0.08  | <0.0001 | <0.0001 | <0.001 | 0.042  | 0.004  | 0.028  | 0.002  | 0.059  | <0.001 | <0.001 | 0.831  | 1      | 0.007  | 0.029  | 0.008  | 0.009  | <0.005 | 0.006  | 471            |      |
| 17/01/2013  | GWMB37          | 7.4  | 3670  | 1540 | 2.1  |        | 0.07   | 6.43   | 0.004  | 0.013  | <0.05 | 0.06  | <0.0001 | <0.0001 | <0.001 | 0.065  | 0.102  | 0.325  | 0.021  | 0.613  | <0.001 | 0.002  | 0.913  | 1.88   | 0.031  | 0.133  | 0.001  | 0.002  | 0.008  | 0.042  | 756            |      |
| 17/01/2013  | GWMB38          | 7.43 | 960   | 41   | 0.3  |        | 0.03   | 0.9    | 0.004  | 0.009  | 0.05  | <0.05 | <0.0001 | <0.0001 | <0.001 | 0.004  | 0.046  | 0.09   | 0.001  | 0.216  | <0.001 | 0.004  | 1.25   | 1.56   | 0.008  | 0.02   | 0.002  | 0.002  | 0.008  | 0.029  | 466            |      |
| 17/01/2013  | GWMB45          | 4.4  | 10300 | 9070 | <0.1 |        | 82     | 83.7   | 0.009  | 0.009  | 0.12  | 0.1   | 0.0026  | 0.0028  | 0.005  | 0.021  | 34.4   | 24.9   | 119    | 120    | <0.001 | <0.001 | 137    | 138    | 5.54   | 5.66   | 0.091  | 0.095  | 6.66   | 6.76   | 7960           |      |
| 18/01/2013  | GWMB03          | 5.26 | 87    | 20   | <0.1 |        | 0.13   | 8.18   | 0.007  | 0.02   | <0.05 | <0.05 | <0.0001 | 0.0001  | 0.001  | 0.02   | 0.033  | 0.048  | 0.033  | 0.447  | <0.001 | 0.018  | 0.708  | 0.812  | 0.009  | 0.023  | <0.001 | <0.001 | 0.055  | 0.184  | 29             |      |
| 18/01/2013  | GWMB18          | 7.84 | 1150  | 1580 | 1.3  |        | 0.05   | 0.94   | 0.048  | 0.065  | 0.05  | 0.07  | <0.0001 | <0.0001 | <0.001 | 0.009  | 0.008  | 0.017  | 0.013  | 0.233  | <0.001 | 0.014  | 1.6    | 2.03   | 0.004  | 0.009  | 0.002  | 0.002  | 0.007  | 0.02   | 1930           |      |
| 18/01/2013  | GWMB22          | 3.44 | 3540  | 3000 | <0.1 |        | 21.5   | 25.3   | 0.01   | 0.028  | 0.07  | 0.08  | 0.0026  | 0.0025  | 0.015  | 0.069  | 0.946  | 0.944  | 28.4   | 46.7   | <0.001 | 0.003  | 5.58   | 5.66   | 0.509  | 0.54   | 0.012  | 0.013  | 1.13   | 1.12   | 1860           |      |
| 18/01/2013  | GWMB24          | 6.46 | 1500  | 435  | <0.1 |        | 0.17   | 29.8   | 0.004  | 0.027  | <0.05 | <0.05 | 0.0001  | 0.0001  | <0.001 | 0.103  | 0.004  | 0.04   | 0.035  | 1.27   | <0.001 | 0.014  | 0.015  | 0.304  | 0.022  | 0.08   | <0.001 | 0.008  | 0.013  | 0.068  | 504            |      |
| 18/01/2013  | GWMB26          | 6.54 | 1190  | 635  | 0.2  |        | 0.02   | 11.8   | 0.004  | 0.079  | <0.05 | <0.05 | 0.0002  | 0.0003  | <0.001 | 0.114  | 0.234  | 0.341  | 0.591  | <0.001 | 0.003  | 1.28   | 1.92   | 0.08   | 0.176  | <0.001 | 0.012  | 0.08   | 0.11   | 665    |                |      |
| 18/01/2013  | GWMB31          | 6.65 | 2630  | 1520 | 0.4  |        | 0.02   | 0.29   | 0.016  | 0.02   | 0.12  | 0.13  | 0.0001  | <0.0001 | <0.001 | 0.002  | 0.241  | 0.258  | 0.633  | 0.604  | <0.001 | <0.001 | 0.707  | 0.713  | 0.209  | 0.22   | 0.002  | 0.002  | 0.032  | 0.027  | 1210           |      |
| 18/01/2013  | GWMB32          | 4.53 | 6010  | 4870 | 0.2  |        | 80.2   | 51     | 0.014  | 0.01   | 0.18  | 0.2   | 0.0037  | 0.0042  | 0.002  | 0.003  | 26.1   | 25.3   | 666    | 813    | <0.001 | 0.011  | 62.7   | 87.1   | 10.6   | 12.6   | 0.102  | 0.141  | 1.83   | 2.07   | 3820           |      |
| 18/01/2013  | GWMB33          | 8.80 | 5200  | 3720 | 1    |        | 4.46   | 20.8   | 0.006  | 0.027  | 0.13  | 0.18  | 0.0007  | 0.001   | <0.001 | 0.024  | 3.7    | 5.21   | 31     | 72.5   | <0.001 | 0.01   | 20.7   | 35.2   | 1.84   | 2.82   | 0.014  | 0.072  | 0.227  | 0.313  | 3900           |      |
| 18/01/2013  | GWMB34          | 6.94 | 661   | 259  | <0.1 |        | <0.01  | 2.72   | 0.001  | 0.012  | <0.05 | <0.05 | <0.0001 | <0.0001 | <0.001 | 0.025  | 0.042  | 0.058  | <0.001 | 0.032  | <0.001 | <0.001 | 1.93   | 2.01   | 0.005  | 0.019  | <0.001 | <0.001 | <0.005 | <0.005 | 301            |      |
| 18/01/2013  | GWMB42          | 7.49 | 1370  | 250  | 0.7  |        | <0.01  | 0.48   | 0.007  | 0.012  | <0.05 | <0.05 | <0.0001 | <0.0001 | <0.001 | 0.004  | 0.017  | 0.046  | 0.01   | 0.11   | <0.001 | <0.001 | 0.416  | 1.28   | 0.008  | 0.013  | 0.001  | 0.001  | <0.005 | 0.006  | 591            |      |
| 18/01/2013  | GWMB43          | 7.22 | 1080  | 21   | 0.4  |        | <0.01  | 12.5   | <0.001 | 0.004  | <0.05 | <0.05 | <0.0001 | <0.0001 | <0.001 | 0.064  | 0.004  | 0.043  | 0.023  | 0.378  | <0.001 | 0.014  | 0.16   | 1.43   | 0.006  | 0.071  | <0.001 | <0.001 | <0.005 | 0.046  | 547            |      |
| 19/01/2013  | GWMB08          | 7.24 | 3500  | 1830 | 1.9  |        | 0.02   | 1.17   | 0.002  | 0.028  | 0.3   | 0.31  | 0.0011  | 0.001   | 0.002  | 0.009  | 0.875  | 0.907  | 2.7    | 7.81   | <0.001 | 0.004  | 8.4    | 9.34   | 0.382  | 0.404  | 0.004  | 0.006  | 0.572  | 0.67   | 2060           |      |
| 19/01/2013  | GWMB09          | 7.22 | 3750  | 1980 | 3.3  |        | 0.05   | 20.1   | <0.001 | 0.206  | 0.31  | 0.34  | 0.0004  | 0.0004  | <0.001 | 0.065  | 1.28   | 1.37   | 1.81   | 14.5   | <0.001 | 0.002  | 11     | 12.3   | 0.489  | 0.541  | 0.012  | 0.02   | 0.274  | 0.434  | 2340           |      |
| 19/01/2013  | GWMB10          | 8.85 | 1400  | 2220 | <0.1 |        | 35.5   | 40.8   | 0.023  | 0.06   | 0.06  | 0.1   | 0.0031  | 0.0029  | 0.005  | 0.014  | 6.85   | 6.99   | 152    | 170    | <0.001 | 0.002  | 22     | 24.8   | 2.35   | 2.86   | 0.022  | 0.039  | 1.42   | 1.56   | 1610           |      |
| 19/01/2013  | GWMB13          | 7.82 | 1210  | 292  | 0.7  |        | 0.05   | 0.12   | 0.008  | 0.003  | 0.1   | 0.06  | 0.0004  | <0.0001 | <0.001 | 0.116  | 0.006  | 0.526  | 0.048  | <0.001 | <0.001 | 0.432  | 0.32   | 0.049  | 0.004  | 0.001  | <0.001 | 0.041  | <0.005 | 564    |                |      |
| 19/01/2013  | GWMB41          | 7.48 | 1600  | 225  | 0.4  |        | 0.02   | 0.55   | 0.057  | 0.1    | 0.1   | 0.09  | <0.0001 | <0.0001 | <0.001 | 0.007  | 0.003  | 0.017  | 0.004  | 0.292  | <0.001 | 0.012  | 1.04   | 1.22   | 0.002  | 0.01   | <0.001 | 0.001  | 0.007  | 0.196  | 790            |      |
| 20/01/2013  | GWMB11          | 7.25 | 1340  | 445  | 0.7  |        | 0.03   | 1.18   | <0.001 | 0.035  | 0.09  | 0.09  | <0.0001 | <0.0001 | <0.001 | 0.011  | 0.05   | 0.059  | 0.482  | 1.94   | <0.001 | 0.008  | 0.219  | 0.692  | 0.022  | 0.03   | <0.001 | <0.001 | 0.081  | 0.13   | 561            |      |
| 5/03/2013   | GWMB02          |      |       | 354  | 0.4  | 0.2    |        | 0.72   |        | 0.01   |       | <0.05 |         | 0.0001  |        | 0.008  |        | 0.012  |        | 0.375  |        | 0.004  |        | 0.144  |        | 0.015  |        | <0.001 |        | 0.05   |                |      |
| 1/04/2013   | GWMB37          | 7.73 | 3540  | 1820 | 1.8  |        | 0.03   | 0.47   | 0.008  | 0.008  | 0.06  | 0.08  | 0.0001  | <0.0001 | <0.001 | 0.004  | 0.05   | 0.386  | 0.102  | 0.266  | <0.001 | <0.001 | 0.955  | 1.83   | 0.095  | 0.075  | 0.002  |        | 0.009  | 0.018  | 866            |      |
| 10/04/2013  | GWMB02          | 6.27 | 7770  | 6660 | 0.6  |        | 0.01   | 3.76   | <0.001 | 0.002  | <0.05 | <0.05 | <0.0001 | <0.0001 | <0.001 | 0.001  | 0.035  | 0.105  | 0.124  | 0.899  | <0.001 | 0.001  | 0.211  | 0.473  | 0.011  | 0.018  | <0.001 | <0.001 | 0.023  | 0.029  | 7300           |      |
| 10/04/2013  | GWMB22          | 8.62 | 3080  | 2140 | 0.1  |        | 19.4   | 20     | 0.003  | 0.003  | 0.06  | 0.08  | 0.0001  | 0.0021  | 0.0021 | 0.005  | 0.005  | 0.984  | 0.906  | 41.5   | 41.3   | <0.001 | <0.001 | 5.55   | 4.9    | 0.477  | 0.45   | 0.013  | 0.012  | 1.23   | 1.09           | 2100 |
| 10/04/2013  | GWMB24          | 6.54 | 967   | 461  | 0.2  |        | <0.01  | 27.3   | 0.002  | 0.069  | <0.05 | <0.05 | <0.0001 | 0.0002  | <0.001 | 0.106  | 0.002  | 0.059  | 0.031  | 1.66   | <0.001 | 0.004  | 0.015  | 0.399  | 0.02   | 0.095  | <0.001 | 0.01   | 0.012  | 0.082  | 520            |      |
| 10/04/2013  | GWMB26          | 7    | 1690  | 901  | 0.3  |        | <0.01  | 26.3   | 0.012  | 0.016  | <0.05 | <0.05 | 0.0001  | 0.0002  | <0.001 | 0.037  | 0.017  | 0.16   | 0.968  | 3.1    | <0.001 | 0.005  | 0.054  | 0.659  | 0.029  | 0.109  | <0.001 | 0.017  | 0.025  | 0.077  | 979            |      |
| 10/04/2013  | GWMB34          | 7.23 | 755   | 340  | 0.1  |        | <0.01  | 0.07   | 0.003  | 0.003  | <0.05 | <0.05 | <0.0001 | <0.0001 | <0.001 | <0.001 | 0.039  | 0.038  | 0.003  | 0.015  | <0.001 | <0.001 | 2.37   | 2.01   | 0.003  | 0.004  | <0.001 | <0.001 | <0.005 | <0.005 | 385            |      |
| 10/04/2013  | GWMB38          | 7.62 | 927   | 27   | 0.4  |        | <0.01  | 0.14   | 0.003  | 0.003  | <0.05 | <0.05 | <0.0001 | <0.0001 | <0.001 | <0.001 | 0.009  | 0.01   | 0.006  | 0.026  | <0.001 | <0.001 | 0.829  | 0.756  | 0.002  | 0.003  | 0.002  | 0.002  | <0.005 | <0.005 | 480            |      |
| 10/04/2013  | GWMB43          | 7.4  | 1090  | 32   | 0.4  |        | 0.01   | 10.5   | <0.001 | 0.004  | <0.05 | <0.05 | <0.0001 | <0.0001 | <0.001 | 0.166  | 0.003  | 0.032  | 0.014  | 0.23   | <0.001 | 0.013  | 1.24   | 2.04   | 0.003  | 0.118  | <0.001 | <0.001 | <0.005 | 0.038  | 543            |      |
| 10/04/2013  | GWMB44          | 6.26 | 1140  | 461  | 0.1  |        | 0.01   | 6.48   | <0.001 | 0.018  | <0.05 | <0.05 | 0.0002  | 0.0002  | <0.001 | 0.063  | 0.036  | 0.053  | 1.16   | 1.79   | <0.001 | 0.01   | 0.188  | 0.308  | 0.073  | 0.111  | <0.001 | 0.001  | 0.054  | 0.064  | 401            |      |
| 10/04/2013  | GWMB45          | 7.04 | 920   | 372  | 0.4  |        | 0.48   | 16.3   | 0.003  | 0.009  | 0.11  | 0.1   | 0.0012  | 0       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |                |      |





Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
256 Adelaide Terrace  
PERTH WA 6000

Department of  
Environment and  
Heritage Protection

26 September 2013

ITEM 2365035  
NOR/ 045024(3)

Attachment 5.

Dear Mr Hota,

**Compliance Inspection of the Mt Gordon Operation (Mining Leases: 5407, 5412, 5413, 5418, 5419, 5420, 5429, 5430, 5441, 5442, 5443, 5444, 5451, 5454, 5457, 5459, 5467, 5485, 5486, 5489, 5500, 5548, 5549, 5550, 5562, 5563, 90180, 90181 & 90182) – 14 August 2013**

I refer to the compliance inspection of the Mt Gordon Operation (MGO) on 14 August 2013, conducted by environmental officers Chris De Roma and Renee Farkas of the Department of Environment and Heritage Protection (EHP). I also refer to monitoring data requested by EHP officers during the inspection and provided by Birla Mt Gordon Pty Ltd (BMG) via email on 31 August 2013.

The purpose of the inspection was to evaluate BMG's preparedness for the upcoming wet season, particularly in regards to site water management. Thank you for ensuring relevant staff were available to assist during the site inspection.

EHP has identified the following areas of non-compliance with environmental authority EPML00911413 (EA) conditions, as documented in Table 1 below:

**Table 1: Non-compliance with EA conditions**

| Condition | Detail of non-compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A12-5)   | <p>Condition (A12-1) requires BMG to have engaged a third party auditor to complete an audit for compliance with all conditions of the EA by 1 June 2013. EHP understands that this audit was completed, although the completion date is not known.</p> <p>Condition (A12-5) requires BMG to undertake a number of actions including provision of a copy of the third party audit report to EHP within 1 month of completing the audit, which must be no later than 31 July 2013. EHP has not received a copy of the third party audit report as of 26 September 2013.</p> |
| (C4-1)    | <p>This condition outlines surface water and sediment monitoring requirements.</p> <p>Review of sediment quality monitoring data identified that total organic carbon and particle size distribution was not analysed for sediment samples taken in November 2012, as required by EA condition (C4-1)(a) and specified in Schedule C – Table 5 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits).</p>                                                                                                                                                   |

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|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <p>Contaminant Limits), at the following monitoring frequency:</p> <p>(a) For receiving waters sediment quality, biannually (once at the end of the wet season and once at the end of the dry season); and</p> <p>(b) For receiving waters (water quality), monthly when waters are not flowing; and</p> <p>(c) For receiving waters (water quality) during flow events (where no release event is occurring):</p> <p>(i) Weekly for all parameters; and</p> <p>(ii) Continuously at monitoring points 'Gunpowder Ck Ref' and 'WC04' as defined in Schedule C - Table 4 (Receiving Waters Monitoring) for in situ monitoring of pH and electrical conductivity...</p> | <p>EA condition (C4-1)(c)(ii) requires BMG to undertake continuous monitoring of pH and electrical conductivity during stream flow events in Gunpowder Creek, at monitoring locations 'Gunpowder Ck Ref' and 'WC04' as defined in Schedule C – Table 4 (Receiving Waters Monitoring Locations). EHP understands that BMG have not been meeting the continuous in situ monitoring requirements for EA condition (C4-1)(c)(ii).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| (C4-2) | <p>Contaminant levels in receiving waters (for water quality and sediment quality) must not exceed any of the contaminant limits specified in Schedule C - Table 5 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits).</p>                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>This condition specifies contaminant limits for surface waters and sediment that must not be exceeded.</p> <p>A number of sediment quality contaminant limit exceedences were identified by EHP following review of monitoring data provided by BMG. Exceedences identified by EHP for samples taken on 4 November 2012 include:</p> <ul style="list-style-type: none"> <li>• WC01 – Cobalt and manganese;</li> <li>• WC02 – Cobalt and manganese;</li> <li>• WC04 – Cobalt;</li> <li>• WC03 – Cobalt and copper;</li> <li>• WC13 – Cobalt, copper and manganese.</li> </ul> <p>Exceedences identified by EHP for samples taken on 12 June 2013 include:</p> <ul style="list-style-type: none"> <li>• WC01 – Cobalt, copper, manganese &amp; nickel;</li> <li>• WC02 – Cobalt and manganese;</li> <li>• WC04 – Cobalt;</li> <li>• WC03 – Cobalt, copper and uranium;</li> <li>• WC13 – Cobalt and manganese.</li> </ul> <p>Receiving waters contaminant limit exceedences were identified from notifications by BMG and review of water quality monitoring data as follows:</p> <ul style="list-style-type: none"> <li>• WC03 –pH and copper from 13 February 2013 to 16 March 2013;</li> <li>• WC01 &amp; WC02 – Sulphate from 4 May 2013 to 12 August 2013;</li> <li>• WC04 – Sulphate from 21 July 2013 to 13 August 2013.</li> </ul> |

|        |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (C6-2) | <i>Groundwater from compliance bores identified in Schedule C - Table 6 (Groundwater Monitoring Locations and Frequency) must not exceed any of the contaminant limits defined in Schedule C - Table 7 (Groundwater Trigger Levels and Contaminant Limits).</i> | <p>This condition specifies contaminant limits for groundwater that must not be exceeded.</p> <p>A large number of groundwater quality contaminant limit exceedences were identified by EHP following review of monitoring data provided by BMG. All contaminant limit exceedences identified by EHP are presented as an attachment to this letter.</p>                                                                              |
| (G4-1) | <i>The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.</i>                                                                                           | <p>This condition requires that any structure being operated as a regulated dam must have an MRL clearly marked at all times.</p> <p>During the inspection, EHP officers requested to be shown the MRL markers for Mill Creek Dam and the Esperanza TSF. Richard Vieira of BMG informed the officers that the MRL's were not currently marked but this would be rectified following the pre-wet regulated structures inspection.</p> |

Pursuant to section 430 of the *Environmental Protection Act 1994*, it is an offence to contravene a condition of an environmental authority and significant penalties apply. The maximum penalty is \$220,000 or two years imprisonment.

In regards to the contravention of EA condition (G4-1) as outlined above, EHP has decided to issue BMG with a warning on this occasion, in accordance with EHP's enforcement guidelines.

For all other contraventions of EA conditions outlined above, EHP is currently assessing a draft transitional environmental program (TEP) submitted by BMG in response to the notice requiring a draft TEP as issued by EHP on 2 August 2013. EHP considers that a TEP is the most appropriate measure to address these compliance matters.

Please be advised that EHP may take further enforcement action in accordance with the EHP Enforcement Guidelines should BMG not adequately address the compliance matters outlined in this letter or additional information becomes available.

In addition to the non-compliances identified above, EHP also identified some areas of concern during the inspection, which are documented in Table 2 below:

**Table 2: Areas of concern**

| Condition             | Details of concern                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A1-1)<br>&<br>(C1-1) | <p><i>The holder must ensure that contaminants with the potential to cause environmental harm are not released directly or indirectly to land, air or waters except as permitted under the conditions of this environmental authority.</i></p> <p><i>Contaminants that will, or have the potential to cause environmental harm, must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.</i></p> <p>During the inspection, EHP officers observed white precipitation in the drainage line downstream of the Saddle dam 2 seepage collection system. This precipitation was located downstream of the final seepage collection point and is likely to be released to Gunpowder Creek following the next significant rainfall event. It is considered likely that this precipitation contains elevated sulphate caused by evaporation of seepage from the Esperanza TSF.</p> |



|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A5-4) | <p>The following information must be recorded for all monitoring and measurements required under a condition of this environmental authority:</p> <ul style="list-style-type: none"> <li>(a) The date and time when the sample was taken;</li> <li>(b) The person/s conducting the sampling;</li> <li>(c) The location where the sample was taken;</li> <li>(d) Pertinent details relating to the sampling (i.e., stream flow or relevant observations);</li> <li>(e) For laboratory analyses, all chain of custody, certificate of analysis and quality control/assurance documents.</li> </ul>                                | <p>The monitoring data provided by BMG was insufficient to verify that all information required to be recorded under EA condition (A5-4) had been undertaken.</p> <p>As such, it was not possible to identify if all required monitoring had been undertaken (in accordance with EA conditions (C4-1) and (C6-1)). Significant sampling event gaps were apparent for multiple groundwater monitoring bores and receiving water sites WC03 and WC18. It was assumed that water was not present to be sampled on these occasions, although this could not be confirmed.</p> <p>Please advise how BMG comply with EA condition (A5-4) and give consideration to updating environmental databases so that all relevant information pertaining to sampling events is readily available.</p> |
| (A8-2) | <p>The holder must promptly (but within twenty-four (24) hours) notify the administering authority by telephone, facsimile or email after becoming aware of any monitoring result that demonstrates the exceedence of a contaminant limit specified in a condition of this environmental authority.</p>                                                                                                                                                                                                                                                                                                                         | <p>Condition (A8-2) requires BMG to notify EHP within 24 hours of identifying an exceedence of any EA contaminant limit. EHP was not notified of the exceedence of sediment and groundwater contaminant limits noted previously in this letter. BMG should ensure that monitoring results are reviewed in a timely manner and must notify EHP within the required timeframe after becoming aware of any exceedence.</p>                                                                                                                                                                                                                                                                                                                                                                |
| (A8-6) | <p>The environmental authority holder must promptly notify the occupiers or registered owners of affected land and any other potentially impacted stakeholder by telephone, email or facsimile after becoming aware of any emergency, event or exceedence that has the potential to impact on environmental values or breaches any condition of this environmental authority concerning the release of contaminants to the receiving environment.</p> <p><i>Note: Potentially impacted stakeholders include anyone potentially impacted directly by an emergency, event or exceedence such as recreational water users.</i></p> | <p>This condition requires BMG to notify potentially impacted stakeholders following identification of any exceedence with potential to impact on environmental values or breaches any condition of the environmental authority.</p> <p>EHP is concerned that not all relevant landholders have been notified of the contaminant limit exceedences that have occurred during 2013 (as outlined in this letter). Please confirm what landholder notifications have occurred during 2013 including the names, dates and method of notification.</p>                                                                                                                                                                                                                                      |

EHP would like to remind BMG that all reasonable and practicable measures must be implemented prior to the upcoming wet season to prevent the release of contaminants with the potential to cause unlawful environmental harm. During the wet season, EHP would strongly encourage BMG to regularly review Bureau of Meteorology updates to receive the latest information on predicted rainfall in the local area.

Please provide a written response to EHP by **10 October 2013** outlining how the non-compliance issues and areas of concern (listed in table 1 table 2 respectively) will be addressed to comply with environmental authority EPML00911413.



Should you wish to discuss any of the matters raised in this letter, please contact Jacob Toe by telephone on (07) 4222 5332 or via email at [jacob.toe@ehp.qld.gov.au](mailto:jacob.toe@ehp.qld.gov.au).

Yours sincerely,

s78B(2) - Privacy

Rebecca McAuley  
**A/Team Leader - North Region**  
**Mining and Heavy Industry**  
**Environmental Services and Regulation**  
**Department of Environment and Heritage Protection**

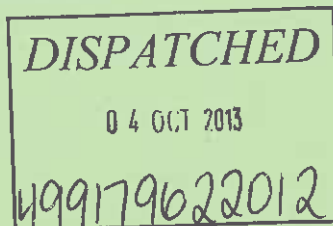
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ITEM 2287933  
NOR/ 045024(2)



Department of  
**Environment and  
Heritage Protection**

Ref EPML00911413 / NOR/045024



4 October 2013

Mr Gopal Hota  
Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
256 Adelaide Terrace  
Perth WA 6000

Dear Gopal,

**Draft Transitional Environmental Program submitted on 20 September 2013**

I refer to the draft Transitional Environmental Program titled "Birla Mt Gordon Transitional Environmental Program, Surface and Seepage Related Contaminant Loads & Impact on Receiving Environment, September 2013", submitted by Birla Mt Gordon Pty Ltd (BMG) on 20 September 2013 (Draft TEP).

Thank you for providing this draft TEP to the Department of Environment and Heritage Protection (EHP) and for your ongoing engagement to improve environmental outcomes at the Mt Gordon Operation.

EHP has conducted a preliminary review of the Draft TEP and identified a number of matters that require your further consideration to ensure the draft TEP meets all requirements of the *Environmental Protection Act 1994* (the Act), as follows:

1. Detailing the environmental standards that the mining activities are proposed to be transitioned to under the draft TEP in accordance with section 330(b) and section 331(d) of the Act;
2. Detailing the transition of the mining activity to comply with conditions (C2-1), (C4-2) and (C6-2) of environmental authority EPML00911413 (EA), in accordance with section 330(c) and section 331(e) of the Act;
3. Clear objectives with measurable and achievable outcomes, as required pursuant to section 331(a) of the Act;
4. Clearly defined actions (to achieve the stated objectives) of the draft TEP and how these actions have taken into account best practice environmental management and the risk of environmental harm being caused by the mining activities, as required pursuant to section 331(b) of the Act;
5. Defining what environmental harm may be caused by the mining activities during implementation of the draft TEP and how this will be prevented or minimised, as required pursuant to section 331(c) of the Act;
6. Stating appropriate performance indicators at intervals of no more than 6 months (i.e., for each proposed action), as required pursuant to section 331(g) of the Act;
7. Providing for monitoring and reporting on compliance with the TEP, as required pursuant to section 331(h) of the Act.

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Calms QLD 4870  
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ABN 46 640 294 485 129

8. As previously stated in EHP's letter to BMG of 19 September 2013, EHP considers BMG to be responsible for the ongoing management and rehabilitation of the Old (Mammoth) TSF, until such time as this area is surrendered.
9. Additional justification to support draft TEP action '3.6 Discharge into Gunpowder Creek' is required, in regards to both the potential environmental benefit and risk of resultant environmental harm (if approved).

EHP considers that a TEP is the most appropriate measure to address the complex environmental management issues at the MGO, particularly in regards to achieving compliance with environmental authority EPML00911413. An approved TEP would provide BMG with an opportunity to transition to compliance with an EA condition; however, a return to compliance with the relevant EA condition must be committed to and achieved during the term of the TEP.

EHP is currently liaising with Mr Jonathan Cowie to discuss the above matters in detail and identify potential options to progress the draft TEP to a document that meets all legislative requirements. Should BMG wish to further discuss the draft TEP at any time, EHP is available as required.

Please provide a response to the matters raised in this letter no later than 11 October 2013.

Should you wish to discuss any of the matters outlined in this letter, please contact Jacob Toe of EHP on (07) 4222 5332.

Yours sincerely,

s78B(2) - Privacy

Hamish Butler  
**Team Leader, Mining and Heavy Industry**  
**Northern Region - Environmental Services and Regulation**  
**Department of Environment and Heritage Protection**

ITEM 2310604  
NOR/ 045024



Department of  
Environment and  
Heritage Protection

25 October 2013

Birla Mt Gordon Pty Ltd  
PO Box 3074  
PERTH ADELAIDE TCE WA 6832



Dear Sir/Madam

### Wet Season Preparation Notice 2013-2014

As you may be aware the Australian Bureau of Meteorology (BOM) has released its Northern Australian rainfall and temperature outlooks to January 2014 along with its outlook for the 2013/2014 cyclone season. The prediction is for a considerably warmer and drier than average period up until at least January 2014, with 4 cyclones predicted to form off the east coast and one in the Gulf of Carpentaria over the 2013/2014 season.

Outlooks predict average conditions and probabilities over wide areas. Damaging seasonal weather events can occur at any location in North Queensland despite the current outlook conditions, with risks from flooding or strong winds regardless of regional average conditions. The three month outlook can change considerably with each update as weather forecasting is challenging in our region.

Further updates on seasonal outlooks will be available from the BOM website towards the end of November for the December 2013 to February 2014 period and I encourage you to monitor weather conditions and the BOM website closely for these and subsequent updates.

As usual around this time of the year, you should be in a position where you have completed or are finalising preparations for this coming wet season. These preparations should include; for example:

- Reviewing and updating site water management plans, site water balances, contingency plans and notification procedures;
- Ensuring erosion and sediment controls are in place and maintained;
- Reducing water levels in all storages, particularly structures classified as hazardous; and
- Conducting risk assessments in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* on all dams and rectifying any issues identified.

Your Department of Environment and Heritage Protection (EHP) Project Officer is able to assist should you have any queries in relation to your wet season preparation.

5b Sheridan Street CAIRNS  
Queensland 4870 Australia  
PO Box 7230 CAIRNS  
Queensland 4870 Australia  
Telephone 07 4222 5334  
Facsimile 07 4222 5070  
Website [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au)  
ABN 46 640 294 485

Should any event occur that may result in environmental harm, you have a duty to notify EHP immediately, as per the conditions of your environmental authority, and section 320 of the *Environmental Protection Act 1994*. This notification can be provided to your Project Officer during business hours or at any time via the pollution hotline on 1 300 130 372. Further information on the duty to notify requirements is available on EHP's website [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au).

Your EHP Project Officer is available to assist you in relation to any regulatory matters relating to your site and in this regard I would encourage you to make contact with them should you have any queries.

Yours sincerely

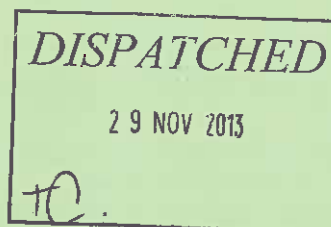
s78B(2) - Privacy

Ingrid Fomiatti Minnesma  
**Regional Manager**  
**Mining and Compliance, Northern Region**  
**Environmental Services and Regulation**  
**Department of Environment and Heritage Protection**

RTI DL RELEASE - EHP



ITEM 2348983  
NOR/ 045024(2)



Department of  
Environment and  
Heritage Protection

Ref EPML00911413 / NOR/045024

29 November 2013

Mr Gopal Hota  
Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
256 Adelaide Terrace  
Perth WA 6000

Dear Sir,

#### Esperanza Pit Water Balance Model

I refer to the long-term water balance model for the Esperanza Pit (the Pit) developed by GHD Pty Ltd (GHD) and documented in 'Esperanza Pit Post Closure Water Balance Assessment' dated 17 September 2013 (GHD Report 1) and 'Application for revised water level Supplementary information to GHD report' dated 29 October 2013 (GHD Report 2).

GHD Report 1 specifies that the Pit will have an average annual negative water balance of 34.8 ML, based on the projection from the water balance model, which adopted the following assumptions:

- A total contributing catchment area of 138.66 hectares comprising the 'plunge pool' catchment of 98.42 hectares, the 'pit surrounds' of 23.24 hectares and the 'pit surface' of 12 hectares.
- The runoff coefficients for the catchment areas were 0.25 for the 'plunge pool' catchment, 0.4 for the 'pit surrounds' and 1 for the 'pit surface'.
- An evaporation factor of 0.8 was applied to the Pit.
- There are no additional inputs from seepage (either actively pumped-in or via passive seepage).

Following preliminary review of GHD Report 1, the Department of Environment and Heritage Protection (EHP) requested further clarification on certain aspects of the water balance model via an email on 25 October 2013. BMG responded to this request by submitting GHD Report 2 to EHP on 29 October 2013.

EHP has finalised review of the aforementioned documents and identified some concerns in relation to the information provided, as follows:

1. The models prediction of an average annual negative water balance of 34.8 ML appears marginal considering:
  - a) The size of the contributing catchment area (of 133.66 hectares) and likely sensitivity of the model to the adopted runoff coefficients, as it has been assumed that runoff will equate to no more than 25% to 40% of incident rainfall for the majority of this catchment area;
  - b) The exclusion of seepage inputs from the model, for which limited justification has been provided (discussed in further detail below); and
  - c) The limited justification of the evaporation factor adopted for the Pit, with the assumption that evaporation from the Pit will equate to at least 80% of the pan evaporation rate for the region.

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2. The model does not include consideration of seepage inputs to the Pit from the contributing catchment areas, which may underestimate inflows to the Pit from both the 'plunge pool' and 'pit surrounds' catchment areas.
3. Based on seepage rates previously reported by BMG (in the document titled '*Esperanza Pit Water Reduction Assessment*' dated 19 March 2013 by GHD), the current volume of contaminated seepage captured and contained on-site is approximately 560 ML/year. The Pit water balance model does not account for pumped inflows from the seepage collection systems on-site. Due to the ongoing requirement to capture and contain contaminated seepage, EHP considers any realistic water balance model for the Pit must account for this input.

Given that the water balance model has not been calibrated, EHP does not consider it appropriate to accept the projections for a long-term negative water balance for the Pit based on the information provided to date.

If BMG would like to provide further information to address the concerns outlined in this letter, please do so no later than 6 December 2013.

Should you wish to discuss any of the matters outlined in this letter, please contact Jacob Toe of EHP on (07) 4222 5332.

Yours sincerely

s78B(2) - Privacy

Hamish Butler  
Team Leader, North Region  
Mining and Heavy Industry - Environmental Services and Regulation  
Department of Environment and Heritage Protection

RTI DL RELEASE - EHP

ITEM 2365024  
NOR/ 045024(3)

Ref: EPML00911413 / NOR/045024

Mr Gopal Hota  
Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
256 Adelaide Terrace  
PERTH WA 6000

**DISPATCHED**

13 DEC 2013

492061301019 +DC

13 December 2013

Dear Sir,

**Compliance Inspection of the Mt Gordon Operation (Mining Leases: 5407, 5412, 5413, 5418, 5419, 5420, 5429, 5430, 5441, 5442, 5443, 5444, 5451, 5454, 5457, 5459, 5467, 5485, 5486, 5489, 5500, 5548, 5549, 5550, 5562, 5563, 90180, 90181 & 90182) on 15/16 October 2013**

I refer to the compliance inspection of the Mt Gordon Operation (MGO) on 15-16 October 2013, conducted by environmental officers Jacob Toe and Laura Rehn of the Department of Environment and Heritage Protection (EHP).

The purpose of the inspection was to evaluate BMG's preparedness for the upcoming wet season and audit compliance with environmental authority EPML00911413 (EA). Thank you for ensuring relevant staff were available to assist during the site inspection.

EHP has identified a number of non-compliances with environmental authority EPML00911413 (EA) conditions, as documented in Table 1 below:

**Table 1: Non-compliance with EA conditions**

| Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Detail of non-compliance                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>(A8-6)</p> <p><i>The environmental authority holder must promptly notify the occupiers or registered owners of affected land and any other potentially impacted stakeholder by telephone, email or facsimile after becoming aware of any emergency, event or exceedence that has the potential to impact on environmental values or breaches any condition of this environmental authority concerning the release of contaminants to the receiving environment.</i></p> <p><i>Note: Potentially impacted stakeholders include anyone potentially impacted directly by an emergency, event or exceedence such as recreational water users.</i></p> | <p>This matter was raised in EHP's letter to BMG of 26 September 2013. Following review of BMG's letter of 8 October 2013, EHP considers that a contravention of this EA condition has occurred during the 2013 dry season. This is based on confirmation that BMG failed to undertake required notification of all landholders potentially impacted by the exceedence of the EA sulphate contaminant limit at WC01, WC02 and WC04.</p> |

|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A12-5) | <p><i>Within one (1) month of completing the audit, the holder must provide a written report to the administering authority, the certification from the third party auditor must be included in this report. In addition, the report must outline all:</i></p> <ul style="list-style-type: none"> <li><i>(a) Actions taken by the holder to ensure compliance with this environmental authority; and</i></li> <li><i>(b) Actions taken to prevent a recurrence of any non-compliance issues identified.</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>This matter was raised in EHP's letter to BMG of 26 September 2013. EHP acknowledges receipt of the third party audit on 8 October 2013, but notes this report was required to be submitted no later than 1 July 2013.</p> <p>In response to BMG's letter of October 2013, EHP notes that BMG were unequivocally advised, both verbally during the inspection of the MGO on 19 November 2012 and in a letter dated 1 March 2013, that the Plan of Operations (PoO) audit statement of 23 August 2012 (the Statement) was not adequate to meet the requirements of EA condition (A12-4). The Statement was limited to an audit of the proposed financial assurance and the compliance of the PoO with conditions of the EA. The Statement did not audit the compliance of the mining activities undertaken at the MGO with the conditions of the EA, as required by EA condition (A12-1).</p> |
| (C4-1)  | <p><i>The quality of the receiving waters must be monitored at the locations specified in Schedule C - Table 4 (Receiving Waters Monitoring Locations) and identified in Schedule J – Plan 2 (Receiving Waters Monitoring Locations) for each parameter stated in Schedule C - Table 5 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits), at the following monitoring frequency:</i></p> <ul style="list-style-type: none"> <li><i>(a) For receiving waters sediment quality, biannually (once at the end of the wet season and once at the end of the dry season); and</i></li> <li><i>(b) For receiving waters (water quality), monthly when waters are not flowing; and</i></li> <li><i>(c) For receiving waters (water quality) during flow events (where no release event is occurring):</i> <ul style="list-style-type: none"> <li><i>(i) Weekly for all parameters; and</i></li> <li><i>(ii) Continuously at monitoring points 'Gunpowder Ck Ref' and 'WC04' as defined in Schedule C - Table 4 (Receiving Waters Monitoring) for in situ monitoring of pH and electrical conductivity...</i></li> </ul> </li> </ul> | <p>This condition outlines surface water and sediment monitoring requirements.</p> <p>EA condition (C4-1)(c)(ii) requires BMG to undertake continuous monitoring of pH and electrical conductivity during stream flow events in Gunpowder Creek, at monitoring locations 'Gunpowder Ck Ref' and 'WC04' as defined in Schedule C – Table 4 (Receiving Waters Monitoring Locations).</p> <p>BMG have advised EHP (both verbally and in the letter dated 8 October 2013) that this condition has not been complied with, as there has been no continuous in situ monitoring undertaken as required under EA condition (C4-1)(c)(ii).</p>                                                                                                                                                                                                                                                           |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (C4-2) | Contaminant levels in receiving waters (for water quality and sediment quality) must not exceed any of the contaminant limits specified in Schedule C - Table 5 (Receiving Waters Contaminant Trigger Levels and Contaminant Limits).                                                                                                                                                                              | <p>This condition specifies contaminant limits for surface waters and sediments that must not be exceeded.</p> <p>A number of sediment quality and water quality contaminant limit exceedences occurred during 2013, as noted in EHP's letter of 26 September 2013.</p>                                                                                                                                                                                                                                                                                                                                                             |
| (C6-2) | Groundwater from compliance bores identified in Schedule C - Table 6 (Groundwater Monitoring Locations and Frequency) must not exceed any of the contaminant limits defined in Schedule C - Table 7 (Groundwater Trigger Levels and Contaminant Limits).                                                                                                                                                           | <p>This condition specifies contaminant limits for groundwater that must not be exceeded.</p> <p>A large number of groundwater quality contaminant limit exceedences occurred during 2013, as noted in EHP's letter of 26 September 2013.</p>                                                                                                                                                                                                                                                                                                                                                                                       |
| (C7-1) | A Water Management Plan must be developed by a suitably skilled and competent person and implemented before 31 October 2013 for all mining activities conducted under this authority. The Water Management Plan must provide for the proper and effective management of actual and potential environmental impacts resulting from the mining activity and ensure compliance with all conditions of this authority. | <p>This condition requires a Water Management Plan (WMP) to have been developed and implemented by 31 October 2013. It is noted that the original due date for the WMP was 1 October 2013, which EHP agreed to extend till 31 October 2013 to assist BMG with developing and implementing this critical component of site water management.</p> <p>EHP acknowledges receipt of the WMP via email from Mr Jonathan Cowie on 10 December 2013.</p>                                                                                                                                                                                    |
| (G4-1) | The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.                                                                                                                                                                                                                                                     | <p>This condition requires that any operational regulated structure must have the Mandatory Reporting Level (MRL) clearly marked at all times.</p> <p>During the inspection, EHP officers observed that the MRL marker for Hoover Dam was located on a hand-rail approximately two metres above the spillway invert. This is not the correct location for the marker and constitutes a contravention of EA condition (G4-1).</p> <p>It is further noted that during the EHP inspection on 14 August 2013, a similar contravention was noted for the Esperanza TSF, with no MRL marker installed at the time of that inspection.</p> |

Pursuant to section 430 of the *Environmental Protection Act 1994*, it is an offence to contravene a condition of an environmental authority, with a maximum penalty of \$220,000 or two years imprisonment.

In regards to the contravention of EA conditions outlined above, EHP has decided to take the following actions:

1. **Conditions (A8-6), (A12-5) and (G4-1)** – On this occasion EHP has decided to issue BMG with a warning for contravention of these EA conditions. Should there be a recurrence of this contravention or additional information come to light, EHP may take further enforcement action in accordance with the EHP Enforcement Guidelines.



2. **Condition (C4-1)** - On this occasion EHP has decided to issue BMG with a warning for contravention of this EA condition. However, BMG must either comply with this condition henceforth or take prompt action to seek an EA amendment. Should this contravention continue or additional information come to light, EHP may take further enforcement action in accordance with the EHP Enforcement Guidelines.
3. **Condition (C4-2)** - As previously discussed, this matter should be addressed under a Transitional Environmental Program (TEP). As you are aware, EHP is currently assessing a draft TEP submitted by BMG with the objective of achieving compliance with EA receiving waters contaminant limits.
4. **Condition (C6-2)** - The contravention of this EA condition needs to be addressed by BMG. The regulatory approach for groundwater at the MGO could be reviewed by EHP as part of the assessment process for an EA amendment application. At minimum, the EA amendment application would need to provide clearer definition of the characteristics of groundwater systems, a comprehensive review of current groundwater monitoring at the MGO and consideration of environmental risk posed by groundwater contamination. This process needs to be commenced by BMG with EHP able to provide further advice on what would be required in such an EA amendment application. Please be advised that should no action be taken to address this compliance matter, EHP may take appropriate enforcement action in accordance with the EHP Enforcement Guidelines.
5. **Condition (C7-1)** - Following consideration of the EHP Enforcement Guidelines, EHP has decided to issue BMG with a Penalty Infringement Notice for failure to comply with EA condition (C7-1) before 31 October 2013. The PIN is attached to this letter and contains details of the payment amount and options.

In addition to the non-compliances identified above, EHP also identified some areas of concern during the inspection, as outlined below:

1. **Conditions (C1-1) and (A1-1)** - In the gully downstream of Saddle Dam 2, white precipitates were observed during EHP's inspections of 14 August 2013 and 15-16 October 2013. These precipitates are highly likely to contain sulphates and possibly metals, based on previous sampling results for this area. This is likely to constitute an unauthorised release of contaminants to land and waters (should this precipitation be mobilised by surface water flows into Gunpowder Creek). EHP recommends BMG take appropriate action to ensure compliance with the EA, such as removal of any contaminated material.
2. **Condition (G2-7)** - Review of the document titled '*Mt Gordon Operations Environmental Authority Compliance Audit, July 2013*' by O'Kane Consultants Pty Ltd indicates that BMG may be contravening EA condition (G2-7). EHP requests BMG provide a copy of the 'operating procedures' for each regulated structure at the MGO by no later than 16 December 2013.
3. **Condition (G3-1)** - BMG provided a copy of certified 'as constructed' drawings and specifications as required by EA condition (G3-1) for the Esperanza TSF to EHP on 15 November 2013. EHP requests advice from BMG as to why these documents were not provided immediately upon completion of the 2012 Esperanza TSF embankment lift.
4. **Condition (G6-1)** - Following review of the Annual Dam Report, it is unclear what method has been adopted by BMG for calculating the required Design Storage Allowance (DSA) for the Esperanza TSF. EHP is concerned that the Esperanza TSF may not have achieved DSA as of 1 November 2013, with limited capacity to accommodate inflows during the 2013/2014 wet season. Please provide urgent advice as to the methodology adopted for determining the required DSA for the Esperanza TSF with reference to EHP's '*Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*'.
5. **Seepage expressions adjacent to Gunpowder Creek** - During the inspection on 15-16 October 2013, EHP officers observed ponded water in the Gunpowder Creek flood plain adjacent to the MGO. This ponded water was located in an elevated position above the standing water level of permanent pools in Gunpowder Creek. Given the prevailing drought conditions and previous knowledge of this area, it is considered likely that this ponded water is a surface expression of seepage from the MGO. EHP considers this observation to be highly concerning

and worthy of detailed investigation by BMG. Please advise what actions BMG intend to take in regards to this matter.

6. **Re-acidification of Mill Creek Dam** - During the inspection on 16 October 2013, in situ measurements of Mill Creek Dam water quality determined that the waters had re-acidified. Whilst EHP was notified by BMG on 25 November 2013 that treatment of Mill Creek Dam had neutralised acidity (and BMG were able to release treated waters to Gunpowder Creek), allowing Mill Creek Dam to re-acidify is not in accordance with best practice site water management practices. EHP encourages BMG to ensure Mill Creek Dam is maintained at a suitable pH (i.e. within the acceptable range for authorised releases).
7. **Containers stored near the old Heap Leach Pads** - During the inspection on 16 October 2013, approximately 18 IBC's (1,000L plastic containers) were observed in the vicinity of the old Heap Leach Pads. EHP understands that these containers are classified as regulated waste and should be stored in a bunded area prior to removal from site by an authorised regulated waste transporter.
8. **Light vehicle tyres on Mammoth WRD batters** - During the inspection on 16 October 2013, approximately 50 light vehicle tyres were observed on the batters of Mammoth WRD. These tyres should be disposed of on-site in accordance with the EA or removed for disposal off-site by a licensed regulated waste transporter.

EHP would like to remind BMG that all reasonable and practicable measures must be implemented during the upcoming wet season to prevent the release of contaminants with the potential to cause unlawful environmental harm. During the wet season, EHP would strongly encourage BMG to regularly review Bureau of Meteorology updates to receive the latest information on predicted rainfall in the local area.

Please provide a written response to EHP before **2 January 2014** outlining how the matters of non-compliance and areas of concern (listed in table 1 and table 2 respectively) will be addressed to ensure compliance with environmental authority EPML00911413.

Should you wish to discuss any of the matters raised in this letter, please contact Jacob Toe by telephone on (07) 4222 5332 or via email at [jacob.toe@ehp.qld.gov.au](mailto:jacob.toe@ehp.qld.gov.au).

Yours sincerely,

s78B(2) - Privacy

Rebecca McAuley  
A/Team Leader, Northern Region  
Mining and Heavy Industry - Environmental Services and Regulation  
Department of Environment and Heritage Protection

RTI DL RELEASE - EPR

ITEM 23650140  
NOR/ 04508431

Queensland Government

Issuing Officer's copy  
**Penalty Infringement Notice**  
State Penalties Enforcement Act 1999  
**No. Q 200000040010117**

**Alleged offender details**  
Family/Business/Company name and ACN Given name/s (if individual)  
BIRLA MT GORDON Pty Ltd  
ACN: 106376801  
Current address/Registered office  
Level 3, Septimus Roe Square  
256 Adelaide Terrace  
Perth WA  
Postcode 6000

Date of birth Phone Number Driver Passenger Please specify  
Owner Other

**Identification details**  
Licence/Permit (type) State Number Date of expiry  
Issued by Date of Issue

**Vessel / Vehicle/Aircraft details**  
Vessel Vehicle Aircraft Commercial Private  
Registration number State Make Colour  
Body type VIN/Chassis number Registration expires

**Alleged offence details**  
Committed ☒ Permitted ☐  
Time (hours) Day of week Date  
At on and  
Or (do not use between dates for offences involving vehicles)  
Start date End date  
Between 31/10/13 and 10/12/13

Location/Lot & Plan/ Other details (including address or GPS coordinates where appropriate)  
MT GORDON OPERATION  
Lot 5 on CP865892

**Act or Regulation breached**  
Act breached  
ENVIRONMENTAL PROTECTION Act 1994  
Code Identifying particulars of the offence (nature of alleged offence) Penalty  
EPA of CONTRAVENTION of  
CONDITION OF ENVIRONMENTAL  
AUTHORITY \$2,200-

**Issuing officer's details**  
Authorised officer's name (print)  
JACOB TOE  
Office / Department I.D. number  
CAIRNS/ DEPARTMENT of ENVIRONMENT  
and Heritage Protection  
Signature Date  
13/12/13



Department of  
**Environment and  
Heritage Protection**

File/Ref 101/0008746

22 December 2014

Mr Gopal Hota  
Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
356 Adelaide Terrace  
PERTH WA 6000

Email: [Gopal.Hota@adityabirla.com.au](mailto:Gopal.Hota@adityabirla.com.au)

Dear Gopal,

I refer to the Regulated Dams Inspection Report titled "Birla Mount Gordon Report for Mount Gordon Mine Site Annual Review of Referrable and Water Management Dam November 2014" (the report) submitted by Mount Gordon Operation (MGO) to the Department of Environment and Heritage Protection (EHP) on the 3 November 2014.

EHP has reviewed the report and notes that the report identifies and recommends the following actions:

- Mill Creek Dam needs minor work to seal or remove pipes installed through the dam crest.
- A review of Mill Creek Dam spillway capacity is recommended. MGO have been requested to have this area surveyed.
- The North Waste Rock Dump sump is planned to be filled, following which it can be removed from the Hazardous Dam Schedule.

It is EHP's expectation that MGO are addressing the recommendations as provided in the report and taking all the necessary actions in preparedness for this year's wet season.

EHP notes that the report recommends removal of a sump from the Hazardous Dams Schedule. MGO are encouraged to engage with the Minerals Assessment Centre which can be contacted on ph 07 4222 5334 or [ESCairns@ehp.qld.gov.au](mailto:ESCairns@ehp.qld.gov.au) regarding information requirements for this amendment prior to submission of an application.

Should you have any further enquiries, please do not hesitate to contact Crystal Maruna, Senior Environmental Officer of EHP on telephone (07) 4722 5362.

Level 10, Verde Tower  
445 Flinders St Townsville  
PO Box 5391 Townsville  
Queensland 4810 Australia  
**Telephone** + 61 7 4722 5353  
**Facsimile** + 61 7 4722 5351  
**Website** [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au)  
ABN 46 640 294 485

Yours sincerely

s78B(2) - Privacy

Anthony Morrison

**A/Compliance Delivery Manager, North Queensland  
Environmental Services and Regulation  
Department of Environment and Heritage Protection**

RTI DL RELEASE - EHP





Department of  
**Environment and  
Heritage Protection**

File/Ref 101/0008746

22 December 2014

Mr Gopal Hota  
Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
356 Adelaide Terrace  
PERTH WA 6000

Email: [Gopal.Hota@adityabirla.com.au](mailto:Gopal.Hota@adityabirla.com.au)

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Should you have any further enquiries, please do not hesitate to contact Crystal Maruna, Senior Environmental Officer of EHP on telephone (07) 4722 5362.

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Yours sincerely

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Anthony Morrison

**A/Compliance Delivery Manager, North Queensland  
Environmental Services and Regulation  
Department of Environment and Heritage Protection**

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Department of  
**Environment and  
Heritage Protection**

23 December 2014

Mr Gopal Hota  
Group Chief Mining Engineer  
Birla Mt Gordon Pty Ltd  
Level 3, Septimus Roe Square  
256 Adelaide Terrace  
Perth WA 6000

Dear Gopal,

**Wet Season Preparations- Birla Mt Gordon**

As you may be aware, the Australian Bureau of Meteorology (BoM) has released its climate outlook up to March 2015 and the outlook for the 2014/2015 cyclone season. The prediction is for a warmer and drier than normal wet season for northern Australia, with below-average tropical cyclone activity (on average four cyclones form in the Coral Sea and three in the Gulf of Carpentaria each cyclone season). Please note that the BoM's weather updates can change considerably, as forecasting of weather is challenging in our region.

Despite the BoM's current outlook, damaging seasonal weather events can occur at any location in north Queensland, particularly between the months of November and April, with risk of flooding and strong winds regardless of regional average conditions.

Further updates on seasonal weather outlooks will be available from the BoM website over the course of the wet season and I encourage you to monitor weather conditions and the BoM website closely for subsequent updates and current weather warnings.

I understand from discussions you had with the Department of Environment and Heritage Protection (EHP) on 18 December 2014, Birla Mt Gordon Pty Ltd (BMG) has completed all wet season preparations at the Mt Gordon Mine. This includes pumping contingencies, in the form of on-site pumps (skid mounted and independently powered) sufficient to prevent the release of contaminated water, should the site experience power failure and limited access, as has occurred in previous years.

I would like to take this opportunity to highlight the EHP's expectations of BMG during the 2014/2015 wet season in regards to statutory responsibilities, please note the following requirements:

1. Planning and Environment Court Order No 3267 of 2013;
2. Compliance with all conditions and actions required under transitional environmental program MAN17560 as issued 7 March 2014;
3. All conditions of environmental authority EPML00911413 as issued 7 March 2014 continue to apply (pending finalisation of the amendment application which is currently subject to Land Court proceedings);
4. In accordance with section 319 of the *Environmental Protection Act 1994*, BMG are subject to the general environmental duty, requiring all reasonable and practicable measures be taken to prevent or limit environmental harm; and

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5. Pursuant to section 320 of the *Environmental Protection Act 1994*, BMG have a duty to notify EHP of any event that threatens or causes material or serious environmental harm, a guideline outlining the 'duty to notify' can be found at [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au). Notwithstanding this, your environmental authority also contains conditions requiring notification for certain events. For notification during the Christmas period and/or after hours, please ensure notifications are made via EHP's 24 hour pollution hotline on 1300 130 372.

Should you have any questions in relation to these matters, please contact me on (07) 4222 5333.

Yours sincerely,



Hamish Butler  
**A/Director- Minerals**  
**Environmental Services and Regulation**  
**Department of Environment and Heritage Protection**

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23 January 2015

 Department of  
**Environment and  
 Heritage Protection**

 Mr Gopal Hota  
 Birla Mt Gordon Pty Ltd  
 Level 3, Septimus Roe Square  
 356 Adelaide Terrace  
 PERTH WA 6000

Dear Mr Hota

I refer to recent sampling data provided by Mount Gordon Operation Pty Ltd (MGO) for the Birla Mt Gordon Project. The data was provided on 3 November 2014 following the pre-wet season inspection on 9 & 10 October 2014 and for the notification on 1 December 2014 of exceeded contaminant limits for sulphate and pH in Gunpowder Creek.

Following review of the data, the Department of Environment and Heritage Protection (EHP) has identified a number of matters as detailed below that require further investigation.

**ISSUE 1 – Exceeded pH limit relevant to Court Order 3267 of 2013 and Environmental Authority EPML00911413 (EA) Condition C3-2**

MGO notified EHP on 1 December 2014 that pH had exceeded the receiving water contaminant limit stated in Court Order 3267 for monitoring locations GPA5 and GPD1 as summarised below:

|               | GPU1 | GPU2 | GPA2 | GPA4 | GPA5                   | GPA6 | GPD1 | GPD2 | GS2  |
|---------------|------|------|------|------|------------------------|------|------|------|------|
| 1/04/2014     | 8.28 | 8.29 | 8.22 | 8.15 | 8.34                   | 8.24 | 7.9  | 8.27 | 8.27 |
| 16/04/2014    | 8.27 |      | 8.11 |      | 8.44                   |      | 8.27 |      | 8.47 |
| 23/04/2014    | 8.15 |      | 8.06 |      | 8.58                   | 8.2  | 8.28 |      | 8.26 |
| 12/05/2014    | 8.38 | 8.04 | 8.25 | 8.37 | 8.7                    | 8.46 | 8.37 | 8.41 | 8.65 |
| 10/06/2014    | 8.03 | 7.84 | 8.11 | 8.26 | 8.4                    | 8.49 | 8.3  | 8.32 | 8.51 |
| 9/07/2014     | 8.24 | 7.98 | 8.02 | 8.34 | 8.67                   | 8.48 | 8.4  | 8.69 | 8.67 |
| 18/08/2014    | 7.9  | 7.8  | 7.71 | 8.38 | 8.9                    | 8.78 | 8.83 | 9.3  | 9.22 |
| 3/09/2014     | 8.2  | 7.98 | 7.81 | 8.52 | 9.24                   | 8.95 | 9.34 | 9.26 | 9.71 |
| 15/10/2014    | 8.46 | 8.17 | 8.07 | 8.56 | 8.55                   | Dry  | 8.83 | Dry  | 9.23 |
| 09/11/2014    | 8.34 | 8.15 | 7.88 | 8.95 | Dry                    | Dry  | 9.6  | Dry  | 9.34 |
| EA Exceedence |      |      |      |      | Court Order Exceedence |      |      |      |      |

**Figure 1- Gunpowder Creek water pH results (Laboratory).**

To determine whether the pH level is influenced by natural processes or by activities undertaken by MGO please provide further information including:

- Whether the pH sampling results were obtained during a flow event;
- The time that each pH sample was conducted for each monitoring location;
- Any documentation/report that substantiates the likely cause and/or source of the rise in pH.

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**ISSUE 2 – Exceeded sulphate limit relevant to Transitional Environmental Program (TEP) MAN17560 and Environmental Authority (EA) Condition C3-2**

MGO notified EHP on 1 December 2014 that sulphate had exceeded the receiving waters contaminant limit stated in the EA for monitoring locations GPA2 and GPA4 as summarised below:

| GPA2 - Sulphates (mg/L) |      |      |      |      |
|-------------------------|------|------|------|------|
|                         | 2011 | 2012 | 2013 | 2014 |
| April                   | 82   | 798  | 964  | 208  |
| May                     | 330  | 869  | 1320 | 444  |
| June                    | 510  | 1010 | 1560 | 637  |
| July                    | 840  | 1380 | 2020 | 878  |
| August                  | NA   | 1827 | 2640 | 1350 |
| September               | 1600 | 1922 | 2500 | 1470 |
| October                 | 1700 | 2307 | 2840 | 1770 |
| November                | NA   | 2430 | 3070 | 1970 |

Figure 2-Monthly GPA2 sulphate concentration average in the last 4 dry seasons.

| GPA4 - Sulphates (mg/L) |      |      |      |      |
|-------------------------|------|------|------|------|
|                         | 2011 | 2012 | 2013 | 2014 |
| April                   | NA   | NA   | NA   | 130  |
| May                     | NA   | NA   | NA   | 338  |
| June                    | NA   | NA   | NA   | 543  |
| July                    | NA   | NA   | NA   | 785  |
| August                  | NA   | NA   | NA   | 1240 |
| September               | NA   | NA   | NA   | 1390 |
| October                 | NA   | NA   | NA   | 2080 |
| November                | NA   | NA   | NA   | 2700 |

Figure 3- Monthly GPA4 sulphate concentration average in the last 4 dry seasons.

In relation to monitoring location GPA2 there is a data discrepancy between the sulphate levels provided by MGO on 1 December 2014 (above) and the post compliance inspection data provided by MGO on 3 November 2014 (below).

| Parameter | Month 2014 | Contaminant Limit | GPU1  | GPA2  | GPD1  | GS2   |
|-----------|------------|-------------------|-------|-------|-------|-------|
| Sulphate  | February   | 1,000 mg/L        | 2,400 | 5,700 |       | 2,600 |
|           | March      | 1,000 mg/L        |       | 4,800 | 3,600 | 2,800 |
|           | April      | 1,000 mg/L        | 2,500 | 3,000 | 3,000 |       |
|           | June       | 1,000 mg/L        |       | 3,900 | 2,800 | 3,000 |
|           | July       | 1,000 mg/L        |       |       |       | 2,700 |
|           | August     | 1,000 mg/L        |       |       |       | 2,400 |
|           | September  | 1,000 mg/L        | 2,300 | 2,400 |       |       |
|           | October    | 1,000 mg/L        |       | 1,700 | 2,000 |       |

Figure 4- Sulphate data provided by MGO on 3 December 2014.

MGO has previously been warned by EHP in relation to monitoring requirements and ensuring accurate sampling data is obtained and recorded.

As you are aware, it is an offence to provide false or misleading information. EHP requests MGO provide an explanation for the discrepancy in sulphate data and provide information detailing measures that will be taken to address this issue, and confirmation of the correct sulphate data.

GPA4 is not a receiving waters monitoring location in the EA. EHP requests MGO provide information to identify the location of monitoring point GPA4 and how it relates to the EA.

EHP notes sulphate contaminant limits have been exceeded in the past at monitoring location GS2. EHP requests information detailing whether MGO has investigated the likely source of contamination in Greenstone Creek at monitoring location GS2.

### ***ISSUE 3 – Twenty-four hour notification relevant to the TEP and EA Condition A8-1***

MGO did not notify EHP of the recent exceeded contaminant limits for sulphate and pH outlined in Issue 1 & 2 within twenty-four hours as required by the TEP and EA.

MGO has previously been warned in relation to notification requirements in accordance with the EA.

### ***ISSUE 4 – Exceeded cobalt and copper contaminant limits relevant to the TEP and EA Condition C3-2.***

The sampling data provided on 3 November 2014 by MGO following the pre-wet season inspection indicates EA contaminant limits for cobalt and copper were exceeded at monitoring locations GPA2 and GS2 as summarised below:

| Parameter | Month 2014 | Contaminant Limit | GPU1 | GPA2 | GPD1 | GS2 |
|-----------|------------|-------------------|------|------|------|-----|
| Cobalt    | February   | 1 mg/L            |      | 53   |      |     |
|           | March      | 1 mg/L            |      | 16   |      |     |
|           | April      | 1 mg/L            |      | 6.5  |      |     |
|           | June       | 1 mg/L            |      | 4.1  |      |     |
|           | July       | 1 mg/L            |      |      |      | 1.5 |
| Copper    | February   | 1 mg/L            |      | 29   |      |     |
|           | March      | 1 mg/L            |      | 12   |      |     |
|           | April      | 1 mg/L            |      | 160  |      |     |
|           | June       | 1 mg/L            |      | 29   |      |     |

Figure 5- Cobalt and copper data provided by MGO on 3 November 2014.

The TEP requires that MGO ensure there is no exceedence of an EA contaminant limit, except for copper in Magazine Creek. The results provided indicate the TEP has been contravened as the EA contaminant limit for copper has been exceeded at monitoring location GPA2, which is located at Gunpowder Creek and GS2 which is located at Greenstone Creek. The EA contaminant limit has also been exceeded for cobalt in monitoring location GPA2.

EHP requests MGO provide verification of sampling data for copper and cobalt to provide confirmation of the levels identified in the data provided.

In accordance with EHP's enforcement guidelines (available at [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au)), the department would like to afford MGO the opportunity to provide a written response detailing any mitigating circumstances that may exist relating to the identified issues above. EHP will consider any response received in determining what action to take in relation to the matter.

EHP requests MGO provide a written response to all matters raised by **6 February 2015**.

Should you have any further enquiries, please contact Crystal Maruna, Senior Environmental Officer of the department on telephone (07) 4722 5362.

Yours sincerely

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Anthony Morrison  
**A/Compliance Delivery Manager, North Queensland  
Environmental Services and Regulation  
Department of Environment and Heritage Protection**

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Department of  
**Environment and  
Heritage Protection**

28 January 2015

Gopal Hota  
Birla Mt Gordon Pty Ltd  
PO Box 3074  
EAST PERTH WA 6892

Dear Mr Hota

Thank you for your letter dated 21 January 2015 concerning the meeting held on 16 January 2015 between Birla Mt Gordon Pty Ltd (BMG) and the Department of Environment and Heritage Protection (EHP).

EHP acknowledges that BMG have made improvements to water management systems at the Mount Gordon Operations (MGO) and understand that as of 1 January 2015, BMG were on track to meet the requirements of Court Order No. 3267 of 2013 (the Court Order) to achieve a minimum net water reduction of 311 ML from the Esperanza Pit by 31 March 2015.

It is understood that significant rainfall that fell at MGO between 5 and 13 January 2015 resulted in substantial inflows of water to MGO's water management systems. EHP understands that BMG have commenced pumping of water from the Esperanza Tailings Storage Facility and Mill Creek Dam into the Esperanza Pit to minimise the risk of an unauthorised release from these structures. EHP recognises that these factors have contributed to the increase in water level in the Esperanza Pit which may impede BMG's ability to achieve compliance with the conditions of the Court Order. You are reminded that BMG must continue to take all reasonable and practicable measures to meet the requirements of the Court Order by 31 March 2015.

As discussed at the meeting, if BMG propose to make changes to the Court Order, the Courts processes will need to be followed. EHP is available to discuss this matter further should you wish to pursue it.

Should you have any further enquiries, please contact Tania Hardie, Senior Environmental Officer of the department on telephone 07 4222 5382.

Yours sincerely,

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Dean Sharpe  
**Manager (Assessment), Minerals  
Environmental Services and Regulation  
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