



DENDROBIUM &  
CORDEAUX



DENDROBIUM &  
CORDEAUX  
ANNUAL REPORT -  
APPENDIX



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## ANNUAL RETURN

LICENCE NO	3241
LICENCE HOLDER	DENDROBIUM COAL PTY LTD
REPORTING PERIOD	01-Jul-2015 to 30-Jun-2016

If your licence has been transferred, suspended, surrendered or revoked by the EPA during this reporting period, cross out the dates above and specify the new dates to which this Annual Return relates below:

REVISED REPORTING PERIOD \_\_\_\_/\_\_\_\_/\_\_\_\_ to \_\_\_\_/\_\_\_\_/\_\_\_\_

(Note: the revised reporting period also needs to be entered in Section H)

**THIS ANNUAL RETURN MUST BE RECEIVED BY THE EPA BEFORE 30-Aug-2016**

Your Annual Return must be completed, including certification in Section I, and submitted to the EPA no later than 60 Days after the end of the reporting period for your licence.

Failure to submit this Annual Return within 60 days after the reporting period ends may result in:

- the issue of a Penalty Notice for \$1500 (individuals) or \$3000 (corporations);
- OR
- prosecution.

Please send your completed Annual Return by **Registered Post** to:

**Regulatory and Compliance Support Unit  
Environment Protection Authority  
PO Box A290  
SYDNEY SOUTH NSW 1232**

It is an offence to supply any information in this form to the EPA that is false or misleading in a material respect, or to certify a statement that is false or misleading in a material respect.

**THERE IS A MAXIMUM PENALTY OF \$250,000 FOR A CORPORATION OR \$120,000 FOR AN INDIVIDUAL.**

Details provided in this Annual Return will be available on the EPA's Public Register in accordance with section 308 of the *Protection of the Environment Operations Act 1997*.

# Annual Return

DENDROBIUM COAL PTY LTD



Use the checklist below to ensure that you have completed your Annual Return correctly.

(✓ the boxes)

CHECKLIST		
<input checked="" type="checkbox"/>	Section A:	All licence details are correct
<input checked="" type="checkbox"/>	Section B1:	You have entered the correct number in the complaints table
<input checked="" type="checkbox"/>	Section B2 – B3:	If there are tables, you have provided the required details
<input checked="" type="checkbox"/>	Section C:	You have answered question 1, and 2 if applicable
<input checked="" type="checkbox"/>	Section D:	If applicable, you have completed all load calculation worksheets
<input checked="" type="checkbox"/>	Section E:	You have answered question 1, 2, 3, 4, 5 and 6 if applicable
<input checked="" type="checkbox"/>	Section F:	You have answered question 1, 2 and 3 if applicable
<input checked="" type="checkbox"/>	Section G:	You have answered question 1 and question 2, 3 and 4 or question 5 through to 11 if applicable
<input checked="" type="checkbox"/>	Section H:	The Annual Return has been signed by appropriate person(s) and, if applicable, the revised reporting period entered
<input checked="" type="checkbox"/>	Make a copy of the completed Annual Return and keep it with your licence records	

Please send your completed Annual Return by **Registered Post** to:

**Regulatory and Compliance Support Unit  
Environment Protection Authority  
PO Box A290  
SYDNEY SOUTH NSW 1232**

## A Statement of Compliance - Licence Details

**ALL licence holders must check that the licence details in Section A are correct**

If there are changes to any of these details you must advise the EPA and apply as soon as possible for a variation to your licence or for a licence transfer.

Licence variation and transfer application forms are available on the EPA website at: <http://www.epa.nsw.gov.au/licensing>, or from regional offices of the EPA, or by contacting us on telephone 02 9995 5700.

If you are applying to vary or transfer your licence you must still complete this Annual Return.

### A1 Licence Holder

Licence Number 3241  
Licence Holder DENDROBIUM COAL PTY LTD  
Trading Name (if applicable)  
ABN 85 098 744 088

### A2 Premises to which Licence Applies (if applicable)

Common Name (if any) DENDROBIUM MINE  
Premises CORDEAUX ROAD MOUNT KEMBLA NSW 2526

### A3 Activities to which Licence Applies

Mining for coal  
Coal works

### A4 Other Activities (if applicable)

### A5 Fee-Based Activity Classifications

**Note** that the fee based activity classification is used to calculate the administrative fee.

Fee-based activity	Activity scale	Unit of measure
Mining for coal	> 3,500,000.00 - 5,000,000.00	T annual production capacity
Coal works	> 2,000,000.00 - 5,000,000.00	T annual handing capacity

### A6 Assessable Pollutants (Not Applicable)

## B Monitoring and Complaints Summary

### B1 Number of Pollution Complaints

Number of complaints recorded by the licensee during the reporting period.  If no complaints were received enter nil in the attached box, otherwise complete the table below.		44
Pollution Complaint Category	Number of Complaints	
Air	3	
Water	0	
Noise	3	
Waste	0	
Other	38*	

\*Noise complaints related to Rail Operations

### B2 Concentration Monitoring Summary

For each monitoring point identified in your licence complete all the details for each pollutant listed in the tables provided below.

If concentration monitoring is **not** required by your licence, **no tables** will appear below.

**Note** that this does not exclude the need to conduct appropriate concentration monitoring of assessable pollutants as required by load-based licensing (if applicable).

#### Discharge Point 5

Stormwater and minewater discharge from Dendrobium mine. Brine discharge from Appin West mine. Discharge quality monitoring, Pipeline discharging to Allan's Creek labelled as "Discharge Point" on map titled "Dendrobium Mine Water Disposal Pipeline" dated 8 November 2002.

Pollutant	Unit of measure	No. of samples required by licence	No. of samples you collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Arsenic	milligrams per litre	12	12	0.010	0.024	0.118

Conductivity	microsiemens per centimetre	12	12	1450	3773	19400
Copper	milligrams per litre	12	12	<0.001	0.002	0.004
Nickel	milligrams per litre	12	12	0.006	0.026	0.223
Oil and Grease	milligrams per litre	12	12	<5	6	12
pH	pH	12	12	7.8	8.0	8.6
Total suspended solids	milligrams per litre	12	12	<5	14	39
Zinc	milligrams per litre	12	12	0.020	0.026	0.223

## Monitoring Point 6

Dust Monitoring, Dust gauge located at Figtree Farm, O'Briens Road Figtree, labelled as "Point 6" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.

Pollutant	Unit of measure	No. of samples required by licence	No. of samples you collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Ash	grams per square metre per month	12	11*	0.1	0.6	2.9
Combustible solids	grams per square metre per month	12	11	0.1	0.6	2.3
Insoluble solids	grams per square metre per month	12	11	0.2	1.2	5.2

\*Dust deposition gauge was found to be broken when being collected.

## Monitoring Point 9

Dust Monitoring, Dust gauge located at Mt Kembla Primary School labelled as "Point 9" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.

Pollutant	Unit of measure	No. of samples required by licence	No. of samples you collected and analysed	Lowest sample value	Mean of sample	Highest sample value



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Ash	grams per square metre per month	12	12	0.1	1.1	5.0
Combustible solids	grams per square metre per month	12	12	0.2	0.6	1.2
Insoluble solids	grams per square metre per month	12	12	0.4	1.7	6.1

**NOTE:** Annual Average of 4.8 for Insoluble Solids recorded in July 15. This was caused by roadworks in the area – road was fully removed and re-sealed. Annual Average of 4.1 recorded in August 2015 due to same reasoning. Annual Average dropped back to 3.2 in September 2015.

## Monitoring Point 13

Dust Monitoring, Dust gauge located at Dendrobium Colliery Surface, labelled as "Point 13" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.

Pollutant	Unit of measure	No. of samples required by licence	No. of samples you collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Ash	grams per square metre per month	12	12	0.2	0.6	1.5
Combustible solids	grams per square metre per month	12	12	0.2	0.4	1.0
Insoluble solids	grams per square metre per month	12	12	0.4	1.0	2.2

## Monitoring Point 17

Dust Monitoring, Dust gauge located at 206 Cordeaux Road, Mt Kembla, labelled as "Point 17" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.

Pollutant	Unit of measure	No. of samples required by licence	No. of samples you collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Ash	grams per square metre per month	12	12	0.2	0.5	1.7
Combustible solids	grams per square metre per month	12	12	0.2	0.4	1.0
Insoluble solids	grams per square metre per month	12	12	0.4	0.9	2.5

## Monitoring Point 18

Dust Monitoring, Dust gauge located at Kemira Valley Coal Loading Facility at the bins, labelled as "Point 18" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.

Pollutant	Unit of measure	No. of samples required by licence	No. of samples you collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Ash	grams per square metre per month	12	11*	0.3	0.6	0.9
Combustible solids	grams per square metre per month	12	11	0.4	1.2	2.0
Insoluble solids	grams per square metre per month	12	11	0.8	1.8	2.6

\*Dust deposition gauge was found to be broken when being collected

## Monitoring Point 20

Ambient Air Monitoring, Hi-Vol sampler located at Kemira Valley Coal Loading Facility labelled as "Point 20" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.

Pollutant	Unit of measure	No. of samples required by licence	No. of samples you collected and analysed	Lowest sample value	Mean of sample	Highest sample value
PM10	micrograms per cubic metre	12	12	<0.1	13.3	27.2
Total suspended particles	micrograms per cubic metre	12	12	7.9	26.8	48.0

## Monitoring Point 21

Ambient Air Monitoring, Hi-Vol sampler located at Dendrobium Surface, labelled as "Point 21" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.

Pollutant	Unit of measure	No. of samples required by licence	No. of samples you collected and analysed	Lowest sample value	Mean of sample	Highest sample value
PM10	micrograms per cubic metre	12	12	<0.1	18.9	51.2
Total suspended particles	micrograms per cubic metre	12	12	13.2	37.3	68.1

## B3 Volume or Mass Monitoring Summary

For each monitoring point identified in your licence complete the details of the volume or mass monitoring indicated in the tables provided below.

If volume or mass monitoring is not required by your licence, **no tables** will appear below.

**Note** that this does not exclude the need to conduct appropriate concentration monitoring of assessable pollutants as required by load-based licensing (if applicable).

### Monitoring Point 24

Volume Monitoring

Unit of measure	Frequency	No. of measurements made	Lowest result	Mean result	High result
megalitres per day	Continuous	continuous	2.05	6.95	9.03

### Monitoring Point 25

Volume Monitoring

Unit of measure	Frequency	No. of measurements made	Lowest result	Mean result	High result
megalitres per day	Continuous	continuous	0.00	0.69	3.07

## C Statement of Compliance - Licence Conditions

### C1 Compliance with Licence Conditions

( the boxes)

- 
- 1 Were all conditions of the licence complied with (including monitoring and reporting requirements)?  Yes  No

( a box)

- 
- 2 If you answered 'No' to question 1, please supply the following details for each non-compliance in the format, or similar format, provided on the following page.

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

- a) What was the specific licence condition that was not complied with?
- b) What were the particulars of the non-compliance?
- c) What were the date(s) when the non-compliance occurred, if applicable?
- d) If relevant, what was the precise location where the non-compliance occurred?

Attach a map or diagram to the Statement to show the precise location.

- e) What were the registration numbers of any vehicles or the chassis number of any mobile plant involved in the non-compliance?
- f) What was the cause of the non-compliance?
- g) What action has been, or will be, taken to mitigate any adverse effects of the non-compliance?
- h) What action has been, or will be, taken to prevent a recurrence of the non-compliance?

- 
3. How many pages have you attached?

Each attached page must be initialled by the person(s) who signs Section G of this Annual Return

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# Annual Return

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## C2 Details of Non-Compliance with Licence

Licence condition number not complied with
L2.4 Water and/or Land Concentration Limits
Summary of particulars of the non-compliance <b>(NO MORE THAN 50 WORDS)</b>
Point 5 Oil and Grease result over EPL 100 Percentile Limit
If required, further details on particulars of non-compliance
EPL limit is 10 mg/L, result was 12 mg/L
Date(s) when the non-compliance occurred, if applicable
23/7/15
If relevant, precise location where the non-compliance occurred (attach a map or diagram)
Point 5, Marley Place, Unanderra
If applicable, registration numbers of any vehicles or the chassis number of any mobile plant involved in the non-compliance
N/A
Cause of non-compliance
Issues with ALS reporting high samples for a number of Illawarra Coal water samples during the July/August period. No observed change to site processes.
Action taken or that will be taken to mitigate any adverse effects of the non-compliance
Samples taken before and after non-compliance were within the limits for oil and grease.
Action taken or that will be taken to prevent a recurrence of the non-compliance
Samples will be taken earlier in the month to allow for further investigations prior to the end of the month.

Two handwritten signatures in black ink, one on the left and one on the right, appearing to be initials or names.

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## C2 Details of Non-Compliance with Licence

Licence condition number not complied with
M2.2 Air Monitoring Requirements
Summary of particulars of the non-compliance ( <b>NO MORE THAN 50 WORDS</b> )
Sampling of Point 6 required monthly. Only 11 samples collected.
If required, further details on particulars of non-compliance
Dust deposition gauge was found to be broken when being collected for April sample.
Date(s) when the non-compliance occurred, if applicable
April 2016
If relevant, precise location where the non-compliance occurred (attach a map or diagram)
Point 6, O'Brien's Road, Figtree
If applicable, registration numbers of any vehicles or the chassis number of any mobile plant involved in the non-compliance
N/A
Cause of non-compliance
Dust deposition gauge was found to be broken when being collected for April sample.
Action taken or that will be taken to mitigate any adverse effects of the non-compliance
All other dust monitoring within limits. No adverse effects of non-compliance.
Action taken or that will be taken to prevent a recurrence of the non-compliance
Process of placing Dust Deposition Gauge in holder has been altered to reduce likelihood of breakages.

*MBR*      *MKT*

# Annual Return

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## C2 Details of Non-Compliance with Licence

Licence condition number not complied with
M2.2 Air Monitoring Requirements
Summary of particulars of the non-compliance <b>(NO MORE THAN 50 WORDS)</b>
Sampling of Point 18 required monthly. Only 11 samples collected.
If required, further details on particulars of non-compliance
Sample bottle was broken prior to being analysed.
Date(s) when the non-compliance occurred, if applicable
June 2016
If relevant, precise location where the non-compliance occurred (attach a map or diagram)
Point 18, Kemira Valley Coal Loading Facility.
If applicable, registration numbers of any vehicles or the chassis number of any mobile plant involved in the non-compliance
N/A
Cause of non-compliance
Sample bottle was broken prior to being analysed.
Action taken or that will be taken to mitigate any adverse effects of the non-compliance
All other dust monitoring within limits. No adverse effects of non-compliance.
Action taken or that will be taken to prevent a recurrence of the non-compliance
Transportation method for sample bottles altered to reduce likelihood of breakages.

*Handwritten signature/initials*

## D Statement of Compliance - Load-Based Fee Calculation Worksheets

If you are not required to monitor assessable pollutants by your licence, no worksheets will appear below. Please go to Section E.

If assessable pollutants have been identified on your licence (see licence condition L2), complete the following worksheets for each assessable pollutant to determine your load-based fee for the licence fee period to which this Annual Return relates.

Loads of assessable pollutants must be calculated using any of the methods provided in the EPA's Load Calculation Protocol for the relevant activity. A Load Calculation Protocol would have been sent to you with your licence. If you require additional copies you can download the Protocol from the EPA's website or you can contact us on telephone 02 9995 5700.

You are required to keep all records used to calculate licence fees for four years after the licence fee was paid or became payable, whichever is the later date.

### **PENALTIES APPLY FOR SUPPLYING FALSE OR MISLEADING INFORMATION**

**D1 - D8 (Not Applicable)**



## E Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan (PIRMP) Under Section 153A of the POEO Act 1997

1 Have you prepared a PIRMP as required under s153A of the Protection of the Environment Operations Act 1997?

(✓ a box)

Yes

No

If you answered 'Yes' to question 1, please tick the appropriate box to indicate the following:

2 Is the PIRMP available at the premises?

(✓ a box)

Yes

No

3 Is the PIRMP available in a prominent position on a publicly accessible web site?

(✓ a box)

Yes

No

If the PIRMP is available on a publicly accessible web site please indicate clearly below the address of the web site where the PIRMP can be accessed:

Web site Address

<http://www.south32.net/getmedia/621c5a9b-ceb3-48e4-b23c-12999f876a21/South32Web>

4 Has the PIRMP been tested in the last 12 months?

(✓ a box)

Yes

No

If you answered 'Yes' to question 4 please indicate clearly below the date that the PIRMP was last tested:

The PIRMP was last tested on

03 / 07 / 2015

5 Has the PIRMP been updated?

(✓ a box)

Yes

No

If you answered 'Yes' to question 5 please indicate clearly below the date that the PIRMP was last updated:

The PIRMP was last updated on

\_\_ / \_\_ / \_\_\_\_

6 How many times has the PIRMP been activated in this reporting period?

0

If the PIRMP has been activated, please indicate clearly below the date/s when the PIRMP was activated:

The PIRMP was activated on

\_\_ / \_\_ / \_\_\_\_

The EPA's guidelines for preparation of pollution incident response management plans are available at

<http://www.epa.nsw.gov.au/legislation/20120227egpreppirmp.htm>

## F Statement of Compliance - Requirement to Publish Pollution Monitoring Data Under Section 66(6) of the POEO Act 1997

1 Are there any conditions attached to your licence that require pollution monitoring to be undertaken?

(✓ a box)

Yes

No

If you answered 'Yes' to question 1, please tick the appropriate box to indicate the following:

2 Do you operate a web site?

(✓ a box)

Yes

No

3 Is the pollution monitoring data published on your web site in accordance with the EPA's written requirements for publishing pollution monitoring data?

(✓ a box)

Yes

No

If you publish pollution monitoring data on a web site please indicate clearly below the address of the web site where the pollution monitoring data can be accessed:

Web site address

<http://www.south32.net/our-operations/australia/illawarra-coal/regulatory-document>

The EPA's written requirements for publishing pollution monitoring data are available at <http://www.epa.nsw.gov.au/legislation/20120263reqpubprmdata.htm>

**Note** - if you do not maintain a web site, you must provide a copy of any monitoring data that relates to pollution, to any person requests a copy of the data at no charge to the person requesting the data.

## G Statement of Compliance - Environmental Management Systems and Practices

- 1 Do you have an environmental management system (EMS) certified to ISO 14001 or any other demonstrated equivalent system<sup>1</sup>? (see note below on demonstrated equivalent).
- (✓ a box)  Yes  No

If your answer to question 1 is 'No', please proceed to question 5. If your answer to question 1 is 'Yes', please proceed to question 2.

- 2 When was the last check of the EMS<sup>2</sup> completed (see note below on check of EMS)?

21 / 07 / 2014

- 3 Were there any non-conformances related to environmental issues identified in the last check of the EMS?
- (✓ a box)  Yes  No
- 4 If there were non-conformances identified, were these non-conformances rectified?
- (✓ a box)  Yes  No

If you answered 'No' to question 1, please answer questions 5 - 11. If you answered 'Yes' to question 1 please proceed to section H. Questions 5-11 relate to any documented environmental practices, procedures and systems in place. Refer to <http://www.epa.nsw.gov.au/licensing/EMCP.htm> for guidance on how to complete questions 5 to 11. If unsure of the answer, tick No.

- 5 Have you conducted an assessment of your activities and operations to identify the aspects that have a potential to cause environmental impacts and implemented operational controls to address these aspects?
- (✓ a box)  Yes  No
- 6 Have you established and implemented an operational maintenance program, including preventative maintenance?
- (✓ a box)  Yes  No
- 7 Do you keep records of regular inspections and maintenance of plant and equipment?
- (✓ a box)  Yes  No
- 8 Do you conduct regular site audits to assess compliance with environmental legal requirements and assess conformance to the requirements of any documented environmental practices, procedures and systems in place?
- (✓ a box)  Yes  No
- 9 Are the audits of documented environmental practices, procedures and systems undertaken by a third party?
- (✓ a box)  Yes  No
- 10 Have you established and implemented an environmental improvement or management plan?
- (✓ a box)  Yes  No
- 11 Do you train staff in environmental issues that may arise from your activities and operations and keep records of this
- (✓ a box)  Yes  No

<sup>1</sup> Demonstrated equivalent refers to an environmental management system that the EPA considers is equivalent to the accountability, procedures, documentation and record keeping requirements of an ISO 14001 system. For further information go to:

<http://www.epa.nsw.gov.au/resources/licensing/150402-environmental-management-systems-guidelines.pdf>

<sup>2</sup> Undertaking a 'check of an EMS' refers to the ISO 14001 requirements that an organisation demonstrates conformity to the requirements of its EMS and to the standard, these checks require third-party certification that requirements have been met.

# Annual Return

DENDROBIUM COAL PTY LTD



## H Signature and Certification

This Annual Return may only be signed by a person(s) with legal authority to sign it as set out in the categories below. **Please tick (✓) the box** next to the category that describes how this Annual Return is being signed.

If you are uncertain about who is entitled to sign or which category to tick, please contact us on telephone 02 9995 5700.

If the licence holder is:	the Annual Return must be signed and certified by one of the following:
an individual	<input type="checkbox"/> the individual licence holder, or <input type="checkbox"/> a person acting on behalf of the individual licence holder in accordance with a power of attorney for the individual. A copy of the power of attorney must be submitted with the Annual Return.
a company	<input checked="" type="checkbox"/> by two directors, or <input type="checkbox"/> by a director and a company secretary, or <input type="checkbox"/> if a proprietary company that has a sole director who is also the sole company secretary - by that director, or <input type="checkbox"/> by a person delegated to sign a copy of the Annual Return on the company's behalf in accordance with the Corporations Act 2001. Delegation of authority must be submitted with the Annual Return, or. <input type="checkbox"/> by affixing the common seal, in accordance with the Corporations Act 2001
a public authority other than a Council	<input type="checkbox"/> by the Chief Executive Officer of the public authority, or <input type="checkbox"/> by a person delegated to sign on the public authority's behalf in accordance with its legislation.
a local Council	<input type="checkbox"/> by the General Manager in accordance with s377 of the Local Government Act 1993 , or <input type="checkbox"/> by affixing the seal of the Council in a manner authorised under the Local Government Act 1993.

**It is an offence to supply any information in this form that is false or misleading in a material respect, or to certify a statement that is false or misleading in a material respect. There is a maximum penalty of \$250,000 for a corporation or \$120,000 for an individual.**

I/We

- declare that the information in the Monitoring and Complaints Summary in section B of this Annual Return is correct and not false or misleading in a material respect, and
- certify that the information in the Statement of Compliance in sections A, C, D, E, F and G and any pages attached to Section C is correct and not false or misleading in a material respect.

If your licence has been transferred, suspended, surrendered or revoked by the EPA during this reporting period, cross out the dates below and specify the new dates to which this Annual Return relates below:

For the reporting period 01-Jul-2015 to 30-Jun-2016 or \_\_\_/\_\_\_/\_\_\_ to \_\_\_/\_\_\_/\_\_\_

SIGNATURE: Michael Rix

NAME: (printed) MICHAEL RIX

POSITION: DIRECTOR

DATE: 22, 08, 2016

SIGNATURE: [Signature]

NAME: (printed) MICHAEL TREN

POSITION: DIRECTOR

DATE: 22, 08, 2016

SEAL(if signing under seal)

**PLEASE ENSURE THAT ALL APPROPRIATE BOXES HAVE BEEN COMPLETED AND THAT THE CHECKLIST ON PAGE 2 OF THE ANNUAL RETURN HAS BEEN COMPLETED**



## Site Registration

Complete the following fields prior to calculating the security bond.

<b>Mine Name:</b>	Dendrobium Mine and Cordeaux Colliery		
<b>Lease(s)</b>	CCL 768		
<b>Mine Owner</b>	Illawarra Coal Holdings Pty Ltd, ABN 69 093 857 286		
<b>Mine Operator</b>	Illawarra Coal Holdings Pty Ltd, ABN 69 093 857 286		
<b>Expiry of MOP</b>	30/9/2015		
<b>Current Security</b>	\$9,982,014	<b>Date of last Security Bond review</b>	Aug-14
<b>Mine Contact</b>	Peter McMillan		
<b>Position</b>	Environment and Community Supervisor		
<b>Address</b>	South32 Illawarra Coal Regional Operations Centre Level 3 Enterprise 1 Innovation Campus Squires Way North Wollongong NSW 2500 Postal Address: PO Box 514 Unanderra, NSW, 2526		
<b>Phone</b>	(02) 4286 3200	<b>e-mail</b>	<a href="mailto:Peter.McMillan@south32.net">Peter.McMillan@south32.net</a>

## Site Description

The following site specific information is requested to provide background information in the context of calculating the security bond.

### Summary of Mine Activities

<b>Total annual production (tonnes):</b>	5.2 Million ROM
<b>Mine lease area (ha):</b>	18767
<b>Area of extraction (ha):</b>	N/A
<b>Area of disturbance (ha):</b>	19.4
<b>Rehabilitation in progress (ha):</b>	0
<b>Rehabilitation complete (ha):</b>	0
<b>Estimate based on Plan(s):</b> include version and date	MOP
<b>Plan(s) outlining Domain Areas</b> include version and date	See MOP

### Environmental Sensitivities

#### Surrounding land use (tick all that apply):

- Cropping
- Pasture
- Forest
- Urban

#### Environmental Issues affecting site (tick all that apply)

- Threatened flora
- Threatened fauna
- Cultural heritage items
- Natural heritage features
- Mine subsidence
- Surface water pollution
- Ground water pollution
- Hydrocarbon contamination
- Methane drainage/venting
- Spontaneous combustion
- Acid Mine Drainage
- Within drinking water catchment
- Other (describe below)

**NOTE:**

Ensure rehabilitation cost calculation reflects all environmental issues affecting the lease. Contingencies should be allocated where costs have not been incorporated elsewhere in the estimation.



**Domain 1: Dendrobium Mine Site**  
**Sub Domain 1: Infrastructure Areas**

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
<b>Pit Top Infrastructure</b>	Disconnect and terminate services	1	@	\$31,933.23	\$31,933.23	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Disconnect and terminate powerlines		km	\$14,050.62	\$0.00	This item includes the cost to terminate and remove powerlines, and is based on the average cost to construct.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings	1898	m <sup>2</sup>	\$204.37	\$387,899.33	Enter the total area of workshop facilities in the area.
	Demolish and remove Misc Plants	485	m <sup>2</sup>	\$204.37	\$99,120.75	Enter the total surface area of the Pit Top. If the Pit Top is multi-story the entry should be the sum of the surface area for all floors.
	Demolish and remove conveyors & gantries (includes overhead conveyors)		m	\$70.25	\$0.00	Enter the sum of the total length of conveyor and gantries. This includes conveyor to rail load out areas of conveyor from hoppers feeding back to the.
	Remove Concrete pads and Footings	36153	m <sup>2</sup>	\$12.77	\$461,792.82	Enter the total area the Pit Top, workshops and buildings.
	Deconstruct Large Tanks (e.g. Thickener)		@	\$191,599.38	\$0.00	Enter the number of tanks to be removed from the site.
	Deconstruct Small Tanks (e.g. Thickener)		@	\$60,883.94	\$0.00	Enter the number of tanks to be removed from the site.
	Remove carbonaceous material (spillage or otherwise) from footprint of the CHPP, ROM & Product stockpiles, conveyors and workshops		m <sup>3</sup>	\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	3.6	Ha	\$638.66	\$2,299.19	This item includes the areas requiring minor reshaping, rock raking and deep ripping to enhance revegetation program. This would include the entire pit top area.
	Source, cart and spread topsoil.	10,846	m <sup>3</sup>	\$1.53	\$16,624.54	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the pit top area. IC Comment - Assume 0.3m depth of topsoil.
	Spoil amelioration and supply and spread seed and fertiliser.	3.6	Ha	\$4,726.12	\$17,014.02	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.
	<b>Precinct Security Deposit</b>					<b>\$1,016,683.89</b>
<b>Rail Line and Loop</b>	Remove Rail Loop and spur		m	\$7.66	\$0.00	This item includes the pulling up and removal from site of railway line and sleepers. Calculated as a lineal metre.
	Reshape rail spur and load out area		Ha	\$6,386.65	\$0.00	This item includes the areas requiring reshaping once the rail line, sleepers and ballast has been removed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
<b>Main Workshop Area</b>	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost. IC Comment - Covered above under Pit Top Infrastructure.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the workshop area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings	1020	m <sup>2</sup>	\$204.37	\$208,460.12	Enter the total area of workshop facilities in the area. Include all remote or field based workshop areas.
	Remove Concrete pads, Footings and bitumen (car park) for dumping in a void on the site	455	m <sup>2</sup>	\$12.77	\$5,811.85	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar). It would also include vehicle washdown pads, bulk fuel bunding area and refuelling areas (i.e. all concrete areas in the workshop precinct).
	Remove contaminated material from workshop and handstand areas for disposal in the decline void	91	m <sup>3</sup>	\$2.55	\$232.47	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC Comment - Assume 0.2m depth of material.
	AND/OR Reshaping, capping, sealing of material presenting environmental difficulties (AMD, Hydrocarbon material, etc)		Ha	\$57,479.81	\$0.00	Enter the total area of material requiring capping or sealing. Where assessments have already been made and the presence/absence of contaminated material is known (and quantified) an alternative rate can be used. If this work has not been undertaken, a default rate per UGT is to be utilised.
	Removal of UG tank (including pipes, bunds, etc) (include all facilities on site)		@	\$95,799.69	\$0.00	A default rate per UGT is to be utilised.
	On site remediation of contaminated soil (<1000m <sup>3</sup> )		m <sup>3</sup>	\$63.87	\$0.00	Where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C-37.
	On site remediation of contaminated soil (1000-10,000m <sup>3</sup> )		m <sup>3</sup>	\$51.09	\$0.00	Where an assessment of the volume of contaminated material has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used.
	On site remediation of contaminated soil (>10,000m <sup>3</sup> )		m <sup>3</sup>	\$38.32	\$0.00	Where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C-37.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program. IC Comment - Covered above in Pit Top Infrastructure.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the workshop area. IC Comment - Covered above in Pit Top Infrastructure.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser. IC Comment - Covered above in Pit Top Infrastructure.
	<b>Precinct Security Deposit</b>					<b>\$214,504.45</b>
<b>Admin Buildings</b>	Disconnect and terminate services	1	@	\$6,386.65	\$6,386.65	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Demolish and remove small buildings	838	m <sup>2</sup>	\$89.41	\$74,928.13	Enter the total area of small buildings and offices in the admin area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the admin area.
	Remove Concrete pads, Footings and bitumen (car park)		m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar). IC Comment - Covered above in Pit Top Infrastructure.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program. IC Comment - Covered above in Pit Top Infrastructure.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the admin area. IC Comment - Covered above in Pit Top Infrastructure.
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	Enter the total area of the admin, etc footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding. UNIT RATE: Depends on the required rehabilitation commitment (ie. Trees will be more expensive than grass). IC Comment - Covered above in Pit Top Infrastructure.
<b>Precinct Security Deposit</b>					<b>\$81,314.78</b>	
<b>Access Roads &amp; Haul Roads</b>	Remove carbonaceous material from roadways (coal / rejects spillage)	2285.2	m <sup>3</sup>	\$3.32	\$7,589.28	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Reshape deep rip and ameliorate sealed / unsealed roads		Ha	\$6,386.65	\$0.00	Enter the total area of the road footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding. UNIT RATE: Depends on the required rehabilitation commitment (ie. Trees will be more expensive than grass). IC Comment - Covered above in Pit Top Infrastructure.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the access roads & haul roads. IC Comment - Covered above in Pit Top Infrastructure.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser. IC Comment - Covered above in Pit Top Infrastructure.
<b>Precinct Security Deposit</b>					<b>\$7,589.28</b>	
<b>Sewerage / Water Treatment Plant</b>	Disconnect and terminate services		@	\$3,193.32	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost. IC comment - Covered under Pit Top Infrastructure.
	Demolish and remove small buildings / tanks	452	m <sup>2</sup>	\$89.41	\$40,414.70	Enter the total area of small buildings and tanks.
	Remove contaminated material from areas for disposal (ie. chemical spillage in / around storage sheds).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program. IC comment - Covered under Pit Top Infrastructure.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the sewerage / water treatment plant. IC comment - Covered under Pit Top Infrastructure.
Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser. IC comment - Covered under Pit Top Infrastructure.	
<b>Precinct Security Deposit</b>					<b>\$40,414.70</b>	
<b>Hardstand / Laydown Areas</b> (across the entire site)	Remove contaminated material from areas for disposal (ie. chemical/hydrocarbon spillage in the hard stand area).	2017.6	m <sup>3</sup>	\$2.55	\$5,154.28	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC Comment: assuming depth of 0.2m.
	Deep rip hard stand / laydown areas	1.00	Ha	\$638.66	\$638.66	This item includes ripping hard stand and lay down areas to enhance the rehabilitation program. IC Comment: Includes all Hardstand Areas and Storage Areas.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the hard stands and lay down areas. IC comment - Covered under Pit Top Infrastructure.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser. IC comment - Covered under Pit Top Infrastructure.
	<b>Precinct Security Deposit</b>					<b>\$5,792.94</b>
<b>Underground Infrastructure</b>	Seal Portal / Decline Entry	1	@	\$28,101.24	\$28,101.24	This includes sealing the portal to make safe and ensure access can not be obtained. The number of portals for the whole mine is to be included.
	Seal & rehabilitate ventilation fans.		@	\$31,933.23	\$0.00	This includes sealing & rehabilitation of the ventilation fans to make safe. The number of ventilation fans for the whole mine is to be included. IC Comment - To be included in Vent Shaft 1 and Vent Shaft 2&3.
	Shaft filling	600	m <sup>3</sup>	\$24.35	\$14,612.15	This includes filling of shafts using onsite material. IC comment - Assumed shaft diameter of 6m and 100m depth of fill.
	Shaft capping/sealing		@	\$12,176.79	\$0.00	Simple capping/sealing to DRE standards.
	De-watering Bores	19	@	\$3,831.99	\$72,807.76	This includes sealing & rehabilitation of the dewatering bores to make safe. The total number of dewatering bores for the whole mine is to be included.
	Cap exploration holes	300	@	\$319.33	\$95,799.69	This includes capping & rehabilitation of all old Cap exploration holes around the site. IC Comment: Estimation from current boreholes in and around mining area.
	Minor earthworks and maintenance of mine subsidence areas		Ha	\$1,277.33	\$0.00	This includes undertaking surface drainage works, etc as required to remediate areas affected by Mine subsidence (outside the jurisdiction of the mine subsidence board).
<b>Precinct Security Deposit</b>					<b>\$211,320.84</b>	
<b>Other</b>	Demolish and Remove Misc Plant		m <sup>2</sup>	\$204.37	\$0.00	IC Comment 14/09/14 - Includes Cogeneration plant, 2-Ethylhexanol plant, water cooler, compressor house, gas turbine, pump house, control room and water separator, vent stack and pipelines associated with gas drainage plant and WestVAMP.
	Remove Concrete pads and Footings		m <sup>2</sup>	\$12.77	\$0.00	This item includes <<to be added by the operator>>
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	IC Comment 14/09/14 - Assume 0.3m of topsoil.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes <<to be added by the operators>>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	

**Total Security Deposit for the "Domain" \$1,577,620.87**



## Sub Domain 2: Tailings & Rejects Emplacements (1)

Complete a separate sheet for each tailings dam/impoundment on the site.

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Tailings Dam / Impoundment (Key Information):

Materials Stored (ie. coal fines, coarse or co-disposed)  
 Volume Stored (m<sup>3</sup>)  
 Maximum Embankment Height (m)  
 Maximum Embankment Length (m)  
 Year Dam / Emplacement Commissioned  
 Storage area (ha)  
 Catchment Area of Tailings Dam / Emplacement (ha)  
 Briefly describe embankment construction.  
 (earthen, clay / rejects core, etc)


Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Tailings Dams / Emplacements	Source, cart and spread suitable material to cap the tailings emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the tailings emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Reshape walls / buttress around the dam / emplacement - earthworks only		Ha	\$6,386.65	\$0.00	This includes the area that requires stabilisation and reshaping works around the walls of the emplacement (i.e. removal of rills and pipes that may present long term stability issues)
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the rim.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Precinct Security Deposit				\$0.00	
Coarse Rejects Emplacements	Source, cart and spread suitable material to cap the coarse rejects emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the coarse rejects emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the rim.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
		Precinct Security Deposit				\$0.00
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Precinct Security Deposit				\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 3: Overburden & Waste Dumps

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Successful Rehabilitation	Maintenance of Established Revegetated Area		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Maintenance of Shaped Topsoiled and Seeded		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Shaped Overburden Dumps	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Unshaped Overburden Dumps (minor reshaping required)	Minor pushing, final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Unshaped Overburden Dumps (major earthworks required)	Major bulk pushing to achieve grades nominated in the MOP (i.e. < 1%)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the rim.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Precinct Security Deposit				\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

**Sub Domain 4: Surface Disturbance**

Detail of person filling out the Worksheet:

Name	David Gregory
Position	Specialist Environment - Land & Biodiversity
Department	Health Safety Environment
Date	29/09/14

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Initial Boxcuts & Other Voids	Drill & Blast Highwall		m <sup>3</sup>	\$0.89	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment UNIT RATE: drill & blast + dozer push
	Major bulk pushing of the high wall are to achieve grades nominated in the MOP (i.e < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program UNIT RATE: dozer push rate
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil (at 20cm)		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Security Fence around steep section highwall		m	\$63.87	\$0.00	This item includes the erection of a 2m security fence (linear metre) around the void and other dangerous areas
	High wall treatment - (trench + safety berm)		m	\$73.45	\$0.00	This item includes the construction of a safety berm and fill (linear metre) around the highwall to stop all vehicles, etc. accidentally driving over haul roads (engineered control)
			Precinct Security Deposit			\$0.00
Disturbance ahead of Mining + water management structures	Areas cleared on the surface - re-establish vegetation commensurate with surrounding vegetation		Ha	\$2,682.39	\$0.00	This includes the direct application of seed to restore the vegetation that was disturbed as part of clearing operations ahead of the mine.
	Areas topsoil stripped on the surface - source cart and respread topsoil		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Reshape, deep rip, ameliorate and seed highwall / internal access roads and tracks		Ha	\$6,386.65	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	Reshape, deep rip, ameliorate and seed exploration lines / areas		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
			Precinct Security Deposit			\$0.00
Dams & Water Holding Structures	Clean water dams to be retained after mine closure - make safe and minor earthworks.		@	\$2,554.66	\$0.00	This item includes making the dam spillway, and walls stable and ensuring the integrity of the dam wall, etc.
	Dirty Water Dams (Drain and remove sediments to make dam clean water)	405	m <sup>3</sup>	\$4.09	\$1,655.42	This item includes draining the dam and removing 500mm of potentially contaminated (saline) sediments to be buried in the pit. UNIT RATE: must consider the distance from the dam to the disposal area. \$1.0m <sup>2</sup> dam surface area at 0.5m depth.
		Precinct Security Deposit			\$1,655.42	
River & Creek Diversions	Creek diversion - Channel maintenance through spoil / backfill (20% of estimated diversion construction costs due to unknown landform stability)		m	\$383.20	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through unconsolidated overburden). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Channel maintenance insitu (10% of estimated construction cost for diversion)		m	\$191.60	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through natural ground). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Vegetation maintenance		m <sup>2</sup>	\$0.38	\$0.00	This item includes the ongoing maintenance of vegetation within the diversion channel & batters.
		Precinct Security Deposit			\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
		Precinct Security Deposit			\$0.00	

**Total Security Deposit for the "Domain" \$1,655.42**

**Sub Domain 5: Other**

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Other (eg. site contamination, closure plan preparation, etc)	The restoration and care and maintenance of items that have historical significance and are to be retained after the cessation of mining		@	\$25,546.58	\$0.00	This item includes ensuring that sufficient resources are made available to restore items of heritage significance and also provide money to enable the ongoing care and maintenance of the structure (if not the responsibility of any another stakeholder i.e. council, historical society)
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Construction / Deconstruction of Bridges and crossings		@	\$0.00	\$0.00	Value to be provided by company
	Construction of Fencing - general		@	\$63.87	\$0.00	Includes general fencing around site or site works
	Other 5 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 6 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 7 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 8 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 9 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 10 <insert>				\$0.00	This item includes <<to be added by the operator>>
		Precinct Security Deposit			\$0.00	

**Total Security Deposit for the "Domain" \$0.00**  
**Domain 1: Dendrobium Mine Site TOTAL \$1,579,276.29**

**Domain 2: Kemira Valley Coal Loading Facility (East)**

**Sub Domain 1: Infrastructure Areas**

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Pit Top Infrastructure	Disconnect and terminate services	1	@	\$31,933.23	\$31,933.23	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Disconnect and terminate powerlines	47.2	km	\$14,050.62	\$663,189.32	This item includes the cost to terminate and remove powerlines, and is based on the average cost to construct.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the CHPP area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the CHPP area.
	Demolish and remove Misc Plant	7306	m <sup>2</sup>	\$204.37	\$1,493,146.74	Enter the total surface area of the CHPP. If the CHPP is multi-story the entry should be the sum of the surface area for all floors.
	Demolish and remove conveyors & gantries (includes overland conveyors)		m	\$70.25	\$0.00	Enter the sum of the total length of conveyor and gantries. This includes conveyor to rail load out areas of conveyor from hoppers feeding back to the CHPP.
	Remove Concrete pads and Footings	24545	m <sup>2</sup>	\$12.77	\$313,520.45	Enter the total area the CHPP, workshops and buildings.
	Deconstruct Large Tanks (e.g. Thickener)		@	\$191,599.38	\$0.00	Enter the number of tanks to be removed from the site.
	Deconstruct Small Tanks (e.g. Thickener)		@	\$60,883.94	\$0.00	Enter the number of tanks to be removed from the site.
	Remove carbonaceous material (spillage or otherwise) from footprint of the CHPP, ROM & Product stockpiles, conveyors and workshops		m <sup>3</sup>	\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	2.4545	Ha	\$638.66	\$1,567.60	This item includes the areas requiring minor reshaping, rock raking and deep ripping to enhance revegetation program. This would include the entire CHPP area.
	Source, cart and spread topsoil.	7363.5	m <sup>3</sup>	\$1.53	\$11,286.74	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the CHPP area. IC Comment - Assume 0.3m topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	2.4545	Ha	\$4,726.12	\$11,600.26	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	<b>Precinct Security Deposit</b>					<b>\$2,526,244.33</b>
Rail Line and Loop	Remove Rail Loop and spur		m	\$7.66	\$0.00	This item includes the pulling up and removal from site of railway line and sleepers. Calculated as a linear metre
	Reshape rail spur and load out area		Ha	\$6,386.65	\$0.00	This item includes the areas requiring reshaping once the rail line, sleepers and ballast has been removed
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Main Workshop Area	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the workshop area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the area. Include all remote or field based workshop areas.
	Remove Concrete pads, Footings and bitumen (car park) for dumping in a void on the site	0	m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar). It would also include vehicle washdown pads, bulk fuel bunding area and refuelling areas (ie. all concrete areas in the workshop area)
	Remove contaminated material from workshop and hardstand areas for disposal in the decline void AND/OR	0	m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC Comment 17/09/14 - Assume 0.2m depth of material
	Reshaping, capping, sealing of material presenting environmental difficulties (AMD, Hydrocarbon material, etc)		Ha	\$57,479.81	\$0.00	Enter the total area of material requiring capping or sealing. Where assessments have already been made and the presence/absence of contaminated material is known (and quantified) an alternative rate can be used. If this work has not been undertaken, a default rate per UGT is to be utilised.
	Removal of UG tank (including pipes, bunds, etc) (include all facilities on site)		@	\$95,799.69	\$0.00	A default rate per UGT is to be utilised.
	On site remediation of contaminated soil (<1000m <sup>3</sup> )		m <sup>3</sup>	\$63.87	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C:37.
	On site remediation of contaminated soil (1000-10,000m <sup>3</sup> )		m <sup>3</sup>	\$51.09	\$0.00	where an assessment of the volume of contaminated material has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used.
	On site remediation of contaminated soil (>10,000m <sup>3</sup> )		m <sup>3</sup>	\$38.32	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C:37
	Final trim, rock rake & deep rip	0	Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the workshop area. IC Comment 17/09/14 - Assume 0.3m topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>
Admin Buildings	Disconnect and terminate services	1	@	\$6,386.65	\$6,386.65	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost IC Comment: covered in Pit Top Infrastructure
	Demolish and remove small buildings	118	m <sup>2</sup>	\$89.41	\$10,550.74	Enter the total area of small buildings and offices in the admin area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the admin area.
	Remove Concrete pads, Footings and bitumen (car park)	0	m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar) IC Comment: covered in Pit Top Infrastructure
	Final trim, rock rake & deep rip	0	Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the admin area. IC Comment: covered in Pit Top Infrastructure
	Spoil amelioration and supply and spread pasture seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	Enter the total area of the admin, etc footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding UNIT RATE: Depends on the required rehabilitation commitment (ie. Trees will be more expensive than grass) IC Comment: covered in Pit Top Infrastructure
<b>Precinct Security Deposit</b>					<b>\$16,937.39</b>	
Access Roads & Haul Roads	Remove carbonaceous material from roadways (coal / rejects spillage)	2185.6	m <sup>3</sup>	\$3.32	\$7,258.50	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC Comment - Assume 0.2m depth of material
	Reshape deep rip and ameliorate sealed / unsealed roads		Ha	\$6,386.65	\$0.00	Enter the total area of the road footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding UNIT RATE: Depends on the required rehabilitation commitment (ie. Trees will be more expensive than grass) IC Comment: covered in Pit Top Infrastructure
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the access roads & haul roads. IC Comment: covered in Pit Top Infrastructure
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser IC Comment: covered in Pit Top Infrastructure
<b>Precinct Security Deposit</b>					<b>\$7,258.50</b>	
Sewerage / Water Treatment Plant	Disconnect and terminate services		@	\$3,193.32	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost IC Comment: covered in Pit Top Infrastructure
	Demolish and remove small buildings / tanks		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and tanks.
	Remove contaminated material from areas for disposal (ie. chemical spillage in / around storage sheds).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC Comment - Assume 0.2m depth of material
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program IC Comment: covered in Pit Top Infrastructure
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the sewerage / water treatment plant. IC Comment: covered in Pit Top Infrastructure
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser IC Comment: covered in Pit Top Infrastructure
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Hardstand / Laydown Areas (across the entire site)	Remove contaminated material from areas for disposal (ie. chemical/hydrocarbon spillage in the hard stand area).	4.4	m <sup>3</sup>	\$2.55	\$11.24	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC Comment: assuming depth of 0.2m
	Deep rip hard stand / laydown areas	0.0022	Ha	\$638.66	\$1.41	This item includes ripping hard stand and lay down areas to enhance the rehabilitation program.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the hard stands and lay down areas IC Comment: covered in Pit Top Infrastructure
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser IC Comment: covered in Pit Top Infrastructure
<b>Precinct Security Deposit</b>					<b>\$12.65</b>	
Underground Infrastructure	Seal Portal / Decline Entry		@	\$28,101.24	\$0.00	This includes sealing the portal to make safe and ensure access can not be obtained. The number of portals for the whole mine is to be included
	Seal & rehabilitate of ventilation fans.		@	\$31,933.23	\$0.00	This includes sealing & rehabilitation of the ventilation fans to make safe. The number of ventilation fans for the whole mine is to be included. IC Comment: To be included in Vent Shaft 1 and Vent Shaft 2&3
	Shaft filling		m <sup>3</sup>	\$24.35	\$0.00	This includes filling of shafts using onsite material.
	Shaft capping/sealing		@	\$12,176.79	\$0.00	Simple capping/sealing to DRE standards
	De-watering Bores		@	\$3,831.99	\$0.00	This includes sealing & rehabilitation of the dewatering bores to make safe. The total number of dewatering bores for the whole mine is to be included.
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Minor earthworks and maintenance of mine subsidence areas		Ha	\$1,277.33	\$0.00	This includes undertaking surface drainage works, etc as required to remediate areas affected by Mine subsidence (outside the jurisdiction of the mine subsidence board)
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Other	Other 1 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 2 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 3 <insert>				\$0.00	This item includes <to be added by the operator>
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>

**Total Security Deposit for the "Domain" \$2,550,452.86**

## Sub Domain 2: Tailings & Rejects Emplacements (1)

Complete a separate sheet for each tailings dam/impoundment on the site.

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

### Tailings Dam / Impoundment (Key Information):

Materials Stored (ie. coal fines, coarse or co-disposed)  
 Volume Stored (m3)  
 Maximum Embankment Height (m)  
 Maximum Embankment Length (m)  
 Year Dam / Emplacement Commissioned  
 Storage area (ha)  
 Catchment Area of Tailings Dam / Emplacement (ha)  
 Briefly describe embankment construction.  
 (earthen, clay / rejects core, etc)


Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Tailings Dams / Emplacements	Source, cart and spread suitable material to cap the tailings emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the tailings emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Reshape walls / buttress around the dam / emplacement - earthworks only		Ha	\$638.66	\$0.00	This includes the area that requires stabilisation and reshaping works around the walls of the emplacement (i.e. removal of rills and pipes that may present long term stability issues)
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 2 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 3 <insert>				\$0.00	This item includes <to be added by the operator>
	Precinct Security Deposit				\$0.00	
Coarse Rejects Emplacements	Source, cart and spread suitable material to cap the coarse rejects emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the coarse rejects emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 2 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 3 <insert>				\$0.00	This item includes <to be added by the operator>
	Precinct Security Deposit				\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 3: Overburden & Waste Dumps

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Successful Rehabilitation	Maintenance of Established Revegetated Area		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Maintenance of Shaped Topsoiled and Seeded		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Shaped Overburden Dumps	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Unshaped Overburden Dumps (minor reshaping required)	Minor pushing, final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Unshaped Overburden Dumps (major earthworks required)	Major bulk pushing to achieve grades nominated in the MOP (i.e. < 18")		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 2 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 3 <insert>				\$0.00	This item includes <to be added by the operator>
	Precinct Security Deposit				\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 4: Surface Disturbance

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Initial Boxcuts & Other Voids	Drill & Blast Highwall		m <sup>3</sup>	\$0.89	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment <b>UNIT RATE: drill &amp; blast + dozer push</b>
	Major bulk pushing of the high wall are to achieve grades nominated in the MOP (i.e < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program <b>UNIT RATE: dozer push rate</b>
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil (at 20cm)		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Security Fence around steep section highwall		m	\$63.87	\$0.00	This item includes the erection of a 2m security fence (linear metre) around the void and other dangerous areas.
	High wall treatment - (trench + safety berm)		m	\$73.45	\$0.00	This item includes the construction of a safety berm and fill (linear metre) around the highwall to stop all vehicles, etc. accidentally driving over haul road (engineered control).
		<b>Precinct Security Deposit</b>			<b>\$0.00</b>	
Disturbance ahead of Mining + water management structures	Areas cleared on the surface - re-establish vegetation commensurate with surrounding vegetation		Ha	\$2,682.39	\$0.00	This includes the direct application of seed to restore the vegetation that was disturbed as part of clearing operations ahead of the mine.
	Areas topsoil stripped on the surface - source cart and respread topsoil		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Reshape, deep rip, ameliorate and seed highwall / internal access roads and tracks		Ha	\$6,386.65	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	Reshape, deep rip, ameliorate and seed exploration lines / areas		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
		<b>Precinct Security Deposit</b>			<b>\$0.00</b>	
Dams & Water Holding Structures	Clean water dams to be retained after mine closure -make safe and minor earthworks.		@	\$2,554.66	\$0.00	This item includes making the dam spillway, and walls stable and ensuring the integrity of the dam wall, etc.
	Dirty Water Dams (Drain and remove sediments to make dam clean water)	2921	m <sup>3</sup>	\$4.09	\$11,939.45	This item includes draining the dam and removing 500mm of potentially contaminated (saline) sediments to be buried in the pit. <b>UNIT RATE:</b> must consider the distance from the dam to the disposal area. <i>(IC comment: Assume total dam surface area of 5842m<sup>2</sup>)</i>
		<b>Precinct Security Deposit</b>			<b>\$11,939.45</b>	
River & Creek Diversions	Creek diversion - Channel maintenance through spoil / backfill (20% of estimated diversion construction costs due to unknown landform stability)		m	\$383.20	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through unconsolidated overburden). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Channel maintenance insitu (10% of estimated construction cost for diversion)		m	\$191.60	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through natural ground). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Vegetation maintenance		m <sup>2</sup>	\$0.38	\$0.00	This item includes the ongoing maintenance of vegetation within the diversion channel & batters.
		<b>Precinct Security Deposit</b>			<b>\$0.00</b>	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
		<b>Precinct Security Deposit</b>			<b>\$0.00</b>	
<b>Total Security Deposit for the "Domain"</b>					<b>\$11,939.45</b>	

## Sub Domain 5: Other

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Other (eg. site contamination, closure plan preparation, etc)	The restoration and care and maintenance of items that have historical significance and are to be retained after the cessation of mining		@	\$25,546.58	\$0.00	This item includes ensuring that sufficient resources are made available to restore items of heritage significance and also provide money to enable the ongoing care and maintenance of the structure (if not the responsibility of any another stakeholder i.e. council, historical society)
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Construction / Deconstruction of Bridges and crossings		@	\$0.00	\$0.00	Value to be provided by company
	Construction of Fencing - general		@	\$63.87	\$0.00	Includes general fencing around site or site works
	Other 5 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 6 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 7 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 8 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 9 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 10 <insert>				\$0.00	This item includes <<to be added by the operator>>
			<b>Precinct Security Deposit</b>			<b>\$0.00</b>
<b>Total Security Deposit for the "Domain"</b>					<b>\$0.00</b>	

**Domain 2: Kemira Valley East TOTAL** **\$2,562,392.32**



**Domain 3: Vent Shaft 1**

**Sub Domain 1: Infrastructure Areas**

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Pit Top Infrastructure	Disconnect and terminate services	1	@	\$31,933.23	\$31,933.23	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Disconnect and terminate powerlines		km	\$14,050.62	\$0.00	This item includes the cost to terminate and remove powerlines, and is based on the average cost to construct.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the CHPP area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the CHPP area.
	Demolish and remove Misc Plant	624	m <sup>2</sup>	\$204.37	\$127,528.55	Enter the total surface area of the CHPP. If the CHPP is multi-story the entry should be the sum of the surface area for all floors.
	Demolish and remove conveyors & gantries (includes overlaid conveyors)		m	\$70.25	\$0.00	Enter the sum of the total length of conveyor and gantries. This includes conveyor to rail load out areas of conveyor from hoppers feeding back to the CHPP.
	Remove Concrete pads and Footings	2395	m <sup>2</sup>	\$12.77	\$30,592.03	Enter the total area the CHPP, workshops and buildings.
	Deconstruct Large Tanks (e.g. Thickener)		@	\$191,599.38	\$0.00	Enter the number of tanks to be removed from the site.
	Deconstruct Small Tanks (e.g. Thickener)		@	\$60,883.94	\$0.00	Enter the number of tanks to be removed from the site.
	Remove carbonaceous material (spillage or otherwise) from footprint of the CHPP, ROM & Product stockpiles, conveyors and workshops		m <sup>3</sup>	\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	0.2395	Ha	\$638.66	\$152.96	This item includes the areas requiring minor reshaping, rock raking and deep ripping to enhance revegetation program. This would include the entire CHPP area.
	Source, cart and spread topsoil.	718.5	m <sup>3</sup>	\$1.53	\$1,101.31	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the CHPP area. IC Comment - Assume 0.3m depth of topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	0.2395	Ha	\$4,726.12	\$1,131.91	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.
<b>Precinct Security Deposit</b>					<b>\$192,439.99</b>	
Rail Line and Loop	Remove Rail Loop and spur		m	\$7.66	\$0.00	This item includes the pulling up and removal from site of railway line and sleepers. Calculated as a linear metre.
	Reshape rail spur and load out area		Ha	\$6,386.65	\$0.00	This item includes the areas requiring reshaping once the rail line, sleepers and ballast has been removed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Main Workshop Area	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the workshop area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the area. Include all remote or field based workshop areas.
	Remove Concrete pads, Footings and bitumen (car park) for dumping in a void on the site		m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar). It would also include vehicle washdown pads, bulk fuel bunding area and refuelling areas (i.e. all concrete areas in the workshop precinct).
	Remove contaminated material from workshop and hardstand areas for disposal in the decline void AND/OR	0	m <sup>3</sup>	\$2.55	\$0.00	i) Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Reshaping, capping, sealing of material presenting environmental difficulties (AMD, Hydrocarbon material, etc)		Ha	\$57,479.81	\$0.00	Enter the total area of material requiring capping or sealing. Where assessments have already been made and the presence/absence of contaminated material is known (and quantified) an alternative rate can be used. If this work has not been undertaken a rate A default rate per UGT1 is to be utilised.
	Removal of UG tank (including pipes, bunds, etc) (include all facilities on site)		@	\$95,799.69	\$0.00	
	On site remediation of contaminated soil (<1000m <sup>3</sup> )		m <sup>3</sup>	\$63.87	\$0.00	Where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C.37.
	On site remediation of contaminated soil (1000-10,000m <sup>3</sup> )		m <sup>3</sup>	\$51.09	\$0.00	Where an assessment of the volume of contaminated material has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used.
	On site remediation of contaminated soil (>10,000m <sup>3</sup> )		m <sup>3</sup>	\$38.32	\$0.00	Where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C.37.
Final trim, rock rake & deep rip	0	Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.	
Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the workshop area. IC comment 17/09/14 - Assume 0.3m depth topsoil	
Spoil amelioration and supply and spread seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.	
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Admin Buildings	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the admin area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the admin area.
	Remove Concrete pads, Footings and bitumen (car park)	0	m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar).
	Final trim, rock rake & deep rip	0	Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.
	Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the admin area.
	Spoil amelioration and supply and spread pasture seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	Enter the total area of the admin, etc footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding. UNIT RATE: Depends the required rehabilitation commitment (ie. Trees will be more expensive than grass).
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Access Roads & Haul Roads	Remove carbonaceous material from roadways (coal / rejects spillage)	3184	m <sup>3</sup>	\$3.32	\$10,574.24	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Reshape deep rip and ameliorate sealed / unsealed roads	0.3184	Ha	\$6,386.65	\$2,033.51	IC comment 17/09/2014 - Assume 0.2m depth of material. Enter the total area of the road footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding. UNIT RATE: Depends the required rehabilitation commitment (ie. Trees will be more expensive than grass).
	Source, cart and spread topsoil.	955.2	m <sup>3</sup>	\$1.53	\$1,464.13	IC Comment - Assume depth of 0.3m. This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the access roads & haul roads. IC comment - Assume 0.3m topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	0.3184	Ha	\$4,726.12	\$1,504.80	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.
<b>Precinct Security Deposit</b>					<b>\$15,576.67</b>	
Sewerage / Water Treatment Plant	Disconnect and terminate services		@	\$3,193.32	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost. Included under Pit Top Infrastructure
	Demolish and remove small buildings / tanks		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and tanks.
	Remove contaminated material from areas for disposal (ie. chemical spillage in / around storage sheds).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the sewerage / water treatment plant.
Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.	
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Hardstand / Laydown Areas (across the entire site)	Remove contaminated material from areas for disposal (ie. chemical/hydrocarbon spillage in the hard stand area).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Deep rip hard stand / laydown areas		Ha	\$638.66	\$0.00	This item includes ripping hard stand and lay down areas to enhance the rehabilitation program.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the hard stands and lay down areas.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Underground Infrastructure	Seal Portal / Decline Entry	1	@	\$28,101.24	\$28,101.24	This includes sealing the portal to make safe and ensure access can not be obtained. The number of portals for the whole mine is to be included.
	Seal & rehabilitate of ventilation fans.	1	@	\$31,933.23	\$31,933.23	This includes sealing & rehabilitation of the ventilation fans to make safe. The number of ventilation fans for the whole mine is to be included.
	Shaft filling	3000	m <sup>3</sup>	\$24.35	\$73,060.73	This includes filling of shafts using onsite material. IC comment - Assumed shaft diameter of 6m and 500m depth of fill
	Shaft capping/sealing		@	\$12,176.79	\$0.00	Simple capping/sealing to DRE standards
	De-watering Bores		@	\$3,831.99	\$0.00	This includes sealing & rehabilitation of the dewatering bores to make safe. The total number of dewatering bores for the whole mine is to be included.
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site.
	Minor earthworks and maintenance of mine subsidence areas		Ha	\$1,277.33	\$0.00	This includes undertaking surface drainage works, etc as required to remediate areas affected by Mine subsidence (outside the jurisdiction of the mine subsidence board).
<b>Precinct Security Deposit</b>					<b>\$133,095.20</b>	
Other	Other 1 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 2 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 3 <insert>				\$0.00	This item includes <to be added by the operator>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	

**Total Security Deposit for the "Domain" \$341,111.86**



## Sub Domain 4: Surface Disturbance

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Initial Boxcuts & Other Voids	Drill & Blast Highwall		m <sup>3</sup>	\$0.89	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment UNIT RATE: drill & blast + dozer push
	Major bulk pushing of the high wall are to achieve grades nominated in the MOP (Le < 18")		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program UNIT RATE: dozer push rate
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil (at 20cm)		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Spoil ameliorate and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Security Fence around steep section highwall		m	\$63.87	\$0.00	This item includes the erection of a 2m security fence (lineal metre) around the void and other dangerous areas.
	High wall treatment - (trench + safety berm)		m	\$73.45	\$0.00	This item includes the construction of a safety berm and fill (lineal metre) around the highwall to stop all vehicles, etc accidentally driving over haul road (engineered control).
	Precinct Security Deposit				\$0.00	
Disturbance ahead of Mining + water management structures	Areas cleared on the surface - re-establish vegetation commensurate with surrounding vegetation		Ha	\$2,682.39	\$0.00	This includes the direct application of seed to restore the vegetation that was disturbed as part of clearing operations ahead of the mine.
	Areas topsoil stripped on the surface - source cart and respread topsoil	0	m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas.
	Reshape, deep rip, ameliorate and seed highwall / internal access roads and tracks		Ha	\$6,386.65	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	Reshape, deep rip, ameliorate and seed exploration lines / areas		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	Precinct Security Deposit				\$0.00	
Dams & Water Holding Structures	Clean water dams to be retained after mine closure -make safe and minor earthworks.		@	\$2,554.66	\$0.00	This item includes making the dam spillway, and walls stable and ensuring the integrity of the dam wall, etc.
	Dirty Water Dams (Drain and remove sediments to make dam clean water)		m <sup>3</sup>	\$4.09	\$0.00	This item includes draining the dam and removing 500mm of potentially contaminated (saline) sediments to be buried in the pit. UNIT RATE: must consider the distance from the dam to the disposal area.
	Precinct Security Deposit				\$0.00	
River & Creek Diversions	Creek diversion - Channel maintenance through spoil / backfill (20% of estimated diversion construction costs due to unknown landform stability)		m	\$383.20	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through unconsolidated overburden). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Channel maintenance insitu (10% of estimated construction cost for diversion)		m	\$191.60	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through natural ground). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Vegetation maintenance		m <sup>2</sup>	\$0.38	\$0.00	This item includes the ongoing maintenance of vegetation within the diversion channel & batters.
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 2 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 3 <insert>				\$0.00	This item includes <to be added by the operator>
	Precinct Security Deposit				\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 5: Other

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Other (eg. site contamination, closure plan preparation, etc)	The restoration and care and maintenance of items that have historical significance and are to be retained after the cessation of mining		@	\$25,546.58	\$0.00	This item includes ensuring that sufficient resources are made available to restore items of heritage significance and also provide money to enable the ongoing care and maintenance of the structure (if not the responsibility of any other stakeholder i.e. council, historical society)
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Construction / Deconstruction of Bridges and crossings		@	\$0.00	\$0.00	Value to be provided by company
	Construction of Fencing - general		@	\$63.87	\$0.00	Includes general fencing around site or site works
	Other 5 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 6 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 7 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 8 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 9 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 10 <insert>				\$0.00	This item includes <to be added by the operator>
		Precinct Security Deposit				\$0.00

Total Security Deposit for the "Domain" **\$0.00**

Domain 3: Vent Shaft 1 TOTAL **\$341,111.86**



**Domain 4: O'Briens Drift**

**Sub Domain 1: Infrastructure Areas**

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes
Pit Top Infrastructure	Disconnect and terminate services	1	@	\$31,933.23	\$31,933.23	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Disconnect and terminate powerlines		km	\$14,050.62	\$0.00	This item includes the cost to terminate and remove powerlines, and is based on the average cost to construct.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the CHPP area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the CHPP area.
	Demolish and remove Misc Plant	2468	m <sup>2</sup>	\$204.37	\$504,391.75	Enter the total surface area of the CHPP. If the CHPP is multi-story the entry should be the sum of the surface area for all floors.
	Demolish and remove conveyors & gantries (includes overland conveyors)		m	\$70.25	\$0.00	Enter the sum of the total length of conveyor and gantries. This includes conveyor to rail load out areas of conveyor from hoppers feeding back to the CHPP.
	Remove Concrete pads and Footings	2468	m <sup>2</sup>	\$12.77	\$31,524.48	Enter the total area the CHPP, workshops and buildings.
	Deconstruct Large Tanks (e.g. Thickener)		@	\$191,599.38	\$0.00	Enter the number of tanks to be removed from the site.
	Deconstruct Small Tanks (e.g. Thickener)		@	\$60,883.94	\$0.00	Enter the number of tanks to be removed from the site.
	Remove carbonaceous material (spillage or otherwise) from footprint of the CHPP, ROM & Product stockpiles, conveyors and workshops		m <sup>3</sup>	\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	0.2	Ha	\$638.66	\$157.62	This item includes the areas requiring minor reshaping, rock raking and deep ripping to enhance revegetation program. This would include the entire CHPP area.
	Source, cart and spread topsoil.	740.4	m <sup>3</sup>	\$1.53	\$1,134.88	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the CHPP area. IC comment 17/09/14 - Assume 0.3m depth Topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	0.2	Ha	\$4,726.12	\$1,166.41	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit			\$570,308.38	
Rail Line and Loop	Remove Rail Loop and spur		m	\$7.66	\$0.00	This item includes the pulling up and removal from site of railway line and sleepers. Calculated as a linear metre
	Reshape rail spur and load out area		Ha	\$6,386.65	\$0.00	This item includes the areas requiring reshaping once the rail line, sleepers and ballast has been removed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit			\$0.00	
Main Workshop Area	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the workshop area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the area. Include all remote or field based workshop areas.
	Remove Concrete pads, Footings and bitumen (car park) for dumping in a void on the site	0	m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar). It would also include vehicle washdown pads, bulk fuel bunding area and refuelling areas (i.e. all concrete areas in the workshop precinct)
	Remove contaminated material from workshop and hardstand areas for disposal in the decline void AND/OR	0	m <sup>3</sup>	\$2.55	\$0.00	i) Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC comment 17/09/14 - Assume 0.2m depth of material
	Reshaping, capping, sealing of material presenting environmental difficulties (AMD, Hydrocarbon material, etc)		Ha	\$57,479.81	\$0.00	Enter the total area of material requiring capping or sealing. Where assessments have already been made and the presence/absence of contaminated material is known (and quantified) an alternative rate can be used. If this work has not been undertaken, a default rate per UGT is to be utilised.
	Removal of UG tank (including pipes, bunds, etc) (include all facilities on site)		@	\$95,799.69	\$0.00	A default rate per UGT is to be utilised.
	On site remediation of contaminated soil (<1000m <sup>3</sup> )		m <sup>3</sup>	\$63.87	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C:37.
	On site remediation of contaminated soil (1000-10,000m <sup>3</sup> )		m <sup>3</sup>	\$51.09	\$0.00	where an assessment of the volume of contaminated material has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used.
	On site remediation of contaminated soil (>10,000m <sup>3</sup> )		m <sup>3</sup>	\$38.32	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C:37
	Final trim, rock rake & deep rip	0	Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the workshop area.	
Spoil amelioration and supply and spread seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser	
		Precinct Security Deposit			\$0.00	
Admin Buildings	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the admin area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the admin area.
	Remove Concrete pads, Footings and bitumen (car park)	0	m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar)
	Final trim, rock rake & deep rip	0	Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the admin area. IC comment 17/09/14 - Assume 0.3m depth topsoil
	Spoil amelioration and supply and spread pasture seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit			\$0.00	
Access Roads & Haul Roads	Remove carbonaceous material from roadways (coal / rejects spillage)	3035	m <sup>3</sup>	\$3.32	\$10,079.40	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Reshape deep rip and ameliorate sealed / unsealed roads	0.3035	Ha	\$6,386.65	\$1,938.35	Enter the total area of the road footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding. UNIT RATE: Depends the required rehabilitation commitment (ie. Trees will be more expensive than grass).
	Source, cart and spread topsoil.	910.5	m <sup>3</sup>	\$1.53	\$1,395.61	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the access roads & haul roads. IC comment 17/09/14 - Assume 0.3m depth topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	0.3035	Ha	\$4,726.12	\$1,434.38	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit			\$14,847.74	
Sewerage / Water Treatment Plant	Disconnect and terminate services		@	\$3,193.32	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Demolish and remove small buildings / tanks		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and tanks.
	Remove contaminated material from areas for disposal (ie. chemical spillage in / around storage sheds).	0	m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	0	Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the sewerage / water treatment plant.
Spoil amelioration and supply and spread seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser	
		Precinct Security Deposit			\$0.00	
Hardstand /Laydown Areas (across the entire site)	Remove contaminated material from areas for disposal (ie. chemical/hydrocarbon spillage in the hard stand area).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Deep rip hard stand / laydown areas		Ha	\$638.66	\$0.00	This item includes ripping hard stand and lay down areas to enhance the rehabilitation program.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the hard stands and lay down areas
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit			\$0.00	
Underground Infrastructure	Seal Portal / Decline Entry		@	\$28,101.24	\$0.00	This includes sealing the portal to make safe and ensure access can not be obtained. The number of portals for the whole mine is to be included
	Seal & rehabilitate of ventilation fans.		@	\$31,933.23	\$0.00	This includes sealing & rehabilitation of the ventilation fans to make safe. The number of ventilation fans for the whole mine is to be included.
	Shaft filling		m <sup>3</sup>	\$24.35	\$0.00	This includes filling of shafts using onsite material.
	Shaft capping/sealing		@	\$12,176.79	\$0.00	Simple capping/sealing to DRE standards
	De-watering Bores		@	\$3,831.99	\$0.00	This includes sealing & rehabilitation of the dewatering bores to make safe. The total number of dewatering bores for the whole mine is to be included.
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
Minor earthworks and maintenance of mine subsidence areas		Ha	\$1,277.33	\$0.00	This includes undertaking surface drainage works, etc as required to remediate areas affected by Mine subsidence (outside the jurisdiction of the mine subsidence board)	
		Precinct Security Deposit			\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
		Precinct Security Deposit			\$0.00	

**Total Security Deposit for the "Domain" \$585,156.12**

## Sub Domain 2: Tailings & Rejects Emplacements (1)

Complete a separate sheet for each tailings dam/impoundment on the site.

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Tailings Dam / Impoundment (Key Information):

Materials Stored (ie. coal fines, coarse or co-disposed)  
 Volume Stored (m3)  
 Maximum Embankment Height (m)  
 Maximum Embankment Length (m)  
 Year Dam / Emplacement Commissioned  
 Storage area (ha)  
 Catchment Area of Tailings Dam / Emplacement (ha)  
 Briefly describe embankment construction.  
 (earthen, clay /rejects core, etc)


Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Tailings Dams / Emplacements	Source, cart and spread suitable material to cap the tailings emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the tailings emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Reshape walls / buttress around the dam / emplacement - earthworks only		Ha	\$6,386.65	\$0.00	This includes the area that requires stabilisation and reshaping works around the walls of the emplacement (i.e. removal of rills and pipes that may present long term stability issues)
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 2 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 3 <insert>				\$0.00	This item includes <to be added by the operator>
	Precinct Security Deposit				\$0.00	
Coarse Rejects Emplacements	Source, cart and spread suitable material to cap the coarse rejects emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the coarse rejects emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
		Precinct Security Deposit				\$0.00
Other	Other 1 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 2 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 3 <insert>				\$0.00	This item includes <to be added by the operator>
	Precinct Security Deposit				\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 3: Overburden & Waste Dumps

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Successful Rehabilitation	Maintenance of Established Revegetated Area		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Maintenance of Shaped Topsoiled and Seeded		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Shaped Overburden Dumps	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Unshaped Overburden Dumps (minor reshaping required)	Minor pushing, final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Unshaped Overburden Dumps (major earthworks required)	Major bulk pushing to achieve grades nominated in the MOP (i.e. < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 2 <insert>				\$0.00	This item includes <to be added by the operator>
	Other 3 <insert>				\$0.00	This item includes <to be added by the operator>
	Precinct Security Deposit				\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 4: Surface Disturbance

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Initial Boxcuts & Other Voids	Drill & Blast Highwall		m <sup>3</sup>	\$0.89	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment UNIT RATE: drill & blast + dozer push
	Major bulk pushing of the high wall are to achieve grades nominated in the MOP (i.e < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program UNIT RATE: dozer push rate
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil (at 20cm)		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Security Fence around steep section highwall		m	\$63.87	\$0.00	This item includes the erection of a 2m security fence (lineal metre) around the void and other dangerous areas.
	High wall treatment - (trench + safety berm)		m	\$73.45	\$0.00	This item includes the construction of a safety berm and rill (lineal metre) around the highwall to stop all vehicles, etc accidentally driving over haul road (engineered control).
		Precinct Security Deposit			\$0.00	
Disturbance ahead of Mining + water management structures	Areas cleared on the surface - re-establish vegetation commensurate with surrounding vegetation		Ha	\$2,682.39	\$0.00	This includes the direct application of seed to restore the vegetation that was disturbed as part of clearing operations ahead of the mine.
	Areas topsoil stripped on the surface - source cart and respread topsoil		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas.
	Reshape, deep rip, ameliorate and seed highwall / internal access roads and tracks		Ha	\$6,386.65	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	Reshape, deep rip, ameliorate and seed exploration lines / areas		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
		Precinct Security Deposit			\$0.00	
Dams & Water Holding Structures	Clean water dams to be retained after mine closure - make safe and minor earthworks.		@	\$2,554.66	\$0.00	This item includes making the dam spillway, and walls stable and ensuring the integrity of the dam wall, etc.
	Dirty Water Dams (Drain and remove sediments to make dam clean water)		m <sup>3</sup>	\$4.09	\$0.00	This item includes draining the dam and removing 500mm of potentially contaminated (saline) sediments to be buried in the pit. UNIT RATE: must consider the distance from the dam to the disposal area.
		Precinct Security Deposit			\$0.00	
River & Creek Diversions	Creek diversion - Channel maintenance through spoil / backfill (20% of estimated diversion construction costs due to unknown landform stability)		m	\$383.20	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through unconsolidated overburden). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Channel maintenance instu (10% of estimated construction cost for diversion)		m	\$191.60	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through natural ground). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Vegetation maintenance		m <sup>2</sup>	\$0.38	\$0.00	This item includes the ongoing maintenance of vegetation within the diversion channel & batters.
		Precinct Security Deposit			\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
		Precinct Security Deposit			\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 5: Other

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Other (eg. site contamination, closure plan preparation, etc)	The restoration and care and maintenance of items that have historical significance and are to be retained after the cessation of mining		@	\$25,546.58	\$0.00	This item includes ensuring that sufficient resources are made available to restore items of heritage significance and also provide money to enable the ongoing care and maintenance of the structure (if not the responsibility of any another stakeholder i.e. council, historical society)
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Construction / Deconstruction of Bridges and crossings		@	\$0.00	\$0.00	Value to be provided by company
	Construction of Fencing - general		@	\$63.87	\$0.00	Includes general fencing around site or site works
	Other 5 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 6 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 7 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 8 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 9 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 10 <insert>				\$0.00	This item includes <<to be added by the operator>>
			Precinct Security Deposit			\$0.00

Total Security Deposit for the "Domain" **\$0.00**

Domain 3: O'Briens Drift TOTAL **\$585,156.12**

**Domain 5: Cordeaux Pit Top**

**Sub Domain 1: Infrastructure Areas**

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
<b>Pit Top Infrastructure</b>	Disconnect and terminate services	1	@	\$31,933.23	\$31,933.23	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Disconnect and terminate powerlines		km	\$14,050.62	\$0.00	This item includes the cost to terminate and remove powerlines, and is based on the average cost to construct.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the CHPP area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the CHPP area.
	Demolish and remove Misc Plant	2884	m <sup>2</sup>	\$204.37	\$589,410.78	Enter the total surface area of the CHPP. If the CHPP is multi-story the entry should be the sum of the surface area for all floors.
	Demolish and remove conveyors & gantries (includes overland conveyors)		m	\$70.25	\$0.00	Enter the sum of the total length of conveyor and gantries. This includes conveyor to rail load out areas of conveyor from hoppers feeding back to the CHPP.
	Remove Concrete pads and Footings	119649	m <sup>2</sup>	\$12.77	\$1,528,311.61	Enter the total area of the pit top, workshops and buildings.
	Deconstruct Large Tanks (e.g. Thickener)		@	\$191,599.38	\$0.00	Enter the number of tanks to be removed from the site.
	Deconstruct Small Tanks (e.g. Thickener)	2	@	\$60,883.94	\$121,767.88	Enter the number of tanks to be removed from the site.
	Remove carbonaceous material (spillage or otherwise) from footprint of the CHPP, ROM & Product stockpiles, conveyors and workshops		m <sup>3</sup>	\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	11,9649	Ha	\$638.66	\$7,641.56	This item includes the area requiring minor reshaping, rock raking and deep ripping to enhance revegetation program. This would include the entire CHPP area.
	Source, cart and spread topsoil.	35,895	m <sup>3</sup>	\$1.53	\$55,019.22	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the CHPP area.
Spoil amelioration and supply and spread seed and fertiliser.	11,9649	Ha	\$4,726.12	\$56,547.53	IC Comment - Assume 0.2m depth topsoil. This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.	
<b>Precinct Security Deposit</b>					<b>\$2,390,631.81</b>	
<b>Rail Line and Loop</b>	Remove Rail Loop and spur		m	\$7.66	\$0.00	This item includes the pulling up and removal from site of railway line and sleepers. Calculated as a linear metre.
	Reshape rail spur and load out area		Ha	\$6,386.65	\$0.00	This item includes the area requiring reshaping once the rail line, sleepers and ballast has been removed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.
Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.	
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
<b>Main Workshop Area</b>	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost. IC Comment - Covered above under Pit Top Infrastructure
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the workshop area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings	1516	m <sup>2</sup>	\$204.37	\$309,828.97	Enter the total area of workshop facilities in the area. Include all remote or field based workshop areas.
	Remove Concrete pads, Footings and bitumen (car park) for dumping in a void on the site	5805	m <sup>2</sup>	\$12.77	\$74,148.96	Enter the total area of the workshops and buildings. Include the area of any bitumen car parks (or similar). It would also include vehicle washdown pads, bulk fuel bunding area and refuelling areas (i.e. all concrete areas in the workshop precinct).
	Remove contaminated material from workshop and handstand areas for disposal in the decline void AND/OR	1959.8	m <sup>3</sup>	\$2.55	\$5,006.62	IC Comment - Covered above under Pit Top Infrastructure. Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Reshaping, capping, sealing of material presenting environmental difficulties (AMD, Hydrocarbon material, etc)		Ha	\$57,479.81	\$0.00	IC Comment - Assume 0.2m depth of material. Enter the total area of material requiring capping or sealing. Where assessments have already been made and the presence/absence of contaminated material is known (and quantified) an alternative rate can be used. If this work has not been undertaken, a default rate per UGT is to be utilised.
	Removal of UG tank (including pipes, bunds, etc) (include all facilities on site)		@	\$95,799.69	\$0.00	A default rate per UGT is to be utilised.
	On site remediation of contaminated soil (<1000m <sup>3</sup> )		m <sup>3</sup>	\$63.87	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C-37.
	On site remediation of contaminated soil (1000-10,000m <sup>3</sup> )		m <sup>3</sup>	\$51.09	\$0.00	where an assessment of the volume of contaminated material has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used.
	On site remediation of contaminated soil (>10,000m <sup>3</sup> )		m <sup>3</sup>	\$38.32	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C-37.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program. IC Comment - Covered above under Pit Top Infrastructure
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the workshop area. IC Comment - Covered above under Pit Top Infrastructure
Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser. IC Comment - Covered above under Pit Top Infrastructure	
<b>Precinct Security Deposit</b>					<b>\$388,984.55</b>	
<b>Admin Buildings</b>	Disconnect and terminate services	1	@	\$6,386.65	\$6,386.65	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Demolish and remove small buildings	2820	m <sup>2</sup>	\$89.41	\$252,144.78	Enter the total area of small buildings and offices in the admin area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the admin area.
	Remove Concrete pads, Footings and bitumen (car park)		m <sup>2</sup>	\$12.77	\$0.00	Enter the total area of the workshops and buildings. Include the area of any bitumen car parks (or similar). IC Comment - Covered above under Pit Top Infrastructure
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program. IC Comment - Covered above under Pit Top Infrastructure
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the admin area. IC Comment - Covered above under Pit Top Infrastructure
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	Enter the total area of the admin, etc footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding. UNIT RATE: Depends the required rehabilitation commitment (ie. Trees will be more expensive than grass). IC Comment - Covered above under Pit Top Infrastructure
<b>Precinct Security Deposit</b>					<b>\$258,531.43</b>	
<b>Access Roads &amp; Haul Roads</b>	Remove carbonaceous material from roadways (coal / rejects spillage)	40352	m <sup>3</sup>	\$3.32	\$134,011.25	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Reshape deep rip and ameliorate sealed / unsealed roads		Ha	\$6,386.65	\$0.00	Enter the total area of the road footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding. UNIT RATE: Depends the required rehabilitation commitment (ie. Trees will be more expensive than grass). IC Comment - Covered above under Pit Top Infrastructure
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the access roads & haul roads. IC Comment - Covered above under Pit Top Infrastructure
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser. IC Comment - Covered above under Pit Top Infrastructure
<b>Precinct Security Deposit</b>					<b>\$134,011.25</b>	
<b>Sewerage / Water Treatment Plant</b>	Disconnect and terminate services		@	\$3,193.32	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Demolish and remove small buildings / tanks	84	m <sup>2</sup>	\$89.41	\$7,510.70	Enter the total area of small buildings and tanks.
	Remove contaminated material from areas for disposal (ie. chemical spillage in / around storage sheds).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program. IC Comment - Covered above under Pit Top Infrastructure
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the sewerage / water treatment plant. IC Comment - Covered above under Pit Top Infrastructure
Spoil amelioration and supply and spread seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser. IC Comment - Covered above under Pit Top Infrastructure	
<b>Precinct Security Deposit</b>					<b>\$7,510.70</b>	
<b>Hardstand / Laydown Areas (across the entire site)</b>	Remove contaminated material from areas for disposal (ie. chemical/hydrocarbon spillage in the hard stand area).	2537	m <sup>3</sup>	\$2.55	\$6,481.17	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Deep rip hard stand / laydown areas	0.2537	Ha	\$638.66	\$162.03	This item includes ripping hard stand and lay down areas to enhance the rehabilitation program.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the hard stands and lay down areas. IC Comment - Covered above under Pit Top Infrastructure
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser. IC Comment - Covered above under Pit Top Infrastructure
<b>Precinct Security Deposit</b>					<b>\$6,643.20</b>	
<b>Underground Infrastructure</b>	Seal Portal / Decline Entry	2	@	\$28,101.24	\$56,202.48	This includes sealing the portal to make safe and ensure access can not be obtained. The number of portals for the whole mine is to be included.
	Seal & rehabilitate of ventilation fans.		@	\$31,933.23	\$0.00	This includes sealing & rehabilitation of the ventilation fans to make safe. The number of ventilation fans for the whole mine is to be included. IC Comment - See Central No 3 Shaft & Bins for details.
	Shaft filling		m <sup>3</sup>	\$24.35	\$0.00	This includes filling of shafts using onsite material.
	Shaft capping/sealing	2	@	\$12,176.79	\$24,353.58	Simple capping/sealing to DRE standards.
	De-watering Bores		@	\$3,831.99	\$0.00	This includes sealing & rehabilitation of the dewatering bores to make safe. The total number of dewatering bores for the whole mine is to be included. IC Comment - Covered under Dendrobium Mine
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site. IC Comment - Covered under Dendrobium Mine
Minor earthworks and maintenance of mine subsidence areas		Ha	\$1,277.33	\$0.00	This includes undertaking surface drainage works, etc as required to remediate areas affected by Mine subsidence (outside the jurisdiction of the mine subsidence board)	
<b>Precinct Security Deposit</b>					<b>\$80,556.06</b>	
<b>Other</b>	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>

**Total Security Deposit for the "Domain" \$3,266,868.99**



## Sub Domain 2: Tailings & Rejects Emplacements (1)

Complete a separate sheet for each tailings dam/impoundment on the site.

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

### Tailings Dam / Impoundment (Key Information):

Materials Stored (ie. coal fines, coarse or co-disposed)  
 Volume Stored (m<sup>3</sup>)  
 Maximum Embankment Height (m)  
 Maximum Embankment Length (m)  
 Year Dam / Emplacement Commissioned  
 Storage area (ha)  
 Catchment Area of Tailings Dam / Emplacement (ha)  
 Briefly describe embankment construction.  
 (earthen, clay / rejects core, etc)


Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Tailings Dams / Emplacements	Source, cart and spread suitable material to cap the tailings emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the tailings emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Reshape walls / buttress around the dam / emplacement - earthworks only		Ha	\$6,386.65	\$0.00	This includes the area that requires stabilisation and reshaping works around the walls of the emplacement (i.e. removal of rills and pipes that may present long term stability issues)
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Precinct Security Deposit				\$0.00	
Coarse Rejects Emplacements	Source, cart and spread suitable material to cap the coarse rejects emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the coarse rejects emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
		Precinct Security Deposit				\$0.00
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Precinct Security Deposit				\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 3: Overburden & Waste Dumps

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Successful Rehabilitation	Maintenance of Established Revegetated Area		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Maintenance of Shaped Topsoiled and Seeded		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Shaped Overburden Dumps	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Unshaped Overburden Dumps (minor reshaping required)	Minor pushing, final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Unshaped Overburden Dumps (major earthworks required)	Major bulk pushing to achieve grades nominated in the MOP (i.e. < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	Precinct Security Deposit				\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Precinct Security Deposit				\$0.00	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 4: Surface Disturbance

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Initial Boxcuts & Other Voids	Drill & Blast Highwall		m <sup>3</sup>	\$0.89	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment. UNIT RATE: drill & blast + dozer push
	Major bulk pushing of the high wall are to achieve grades nominated in the MOP (i.e < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program. UNIT RATE: dozer push rate
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil (at 20cm)		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Security Fence around steep section highwall		m	\$63.87	\$0.00	This item includes the erection of a 2m security fence (lineal metre) around the void and other dangerous areas.
	High wall treatment - (trench + safety berm)		m	\$73.45	\$0.00	This item includes the construction of a safety berm and fill (lineal metre) around the highwall to stop all vehicles, etc accidentally driving over haul road (engineered control).
		Precinct Security Deposit			\$0.00	
Disturbance ahead of Mining + water management structures	Areas cleared on the surface - re-establish vegetation commensurate with surrounding vegetation		Ha	\$2,682.39	\$0.00	This includes the direct application of seed to restore the vegetation that was disturbed as part of clearing operations ahead of the mine.
	Areas topsoil stripped on the surface - source cart and respread topsoil		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Reshape, deep rip, ameliorate and seed highwall / internal access roads and tracks		Ha	\$6,386.65	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	Reshape, deep rip, ameliorate and seed exploration lines / areas		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
		Precinct Security Deposit			\$0.00	
Dams & Water Holding Structures	Clean water dams to be retained after mine closure - make safe and minor earthworks.	4	@	\$2,554.66	\$10,218.63	This item includes making the dam spillway, and walls stable and ensuring the integrity of the dam wall, etc.
	Dirty Water Dams (Drain and remove sediments to make dam clean water)		m <sup>3</sup>	\$4.09	\$0.00	This item includes draining the dam and removing 500mm of potentially contaminated (saline) sediments to be buried in the pit. UNIT RATE: must consider the distance from the dam to the disposal area.
		Precinct Security Deposit			\$10,218.63	
River & Creek Diversions	Creek diversion - Channel maintenance through spoil / backfill (20% of estimated diversion construction costs due to unknown landform stability)		m	\$383.20	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through unconsolidated overburden). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Channel maintenance insitu (10% of estimated construction cost for diversion)		m	\$191.60	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through natural ground). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Vegetation maintenance		m <sup>2</sup>	\$0.38	\$0.00	This item includes the ongoing maintenance of vegetation within the diversion channel & batters.
		Precinct Security Deposit			\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
		Precinct Security Deposit			\$0.00	

Total Security Deposit for the "Domain" **\$10,218.63**

## Sub Domain 5: Other

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Other (eg. site contamination, closure plan preparation, etc)	The restoration and care and maintenance of items that have historical significance and are to be retained after the cessation of mining		@	\$25,546.58	\$0.00	This item includes ensuring that sufficient resources are made available to restore items of heritage significance and also provide money to enable the ongoing care and maintenance of the structure (if not the responsibility of any other stakeholder i.e. council, historical societies)
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Construction / Deconstruction of Bridges and crossings		@	\$0.00	\$0.00	Value to be provided by company
	Construction of Fencing - general		@	\$63.87	\$0.00	Includes general fencing around site or site works
	Other 5 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 6 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 7 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 8 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 9 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 10 <insert>				\$0.00	This item includes <<to be added by the operator>>
			Precinct Security Deposit			\$0.00

Total Security Deposit for the "Domain" **\$0.00**

Domain 5: Cordeaux Pit Top TOTAL **\$3,277,087.63**

**Domain 6: Corrimal No. 3 Shaft and Bins**

**Sub Domain 1: Infrastructure Areas**

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Pit Top Infrastructure	Disconnect and terminate services	1	@	\$31,933.23	\$31,933.23	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Disconnect and terminate powerlines		km	\$14,050.62	\$0.00	This item includes the cost to terminate and remove powerlines, and is based on the average cost to construct.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the CHPP area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the CHPP area.
	Demolish and remove Misc Plant	6272			\$0.00	Enter the total surface area of the CHPP. If the CHPP is multi-story the entry should be the sum of the surface area for all floors.
	Demolish and remove conveyors & gantries (includes overland conveyors)		m	\$70.25	\$0.00	Enter the sum of the total length of conveyor and gantries. This includes conveyor to rail load out areas of conveyor from hoppers feeding back to the CHPP.
	Remove Concrete pads and Footings	6272	m <sup>2</sup>	\$12.77	\$80,114.09	Enter the total area the CHPP, workshops and buildings.
	Deconstruct Large Tanks (e.g. Thickener)		@	\$191,599.38	\$0.00	Enter the number of tanks to be removed from the site.
	Deconstruct Small Tanks (e.g. Thickener)		@	\$60,883.94	\$0.00	Enter the number of tanks to be removed from the site.
	Remove carbonaceous material (spillage or otherwise) from footprint of the CHPP, ROM & Product stockpiles, conveyors and workshops		m <sup>3</sup>	\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	0.6272	Ha	\$638.66	\$400.57	This item includes the areas requiring minor reshaping, rock raking and deep ripping to enhance revegetation program. This would include the entire CHPP area.
	Source, cart and spread topsoil.	1882	m <sup>3</sup>	\$1.53	\$2,884.11	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the CHPP area IC comment - Assume 0.3m depth topsoil
Spoil amelioration and supply and spread seed and fertiliser.	0.6272	Ha	\$4,726.12	\$2,964.22	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser	
<b>Precinct Security Deposit</b>					<b>\$118,296.22</b>	
Rail Line and Loop	Remove Rail Loop and spur		m	\$7.66	\$0.00	This item includes the pulling up and removal from site of railway line and sleepers. Calculated as a linear metre
	Reshape rail spur and load out area		Ha	\$6,386.65	\$0.00	This item includes the areas requiring reshaping once the rail line, sleepers and ballast has been removed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Main Workshop Area	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the workshop area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the area. Include all remote or field based workshop areas.
	Remove Concrete pads, Footings and bitumen (car park) for dumping in a void on the site		m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar). It would also include vehicle washdown pads, bulk fuel bunding area and refuelling areas (ie. all concrete areas in the workshop precinct)
	Remove contaminated material from workshop and hardstand areas for disposal in the decline void AND/OR		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Reshaping, capping, sealing of material presenting environmental difficulties (AMD, Hydrocarbon material, etc)		Ha	\$57,479.81	\$0.00	Enter the total area of material requiring capping or sealing. Where assessments have already been made and the presence/absence of contaminated material is known (and quantified) an alternative rate can be used. If this work has not been undertaken, a default rate per UGT is to be utilised.
	Removal of UG tank (including pipes, bunds, etc) (include all facilities on site)		@	\$95,799.69	\$0.00	A default rate per UGT is to be utilised.
	On site remediation of contaminated soil (<1000m <sup>3</sup> )		m <sup>3</sup>	\$63.87	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C-37
	On site remediation of contaminated soil (1000-10,000m <sup>3</sup> )		m <sup>3</sup>	\$51.09	\$0.00	where an assessment of the volume of contaminated material has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C-37
	On site remediation of contaminated soil (>10,000m <sup>3</sup> )		m <sup>3</sup>	\$38.32	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in cell C-37
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the workshop area.
Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser	
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Admin Buildings	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the admin area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the admin area.
	Remove Concrete pads, Footings and bitumen (car park)		m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar)
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the admin area.
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	Enter the total area of the admin, etc footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding UNIT RATE: Depends the required rehabilitation commitment (ie. Trees will be more expensive than grass)
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Access Roads & Haul Roads	Remove carbonaceous material from roadways (coal / rejects spillage)			\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC comment 18/09/14 - Assume 0.2m depth of material
	Reshape deep rip and ameliorate sealed / unsealed roads				\$0.00	Enter the total area of the road footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding UNIT RATE: Depends the required rehabilitation commitment (ie. Trees will be more expensive than grass)
	Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the access roads & haul roads. IC comment 14/09/14 - Assume 0.3m depth topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Sewerage / Water Treatment Plant	Disconnect and terminate services		@	\$3,193.32	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Demolish and remove small buildings / tanks				\$0.00	Enter the total area of small buildings and tanks.
	Remove contaminated material from areas for disposal (ie. chemical spillage in / around storage sheds).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	0	Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program.
	Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the sewerage / water treatment plant. IC comment 18/09/14 - Assume 0.3m depth topsoil
Spoil amelioration and supply and spread seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser	
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Hardstand /Laydown Areas (across the entire site)	Remove contaminated material from areas for disposal (ie. chemical/hydrocarbon spillage in the hard stand area).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Deep rip hard stand / laydown areas		Ha	\$638.66	\$0.00	This item includes ripping hard stand and lay down areas to enhance the rehabilitation program.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the hard stands and lay down areas.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Underground Infrastructure	Seal Portal / Decline Entry	1	@	\$28,101.24	\$28,101.24	This includes sealing the portal to make safe and ensure access can not be obtained. The number of portals for the whole mine is to be included
	Seal & rehabilitate of ventilation fans.	1	@	\$31,933.23	\$31,933.23	This includes sealing & rehabilitation of the ventilation fans to make safe. The number of ventilation fans for the whole mine is to be included
	Shaft filling	3000	m <sup>3</sup>	\$24.35	\$73,060.73	This includes filling of shafts using onsite material. IC comment - Assumed shaft diameter of 6m and 500m depth of fill
	Shaft capping/sealing		@	\$12,176.79	\$0.00	Simple capping/sealing to DRE standards
	De-watering Bores		@	\$3,831.99	\$0.00	This includes sealing & rehabilitation of the dewatering bores to make safe. The total number of dewatering bores for the whole mine is to be included
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Minor earthworks and maintenance of mine subsidence areas		Ha	\$1,277.33	\$0.00	This includes undertaking surface drainage works, etc as required to remediate areas affected by Mine subsidence (outside the jurisdiction of the mine subsidence board)
<b>Precinct Security Deposit</b>					<b>\$133,095.20</b>	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	

**Total Security Deposit for the "Domain" \$251,391.42**

## Sub Domain 2: Tailings & Rejects Emplacements (1)

Complete a separate sheet for each tailings dam/impoundment on the site.

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

### Tailings Dam / Impoundment (Key Information):

Materials Stored (ie. coal fines, coarse or co-disposed)  
 Volume Stored (m3)  
 Maximum Embankment Height (m)  
 Maximum Embankment Length (m)  
 Year Dam / Emplacement Commissioned  
 Storage area (ha)  
 Catchment Area of Tailings Dam / Emplacement (ha)  
 Briefly describe embankment construction.  
 (earthen, clay /rejects core, etc)


Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Tailings Dams / Emplacements	Source, cart and spread suitable material to cap the tailings emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the tailings emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Reshape walls / buttress around the dam / emplacement - earthworks only		Ha	\$6,386.65	\$0.00	This includes the area that requires stabilisation and reshaping works around the walls of the emplacement (i.e. removal of rills and pipes that may present long term stability issues)
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Coarse Rejects Emplacements	Source, cart and spread suitable material to cap the coarse rejects emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the coarse rejects emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	

**Total Security Deposit for the "Domain" \$0.00**

## Sub Domain 3: Overburden & Waste Dumps

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Successful Rehabilitation	Maintenance of Established Revegetated Area		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Maintenance of Shaped Topsoiled and Seeded		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Shaped Overburden Dumps	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Unshaped Overburden Dumps (minor reshaping required)	Minor pushing, final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Unshaped Overburden Dumps (major earthworks required)	Major bulk pushing to achieve grades nominated in the MOP (i.e. < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	

**Total Security Deposit for the "Domain" \$0.00**



## Sub Domain 4: Surface Disturbance

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Initial Boxcuts & Other Voids	Drill & Blast Highwall		m <sup>3</sup>	\$0.89	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment UNIT RATE: drill & blast + dozer push
	Major bulk pushing of the high wall are to achieve grades nominated in the MOP (i.e < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program UNIT RATE: dozer push rate
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil (at 20cm)		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Security Fence around steep section highwall		m	\$63.87	\$0.00	This item includes the erection of a 2m security fence (lineal metre) around the void and other dangerous areas.
	High wall treatment - (trench + safety berm)		m	\$73.45	\$0.00	This item includes the construction of a safety berm and rill (lineal metre) around the highwall to stop all vehicles, etc accidentally driving over haul road (engineered control).
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Disturbance ahead of Mining + water management structures	Areas cleared on the surface - re-establish vegetation commensurate with surrounding vegetation		Ha	\$2,682.39	\$0.00	This includes the direct application of seed to restore the vegetation that was disturbed as part of clearing operations ahead of the mine.
	Areas topsoil stripped on the surface - source cart and respread topsoil		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Reshape, deep rip, ameliorate and seed highwall / internal access roads and tracks		Ha	\$6,386.65	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	Reshape, deep rip, ameliorate and seed exploration lines / areas		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Dams & Water Holding Structures	Clean water dams to be retained after mine closure - make safe and minor earthworks.			\$2,554.66	\$0.00	This item includes making the dam spillway, and walls stable and ensuring the integrity of the dam wall, etc.
	Dirty Water Dams (Drain and remove sediments to make dam clean water)		m <sup>3</sup>	\$4.09	\$0.00	This item includes draining the dam and removing 500mm of potentially contaminated (saline) sediments to be buried in the pit. UNIT RATE: must consider the distance from the dam to the disposal area.
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
River & Creek Diversions	Creek diversion - Channel maintenance through spoil / backfill (20% of estimated diversion construction costs due to unknown landform stability)		m	\$383.20	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through unconsolidated overburden). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Channel maintenance insitu (10% of estimated construction cost for diversion)		m	\$191.60	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through natural ground). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Vegetation maintenance		m <sup>2</sup>	\$0.38	\$0.00	This item includes the ongoing maintenance of vegetation within the diversion channel & batters.
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	

**Total Security Deposit for the "Domain" \$0.00**

## Sub Domain 5: Other

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Other (eg. site contamination, closure plan preparation, etc)	The restoration and care and maintenance of items that have historical significance and are to be retained after the cessation of mining		@	\$25,546.58	\$0.00	This item includes ensuring that sufficient resources are made available to restore items of heritage significance and also provide money to enable the ongoing care and maintenance of the structure (if not the responsibility of any another stakeholder i.e. council, historical society)
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Construction / Deconstruction of Bridges and crossings		@	\$0.00	\$0.00	Value to be provided by company
	Construction of Fencing - general		@	\$63.87	\$0.00	Includes general fencing around site or site works
	Other 5 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 6 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 7 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 8 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 9 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 10 <insert>				\$0.00	This item includes <<to be added by the operator>>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	

**Total Security Deposit for the "Domain" \$0.00**

**Domain 6: Corrimal No. 3 Shaft and Bins TOTAL \$251,391.42**

### Third Party Project Management & Contingencies

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Item	Activity / Description	Quantity	Unit	Cost	Total Cost	Description / Notes:
<b>Sub-Total (Domains)</b>					<b>\$8,596,415.63</b>	
<b>Third Party Project Management</b>	Mobilisation & Demobilisation (third party contractor rates apply).	1	@	\$50,000.00	\$50,000.00	Cost would have to be determined (justified) on the basis of the equipment required and the distance of the mine from the likely contractor to be used.
	DRE Tender Preparation and Assessment	1	@	\$6,386.65	\$6,386.65	Values provided in this cell are provided as a minimum, and should be assessed based on the size of the site, and works required.
	Development of Unplanned Closure Plan	1	@	\$31,933.23	\$31,933.23	Values provided in this cell are provided as a minimum, and should be assessed based on the size of the site, and works required.
	Post closure environmental monitoring	5%	%	\$429,820.78	\$429,820.78	% of the subtotal for all domains
	Project Management & Surveying	10%	%	\$859,641.56	\$859,641.56	% of the subtotal for all domains
	Indexation		@		\$0.00	
	Other <insert>		@		\$0.00	
	Other <insert>		@		\$0.00	
<b>Sub-Total (Sundry Items)</b>					<b>\$1,377,782.22</b>	
<b>Sub-Total (Domain and Sundry Items)</b>					<b>\$9,974,197.85</b>	
Contingency	Contingency	10%	%	\$9,974,197.85	\$997,419.79	
<b>Precinct Security Deposit</b>					<b>\$10,971,617.64</b>	<b>exclusive of GST</b>

<b>Sub-Total Rehabilitation Estimate for "Domains"</b>	\$8,596,415.63
<b>Total Rehabilitation Estimate for "Sundry Items"</b>	\$1,377,782.22
<b>Contingency (based on Sundry and Domains)</b>	\$997,419.79
<b>Total Rehabilitation Estimate</b>	<b>\$10,971,617.64</b> exclusive of GST

Justification for Change of Rates in Resources & Energy Rehabilitation Cost Calculation Tool

Domain	Activity	DRE unit/rate	Adopted Rates	Justification

*In completing the R&E Rehabilitation Cost Calculation, we are seeking an adjustment to the rates currently utilised in the R&E Rehabilitation Cost Calculation Tool. A justification for the rate change by a third party has been included and I confirm that only the rates identified in the above table have been altered in the Rehabilitation Cost Calculation Tool.*

.....  
General Manager

.....  
Signature

.....  
Date

.....  
DRE Reporting Officer

.....  
Signature

.....  
Date



## Site Registration

Complete the following fields prior to calculating the security bond.

Mine Name:	Dendrobium Colliery		
Lease(s)	ML 1510, ML 1566		
Mine Owner	Dendrobium Coal Pty Ltd		
Mine Operator	Dendrobium Coal Pty Ltd		
Expiry of MOP	30/8/2015		
Current Security	\$2,705,116	Date of last Security Bond review	Dec-14
Mine Contact	Peter McMillan		
Position	Environment and Community Supervisor		
Address	South32 Illawarra Coal Regional Operations Centre Level 3 Enterprise 1 Innovation Campus Squires Way North Wollongong NSW 2500 Postal Address: PO Box 514 Unanderra, NSW, 2526		
Phone	(02) 4286 3200	e-mail	<a href="mailto:Peter.McMillan@south32.net">Peter.McMillan@south32.net</a>

## Site Description

The following site specific information is requested to provide background information in the context of calculating the security bond.

### Summary of Mine Activities

Total annual production (tonnes):	N/A
Mine lease area (ha):	49.29
Area of extraction (ha):	N/A
Area of disturbance (ha):	9.1
Rehabilitation in progress (ha):	0
Rehabilitation complete (ha):	0
Estimate based on Plan(s):	MOP
include version and date	
Plan(s) outlining Domain Areas	see MOP
include version and date	
<input type="checkbox"/> Plan(s) attached	

### Environmental Sensitivities

#### Surrounding land use (tick all that apply):

- Cropping
- Pasture
- Forest
- Undisturbed habitat
- Urban

#### Environmental Issues affecting site (tick all that apply)

- Threatened flora
- Threatened fauna
- Cultural heritage items
- Natural heritage features
- Mine subsidence
- Surface water pollution
- Ground water pollution
- Hydrocarbon contamination
- Methane drainage/venting
- Spontaneous combustion
- Acid Mine Drainage
- Within drinking water catchment
- Other (describe below)

#### NOTE:

Ensure rehabilitation cost calculation reflects all environmental issues affecting the lease. Contingencies should be allocated where costs have not been incorporated elsewhere in the estimation.



## Summary Rehabilitation Cost Calculation

Note: Sections of this page are automatically filled in from the registration page

Mine Name:	Dendrobium Colliery	
Lease(s):	ML 1510, ML 1566	
Mine Owner:	Dendrobium Coal Pty Ltd	
Mine Operator:	Dendrobium Coal Pty Ltd	
Expiry of MOP:	30/8/2015	
Current Security:	\$ 2,705,116.00	Date of Last Security Bond Review: Dec-14
Mine Contact:	Peter McMillan	
Position:	Environment and Community Supervisor	
Address:	South32 Illawarra Coal Regional Operations Centre Level 3 Enterprise 1 Innovation Campus Squires Way North Wollongong NSW 2500 Postal Address: PO Box 514 Unanderra, NSW, 2526	
Phone:	(02) 4286 3200	email: Peter.McMillan@south32.net

Domain	Security Deposit
Domain 1: Kemira Valley Coal Loading Facility West	\$1,283,341.15
Domain 2: Vent Shafts 2/3	\$279,604.00
<b>Sub-Total (Domains and Sundry Items)</b>	<b>\$1,562,945.14</b>
Contingency	\$188,570.68
Third Party Project Management	\$322,761.65
<b>Total Security Deposit for the Mining Project (excl. of GST)</b>	<b>\$2,074,277.47</b>

Note: GST is not included in the above calculation or as part of rehabilitation security deposits required by the Department

- Alterations have been made to unit prices within this spreadsheet. (Attach a separate sheet providing details of changes)
- The proposed rehabilitation design is generally consistent with the development consent for the project

This Registration Form, Summary Report and calculation pages are to be printed and attached as an appendix the AEMR.

This mine security calculation has been estimated using the best available information at the time.  
It is a true and accurate reflection of the total rehabilitation liability held by this mine.

-----  
Signature  
General Manager

Print Name

Date:

-----  
Signature  
Accepted: DRE Reporting Officer

Print Name

Date:

# Domain 1: Kemira Valley Coal Loading Facility West

## Sub Domain 1: Infrastructure Areas

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Pit Top Infrastructure	Disconnect and terminate services	1	@	\$31,933.23	\$31,933.23	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Disconnect and terminate powerlines	0.5	km	\$14,050.62	\$7,025.31	This item includes the cost to terminate and remove powerlines, and is based on the average cost to construct
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the CHPP area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the CHPP area.
	Demolish and remove Misc Plant	2518	m <sup>2</sup>	\$204.37	\$514,610.39	Enter the total surface area of the CHPP. If the CHPP is multi-story the entry should be the sum of the surface area for all floors.
	Demolish and remove conveyors & gantries (includes overland conveyors)		m	\$70.25	\$0.00	Enter the sum of the total length of conveyor and gantries. This includes conveyor to rail load out areas of conveyor from hoppers feeding back to the CHPP.
	Remove Concrete pads and Footings	41505	m <sup>2</sup>	\$12.77	\$530,155.48	Enter the total area the Pit Top, workshops and buildings.
	Deconstruct Large Tanks (e.g. Thickeners)		@	\$191,599.38	\$0.00	Enter the number of tanks to be removed from the site.
	Deconstruct Small Tanks (e.g. Thickeners)		@	\$60,883.94	\$0.00	Enter the number of tanks to be removed from the site.
	Remove carbonaceous material (spillage or otherwise) from footprint of the CHPP, ROM & Product stockpiles, conveyors and workshops		m <sup>3</sup>	\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	4.1505	Ha	\$638.66	\$2,650.78	This item includes the areas requiring minor reshaping, rock raking and deep ripping to enhance revegetation program. This would include the entire CHPP area.
	Source, cart and spread topsoil.	12452	m <sup>3</sup>	\$1.53	\$19,085.60	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the CHPP area <i>IC Comment: Assume 0.2m depth topsoil</i>
	Spill amelioration and supply and spread seed and fertiliser.	4.1505	Ha	\$4,726.12	\$19,615.75	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
<b>Precinct Security Deposit</b>					<b>\$1,125,076.54</b>	
Rail Line and Loop	Remove Rail Loop and spur	8000	m	\$7.66	\$61,311.80	This item includes the pulling up and removal from site of railway line and sleepers. Calculated as a linear metre
	Reshape rail spur and load out area		Ha	\$6,386.65	\$0.00	This item includes the areas requiring reshaping once the rail line, sleepers and ballast has been removed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Spill amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
<b>Precinct Security Deposit</b>					<b>\$61,311.80</b>	
Main Workshop Area	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the workshop area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the area. Include all remote or field based workshop areas.
	Remove Concrete pads, Footings and bitumen (car park) for dumping in a void on the site		m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar). It would also include vehicle washdown pads, bulk fuel bunding area and refuelling areas (i.e. all concrete areas in the workshop precinct).
	Remove contaminated material from workshop and hardstand areas for disposal in the decline void AND/OR		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Reshaping, capping, sealing of material presenting environmental difficulties (AMD, Hydrocarbon material, etc)		Ha	\$57,479.81	\$0.00	Enter the total area of material requiring capping or sealing. Where assessments have already been made and the presence/absence of contaminated material is known (and quantified) an alternative rate can be used. If this work has not been undertaken a default rate per UGT is to be utilised.
	Removal of UG tank (including pipes, bunds, etc) (include all facilities on site)		@	\$95,799.69	\$0.00	A default rate per UGT is to be utilised.
	On site remediation of contaminated soil (<1000m <sup>3</sup> )		m <sup>3</sup>	\$63.87	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume in not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in call C-37
	On site remediation of contaminated soil (1000-10,000m <sup>3</sup> )		m <sup>3</sup>	\$51.09	\$0.00	where an assessment of the volume of contaminated material has been made this volume is to be included. Where the volume in not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used
	On site remediation of contaminated soil (>10,000m <sup>3</sup> )		m <sup>3</sup>	\$38.32	\$0.00	where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume in not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used in call C-37
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the workshop area
	Spill amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Admin Buildings	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost <i>IC Comment: Covered in Pit Top Infrastructure</i>
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the admin area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the admin area.
	Remove Concrete pads, Footings and bitumen (car park)		m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar)
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program <i>IC Comment: Covered in Pit Top Infrastructure</i>
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the admin area. <i>IC Comment: Covered in Pit Top Infrastructure</i>
Spill amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	Enter the total area of the admin, etc footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding. UNIT RATE: Depends on the required rehabilitation commitment (ie. Trees will be more expensive than grass) <i>IC Comment: Covered in Pit Top Infrastructure</i>	

		Precinct Security Deposit		\$0.00			
<b>Access Roads &amp; Haul Roads</b>	Remove carbonaceous material from roadways (coal / rejects spillage)	6578	m <sup>3</sup>	\$3.32		\$21,845.91	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC Comment: 18/09/14 - Assume 0.2m depth of material
	Reshape deep rip and ameliorate sealed / unsealed roads		Ha	\$6,386.65		\$0.00	Enter the total area of the road footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding UNIT RATE: Depends on the required rehabilitation commitment (ie. Trees will be more expensive than grass) IC Comment: Covered in Pit Top Infrastructure
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53		\$0.00	This item includes the area requiring the addition of a suitable volume of topsoil to cover the access roads & haul roads. IC Comment: Covered in Pit Top Infrastructure
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12		\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser IC Comment: Covered in Pit Top Infrastructure
		Precinct Security Deposit		\$21,845.91			
<b>Sewerage / Water Treatment Plant</b>	Disconnect and terminate services		@	\$3,193.32		\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost
	Demolish and remove small buildings / tanks	109	m <sup>2</sup>	\$89.41		\$9,746.02	Enter the total area of small buildings and tanks.
	Remove contaminated material from areas for disposal (ie. chemical spillage in / around storage sheds).		m <sup>3</sup>	\$2.55		\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	0.0109	Ha	\$638.66		\$6.96	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required to enhance revegetation program)
	Source, cart and spread topsoil.	33	m <sup>3</sup>	\$1.53		\$50.12	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the sewerage / water treatment plant. IC Comment - Assume 0.3m depth topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	0.0109	Ha	\$4,726.12		\$51.51	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit		\$9,854.62			
<b>Hardstand / Laydown Areas</b> (across the entire site)	Remove contaminated material from areas for disposal (ie. chemical/hydrocarbon spillage in the hard stand area).		m <sup>3</sup>	\$2.55		\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Deep rip hard stand / laydown areas	0.0144	Ha	\$638.66		\$9.20	This item includes ripping hard stand and lay down areas to enhance the rehabilitation program.
	Source, cart and spread topsoil.	43.20	m <sup>3</sup>	\$1.53		\$66.22	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the hard stands and lay down areas IC Comment: assuming depth of 0.2m
	Spoil amelioration and supply and spread seed and fertiliser.	0.01	Ha	\$4,726.12		\$68.06	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit		\$143.47			
<b>Underground Infrastructure</b>	Seal Portal / Decline Entry	1	@	\$28,101.24		\$28,101.24	This includes sealing the portal to make safe and ensure access can not be obtained. The number of portals for the whole mine is to be included
	Seal & rehabilitate of ventilation fans.		@	\$31,933.23		\$0.00	This includes sealing & rehabilitation of the ventilation fans to make safe. The number of ventilation fans for the whole mine is to be included
	Shaft filling	600	m <sup>3</sup>	\$24.35		\$14,612.15	This includes filling of shafts using onsite material. IC Comment: Assumed shaft diameter of 4m and 100m depth of fill
	Shaft capping/sealing	1	@	\$12,176.79		\$12,176.79	Simple capping/sealing to DRE standards
	De-watering Bores		@	\$3,831.99		\$0.00	This includes sealing & rehabilitation of the dewatering bores to make safe. The total number of dewatering bores for the whole mine is to be included.
	Cap exploration holes		@	\$319.33		\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Minor earthworks and maintenance of mine subsidence areas		Ha	\$1,277.33		\$0.00	This includes undertaking surface drainage works, etc as required to remediate areas affected by Mine subsidence (outside the jurisdiction of the mine subsidence board)
		Precinct Security Deposit		\$54,890.18			
<b>Other</b>	Other 1 <insert>					\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>					\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>					\$0.00	This item includes <<to be added by the operator>>
		Precinct Security Deposit		\$0.00			

**Total Security Deposit for the "Domain" \$1,273,122.51**



## Sub Domain 2: Tailings & Rejects Emplacements (1)

Complete a separate sheet for each tailings dam/impoundment on the site.

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Tailings Dam / Impoundment (Key Information):

Materials Stored (ie. coal fines, coarse or co-disposed)  
 Volume Stored (m3)  
 Maximum Embankment Height (m)  
 Maximum Embankment Length (m)  
 Year Dam / Emplacement Commissioned  
 Storage area (ha)  
 Catchment Area of Tailings Dam / Emplacement (ha)  
 Briefly describe embankment construction.  
 (earthen, clay /rejects core, etc)


Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Tailings Dams / Emplacements	Source, cart and spread suitable material to cap the tailings emplacement (cap thickness determined by MOP)		m <sup>2</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the tailings emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Reshape walls / buttress around the dam / emplacement - earthworks only		Ha	\$6,386.65	\$0.00	This includes the area that requires stabilisation and reshaping works around the walls of the emplacement (i.e. removal of rills and pipes that may present long term stability issues)
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
Precinct Security Deposit					\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
Precinct Security Deposit					\$0.00	
Coarse Rejects Emplacements	Source, cart and spread suitable material to cap the coarse rejects emplacement (cap thickness determined by MOP)		m <sup>2</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the coarse rejects emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Precinct Security Deposit					\$0.00
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
Precinct Security Deposit					\$0.00	

Total Security Deposit for the "Domain" \$0.00

## Sub Domain 3: Overburden & Waste Dumps

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Successful Rehabilitation	Maintenance of Established Revegetated Area		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Maintenance of Shaped Topsoiled and Seeded		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
Precinct Security Deposit					\$0.00	
Shaped Overburden Dumps	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
Precinct Security Deposit					\$0.00	
Unshaped Overburden Dumps (minor reshaping required)	Minor pushing, final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
Precinct Security Deposit					\$0.00	
Unshaped Overburden Dumps (major earthworks required)	Major bulk pushing to achieve grades nominated in the MOP (i.e. < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
Precinct Security Deposit					\$0.00	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
Precinct Security Deposit					\$0.00	

Total Security Deposit for the "Domain" \$0.00

### Sub Domain 4: Surface Disturbance

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health, Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes
Initial Boxcuts & Other Voids	Drill & Blast Highway		m <sup>3</sup>	\$0.89	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment. UNIT RATE: drill & blast + dozer rough
	Major bulk pushing of the high wall area to achieve grades nominated in the MOP (i.e. < 18°)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program. UNIT RATE: dozer push rate
	Final trim, rock take & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil (at 20cm)		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Spoil amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Security Fence around steep section highway		m	\$63.87	\$0.00	This item includes the erection of a 2m security fence (linear metre) around the void and other dangerous areas
	High wall treatment - (trench + safety berm)		m	\$73.45	\$0.00	This item includes the construction of a safety berm and fill (linear metre) around the highway to stop all vehicles, etc. accidentally driving over haul road (engineered control).
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>
Disturbance ahead of Mining + water management structures	Areas cleared on the surface - re-establish vegetation commensurate with surrounding vegetation		Ha	\$2,682.39	\$0.00	This includes the direct application of seed to restore the vegetation that was disturbed as part of clearing operations ahead of the mine.
	Areas topsoil stripped on the surface - source cart and respread topsoil		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Reshape, deep rip, ameliorate and seed highwall / internal access roads and tracks		Ha	\$6,386.65	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	Reshape, deep rip, ameliorate and seed exploration lines / areas		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>
Dams & Water Holding Structures	Clean water dams to be retained after mine closure - make safe and minor earthworks.	4	@	\$2,554.66	\$10,218.63	This item includes making the dam spillway, and walls stable and ensuring the integrity of the dam wall, etc.
	Dirty Water Dams (Drain and remove sediments to make dam clean water)		m <sup>3</sup>	\$4.09	\$0.00	This item includes draining the dam and removing 500mm of potentially contaminated (saline) sediments to be buried in the pit. UNIT RATE: must consider the distance from the dam to the disposal area.
	<b>Precinct Security Deposit</b>					<b>\$10,218.63</b>
River & Creek Diversions	Creek diversion - Channel maintenance through spoil / backfill (20% of estimated diversion construction costs due to unknown landform stability)		m	\$383.20	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through unconsolidated overburden). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Channel maintenance in situ (10% of estimated construction cost for diversion)		m	\$191.60	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through natural ground). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Vegetation maintenance		m <sup>2</sup>	\$0.38	\$0.00	This item includes the ongoing maintenance of vegetation within the diversion channel & batters.
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>
<b>Total Security Deposit for the "Domain"</b>					<b>\$10,218.63</b>	

### Sub Domain 5: Other

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health, Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes
Other (eg. site contamination, closure plan preparation, etc)	The restoration and care and maintenance of items that have historical significance and are to be retained after the cessation of mining		@	\$25,546.58	\$0.00	This item includes ensuring that sufficient resources are made available to restore items of heritage significance and also provide money to enable the ongoing care and maintenance of the structure (if not the responsibility of any other stakeholder i.e. council, historical society)
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Construction / Deconstruction of Bridges and crossings		@	\$0.00	\$0.00	Value to be provided by company
	Construction of Fencing - general		@	\$63.87	\$0.00	Includes general fencing around site or site works
	Other 5 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 6 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 7 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 8 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 9 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 10 <insert>				\$0.00	This item includes <<to be added by the operator>>
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>
<b>Total Security Deposit for the "Domain"</b>					<b>\$0.00</b>	

**Domain 1: Kemira Valley West TOTAL** **\$1,283,341.15**

**Domain 2: Vent Shafts 2/3**

**Sub Domain 1: Infrastructure Areas**

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/09/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
<b>Pit Top Infrastructure</b>	Disconnect and terminate services	1	@	\$31,933.23	\$31,933.23	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Disconnect and terminate powerlines		km	\$14,050.62	\$0.00	This item includes the cost to terminate and remove powerlines, and is based on the average cost to construct.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the CHPP area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the CHPP area.
	Demolish and remove Misc Plant		m <sup>2</sup>	\$204.37	\$0.00	Enter the total surface area of the CHPP. If the CHPP is multi-story the entry should be the sum of the surface area for all floors.
	Demolish and remove conveyors & gantries (includes overland conveyors)		m	\$70.25	\$0.00	Enter the sum of the total length of conveyor and gantries. This includes conveyor to rail load out areas of conveyor from hoppers feeding back to the CHPP.
	Remove Concrete pads and Footings	280	m <sup>2</sup>	\$12.77	\$3,576.52	Enter the total area the CHPP, workshops and buildings.
	Deconstruct Large Tanks (e.g. Thickener)		@	\$191,599.36	\$0.00	Enter the number of tanks to be removed from the site.
	Deconstruct Small Tanks (e.g. Thickener)		@	\$60,883.94	\$0.00	Enter the number of tanks to be removed from the site.
	Remove carbonaceous material (spillage or otherwise) from footprint of the CHPP, ROM & Product stockpiles, conveyors and workshops		m <sup>3</sup>	\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	0.028	Ha	\$638.66	\$17.88	This item includes the areas requiring minor reshaping, rock raking and deep ripping to enhance revegetation program. This would include the entire CHPP area.
	Source, cart and spread topsoil.	84	m <sup>3</sup>	\$1.53	\$128.75	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the CHPP area.
	Spill amelioration and supply and spread seed and fertiliser.	0.028	Ha	\$4,726.12	\$132.33	Enter the total volume of topsoil to be covered with seed and fertiliser. Assume 0.3m depth topsoil.
<b>Precinct Security Deposit</b>					<b>\$35,788.72</b>	
<b>Rail Line and Loop</b>	Remove Rail Loop and spur		m	\$7.66	\$0.00	This item includes the pulling up and removal from site of railway line and sleepers. Calculated as a linear metre.
	Reshape rail spur and load out area		Ha	\$6,386.65	\$0.00	This item includes the areas requiring reshaping once the rail line, sleepers and ballast has been removed.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required to enhance revegetation program).
	Spill amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
<b>Main Workshop Area</b>	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the workshop area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the area. Include all remote or field based workshop areas.
	Remove Concrete pads, Footings and bitumen (car park) for dumping in a void on the site		m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar). It would also include vehicle washdown pads, bulk fuel bunding area and retaining areas (ie. all concrete areas in the workshop precinct).
	Remove contaminated material from workshop and hardstand areas for disposal in the decline void AND/OR		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Reshaping, capping, sealing of material presenting environmental difficulties (AMD, Hydrocarbon material, etc)		Ha	\$57,479.81	\$0.00	Enter the total area of material requiring capping or sealing. Where assessments have already been made and the presence/absence of contaminated material is known (and quantified) an alternative rate can be used. If this work has not been undertaken a default rate per UGT is to be utilised.
	Removal of UG tank (including pipes, bunds, etc) (include all facilities on site)		@	\$95,799.69	\$0.00	A default rate per UGT is to be utilised.
	On site remediation of contaminated soil (<1000m <sup>3</sup> )		m <sup>3</sup>	\$63.87	\$0.00	Where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used to call C-37.
	On site remediation of contaminated soil (1000-10,000m <sup>3</sup> )		m <sup>3</sup>	\$51.09	\$0.00	Where an assessment of the volume of contaminated material has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used.
	On site remediation of contaminated soil (>10,000m <sup>3</sup> )		m <sup>3</sup>	\$38.32	\$0.00	Where an assessment of the volume of contaminated soil has been made this volume is to be included. Where the volume is not known or has not been quantified a default volume of 3000m <sup>3</sup> per fuel storage facility is to be used to call C-37.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required to enhance revegetation program).
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the workshop area.
	Spill amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the areas requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser.
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
<b>Admin Buildings</b>	Disconnect and terminate services		@	\$6,386.65	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a "one off" cost.
	Demolish and remove small buildings		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and offices in the admin area. It should not include demountables which can be removed from site. It does not include workshops.
	Demolish and remove industrial buildings		m <sup>2</sup>	\$204.37	\$0.00	Enter the total area of workshop facilities in the admin area.
	Remove Concrete pads, Footings and bitumen (car park)		m <sup>2</sup>	\$12.77	\$0.00	Enter the total area the workshops and buildings. Include the area of any bitumen car parks (or similar).
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the areas requiring minor reshaping, rock raking and deep ripping (only as required to enhance revegetation program).
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the admin area.
	Spill amelioration and supply and spread pasture seed and fertiliser.		Ha	\$4,726.12	\$0.00	Enter the total area of the admin, etc footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding. UNIT RATE: Depends on the required rehabilitation commitment (ie. Trees will be more expensive than grass).

		Precinct Security Deposit		\$0.00		
Access Roads & Haul Roads	Remove carbonaceous material from roadways (coal / rejects spillage)		m <sup>3</sup>	\$3.32	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed. IC comment 18/01/4 - Assume 0.2m depth of material
	Reshape deep rip and ameliorate sealed / unsealed roads	0.9951	Ha	\$6,386.65	\$6,355.35	Enter the total area of the road footprint requiring to be covered with fertiliser (and/or lime & gypsum) prior to seeding UNIT RATE: Depends the required rehabilitation commitment (ie. Trees will be more expensive than grass)
	Source, cart and spread topsoil.	2985.3	m <sup>3</sup>	\$1.53	\$4,575.85	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the access roads & haul roads. IC comment - Assume 0.3m depth topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	0.9951	Ha	\$4,726.12	\$4,702.96	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit			\$15,634.16	
Sewerage / Water Treatment Plant	Disconnect and terminate services		@	\$3,193.32	\$0.00	This item includes disconnecting and terminating all services such as power, water and sewer. It is a 'one off' cost
	Demolish and remove small buildings / tanks		m <sup>2</sup>	\$89.41	\$0.00	Enter the total area of small buildings and tanks.
	Remove contaminated material from areas for disposal (ie. chemical spillage in / around storage sheds).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Final trim, rock rake & deep rip	0	Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required to enhance revegetation program)
	Source, cart and spread topsoil.	0	m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the sewerage / water treatment plant. IC comment 18/01/4 - Assume 0.3m depth topsoil
	Spoil amelioration and supply and spread seed and fertiliser.	0	Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit			\$0.00	
Hardstand / Laydown Areas (across the entire site)	Remove contaminated material from areas for disposal (ie. chemical/hydrocarbon spillage in the hard stand area).		m <sup>3</sup>	\$2.55	\$0.00	Enter the total volume (ie. area x depth of material) to be scalped off for disposal. UNIT RATE: Depends on the haulage distance to the point where the material is to be disposed.
	Deep rip hard stand / laydown areas	0.0481	Ha	\$638.66	\$30.72	This item includes ripping hard stand and lay down areas to enhance the rehabilitation program.
	Source, cart and spread topsoil.	144.30	m <sup>3</sup>	\$1.53	\$221.18	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the hard stands and lay down areas IC Comment: assume a depth of 0.2m
	Spoil amelioration and supply and spread seed and fertiliser.	0.05	Ha	\$4,726.12	\$227.33	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
		Precinct Security Deposit			\$479.23	
Underground Infrastructure	Seal Portal / Decline Entry	2	@	\$28,101.24	\$56,202.48	This includes sealing the portal to make safe and ensure access can not be obtained. The number of portals for the whole mine is to be included
	Seal & rehabilitate of ventilation fans.	2	@	\$31,933.23	\$63,866.46	This includes sealing & rehabilitation of the ventilation fans to make safe. The number of ventilation fans for the whole mine is to be included
	Shaft filling	3000	m <sup>3</sup>	\$24.35	\$73,060.73	This includes filling of shafts using onsite material. IC comment: assumed shaft diameter of 6m and 250m depth of fill
	Shaft capping/sealing	2	@	\$12,176.79	\$24,353.58	Simple capping/sealing to DRE standards
	De-watering Bores		@	\$3,831.99	\$0.00	This includes sealing & rehabilitation of the dewatering bores to make safe. The total number of dewatering bores for the whole mine is to be included
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Minor earthworks and maintenance of mine subsidence areas		Ha	\$1,277.33	\$0.00	This includes undertaking surface drainage works, etc as required to remediate areas affected by Mine subsidence (outside the jurisdiction of the mine subsidence board)
		Precinct Security Deposit			\$217,483.25	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
		Precinct Security Deposit			\$0.00	

Total Security Deposit for the "Domain" **\$269,385.36**

## Sub Domain 2: Tailings & Rejects Emplacements (1)

Complete a separate sheet for each tailings dam/impoundment on the site.

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

### Tailings Dam / Impoundment (Key Information):

Materials Stored (i.e. coal fines, coarse or co-disposed)  
 Volume Stored (m3)  
 Maximum Embankment Height (m)  
 Maximum Embankment Length (m)  
 Year Dam / Emplacement Commissioned  
 Storage area (ha)  
 Catchment Area of Tailings Dam / Emplacement (ha)  
 Briefly describe embankment construction.  
 (earthen, clay / rejects core, etc)


Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes
Tailings Dams / Emplacements	Source, cart and spread suitable material to cap the tailings emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the tailings emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Reshape walls / buttress around the dam / emplacement - earthworks only		Ha	\$6,386.65	\$0.00	This includes the area that requires stabilisation and reshaping works around the walls of the emplacement (i.e. removal of rills and pipes that may present long term stability issues)
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	<b>Precinct Security Deposit</b>				<b>\$0.00</b>	
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	<b>Precinct Security Deposit</b>				<b>\$0.00</b>	
Coarse Rejects Emplacements	Source, cart and spread suitable material to cap the coarse rejects emplacement (cap thickness determined by MOP)		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume material to cap the coarse rejects emplacement. The material must have appropriate chemical & physical properties.
	Apply engineered treatment as required (i.e. capping, capillary breaks, etc) - design in accordance with the MOP commitments.		Ha	\$57,479.81	\$0.00	This includes the area that requires engineering treatment is required to satisfy conditions of the MOP. This may include compaction or addition of multiple layers and / or capillary breaks.
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the tailings dam / emplacement
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
		<b>Precinct Security Deposit</b>				<b>\$0.00</b>
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	<b>Precinct Security Deposit</b>				<b>\$0.00</b>	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 3: Overburden & Waste Dumps

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes
Successful Rehabilitation	Maintenance of Established Revegetated Area		Ha	\$830.26	\$0.00	This item includes the total area of rehabilitation that has been established and requires subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment
	Maintenance of Shaped Topsoiled and Seeded		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
	<b>Precinct Security Deposit</b>				<b>\$0.00</b>	
Shaped Overburden Dumps	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
		<b>Precinct Security Deposit</b>				<b>\$0.00</b>
Unshaped Overburden Dumps (minor reshaping required)	Minor pushing, final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the reshaped area.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
		<b>Precinct Security Deposit</b>				<b>\$0.00</b>
Unshaped Overburden Dumps (major earthworks required)	Major bulk pushing to achieve grades nominated in the MOP (i.e. <18")		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Structural works, banks, rock lined waterways		Ha	\$1,788.26	\$0.00	This item includes the area requiring earthworks (banks, & drains, etc) to manage all surface water on the top of the emplacement to ensure that it is shed off the cap.
	Source, cart and spread topsoil.		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped dump.
	Spoil amelioration and supply and spread seed and fertiliser.		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Maintenance of rehabilitated areas (up to 5 years)		Ha	\$830.26	\$0.00	This item includes the total area of that have been shaped, topsoiled and seeded and requires subsequent fertiliser application. It assumes application twice in the first five (5) years after establishment
		<b>Precinct Security Deposit</b>				<b>\$0.00</b>
Other	Other 1 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <<to be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <<to be added by the operator>>
	<b>Precinct Security Deposit</b>				<b>\$0.00</b>	

Total Security Deposit for the "Domain" **\$0.00**

## Sub Domain 4: Surface Disturbance

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Initial Boxcuts & Other Voids	Drill & Blast Highwall		m <sup>3</sup>	\$0.89	\$0.00	This item includes the total area of rehabilitation that have been established and require subsequent fertiliser application. It assumes application twice on the first five (5) years after establishment. UNIT RATE: drill & blast + dozer push
	Major bulk pushing of the high wall are to achieve grades nominated in the MOP (i.e. <math>18^{\circ}</math>)		m <sup>3</sup>	\$1.41	\$0.00	This item includes the volume requiring major reshaping, rock raking and deep ripping (only as required) to enhance revegetation program. UNIT RATE: dozer push rate
	Final trim, rock rake & deep rip		Ha	\$638.66	\$0.00	This item includes the area requiring minor reshaping, rock raking and deep ripping (only as required) to enhance revegetation program
	Source, cart and spread topsoil (at 20cm)		m <sup>3</sup>	\$1.53	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Spoil amelioration and supply and spread pasture seed and fertiliser		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass seed and fertiliser
	Security Fence around steep section highwall		m	\$63.87	\$0.00	This item includes the erection of a 2m security fence (linear metre) around the void and other dangerous areas
	High wall treatment - (trench + safety berm)		m	\$73.45	\$0.00	This item includes the construction of a safety berm and fill (linear metre) around the highwall to stop all vehicles, etc accidentally driving over haul road (engineered control)
	<b>Precinct Security Deposit</b>					<b>\$0.00</b>
Disturbance ahead of Mining + water management structures	Areas cleared on the surface - re-establish vegetation commensurate with surrounding vegetation		Ha	\$2,682.39	\$0.00	This includes the direct application of seed to restore the vegetation that was disturbed as part of clearing operations ahead of the mine.
	Areas topsoil stripped on the surface - source cart and respread topsoil		m <sup>3</sup>	\$2.55	\$0.00	This includes sourcing, carting and spreading of a suitable volume of topsoil to cover the reshaped areas
	Reshape, deep rip, ameliorate and seed highwall / internal access roads and tracks		Ha	\$6,386.65	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
	Reshape, deep rip, ameliorate and seed exploration lines / areas		Ha	\$4,726.12	\$0.00	This item includes the area requiring the addition of ameliorates such as lime or gypsum prior to the application of grass / tree seed and fertiliser
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Dams & Water Holding Structures	Clean water dams to be retained after mine closure - make safe and minor earthworks.	4	@	\$2,554.66	\$10,218.63	This item includes making the dam spillway, and walls stable and ensuring the integrity of the dam wall, etc.
	Dirty Water Dams (Drain and remove sediments to make dam clean water)		m <sup>3</sup>	\$4.09	\$0.00	This item includes draining the dam and removing 500mm of potentially contaminated (saline) sediments to be buried in the pit. UNIT RATE: must consider the distance from the dam to the disposal area.
<b>Precinct Security Deposit</b>					<b>\$10,218.63</b>	
River & Creek Diversions	Creek diversion - Channel maintenance through spoil / backfill (20% of estimated diversion construction costs due to unknown landform stability)		m	\$383.20	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through unconsolidated overburden). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Channel maintenance insitu (10% of estimated construction cost for diversion)		m	\$191.60	\$0.00	This item includes the length (m) of diversion requiring ongoing maintenance (constructed through natural ground). This will include earthworks repairs and stabilisation following flow events. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion
	Creek diversion - Vegetation maintenance		m <sup>2</sup>	\$0.38	\$0.00	This item includes the ongoing maintenance of vegetation within the diversion channel & batters.
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	
Other	Other 1 <insert>				\$0.00	This item includes <cto be added by the operator>>
	Other 2 <insert>				\$0.00	This item includes <cto be added by the operator>>
	Other 3 <insert>				\$0.00	This item includes <cto be added by the operator>>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	

**Total Security Deposit for the "Domain" \$10,218.63**

## Sub Domain 5: Other

Detail of person filling out the Worksheet:

Name	Michelle Grierson
Position	Environmental Officer
Department	Health Safety Environment and Community
Date	25/08/2015

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Management Precinct	Activity / Description	Quantity	Unit	Unit Price	Total Cost	Description / Notes:
Other (eg. site contamination, closure plan preparation, etc)	The restoration and care and maintenance of items that have historical significance and are to be retained after the cessation of mining		@	\$25,546.58	\$0.00	This item includes ensuring that sufficient resources are made available to restore items of heritage significance and also provide money to enable the ongoing care and maintenance of the structure (if not the responsibility of any another stakeholder i.e. council, historical society)
	Cap exploration holes		@	\$319.33	\$0.00	This includes capping & rehabilitation of all old Cap exploration holes around the site
	Construction / Deconstruction of Bridges and crossings		@	\$0.00	\$0.00	Value to be provided by company
	Construction of Fencing - general		@	\$63.87	\$0.00	Includes general fencing around site or site works
	Other 5 <insert>				\$0.00	This item includes <cto be added by the operator>>
	Other 6 <insert>				\$0.00	This item includes <cto be added by the operator>>
	Other 7 <insert>				\$0.00	This item includes <cto be added by the operator>>
	Other 8 <insert>				\$0.00	This item includes <cto be added by the operator>>
	Other 9 <insert>				\$0.00	This item includes <cto be added by the operator>>
	Other 10 <insert>				\$0.00	This item includes <cto be added by the operator>>
<b>Precinct Security Deposit</b>					<b>\$0.00</b>	

**Total Security Deposit for the "Domain" \$0.00**

**Domain 2: Vent Shafts 2/3 TOTAL \$279,604.00**

## Third Party Project Management & Contingencies

Detail of person filling out the Worksheet:

Name	
Position	
Department	
Date	

Legend:

	Item fixed no entry required
	Input from site optional (if information available)
	Input mandatory

Item	Activity / Description	Quantity	Unit	Cost	Total Cost	Description / Notes:
<b>Sub-Total (Domains)</b>					<b>\$1,562,945.14</b>	
Third Party Project Management	Mobilisation & Demobilisation (third party contractor rates apply).	1	@	\$50,000.00	\$50,000.00	Cost would have to be determined (justified) on the basis of the equipment required and the distance of the mine from the likely contractor to be used.
	DRE Tender Preparation and Assessment	1	@	\$6,386.65	\$6,386.65	Values provided in this cell are provided as a minimum, and should be assessed based on the size of the site, and works required.
	Development of Unplanned Closure Plan	1	@	\$31,933.23	\$31,933.23	Values provided in this cell are provided as a minimum, and should be assessed based on the size of the site, and works required.
	Post closure environmental monitoring	5%	%	\$78,147.26	\$78,147.26	% of the subtotal for all domains
	Project Management & Surveying	10%	%	\$156,294.51	\$156,294.51	% of the subtotal for all domains
	Indexation		@		\$0.00	
	Other <insert>		@		\$0.00	
	Other <insert>		@		\$0.00	
<b>Sub-Total (Sundry Items)</b>					<b>\$322,761.65</b>	
<b>Sub-Total (Domain and Sundry Items)</b>					<b>\$1,885,706.79</b>	
Contingency	Contingency	10%	%	\$1,885,706.79	\$188,570.68	
<b>Precinct Security Deposit</b>					<b>\$2,074,277.47</b>	<b>exclusive of GST</b>

<b>Sub-Total Rehabilitation Estimate for "Domains"</b>	\$1,562,945.14
<b>Total Rehabilitation Estimate for "Sundry Items"</b>	\$322,761.65
<b>Contingency (based on Sundry and Domains)</b>	\$188,570.68
<b>Total Rehabilitation Estimate</b>	<b>\$2,074,277.47</b> exclusive of GST

### Justification for Change of Rates in Resources & Energy Rehabilitation Cost Calculation Tool

Domain	Activity	DRE unit/rate	Adopted Rates	Justification

*In completing the R&E Rehabilitation Cost Calculation, we are seeking an adjustment to the rates currently utilised in the R&E Rehabilitation Cost Calculation Tool. A justification for the rate change by a third party has been included and I confirm that only the rates identified in the above table have been altered in the Rehabilitation Cost Calculation Tool.*

.....  
**General Manager**

.....  
**Signature**

.....  
**Date**

.....  
**DRE Reporting Officer**

.....  
**Signature**

.....  
**Date**







# **Dendrobium Mine Compliance Report**

*A report of compliance against the  
Development Consent*

**July 2016**

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
<b>SCHEDULE 2: ADMINISTRATIVE CONDITIONS</b>		
<b>Obligation to Minimise Harm to the Environment</b>		
<p>1. The Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.</p>	Compliant	Implementation of and adherence to the Conditions of Consent will achieve this requirement.
<b>Terms of Approval</b>		
<p>2. The Applicant shall carry out the development generally in accordance with the:</p> <p>(a) Development Application (DA 60-03-2001), EIS and associated submissions to the Dendrobium Underground Coal Mine Project Commission of Inquiry, and in particular its:</p> <ul style="list-style-type: none"> <li>• Primary Submission (the Dendrobium Project, dated 30 July 2001);</li> <li>• Submission in Reply (the Dendrobium Project, undated); and</li> <li>• Environmental Effects of Subsidence Associated with the Dendrobium Project, prepared by National Environmental Consulting Services and dated August 2001;</li> </ul> <p>(b) Modification Application dated 12 February 2002 and supporting information dated 27 January 2002;</p> <p>(c) Modification Application and supporting information dated 24 May 2002 and additional supporting information dated 14 June 2002;</p> <p>(d) Modification Application and Statement of Environmental Effects for the Dendrobium Coal Sizer, prepared by Olsen Environmental Consulting and dated March 2005;</p> <p>(e) Application for Further Approval of West Cliff Emplacement Area Stage 3, Vol 2 (including Appendices), prepared by Cardno Forbes Rigby and dated July 2007, associated Response to Submissions dated 1 November 2007 and associated Statement of Commitments dated 28 November 2007 (see Appendix 3);</p> <p>(f) Modification Application – Modification of Area 3 Footprint and Review of Conditions of Consent dated 27 November 2007, EA and associated Statement of Commitments (see Appendix 4); and</p> <p>(g) conditions of this consent.</p>	Compliant	The listed documentation reflects changes to the development as a result of consultation with Authorities and the community. Management Plans and associated documentation reflect these changes and requirements.
<p>3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.</p>	Compliant	Document precedence is applied where required.

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
<p>4. The Applicant shall comply with any reasonable and feasible requirement/s of the Director-General arising from the Department's assessment of:</p> <p>(a) any reports, plans, programs, strategies or correspondence that are submitted in accordance with the conditions of this consent; and</p> <p>(b) the implementation of any actions or measures contained in these reports, plans, programs, strategies or correspondence.</p>	Compliant	Requirements have been complied with where reasonable and feasible.
<b>Limits on Approval</b>		
<p>5. Mining operations may take place in the mining area until 31 December 2030.</p> <p><i>Note: Under this consent, the Applicant is required to rehabilitate the site to the satisfaction of the Director-General and DPI. Consequently this consent will continue to apply in all other respects other than the right to conduct mining operations until the site has been rehabilitated to a satisfactory standard.</i></p>	Compliant	Recognised in Environmental Management Strategy.
<p>6. The Applicant shall not extract more than 5.2 million tonnes of ROM coal a year from the mining area.</p>	Compliant	Less than 5.2 million tonnes are extracted per year. Mining plans and production forecasts are developed on this basis.
<p>7. The Applicant shall only transport coal from the surface facilities by rail.</p>	Compliant	Coal extracted from Dendrobium Mine is only transported via the Kemira Valley rail line.
<b>Staged Submission of Management Plans/Monitoring Programs</b>		
<p>8. With the approval of the Director-General, the Applicant may submit any management plan or monitoring program required by this consent on a progressive basis.</p>	Compliant	Plans required under the consent are submitted as required.
<p>9. The Applicant shall ensure that monitoring programs, management plans and the Environmental Management Strategy, as in existence at the date of modification of consent in November 2008, continue to be implemented (to the</p>	Compliant	Environmental requirements under existing programs, plans and

CONDITION OF CONSENT	STATUS	COMMENTS
satisfaction of the Director-General) until replaced by monitoring programs and management plans approved in accordance with the conditions of this consent.		strategies continue to be implemented pending approval of updated documentation.
<b>Structural Adequacy</b>		
<p><b>10.</b> The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>• Under Part 4A of the EP&amp;A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.</li> <li>• Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of the development.</li> </ul>	Compliant	All work completed by licensed trades.
<b>Demolition</b>		
<p><b>11.</b> The Applicant shall ensure that all demolition work is carried out in accordance with <i>Australian Standard AS 2601-2001: The Demolition of Structures</i>, or its latest version.</p>	Compliant	No demolition work has been undertaken during this reporting period.
<b>Operation of Plant and Equipment</b>		
<p><b>12.</b> The Applicant shall ensure that all plant and equipment used on site is:</p> <p>(a) maintained in a proper and efficient condition; and</p> <p>(b) operated in a proper and efficient manner.</p>	Compliant	A maintenance management system (i.e. SAP) is used to ensure that all plant and equipment used on site is maintained in a proper and efficient condition. Operators are trained and assessed as competent. The site entry process ensures that there is a maintenance strategy and operating procedure for equipment before going underground.

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
<b>Community Enhancement</b>		
<p><b>13.</b> The Applicant shall contribute \$0.03 per tonne of saleable coal production each financial year to fund the provision of significant present and future benefits to local communities directly affected by the development. These funds shall be:</p> <p>(a) administered and expended in accordance with procedures which are to the satisfaction of WCC and the Director-General;</p> <p>(b) provided by 30 September each year over the life of the consent;</p> <p>(c) based on saleable coal production in the previous financial year; and</p> <p>(d) indexed in accordance with the CPI, with April 2005 used as the commencement date for indexation calculations.</p> <p>Any dispute over the operation of this fund shall be referred to the Director-General for resolution.</p>	Compliant	<p>Payment was made for FY15 in accordance with requirements.</p> <p>Payment for FY16 will be paid within the next quarter.</p>
<b>Costs of Management Measures</b>		
<p><b>14.</b> The Applicant shall be responsible for the costs of all management measures (including measures to minimise, mitigate, offset or remediate impacts of the development which are not recoverable by a third party through the <i>Mine Subsidence Compensation Act 1961</i> or the <i>Mining Act 1991</i>) including but not limited to remediation of natural features, rehabilitation of ecological systems, the provision of supplementary waters and monitoring of the effectiveness of the works, as determined by the Director-General.</p>	Compliant	<p>Management measures will be undertaken as required and at the cost of Illawarra Coal where not recoverable by a third party.</p>
<b>SCHEDULE 3: SPECIFIC ENVIRONMENTAL CONDITIONS – MINING AREA</b>		
<p><b>SUBSIDENCE</b></p> <p><i>Note: These conditions should be read in conjunction with the Statement of Commitments.</i></p>		
<b>Watercourse Impact Management</b>		
<p><b>1.</b> The Applicant shall ensure that, as a result of the development:</p> <p>(a) no rock fall occurs at Sandy Creek Waterfall or from its overhang;</p> <p>(b) the structural integrity of the waterfall, its overhang and its pool are not impacted;</p> <p>(c) cracking in Sandy Creek within 30 m of the waterfall is of negligible environmental and hydrological consequence; and</p> <p>(d) negligible diversion of water occurs from the lip of the waterfall to the satisfaction of the Director-General.</p>	Compliant	<p>A SMP for Area 3a has been approved that meets these requirements.</p>

CONDITION OF CONSENT	STATUS	COMMENTS
<p>2. The Applicant shall ensure that underground mining operations do not cause subsidence impacts at Sandy Creek and Wongawilli Creek other than “minor impacts” (such as minor fracturing, gas release, iron staining and minor impacts on water flows, water levels and water quality) to the satisfaction of the Director-General.</p> <p><i>Note: In this condition, “minor impacts” are those defined as minor triggers in Table 23.2 of the draft SMP submitted by the Applicant for Dendrobium Area 3A.</i></p>	Compliant	A SMP for Area 3a has been approved that meets these requirements. The SMP for Area 3b also addresses potential impacts on Wongawilli Creek. Longwall panels are aligned to minimise impacts to watercourses.
<p>3. The Applicant shall ensure the development does not result in reduction (other than negligible reduction) in the quality or quantity of surface water or groundwater inflows to Lake Cordeaux or Lake Avon or surface water inflow to the Cordeaux River at its confluence with Wongawilli Creek, to the satisfaction of the Director-General.</p>	Compliant	Potential subsidence impacts are covered in the relevant SMP.
<p>4. Prior to carrying out any underground mining operations that could cause subsidence in either Area 3A, Area 3B or Area 3C, the Applicant shall prepare a Watercourse Impact Monitoring, Management and Contingency Plan to the satisfaction of the Director-General. Each such Plan must:</p> <p>(a) demonstrate how the subsidence impact limits in conditions 1 - 3 are to be met;</p> <p>(b) include a monitoring program and reporting mechanisms to enable close and ongoing review by the Department and DPI of the subsidence effects and impacts (individual and cumulative) on Wongawilli Creek, Sandy Creek and Sandy Creek Waterfall;</p> <p>(c) include a general monitoring and reporting program addressing surface water levels, water flows, water quality, surface slope and gradient, erodibility, aquatic flora and fauna (including Macquarie Perch, any other threatened aquatic species and their habitats) and ecosystem function;</p> <p>(d) include a management plan for avoiding, minimising, mitigating and remediating impacts on watercourses, which includes a tabular contingency plan (based on the Trigger Action Response Plan structure) focusing on measures for remediating both predicted and unpredicted impacts;</p> <p>(e) address third and higher order streams individually but address first and second order streams collectively;</p> <p>(f) be prepared in consultation with DECC, SCA and DPI;</p> <p>(g) incorporate means of updating the plan based on experience gained as mining progresses;</p> <p>(h) be approved prior to the carrying out of any underground mining operations that could cause subsidence impacts on watercourses in the relevant Area; and</p> <p>(i) be implemented to the satisfaction of the Director-General.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>• <i>Should review by the Department of reports by the</i></li> </ul>	Compliant	The Watercourse Impact Monitoring, Management and Contingency Plan has been incorporated into the Area 3B SMP and is also available on the Dendrobium Mine website

CONDITION OF CONSENT	STATUS	COMMENTS
<p><i>Applicant under paragraph (b) indicate that subsidence impacts have exceeded or threaten to limits imposed in conditions 1-3, then under condition 4 of Schedule 2 the Director-General may instruct the Applicant to implement reasonable and feasible requirements, which may include to cease mining within the operative longwall, shorten the length of that longwall or shorten the length and/or width of future longwalls.</i></p> <ul style="list-style-type: none"> <li><i>Requirements under paragraphs (a) and (b) in respect of Sandy Creek and Sandy Creek Waterfall relate only to the Watercourse Impact Monitoring, Management and Contingency Plan for Area 3A.</i></li> </ul>		
<p><b>Swamp Impact Management</b></p>		
<p><b>5.</b> The Applicant shall ensure that subsidence does not cause erosion of the surface or changes in ecosystem functionality of Swamp 15a and that the structural integrity of its controlling rockbar is maintained or restored, to the satisfaction of the Director-General.</p>	<p>Compliant</p>	<p>Subsidence management measures for Swamp 15a are included in the SMP for Area 3a. Changes to the mine plan for Area 3a will result in no mining directly under Swamp 15a.</p>
<p><b>6.</b> Prior to carrying out any underground mining operations that could cause subsidence in either Area 3A, Area 3B or Area 3C, the Applicant shall prepare a Swamp Impact Monitoring, Management and Contingency Plan to the satisfaction of the Director-General. Each such Plan must:</p> <ul style="list-style-type: none"> <li>(a) demonstrate how the subsidence impact limits in condition 5 are to be met;</li> <li>(b) include a monitoring program and reporting mechanisms to enable close and ongoing review by the Department and DPI of the subsidence effects and impacts (individual and cumulative) of each Area 3A longwall on Swamp 15a;</li> <li>(c) include a general monitoring and reporting program addressing surface water levels, near surface groundwater levels, water quality, surface slope and gradient, erodibility, flora and ecosystem function;</li> <li>(d) include a management plan for avoiding, minimising, mitigating and remediating impacts on swamps, which includes a tabular contingency plan (based on the Trigger Action Response Plan structure) focusing on measures for remediating both predicted and unpredicted impacts;</li> <li>(e) address headwater and valley infill swamps separately and address each swamp individually;</li> <li>(f) be prepared in consultation with DECC, SCA and DPI;</li> <li>(g) incorporate means of updating the plan based on experience gained as mining progresses;</li> <li>(h) be approved prior to the carrying out of any underground mining operations that could cause subsidence impacts on</li> </ul>	<p>Compliant</p>	<p>The Swamp Impact Monitoring, Management and Contingency Plan has been incorporated into the Area 3a and 3B SMPs. The Swamp Impact Monitoring, Management and Contingency Plan and the Watercourse Impact Monitoring, Management and Contingency Plan documents were revised to take into account the SMP Approval Conditions and submissions from Agencies. Approval of these plans was granted on the 10/07/2015.</p>



<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
<p>swamps in the relevant Area; and (i) be implemented to the satisfaction of the Director-General.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li><i>Should review by the Department of reports by the Applicant under paragraph (b) indicate that subsidence impacts have exceeded or threaten to exceed limits imposed in condition 5, then under condition 4 of Schedule 2 the Director-General may instruct the Applicant to implement reasonable and feasible requirements, which may include to cease mining within the operative longwall, shorten the length of that longwall or shorten the length and/or width of future longwalls.</i></li> <li><i>Requirements under paragraphs (a) and (b) relate only to the Swamp Impact Monitoring, Management and Contingency Plan for Area 3A.</i></li> </ul>		
<p><b>Subsidence Management Plans</b></p>		
<p>7. Prior to carrying out any underground mining operations that could cause subsidence in either Area 3A, 3B or 3C, the Applicant shall prepare a Subsidence Management Plan (SMP) to the satisfaction of the Director-General and the Director-General of DPI. Each such SMP must:</p> <p>(a) integrate ongoing management of Areas 1 and 2; (b) integrate the Watercourse and Swamp Impact Monitoring, Management and Contingency Plans required under conditions 4 and 6; (c) include monitoring of subsidence effects; (d) include a SCA Assets Protection Plan; (e) include monitoring, management, and contingency plans for all other significant natural features and all significant man made features which may be impacted by subsidence, including:</p> <ul style="list-style-type: none"> <li>landscape (including cliffs and steep slopes);</li> <li>groundwater (see condition 13);</li> <li>terrestrial flora and fauna and ecology (including all threatened species assessed as being likely to be significantly affected by the development and their habitats);</li> <li>Aboriginal and other cultural heritage (see condition 12); and electrical, communications and other infrastructure;</li> </ul> <p>(f) be prepared in consultation with DECC, SCA and DPI; (g) be approved prior to the carrying out of any underground mining operations that could cause subsidence in the relevant Area; and (h) be implemented to the satisfaction of the Director-General and the Director-General of DPI.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li><i>The SCA Assets Protection Plan required under this condition must also be prepared and implemented to the satisfaction of the SCA.</i></li> </ul>	<p>Compliant</p>	<p>SMPs that meet these requirements have been and will be submitted as required.</p>

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
<ul style="list-style-type: none"> <li>• <i>The contingency plans required under paragraph (e) must address remediation (as appropriate) and be based on a TARP structure.</i></li> </ul>		
<p><b>8.</b> The SMPs prepared under condition 7 for Areas 3B and 3C must:</p> <p>(a) include a mine plan for the relevant Area;</p> <p>(b) include a detailed subsidence impact assessment, clearly setting out all predicted subsidence effects, subsidence impacts and environmental consequences;</p> <p>(c) include a minimum of 2 years of baseline data, collected at appropriate frequency and scale, for all significant natural features;</p> <p>(d) identify and assess the significance of all natural features located within 600 m of the edge of secondary extraction;</p> <p>(e) distinguish between, clearly describe and adequately quantify all subsidence effects, subsidence impacts and environmental consequences;</p> <p>(f) propose limits on subsidence impacts and environmental consequences to be applied within the relevant Area;</p> <p>(g) be otherwise prepared in accordance with any guidelines for SMPs developed by the Department and/or DPI;</p> <p>(h) be approved prior to the carrying out of any underground mining operations that could cause subsidence in the relevant Area; and</p> <p>(i) be implemented to the satisfaction of the Director-General and the Director-General of DPI.</p> <p><i>Note: In approving an SMP, the Director-General may impose conditions containing subsidence impact limits (similar to conditions 1- 3 &amp; 5), subsidence management mechanisms (similar to conditions 4 &amp; 6) or other conditions.</i></p>	Compliant	The SMPs prepared are in line with this condition.
<b>End of Panel Reporting</b>		
<p><b>9.</b> Within 4 months of the completion of each longwall panel, or as otherwise permitted by the Director-General, the Applicant shall:</p> <p>(a) prepare an end-of-panel report:</p> <ul style="list-style-type: none"> <li>• reporting all subsidence effects (both individual and cumulative) for the panel and comparing subsidence effects with predictions;</li> <li>• describing in detail all subsidence impacts (both individual and cumulative) for the panel;</li> <li>• discussing the environmental consequences for watercourses, swamps, water yield, water quality, aquatic ecology, terrestrial ecology, groundwater, cliffs and steep slopes; and</li> <li>• comparing subsidence impacts and environmental consequences with predictions; and</li> </ul> <p>(b) submit the report to the Department, DPI, SCA, DECC, DWE and any other relevant agency to the satisfaction of the</p>	Compliant	End of Panel Reports for Longwalls 6, 7, 8, 9 and 10 have been submitted in accordance with the timing of this condition.

CONDITION OF CONSENT	STATUS	COMMENTS
Director-General.		
<p><b>10.</b> The Applicant shall include a comprehensive summary, analysis and discussion of the results of monitoring of subsidence effects, subsidence impacts and environmental consequences in each AEMR.</p> <p><i>Note: Conditions 9 and 10 apply to Area 2, as well as to Areas 3A, 3B and 3C.</i></p>	Compliant	A summary of subsidence effects, impacts and environmental consequences is included in the AEMR.
<b>Subsidence Expert Assessments</b>		
<p><b>11.</b> The Applicant shall pay the reasonable costs of the Department in engaging independent experts to advise it when it assesses SMPs prepared under condition 7 for Areas 3B and 3C.</p>	N/A	No such request has been received from the Department.
<b>ABORIGINAL HERITAGE</b>		
<p><b>12.</b> The SMPs prepared under condition 7 must include an Aboriginal Heritage Plan, which must include a:</p> <p>(a) description of known Aboriginal heritage sites;</p> <p>(b) protocol for the ongoing consultation and involvement of the Aboriginal community in the conservation and management of Aboriginal heritage;</p> <p>(c) description of the measures that would be implemented to protect Aboriginal sites generally, including measures that would be implemented to secure, analyse and record sites at risk of subsidence;</p> <p>(d) description of the measures that would be implemented to protect Aboriginal site 52-2-1646, including:</p> <ul style="list-style-type: none"> <li>• a full recording and assessment of the site's rock art;</li> <li>• a more detailed subsidence assessment for the site;</li> <li>• measures which seek to avoid any significant impact on the site and any necessary contingency plans to protect the site against collapse or substantial impact on its rock art; and</li> </ul> <p>(e) description of the measures that would be implemented if any new Aboriginal objects or skeletal remains are discovered during the development.</p>	Compliant	The Aboriginal Heritage Plan has been incorporated into the Area 3a and 3b SMPs.
<b>GROUNDWATER MONITORING PROGRAM</b>		
<p><b>13.</b> The SMPs prepared under condition 7 must include a Groundwater Monitoring Program, which must include:</p> <p>(a) proposals to develop a detailed regional and local groundwater model, with special reference to flows to and from nearby water storages;</p> <p>(b) detailed baseline data to benchmark the natural variation in</p>	Compliant	The Groundwater Monitoring Program has been incorporated into the Area 3a and 3b SMPs.

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
<p>groundwater levels, yield and quality;                      (c) groundwater impact assessment criteria;                      (d) a program to monitor the impact of the development on:</p> <ul style="list-style-type: none"> <li>• groundwater levels, yield and quality (particularly any potential loss of flow to, or flow from, SCA water storages);</li> <li>• coal seam aquifers and overlying aquifers; and</li> <li>• groundwater springs and seeps; and</li> </ul> <p>(e) consideration of the requirements of the latest version (or subsequent replacement) of SCA's <i>The Design of a Hydrological and Hydrogeological Monitoring Program to Access the Impacts of Longwall Mining in SCA Catchment</i>.</p>		
<b>ENVIRONMENTAL OFFSETS</b>		
<p><b>14.</b> The Applicant shall provide suitable offsets for loss of water quality or loss of water flows to SCA storages, clearing and other ground disturbance (including cliff falls) caused by its mining operations and/or surface activities within the mining area, unless otherwise addressed by the conditions of this consent, to the satisfaction of the Director-General. These offsets must:</p> <p>(a) be submitted to the Director-General for approval by 30 April 2009;</p> <p>(b) be prepared in consultation with SCA;</p> <p>(c) provide measures that result in a beneficial effect on water quality, water quantity, aquatic ecosystems and/or ecological integrity of SCA's special areas or water catchments.</p>	Compliant	This offset was accepted by the SCA 10 February 2009.
<b>SCHEDULE 4: SPECIFIC ENVIRONMENTAL CONDITIONS – SURFACE FACILITIES</b>		
<b>NOISE</b>		
<b>Noise Impact Assessment Criteria</b>		
<p><b>1.</b> The Applicant shall ensure that the noise generated at the surface facilities does not exceed the noise impact assessment criteria in Table 1 at any residence on privately-owned land, or on more than 25% of any privately-owned land. The applicable criteria for any residence not listed in Table 1 shall be the criteria applying at the nearest listed residence.</p>	Non-Compliant	Noise monitoring is undertaken in accordance with the approved Noise Management Plan, a summary of results is provided via the Dendrobium Mine AEMR. There were two exceedances of the LAeq, 15 minute noise criteria during the reporting period at R39a however

CONDITION OF CONSENT	STATUS	COMMENTS																																																							
<p><b>Table 1: Noise impact assessment criteria dB(A)</b></p> <table border="1"> <thead> <tr> <th>Day L<sub>Aeq</sub>(15 min)</th> <th>Evening L<sub>Aeq</sub>(15 min)</th> <th colspan="2">Night L<sub>Aeq</sub>(15 min)</th> <th>Residence (as shown in the Noise Monitoring Program)</th> </tr> <tr> <td></td> <td></td> <td></td> <td>L<sub>A1</sub>(1 min)</td> <td></td> </tr> </thead> <tbody> <tr> <td>42</td> <td>42</td> <td>38</td> <td>48</td> <td>R2</td> </tr> <tr> <td>41</td> <td>41</td> <td>40</td> <td>50</td> <td>R22</td> </tr> <tr> <td>40</td> <td>40</td> <td>39</td> <td>49</td> <td>R1</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>R9</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>R15a</td> </tr> <tr> <td>40</td> <td>40</td> <td>37</td> <td>47</td> <td>R3a</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>R5a</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>R6a&amp;b</td> </tr> <tr> <td>37</td> <td>35</td> <td>35</td> <td>45</td> <td>R39a</td> </tr> </tbody> </table> <p>Notes:</p> <ul style="list-style-type: none"> <li>To determine compliance with the L<sub>Aeq</sub>(15 minute) limit, noise from the development is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.</li> <li>To determine compliance with the L<sub>A1</sub>(1 minute) limit, noise from the development is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the development is impractical, DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).</li> <li>The noise emission limits identified in the above table apply under meteorological conditions of:             <ul style="list-style-type: none"> <li>wind speeds of up to 3 m/s at 10 metres above ground level; or</li> <li>up to 3°C/100 m temperature inversion strength for all receivers, plus a 2 m/s source-to-receiver component drainage flow wind at 10 metres above ground level for those receivers where applicable.</li> </ul> </li> <li>These limits do not apply if the Applicant has an agreement with the relevant owner/s of these residences to generate higher noise levels, and the Applicant has advised the Department and DECC in writing of the terms of this agreement.</li> </ul>	Day L <sub>Aeq</sub> (15 min)	Evening L <sub>Aeq</sub> (15 min)	Night L <sub>Aeq</sub> (15 min)		Residence (as shown in the Noise Monitoring Program)				L <sub>A1</sub> (1 min)		42	42	38	48	R2	41	41	40	50	R22	40	40	39	49	R1					R9					R15a	40	40	37	47	R3a					R5a					R6a&b	37	35	35	45	R39a		<p>the Mine noise level remained below the dominant noise (insects, birds and bats).</p>
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<p><b>Land Acquisition Criteria</b></p>																																																									
<p><b>2.</b> If the noise generated at the surface facilities exceeds the relevant criteria in Table 2 at any residence on privately-owned land or on more than 25% of any privately-owned land, the Applicant shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 8 - 10 of schedule 4. The applicable criteria for any residence not listed in Table 2 shall be the criteria applying at the nearest listed residence.</p> <p><b>Table 2: Noise acquisition criteria dB(A)</b></p> <table border="1"> <thead> <tr> <th>Day L<sub>Aeq</sub>(15 min)</th> <th>Evening L<sub>Aeq</sub>(15 min)</th> <th>Night L<sub>Aeq</sub>(15 min)</th> <th>Residence (as shown in the Noise Monitoring Program)</th> </tr> </thead> <tbody> <tr> <td>47</td> <td>47</td> <td>43</td> <td>R2</td> </tr> <tr> <td>46</td> <td>46</td> <td>45</td> <td>R22</td> </tr> <tr> <td>45</td> <td>45</td> <td>44</td> <td>R1</td> </tr> <tr> <td></td> <td></td> <td></td> <td>R9</td> </tr> <tr> <td></td> <td></td> <td></td> <td>R15a</td> </tr> <tr> <td>45</td> <td>45</td> <td>42</td> <td>R3a</td> </tr> <tr> <td></td> <td></td> <td></td> <td>R5a</td> </tr> <tr> <td></td> <td></td> <td></td> <td>R6a&amp;b</td> </tr> <tr> <td>42</td> <td>40</td> <td>40</td> <td>R39a</td> </tr> </tbody> </table> <p>Note: Noise generated by the development is to be measured in accordance with the notes to Table 1.</p>	Day L <sub>Aeq</sub> (15 min)	Evening L <sub>Aeq</sub> (15 min)	Night L <sub>Aeq</sub> (15 min)	Residence (as shown in the Noise Monitoring Program)	47	47	43	R2	46	46	45	R22	45	45	44	R1				R9				R15a	45	45	42	R3a				R5a				R6a&b	42	40	40	R39a	<p>N/A</p>	<p>No requests have been received from landholders for land acquisition due to noise.</p>															
Day L <sub>Aeq</sub> (15 min)	Evening L <sub>Aeq</sub> (15 min)	Night L <sub>Aeq</sub> (15 min)	Residence (as shown in the Noise Monitoring Program)																																																						
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<p><b>Rail Haulage Impact Assessment Criteria</b></p>																																																									
<p><b>3.</b> The Applicant shall ensure that noise generated by locomotives using the Kemira Valley rail line does not exceed the rail noise impact assessment criteria in Table 3.</p>	<p>Compliant</p>	<p>Rail noise monitoring is undertaken on a 6 monthly basis. No exceedances were recorded during the 6 monthly monitoring.</p>																																																							

<b>CONDITION OF CONSENT</b>			<b>STATUS</b>	<b>COMMENTS</b>										
<p><i>Table 3: Rail noise impact assessment criteria</i></p> <table border="1"> <thead> <tr> <th><b>Operating Condition</b></th> <th><b>Measurement Conditions</b></th> <th><b>Criteria L<sub>A1</sub> (1 min)</b></th> </tr> </thead> <tbody> <tr> <td rowspan="3">                     Locomotive at idle, with compressor radiator fans and air conditioning operating at maximum load                      All other throttle settings under self-load, with compressor radiator fans and air conditioning operating at maximum load                      All service conditions                 </td> <td>Stationary 15 metre contour</td> <td>70 dB(A)</td> </tr> <tr> <td>Stationary 15 metre contour</td> <td>87 dB(A) 95 dB(Lin)</td> </tr> <tr> <td>Up to 50 kilometres per hour, 15 metres from centreline of rail track</td> <td>87 dB(A) 95 dB(Lin) Must be non-tonal Linear noise levels must not exceed A-weighted noise levels by more than 15 dB</td> </tr> </tbody> </table> <p><i>Note: All measured noise levels must be assessed for tonality in accordance with the NSW Industrial Noise Policy, unless otherwise specified.</i></p>			<b>Operating Condition</b>	<b>Measurement Conditions</b>	<b>Criteria L<sub>A1</sub> (1 min)</b>	Locomotive at idle, with compressor radiator fans and air conditioning operating at maximum load All other throttle settings under self-load, with compressor radiator fans and air conditioning operating at maximum load All service conditions	Stationary 15 metre contour	70 dB(A)	Stationary 15 metre contour	87 dB(A) 95 dB(Lin)	Up to 50 kilometres per hour, 15 metres from centreline of rail track	87 dB(A) 95 dB(Lin) Must be non-tonal Linear noise levels must not exceed A-weighted noise levels by more than 15 dB		
<b>Operating Condition</b>	<b>Measurement Conditions</b>	<b>Criteria L<sub>A1</sub> (1 min)</b>												
Locomotive at idle, with compressor radiator fans and air conditioning operating at maximum load All other throttle settings under self-load, with compressor radiator fans and air conditioning operating at maximum load All service conditions	Stationary 15 metre contour	70 dB(A)												
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	Up to 50 kilometres per hour, 15 metres from centreline of rail track	87 dB(A) 95 dB(Lin) Must be non-tonal Linear noise levels must not exceed A-weighted noise levels by more than 15 dB												
<b>Continuous Improvement</b>														
<p><b>4.</b> The Applicant shall:</p> <p>(a) continue to investigate ways to reduce the noise generated by the development (including off-site road noise, noise and vibration impacts from the operation of the Kemira Valley rail line and maximum noise levels which may result in sleep disturbance);</p> <p>(b) continue to implement all reasonable and feasible best practice noise mitigation measures; and</p> <p>(c) report on these investigations and the implementation and effectiveness of these measures in the AEMR, to the satisfaction of the Director-General.</p>			Compliant	Details regarding noise investigations undertaken and mitigation improvements implemented will be detailed in the AEMR.										
<p><b>5.</b> The Applicant shall use its best endeavours to minimise wheel squeal, brake squeal and locomotive wheel slippage arising from rail haulage on the Kemira Valley rail line.</p>			Compliant	Details regarding noise investigations undertaken and mitigation improvements implemented are detailed in the AEMR.										
<b>Additional Noise Mitigation Measures</b>														
<p><b>6.</b> Upon receiving a written request from the owner of any residence where subsequent noise monitoring shows the noise generated by the development is 3 dB(A) greater than the noise impact assessment criteria in Table 1 (except where a negotiated noise agreement is in place) the Applicant shall implement reasonable and feasible noise mitigation measures (such as double glazing, insulation and/or air conditioning) at any residence on the land in consultation with the landowner. If within 3 months of receiving this request from the landowner, the Applicant and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p>			N/A	No requests for noise mitigation have been received.										

CONDITION OF CONSENT	STATUS	COMMENTS
<b>Monitoring</b>		
<p>7. The Applicant shall prepare and implement a Noise Monitoring Program for the development to the satisfaction of the Director-General. This program must:</p> <ul style="list-style-type: none"> <li>(a) be submitted to the Director-General for approval by 30 April 2009;</li> <li>(b) be prepared in consultation with DECC;</li> <li>(c) provide for quarterly attended noise monitoring and real-time noise monitoring (where appropriate) to monitor the performance of the development, especially in residential areas close to the surface facilities; and</li> <li>(d) include a noise monitoring protocol for evaluating compliance with the noise impact and land acquisition criteria in this consent.</li> </ul> <p><i>Note: This program must expressly monitor the modifying factors referred to in the NSW Industrial Noise Policy (such as intermittency, tonality and low frequency)</i></p>	Compliant	An approved noise management plan is in place.
<b>BLASTING AND VIBRATION</b>		
<p>8. The Applicant is not permitted to undertake blasting operations at the surface facilities except with the prior written approval of DECC and subject to any conditions which DECC may impose.</p>	Compliant	No blasting activities were undertaken.
<b>AIR QUALITY</b>		
<b>Impact Assessment Criteria</b>		
<p>9. The Applicant shall ensure that dust generated by the development does not cause additional exceedances of the criteria listed in Tables 4 to 6 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.</p>	Non - Compliant	Air quality monitoring is undertaken on a monthly basis. Details are provided in the AEMR. One exceedance at Point 21.

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>																							
<p><i>Table 4: Long term impact assessment criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td>90 µg/m<sup>3</sup></td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>Annual</td> <td>30 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><i>Table 5: Short term impact assessment criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>24 hour</td> <td>50 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><i>Table 6: Long term impact assessment criteria for deposited dust</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>Deposited dust</td> <td>Annual</td> <td>2 g/m<sup>2</sup>/month</td> <td>4 g/m<sup>2</sup>/month</td> </tr> </tbody> </table> <p><small>Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS/NZS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.</small></p>	Pollutant	Averaging period	Criterion	Total suspended particulate (TSP) matter	Annual	90 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	30 µg/m <sup>3</sup>	Pollutant	Averaging period	Criterion	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	50 µg/m <sup>3</sup>	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	Deposited dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month		
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Deposited dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month																						
<p><b>Monitoring</b></p>																									
<p><b>10.</b> The Applicant shall prepare and implement an Air Quality Monitoring Program for the surface facilities (excepting those surface facilities within the mining area) to the satisfaction of the Director-General. This program must:</p> <ul style="list-style-type: none"> <li>(a) be submitted to the Director-General for approval by 30 April 2009;</li> <li>(a) be prepared in consultation with DECC;</li> <li>(b) use a combination of high volume samplers and dust deposition gauges to monitor the performance of the development; and</li> <li>(c) include an air quality monitoring protocol for evaluating compliance with the air quality impact assessment criteria in this consent.</li> </ul>	<p>Compliant</p>	<p>An Air Quality Management Plan was submitted to the DoP by 30 April 2009 to meet these requirements and was approved in September 2009.</p> <p>AQMP was updated and resubmitted in March 2012.</p>																							
<p><b>METEOROLOGICAL MONITORING</b></p>																									
<p><b>11.</b> During the development, the Applicant shall ensure that it has a suitable meteorological station in the vicinity of the site that is generally in accordance with the requirements in the guideline <i>Approved Methods for Sampling of Air Pollutants in New South Wales</i>.</p>	<p>Compliant</p>	<p>A meteorological station is situated at the Kemira Valley Coal Loading Facility, Dendrobium Pit Top and Ventilation Shaft 2/3 site.</p>																							
<p><b>WATER MANAGEMENT</b></p>																									
<p><b>Discharges</b></p>																									
<p><b>12.</b> The Applicant shall ensure all surface water discharges from the surface facilities:</p> <ul style="list-style-type: none"> <li>(a) meet the relevant ANZECC water quality objectives for the protection of aquatic ecosystems and water quality of existing receiving waters; and</li> <li>(b) comply with the discharge limits (both volume and quality) set for the development in any EPL.</li> </ul>	<p>Compliant</p>	<p>Water quality monitoring is undertaken as per the Water Management Plan. Water quality was within EPL</p>																							



CONDITION OF CONSENT	STATUS	COMMENTS
		requirements.
<b>Water Management Plan</b>		
<p>13. The Applicant shall prepare and implement a Water Management Plan for the surface facilities to the satisfaction of the Director-General. This plan must:</p> <p>(a) be submitted to the Director-General for approval by 30 April 2009;</p> <p>(b) be prepared in consultation with DECC, SCA and DWE by suitably qualified expert/s whose appointment/s have been approved by the Director-General; and</p> <p>(c) include a:</p> <ul style="list-style-type: none"> <li>• Site Water Balance;</li> <li>• Erosion and Sediment Control Plan;</li> <li>• Surface Water Monitoring Program; and</li> <li>• Surface and Ground Water Response Plan.</li> </ul>	Compliant	An approved Water Management Plan is in place.
<b>Site Water Balance</b>		
<p>14. The Site Water Balance must:</p> <p>(a) include details of:</p> <ul style="list-style-type: none"> <li>• sources and security of water supply;</li> <li>• water use on site;</li> <li>• water intercepted by mining operations;</li> <li>• water management on site;</li> <li>• off-site water transfers and water stored or disposed of underground;</li> <li>• reporting procedures; and</li> </ul> <p>(b) describe measures to minimise water use by the development.</p>	Compliant	The Site Water Balance has been incorporated in the Water Management Plan to meet these requirements.
<b>Erosion and Sediment Control</b>		
<p>15. The Erosion and Sediment Control Plan must:</p> <p>(a) be consistent with the requirements of the <i>Managing Urban Stormwater: Soils and Construction Manual</i> (Landcom 2004, or its latest version);</p> <p>(b) identify activities that could cause soil erosion and generate sediment;</p> <p>(c) describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters;</p> <p>(d) describe the location, function, and capacity of erosion and sediment control structures; and</p> <p>(e) describe what measures would be implemented to monitor and maintain the structures over time.</p>	Compliant	The Erosion and Sediment Control Plan has been incorporated in the Water Management Plan (refer to Element II) to meet these requirements.
<b>Surface Water Monitoring Program</b>		
16. The Surface Water Monitoring Plan must include:	Compliant	The Surface Water

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
<p>(a) baseline data on surface water flows and quality in streams and other waterbodies that have been or could be affected by the surface facilities;</p> <p>(b) surface water quality and stream health assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts;</p> <p>(c) a program to monitor the impact of the surface facilities on surface water flows and quality, stream health and channel stability; and</p> <p>(d) procedures for reporting the results of this monitoring.</p>		<p>Monitoring Plan has been incorporated in the Water Management Plan to meet these requirements. A summary of the results from the monitoring program is provided in the Dendrobium Mine AEMR.</p>
<p><b>Surface and Ground Water Response Plan</b></p>		
<p><b>17.</b> The Surface and Ground Water Response Plan must describe what measures and/or procedures would be implemented to:</p> <p>(a) respond to any exceedances of the surface water, stream health, and groundwater assessment criteria; and</p> <p>(b) mitigate and/or offset any adverse impacts on groundwater dependent ecosystems, aquatic ecosystems or riparian vegetation.</p>	<p>Compliant</p>	<p>The Surface and Ground Water Response Plan has been incorporated in the Water Management Plan to meet these requirements.</p>
<p><b>LANDSCAPE MANAGEMENT</b></p>		
<p><b>Rehabilitation</b></p>		
<p><b>18.</b> The Applicant shall rehabilitate the surface facilities sites to the satisfaction of DPI. For rehabilitation works within the Metropolitan Special Area, the Applicant shall also ensure that these works are carried out to the satisfaction of SCA.</p>	<p>Compliant</p>	<p>A Conceptual Site Closure Plan has been developed. Closure and/or rehabilitation activities, when undertaken, will meet the requirements of the relevant regulatory agencies including I&amp;I NSW. Rehabilitation undertaken during each financial year is reported annually in the Dendrobium Mine AEMR which is submitted to I&amp;I NSW.</p>
<p><b>Landscape Management Plan</b></p>		
<p><b>19.</b> The Applicant shall prepare and implement a Landscape Management Plan for the surface facilities to the satisfaction of the Director-General and the Director-General of DPI. This</p>	<p>Compliant</p>	<p>An approved Landscape Management Plan</p>

CONDITION OF CONSENT	STATUS	COMMENTS
<p>plan must:</p> <p>(a) be submitted for approval by 30 April 2009;</p> <p>(b) be prepared by suitably qualified expert/s whose appointment/s have been endorsed by the Director-General;</p> <p>(c) be prepared in consultation with DECC and SCA; and</p> <p>(d) include a:</p> <ul style="list-style-type: none"> <li>• Rehabilitation Management Plan; and</li> <li>• Mine Closure Plan.</li> </ul> <p><i>Note: The Mine Closure Plan may be submitted at a date agreed by the Director-General, provided that this date is at least 2 years prior to the planned cessation of mining at the site.</i></p>		is in place.
<b>Rehabilitation Management Plan</b>		
<p><b>20.</b> The Rehabilitation Management Plan must include:</p> <p>(a) the rehabilitation objectives for the surface facilities sites;</p> <p>(b) a general description of the short, medium and long term measures that would be implemented to rehabilitate these sites;</p> <p>(c) performance and completion criteria for the rehabilitation of these sites;</p> <p>(d) a description of how the performance of the rehabilitation works would be monitored over time to achieve the stated objectives and against the relevant performance and completion criteria;</p> <p>(e) any measures necessary to ensure that abandoned mine workings do not impact on stored waters or dams; and</p> <p>(f) details of who is responsible for monitoring, reviewing and implementing the plan.</p>	Compliant	The Rehabilitation Management Plan has been incorporated in the Landscape Management Plan.
<b>Mine Closure Plan</b>		
<p><b>21.</b> The Mine Closure Plan must:</p> <p>(a) be prepared in consultation with the affected councils and CCC;</p> <p>(b) define the objectives and criteria for mine closure;</p> <p>(c) investigate options for the future use of the surface facilities sites;</p> <p>(d) include the proposed management and use of any heritage-listed buildings;</p> <p>(e) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local and regional employment;</p> <p>(f) describe the measures that would be implemented to minimise or manage the on-going environmental effects of the development; and</p> <p>(g) describe how the performance of these measures would be monitored over time.</p>	Compliant	A summary of the Mine Closure Plan was provided in the Landscape Management Plan. A Conceptual Site Closure Plan (as a separate document) has been developed that generally meets these requirements and all requirements will be met closer to mine closure. Site Closure is not

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
		planned within the next two years.
<b>Bushfire Management Plan</b>		
<b>22.</b> The Applicant shall prepare and implement a Bushfire Management Plan for the site, with particular reference to the mining area, in consultation with SCA and to the satisfaction of the Rural Fire Service.	Compliant	An approved Bushfire Management Plan is in place.
<b>TRANSPORT</b>		
<b>Rail Transport of Coal</b>		
<b>23.</b> The Applicant shall ensure that trains do not travel on the Kemira Valley rail line: (a) between 12 midnight and 6 am, until 29 April 2010; and (b) between 11 pm and 6 am, from 30 April 2010 unless written approval is obtained from DECC for emergency use of the rail line.	Compliant	The rail curfew is adhered to.
<b>24.</b> The Applicant shall record the: (a) date and time of each train movement on the Kemira Valley rail line; and (b) amount of coal transported from the KVCLF each year and include a comprehensive summary and discussion of the results of this monitoring in each AEMR.	Compliant	This data is recorded via the Logistics KPI Report and also on Pacific National Run Sheets. The data is summarised and reported in the Dendrobium Mine AEMR.
<b>Road Transport</b>		
<b>25.</b> The Applicant shall prepare and implement a Traffic Management Plan for the development to the satisfaction of the Director-General. This plan must: (a) be submitted to the Director-General for approval by 30 April 2009; (b) be prepared in consultation with the WCC, Mt Kembla Primary School and the CCC; (c) include traffic control measures for truck movements through residential areas, including Stones Road and its intersection with Cordeaux Road; (d) provide that mine shift changeover times and deliveries by heavy vehicle to the pit top facilities and KVCLF do not conflict with pick-up and drop-off times for Mt Kembla Primary School students; (e) provide heavy vehicle speed limits; (f) include a Driver's Code of Conduct to be applied to the applicant's employees and contractors working at the development and measures for the enforcement of this code;	Compliant	An approved Traffic Management Plan is in place

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
and (g) include procedures for regular monitoring of compliance with this plan.		
<b>Road Maintenance</b>		
<p><b>26.</b> The Applicant shall enter into an agreement with SCA, to the satisfaction of the Director-General, to share the reasonable costs of maintenance of all access roads, bridges and creek crossings located on land controlled by SCA and used by the Applicant.</p>	Compliant	An agreement has been developed with the SCA.
<p><b>27.</b> The Applicant shall establish an agreement with WCC to share the reasonable costs of maintenance of Stones Road for the life of the development. Prior to decommissioning of the mine, Stones Road must be inspected, to the satisfaction of WCC, and the road restored by the Applicant to a standard not less than its condition prior to the development's approval. If roadworks are not carried out by the Applicant within one month of being informed by WCC that these works are required under the maintenance agreement, WCC shall be entitled to carry out such maintenance work at the Applicant's cost. Any dispute over implementation of this condition is to be referred to the Director-General for resolution.</p>	Compliant	A Maintenance Agreement for Stones Road is in place with WCC - the agreement has been signed by both WCC and Illawarra Coal. Dated 18th May 2011
<b>VISUAL</b>		
<b>Visual Amenity</b>		
<p><b>28.</b> The Applicant shall minimise the visual impacts of the surface facilities to the satisfaction of the Director-General.</p>	Compliant	A vegetative screen is maintained around the operation. There have been no complaints received regarding visual amenity. No further work is required unless ordered by the Director-General;
<b>Lighting Emissions</b>		
<p><b>29.</b> The Applicant shall:            (a) ensure that all external lighting associated with the surface facilities complies with <i>Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting</i>;            (b) take all practicable measures to mitigate off-site lighting impacts from the surface facilities;            (c) ensure that light emitted from headlights of locomotives operating on the Kemira Valley rail line are screened from</p>	Compliant	An approved Lighting Management Plan is in place. A Lighting Assessment was undertaken in 2008.

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
residences; and (d) report on the effectiveness of lighting emission controls in the AEMR to the satisfaction of the Director-General.		
<b>WASTE</b>		
<b>30.</b> The Applicant shall: (a) monitor the amount of waste generated by the development; (b) investigate ways to reuse, recycle, or minimise this waste; (c) implement reasonable and feasible measures to minimise this waste; and (d) report on waste management and minimisation in the AEMR to the satisfaction of the Director-General.	Compliant	A summary of waste management activities associated with Dendrobium Mine is reported via the AEMR.
<b>SCHEDULE 5: SPECIFIC ENVIRONMENTAL CONDITIONS - OTHER SITE COMPONENTS</b>		
<b>COAL WASHERY</b>		
<b>Hot Gas Exhaust Stack Discharges</b>		
<b>1.</b> The Applicant shall: (a) ensure that the concentration of pollutants discharged from the coal dryer hot gas exhaust complies with discharge limits set for the development in any EPL; (b) regularly monitor the concentration of pollutants discharged from the coal dryer hot gas exhaust; and (c) report on waste management and minimisation in the AEMR to the satisfaction of the Director-General.	N/A	The Coal Dryer is not in operation.
<b>Fuel Source</b>		
<b>2.</b> The Applicant shall ensure the coal drying plant only uses blast furnace offgas or natural gas as fuel for the drier.	N/A	The Coal Dryer is not in operation.
<b>WEST CLIFF COAL WASH EMPLACEMENT</b>		
<b>Coal Washery Reject</b>		
<b>3.</b> The Applicant shall: (a) monitor the amount of coal washery reject emplaced in the West Cliff Coal Wash Emplacement; (b) investigate ways to reduce emplacement of coal washery reject at West Cliff, including beneficial use or improved disposal options; and	N/A	Project Approval has been granted under Part 3a and as such takes precedence. Refer to Schedule 5:

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
(c) report on these matters in the West Cliff AEMR to the satisfaction of the Director-General.		Condition 8 <i>These requirements are reported in the BSO AEMR.</i>
<b>Pollution Reduction Program</b>		
<p><b>4.</b> The Applicant shall develop with DECC a new Pollution Reduction Program (PRP) to be incorporated into the West Cliff Colliery's EPL. Subject to the satisfaction of DECC, the PRP shall:</p> <p>(a) include investigation, trial and implementation of appropriate strategies, technologies or works to achieve agreed water quality discharge criteria for licensed discharges from the West Cliff Colliery site with particular reference to salinity; and</p> <p>(b) cover a period of not less than five years.</p>	N/A	<p>Project Approval has been granted under Part 3a and as such takes precedence. Refer to Schedule 5: Condition 8</p> <p><i>PRP10 has been incorporated into EPL2504. Stage 1 of the PRP was submitted to DECCW on the 30 March 2010, additional correspondence regarding Stage 2 of the PRP was submitted to DECCW in May/June 2011.</i></p>
<b>Water Quality Monitoring Program</b>		
<p><b>5.</b> The Applicant shall review its water quality monitoring program for the West Cliff Mine in consultation with DECC and DWE and to the satisfaction of the Director-General.</p>	N/A	<p>Project Approval has been granted under Part 3a and as such takes precedence. Refer to Schedule 5: Condition 8</p> <p><i>As part of the stage 3 emplacement environmental assessment the water quality monitoring program was reviewed and submitted.</i></p>
<b>Brennans Creek Diversion Bypass Rehabilitation Plan</b>		
		Project Approval

**Dendrobium Mine Compliance Report**

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
<p>6. The Applicant shall, by 30 June 2009, develop a Brennans Creek Diversion Bypass Rehabilitation Plan in consultation with DECC, DWE and DPI and to the satisfaction of the Director-General.</p>	<p>Compliant</p>	<p>has been granted under Part 3a and as such takes precedence. Refer to Schedule 5: Condition 8</p> <p>Brennans Creek Diversion Bypass Rehabilitation Plan submitted to DoP in December 2008. Plan was approved on 9 September 2009.</p>
<p><b>General Management of the Emplacement</b></p>		
<p>7. Subject to condition 2 of schedule 2 and conditions 3- 6 above, the Applicant shall monitor and manage the West Cliff Coal Wash Emplacement as part of the Environmental Management Plan for the West Cliff Mine. Monitoring and management of the Emplacement shall be reported within the West Cliff AEMR, rather than the AEMR for this development.</p>	<p>Compliant</p>	<p>Project Approval has been granted under Part 3a and as such takes precedence. Refer to Schedule 5: Condition 8</p> <p><i>Emplacement operations are managed in accordance with the West Cliff Emplacement Management Plan. Details of the emplacement operations, including the rehabilitation aspects, are included in the BSO AEMR.</i></p>
<p>8. All references in this consent (including conditions 3 – 7 of this schedule and Appendix 3) that have direct application to the West Cliff Coal Wash Emplacement shall cease to have force and effect subsequent to the grant of any project approval under Part 3A of the Environmental Planning &amp; Assessment Act 1979 which includes the West Cliff Colliery and the West Cliff Coal Wash Emplacement Area.</p>	<p>Compliant</p>	<p>Project approval under Part 3A been provided.</p>
<p><b>SCHEDULE 6: SPECIFIC ENVIRONMENTAL CONDITIONS – EXTENDED SITE</b></p>		



CONDITION OF CONSENT	STATUS	COMMENTS
<b>GREENHOUSE GASES &amp; ENERGY EFFICIENCY</b>		
<p>1. The Applicant shall prepare and implement a Greenhouse and Energy Efficiency Plan for the development. This plan must:</p> <p>(a) be prepared in consultation with DECC and generally in accordance with the Guidelines for Energy Savings Action Plans (DEUS 2005, or its latest version);</p> <p>(b) be submitted to the Director-General by 30 April 2009 for approval;</p> <p>(c) include a program to monitor greenhouse gas emissions and energy use generated by the development;</p> <p>(d) include a framework for investigating and implementing measures to reduce greenhouse gas emissions and energy use at the development;</p> <p>(e) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures at the development;</p> <p>(f) describe how the performance of these measures would be monitored over time; and</p> <p>(g) report on the development's greenhouse gas emissions and minimisation measures in the AEMR to the satisfaction of the Director-General.</p> <p><i>Note: The Applicant may consider the Dendrobium Mine's greenhouse gas minimisation measures within its overall greenhouse gas minimisation measures across its Southern Coalfield mines and related operations.</i></p>	Compliant	<p>The following documents were originally submitted to the DoP by 30 April 2009 to meet these requirements and approved in December 2009:</p> <ul style="list-style-type: none"> <li>• Illawarra Coal Greenhouse Gas and Energy Management Plan</li> <li>• Dendrobium Mine GHG and Energy Efficiency Plan</li> <li>• Dendrobium Coal Preparation Plant GHG and Energy Efficiency Plan</li> <li>• West Cliff Coal Wash Emplacement GHG and Energy Efficiency Plan</li> </ul> <p>These plans have been updated and resubmitted in 2012 and approved.</p>
<p>2. The Applicant shall implement all reasonable and feasible measures to minimise the greenhouse gas emissions from the development to the satisfaction of the Director-General.</p>	Compliant	<p>Measures being undertaken are reported in the AEMR.</p>
<b>SCHEDULE 7: ADDITIONAL PROCEDURES FOR AIR QUALITY AND NOISE MANAGEMENT</b>		
<b>NOTIFICATION OF LANDOWNERS</b>		
<p>1. If the results of monitoring required in Schedule 4 identify that the impacts generated by the development are greater than the relevant impact assessment criteria in Schedule 4,</p>	Compliant	<p>Results are reported in the AEMR which is</p>

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
<p>except where this is predicted in the documents listed in condition 2 of schedule 2 or where a negotiated agreement has been entered into in relation to that impact, then the Applicant shall notify the Director-General and the affected landowners and/or existing or future tenants (including tenants of mine-owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the criteria in Schedule 4.</p>		<p>publicly available on the web site. Quarterly monitoring results are provided on the BHP Billiton web site.</p>
<b>INDEPENDENT REVIEW</b>		
<p><b>2.</b> If a landowner considers the development to be exceeding the impact assessment criteria in schedule 4, except where this is predicted in the EA, then he/she may ask the Director-General in writing for an independent review of the impacts of the development on his/her land. If the Director-General is satisfied that an independent review is warranted, the Applicant shall within 2 months of the Director-General's decision:</p> <p>(a) consult with the landowner to determine his/her concerns;</p> <p>(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to:</p> <ul style="list-style-type: none"> <li>• determine whether the development is complying with the relevant impact assessment criteria in schedule 4; and</li> <li>• identify the source(s) and scale of any impact on the land, and the development's contribution to this impact; and</li> </ul> <p>(c) give the Director-General and landowner a copy of the independent review.</p>	N/A	<p>No requests have been received by landowners.</p>
<p><b>3.</b> If the independent review determines that the development is complying with the relevant impact assessment criteria in schedule 4, then the Applicant may discontinue the independent review with the approval of the Director-General. If the landowner disputes the results of the independent review then either the Applicant or the landowner may refer the matter to the Director-General for resolution. Where matters referred to the Director-General under this condition cannot be resolved by the Director-General within 28 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.</p>	N/A	<p>No requests have been received by landowners.</p>
<p><b>4.</b> If the independent review determines that the development is not complying with the relevant impact assessment criteria in Schedule 4, and that the development is primarily responsible for this non compliance, then the Applicant shall:</p> <p>(a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the development complies</p>	N/A	<p>No requests have been received by landowners.</p>

<b>CONDITION OF CONSENT</b>	<b>STATUS</b>	<b>COMMENTS</b>
with the relevant criteria and conduct further monitoring to determine whether these measures ensure compliance; or (b) secure a written agreement with the landowner to allow exceedances of the relevant criteria; or (c) offer to acquire all or part of the landowner's land in accordance with the procedures in conditions 6-8 below to the satisfaction of the Director-General.		
<p><b>5.</b> If further monitoring under condition 4(a) determines that the development is complying with the relevant impact assessment criteria, then the Applicant may discontinue the independent review with the approval of the Director-General. If further monitoring under condition 4(a) determines that measures implemented under that condition have not achieved compliance with the impact assessment criteria in schedule 4, and the Applicant cannot secure a written agreement with the landowner under condition 4(b) to allow these exceedances, then the Applicant shall, upon receiving a written request from the landowner, acquire all or part of the landowner's land in accordance with the procedures in conditions 6-8 below.</p>	N/A	No requests have been received by landowners.

<b>LAND ACQUISITION</b>		
<p><b>6.</b> Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the development the subject of the development application, having regard to the:</p> <ul style="list-style-type: none"> <li>• existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and</li> <li>• presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the 'additional noise mitigation measures' in condition 6 of schedule 4;</li> </ul> <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> <li>• relocating within the local government areas of the affected Councils, or to any other local government area determined by the Director-General;</li> <li>• obtaining legal advice and expert advice for determining the acquisition price of the land, and the</li> </ul>	N/A	No requests have been received by landowners.

<p>terms upon which it is required; and                  (c) reasonable compensation for any disturbance caused by the land acquisition process.</p> <p>If, within 28 days of the Applicant making this offer, the Applicant and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution. Upon receiving such a referral, the Director-General shall request the President of the NSW Division of the Australian Property Institute (the API) to appoint a qualified independent valuer to:</p> <ul style="list-style-type: none"> <li>• consider submissions from both parties;</li> <li>• establish a fair market valuation for the land and determine reasonable costs and compensation for the acquisition, in accordance with paragraphs (a)-(c) above and any guidance or guidelines that the Director-General may prepare relating to this condition; and</li> <li>• propose any appropriate fair and reasonable terms of acquisition.</li> </ul> <p>The appointed valuer is to provide a full report and explanation of their valuation, determinations and proposed terms of acquisition to the Director-General, the Applicant and the landowner. The Director-General shall consider the report and decide whether the valuation, determinations and any proposed terms of acquisition are fair and reasonable and advise the parties accordingly. Within 14 days of receiving the Director-General's decision that the independent valuer's report is fair and reasonable, the Applicant shall make a written offer to purchase the land at a price and according to terms not less than set out in the independent valuer's report. If the Director-General is of the opinion that the valuation and/or determination is not fair and/or reasonable, they shall give notice to the parties that a further independent valuation and determination will be undertaken in accordance with this condition and duly request a further appointment by the API. If the landowner refuses to accept within 6 months a written offer duly made by the Applicant under this condition, then the Applicant's obligations to acquire the land shall cease, unless otherwise agreed by the Director-General.</p>		
<p><b>7.</b> The Applicant shall bear the full costs of any independent valuer's valuation, determination and report.</p>	<p>N/A</p>	<p>No requests have been received by landowners.</p>
<p><b>8.</b> If the Applicant and landowner agree that only part of the land shall be acquired, then the Applicant shall pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.</p>	<p>N/A</p>	<p>No requests have been received by landowners.</p>

<b>SCHEDULE 8: ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING</b>		
<b>ENVIRONMENTAL MANAGEMENT STRATEGY</b>		
<p>1. The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Director-General. This strategy must be submitted to the Director-General for approval by 30 April 2009, and:</p> <p>(a) provide the strategic framework for environmental management of the development;</p> <p>(b) identify the statutory requirements that apply to the development;</p> <p>(c) describe in general how the environmental performance of the development would be monitored and managed for the:</p> <ul style="list-style-type: none"> <li>• mining area;</li> <li>• surface facilities;</li> <li>• other site components; and</li> <li>• extended site;</li> </ul> <p>(d) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>• keep the local community and relevant agencies informed about the operation and environmental performance of the development;</li> <li>• receive, handle, respond to, and record complaints;</li> <li>• resolve any disputes that may arise during the course of the development;</li> <li>• respond to any non-compliance;</li> <li>• manage cumulative impacts; and</li> <li>• respond to emergencies; and</li> </ul> <p>(e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development.</p>	Compliant	<p>An Environmental Management Strategy was submitted to the DoP by 30 April 2009 to meet these requirements and was approved in December 2009.</p> <p>The EMS was updated and resubmitted in March 2012 and approved.</p>
<b>ENVIRONMENTAL MONITORING PROGRAM</b>		
<p>2. The Applicant shall prepare and implement Environmental Monitoring Programs for the:</p> <p>(a) mining area; and</p> <p>(b) surface facilities</p> <p>to the satisfaction of the Director-General. These programs must consolidate the various monitoring requirements in Schedules 3-6 of this consent into single documents, include plans showing the monitoring sites and be submitted to the Director-General by 30 April 2009.</p>	Compliant	<p>Management Plans were submitted to the DoP by 30 April 2009 to meet these requirements.</p> <p>The Environmental Monitoring Program was approved in December 2009.</p> <p>Management plans were again submitted in March 2012 and</p>

**Dendrobium Mine Compliance Report**

		approved.
<b>REPORTING</b>		
<b>Incident Reporting</b>		
<p>3. Within 24 hours of detecting the occurrence of an incident that causes (or may cause) material harm to the environment, the Applicant shall notify the Department and other relevant agencies of the incident.</p>	Compliant	No incidents causing material environmental harm have occurred and hence no incident reports have been submitted to the department.
<p>4. Within 21 days of notifying the Department and other relevant agencies of such an incident, the Applicant shall provide the Department and these agencies with a written report that:</p> <p>(a) describes the date, time, and nature of the incident;</p> <p>(b) identifies the cause (or likely cause) of the incident;</p> <p>(c) describes what action has been taken to date; and</p> <p>(d) describes the proposed measures to address the incident.</p>	Compliant	Incidents are reported to relevant agencies as per requirements.
<b>Annual Reporting</b>		
<p>5. By the end of September each year, and for at least 3 years following the cessation of mining at the development, the Applicant shall submit an AEMR to the Director-General, CCC and all relevant agencies.</p> <p>This report must relate to the previous financial year and:</p> <p>(a) identify the standards and performance measures that apply to the development;</p> <p>(b) describe the works carried out in the previous financial year;</p> <p>(c) describe the works that would be carried out in the current financial year;</p> <p>(d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;</p> <p>(e) include a summary of the monitoring results for the development during the past year;</p> <p>(f) include an analysis of these monitoring results against the relevant:</p> <ul style="list-style-type: none"> <li>• impact assessment criteria/limits;</li> <li>• monitoring results from previous years; and</li> <li>• predictions in the EIS, EA or other documents listed in condition 2 of schedule 4;</li> </ul> <p>(g) identify and discuss all exceedances of consent and licence conditions and other applicable standards and performance measures;</p> <p>(h) identify any trends in the monitoring results over the life of the development;</p>	Compliant	The Dendrobium Mine AEMR is submitted to the relevant stakeholders annually as per the requirements.

(i) identify any non-compliance during the previous year; and (j) describe what actions were, or are being, taken to ensure compliance.		
<b>INDEPENDENT ENVIRONMENTAL AUDIT</b>		
<p><b>6.</b> By 31 December 2011, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <p>(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;</p> <p>(b) include consultation with the relevant agencies;</p> <p>(c) assess the environmental performance of the development and assess whether it is complying with the relevant requirements in this approval and any relevant EPL or mining lease (including any strategy, plan or program required under these approvals);</p> <p>(d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate,</p> <p>(e) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals.</p> <p><i>Note: This audit team must be led by a suitably qualified auditor and include experts in the fields of a) mine subsidence impacts and remediation and b) stream hydrology and water quality.</i></p>	Compliant	The last Independent Environmental Audit was undertaken by Kadenz Pty Ltd in December 2014. The next independent audit is due to be undertaken prior to 31 December 2016.
<p><b>7.</b> Within 6 weeks of the completing of this audit, or as otherwise agreed by the Director-General, the Applicant shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.</p>	Compliant	Audit reports from independent environmental audits, along with responses to any recommendations within the audit report, are submitted to the Director-General as per the requirement.
<p><b>8.</b> Within 3 months of submitting the audit report to the Director-General, the Applicant shall review, and if necessary revise the strategies/plans/programs required under this consent to the satisfaction of the Director-General.</p>	Compliant	Strategies/Plans/Programs will be revised where required and resubmitted
<b>COMMUNITY CONSULTATIVE COMMITTEE</b>		
<p><b>9.</b> The Applicant shall maintain a Community Consultative Committee (CCC) for the development to the satisfaction of</p>	Compliant	The Dendrobium Community

**Dendrobium Mine Compliance Report**

<p>the Director-General. This CCC must be operated in general accordance with the <i>Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version)</i> to the satisfaction of the Director-General.</p> <p><i>Note: The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent. In accordance with the Guideline, the Committee should comprise an independent chair and appropriate representation from the Applicant, affected councils, recognised environmental groups and the general community in Mt Kembla and the area of the development.</i></p>		<p>Consultative Committee is in place. Meetings are held every two months.</p>
<p><b>10.</b> If required by the CCC, the Applicant shall establish and maintain a trust fund, or other funding arrangement that may be agreed between the Applicant and the CCC. This fund shall be:</p> <p>(a) managed by the Chair of the CCC to facilitate the functioning of the CCC;</p> <p>(b) used only if required for the engagement of consultants to interpret technical information and the like;</p> <p>(c) provided with \$8,000 per annum (indexed according to the CPI) by the Applicant for the duration of mining operations and other activities under the consent, or as otherwise directed by the Director-General;</p> <p>(d) managed so that any monies unspent during each year are returned to the Applicant;</p> <p>(e) managed so that the Chair of the CCC causes a record of the finances of the fund to be kept and provided to the Applicant and the Director-General at the end of each year the fund is used.</p>	<p>Compliant</p>	<p>A request was made in FY16 to access funds for a peer review of study associated with Surface Water studies conducted for Dendrobium Area 3.</p>
<p><b>ACCESS TO INFORMATION</b></p>		
<p><b>11.</b> Within 3 months of the approval of any strategy/plan/program required under this consent (or any subsequent revision of these strategies/plans/ programs), or the completion of the audits or AEMRs required under this consent, the Applicant shall:</p> <p>(a) provide a copy of the relevant document/s to the relevant agencies and CCC; and</p> <p>(b) put a copy of the relevant document/s on its website.</p>	<p>Compliant</p>	<p>Strategies, plans and programs are updated on the web site as they become available.</p>
<p><b>12.</b> From 30 April 2009, and thereafter during the development, the Applicant shall:</p> <p>(a) provide a copy of this consent as may be modified from time to time on its website;</p> <p>(b) provide a comprehensive, running summary of monitoring results required under this consent on its website; and</p>	<p>Compliant</p>	<p>The website is updated every three months.</p>



**Dendrobium Mine Compliance Report**

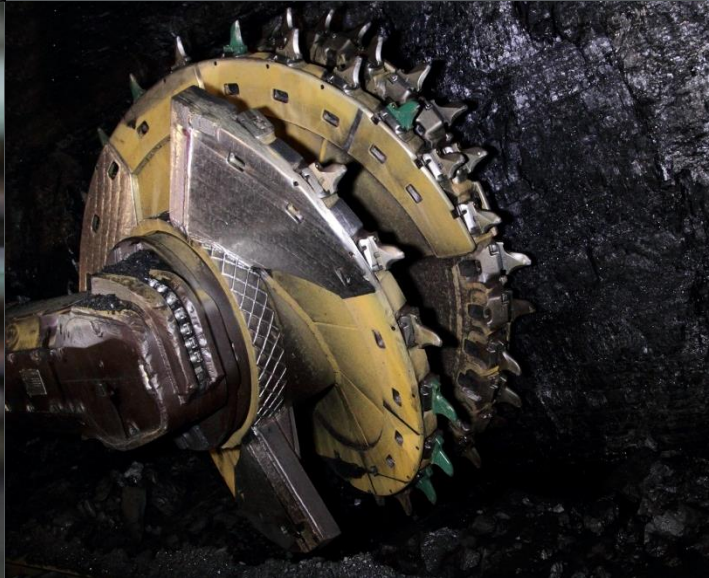
(c) update these results on a regular basis (at least every three months).		
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# COMPLAINTS REPORT

July 2016

DENDROBIUM OPERATIONS



## Dendrobium Mine - Community Complaints Report

Operation/Project	Month	Date	Nature of Complaint	Actions / Follow Up
Processing & Logistics	April 2015	7/04/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (phone call)	Project is underway to address rail noise on the rail line.
Processing & Logistics	April 2015	7/04/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (phone call)	Project is underway to address rail noise on the rail line.
Processing & Logistics	April 2015	13/04/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line.
Processing & Logistics	April 2015	15/04/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line.
Processing & Logistics	April 2015	19/04/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line.
	May 2015		No complaints received	
Processing and Logistics	June 2015	6/06/2015	Three calls to Community call line - noisy trains	Project is underway to address rail noise on the rail line.
Processing and Logistics	June 2015	10/06/2015	Call to community call line - noisy train	Project is underway to address rail noise on the rail line.
Processing and Logistics	June 2015	13/06/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line.
Processing and Logistics	June 2015	13/06/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (Email)	Project is underway to address rail noise on the rail line.
Processing and Logistics	June 2015	14/06/2015	Complaint of 5 noisy trains throughout the day/evening	Project is underway to address rail noise on the rail line.
Processing and Logistics	June 2015	14/06/2015	Complaint of noisy train 9.21pm	Project is underway to address rail noise on the rail line.
Processing and Logistics	June 2015	19/06/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line.

Operation/Project	Month	Date	Nature of Complaint	Actions / Follow Up
Processing and Logistics	June 2015	22/06/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line.
Processing and Logistics	June 2015	23/06/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line.
Processing and Logistics	June 2015	25/06/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line.
Processing and Logistics	June 2015	27/06/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	July 2015	2/07/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	July 2015	30/07/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	3/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	10/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	10/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	11/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call x 3)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	12/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	16/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (Call)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	22/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (Call)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2016	23/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (Call)	Project is underway to address rail noise on the rail line



Operation/Project	Month	Date	Nature of Complaint	Actions / Follow Up
Processing & Logistics	August 2015	16/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	22/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	17/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (phone)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	29/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (Call)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	30/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (Call)	Project is underway to address rail noise on the rail line
Processing & Logistics	August 2015	31/08/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	September 2015	2/09/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	September 2015	9/09/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	September 2015	10/09/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	September 2015	22/09/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Dendrobium Pit Top	September 2015	23/09/2015	Resident complained about a droning noise from the mine site.	Temporary compressor on site due to power supply outage
Processing & Logistics	September 2015	29/09/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	October 2015	8/10/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	October 2016	19/10/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line

Operation/Project	Month	Date	Nature of Complaint	Actions / Follow Up
Processing & Logistics	November 2015	19/11/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	November 2015	26/11/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	November 2015	26/11/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Dendrobium Pit Top	November 2015	27/11/2015	Noise complaint regarding compressor on pit top	Compressor checked for any issues. Compressors only on site for a few days while work on the
Dendrobium Pit Top	November 2015	28/11/2015	Noise complaint regarding compressor on pit top	Compressor checked for any issues. Compressors only on site for a few days while work on the
Processing & Logistics	December 2015	1/12/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	December 2015	7/12/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	December 2015	7/12/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	December 2015	8/12/2015	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call)	Project is underway to address rail noise on the rail line
Processing & Logistics	January 2016	2/01/2016	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	January 2016	5/01/2016	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email)	Project is underway to address rail noise on the rail line
Processing & Logistics	January 2016	12/01/2016	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call).	Project is underway to address rail noise on the rail line
Processing & Logistics	January 2016	27/01/2016	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call).	Project is underway to address rail noise on the rail line
Processing & Logistics	January 2016	28/01/2016	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call).	Project is underway to address rail noise on the rail line

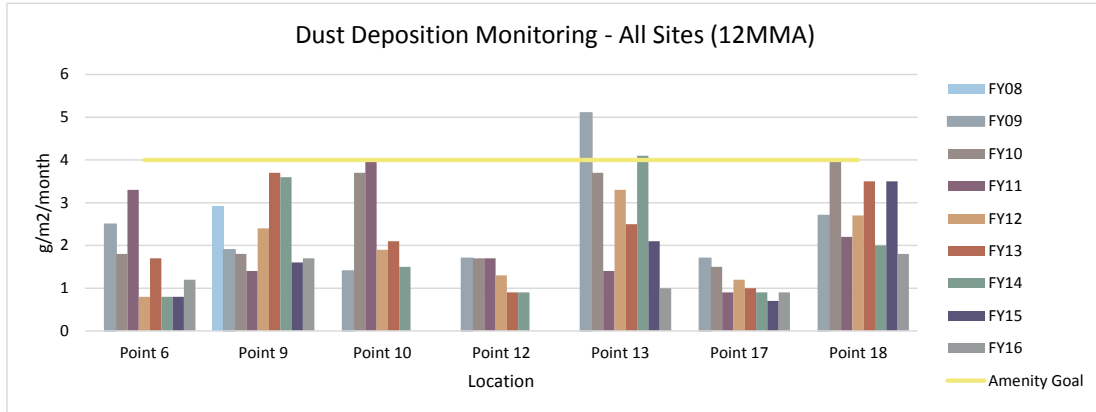
Operation/Project	Month	Date	Nature of Complaint	Actions / Follow Up
	February 2016		No complaints received.	
Dendrobium Pit Top	March 2016	10/03/2016	Dust from Dendrobium Mine	Informed site personnel and complaint investigated
Processing & Logistics	March 2016	14/03/2016	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (email).	Project is underway to address rail noise on the rail line
Processing & Logistics	April 2016	22/04/2016	Wheel/brake squeal from train travelling on Kemira Valley Rail Line (call).	Project is underway to address rail noise on the rail line
Dendrobium Pit Top	April 2016	8/04/2016	Dust from Dendrobium Mine	Investigated complaint
Dendrobium Pit Top	May 2016	7/05/2016	Dust from mine emitting onto property	Investigated complaint, looking at systems, regularly inspecting property
Dendrobium Pit Top	May 2016	6/05/2016	Wheel/break Squeal from train travelling on Kemira Valley Rail Line (call).	Investigated complaint, project is underway to address rail noise.
	June 2016		No new complaints made for the month	
	July 2016		No complaints made for the month	





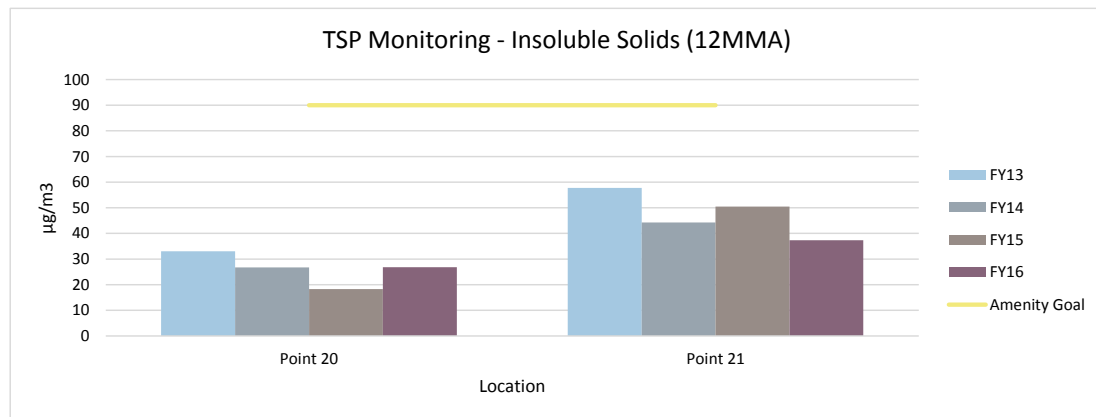
**Dust Deposition Results - 12MMA**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Point 6		2.5	1.8	3.3	0.8	1.7	0.8	0.8	1.2	4
Point 9	2.9	1.9	1.8	1.4	2.4	3.7	3.6	1.6	1.7	4
Point 10		1.4	3.7	4	1.9	2.1	1.5			4
Point 12		1.7	1.7	1.7	1.3	0.9	0.9			4
Point 13		5.1	3.7	1.4	3.3	2.5	4.1	2.1	1	4
Point 17		1.7	1.5	0.9	1.2	1	0.9	0.7	0.9	4
Point 18		2.7	4	2.2	2.7	3.5	2	3.5	1.8	4



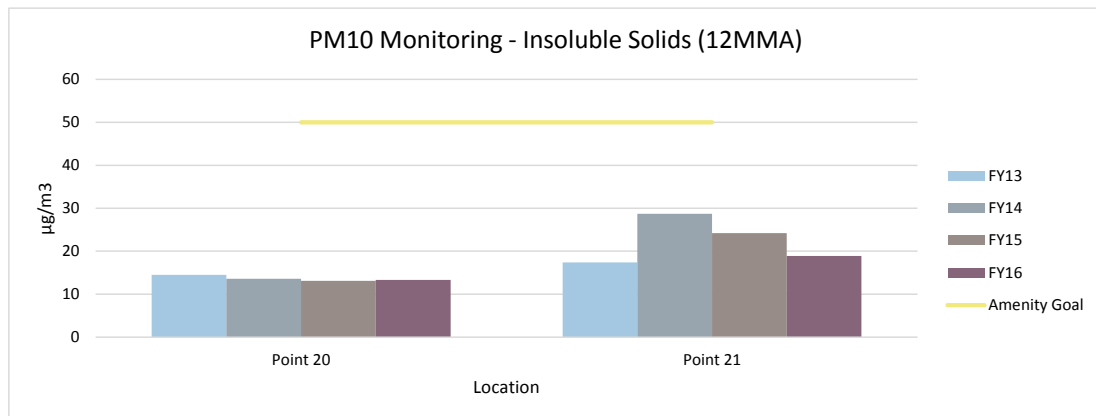
**HVAS - TSP - 12MMA**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Point 20						33	26.7	18.3	26.8	90
Point 21						57.7	44.3	50.5	37.3	90



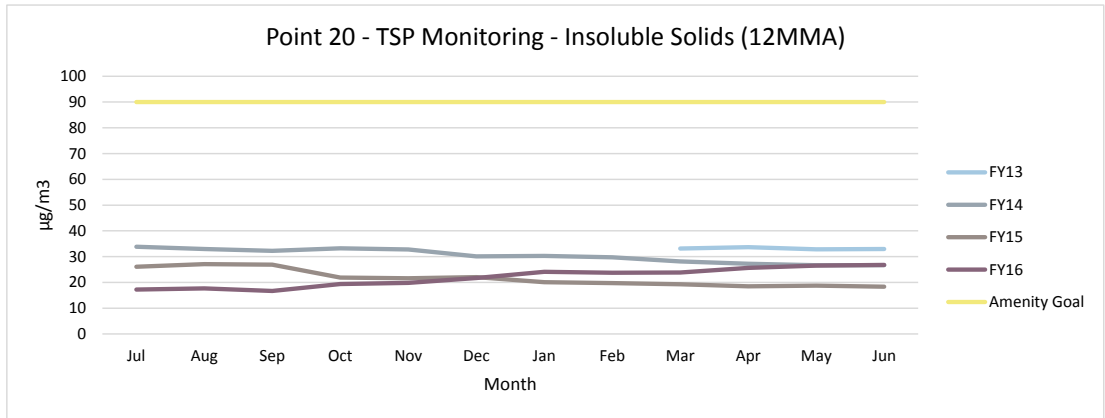
**HVAS - PM10 - 12MMA**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Point 20						14.5	13.6	13.1	13.3	50
Point 21						17.4	28.7	24.2	18.9	50



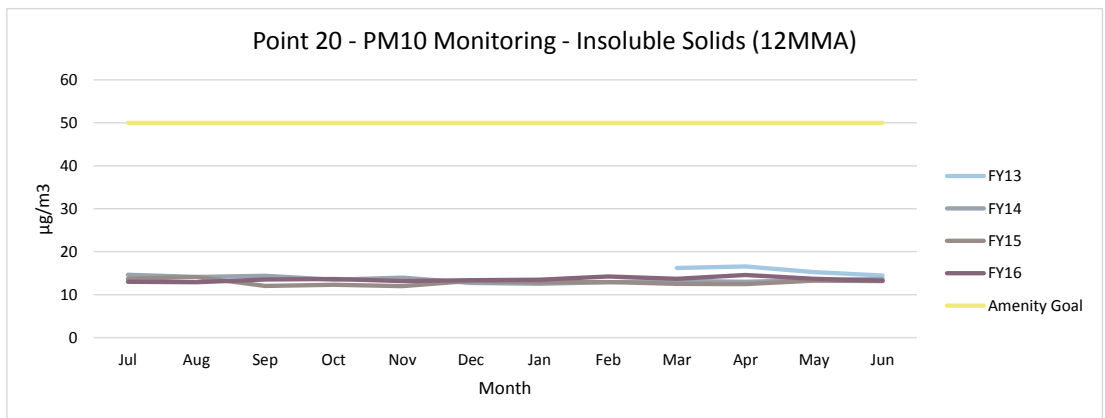
**HVAS Point 20 - TSP - 12MMA**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Jul							33.8	26.1	17.2	90
Aug							32.9	27.1	17.7	90
Sep							32.3	26.9	16.7	90
Oct							33.2	21.9	19.4	90
Nov							32.7	21.6	19.9	90
Dec							30.1	22.0	21.7	90
Jan							30.3	20.1	24.1	90
Feb							29.7	19.8	23.7	90
Mar						33.1	28.1	19.2	23.8	90
Apr						33.7	27.2	18.5	25.6	90
May						32.8	26.7	18.7	26.5	90
Jun						33.0	26.7	18.3	26.8	90



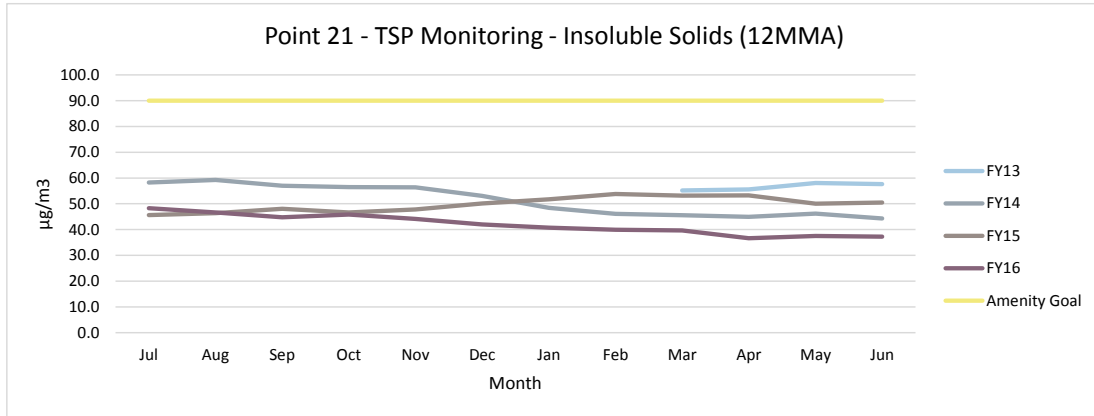
**HVAS Point 20 - PM10 - 12MMAS**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Jul							14.6	13.7	13.0	50
Aug							14.2	14.1	12.9	50
Sep							14.4	12.0	13.5	50
Oct							13.5	12.3	13.7	50
Nov							13.9	12.0	13.1	50
Dec							12.8	13.2	13.4	50
Jan							12.5	12.9	13.5	50
Feb							12.9	13.0	14.2	50
Mar						16.2	13.2	12.5	13.7	50
Apr						16.6	13.0	12.5	14.6	50
May						15.3	13.4	13.3	13.7	50
Jun						14.5	13.6	13.1	13.3	50



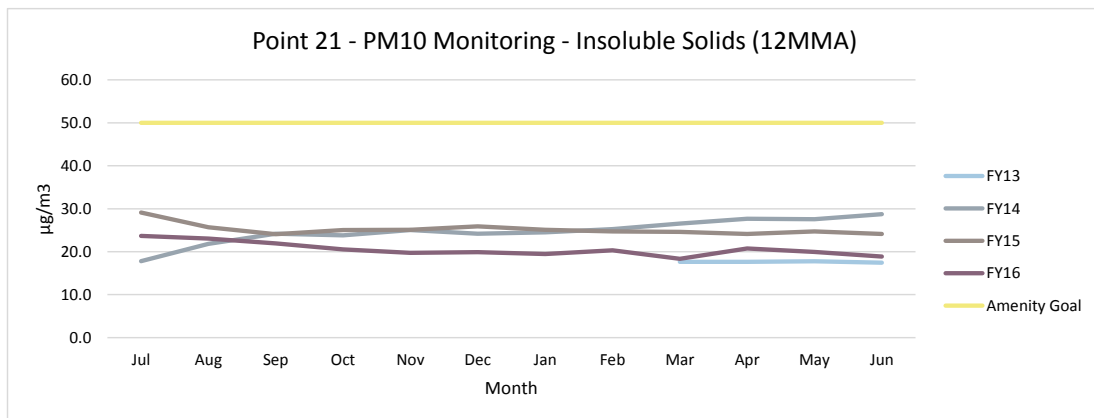
**HVAS Point 21 - TSP - 12MMAS**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Jul							58.2	45.6	48.3	90
Aug							59.2	46.4	46.7	90
Sep							57.0	48.1	44.8	90
Oct							56.5	46.6	45.8	90
Nov							56.4	47.8	44.1	90
Dec							53.1	50.1	42.0	90
Jan							48.4	51.8	40.7	90
Feb							46.1	53.8	39.9	90
Mar						55.2	45.6	53.1	39.7	90
Apr						55.6	45.0	53.3	36.6	90
May						58.1	46.2	50.0	37.5	90
Jun						57.7	44.3	50.5	37.3	90



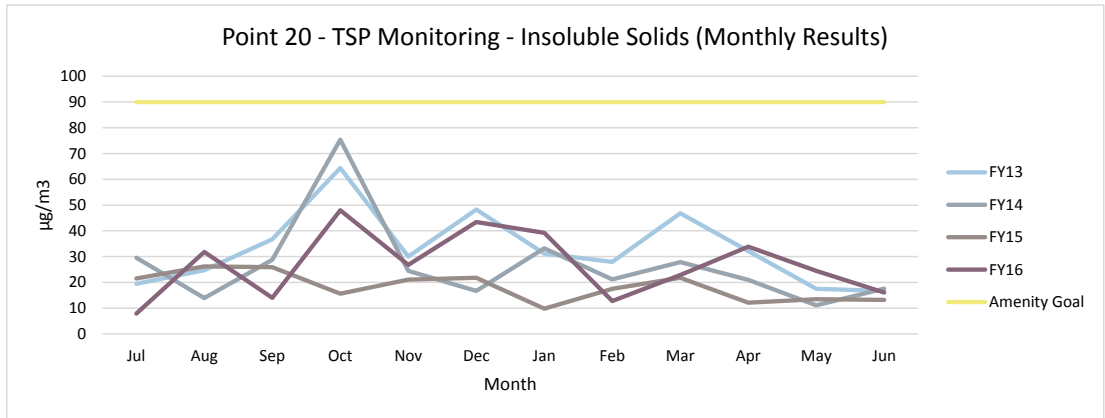
**HVAS Point 21 - PM10 - 12MMAS**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Jul							17.8	29.1	23.7	50
Aug							21.8	25.7	23.0	50
Sep							24.2	24.1	21.9	50
Oct							23.8	25.0	20.6	50
Nov							25.0	25.1	19.7	50
Dec							24.2	25.9	19.9	50
Jan							24.5	25.1	19.5	50
Feb							25.3	24.7	20.3	50
Mar						17.7	26.6	24.6	18.3	50
Apr						17.7	27.7	24.1	20.7	50
May						17.8	27.5	24.7	19.9	50
Jun						17.4	28.7	24.2	18.9	50



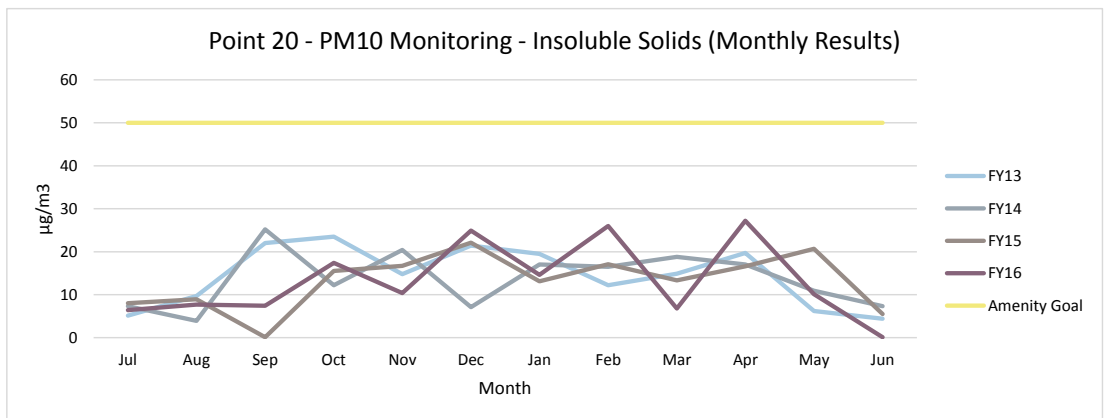
**HVAS Point 20 - TSP - Monthly Results**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Jul						19.5	29.6	21.5	7.9	90
Aug						24.7	13.9	26.2	31.8	90
Sep						36.7	28.8	25.9	14.0	90
Oct						64.4	75.4	15.6	48.0	90
Nov						30	24.5	21.1	26.8	90
Dec						48.3	16.7	21.8	43.4	90
Jan						31.2	33.2	9.8	39.2	90
Feb						28	21.2	17.5	12.8	90
Mar						46.8	27.9	21.8	22.9	90
Apr					25.7	32.2	21.0	12.1	33.9	90
May					27.6	17.5	11.1	13.5	24.5	90
Jun					14.7	16.7	17.6	13.2	16.1	90



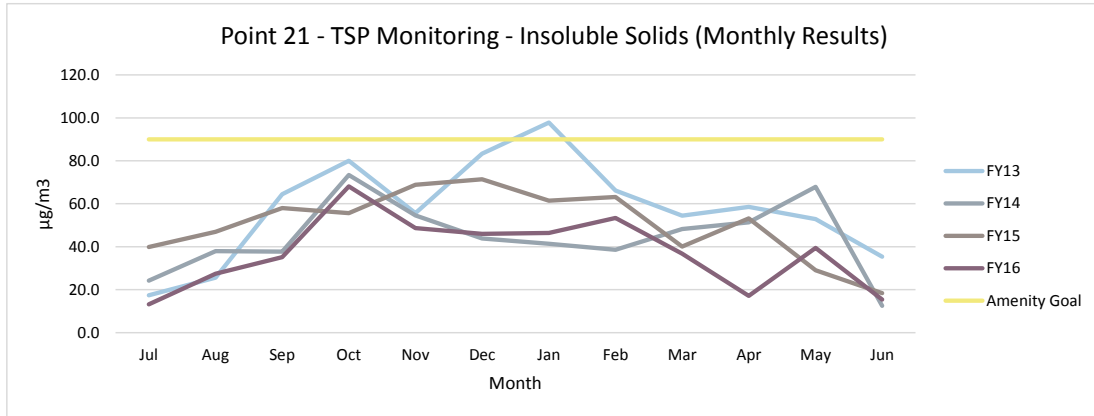
**HVAS Point 20 - PM10 - Monthly Results**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Jul						5.1	7.3	8.0	6.4	50
Aug						9.7	3.9	8.9	7.7	50
Sep						22	25.2	0.1	7.4	50
Oct						23.5	12.2	15.5	17.4	50
Nov						14.8	20.4	16.7	10.4	50
Dec						21.4	7.1	22.1	24.9	50
Jan						19.5	17.0	13.1	14.6	50
Feb						12.2	16.5	17.1	26.0	50
Mar						14.9	18.8	13.3	6.8	50
Apr					15.8	19.7	17.0	16.6	27.2	50
May					21.7	6.2	10.9	20.7	10.1	50
Jun					14.3	4.4	7.3	5.5	0.1	50



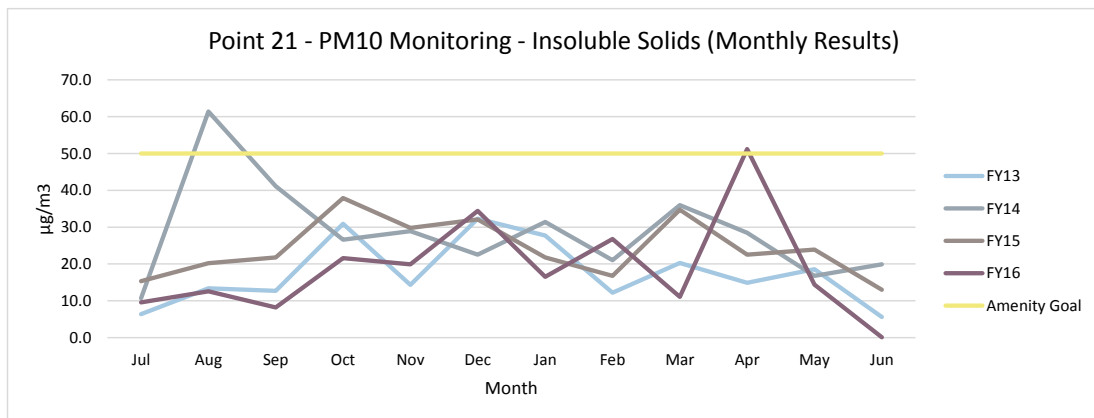
**HVAS Point 21 - TSP - Monthly Results**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Jul						17.4	24.2	39.9	13.2	90
Aug						25.6	37.9	47.0	27.4	90
Sep						64.4	37.7	58.0	35.2	90
Oct						80.0	73.4	55.7	68.1	90
Nov						55.7	54.6	68.9	48.7	90
Dec						83.3	43.8	71.4	46.0	90
Jan						97.8	41.4	61.4	46.4	90
Feb						66.2	38.6	63.2	53.4	90
Mar						54.5	48.3	40.1	36.8	90
Apr					53.5	58.6	51.4	53.2	17.1	90
May					23.2	52.9	67.9	29.0	39.4	90
Jun					40.4	35.4	12.5	18.4	15.4	90



**HVAS Point 21 - PM10 - Monthly Results**

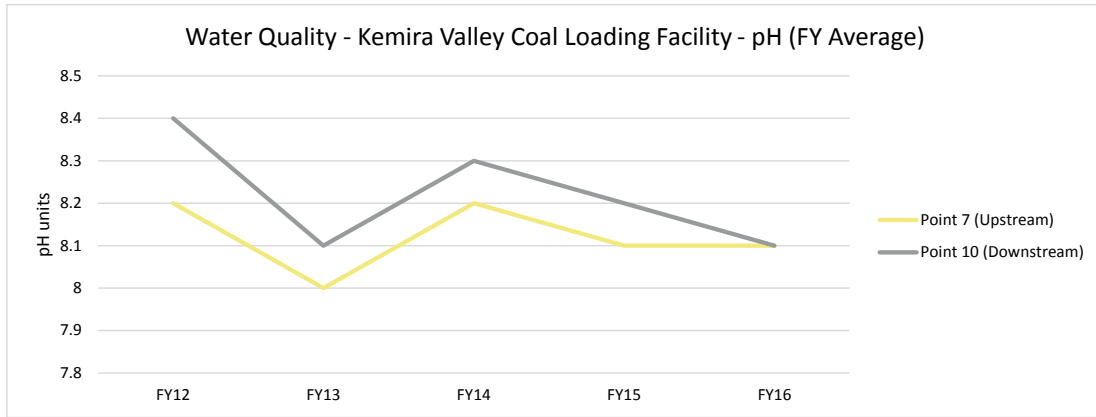
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
Jul						6.4	10.7	15.3	9.6	50
Aug						13.4	61.4	20.2	12.6	50
Sep						12.7	41.1	21.8	8.2	50
Oct						30.9	26.6	37.9	21.6	50
Nov						14.3	28.9	29.8	19.9	50
Dec						32.3	22.5	32.1	34.4	50
Jan						27.7	31.4	21.8	16.5	50
Feb						12.2	21.0	16.8	26.8	50
Mar						20.3	36.0	34.7	11.1	50
Apr					14.8	14.9	28.5	22.5	51.2	50
May					17.2	18.6	16.8	23.9	14.4	50
Jun					9.6	5.6	19.9	13.0	0.1	50





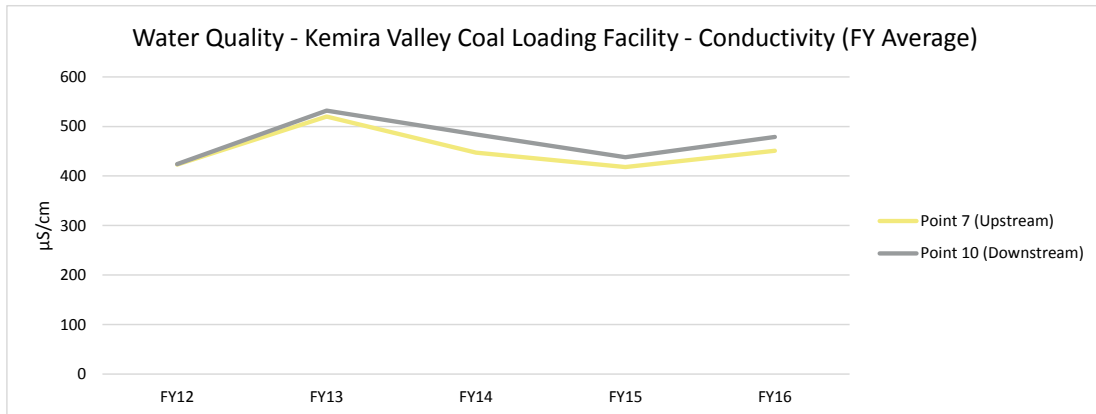
**Kemira Valley Coal Loading Facility - pH**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
<b>Point 7 (Upstream)</b>					8.2	8	8.2	8.1	8.1	
<b>Point 10 (Downstream)</b>					8.4	8.1	8.3	8.2	8.1	



**Kemira Valley Coal Loading Facility - Conductivity**

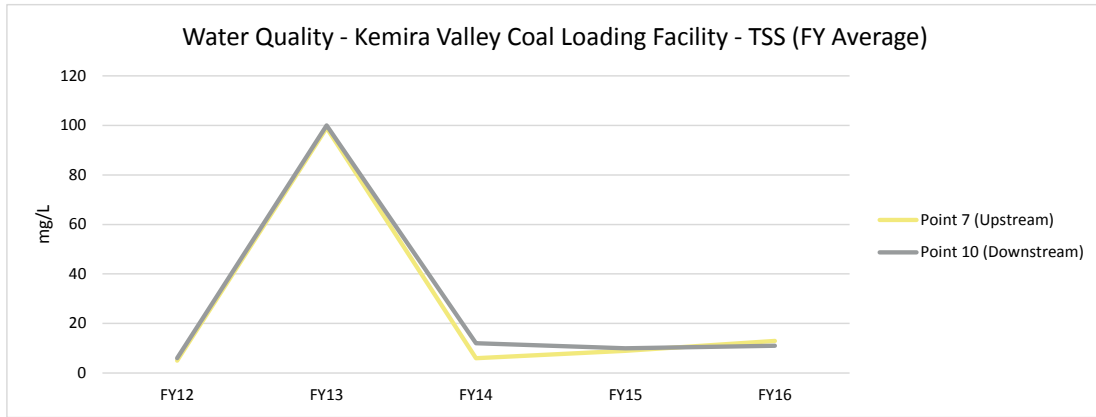
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
<b>Point 7 (Upstream)</b>					423	520	447	418	451	
<b>Point 10 (Downstream)</b>					424	532	484	438	479	





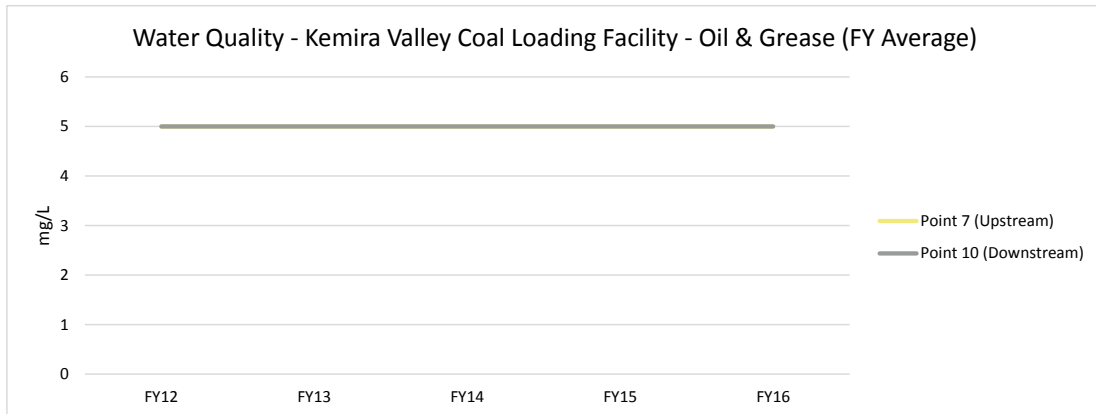
**Kemira Valley Coal Loading Facility - TSS**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
<b>Point 7 (Upstream)</b>					5	99	6	9	13	
<b>Point 10 (Downstream)</b>					6	100	12	10	11	



**Kemira Valley Coal Loading Facility - Oil & Grease**

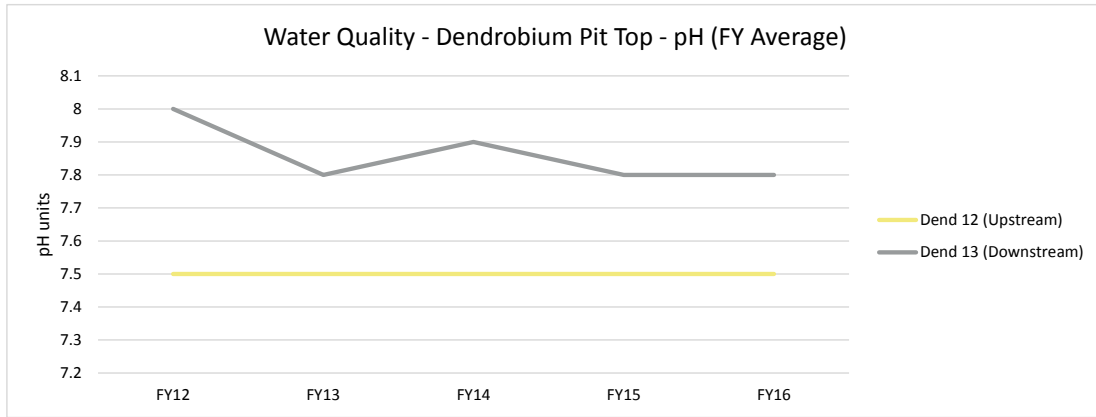
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
<b>Point 7 (Upstream)</b>					5	5	5	5	5	
<b>Point 10 (Downstream)</b>					5	5	5	5	5	





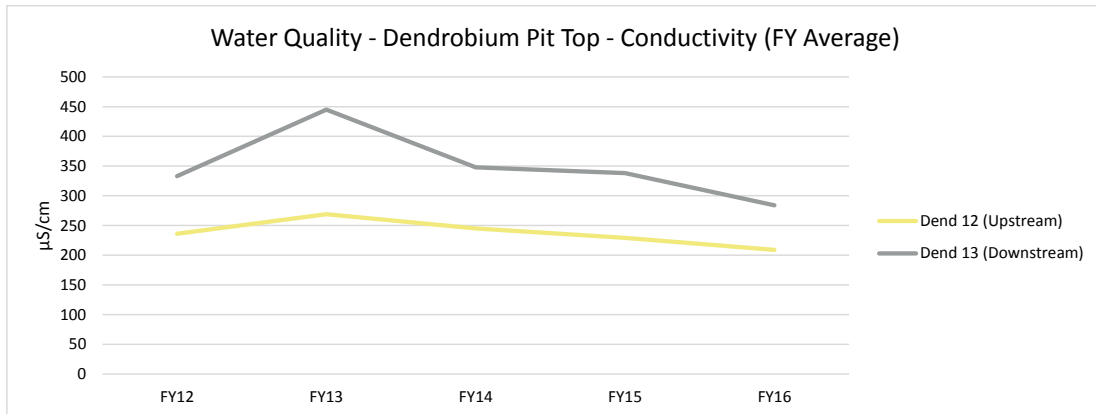
**Dendrobium Pit Top - pH**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
<b>Dend 12 (Upstream)</b>					7.5	7.5	7.5	7.5	7.5	
<b>Dend 13 (Downstream)</b>					8	7.8	7.9	7.8	7.8	



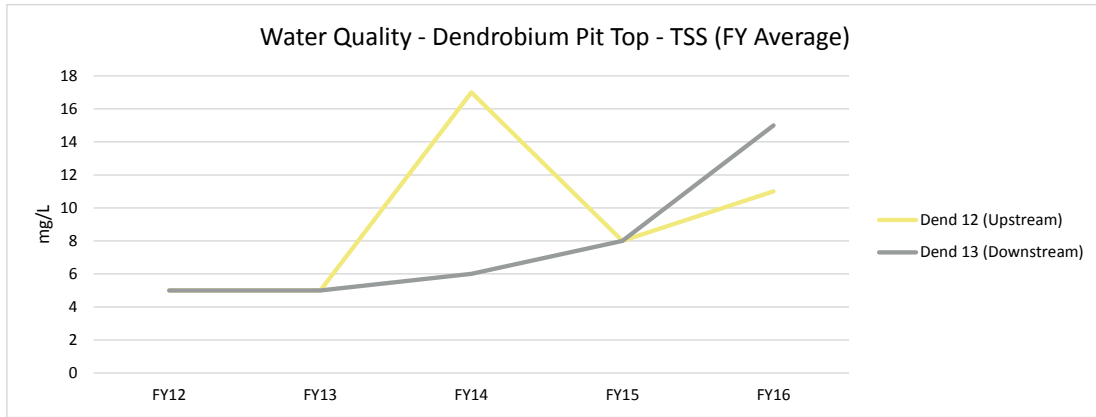
**Dendrobium Pit Top - Conductivity**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
<b>Dend 12 (Upstream)</b>					236	269	245	229	209	
<b>Dend 13 (Downstream)</b>					333	445	348	338	284	



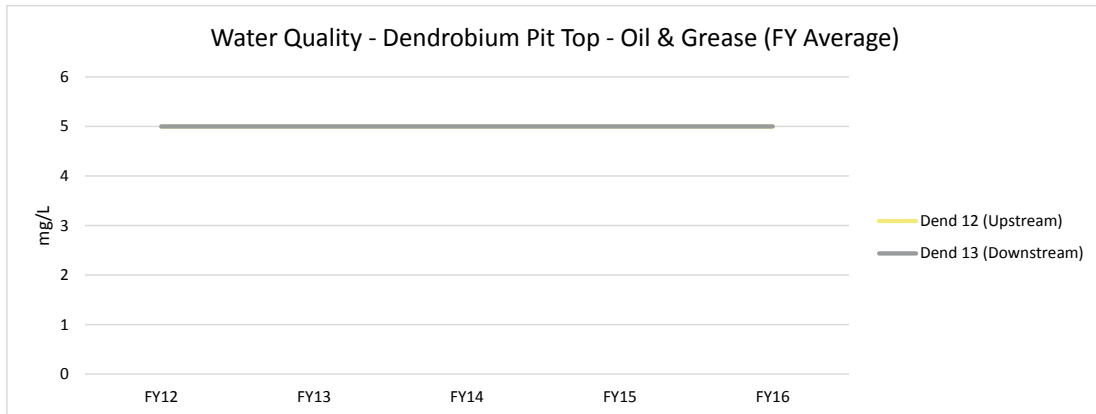
**Dendrobium Pit Top - TSS**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
<b>Dend 12 (Upstream)</b>					5	5	17	8	11	
<b>Dend 13 (Downstream)</b>					5	5	6	8	15	



**Dendrobium Pit Top - Oil & Grease**

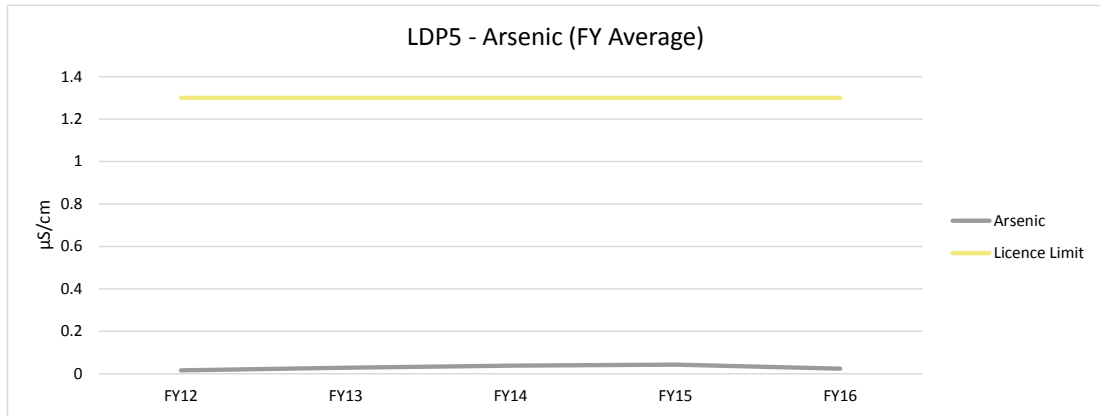
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	Amenity Goal
<b>Dend 12 (Upstream)</b>					5	5	5	5	5	
<b>Dend 13 (Downstream)</b>					5	5	5	5	5	



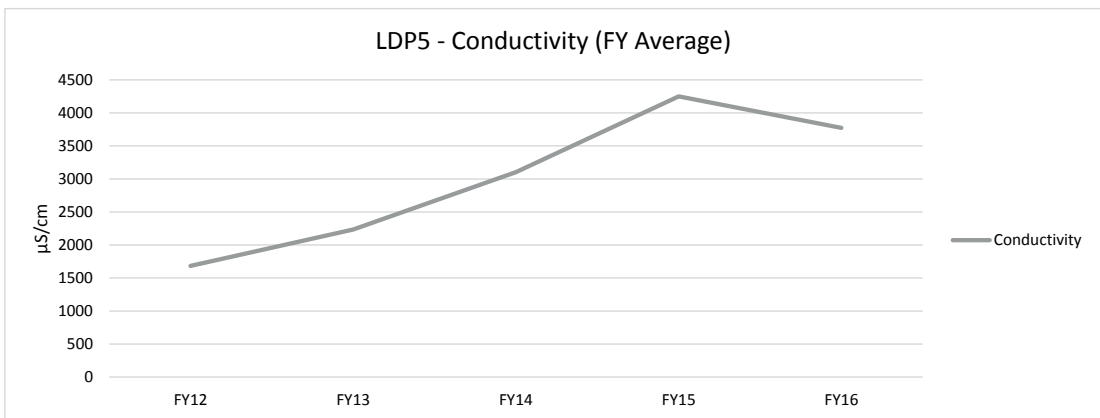


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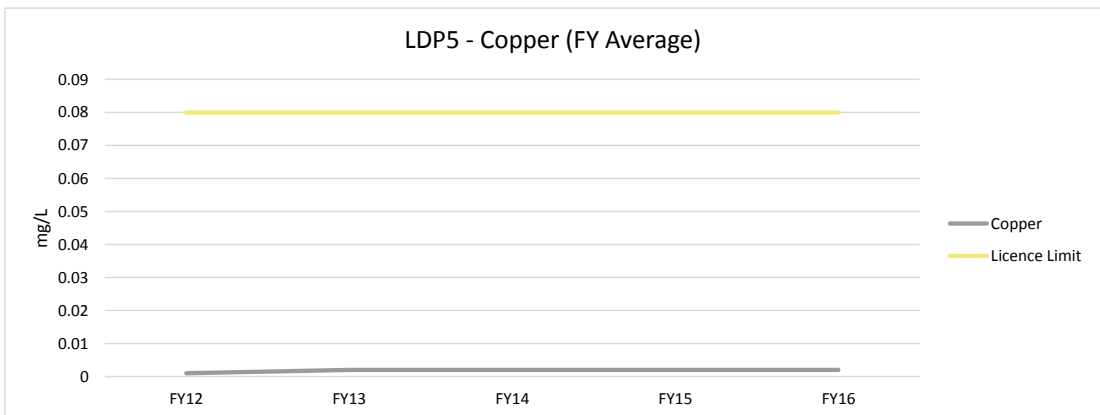
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	
<b>Arsenic</b>					0.016	0.028	0.038	0.043	0.024	
<b>Licence Limit</b>					1.3	1.3	1.3	1.3	1.3	



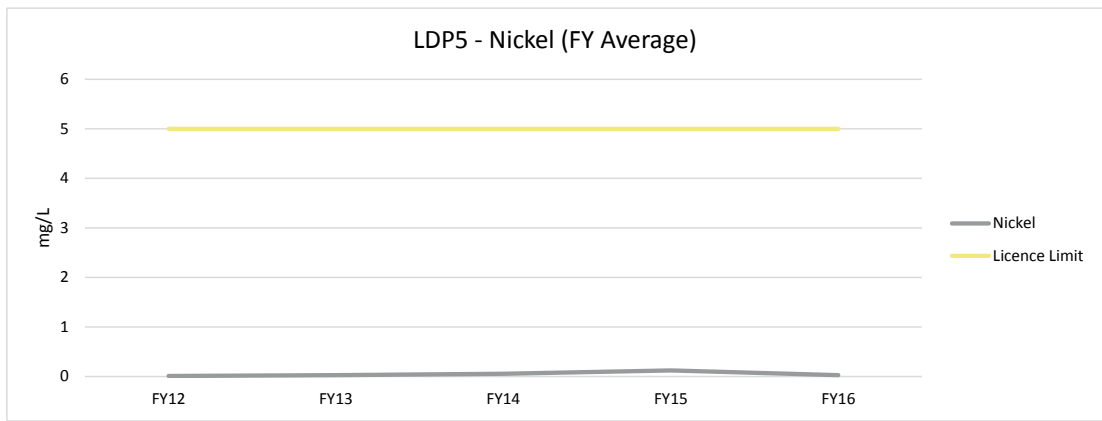
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	
<b>Conductivity</b>					1683	2235	3104	4250	3773	



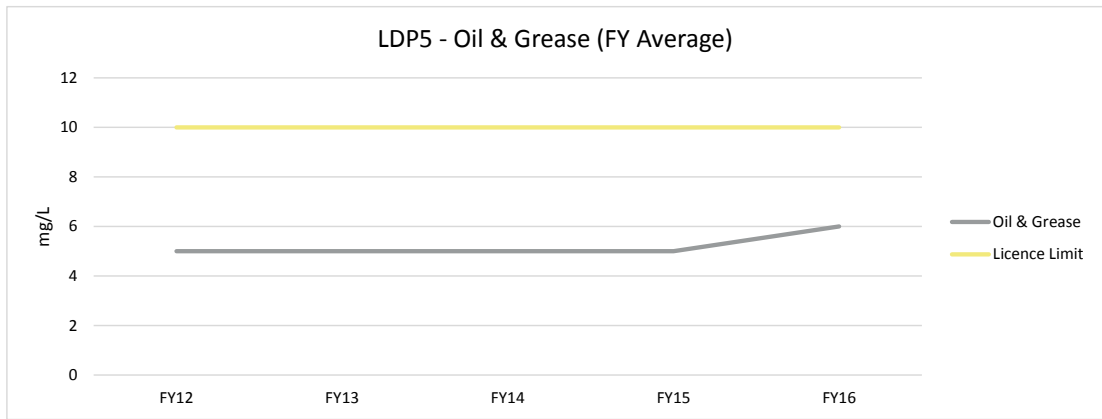
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	
<b>Copper</b>					0.001	0.002	0.002	0.002	0.002	
<b>Licence Limit</b>	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	



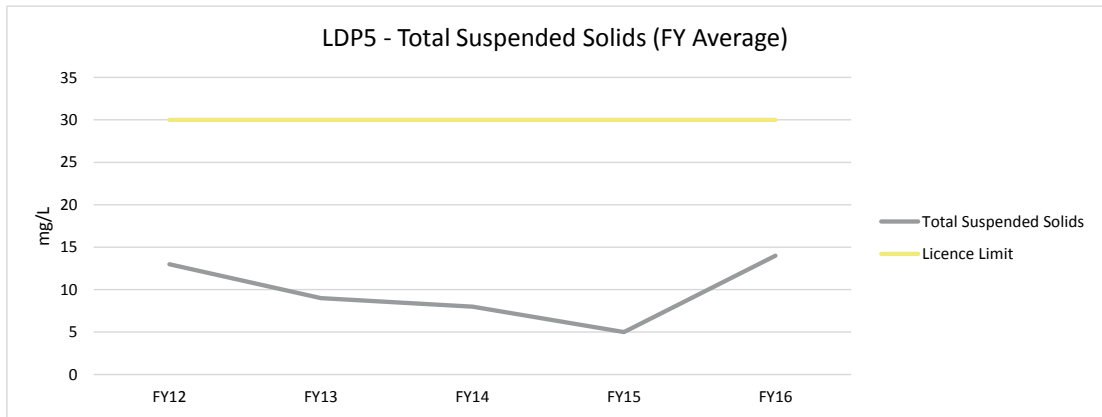
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	
<b>Nickel</b>					0.01	0.025	0.057	0.122	0.026	
<b>Licence L</b>	5	5	5	5	5	5	5	5	5	



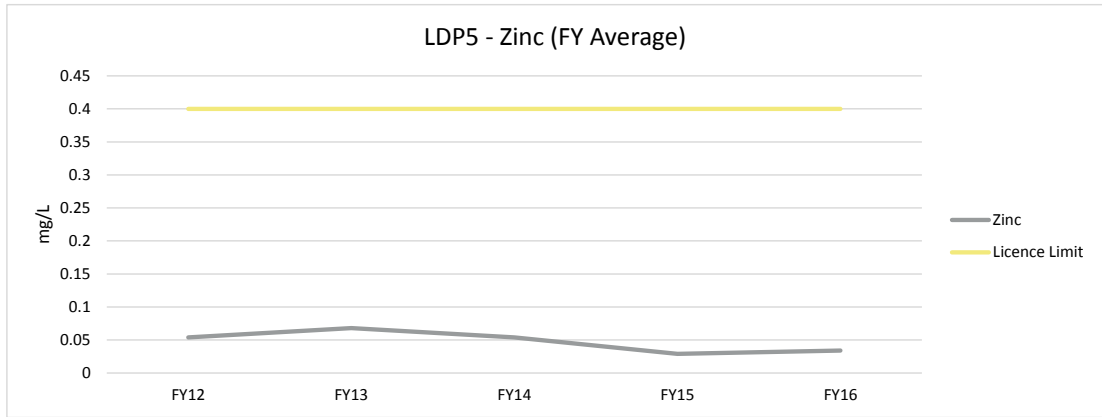
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	
<b>Oil &amp; Grease</b>					5	5	5	5	6	
<b>Licence L</b>	10	10	10	10	10	10	10	10	10	



	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	
<b>Total Suspended Solids</b>					13	9	8	5	14	
<b>Licence L</b>	30	30	30	30	30	30	30	30	30	



	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	
<b>Zinc</b>					0.054	0.068	0.054	0.029	0.034	
<b>Licence L</b>	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	



	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	
<b>pH</b>					7.5	7.9	8	8.1	8	
<b>Lower Lic</b>	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
<b>Upper Lic</b>	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	

