

Date : 8/06/2020 5:55:44 PM

From : sch4p4(6) Personal information

To : "MORGAN Dan"

Cc : "MCCOSKER Juliana" , sch4p4(6) Personal information

Subject : Application for ERC Decision - EPML01470513

Attachment : ERC Application form.pdf;image001.jpg;

Hi Dan

Please note that this email (including sharefiles and attachment), in its current un-redacted form, contains confidential and commercial-in-confidence information and is provided on a strictly confidential basis. It should not be disclosed outside the Department whether in response to a request under the RTI Act or otherwise.

We are lodging our ERC Application for assessment. The following sharefile link is provided to allow transfer of relevant documentation:-

<https://adaniau.sharefile.com/d-sf240e1b792d4993a>

The documentation package supporting our ERC Application within the sharefile link includes:-

- Folder Titled "Application Supporting Documentation"
 - ERC_E_calculator_08062020_VER01
 - ERC Operational Plan_final
 - 2020 06 03 Letter to DES re Moray Downs Consent
- Folder Titled "Topsoil Management Plan"
 - JW191267_Topsoil Management Plan_V2.1
 - Appendix E_Topsoil Survey Register_20200203
- Folder Titled "GIS Information"
 - Contains Maps and Shapefiles

We look forward working through this process with the Department and if you have any immediate queries, please do not hesitate to contact myself.

Kind Regards

sch4p4(6) Personal information

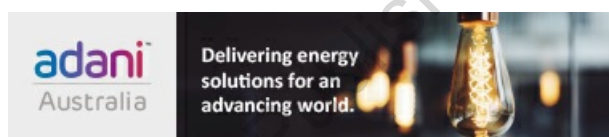
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Application form

Environmental Protection Act 1994

Application for a decision on the estimated rehabilitation cost

This document is the approved form that is to be used by an applicant under section 298 of the Environmental Protection Act 1994 (EP Act) to apply to the administering authority¹ for an estimated rehabilitation cost decision for a resource activity.

This application can be completed online via Connect. For more information and to register to use Connect go to www.des.qld.gov.au/connect.

Environmental authority holders for resource activities are required to use the approved methodology in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425) to calculate the amount the holder considers to be an estimate of the total rehabilitation cost. The administering authority will then assess the application and decide the estimated rehabilitation cost (the ERC decision).

The ERC decision made by the administering authority will then be provided to the scheme manager, under the *Mineral and Energy Resources (Financial Provisioning) Act 2018*, who will determine the amount and form of scheme assurance the environmental authority holder must pay.

An ERC decision must be in effect and the scheme assurance must be paid to the scheme manager before any relevant activity under the environmental authority can commence.

Note that the estimated rehabilitation cost is calculated for the environmental authority as a whole and cannot be split across tenures.

For information on estimated rehabilitation cost, including details of application requirements, supporting information to be provided and the approved methodology for how to make a calculation, please refer to the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425) located at www.business.qld.gov.au.

If you would like to have a pre-lodgement meeting, please fill out and lodge the form 'Application for pre-lodgement services' (ESR/2015/1664²), prior to lodging this application.

¹ The Department of Environment and Science is the administering authority under the *Environmental Protection Act 1994*.

² This is the publication number. The publication number can be used as a search term to find the latest version of a publication at www.qld.gov.au.

Application form

Application for a decision on the estimated rehabilitation cost

Checklist for making an application

You must complete this checklist before you continue with the application form.

Checklist questions		Guidance
Is your environmental authority for a resource activity?	☒ Yes ☐ No	<p>If no, you do not need to apply for an ERC.</p> <p>If your environmental authority relates to a prescribed ERA then the Financial Assurance provisions apply.</p>

Definitions of terms used in this form

Where there is inconsistency between the definition of terms here and the terms used in the EP Act, the terms in the EP Act apply.

Eligible ERA	An environmentally relevant activity that complies with the eligibility criteria in effect for the activity.
Environmentally relevant activity (ERA)	A resource activity or a prescribed ERA.
ERC period	<p>For the estimated rehabilitation cost for a resource activity, means-</p> <ul style="list-style-type: none"> a) if a PRCP schedule applies for the activity-the period of between 1 and 5 years stated in the application for an ERC decision under section 298(2)(b) of the EP Act; or b) if the activity is a petroleum activity that is an ineligible ERA, other than a petroleum activity to which a plan of operations applies, or the activity relates to a 1923 Act petroleum tenure granted under the <i>Petroleum Act 1923</i>-the period of between 1 and 5 years stated in the ERC decision about the estimated rehabilitation cost; or c) if a plan of operations applies for the activities-the plan period for the plan of operations; or d) otherwise-the total period during which the resource activity is likely to be carried out under the environmental authority for the activity. <p>If the initial ERC period ends before a PRC plan is approved for an ineligible mining activity EA holder; the ERC period must be between 1 and 5 years.</p>
Ineligible ERA	An environmentally relevant activity that is not an eligible ERA.
Mining activity	<p>A mining activity is –</p> <ul style="list-style-type: none"> a) an activity that is an authorised activity for a mining tenement under the <i>Mineral Resources Act 1989</i>; or b) another activity that is authorised under an approval under the <i>Mineral Resources Act 1989</i> that grants rights over land.
Petroleum activity	A petroleum activity is –

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Application for a decision on the estimated rehabilitation cost

	<ul style="list-style-type: none"> a) an activity that, under the <i>Petroleum Act 1923</i>, is an authorised activity for a 1923 Act petroleum tenure under that Act; or b) an activity that, under the <i>Petroleum and Gas (Production and Safety) Act 2004</i>, is an authorised activity for a petroleum authority under that Act; or c) exploring for, exploiting or conveying petroleum resources under a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the <i>Petroleum (Submerged Lands) Act 1982</i>.
Plan of operations	For a petroleum lease, includes a plan of operations given to the administering authority for a proposed lease substantially the same as the petroleum lease.
Progressive Rehabilitation and Closure Plan (PRC plan)	<p>For land the subject of mining lease, a PRC plan means a progressive rehabilitation and closure plan for the land that consists of –</p> <ul style="list-style-type: none"> a) the rehabilitation planning part of the plan; and b) the PRCP schedule for the plan, including any conditions imposed on the schedule.
PRCP schedule	<p>A schedule of the PRC plan that-</p> <ul style="list-style-type: none"> a) complies with section 126D of the EP Act; and b) is approved under chapter 5, part 5, division 2 of the EP Act, with or without conditions.
Prescribed ERA	An environmentally relevant activity that is not a resource activity.
Resource activity	<p>An activity that is any of the following:</p> <ul style="list-style-type: none"> a) a geothermal activity b) a GHG storage activity c) a mining activity d) a petroleum activity.
Scheme assurance	A contribution paid to the scheme fund or a surety given under the <i>Mineral and Energy Resources (Financial Provisioning) Act 2018</i> .

GUIDE

If you require assistance in answering any part of this form, or have any questions about your application please contact the relevant business centre. Contact details are at the end of this form.

The environmental authority (EA) number and details may be found on the existing environmental authority or quoted in other correspondence received from the administering authority.

If more space is required for any responses, please attach additional information as a separate page.

If there is an agent acting on behalf of the environmental authority holder, details of the agent are to be provided in this section. An agent could be a consultant or a contact for the environmental authority holder. A letter of authorisation to act as an agent on behalf of the EA holder must be provided to the administering authority with the application.

Application details

1. Environmental authority

ENVIRONMENTAL AUTHORITY NUMBER

EPML 01470513

ENVIRONMENTAL AUTHORITY HOLDER NAMES

ADANI MINING PTY LTD

Agent details/address for service

The address supplied here will be used as a service address for sending statutory documents.

INDIVIDUAL OR BUSINESS NAME (INCLUDE TRADING NAME IF RELEVANT)

ADANI MINING PTY LTD

RESIDENTIAL ADDRESS OR REGISTERED BUSINESS ADDRESS (NOT A POST OFFICE BOX ADDRESS)

LEVEL 9, 120 EDWARD STREET BRISBANE QLD 4000

POSTAL ADDRESS (IF DIFFERENT FROM ABOVE)

GPO BOX 2569, BRISBANE QLD 4001

CONTACT PERSON AND POSITION

sch4p4(6) Personal information

PHONE

(6) Personal information

FACSIMILE

Insert number.

EMAIL

p4(6) Personal information@ADANI.COM.AU

A new ERC decision can be applied for under section 302 of the EP Act at any time after an ERC decision is made.

Section 304 of the EP Act outlines when a holder must re-apply for an ERC decision.

The administering authority also has the ability to issue a notice under section 303 to direct a holder to re-apply for an ERC decision.

2. Reason for application

Please tick one of the below options for the reason you are making this application:

- ☐ First ERC decision
- ☐ Current ERC period due to expire
- ☒ There is an increase in the likely maximum amount of disturbance
- ☐ There is a change in the activity that may result in an increase to the current ERC decision
- ☐ Annual return stated there was a change in activity that may affect the current ERC decision
- ☐ An application to amalgamate an EA has been approved
- ☐ An application to de-amalgamate an EA has been approved
- ☐ A notice was issued directing the EA holder to re-apply for an ERC decision
- ☐ New ERC decision – please provide details of the reason below (e.g. partial surrender approved, a change in operations which may result in a decrease in ERC, etc.)

Insert.

3. Eligible mining activities

If your EA relates to a petroleum activity or ineligible mining activity please skip to *Question 4*. This section is only applicable for activities that comply with the eligibility criteria as set out in the relevant ERA standard for mining activities.

Eligible and ineligible ERAs are described in the definitions section at the start of this application form. The relevant Eligibility criteria and standard conditions (ERA standard) should be attached to your environmental authority. If not, you can access a copy from www.business.qld.gov.au/running-business/environment/licences-permits/applying/activities-suitable.

Have you used the Schedule of Rehabilitation Costs found in the appendix of the relevant eligibility criteria and standard conditions to calculate your ERC?

- | | |
|--------------------------------|--|
| ☐ No → | Go to <i>Question 4</i> . Note that only eligible mining activities on a mining lease have the option of using the ERC calculator to calculate ERC. |
| ☐ Yes → | Complete Appendix 1 of this form. Skip <i>Question 4</i> and use the forms in the appendix of the relevant ERA standard to calculate the proposed ERC decision completed in <i>Question 5</i> . If the application relates to a mining lease, form 5 and 6 in the ERA standard must be completed and attached to this application. |

The departmental calculators can be located on the Business Queensland website www.business.qld.gov.au.

To calculate estimated rehabilitation cost, you must use the approved methodology outlined in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425).

The definitions section at the start of this form outlines the different ERC period options. The start date for the ERC decision is the day the ERC decision is made by the administering authority. If you select a period of years and months the decision notice will state the specific ERC period end date by calculating your nominated period of time from the ERC decision date.

See the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425) for more information on 'year of maximum liability'.

4. Calculator

You must use the department's ERC calculator to calculate the ERC amount in accordance with the approved methodology described in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425), and submit a completed ERC calculator workbook in Microsoft Excel format with this form.

- ☒ The department's calculator workbook has been completed and attached.
- ☐ Third party quotes have been attached (if used).

5. Proposed estimated rehabilitation cost

State the proposed amount and period for calculating the estimated rehabilitation cost below.

Maximum area of disturbance within ERC period	1839.82 ha
Total estimated rehabilitation cost for the year of maximum liability within the ERC period.	\$26,298,898.13
ERC period Where a plan of operations applies – end date of plan (e.g. 10 July 2020) Where a plan of operations does not apply for an ineligible activity - nominate a period of years and months between 1-5 years (e.g. 2 years and 6 months) Otherwise – state "life of resource project"	5 years

6. Disturbance details

If your EA relates to an eligible activity please skip to *Question 9*. For ineligible activities proposing an ERC period of over 1 year, the ERC must be calculated on the rehabilitation costs for the year in which the maximum liability is incurred within the ERC period. Provide justification for your nominated year of maximum liability below.

Year of maximum liability	2024
Justification	The mine is currently in a expansion phase and therefore the disturbance footprint will increase each year during the ERC period. The year of maximum liability will be in the final year of this ERC period.

See appendix 2 of this form.

7. Rehabilitation plan

You must complete and attach the table in Appendix 2 of this form, unless you have previously submitted information which meets the requirements in Appendix 2 (see options below). The information provided in the table must be consistent with any relevant plan of operations, progressive rehabilitation and closure plan or EA conditions and be specific to the year of maximum liability within the ERC period.

☒ Appendix 2 has been completed and attached.

OR

If you have previously submitted a plan of operations for a petroleum activity that relates to all tenures under the relevant environmental authority, the information provided in the plan of operations may be used as supporting information in the ERC decision application.

☐ I have chosen to use my current plan of operations as supporting information for this application.

OR

If you have previously submitted a rehabilitation plan, post mining land use plan or equivalent plan to the administering authority and the information is still current and relevant, you may use this plan instead of completing Appendix 2.

Document title, version #, author and publication	Relevant section	Page number	Date of submission
Insert.	Insert.	Insert.	Insert.

☐ I have chosen to use the document(s) above as supporting information for this application.

8. Other information

This section is only applicable to ineligible activities. The applicant must submit any other relevant information requirements stated in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425).

Information requirement	Required (N/A or Yes) <small>If you select N/A you must provide justification.</small>
Mine waste structures and run-of-mine areas	Yes Refer to previous document submitted to Department as per Appendix 3
Water management information	Yes Refer to previous document submitted to Department as per Appendix 3
Materials balance	Yes

More detail on the specific information requirements is provided in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425). If you require further clarification on the specific information requirements for your application you are encouraged to have a pre-lodgement meeting with the department, details for the application are at the start of this form.

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Please refer to the department's guideline 'Spatial Information Submission' (ESR/2018/4337) for information on how to submit spatial information.

	Updated material balance is included
Other	Select. Insert justification.

☒ I have attached all information required.

If you have previously provided the required information to the administering authority and the information remains current and relevant, you may use that information for the application instead of attaching a new document.

Document title, version #, author and publication	Information requirement	Page number	Date of submission
See Appendix 3 for List	Insert.	Insert.	Insert.

☒ I have chosen to use the document(s) above as supporting information for this application.

9. Spatial Information and Maps

A. Ineligible activities

All ineligible activities must provide spatial information that illustrates the following site details:

- Existing disturbance area
- Existing rehabilitation area
- Proposed disturbance area for the year of maximum liability (only mining activities)
- Proposed rehabilitation area for the year of maximum liability (only mining activities)

The spatial information must be prepared and submitted in accordance with the department's guideline 'Spatial Information Submission' (ESR/2018/4337) and must include the information detailed in Attachment 1 of this form.

☒ Spatial information has been submitted via email.

OR

If you have submitted a plan of operations for a petroleum activity that relates to all tenures under the relevant environmental authority, the spatial information provided in the plan of operations may be used as supporting information in the ERC decision application.

☐ I have chosen to use my current plan of operations as supporting information for this application.

B. Eligible activities

All eligible activities must provide a map that illustrates the disturbance for the year of maximum liability over the life of the resource project.

☐ A map has been attached.

10. Compliance statement

This compliance statement **must** be completed by, or on behalf of, the environmental authority holder.

Where an agreement is in place between all holders of the environmental authority, that one holder can sign on behalf of the other joint holders, please tick the below checkbox.

☒ I have the authority to sign this form on behalf of all the joint holders of the environmental authority.

The following information **must** be provided and forms part of your compliance statement. You may choose to provide this information as an attachment to this application form if you prefer.

Please note: **It is an offence to give the administering authority information that is false, misleading or incomplete.**

The information has been included as a separate attachment: ☒ Yes ☐ No

Has the proposed estimated rehabilitation cost been worked out in compliance with the methodology stated in the Guideline Estimated rehabilitation cost under the Environmental Protection Act 1994?
--

Yes

If a PRCP schedule or plan of operations applies for the resource activities, is the estimated rehabilitation cost consistent with the schedule or plan?
--

Yes

Application form

Application for a decision on the estimated rehabilitation cost

I, [redacted] certify that I:

- Am authorised to make this compliance statement by or for the holder of the environmental authority.
- Confirm that, to the best of my knowledge all information provided as part of this compliance statement, including attachments, addresses the relevant matters and is true, correct, complete, and does not contain misleading information.
- Have not knowingly failed to reveal any relevant information or document to the administering authority.
- Confirm that the opinions expressed in this compliance statement, including attachments, are honestly and reasonably held.
- Am aware that it is an offence under section 480 of the *Environmental Protection Act 1994*, to give the administering authority information that I know is false, misleading or incomplete.
- Understand that all information supplied as part of this compliance statement, including attachments, can be disclosed publicly in accordance with the *Right to Information Act 2009* and the *Evidence Act 1977*.

SIGNATURE Insert. [redacted]
NAME [redacted]
DATE 08 / 06 / 2020
POSITION [redacted] Mine
CONTACT PHONE NUMBER [redacted]

Note: If the EA holder is a corporation it must be signed by an executive officer of the corporation. The executive officer must provide a letter of authorisation to delegate authority to sign the compliance statement on their behalf.

Application form

Application for a decision on the estimated rehabilitation cost

Where there is more than one holder of the environmental authority, this declaration is to be signed by all holders, unless there is an agreement between all holders that one can sign on behalf of the other.

Note: If only one holder is signing this application form, they are committing all holders to the content of the application and the declaration.

Where the environmental authority holder is a company, this form must be signed by an authorised person for that company.

Privacy statement

The Department of Environment and Science is committed to protecting the privacy, accuracy and security of your personal information in accordance with the *Information Privacy Act 2009*. The department is collecting your personal information in accordance with section 298 of the *Environmental Protection Act 1994* in order to process your application. The information will only be accessed by authorised employees within the department. Some of this information may be given to the Department of Natural Resources, Mines and Energy for the purpose of the joint regulation of mining activities. Some of this information may be provided to Queensland Treasury, the Scheme Manager under the *Mineral and Energy Resources (Financial Provisioning) Act 2018* (MERFP Act), or any advisors to the Scheme Manager to enable the Scheme Manager to carry out the Scheme Manager's functions under the MERFP Act. Your information will not be given to any other person or agency unless you have given us permission or we are authorised or required by law. All information supplied on this form may be disclosed publicly in accordance with the *Right to Information Act 2009* and *Evidence Act 1977*. For queries about privacy matters email: privacy@des.qld.gov.au or telephone: 13 QGOV (13 74 68)

11. Declaration

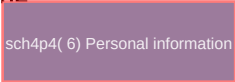
Note: If you have not told the truth in this application you may be prosecuted.

Where an agreement is in place between all holders of the environmental authority, that one holder can sign on behalf of the other joint holders, please tick the below checkbox.

☒ I have the authority to sign this form on behalf of all the joint holders of the environmental authority.

I declare that:

- I am the holder of the environmental authority or an authorised signatory.
- The information provided is true and correct to the best of my knowledge. I understand that it is an offence under section 480 of the *Environmental Protection Act 1994* to give to the administering authority or an authorised person a document containing information that I know is false, misleading or incomplete in a material particular.
- I understand that failure to provide sufficient information may result in the application being refused.
- I understand that all information supplied on or with this application form may be disclosed publicly in accordance with the *Right to Information Act 2009* and the *Evidence Act 1977*.

ENVIRONMENTAL AUTHORITY HOLDER'S NAME ADANI MINING PTY LTD	
SIGNATURE 	
POSITION OF SIGNATORY (6) Personal info - MINE	DATE 08/06/2020
JOINT HOLDER'S NAME (IF APPLICABLE) Insert name.	JOINT HOLDER'S SIGNATURE (IF APPLICABLE)
JOINT HOLDER'S NAME (IF APPLICABLE) Insert name.	JOINT HOLDER'S SIGNATURE (IF APPLICABLE)

Further information

The latest version of this publication and other publications referenced in this document can be found at www.qld.gov.au using the relevant publication number (ESR/2018/4426) for this document) as a search term.

Please submit your completed application form and supporting material to the Department of Environment and Science office that services the industry applicable to your environmental authority.

A list of business centres can be found at www.des.qld.gov.au using the words 'business centres' as a search term.

Enquiries:

Energy and Extractive Resources Business Centre

GPO Box 2454
Brisbane QLD 4000
Phone: 07 3330 5715
Email: EnergyandExtractive@des.qld.gov.au

Minerals Business Centre

PO Box 7230
Cairns QLD 4870
Phone: 07 4222 5352
Fax: 07 4222 5070
Email: ESCairns@des.qld.gov.au

Coal Business Centre

PO Box 3028
Emerald QLD 4720
Phone: 07 4987 9320
Email: CRMining@des.qld.gov.au

Appendix 1 – Schedule of Disturbance

Only eligible mining activities not using the ERC calculator are required to complete this Schedule. The Carmichael Mine is classed as an ineligible mining activity and is not required to complete this Schedule of Disturbance.

Published on DES Disclosure Log
RTI Act 2009

Appendix 2 – Rehabilitation Plan

STRICTLY CONFIDENTIAL
COMMERCIAL IN CONFIDENCE
EXEMPT FROM DISCLOSURE UNDER RTI

This table must provide a summary of the rehabilitation methodology required to restore the land to its post-mining land use. The information must be relevant to the whole site and for all disturbance within the year of maximum liability.

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
Exploration	<p>Exploration tracks will be rehabilitated by harrowing/ripping after the redistribution of topsoil and any previously cleared vegetation to break up the compacted layer.</p> <p>Drill pads will have sumps backfilled and reshaped back to the original landform. All pads have topsoil respread across the surface and will be ripped to loosen up compacted areas.</p> <p>Drill holes will be rehabilitated in accordance with guidelines within Code of Environmental Compliance for Exploration and Mineral Development Projects.</p>	The Project construction commenced work during June 2019. Some minor rehabilitation works has been undertaken for historical exploration activities to date.	<p>The nominated post mine land use includes grazing on a mosaic of native pasture and woodland habitat. For areas disturbed, the following overarching objectives apply:</p> <ol style="list-style-type: none"> 1. The mine site will be safe to humans and fauna; 2. Mining and rehabilitation will aim to create a landform that is stable and with similar land use capabilities and / or suitability that existed prior to the disturbance, unless other end uses are pre-determined and agreed; 3. Mine wastes and disturbed land will be rehabilitated so that they are non-polluting and self sustaining or to a condition where the maintenance requirements are limited; 4. Surface water leaving the project area will not be degraded compared to the condition prior to the commencement of mining
Infrastructure	<p>Any infrastructure including dams, levee banks, roads and buildings, which has beneficial future use by post-mine landowners, will be left in place.</p> <p>All components suitable for reuse at other mining or industrial operations will be reused. Otherwise, recyclable materials will be recovered and non-recyclable components will be disposed of at authorised facilities.</p> <p>A risk assessment of all below ground infrastructure and components will be completed to determine what can be removed (for reuse and/or disposal) and what can be left in place. Surface disturbance and impacts associated with</p>		

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
	<p>the removal of below ground infrastructure and components will be considered in addition to the potential for contamination. Below ground infrastructure that is to be left in place will be made safe (eg depressurising, draining and sealing of pipelines) and the location of all infrastructure and other components will be recorded.</p> <p>Contaminated soil assessments will be conducted as required (Section 4.2). Contaminated soils or other potential sources of contamination will be preferentially treated on site. If contamination cannot be treated then it may be disposed of at an authorised facility. Incident registers will be used to identify locations where spills have occurred. Treatment versus off-site disposal will depend on whether domains are listed on the Contaminated Land Register (CLR) and Environmental Management Register (EMR) and whether it is deemed appropriate to have them removed as part of the rehabilitation process.</p> <p>Compacted surfaces will be ripped/ de-compacted and topsoil will be placed in accordance with the topsoil management plan and topsoil register. Soil will be seeded or planted and watered. Weeds will be managed until >70% of reference site cover is achieved.</p> <p>De-compacted areas may be graded and re-profiled such that surface drainage is restored and ponding and scouring is reduced to as low as reasonable possible.</p>		<p>operations. Current and future water quality will be maintained at levels that are acceptable for users downstream of the site and meet environmental needs;</p> <p>Potential acid mine drainage will be determined and management measures implemented (eg encapsulation of sulphides or treatment systems), if required;</p> <p>5. Vegetation cover will be established to reduce rates of erosion and sediment loss so that it is comparable to surrounding undisturbed landscapes;</p> <p>6. Soil suitability for use in rehabilitation will be assessed and soils will be ameliorated as required.</p>
Pit	<p>Open-cut voids will be progressively backfilled from the low-wall with overburden and mine waste. Backfilling will include placement of potentially acid forming, saline or sodic materials towards the pit side of the low wall so that</p>		

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
	<p>run off is contained within the pit and eventual encapsulation will be done if necessary.</p> <p>Pre-strip materials from development of adjacent open-cuts will also be placed in finished open-cuts where possible to reduce the volume and slopes of any final void.</p> <p>The final landform for each open-cut and void may be achieved through:</p> <ul style="list-style-type: none"> • initial geotechnical appraisal of high-wall stability and suitable final slope angle; • assessing the potential for spontaneous combustion to occur from exposed coal seams and ameliorative works as required to reduce risk; • re-profiling the low-wall to final angle up to 22°. <p>Potential overland flow from incident rainfall which could cause scouring and erosion will be managed by the construction of water retention or diversion structures on slopes and in the catchment above open-cut voids as required;</p> <ul style="list-style-type: none"> • accident prevention by effective bunding and/or fencing of the perimeter and the erection of danger signs; and • minimising the amount of inflow of overland flow caused by rainfall and eroded soil into the void were feasible. <p>Void slope rehabilitation will be achieved where possible by:</p> <ul style="list-style-type: none"> • ripping or otherwise de-compacting compacted surfaces in end wall and side walls, provided machinery can safely access the slope; • placing topsoil in the low wall side by either pushing from the crest using a dozer or by end-dumping and 		

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
	<p>allowing successive rainfall to wash topsoil into and down the slope;</p> <ul style="list-style-type: none"> • planting vegetation provided there is safe access or aerial seeding where safe access is not available; • watering vegetation to increase survival rates during early stages of rehabilitation by using mine water provided it is of suitable quality; • corrective actions for pH, nutrients, organic matter and salinity to ensure that vegetation is self-sustaining; and • managing weeds and revegetation until >70% of reference site cover is achieved. 		

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Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
Overburden Dump	<p>Material will be placed in the out-of-pit spoil dumps in such a way as to achieve profiles as close as possible to the final landform. This will reduce the volume of cut-and-fill required during re-profiling earthworks. Potential acid forming, saline or sodic material and coarse and fine reject from the tailings drying cells placed in the out-of-pit spoil dumps will be selectively managed which may include encapsulation.</p> <p>The rehabilitation of out-of-pit spoil dumps will be completed progressively and will consist of:</p> <ul style="list-style-type: none"> • re-profiling dumps to achieve slopes angles not exceeding 12° on outer faces and up to 22° on inner faces (ie within low wall side of voids); • shaping and contouring to manage overland flow from rainfall such that this reduces scouring or erosion (this may include the placement of retention structures) to as low as reasonable possible; • ripping or otherwise de-compacting compacted surfaces, provided safe machinery access is possible; • placing topsoil as per topsoil management plan and topsoil register, provided safe machinery access is possible; • seeding or planting vegetation, provided safe machinery access is possible; • watering vegetation to increase survival rates during early stages of rehabilitation by using mine water provided, it is of suitable quality, and safe machinery access is possible; • corrective actions for pH, nutrients, organic matter and salinity to ensure that vegetation is self-sustaining; and • managing weeds and revegetation until 70% of reference site cover is achieved. 		

Appendix 3 – List of Supporting Documentation Previously Provided to Administering Authority

- ✓ **Rehabilitation and Closure Strategy**
 - Adani Mine Closure and Rehabilitation Strategy v4 September 2019
 - Rehabilitation Monitoring Plan Certification Letter, September 2019
 - Rehabilitation Monitoring Plan v2 September 2019
- ✓ **Topsoil Management Plan** (previous documents provided to Department are listed below however updated documents will be submitted as part of submission)
 - CCMP-000000-PRO-EN-000100_0 SHEMS Procedure Soil Resource Management_v1.1
 - JW181185_Soil Survey Register_20190301
 - JW181185_Soil_Sampling Sites_Final
- ✓ **Waste Spoil and Rejects Management Plan**
 - 2010058_001_RGS CCM MWRM Plan rev 4
- ✓ **Water Management Plan**
 - BR801-00276_23 10Mtpa Phase - Surface Water and Sediment Management Plan (Rev1)

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Application form

Environmental Protection Act 1994

Application for a decision on the estimated rehabilitation cost

This document is the approved form that is to be used by an applicant under section 298 of the Environmental Protection Act 1994 (EP Act) to apply to the administering authority¹ for an estimated rehabilitation cost decision for a resource activity.

This application can be completed online via Connect. For more information and to register to use Connect go to www.des.qld.gov.au/connect.

Environmental authority holders for resource activities are required to use the approved methodology in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425) to calculate the amount the holder considers to be an estimate of the total rehabilitation cost. The administering authority will then assess the application and decide the estimated rehabilitation cost (the ERC decision).

The ERC decision made by the administering authority will then be provided to the scheme manager, under the *Mineral and Energy Resources (Financial Provisioning) Act 2018*, who will determine the amount and form of scheme assurance the environmental authority holder must pay.

An ERC decision must be in effect and the scheme assurance must be paid to the scheme manager before any relevant activity under the environmental authority can commence.

Note that the estimated rehabilitation cost is calculated for the environmental authority as a whole and cannot be split across tenures.

For information on estimated rehabilitation cost, including details of application requirements, supporting information to be provided and the approved methodology for how to make a calculation, please refer to the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425) located at www.business.qld.gov.au.

If you would like to have a pre-lodgement meeting, please fill out and lodge the form 'Application for pre-lodgement services' (ESR/2015/1664²), prior to lodging this application.

¹ The Department of Environment and Science is the administering authority under the *Environmental Protection Act 1994*.

² This is the publication number. The publication number can be used as a search term to find the latest version of a publication at www.qld.gov.au.

Application form

Application for a decision on the estimated rehabilitation cost

Checklist for making an application

You must complete this checklist before you continue with the application form.

Checklist questions		Guidance
Is your environmental authority for a resource activity?	☒ Yes ☐ No	<p>If no, you do not need to apply for an ERC.</p> <p>If your environmental authority relates to a prescribed ERA then the Financial Assurance provisions apply.</p>

Definitions of terms used in this form

Where there is inconsistency between the definition of terms here and the terms used in the EP Act, the terms in the EP Act apply.

Eligible ERA	An environmentally relevant activity that complies with the eligibility criteria in effect for the activity.
Environmentally relevant activity (ERA)	A resource activity or a prescribed ERA.
ERC period	<p>For the estimated rehabilitation cost for a resource activity, means-</p> <ul style="list-style-type: none"> a) if a PRCP schedule applies for the activity-the period of between 1 and 5 years stated in the application for an ERC decision under section 298(2)(b) of the EP Act; or b) if the activity is a petroleum activity that is an ineligible ERA, other than a petroleum activity to which a plan of operations applies, or the activity relates to a 1923 Act petroleum tenure granted under the <i>Petroleum Act 1923</i>-the period of between 1 and 5 years stated in the ERC decision about the estimated rehabilitation cost; or c) if a plan of operations applies for the activities-the plan period for the plan of operations; or d) otherwise-the total period during which the resource activity is likely to be carried out under the environmental authority for the activity. <p>If the initial ERC period ends before a PRC plan is approved for an ineligible mining activity EA holder; the ERC period must be between 1 and 5 years.</p>
Ineligible ERA	An environmentally relevant activity that is not an eligible ERA.
Mining activity	<p>A mining activity is –</p> <ul style="list-style-type: none"> a) an activity that is an authorised activity for a mining tenement under the <i>Mineral Resources Act 1989</i>; or b) another activity that is authorised under an approval under the <i>Mineral Resources Act 1989</i> that grants rights over land.
Petroleum activity	A petroleum activity is –

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Application for a decision on the estimated rehabilitation cost

	<ul style="list-style-type: none"> a) an activity that, under the <i>Petroleum Act 1923</i>, is an authorised activity for a 1923 Act petroleum tenure under that Act; or b) an activity that, under the <i>Petroleum and Gas (Production and Safety) Act 2004</i>, is an authorised activity for a petroleum authority under that Act; or c) exploring for, exploiting or conveying petroleum resources under a licence, permit, pipeline licence, primary licence, secondary licence or special prospecting authority granted under the <i>Petroleum (Submerged Lands) Act 1982</i>.
Plan of operations	For a petroleum lease, includes a plan of operations given to the administering authority for a proposed lease substantially the same as the petroleum lease.
Progressive Rehabilitation and Closure Plan (PRC plan)	For land the subject of mining lease, a PRC plan means a progressive rehabilitation and closure plan for the land that consists of – <ul style="list-style-type: none"> a) the rehabilitation planning part of the plan; and b) the PRCP schedule for the plan, including any conditions imposed on the schedule.
PRCP schedule	A schedule of the PRC plan that- <ul style="list-style-type: none"> a) complies with section 126D of the EP Act; and b) is approved under chapter 5, part 5, division 2 of the EP Act, with or without conditions.
Prescribed ERA	An environmentally relevant activity that is not a resource activity.
Resource activity	An activity that is any of the following: <ul style="list-style-type: none"> a) a geothermal activity b) a GHG storage activity c) a mining activity d) a petroleum activity.
Scheme assurance	A contribution paid to the scheme fund or a surety given under the <i>Mineral and Energy Resources (Financial Provisioning) Act 2018</i> .

GUIDE

If you require assistance in answering any part of this form, or have any questions about your application please contact the relevant business centre. Contact details are at the end of this form.

The environmental authority (EA) number and details may be found on the existing environmental authority or quoted in other correspondence received from the administering authority.

If more space is required for any responses, please attach additional information as a separate page.

If there is an agent acting on behalf of the environmental authority holder, details of the agent are to be provided in this section. An agent could be a consultant or a contact for the environmental authority holder. A letter of authorisation to act as an agent on behalf of the EA holder must be provided to the administering authority with the application.

Application details

1. Environmental authority

ENVIRONMENTAL AUTHORITY NUMBER

EPML 01470513

ENVIRONMENTAL AUTHORITY HOLDER NAMES

ADANI MINING PTY LTD

Agent details/address for service

The address supplied here will be used as a service address for sending statutory documents.

INDIVIDUAL OR BUSINESS NAME (INCLUDE TRADING NAME IF RELEVANT)

ADANI MINING PTY LTD

RESIDENTIAL ADDRESS OR REGISTERED BUSINESS ADDRESS (NOT A POST OFFICE BOX ADDRESS)

LEVEL 9, 120 EDWARD STREET BRISBANE QLD 4000

POSTAL ADDRESS (IF DIFFERENT FROM ABOVE)

GPO BOX 2569, BRISBANE QLD 4001

CONTACT PERSON AND POSITION

sch4p4(6) Personal information

PHONE

(6) Personal info

FACSIMILE

Insert number.

EMAIL

p4(6) Personal inform@ADANI.COM.AU

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A new ERC decision can be applied for under section 302 of the EP Act at any time after an ERC decision is made.

Section 304 of the EP Act outlines when a holder must re-apply for an ERC decision.

The administering authority also has the ability to issue a notice under section 303 to direct a holder to re-apply for an ERC decision.

2. Reason for application

Please tick one of the below options for the reason you are making this application:

- ☐ First ERC decision
- ☐ Current ERC period due to expire
- ☒ There is an increase in the likely maximum amount of disturbance
- ☐ There is a change in the activity that may result in an increase to the current ERC decision
- ☐ Annual return stated there was a change in activity that may affect the current ERC decision
- ☐ An application to amalgamate an EA has been approved
- ☐ An application to de-amalgamate an EA has been approved
- ☐ A notice was issued directing the EA holder to re-apply for an ERC decision
- ☐ New ERC decision – please provide details of the reason below (e.g. partial surrender approved, a change in operations which may result in a decrease in ERC, etc.)

Insert.

3. Eligible mining activities

If your EA relates to a petroleum activity or ineligible mining activity please skip to *Question 4*. This section is only applicable for activities that comply with the eligibility criteria as set out in the relevant ERA standard for mining activities.

Eligible and ineligible ERAs are described in the definitions section at the start of this application form. The relevant Eligibility criteria and standard conditions (ERA standard) should be attached to your environmental authority. If not, you can access a copy from www.business.qld.gov.au/running-business/environment/licences-permits/applying/activities-suitable.

Have you used the Schedule of Rehabilitation Costs found in the appendix of the relevant eligibility criteria and standard conditions to calculate your ERC?

- | | |
|--------------------------------|--|
| ☐ No → | Go to <i>Question 4</i> . Note that only eligible mining activities on a mining lease have the option of using the ERC calculator to calculate ERC. |
| ☐ Yes → | Complete Appendix 1 of this form. Skip <i>Question 4</i> and use the forms in the appendix of the relevant ERA standard to calculate the proposed ERC decision completed in <i>Question 5</i> . If the application relates to a mining lease, form 5 and 6 in the ERA standard must be completed and attached to this application. |

The departmental calculators can be located on the Business Queensland website www.business.qld.gov.au.

To calculate estimated rehabilitation cost, you must use the approved methodology outlined in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425).

The definitions section at the start of this form outlines the different ERC period options. The start date for the ERC decision is the day the ERC decision is made by the administering authority. If you select a period of years and months the decision notice will state the specific ERC period end date by calculating your nominated period of time from the ERC decision date.

See the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425) for more information on 'year of maximum liability'.

4. Calculator

You must use the department's ERC calculator to calculate the ERC amount in accordance with the approved methodology described in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425), and submit a completed ERC calculator workbook in Microsoft Excel format with this form.

- ☒ The department's calculator workbook has been completed and attached.
- ☐ Third party quotes have been attached (if used).

5. Proposed estimated rehabilitation cost

State the proposed amount and period for calculating the estimated rehabilitation cost below.

Maximum area of disturbance within ERC period	1839.82 ha
Total estimated rehabilitation cost for the year of maximum liability within the ERC period.	\$26,298,898.13
ERC period Where a plan of operations applies – end date of plan (e.g. 10 July 2020) Where a plan of operations does not apply for an ineligible activity - nominate a period of years and months between 1-5 years (e.g. 2 years and 6 months) Otherwise – state "life of resource project"	5 years

6. Disturbance details

If your EA relates to an eligible activity please skip to *Question 9*. For ineligible activities proposing an ERC period of over 1 year, the ERC must be calculated on the rehabilitation costs for the year in which the maximum liability is incurred within the ERC period. Provide justification for your nominated year of maximum liability below.

Year of maximum liability	2024
Justification	The mine is currently in a expansion phase and therefore the disturbance footprint will increase each year during the ERC period. The year of maximum liability will be in the final year of this ERC period.

See appendix 2 of this form.

7. Rehabilitation plan

You must complete and attach the table in Appendix 2 of this form, unless you have previously submitted information which meets the requirements in Appendix 2 (see options below). The information provided in the table must be consistent with any relevant plan of operations, progressive rehabilitation and closure plan or EA conditions and be specific to the year of maximum liability within the ERC period.

☒ Appendix 2 has been completed and attached.

OR

If you have previously submitted a plan of operations for a petroleum activity that relates to all tenures under the relevant environmental authority, the information provided in the plan of operations may be used as supporting information in the ERC decision application.

☐ I have chosen to use my current plan of operations as supporting information for this application.

OR

If you have previously submitted a rehabilitation plan, post mining land use plan or equivalent plan to the administering authority and the information is still current and relevant, you may use this plan instead of completing Appendix 2.

Document title, version #, author and publication	Relevant section	Page number	Date of submission
Insert.	Insert.	Insert.	Insert.

☐ I have chosen to use the document(s) above as supporting information for this application.

8. Other information

This section is only applicable to ineligible activities. The applicant must submit any other relevant information requirements stated in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425).

Information requirement	Required (N/A or Yes) <small>If you select N/A you must provide justification.</small>
Mine waste structures and run-of-mine areas	Yes Refer to previous document submitted to Department as per Appendix 3
Water management information	Yes Refer to previous document submitted to Department as per Appendix 3
Materials balance	Yes

More detail on the specific information requirements is provided in the guideline 'Estimated rehabilitation cost under the *Environmental Protection Act 1994*' (ESR/2018/4425). If you require further clarification on the specific information requirements for your application you are encouraged to have a pre-lodgement meeting with the department, details for the application are at the start of this form.

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Please refer to the department's guideline 'Spatial Information Submission' (ESR/2018/4337) for information on how to submit spatial information.

	Updated material balance is included
Other	Select. Insert justification.

☒ I have attached all information required.

If you have previously provided the required information to the administering authority and the information remains current and relevant, you may use that information for the application instead of attaching a new document.

Document title, version #, author and publication	Information requirement	Page number	Date of submission
See Appendix 3 for List	Insert.	Insert.	Insert.

☒ I have chosen to use the document(s) above as supporting information for this application.

9. Spatial Information and Maps

A. Ineligible activities

All ineligible activities must provide spatial information that illustrates the following site details:

- Existing disturbance area
- Existing rehabilitation area
- Proposed disturbance area for the year of maximum liability (only mining activities)
- Proposed rehabilitation area for the year of maximum liability (only mining activities)

The spatial information must be prepared and submitted in accordance with the department's guideline 'Spatial Information Submission' (ESR/2018/4337) and must include the information detailed in Attachment 1 of this form.

☒ Spatial information has been submitted via email.

OR

If you have submitted a plan of operations for a petroleum activity that relates to all tenures under the relevant environmental authority, the spatial information provided in the plan of operations may be used as supporting information in the ERC decision application.

☐ I have chosen to use my current plan of operations as supporting information for this application.

B. Eligible activities

All eligible activities must provide a map that illustrates the disturbance for the year of maximum liability over the life of the resource project.

☐ A map has been attached.

10. Compliance statement

This compliance statement **must** be completed by, or on behalf of, the environmental authority holder.

Where an agreement is in place between all holders of the environmental authority, that one holder can sign on behalf of the other joint holders, please tick the below checkbox.

☒ I have the authority to sign this form on behalf of all the joint holders of the environmental authority.

The following information **must** be provided and forms part of your compliance statement. You may choose to provide this information as an attachment to this application form if you prefer.

Please note: **It is an offence to give the administering authority information that is false, misleading or incomplete.**

The information has been included as a separate attachment: ☒ Yes ☐ No

Has the proposed estimated rehabilitation cost been worked out in compliance with the methodology stated in the Guideline Estimated rehabilitation cost under the Environmental Protection Act 1994?
--

Yes

If a PRCP schedule or plan of operations applies for the resource activities, is the estimated rehabilitation cost consistent with the schedule or plan?
--

Yes

Application form

Application for a decision on the estimated rehabilitation cost

I, [redacted] certify that I:

- Am authorised to make this compliance statement by or for the holder of the environmental authority.
- Confirm that, to the best of my knowledge all information provided as part of this compliance statement, including attachments, addresses the relevant matters and is true, correct, complete, and does not contain misleading information.
- Have not knowingly failed to reveal any relevant information or document to the administering authority.
- Confirm that the opinions expressed in this compliance statement, including attachments, are honestly and reasonably held.
- Am aware that it is an offence under section 480 of the *Environmental Protection Act 1994*, to give the administering authority information that I know is false, misleading or incomplete.
- Understand that all information supplied as part of this compliance statement, including attachments, can be disclosed publicly in accordance with the *Right to Information Act 2009* and the *Evidence Act 1977*.

SIGNATURE Insert. [redacted]
NAME [redacted]
DATE 08 / 06 / 2020
POSITION [redacted]
CONTACT PHONE NUMBER [redacted]

Note: If the EA holder is a corporation it must be signed by an executive officer of the corporation. The executive officer must provide a letter of authorisation to delegate authority to sign the compliance statement on their behalf.

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Application for a decision on the estimated rehabilitation cost

Where there is more than one holder of the environmental authority, this declaration is to be signed by all holders, unless there is an agreement between all holders that one can sign on behalf of the other.

Note: If only one holder is signing this application form, they are committing all holders to the content of the application and the declaration.

Where the environmental authority holder is a company, this form must be signed by an authorised person for that company.

Privacy statement

The Department of Environment and Science is committed to protecting the privacy, accuracy and security of your personal information in accordance with the *Information Privacy Act 2009*. The department is collecting your personal information in accordance with section 298 of the *Environmental Protection Act 1994* in order to process your application. The information will only be accessed by authorised employees within the department. Some of this information may be given to the Department of Natural Resources, Mines and Energy for the purpose of the joint regulation of mining activities. Some of this information may be provided to Queensland Treasury, the Scheme Manager under the *Mineral and Energy Resources (Financial Provisioning) Act 2018* (MERFP Act), or any advisors to the Scheme Manager to enable the Scheme Manager to carry out the Scheme Manager's functions under the MERFP Act. Your information will not be given to any other person or agency unless you have given us permission or we are authorised or required by law. All information supplied on this form may be disclosed publicly in accordance with the *Right to Information Act 2009* and *Evidence Act 1977*. For queries about privacy matters email: privacy@des.qld.gov.au or telephone: 13 QGOV (13 74 68)

11. Declaration

Note: If you have not told the truth in this application you may be prosecuted.

Where an agreement is in place between all holders of the environmental authority, that one holder can sign on behalf of the other joint holders, please tick the below checkbox.

☒ I have the authority to sign this form on behalf of all the joint holders of the environmental authority.

I declare that:

- I am the holder of the environmental authority or an authorised signatory.
- The information provided is true and correct to the best of my knowledge. I understand that it is an offence under section 480 of the *Environmental Protection Act 1994* to give to the administering authority or an authorised person a document containing information that I know is false, misleading or incomplete in a material particular.
- I understand that failure to provide sufficient information may result in the application being refused.
- I understand that all information supplied on or with this application form may be disclosed publicly in accordance with the *Right to Information Act 2009* and the *Evidence Act 1977*.

ENVIRONMENTAL AUTHORITY HOLDER'S NAME ADANI MINING PTY LTD	
SIGNATURE <div style="background-color: #cccccc; padding: 5px; text-align: center;">sch4p4(6) Personal information</div>	
POSITION OF SIGNATORY <div style="background-color: #cccccc; padding: 5px; text-align: center;">ch4p4(6) Personal information</div>	DATE 08/06/2020
JOINT HOLDER'S NAME (IF APPLICABLE) Insert name.	JOINT HOLDER'S SIGNATURE (IF APPLICABLE)
JOINT HOLDER'S NAME (IF APPLICABLE) Insert name.	JOINT HOLDER'S SIGNATURE (IF APPLICABLE)

Further information

The latest version of this publication and other publications referenced in this document can be found at www.qld.gov.au using the relevant publication number (ESR/2018/4426) for this document) as a search term.

Please submit your completed application form and supporting material to the Department of Environment and Science office that services the industry applicable to your environmental authority.

A list of business centres can be found at www.des.qld.gov.au using the words 'business centres' as a search term.

Enquiries:

Energy and Extractive Resources Business Centre

GPO Box 2454
Brisbane QLD 4000
Phone: 07 3330 5715
Email: EnergyandExtractive@des.qld.gov.au

Minerals Business Centre

PO Box 7230
Cairns QLD 4870
Phone: 07 4222 5352
Fax: 07 4222 5070
Email: ESCairns@des.qld.gov.au

Coal Business Centre

PO Box 3028
Emerald QLD 4720
Phone: 07 4987 9320
Email: CRMining@des.qld.gov.au

Appendix 1 – Schedule of Disturbance

Only eligible mining activities not using the ERC calculator are required to complete this Schedule. The Carmichael Mine is classed as an ineligible mining activity and is not required to complete this Schedule of Disturbance.

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Appendix 2 – Rehabilitation Plan

This table must provide a summary of the rehabilitation methodology required to restore the land to its post-mining land use. The information must be relevant to the whole site and for all disturbance within the year of maximum liability.

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
Exploration	<p>Exploration tracks will be rehabilitated by harrowing/ripping after the redistribution of topsoil and any previously cleared vegetation to break up the compacted layer.</p> <p>Drill pads will have sumps backfilled and reshaped back to the original landform. All pads have topsoil respread across the surface and will be ripped to loosen up compacted areas.</p> <p>Drill holes will be rehabilitated in accordance with guidelines within Code of Environmental Compliance for Exploration and Mineral Development Projects.</p>	The Project construction commenced work during June 2019. Some minor rehabilitation works has been undertaken for historical exploration activities to date.	<p>The nominated post mine land use includes grazing on a mosaic of native pasture and woodland habitat. For areas disturbed, the following overarching objectives apply:</p> <ol style="list-style-type: none"> 1. The mine site will be safe to humans and fauna; 2. Mining and rehabilitation will aim to create a landform that is stable and with similar land use capabilities and / or suitability that existed prior to the disturbance, unless other end uses are pre-determined and agreed; 3. Mine wastes and disturbed land will be rehabilitated so that they are non-polluting and self sustaining or to a condition where the maintenance requirements are limited; 4. Surface water leaving the project area will not be degraded compared to the condition prior to the commencement of mining
Infrastructure	<p>Any infrastructure including dams, levee banks, roads and buildings, which has beneficial future use by post-mine landowners, will be left in place.</p> <p>All components suitable for reuse at other mining or industrial operations will be reused. Otherwise, recyclable materials will be recovered and non-recyclable components will be disposed of at authorised facilities.</p> <p>A risk assessment of all below ground infrastructure and components will be completed to determine what can be removed (for reuse and/or disposal) and what can be left in place. Surface disturbance and impacts associated with</p>		

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
	<p>the removal of below ground infrastructure and components will be considered in addition to the potential for contamination. Below ground infrastructure that is to be left in place will be made safe (eg depressurising, draining and sealing of pipelines) and the location of all infrastructure and other components will be recorded.</p> <p>Contaminated soil assessments will be conducted as required (Section 4.2). Contaminated soils or other potential sources of contamination will be preferentially treated on site. If contamination cannot be treated then it may be disposed of at an authorised facility. Incident registers will be used to identify locations where spills have occurred. Treatment versus off-site disposal will depend on whether domains are listed on the Contaminated Land Register (CLR) and Environmental Management Register (EMR) and whether it is deemed appropriate to have them removed as part of the rehabilitation process.</p> <p>Compacted surfaces will be ripped/ de-compacted and topsoil will be placed in accordance with the topsoil management plan and topsoil register. Soil will be seeded or planted and watered. Weeds will be managed until >70% of reference site cover is achieved.</p> <p>De-compacted areas may be graded and re-profiled such that surface drainage is restored and ponding and scouring is reduced to as low as reasonable possible.</p>		<p>operations. Current and future water quality will be maintained at levels that are acceptable for users downstream of the site and meet environmental needs;</p> <p>Potential acid mine drainage will be determined and management measures implemented (eg encapsulation of sulphides or treatment systems), if required;</p> <p>5. Vegetation cover will be established to reduce rates of erosion and sediment loss so that it is comparable to surrounding undisturbed landscapes;</p> <p>6. Soil suitability for use in rehabilitation will be assessed and soils will be ameliorated as required.</p>
Pit	<p>Open-cut voids will be progressively backfilled from the low-wall with overburden and mine waste. Backfilling will include placement of potentially acid forming, saline or sodic materials towards the pit side of the low wall so that</p>		

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
	<p>run off is contained within the pit and eventual encapsulation will be done if necessary.</p> <p>Pre-strip materials from development of adjacent open-cuts will also be placed in finished open-cuts where possible to reduce the volume and slopes of any final void.</p> <p>The final landform for each open-cut and void may be achieved through:</p> <ul style="list-style-type: none"> • initial geotechnical appraisal of high-wall stability and suitable final slope angle; • assessing the potential for spontaneous combustion to occur from exposed coal seams and ameliorative works as required to reduce risk; • re-profiling the low-wall to final angle up to 22°. <p>Potential overland flow from incident rainfall which could cause scouring and erosion will be managed by the construction of water retention or diversion structures on slopes and in the catchment above open-cut voids as required;</p> <ul style="list-style-type: none"> • accident prevention by effective bunding and/or fencing of the perimeter and the erection of danger signs; and • minimising the amount of inflow of overland flow caused by rainfall and eroded soil into the void were feasible. <p>Void slope rehabilitation will be achieved where possible by:</p> <ul style="list-style-type: none"> • ripping or otherwise de-compacting compacted surfaces in end wall and side walls, provided machinery can safely access the slope; • placing topsoil in the low wall side by either pushing from the crest using a dozer or by end-dumping and 		

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
	<p>allowing successive rainfall to wash topsoil into and down the slope;</p> <ul style="list-style-type: none"> • planting vegetation provided there is safe access or aerial seeding where safe access is not available; • watering vegetation to increase survival rates during early stages of rehabilitation by using mine water provided it is of suitable quality; • corrective actions for pH, nutrients, organic matter and salinity to ensure that vegetation is self-sustaining; and • managing weeds and revegetation until >70% of reference site cover is achieved. 		

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Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use
Overburden Dump	<p>Material will be placed in the out-of-pit spoil dumps in such a way as to achieve profiles as close as possible to the final landform. This will reduce the volume of cut-and-fill required during re-profiling earthworks. Potential acid forming, saline or sodic material and coarse and fine reject from the tailings drying cells placed in the out-of-pit spoil dumps will be selectively managed which may include encapsulation.</p> <p>The rehabilitation of out-of-pit spoil dumps will be completed progressively and will consist of:</p> <ul style="list-style-type: none"> • re-profiling dumps to achieve slopes angles not exceeding 12° on outer faces and up to 22° on inner faces (ie within low wall side of voids); • shaping and contouring to manage overland flow from rainfall such that this reduces scouring or erosion (this may include the placement of retention structures) to as low as reasonable possible; • ripping or otherwise de-compacting compacted surfaces, provided safe machinery access is possible; • placing topsoil as per topsoil management plan and topsoil register, provided safe machinery access is possible; • seeding or planting vegetation, provided safe machinery access is possible; • watering vegetation to increase survival rates during early stages of rehabilitation by using mine water provided, it is of suitable quality, and safe machinery access is possible; • corrective actions for pH, nutrients, organic matter and salinity to ensure that vegetation is self-sustaining; and • managing weeds and revegetation until 70% of reference site cover is achieved. 		

Appendix 3 – List of Supporting Documentation Previously Provided to Administering Authority

- ✓ **Rehabilitation and Closure Strategy**
 - Adani Mine Closure and Rehabilitation Strategy v4 September 2019
 - Rehabilitation Monitoring Plan Certification Letter, September 2019
 - Rehabilitation Monitoring Plan v2 September 2019
- ✓ **Topsoil Management Plan** (previous documents provided to Department are listed below however updated documents will be submitted as part of submission)
 - CCMP-000000-PRO-EN-000100_0 SHEMS Procedure Soil Resource Management_v1.1
 - JW181185_Soil Survey Register_20190301
 - JW181185_Soil_Sampling Sites_Final
- ✓ **Waste Spoil and Rejects Management Plan**
 - 2010058_001_RGS CCM MWRM Plan rev 4
- ✓ **Water Management Plan**
 - BR801-00276_23 10Mtpa Phase - Surface Water and Sediment Management Plan (Rev1)

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Appendix 1 – Schedule of Disturbance

Only eligible mining activities not using the ERC calculator are required to complete this Schedule. The Carmichael Mine is classed as an ineligible mining activity and is not required to complete this Schedule of Disturbance.

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Appendix 2 – Rehabilitation Plan

STRICTLY CONFIDENTIAL
COMMERCIAL IN CONFIDENCE
EXEMPT FROM DISCLOSURE UNDER RTI

This table must provide a summary of the rehabilitation methodology required to restore the land to its post-mining land use. The information must be relevant to the whole site and for all disturbance within the year of maximum liability.

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use – General Approach for all Domains
Exploration	<p>Exploration tracks will be rehabilitated by harrowing/ripping after the redistribution of topsoil and any previously cleared vegetation to break up the compacted layer.</p> <p>Drill pads will have sumps backfilled and reshaped back to the original landform. All pads have topsoil re-spread across the surface and will be ripped to loosen up compacted areas.</p> <p>Drill holes and/or monitoring bores will be rehabilitated in accordance with guidelines within Code of Environmental Compliance for Exploration and Mineral Development Projects (may involve grouting if aquifers are intercepted, casing cut off below ground, holes capped off).</p>	<p>Rehabilitation works associated with exploration activities carried out under EPC1690 EA EPPR00745013 have been undertaken. Adani are progressively working through a final rehabilitation report required for an application to surrender EA EPPR00745013.</p>	<p>The nominated post mine land use includes grazing on a mosaic of native pasture and woodland habitat. For areas disturbed, the following overarching objectives apply:</p> <ol style="list-style-type: none"> 1. The mine site will be safe to humans and fauna; 2. Mining and rehabilitation will aim to create a landform that is stable and with similar land use capabilities and / or suitability that existed prior to the disturbance, unless other end uses are pre- determined and agreed; 3. Mine wastes and disturbed land will be rehabilitated so that they are non-polluting and self sustaining or to a condition where the maintenance requirements are limited; 4. Surface water leaving the project area will not be degraded compared to the condition prior to the commencement of mining operations. Current and future water quality will be maintained at levels that are acceptable for users downstream of the site and meet environmental needs; 5. Potential acid mine drainage will be determined and management measures implemented (eg encapsulation of sulphides or treatment systems), if required; 6. Vegetation cover will be established to reduce rates of erosion and sediment loss so that it is comparable to surrounding undisturbed landscapes; 7. Soil suitability for use in rehabilitation will be assessed and soils will be ameliorated as
Mine Infrastructure	<p>Any infrastructure including dams, levee banks, roads and buildings, which has beneficial future use by post-mine landowners, will be left in place.</p> <p>All components suitable for reuse at other mining or industrial operations will be reused. Otherwise, recyclable materials will be recovered and non-recyclable components will be disposed of at authorised facilities.</p> <p>A risk assessment of all below ground infrastructure and components will be completed to determine what can be removed</p>	<p>Project construction commenced during June 2019. Infrastructure establishment activities are still progressing and as such, no rehabilitation activities have been undertaken.</p>	

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use – General Approach for all Domains
20-208	<p>(for reuse and/or disposal) and what can be left in place. Surface disturbance and impacts associated with the removal of below ground infrastructure and components will be considered in addition to the potential for contamination. Below ground infrastructure that is to be left in place will be made safe (eg depressurising, draining and sealing of pipelines) and the location of all infrastructure and other components will be recorded.</p> <p>Contaminated soil assessments will be conducted as required (Section 4.2). Contaminated soils or other potential sources of contamination will be preferentially treated on site. If contamination cannot be treated then it may be disposed of at an authorised facility. Incident registers will be used to identify locations where spills have occurred. Treatment versus off-site disposal will depend on whether domains are listed on the Contaminated Land Register (CLR) and Environmental Management Register (EMR) and whether it is deemed appropriate to have them removed as part of the rehabilitation process.</p> <p>Compacted surfaces will be ripped/ de-compacted and topsoil will be placed in accordance with the topsoil management plan and topsoil register. Soil will be seeded or planted and watered. Weeds will be managed until >70% of reference site cover is achieved.</p> <p>De-compacted areas may be graded and re-profiled such that surface drainage is restored and ponding and scouring is reduced to as low</p>	File B	required.

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use – General Approach for all Domains
	as reasonable possible.		
Open-cut Voids and Slopes	<p>Open-cut voids will be progressively backfilled from the low-wall with overburden and mine waste. Backfilling will include placement of potentially acid forming, saline or sodic materials towards the pit side of the low wall so that run off is contained within the pit and eventual encapsulation will be done if necessary.</p> <p>Pre-strip materials from development of adjacent open- cuts will also be placed in finished open-cuts where possible to reduce the volume and slopes of any final void.</p> <p>The final landform for each open-cut and void may be achieved through:</p> <ul style="list-style-type: none"> • initial geotechnical appraisal of high-wall stability and suitable final slope angle; • assessing the potential for spontaneous combustion to occur from exposed coal seams and ameliorative works as required to reduce risk; • re-profiling the low-wall to final angle up to 22°. Potential overland flow from incident rainfall which could cause scouring and erosion will be managed by the construction of water retention or diversion structures • on slopes and in the catchment above open-cut voids as required; • accident prevention by effective bunding and/or fencing of the perimeter and the erection of danger signs; and • minimising the amount of inflow of overland flow caused by rainfall and eroded soil into the void were feasible. 	Mine pit development is yet to commence.	

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use – General Approach for all Domains
	<p>Void slope rehabilitation will be achieved where possible by:</p> <ul style="list-style-type: none"> • ripping or otherwise de-compacting compacted surfaces in end wall and side walls, provided machinery can safely access the slope; • placing topsoil in the low wall side by either pushing from the crest using a dozer or by end-dumping and allowing successive rainfall to wash topsoil into and down the slope; • planting vegetation provided there is safe access or aerial seeding where safe access is not available; • watering vegetation to increase survival rates during early stages of rehabilitation by using mine water provided it is of suitable quality; • corrective actions for pH, nutrients, organic matter and salinity to ensure that vegetation is self-sustaining; and • managing weeds and revegetation until >70% of reference site cover is achieved. 		
Out of Pit Spoil Dump	<p>Material will be placed in the out-of-pit spoil dumps in such a way as to achieve profiles as close as possible to the final landform. This will reduce the volume of cut-and-fill required during re-profiling earthworks. Potential acid forming, saline or sodic material and coarse and fine reject from the tailings drying cells placed in the out-of-pit spoil dumps will be selectively managed which may include encapsulation.</p> <p>The rehabilitation of out-of-pit spoil dumps will be completed progressively and will consist of:</p> <ul style="list-style-type: none"> • re-profiling dumps to achieve slopes angles not exceeding 12° on outer faces and up to 22° on inner faces (ie within low wall side of 	<p>Mine pit development is yet to commence and therefore no out of pit spoil dumps have been formed.</p>	

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use – General Approach for all Domains
	<p>voids);</p> <ul style="list-style-type: none"> • shaping and contouring to manage overland flow from rainfall such that this reduces scouring or erosion (this may include the placement of retention structures) to as low as reasonable possible; • ripping or otherwise de-compacting compacted surfaces, provided safe machinery access is possible; • placing topsoil as per topsoil management plan and topsoil register, provided safe machinery access is possible; • seeding or planting vegetation, provided safe machinery access is possible; • watering vegetation to increase survival rates during early stages of rehabilitation by using mine water provided, it is of suitable quality, and safe machinery access is possible; • corrective actions for pH, nutrients, organic matter and salinity to ensure that vegetation is self-sustaining; and • managing weeds and revegetation until 70% of reference site cover is achieved. 		
<p>Water Storage Areas, including MAW, Raw Water Dams and Sediment Ponds</p> <p>20-208</p>	<p>The rehabilitation approach for all water storages will consist of:</p> <ul style="list-style-type: none"> • testing of water quality in all dams, and sediment quality in sediment ponds, MAW dams and other dams that may have received mine affected or contaminated water; • disposing of contaminated water to final voids if appropriate, if this is not possible then contaminated water will be treated to an acceptable level prior to discharge or disposal; • determining whether any water storages may be of beneficial use for ongoing 	<p>The SE MAW dam, Sediment Pond and conversion of a farm dam (Matheson Dam) are the current water storage facilities that have been established.</p> <p>No rehabilitation has been undertaken or is planned as these facilities have been established in readiness for commencing of mining.</p> <p>File B</p>	<p>Page 45 of 116</p>

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use – General Approach for all Domains
20-208	<p>rehabilitation requirements. This is subject to meeting water quality and dam safety requirements; and</p> <ul style="list-style-type: none"> • determining in consultation with the landholder, whether any water storages may be of beneficial use for ongoing grazing. Only water storages where water quality and sediment quality meets stock watering criteria will be used. <p>For those storages that are to be removed:</p> <ul style="list-style-type: none"> • water will be treated/diluted as required to meet water quality requirements for either discharge to a final void or to the Carmichael River; • contaminated sediments will be allowed to dry and encapsulated in active open-cut mining areas during operation (if this can be done without compromising final void water quality) or removed for disposal at an authorised waste disposal facility; • walls will be breached so that the storage can no longer contain water; • the area will be graded and re-profiled to ensure that surface drainage is restored and ponding and scouring potential is reduced to as low as reasonably possible; • compacted surfaces will be ripped or otherwise de-compacted; • topsoil will be placed as per the topsoil management plan and topsoil register; • soil will be seeded or planted; • corrective actions for pH, nutrients, organic matter and salinity to ensure that vegetation is self-sustaining; and • weeds will be managed until the end of the maintenance and monitoring period (five years). 	File B	Page 46 of 116

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use – General Approach for all Domains
	<p>Contaminated soil assessments will be conducted. Contaminated soils or other potential sources of contamination will be preferentially treated on site. If contamination cannot be treated then it may be disposed of at an authorised facility. Incident registers will be used to identify locations where spills have occurred.</p> <p>Treatment versus off-site disposal will depend on whether domains are listed on the CLR/EMR and whether it is deemed appropriate to have them removed as part of the rehabilitation process.</p>		
Stream Diversions	<p>Permanent changes to the landform will result from mining activities. Permanent changes only occur in minor ephemeral watercourses. It is not intended to restore original flow paths.</p> <p>For the ephemeral watercourses that are diverted, the condition of the stream will be assessed against stream diversion and/or stream assessment guidelines in place at the time of rehabilitation. Action will be taken to rehabilitate the diversions to satisfy these guidelines.</p>	No stream diversions have been constructed.	
Carmichael River Corridor	<p>Habitat maintenance and restoration for the Carmichael River corridor may be undertaken from the commencement of mining and may include:</p> <ul style="list-style-type: none"> • amelioration or augmentation of topsoil as required to facilitate revegetation with native species; • seeding and planting of native species using local seed; • maintenance of vegetation cover; • weed control; and • placement of artificial micro-habitat as required to support species known or likely 	No mining activities have occurred through the Carmichael River corridor.	

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use – General Approach for all Domains
	<p>to use the area.</p> <p>Where not required for flood protection of voids, rehabilitation of the levees (Carmichael River South Levee, Carmichael River North Levee and Eight Mile Creek Levee) will involve:</p> <ul style="list-style-type: none"> • removal of levee walls; • removal of levee fill material; • re-graded and re-profile to ensure that surface drainage is restored and ponding and scouring potential is reduced to as low as reasonably possible; • ripping compacted surfaces or otherwise de-compacting; • placing topsoil as per the topsoil management plan and topsoil register; • seeding soil; • watering vegetation; • corrective actions for pH, nutrients, organic matter and salinity to ensure that vegetation is self-sustaining; and • managing weeds. <p>Where levees will be retained for flood protection of voids:</p> <ul style="list-style-type: none"> • inspections and checks in accordance with dam safety guidelines in place at the time of decommissioning; • levee maintenance (if required during the operational life of the mine); • revegetation of exposed surfaces; and • provision of information on levee dam design and safety to the landholder. 		
Underground Mining Areas 20-208	The final landform for underground mine workings will be achieved by: <ul style="list-style-type: none"> • permanently sealing access to underground 	Underground mining is yet to commence. File B	Page 48 of 116

Domain	Summary rehabilitation methodology	Rehabilitation works already undertaken	Post mining land use – General Approach for all Domains
	<p>mine workings;</p> <ul style="list-style-type: none"> • re-profiling tension cracks and areas of abrupt level changes, ripping, topsoiling and seeding; • planting vegetation on re-profiled tension cracks (if any) provided there is safe access or aerial seeding where safe access is not available; • watering vegetation to increase survival rates during early stages of rehabilitation by using mine water, provided it is of suitable quality; • corrective actions for pH, nutrients, organic matter and salinity to ensure vegetation is self-sustaining; and • managing weeds and revegetation until >70% of reference site cover is achieved. <p>Subsidence from underground mining will cause differential settlement which may lead to undulation in the subsided landscape. Where practical, Adani proposes to fill cracks, grade and re-profile the subsidence zone to prevent future ponding of water. Ponding however may persist in some areas of the post-mining landform even after re-profiling. Subsidence will be managed through the <i>Subsidence management plan</i>.</p>		

Appendix 3 – List of Supporting Documentation Previously Provided to Administering Authority

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 - Rehabilitation Monitoring Plan v2 September 2019
- ✓ **Topsoil Management Plan** (updated documents provided as part of submission)
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 - JW181185_Soil_Sampling Sites_Final
- ✓ **Waste Spoil and Rejects Management Plan**
 - 2010058_001_RGS CCM MWRM Plan rev 4
- ✓ **Water Management Plan**
 - BR801-00276_23 10Mtpa Phase - Surface Water and Sediment Management Plan (Rev1)

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5. Tailings Storage Facilities
6. Pits
7. Water Storage and Management
8. Process Equipment
9. Underground Mines
10. Miscellaneous Activities
11. Mobilisation and User
Terms and Conditions

EA= Environmental Authority

ERC = Estimated Rehabilitation Cost

HISTORY

Date	Version	Details
01-Apr-19	4.00	Live Date
04-May-19	4.01	Fixed error in Overburden noted during use - added column X in Waste Rock Dumps (User Defined) and column V in Overburden Dumps and Spoil Piles (User Defined).
15-May-19	4.02	Fixed error in Miscellaneous tab in Bore and drainage input sheet. Alternate rates was not multiplying.
29-May-19	4.03	Infrastructure tab. User Inputs for roads didn't calculate linear and area correctly. Added columns.
15-Jul-19	4.04	Macro issue. No impact to user version. Change "pad" to "hole" for drill holes.

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REGISTRATION

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EA Holder: Adani Mining Pty Ltd

Environmental Authority Ref: EPML 01470513

Site Name: Carmichael Coal project

Tenure: ML70441 ML 70505 ML 70506

Last ERC Decision Date:

Nil

Current ERC Amount:

\$ 24,851,284.91

Site Contact:

sch4p4(6) Personal information

Position:

sch4p4(6) Personal information

Site Address:

Level -8

Phone:

sch4p4(6) Personal information

7-13 Tomlins Street

Email: sch4p4(6) Personal information@adani.com.au

Townsville QLD 4810

Alternate Project Overhead
Justification:

If the User enters a Project Management and / or Environmental Maintenance and Monitoring value, please provide justification above.

Signature of Assessor
(company):

sch4p4(6) Personal information

Title:

sch4p4(6) Personal information

Print Name:

sch4p4(6) Personal information

Date:

08-Jun-20

Signature of Site Manager
(company):

sch4p4(6) Personal information

Title:

sch4p4(6) Personal information

Print Name:

sch4p4(6) Personal information

Date:

08-Jun-20

By signing above, the signees state this is an accurate assessment of the rehabilitation liability for the site.

Below this line for the Department's use only

Signature of Department
Reviewer:

Title:

Print Name:

Date:

Signature of Department
Manager:

Title:

Print Name:

Date:

SUMMARY

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Total ERC: \$26,298,898

Item	Quantity	Unit	Rate	Total Cost
Eligible Mining Activities				
Total	0	total	\$0	\$0.00
1. Exploration				
Seismic, Grid-Lines, Minor Tracks	0	km	\$0	\$0.00
Drillholes	370	holes	\$2,309	\$854,307.47
Tracks and Roads	237	km	\$1,746	\$413,802.00
Water Structures	0	item	\$0	\$0.00
Camps and Water Treatment Plants (Disturbance)	0	ha	\$0	\$0.00
\$1,268,109.47				
2. Infrastructure				
Access Roads / Tracks (Defaults) - Linear Entries	0	km	\$0	\$0.00
Access Roads / Tracks (Defaults) - Area Entries	169.711	ha	\$4,529	\$768,644.28
Acces Roads / Tracks (User defined)	2	km	\$1,080	\$2,160.00
Mine Haul Roads (Defaults) - Linear Entries	0	km	\$0	\$0.00
Mine Haul Roads (Defaults) - Area Entries	64.36	ha	\$1,297	\$83,486.45
Mine Haul Roads (User Defined)	0	km	\$0	\$0.00
Laydown Yards (Defaults)	168373.735	ha	\$7	\$1,205,534.00
Laydown Yards (User Defined)	138.406	ha	\$8,173	\$1,131,171.58
Borrow Pits	160.37	ha	\$9,172	\$1,470,854.08
Pipelines	46370	m	\$8	\$368,973.62
Camps	2	camps	\$577,225	\$1,154,449.54
Buildings	6851	buildings	\$36	\$246,698.72
Communications Towers	1	towers	\$26,032	\$26,031.80
Disconnect Services	18	services	\$10,000	\$180,000.00
Power Distribution	0	km	\$0	\$0.00
Power Generation	0	m2	\$0	\$0.00
Concrete pads (Miscellaneous)	45328	m2	\$15	\$679,920.00
Rail Infrastructure	1	total	\$1,922,152	\$1,922,152.40
Landfills	0	m2	\$0	\$0.00
Sewage Treatment Plants	1401.75	m2	\$17	\$23,150.00
\$9,263,226.47				
3. Overburden and Waste Rock				
Waste Rock Dumps (Defaults)	0	ha	\$0	\$0.00
Waste Rock Dumps (User Defined)	0	ha	\$0	\$0.00
Overburden Dumps and Spoil Piles (User Defined)	133	ha	\$9,577	\$1,268,926.71
Topsoil Stockpiles (User Defined)	95	ha	\$1,749	\$166,478.72
\$1,435,405.43				
4. Heap Leach Pads				
Heap Leach Pads (Defaults)	0	ha	\$0	\$0.00
Heap Leach Pads (User Defined)	0	ha	\$0	\$0.00
\$0.00				
5. Tailings Storage Facilities				
Tailings Storage Facilities (Defaults)	1	ha	\$72,273	\$71,550.52
Tailings Storage Facilities (User Defined)	0	ha	\$0	\$0.00
\$71,550.52				
6. Pits				
Safety Bund, Fencing and Signs	38	ha	\$3,466	\$132,708.70
Benches and Highwall Drill and Blast and Doze to Make Safe	0	ha	\$0	\$51,147.91
Backfill Open Pit with Waste Rock	0	ha	\$0	\$0.00
Low Wall Shaping / Load and Haul to Make Safe	0	ha	\$0	\$172,145.68
Open Pit Ramp Backfill	0	ha	\$0	\$0.00
\$356,002.29				
7. Water Storage and Management				
Process Water Storage	0	structures	\$0	\$0.00
Raw Water Storage	0	structures	\$0	\$0.00
Evaporation and other Unlined Water Storage	0	structures	\$0	\$0.00
Others (e.g. weirs)	0	structures	\$0	\$0.00
Water and Salt Management	1	total	\$72,631	\$72,630.58
Sludge (not in ponds) removal	200693	m3	\$6	\$1,233,793.84
Water Structures (Defaults)	9	structures	\$9,028	\$81,253.31
\$1,387,677.73				
8. Process Equipment				
Total	1	total	\$2,801,701	\$2,801,700.73
\$2,801,700.73				
9. Underground Mines				
Total	0	total	\$0	\$0.00
\$0.00				
10. Miscellaneous Activities				
Land Rehabilitation and Repair of Subsidence and Land Management	1	total	\$1,260,733	\$1,260,732.89
Natural Drainage and Diversions	0	total	\$0	\$0.00
Land Investigations	1	total	\$198,456	\$198,456.00
Remediation of Contaminated Areas	1	total	\$529,078	\$529,078.43
Miscellaneous Rehabilitation and Maintenance	0	total	\$0	\$0.00
Bores and Gas Drainage	0	total	\$0	\$0.00
Long Distance Carting of Top Soil and Rock	0	tonne	\$0	\$0.00
Purchase and Long Distance Carting of Lime	0	tonne	\$0	\$0.00
Long Distance Carting of Clay	0	tonne	\$0	\$0.00
Miscellaneous Scrap (not associated with facilities, buildings, pipelines etc)	50	tonne	\$30	\$29.78
Fencing (not included elsewhere)	0	m	\$0	\$0.00
\$1,989,756.54				
11a. Mobilisation and Demobilisation				Total Cost
Mobilisation & Demobilisation - Small Fleet				\$0.00
Mobilisation & Demobilisation - Medium Fleet				\$337,500.00
Mobilisation & Demobilisation - Large Fleet				\$368,500.00
\$706,000.00				
11b. User Entered Items				
>>Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailing Storage Facilities - Doze and shape for natural drainage earthworks, final trim and deep rip, and seed (pasture)	37	ha	\$4,456	\$164,649.20
>>Removal and disposal of plastic liner (100x175m)	17500	m2	\$1	\$17,500.00
WMP Construction and Maintenance Buffer	39	ha	\$1,800	\$69,444.00
>> carting of topsoil to Borrow pit areas	237369	m3	\$2	\$382,164.09
>>Pit slope area rehabilitation	20	ha	\$6,676	\$134,721.68
>>Topsoil spreading on Pit slopes (20.18 ha with 15cm of topsoil)	30270	m3	\$2	\$48,734.70
>>On site Land farming for contaminated soils	5800	m3	\$8	\$44,312.00
>>Exploration area and Bore field tracks	205	Ha	\$1,746	\$358,626.65
Topsoil spreading for HV roads	96630	m3	\$2	\$224,181.60
Rehabilitation of Borrow pit areas and HV roads	223	ha	\$1,415	\$315,355.39
\$1,759,689.31				
Total before Project Overheads and Contingency				\$21,039,118.50
Project Overheads and Contingency				
Project Management		User Entry	Default	Total Cost
Environmental Maintenance and Monitoring			10%	\$2,103,911.85
Contingency			5%	\$1,051,955.93
			10%	\$2,103,911.85
Total Estimated Rehabilitation Cost for the Site (excluding GST)				\$26,298,898.13
Difference from Last ERC amount				\$1,447,613.22

QUANTITY SUMMARY[Back to Contents](#)

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Total ERC (from Summary Sheet)

\$26,298,898

Item	Value	Unit
1. Exploration		
Total length of seismic easement	-	km
Total length of seismic easement to be rehabilitated	-	km
Number of Drillholes	370	
Total length of roads and tracks	237	km
Total number of water structures	-	
Total disturbance footprint of camps and facilities	-	ha
2. Infrastructure		
Total length of roads and tracks	2	km
Total area of roads and tracks (default only)	170	ha
Total length of mine haul roads	-	km
Total area of mine haul roads (default only)	64	ha
Total disturbance footprint of laydown yards	168,512	ha
Total disturbance footprint of borrow pits	160	ha
Total length of pipelines	46,370	m
Total number of camps	2	
Total number of buildings	6,851	
Total number of communication towers	1	
Total number of service disconnections	18	
Total distance of power poles	-	km
Total number of power generation facilities	-	
Total area of landfills	-	m2
Total area of sewage treatment plants	1,402	m2
3. Overburden Dumps and Piles		
Total footprint area of waste rock dumps / overburden (defaults)	-	ha
Waste Rock Dumps (user defined)		
Total footprint area of waste rock dumps	-	ha
Total flat area of waste rock dumps	-	ha
Total volume to push on flat areas of waste rock dumps	-	m ³
Total sloped areas on waste rock dumps	-	ha
Total volume to push on sloped areas on waste rock dumps	-	m ³
Total ramp areas on waste rock dumps	-	ha
Total volume of rock cover layers on waste rock dumps	-	m ³
Total capillary break layer area on waste rock dumps	-	ha
Total volume used in capillary break layers on waste rock dumps	-	m ³
Total low permeability cap area on waste rock dumps	-	ha
Total volume used in low permeability cap layer on waste rock dumps	-	m ³
Total top rock cover area on waste rock dumps	-	ha
Total volume used in top rock cover layer on waste rock dumps	-	m ³
Total area of additional capping (geofabric) on waste rock dumps	-	m ²
Total area of additional capping (geosynthetic clay liner) on waste rock dumps	-	m ²
Total area of additional capping (geomembrane) on waste rock dumps	-	m ²
Total volume of growth media on waste rock dumps	-	m ³
Total area to grade and seed on waste rock dumps	-	ha
Overburden Dumps and Spoil Piles (User Defined)		
Total footprint area of overburden dumps and spoil piles	133	ha
Total flat area of overburden dumps and spoil piles	133	ha
Total volume to push on flat areas of overburden dumps and spoil piles	-	m ³
Total sloped areas on overburden dumps and spoil piles	-	ha
Total volume to push on sloped areas on overburden dumps and spoil piles	659,088	m ³
Total ramp areas on overburden dumps and spoil piles	-	ha
Total top rock cover area on overburden dumps and spoil piles	-	ha
Total volume used in top rock cover layer on overburden dumps and spoil piles	-	m ³
Total volume of growth media on overburden dumps and spoil piles	198,750	m ³
Total area to grade and seed on overburden dumps and spoil piles	133	ha
Top Soil Stockpiles (user defined)		
Total footprint area of top soil stockpiles	95	ha
Total volume to push of top soil stockpiles	93,458	m ³
Total volume of growth media on top soil stockpiles	-	m ³
Total area to grade and seed on top soil stockpiles	92	ha
4. Heap Leach Pads		
Total footprint area (defaults)	-	ha
Total footprint area	-	ha
Total flat area	-	ha
Total volume to push on flat areas	-	m ³
Total sloped areas	-	ha
Total volume to push on sloped areas	-	m ³
Total ramp areas	-	ha
Total volume for slope rock armour	-	m ³
Total volume of capillary layers	-	m ³
Total volume of low permeability layers	-	m ³
Total volume of rock cover layers	-	m ³

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Total ERC (from Summary Sheet)

\$26,298,898

Item	Value	Unit
Total area of additional geofabric	-	ha
Total area of additional geosynthetic clay liner	-	ha
Total area of additional geomembrane	-	ha
Total volume of growth media	-	m ³
Total area to grade and seed	-	ha
5. Tailings Storage Facilities		
Total footprint area (defaults)	1	ha
Total Footprint area	-	ha
Volume of Rock Cover for Tailings	-	m ³
Total volume of rock armour on embankment rock armour	-	m ³
Total volume of working layers (User Defined only)	-	m ³
Total volume of capillary layers (User Defined only)	-	m ³
Total volume of low permeability layers (User Defined only)	-	m ³
Total volume of rock cover layers (User Defined only)	-	m ³
Total area of additional geofabric (User Defined only)	-	ha
Total area of additional geosynthetic clay liner (User Defined only)	-	ha
Total area of additional geomembrane	-	ha
TSF Growth media volume	-	m ³
6. Pits		
Open Pit Void Footprint	38	ha
Abandonment Bund Length	3,500	m
Bench Volume to Blast	163,560	m ³
Highwall Volume to Blast	-	m ³
Low Wall Volume to bulk push to make safe	165,460	m ³
Low Wall Volume to Load and haul to make safe	-	m ³
Open Pit Ramp Backfill Volume	-	m ³
Open Pit Backfill Volume	-	m ³
7. Water Storage and Management		
Number of process water storage structures	-	
Number of raw water storage structures	-	
Number of evaporation water storage structures	-	
Number of other water storage structures	-	
Evaporate Water in Pond with Natural Solar	2	ML
Evaporate Water in Pond with Fine Mist Spray	-	ponds
Operate Reverse Osmosis Plant	-	ML
Salt management	-	tonne
Treat organics only in water	-	ML
Adjust pH using Neutraliser	-	ML
Treat metals only in water	-	ML
Total volume of water to pump	575	ML
Sludge (not associated with ponds) removal	200,693	m ³
Number of water structures using default rates	9	
8. Underground Mines		
Number of Declines/ Drifts	-	
Number of Ventilation Shafts	-	
Number of Hoisting Shafts (persons and/or materials)	-	
Number of Drifts/Declines with conveyors	-	
Number of small Adits (<2m in diameter) to seal	-	
Number of small (historic) shafts proposed for closure	-	
9. Process Equipment		
Demolish and remove processing equipment	4,582	m ² /floor
Number of stackers	-	Item
Number of bucket wheel stacker/reclaimer or wing stacker	-	Item
Total length of rails and ballast for stacker and/or reclaimer	-	m
Number of 1250 t silo / bin / hopper	3	Item
Number of ~3000 t silo / bin / hopper	-	Item
Number of ~5000 t silo / bin / hopper	-	Item
Total length of on-ground conveyors and gantries	576	m
Total length of overhead conveyors and gantries	518	m
Total length of elevated conveyors and gantries	368	m
Total area of reclaim tunnels	1,260	m ²
Total length of conveyors from reclaim tunnel	210	m
Total length of reclaim tunnel for concrete	210	m
Number of on-ground conveyors to dismantle for reuse/resale	-	m
Number of overhead conveyors to dismantle for reuse/resale	-	m
Number of above ground small tank clean (Fuel storage, thickener etc. 3 - 9 m diameter)	8	Item
Number of above ground medium tank clean (Fuel storage, thickener etc. 10 - 15 m diameter)	-	Item
Number of above ground large tank clean (Fuel storage, thickener etc. 16 - 25 m diameter)	-	Item
Number of above ground extra large tank clean (Fuel storage, thickener etc. 26 - 50 m diameter)	1	Item
Number of above ground extra large tank (Fuel storage, thickener etc. >50 m diameter) to clean	-	Item

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Total ERC (from Summary Sheet)

\$26,298,898

Item	Value	Unit
Number of small underground tank (<5000 L)	-	Item
Number of large underground tank (>5000 L)	-	Item
Number of rail, road, water course overpass	-	Item
Total area of bitumen (aprons, sealed areas)	-	m2
Total area of bitumen (airstrip)	-	m2
Total area of concrete pads & footings (<0.3 m thickness)	610	m2
Total area of concrete pads & footings (>0.3 m thickness)	2,410	m2
Total mass of concrete to make road aggregate - 75 mm	-	tonne
Total mass of concrete to make road aggregate - 50 mm	-	tonne
Total mass of concrete to make road aggregate - 30 mm	-	tonne
Total length of fence (cyclone/wire fence)	355	m
Number of conveyors and support services down Drift/Decline	-	item
10. Miscellaneous Activities		
Maintenance of rehabilitated areas	464	ha
Minor earthworks and ripping or maintenance of mine subsidence areas	-	ha
Existing rehabilitation repair - minor	-	ha
Existing rehabilitation repair - moderate	-	ha
Existing rehabilitation repair - major	-	ha
Existing rehabilitation repair - total failure of intended landform	-	ha
Land management of undisturbed areas	200	ha
Pest management on buffer lands, non-disturbed, and rehabilitated areas	1,200	ha
Create cut-through drainage to re-establish natural water courses and drainage channels following subsidence	-	ha
Repairs and/or stabilisation of new or compromised water course diversion	-	m
Long term maintenance of water course diversion – Channel constructed through backfilled material	-	m
Long term maintenance of water course diversion – Channel constructed through competent material	-	m
Installation of rock armouring	-	m ²
Land investigation total area	5	ha
Rip and push up material from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and	-	m ³
Remove material from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and	76,958	m ³
Load, cart and disposal of low level contaminated material off-site to a licensed landfill	400	m ³
Load, cart and dispose of high level contaminated material off-site to a licensed local landfill	-	m ³
On-site remediation of hydrocarbon contaminated soils - manual land farming	5,800	m ³
Remove and dispose of asbestos	-	m ³
Long distance carting of top soil	-	m ³
Miscellaneous scrap (not associated with facilities, pipelines, buildings etc)	1,489	t
Fencing (not included elsewhere)	-	m

Table of Values - Mining ERC Calculator

2018 Rates Prepared by EHS Support / Mike Slight and Associates

#		Activity / Description	Unit	Rate	Use	Scope and Key Assumptions
1	ACTIVITY / USAGE	Exploration				
#1.01	Exploration Input sheet	Seismic corridor, grid-lines, minor tracks rehabilitation in pasture	km	\$ 901	Use this line if the Input Sheet is not used. Enter length of seismic runs requiring rehabilitation in pasture land (not the total length).	Minor re-grading and seeding of native species. Includes inspector and labourer, backhoe, allowance for seed, vehicle, accomodation, per diem, task project management. Productivity of 10 km per day.
#1.02	Exploration Input sheet	Seismic corridor, grid-lines, minor tracks rehabilitation in native	km	\$ 1,678	Use this line if the Input Sheet is not used. Enter length of seismic runs requiring rehabilitation in native land (not the total length).	Minor re-grading and seeding of native species. Includes inspector and labourer, backhoe, allowance for seed, vehicle, accomodation, per diem, task project management. Productivity of 10 km per day.
#1.03	Exploration Input sheet	Exploration drillholes (coal / mineral sands / large impact drilling)	drillhole	\$ 4,664	Use this line if the Input Sheet is not used. Enter number of drillholes	Coreholes installed using pitless drilling systems. Drilling equipment and materials removed by contractor at close of drilling activities. No fluids or wastes will require off-site management. Grade and seed area is 1 ha.
#1.04	Exploration Input sheet	Exploration drillholes (metalliferous / low impact drilling)	drillhole	\$ 341	Use this line if the Input Sheet is not used. Enter number of drillholes	Coreholes installed using pitless drilling systems. Drilling equipment and materials removed by contractor at close of drilling activities. No fluids or wastes will require off-site management. Grade and seed area is 1 ha.
#1.05	Exploration Input sheet	Track (earthen) - rip, grade and re-seed	km	\$ 1,746	Use this line if Input sheet not used. Enter total length of track.	Width of road 6 m. Rip length of road, grade and seed.
#1.06	Exploration Input sheet	Road (gravel/crushed rock) - remove rock, grade and re-seed	km	\$ 5,322	Use this line if Input sheet not used. Enter total length of road.	Width of road 6 m. Remove rock, pip length of road, grade and seed.
#1.07	Exploration Input sheet	Road (gravel/crushed rock) - remove rock and replace	km	\$ 8,034	Use this line if Input sheet not used. Enter total length of road.	Width of road 6 m. Remove rock and replace.
#1.08	Exploration Input sheet	Lined Water Structure Exp - <=1 ML	structure	\$ 6,911	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#1.09	Exploration Input sheet	Lined Water Structure Exp - >1 and <= 3.5 ML	structure	\$ 23,517	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#1.10	Exploration Input sheet	Lined Water Structure Exp - >3.5 and <= 7.5 ML	structure	\$ 36,875	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#1.11	Exploration Input sheet	Lined Water Structure Exp - >7.5 and <= 10 ML	structure	\$ 49,008	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#1.12	Exploration Input sheet	Lined Water Structure Exp - >10 and <= 20 ML	structure	\$ 89,298	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#1.13	Exploration Input sheet	Unlined Water Structure Exp - <=1 ML	structure	\$ 6,084	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#1.14	Exploration Input sheet	Unlined Water Structure Exp - >1 and <= 3.5 ML	structure	\$ 17,526	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#1.15	Exploration Input sheet	Unlined Water Structure Exp - >3.5 and <= 7.5 ML	structure	\$ 29,434	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.

#1.16	Exploration Input sheet	Unlined Water Structure Exp - >7.5 and <= 10 ML	structure	\$ 39,086	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#1.17	Exploration Input sheet	Unlined Water Structure Exp - >10 and <= 20 ML	structure	\$ 69,453	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#1.18	Exploration Input sheet	Demountable camps (not owned by company) - pasture land	ha	\$ 1,610	Enter the total disturbance area of all camps.	For such camps, the buildings and equipment is not owned by the company submitting the ERC and they are only responsible for grade and seed of the area. Cost includes trimming area and seeding with pasture species.
#1.19	Exploration Input sheet	Demountable camps (not owned by company) - native land	ha	\$ 3,830	Enter the total disturbance area of all camps.	For such camps, the buildings and equipment is not owned by the company submitting the ERC and they are only responsible for grade and seed of the area. Cost includes trimming area and seeding with native species.
#1.20	Exploration Input sheet	Water treatment plants (not owned by company) - pasture land	ha	\$ 1,610	Enter the total disturbance area of all water treatment plants.	For such plants, the equipment is not owned by the company submitting the ERC and they are only responsible for grade and seed of the area. Cost includes trimming area and seeding with native species.
#1.21	Exploration Input sheet	Water treatment plants (not owned by company) - native land	ha	\$ 3,830	Enter the total disturbance area of all water treatment plants.	For such plants, the equipment is not owned by the company submitting the ERC and they are only responsible for grade and seed of the area. Cost includes trimming area and seeding with native species.
2 ACTIVITY Infrastructure						
#2.01	Infrastructure Input sheet	Disconnect and terminate all services (Water, electricity, gas etc. at point of attachment to site)	Item	\$ 35,000	For disconnection of all services, at building boundaries, physical cut at the distribution centre.	For disconnection of all services, at building boundaries, physical cut at the distribution centre.
#2.02	Infrastructure Input sheet	Disconnect and terminate services at remote areas (i.e., pump stations, remote workshops, sewage treatment plant, etc.)	Item	\$ 10,000	Used for infrastructure remote from primary connection (i.e., pump stations, remote workshops, sewage treatment plant, etc.)	Used for infrastructure remote from primary connection.
#2.03	Infrastructure Input sheet	Track (earthen) - rip, grade and re-seed	km	\$ 1,746	Enter total length of track. Use this rolled up rate if not using the Input sheet.	Width of road 6 m. Rip length of road, grade and seed.
#2.04	Infrastructure Input sheet	Road (gravel/crushed rock) - remove rock, grade and re-seed	km	\$ 5,322	Enter total length of road. Use this rolled up rate if not using the Input sheet.	Width of road 6 m. Remove rock, rip length of road, grade and seed.
#2.05	Infrastructure Input sheet	Road (gravel/crushed rock) - remove rock and replace	km	\$ 8,034	Enter total length of road. Use this rolled up rate if not using the Input sheet.	Width of road 6 m. Remove rock and replace.
#2.06	Infrastructure Input sheet	Haul road - decompact doze, shape and rip only	km	\$ 16,215	Enter total length of road. Use this rolled up rate if not using the Input sheet.	Width of road 25 m. Rip, shape and rip.
#2.07	Infrastructure Input sheet	Haul road - remove contaminated surface and replace	km	\$ 72,005	Enter total length of road. Use this rolled up rate if not using the Input sheet.	Width of road 25 m. Remove rock and replace.
#2.08	Infrastructure Input sheet	Haul road - remove rock cover and replace	km	\$ 127,439	Enter total length of road. Use this rolled up rate if not using the Input sheet.	Width of road 25 m. Remove rock and replace.
#2.09	Infrastructure Input sheet	Laydown (earthen)	ha	\$ 6,981	Enter area of laydown to be rehabilitated.	Rip area of laydown, grade and seed.
#2.10	Infrastructure Input sheet	Laydown (gravel / crushed rock)	ha	\$ 12,940	Enter area of laydown to be rehabilitated. Use this rolled up rate if not using the Input sheet.	Remove gravel and transport to beneficial re-use area, rip area of laydown and grade and seed.
#2.11	Infrastructure Input sheet	Borrow Pit	ha	\$ 9,172	Enter area of borrow pit to be rehabilitated. Use this rolled up rate if not using the Input sheet.	Push in sides to lessen slope. CAT D11 dozer.
#2.12	Infrastructure Input sheet	Rip and push up bitumen, stabilised material (e.g. rock) and concrete slabs (roads, parking areas, roadways, slabs, paths etc.) in preparation for removal into a void on-site	m ³	\$ 0.33	Enter the total volume of any bitumen, stabilised materials and concrete slabs car parks (or similar).	CAT D9 dozer rip and push length up to 20m into piles for removal
#2.13	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$ 2.99	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck

#2.14	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	3.02	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.15	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	3.48	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.16	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	3.94	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.17	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	3.97	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.18	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	4.31	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.19	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	4.64	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.20	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	4.98	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.21	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	5.65	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.22	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	6.32	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.23	Infrastructure Input sheet	Remove stabilised material (e.g. rock) from roadways / laydown / hardstand and dispose locally - small fleet (select haul distance >>)	m ³	\$	6.65	Use this rate only if the User Input or rolled-up rates are not used. Enter the total volume of any bitumen, stabilised material (or similar) and concrete for disposal in onsite void.	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.24	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	3.81	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.25	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	4.14	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#2.26	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	4.64	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck

#2.27	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	4.81	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck)
#2.28	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	4.95	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck)
#2.29	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	5.57	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck)
#2.30	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	6.05	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck)
#2.31	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	6.38	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck)
#2.32	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	7.05	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck)
#2.33	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	7.72	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck)
#2.34	Infrastructure Input sheet	Replace stabilised material (e.g. rock) in existing roadway following removal of contaminated material (select haul distance >>)	m ³	\$	8.06	Use this rate only if the User Input or rolled-up rates are not used. In the event that a roadway is to be retained, this allows for carting the material from an on-site stockpile and placing. (assumes suitable material is stockpiled on-site and not required to be sourced externally)	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck)
#2.35	Infrastructure Input sheet	Unsealed roads, vehicle park-up, laydowns, storage yards and other minor disturbed areas – minor earthworks, final trim, grade and contour rip and seed (pasture grass)	ha	\$	1,800	Use this rate only if the User Input or rolled-up rates are not used. Enter the total area of disturbed areas.	CAT 14M grader, pasture seeding
#2.36	Infrastructure Input sheet	Unsealed roads, vehicle park-up, laydowns, storage yards and other minor disturbed areas – minor earthworks, final trim, grade and contour rip and native vegetation seed (trees, shrubs, native grasses)	ha	\$	4,020	Use this rate only if the User Input or rolled-up rates are not used. Enter the total area of disturbed areas.	CAT 14M grader, native seeding
#2.37	Infrastructure Input sheet	Unsealed roads, haul roads, vehicle park-up and other disturbed areas with windrows and/or small earthen bunds – Doze and shape for natural drainage earthworks, final trim and deep rip	ha	\$	3,041	Use this rate only if the User Input or rolled-up rates are not used. Enter the total area of disturbed areas.	CAT D10 dozer, average push 20m, CAT14M grader
#2.38	Infrastructure Input sheet	Unsealed roads, haul roads, vehicle park-up and other disturbed areas with windrows and/or small earthen bunds – Doze and shape for natural drainage earthworks, final trim and deep rip, and seed (pasture seed)	ha	\$	4,456	Use this rate only if the User Input or rolled-up rates are not used. Enter the total area of disturbed areas.	CAT D10 dozer, average push 20m, CAT14M grader, pasture seeding

#2.39	Infrastructure Input sheet	Unsealed roads, haul roads, vehicle park-up and other disturbed areas with windrows and/or small earthen bunds – Doze and shape for natural drainage earthworks, final trim and deep rip, and native vegetation seed (trees, shrubs, native grasses)	ha	\$	6,676	Use this rate only if the User Input or rolled-up rates are not used. Enter the total area of disturbed areas.	CAT D10 dozer, average push 20m, CAT14M grader, native seeding
#2.40	Infrastructure Input sheet	Below-ground piping Plastic Pipe 3/4 in (20mm) - 4 in (100 mm) diameter	m	\$	52	Use this rate only if the User Input is not used. Enter the length of pipe to be managed.	Pipe is flushed and removed.
#2.41	Infrastructure Input sheet	Below-ground piping 6 in (150 mm) - 8 in (200 mm)	m	\$	58	Use this rate only if the User Input is not used. Enter the length of pipe to be managed.	Pipe is flushed and removed.
#2.42	Infrastructure Input sheet	Below-ground piping 10 in (250 mm) - 18 in (450 mm)	m	\$	69	Use this rate only if the User Input is not used. Enter the length of pipe to be managed.	Pipe is flushed and removed.
#2.43	Infrastructure Input sheet	Below-ground piping 20 in (500 mm) - 36 in (1 m)	m	\$	86	Use this rate only if the User Input is not used. Enter the length of pipe to be managed.	Pipe is flushed and removed.
#2.44	Infrastructure Input sheet	Above-ground piping Plastic Pipe 3/4 in (mm) - 4 in (102 mm) diameter	m	\$	30	Use this rate only if the User Input is not used. Enter the length of pipe to be managed.	Pipe is flushed and removed.
#2.45	Infrastructure Input sheet	Above-ground piping 6 in (150 mm) - 8 in (200 mm)	m	\$	31	Use this rate only if the User Input is not used. Enter the length of pipe to be managed.	Pipe is flushed and removed.
#2.46	Infrastructure Input sheet	Above-ground piping 10 in (250 mm) - 18 in (450 mm)	m	\$	32	Use this rate only if the User Input is not used. Enter the length of pipe to be managed.	Pipe is flushed and removed.
#2.47	Infrastructure Input sheet	Above-ground piping 20 in (500 mm) - 36 in (1 m)	m	\$	35	Use this rate only if the User Input is not used. Enter the length of pipe to be managed.	Pipe is flushed and removed.
#2.48	Infrastructure Input sheet	Portable Buildings	bldg	\$	2,171	Enter number of small demountable structures (e.g small office.). Use this rate if Input sheet not used.	Electrical and mechanical disconnection of building and transport to storage area.
#2.49	Infrastructure Input sheet	Permanent Building - small	bldg	\$	181,912	Enter number of small buildings and structures (e.g small office). Use this rate if Input sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. Some hardstand removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.50	Infrastructure Input sheet	Permanent Building - medium	bldg	\$	359,251	Enter number of medium size buildings and structures (e.g light vehicle workshop, warehouse/store). Use this rate if Input sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. Some hardstand removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.51	Infrastructure Input sheet	Permanent Building - large	bldg	\$	535,889	Enter number of large buildings and structures (e.g workshops, tyre change and servicing area). Use this rate if Input sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. Some hardstand removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.52	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$	74,905	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.53	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$	97,171	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.54	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$	146,355	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.

#2.55	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$ 221,368	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.56	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$ 287,309	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.57	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$ 411,758	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.58	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$ 487,758	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.59	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$ 581,165	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.60	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$ 736,072	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.61	Infrastructure Input sheet	Temporary camp - select size >>>	camp	\$ 887,748	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.62	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 75,467	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.63	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 98,344	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.64	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 165,871	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.

#2.65	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 231,201	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.66	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 294,766	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.67	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 415,911	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.68	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 491,411	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.69	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 586,426	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.70	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 742,691	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.71	Infrastructure Input sheet	Permanent camp - select size >>>	camp	\$ 892,432	Enter capacity of camp. Use this rate if Input Sheet not used.	Electrical and mechanical disconnection of accommodation, mess, ablution, laundry and recreational modules. No hardstand as temporary camp. Some gravel removal and grade and seed. Transport of modules to storage area and wastes to disposal facilities.
#2.72	Infrastructure Input sheet	Communications Towers	tower	\$ 26,032		
#2.73	Infrastructure Input sheet	Overhead powerlines (steel towers)	km	\$ 30,204	Applies to power lines on steel tower and steel lattice.	
#2.74	Infrastructure Input sheet	Overhead powerlines (wooden poles)	km	\$ 19,199	Applies to power lines on wooden poles.	
#2.75	Infrastructure Input sheet	Overhead powerlines (concrete poles)	km	\$ 33,618	Applies to power lines on concrete poles.	
#2.76	Infrastructure Input sheet	Demolish and/or remove substations in an enclosed building	m ²	\$ 600.00	Assumes single story and includes segregation of materials for scrap.	Simple structure to demolish, assumes single story building.
#2.77	Infrastructure Input sheet	Demolish and remove switchyard - does not include decontamination, removal of oil etc.	m ²	\$ 55.00	Includes all switchgear and transformers etc.	Includes all switchgear and transformers etc.
#2.78	Infrastructure Input sheet	Remove rail loop and spur, ballast etc.	m	\$ 55.00	This item includes the pulling up and removal of railway line and sleepers from site (cost per metre).	Demolition expert experience.
#2.79	Infrastructure Input sheet	Collapse, cut and remove rail loading bins	Item	\$ 65,000	Enter the number of rail loading bins/hoppers present on site.	Demolition expert estimate to collapse structure and remove.
#2.80	Infrastructure Input sheet	Remove train loading facilities	m ²	\$ 265.00	Apply this rate to area of infrastructure (not including bins/hoppers) used for rail loading.	Demolition expert experience.

#2.81	Infrastructure Input sheet	Reshape rail spur and load out areas	ha	\$ 2,800	Enter the total area of the rail spur that is required to be reshaped.	D11 push 1.5ha/day.
#2.82	Infrastructure Input sheet	Landfill	m2	\$ 4.84	Enter total area of landfill to be covered	Cover up with dozer. Use soil from nearby. Assumes dozer push of 3 lifts of 0.5 m. Haul from nearby (up to 1000 m) using loader and trucks and place.
#2.83	Infrastructure Input sheet	Sewage Plant	m2	\$ 10.00	Enter total area of sewage plant	Demolish infrastructure and grade and seed
3 Mining Works						
#3.01	Activity 21 Pits Input Sheet	Drill and blast faces to make safe	m ³	\$ 1.80	Enter total volume of material to be blasted.	Drill and Blast cost only
#3.02	Activity 17 Pits Input Sheet	Highwall treatment - trench and safety berm construction (excavate and place)	m	\$ 23.23	Enter total length of highwall. Rate includes placement of topdressing and revegetation.	47t excavator and operator, D10 pushes up material from trench into berm, excavator shapes.
#3.03	Activity 16 Pits Input Sheet	Highwall treatment - safety berm construction haul from stockpile 4km	m	\$ 46.10	Enter total length of highwall. Rate allows for fresh rock truck dumped	Suitable rock sourced from stockpile to include load, haul and dump using medium fleet (CAT 777)
#3.04	Activity 26 Pits Input Sheet	Security fence around steep section of high wall	m	\$ 204.27	Enter total length of highwall.	3.0 m cyclone wire (or similar) security fence.
#3.05	Activity 26 Pits Input Sheet	Standard barbed 5 strand cattle fence around open pit	Km	\$ 15,200	Enter total length of highwall.	3.0 m cyclone wire (or similar) security fence.
#3.06	Activity 26 Pits Input Sheet	Purchase and erect warning signs	m	\$ 0.25	Enter total length of fence, assume one sign every 100 m of length of highwall.	Compliance with AS 1319-1994 Safety signs for the occupational environment.
4 Bulk Earthworks						
#4.01	WRD, HLP, Overburden Input Sheet	HIGH RISK WRD/OD/HLP	ha	\$ 161,317	<p>Enter footprint of the waste rock dump (WRD), overburden dump (OB) or heap leach pad (HLP) which has the characteristics of; potentially acid forming material (PAF); other highly reactive materials including (ARD/AMD/NMD); or that has had observed contaminated seepage which is capable of causing environmental harm.</p> <p>If capping requirements are more stringent than those shown under assumptions for cap (within scope column), the user design table should be used in 3. Overburden Dump Piles Input Sheet</p> <p>If capping and/or growth materials are required to be sources off-site (> 6 km), the quantities should be added in 10. Miscellaneous Activities sheet.</p>	<p>Assumptions for cap are:</p> <ul style="list-style-type: none"> - capillary break layers minimum of 0.6 m thickness - low permeability layers minimum of 0.5 m thickness - rock cover minimum of 1.5 m thickness - growth media minimum of 0.15 m thickness <p>This item includes:</p> <p>Sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap or cover the top surfaces of the WRD, OB or HLP using economically efficient construction methods. Assumes suitable capping materials are available on site within 6 km.</p> <p>Facilities assumed to be above ground or valley fill.</p> <p>Includes a component for engineering and rehabilitation supervision (i.e., re-shape, cap, cover design, QA/QC testing, inspections of construction techniques to identify if the cover system is being constructed is as per the design and construction specifications. A report outlining survey results, laboratory test values, in situ permeability values, etc.)</p>

#4.02	WRD, Overburden, HLP Input Sheet	MEDIUM RISK WRD/OD/HLP	ha	\$	78,635	<p>Enter footprint of waste rock dump (WRD), overburden dump (OB) or heap leach pad (HLP) which has one or more of the following characteristics:</p> <ul style="list-style-type: none"> - Moderately reactive materials (ARD/AMD/NMD) - Hypersaline tailings that could impact on the proposed end land use <p>If capping requirements are more stringent than those shown under assumptions for cap (within scope column), the user design table should be used in 3. Overburden Dump Piles Input Sheet.</p> <p>If capping and/or growth materials are required to be sources off-site (> 6 km), the quantities should be added in 10. Miscellaneous Activities sheet.</p>	<p>Assumptions for cap are:</p> <ul style="list-style-type: none"> - capillary break layers minimum of 0.3 m thickness - no low permeability layers - rock cover minimum of 1.0 m thickness - growth media minimum of 0.15 m thickness <p>This item includes: Sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap or cover the top surfaces of the WRD, OB or HLP using economically efficient construction methods. Assumes suitable capping materials are available on site within 6 km</p> <p>Facilities assumed to be above ground or valley fill.</p> <p>Includes a component for engineering and rehabilitation supervision (i.e., re-shape, cap, cover design, QA/QC testing, inspections of construction techniques to identify if the cover system is being constructed is as per the design and construction specifications. A report outlining survey results, laboratory test values, in situ permeability values, etc.)</p>
#4.03	WRD, Overburden, HLP Input Sheet	LOW RISK WRD/OD/HLP	ha	\$	47,964	<p>Enter footprint of Waste rock dump (WRD), overburden dump (OB) or heap leach pad (HLP) which has one or more of the following characteristics:</p> <ul style="list-style-type: none"> - Low reactive materials (ARD/AMD/NMD) <p>If capping requirements are more stringent than those shown under assumptions for cap (within scope column), the user design table should be used in 3. Overburden Dump Piles Input Sheet.</p> <p>If capping and/or growth materials are required to be sources off-site (> 6 km), the quantities should be added in 10. Miscellaneous Activities sheet.</p>	<p>Assumptions for cap are:</p> <ul style="list-style-type: none"> - no capillary break layers - no low permeability layers - rock cover minimum of 0.5 m thickness - growth media minimum of 0.15 m thickness <p>This item includes: Sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap or cover the top surfaces of the WRD, OB or HLP using economically efficient construction methods. Assumes suitable capping materials are available on site within 6 km.</p> <p>Facilities assumed to be above ground or valley fill.</p> <p>Includes a component for engineering and rehabilitation supervision (i.e., re-shape, cap, cover design, QA/QC testing, inspections of construction techniques to identify if the cover system is being constructed is as per the design and construction specifications. A report outlining survey results, laboratory test values, in situ permeability values, etc.)</p>

#4.04	WRD, Overburden, HLP Input Sheet	VERY LOW RISK WRD/OD/HLP		\$	13,717	<p>Enter footprint of Waste rock dump (WRD), overburden dump (OB) or heap leach pad (HLP) which has benign materials.</p> <p>If capping requirements are more stringent than those shown under assumptions for cap (within scope column), the user design table should be used in 3. Overburden Dump Piles Input Sheet.</p> <p>If capping and/or growth materials are required to be sources off-site (> 6 km), the quantities should be added in 10. Miscellaneous Activities sheet..</p>	<p>Assumptions for cap are:</p> <ul style="list-style-type: none"> - no capillary break layers - no low permeability layers - no rock cover - growth media minimum of 0.15 m thickness <p>This item includes: Sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap or cover the top surfaces of the WRD, OB or HLP using economically efficient construction methods. Assumes suitable capping materials are available on site within 6 km. Facilities assumed to be above ground or valley fill.</p> <p>Includes a component for engineering and rehabilitation supervision (i.e., re-shape, cap, cover design, QA/QC testing, inspections of construction techniques to identify if the cover system is being constructed is as per the design and construction specifications. A report outlining survey results, laboratory test values, in situ permeability values, etc.)</p>
#4.05	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit <= 20m push - D6R Dozer	m ³	\$	0.45	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.06	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit <= 20m push - D7R Dozer	m ³	\$	0.37	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.07	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit <= 20m push - D8R Dozer	m ³	\$	0.31	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.08	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit <= 20m push - D9R Dozer	m ³	\$	0.26	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.09	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit <= 20m push - D10T Dozer	m ³	\$	0.25	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.10	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit <= 20m push - D11T Dozer	m ³	\$	0.19	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.11	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 20m to <= 30m push - D6R Dozer	m ³	\$	0.49	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.12	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 20m to <= 30m push - D7R Dozer	m ³	\$	0.38	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.13	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 20m to <= 30m push - D8R Dozer	m ³	\$	0.35	Enter volume of soil to push	Shown dozer pushing over shown distance

#4.14	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 20m to <= 30m push - D9R Dozer	m ³	\$ 0.29	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.15	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 20m to <= 30m push - D10T Dozer	m ³	\$ 0.28	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.16	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 20m to <= 30m push - D11T Dozer	m ³	\$ 0.22	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.17	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 30m to <= 50m push - D6R Dozer	m ³	\$ 0.74	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.18	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 30m to <= 50m push - D7R Dozer	m ³	\$ 0.51	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.19	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 30m to <= 50m push - D8R Dozer	m ³	\$ 0.49	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.20	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 30m to <= 50m push - D9R Dozer	m ³	\$ 0.40	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.21	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 30m to <= 50m push - D10T Dozer	m ³	\$ 0.39	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.22	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 30m to <= 50m push - D11T Dozer	m ³	\$ 0.31	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.23	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 50m to <= 75m push - D6R Dozer	m ³	\$ 1.14	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.24	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 50m to <= 75m push - D7R Dozer	m ³	\$ 0.72	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.25	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 50m to <= 75m push - D8R Dozer	m ³	\$ 0.69	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.26	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 50m to <= 75m push - D9R Dozer	m ³	\$ 0.55	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.27	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 50m to <= 75m push - D10T Dozer	m ³	\$ 0.54	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.28	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 50m to <= 75m push - D11T Dozer	m ³	\$ 0.44	Enter volume of soil to push	Shown dozer pushing over shown distance

#4.29	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 75m to <= 100m push - D6R Dozer	m ³	\$ 1.57	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.30	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 75m to <= 100m push - D7R Dozer	m ³	\$ 1.02	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.31	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 75m to <= 100m push - D8R Dozer	m ³	\$ 1.07	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.32	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 75m to <= 100m push - D9R Dozer	m ³	\$ 0.80	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.33	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 75m to <= 100m push - D10T Dozer	m ³	\$ 0.78	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.34	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 75m to <= 100m push - D11T Dozer	m ³	\$ 0.63	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.35	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 100m to <= 125m push - D6R Dozer	m ³	\$ 1.85	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.36	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 100m to <= 125m push - D7R Dozer	m ³	\$ 1.23	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.37	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 100m to <= 125m push - D8R Dozer	m ³	\$ 1.65	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.38	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 100m to <= 125m push - D9R Dozer	m ³	\$ 1.17	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.39	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 100m to <= 125m push - D10T Dozer	m ³	\$ 1.02	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.40	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 100m to <= 125m push - D11T Dozer	m ³	\$ 0.85	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.41	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 125m to <= 150m push - D6R Dozer	m ³	No rate, select again	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.42	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 125m to <= 150m push - D7R Dozer	m ³	No rate, select again	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.43	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 125m to <= 150m push - D8R Dozer	m ³	\$ 2.30	Enter volume of soil to push	Shown dozer pushing over shown distance

#4.44	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 125m to <= 150m push - D9R Dozer	m ³	\$ 1.47	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.45	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 125m to <= 150m push - D10T Dozer	m ³	\$ 1.19	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.46	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 125m to <= 150m push - D11T Dozer	m ³	\$ 1.04	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.47	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 150m push - D6R Dozer	m ³	No rate, select again	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.48	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 150m push - D7R Dozer	m ³	No rate, select again	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.49	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 150m push - D8R Dozer	m ³	\$ 2.30	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.50	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 150m push - D9R Dozer	m ³	\$ 1.47	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.51	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 150m push - D10T Dozer	m ³	\$ 1.19	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.52	Activity 1 Overburden, HLP, TSF and Pits Input sheets	Major bulk pushing to achieve grades nominated in the approval/permit > 150m push - D11T Dozer	m ³	\$ 1.04	Enter volume of soil to push	Shown dozer pushing over shown distance
#4.53	Activity 19 Miscellaneous Activities Input Sheet	Reshape level areas to establish natural drainage, maximum push 100m - D6R Dozer	ha	\$ 7,745	Enter area	Shown dozer pushing over shown distance
#4.54	Activity 19 Miscellaneous Activities Input Sheet	Reshape level areas to establish natural drainage, maximum push 100m - D7R Dozer	ha	\$ 5,356	Enter area	Shown dozer pushing over shown distance
#4.55	Activity 19 Miscellaneous Activities Input Sheet	Reshape level areas to establish natural drainage, maximum push 100m - D8R Dozer	ha	\$ 3,226	Enter area	Shown dozer pushing over shown distance
#4.56	Activity 19 Miscellaneous Activities Input Sheet	Reshape level areas to establish natural drainage, maximum push 100m - D9R Dozer	ha	\$ 2,361	Enter area	Shown dozer pushing over shown distance
#4.57	Activity 19 Miscellaneous Activities Input Sheet	Reshape level areas to establish natural drainage, maximum push 100m - D10T Dozer	ha	\$ 2,210	Enter area	Shown dozer pushing over shown distance
#4.58	Activity 19 Miscellaneous Activities Input Sheet	Reshape level areas to establish natural drainage, maximum push 100m - D11T Dozer	ha	\$ 1,834	Enter area	Shown dozer pushing over shown distance

#4.59	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $\leq 10^\circ$, maximum push 100m - D6R Dozer	ha	\$ 8,952	Enter area	Shown dozer pushing over shown distance and shown slope
#4.60	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $\leq 10^\circ$, maximum push 100m - D7R Dozer	ha	\$ 5,944	Enter area	Shown dozer pushing over shown distance and shown slope
#4.61	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $\leq 10^\circ$, maximum push 100m - D8R Dozer	ha	\$ 3,843	Enter area	Shown dozer pushing over shown distance and shown slope
#4.62	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $\leq 10^\circ$, maximum push 100m - D9R Dozer	ha	\$ 2,760	Enter area	Shown dozer pushing over shown distance and shown slope
#4.63	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $\leq 10^\circ$, maximum push 100m - D10T Dozer	ha	\$ 2,448	Enter area	Shown dozer pushing over shown distance and shown slope
#4.64	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $\leq 10^\circ$, maximum push 100m - D11T Dozer	ha	\$ 2,038	Enter area	Shown dozer pushing over shown distance and shown slope
#4.65	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $> 10^\circ$ to $\leq 15^\circ$, maximum push 100m - D6R Dozer	ha	\$ 6,037	Enter area	Shown dozer pushing over shown distance and shown slope
#4.66	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $> 10^\circ$ to $\leq 15^\circ$, maximum push 100m - D7R Dozer	ha	\$ 3,962	Enter area	Shown dozer pushing over shown distance and shown slope
#4.67	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $> 10^\circ$ to $\leq 15^\circ$, maximum push 100m - D8R Dozer	ha	\$ 2,898	Enter area	Shown dozer pushing over shown distance and shown slope
#4.68	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $> 10^\circ$ to $\leq 15^\circ$, maximum push 100m - D9R Dozer	ha	\$ 2,148	Enter area	Shown dozer pushing over shown distance and shown slope
#4.69	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $> 10^\circ$ to $\leq 15^\circ$, maximum push 100m - D10T Dozer	ha	\$ 1,973	Enter area	Shown dozer pushing over shown distance and shown slope
#4.70	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $> 10^\circ$ to $\leq 15^\circ$, maximum push 100m - D11T Dozer	ha	\$ 1,631	Enter area	Shown dozer pushing over shown distance and shown slope
#4.71	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $> 15^\circ$ to $\leq 18^\circ$, maximum push 100m - D6R Dozer	ha	\$ 2,918	Enter area	Shown dozer pushing over shown distance and shown slope
#4.72	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $> 15^\circ$ to $\leq 18^\circ$, maximum push 100m - D7R Dozer	ha	\$ 1,840	Enter area	Shown dozer pushing over shown distance and shown slope
#4.73	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to $> 15^\circ$ to $\leq 18^\circ$, maximum push 100m - D8R Dozer	ha	\$ 1,792	Enter area	Shown dozer pushing over shown distance and shown slope

#4.74	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >15° to <=18°, maximum push 100m - D9R Dozer	ha	\$ 1,422	Enter area	Shown dozer pushing over shown distance and shown slope
#4.75	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >15° to <=18°, maximum push 100m - D10T Dozer	ha	\$ 1,390	Enter area	Shown dozer pushing over shown distance and shown slope
#4.76	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >15° to <=18°, maximum push 100m - D11T Dozer	ha	\$ 1,136	Enter area	Shown dozer pushing over shown distance and shown slope
#4.77	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >18 to <=20°, maximum push 100m - D6R Dozer	ha	\$ 2,713	Enter area	Shown dozer pushing over shown distance and shown slope
#4.78	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >18 to <=20°, maximum push 100m - D7R Dozer	ha	\$ 1,698	Enter area	Shown dozer pushing over shown distance and shown slope
#4.79	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >18 to <=20°, maximum push 100m - D8R Dozer	ha	\$ 1,631	Enter area	Shown dozer pushing over shown distance and shown slope
#4.80	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >18 to <=20°, maximum push 100m - D9R Dozer	ha	\$ 1,308	Enter area	Shown dozer pushing over shown distance and shown slope
#4.81	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >18 to <=20°, maximum push 100m - D10T Dozer	ha	\$ 1,281	Enter area	Shown dozer pushing over shown distance and shown slope
#4.82	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >18 to <=20°, maximum push 100m - D11T Dozer	ha	\$ 1,048	Enter area	Shown dozer pushing over shown distance and shown slope
#4.83	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >20°, maximum push 100m - D6R Dozer	ha	\$ 2,713	Enter area	Shown dozer pushing over shown distance and shown slope
#4.84	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >20°, maximum push 100m - D7R Dozer	ha	\$ 1,698	Enter area	Shown dozer pushing over shown distance and shown slope
#4.85	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >20°, maximum push 100m - D8R Dozer	ha	\$ 1,631	Enter area	Shown dozer pushing over shown distance and shown slope
#4.86	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >20°, maximum push 100m - D9R Dozer	ha	\$ 1,308	Enter area	Shown dozer pushing over shown distance and shown slope
#4.87	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >20°, maximum push 100m - D10T Dozer	ha	\$ 1,281	Enter area	Shown dozer pushing over shown distance and shown slope
#4.88	Activity 19 Overburden, HLP, TSF and Pits Input sheets	Reshape slopes and batters to >=20°, maximum push 100m - D11T Dozer	ha	\$ 1,048	Enter area	Shown dozer pushing over shown distance and shown slope

#4.119	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source local material, cart and spread to capand/or cover, cap thickness determined by approval / permit (>4000 m to <=5000 m Rock) - large fleet	m ³	\$	2.32	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.120	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source local material, cart and spread to capand/or cover, cap thickness determined by approval / permit (>5000 m to <=6000 m Rock) - large fleet	m ³	\$	2.41	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.121	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source local material, cart and spread to capand/or cover, cap thickness determined by approval / permit (> 6000 m Rock) - large fleet	m ³	\$	2.49	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.122	Activity 31 Overburden, HLP, TSF Input sheets	Waste Rock Landforms, Spoil Piles, Heap Leach piles, Tailings Storage Facilities - Source local clay, cart and spread to cap and/or cover (0.5 m thickness)	ha	\$	56,630	Use where a clay cap <=0.5 m thickness is required.	Source clay from up to 5 km using small fleet, prepare clay from borrow pit, transport to area requiring cap, spread, compact with 4 runs.
#4.123	Activity 31 Overburden, HLP, TSF Input sheets	Waste Rock Landforms, Spoil Piles, Heap Leach piles, Tailings Storage Facilities - Source local clay, cart and spread to cap and/or cover (>0.5 to <= 1.0m thickness)	ha	\$	101,535	Use where a clay cap >0.5 to <= 1.0m thickness is required.	Source clay from up to 5 km using small fleet, prepare clay from borrow pit, transport to area requiring cap, spread, compact with 4 runs.
#4.124	Activity 31 Overburden, HLP, TSF Input sheets	Waste Rock Landforms, Spoil Piles, Heap Leach piles, Tailings Storage Facilities - Source local clay, cart and spread to cap and/or cover (>1.0 to <= 1.5m thickness)	ha	\$	145,550	Use where a clay cap >1.0 to <= 1.5m thickness is required.	Source clay from up to 5 km using small fleet, prepare clay from borrow pit, transport to area requiring cap, spread, compact with 4 runs.
#4.125	Activity 31 Overburden, HLP, TSF Input sheets	Waste Rock Landforms, Spoil Piles, Heap Leach piles, Tailings Storage Facilities - Source local clay, cart and spread to cap and/or cover (>1.5 to <= 2.0m thickness)	ha	\$	189,565	Use where a clay cap >1.5 to <= 2.0m thickness is required.	Source clay from up to 5 km using small fleet, prepare clay from borrow pit, transport to area requiring cap, spread, compact with 4 runs.
#4.126	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source growth media/ topsoil, cart and spread over cover/cap material, soil thickness determined by approval / permit (<=200 m GM) - small fleet)	m ³	\$	3.81	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.127	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source growth media/ topsoil, cart and spread over cover/cap material, soil thickness determined by approval / permit (>200 m to <=500 m GM) - small fleet)	m ³	\$	4.14	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.128	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source growth media/ topsoil, cart and spread over cover/cap material, soil thickness determined by approval / permit (>500 m to <=1000 m GM) - small fleet)	m ³	\$	4.64	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.129	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source growth media/ topsoil, cart and spread over cover/cap material, soil thickness determined by approval / permit (>1000 m to <=1500 m GM) - small fleet)	m ³	\$	4.81	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.130	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source growth media/ topsoil, cart and spread over cover/cap material, soil thickness determined by approval / permit (>1500 m to <=2000 m GM) - small fleet)	m ³	\$	4.95	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.131	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source growth media/ topsoil, cart and spread over cover/cap material, soil thickness determined by approval / permit (>2000 m to <=2500 m GM) - small fleet)	m ³	\$	5.57	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.132	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source growth media/ topsoil, cart and spread over cover/cap material, soil thickness determined by approval / permit (>2500 m to <=3000 m GM) - small fleet)	m ³	\$	6.05	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material

#4.157	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source growth media/ topsoil, cart and spread over cover/cap material, soil thickness determined by approval / permit (>5000 m to <=6000 m GM) - large fleet)	m ³	\$	2.41	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.158	Activity 7 Overburden, HLP, TSF and Pits Input sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Source growth media/ topsoil, cart and spread over cover/cap material, soil thickness determined by approval / permit (> 6000 m GM) - large fleet)	m ³	\$	2.49	Topsoil/growth media to be placed over cover/cap material for revegetation purposes	Options include for fleet size (small, or medium) and haulage distance (one way) to cover/cap material
#4.159	Activity 15 Overburden, HLP, TSF Input Sheets	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Water management for soil conservation on rehabilitated landforms (construction surface cell and crest bunding etc.)	ha	\$	3,000	Enter landform footprint area.	This item is for rehabilitated landforms requiring water management / soil conservation works (banks, & drains, etc.) minimise the potential for erosion. May not be required for some applications (i.e., low- gradient slopes, some soil types etc.). D10 max 50m push, 1.5m high bunds, 2 cells per ha
#4.160	Activity 18 Overburden, HLP, TSF Input She	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities - Construction of landform spine drains, drop structures and/or stabilising water course entry points - required for large catchments on landforms	ha	\$	23,419	Enter estimated drainage footprint area.	Installation of on-site rock material (rip-rap) where managing water run-off from disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). Prevents erosion of gully head and facilitates water run-off from dumps etc. (assumes competent material is locally available).
#4.161	Activities 14, 4, 3, 28	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities – Doze and shape for natural drainage earthworks, final trim and deep rip, and seed (pasture seed)	ha	\$	4,456	Enter the total area of waste rock landform etc.,	CAT D10 dozer, average push 20m, CAT14M grader, pasture seeding
#4.162	Activities 14, 4, 3, 28	Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Heap Leach piles, Tailings Storage Facilities – Doze and shape for natural drainage earthworks, final trim and deep rip, and seed (trees, shrubs, native grasses)	ha	\$	6,676	Enter the total area of waste rock landform etc.,	CAT D10 dozer, average push 20m, CAT14M grader, native seeding
#4.163	Activity 36, Heap Leach Pad Input Sheet	Heap Leach Flushing	m ³	\$	0.48	The total volume of material to be flushed	Default is zero as most heap leach pads wont be flushed. Assumes volume of water required is 10% over field capacity, includes cost for treatment of metals and pH adjustment. Allowance for water cost and equipment set-up.
5 Tailings Storage Facilities							

#6.01	TSF Input Sheet	HIGH RISK TSF	ha	\$	193,096	<p>Enter footprint of tailings storage facility (TSF) which has characteristics of; potentially acid forming (PAF) material; other highly reactive materials including (ARD/AMD/NMD); poor consolidation and low shear strength tails materials; contain composite liners (e.g. HDPE); embankments > 30 metres high; or has had observed contaminated seepage which is capable of causing environmental harm.</p> <p>If capping requirements are more stringent than those shown under assumptions for cap (within scope column), the user design table should be used in 5. Tailings Storage Facilities Input Sheet.</p> <p>If capping and/or growth materials are required to be sources off-site (> 6 km), the quantities should be added in 10. Miscellaneous Activities sheet. Enter footprint of tailings storage facilities.</p>	<p>Assumptions for cap are:</p> <ul style="list-style-type: none"> - working cover over tailings minimum of 0.5 m thickness - capillary break layers minimum of 0.6 m thickness - low permeability layers minimum of 0.5 m thickness - rock cover minimum of 1.5 m thickness - growth media minimum of 0.15 m thickness <p>This item includes: Sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap or cover the top surfaces and embankment of the TSF using economically efficient construction methods. Assumes suitable capping materials are available on site within 6 km. Facilities assumed to be above ground or valley fill.</p> <p>Includes a component for engineering and rehabilitation supervision (i.e., re-shape, cap, cover design, QA/QC testing, inspections of construction techniques to identify if the cover system is being constructed is as per the design and construction specifications. A report outlining survey results, laboratory test values, in situ permeability values, etc.)</p>
#6.02	TSF Input Sheet	MEDIUM RISK TSF	ha	\$	109,915	<p>Enter footprint of tailings storage facility (TSF) which has one or more of the following:</p> <ul style="list-style-type: none"> - Moderately reactive materials (ARD/AMD/NMD) - Hypersaline tailings that could impact on the proposed end - Low strength consolidated tailings land use objectives for the facility - Embankments 15 to 30 m high <p>If capping requirements are more stringent than those shown under assumptions for cap (within scope column), the user design table should be used in 5. Tailings Storage Facilities Input Sheet.</p> <p>If capping and/or growth materials are required to be sources off-site (> 6 km), the quantities should be added in 10. Miscellaneous Activities sheet. Enter footprint of tailings storage facilities.</p>	<p>Assumptions for cap are:</p> <ul style="list-style-type: none"> - working cover over tailings minimum of 0.5 m thickness - capillary break layers minimum of 0.3 m thickness - no low permeability layers - rock cover minimum of 1.0 m thickness - growth media minimum of 0.15 m thickness. <p>This item includes: Sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap or cover the top surfaces and embankment of the TSF using economically efficient construction methods. Assumes suitable capping materials are available on site within 6 km. Facilities assumed to be above ground or valley fill.</p> <p>Includes a component for engineering and rehabilitation supervision (i.e., re-shape, cap, cover design, QA/QC testing, inspections of construction techniques to identify if the cover system is being constructed is as per the design and construction specifications. A report outlining survey results, laboratory test values, in situ permeability values, etc.)</p>

#6.03	TSF Input Sheet	LOW RISK TSF	ha	\$	72,273	<p>Enter footprint of tailings storage facility (TSF) which has one or more of the following characteristics:</p> <ul style="list-style-type: none"> - Low reactive materials (ARD/AMD/NMD) - Moderate to low salinity - Moderate strength consolidated tailings - Embankments less than 15 m high <p>This activity is suitable for operations where the tailings stream is geochemically benign (i.e., alluvial or sand mines).</p> <p>If capping requirements are more stringent than those shown under assumptions for cap (within scope column), the user design table should be used in 5. Tailings Storage Facilities Input Sheet.</p> <p>If capping and/or growth materials are required to be sources off-site (> 6 km), the quantities should be added in 10. Miscellaneous Activities sheet. Enter footprint of tailings storage facilities.</p>	<p>Assumptions for cap are:</p> <ul style="list-style-type: none"> - no working cover - no capillary break layers - no low permeability layers - rock cover minimum 1.0 m thickness - growth media of minimum 0.15 m thickness <p>This item includes: Sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap or cover the top surfaces and embankment of the TSF using economically efficient construction methods. Assumes suitable capping materials are available on site within 6 km. Facilities assumed to be above ground or valley fill.</p> <p>Includes a component for minimal engineering and rehabilitation supervision.</p>
#6.04	TSF Input Sheet	VERY LOW RISK TSF	ha	\$	21,953	<p>Enter footprint of tailings storage facility (TSF) which has one or more of the followings:</p> <ul style="list-style-type: none"> - Zero reactive materials (ARD/AMD/NMD) - Low salinity - Moderate strength consolidated tailings - Embankments less than 15 m high <p>This activity may be suitable for operations where the tailings stream is geochemically benign (i.e., alluvial or sand mines).</p> <p>If capping requirements are more stringent than those shown under assumptions for cap (within scope column), the user design table should be used in 5. Tailings Storage Facilities Input Sheet.</p> <p>If capping and/or growth materials are required to be sources off-site (> 6 km), the quantities should be added in 10. Miscellaneous Activities sheet. Enter footprint of tailings storage facilities.</p>	<p>Assumptions for cap are:</p> <ul style="list-style-type: none"> - no working cover - no capillary break layers - no low permeability layers - no rock cover - growth media of minimum 0.15 m thickness <p>This item includes: Sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material cover the top surfaces and embankment of the TSF with growth media only. Facilities assumed to be above ground or valley fill.</p> <p>Includes a component for rehabilitation supervision.</p>
#6.05	TSF Input Sheet	Geofabric layer over tailings materials as part of cap / cover	m ²	\$	2.00	Enter area requiring geofabric.	Includes buy and install
#6.06	TSF Input Sheet	Geosynthetic clay liner	m ²	\$	12.00	Enter area requiring GCL	Includes buy and install
#6.07	TSF Input Sheet	Geomembrane	m ²	\$	13.00	Enter area requiring geomembrane.	Includes buy and install
#6.08	TSF Input Sheet	Capillary Break Rock Preparation	m ³	\$	4.40	Screening of rock to <50mm	
#6.09	TSF Input Sheet	Low Permeability Clay Layer Source and Prepare	m ³	\$	7.80	Source haul, condition and compaction	
7 Water Management							
#7.01	Water Management Input Sheet	Removal and off-site treatment of hydrocarbon contaminated water from workshops, bunded areas and sumps.	L	\$	0.35	This includes the removal of contaminated water from bunded areas and sump using a vacuum truck and disposing of the water to a licensed facility.	Assumes this requires a specialist to treat.

#7.02	Water Management Input Sheet	Evaporate water from pond (natural solar)	pond	\$	4,899	Enter the number of ponds that may have residual water and where the water will be managed via natural (solar) means. If no entry is made, the calculation defaults to the sum of dams entered by the user. Enter "0" if water is to be managed using other methods.	Net evaporation = 2.5 m/year, water thickness to evaporate 1 m, 1 visit per month to undertake level gauging.
#7.03	Water Management Input Sheet	Evaporate water from pond (enhanced)	pond	\$	51,750	Enter the number of ponds that may have residual water and where enhanced evaporation (atomiser) will be deployed. The cell above shows the total amount of ponds in the area.	Net evaporation = 7 m/year, water thickness to evaporate 1 m, 1 visit per month to undertake level gauging.
#7.04	Water Management Input Sheet	Mobilisation of portable reverse osmosis unit to ponds	RO unit	\$	45,455	Enter if a unit must be mobilised to site. Cost covers mobilisation to an area.	The rate is an allowance for this move and includes mobilisation.
#7.05	Water Management Input Sheet	Water Management using reverse osmosis	ML	\$	2,680	Enter volume of residual water in dams to be treated.	Operation of water treatment plant including electricity and electrical and mechanical labour to attend to plant. Reverse osmosis will remove salt and metals. Includes rental cost for 1 ML/day unit.
#7.06	Water Management Input Sheet	Salt disposal - loading	t	\$	8.93	Enter the number of tonnes of salt to be transported for disposal.	930K CAT loader, travel speed 7.5 km/h, 0.5 km travel distance, 4.2 m3 bucket resulting in production rate of 41 t/h.
#7.07	Water Management Input Sheet	Salt disposal - transport	t-km	\$	0.07	No entry is needed as this value is the product of the number of tonnes entered above and the distance to the salt disposal facility.	Transport in Quad truck (41 tonne capacity), average travel speed 65 km/h.
#7.08	Water Management Input Sheet	Salt disposal - gate fee	t	\$	95.00	No entry is needed as this value is equal to the number of tonnes entered above.	Gate fee for disposal at suitable facility.
#7.09	Water Management Input Sheet	Water management - treatment of organics	ML	\$	1,995	Enter the volume of water that is required to be treated	Operation of oil water separator and activated carbon plant including electricity, activated carbon consumption and disposal and electrical and mechanical labour to attend to plant. Includes rental cost.
#7.10	Water Management Input Sheet	Water management - adjustment of pH	ML	\$	1,995	Enter the volume of water that is required to be treated for pH adjustment.	Operation of neutralisation plant including electricity, hydrated lime and electrical and mechanical labour to attend to plant. Includes rental cost for 1 ML/day capacity.
#7.11	Water Management Input Sheet	Site Establishment and Engineering	ML	\$	1,000	Enter the volume of water to be managed	Site inspections, sampling program, engineering and design
#7.12	Water Management Input Sheet	Infrastructure Construction	ML	\$	1,500	Enter the volume of water to be managed	Ponds, dams, drains, pumping, treatment plants, power generation) and water infrastructure
#7.13	Water Management Input Sheet	Operations Management	ML	\$	150	Enter the volume of water to be managed	Site supervision, operational staff, consultants
#7.14	Water Management Input Sheet	Power/Water	ML	\$	50	Enter the volume of water to be managed	Operational costs including power (fuel, raw water pumping, maintenance and repair, water sampling and monitoring
#7.15	Water Management Input Sheet	Clean water small dams/sediment control structures retained after closure	Item	\$	10,500	Enter number of minor water management structures (i.e. small sediment dams) to remain after closure	Make safe and minor earthworks. This allows for 1 x excavator and 3 x artic trucks for cleaning to spoil locations for 1 day: 2000 m3 of material removed.
#7.16	Water Management Input Sheet	Clean water small mine/quarry dams/sediment control structures retained after closure	Item	\$	2,500	Small Mine / Quarry - enter number of minor water management structures (i.e. small sediment dams) to remain after closure	Make safe and minor earthworks. Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc. suitable for re-use by an alternate land-user - D6 Dozer @\$150 per hour and pasture grass.
#7.17	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - <=200 m Silt) - small fleet	m3	\$	2.90	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck

#7.18	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - >200 m to <=500 m Silt) - small fleet	m ³	\$ 3.23	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.19	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - >500 m to <=1000 m Silt) - small fleet	m ³	\$ 3.74	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.20	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - >1000 m to <=1500 m Silt) - small fleet	m ³	\$ 3.91	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.21	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - >1500 m to <=2000 m Silt) - small fleet	m ³	\$ 4.05	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.22	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - >2000 m to <=2500 m Silt) - small fleet	m ³	\$ 4.66	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.23	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - >2500 m to <=3000 m Silt) - small fleet	m ³	\$ 5.14	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.24	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - >3000 m to <=4000 m Silt) - small fleet	m ³	\$ 5.48	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.25	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - >4000 m to <=5000 m Silt) - small fleet	m ³	\$ 6.15	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.26	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - >5000 m to <=6000 m Silt) - small fleet	m ³	\$ 6.82	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.27	Activity 10 Water Storage Input Sheet	Ponds and Dams Silt and Sediment Removal - Excavate, haul, dump and spread (Haul Distance - > 6000 m Silt) - small fleet	m ³	\$ 7.15	Enter the volume to excavate, haul and dump	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#7.28	Exploration and Water Management Input Sheets	Process Water Structure (Lined) - <=1 ML	structure	\$ 6,911	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.29	Exploration and Water Management Input Sheets	Process Water Structure (Lined) - >1 and <= 3.5 ML	structure	\$ 23,517	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.30	Exploration and Water Management Input Sheets	Process Water Structure (Lined) - >3.5 and <= 7.5 ML	structure	\$ 36,875	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.31	Exploration and Water Management Input Sheets	Process Water Structure (Lined) - >7.5 and <= 10 ML	structure	\$ 49,008	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.32	Exploration and Water Management Input Sheets	Process Water Structure (Lined) - >10 and <= 20 ML	structure	\$ 89,298	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.33	Water Management Input Sheet	Process Water Structure (Lined) - >20 and <= 50 ML	structure	\$ 115,814	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.34	Water Management Input Sheet	Raw Water Structure (Lined) - <=1 ML	structure	\$ 6,628	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.

#7.35	Water Management Input Sheet	Raw Water Structure (Lined) - >1 and <= 3.5 ML	structure	\$ 19,973	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.36	Water Management Input Sheet	Raw Water Structure (Lined) - >3.5 and <= 7.5 ML	structure	\$ 34,327	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.37	Water Management Input Sheet	Raw Water Structure (Lined) - >7.5 and <= 10 ML	structure	\$ 45,609	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.38	Water Management Input Sheet	Raw Water Structure (Lined) - >10 and <= 20 ML	structure	\$ 82,501	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.39	Water Management Input Sheet	Raw Water Structure (Lined) - >20 and <= 50 ML	structure	\$ 107,601	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.40	Water Management Input Sheet	Raw Water Structure (Lined) - >50 and <= 100 ML	structure	\$ 148,101	Enter number of water structures	Removal and disposal of sediments and liner, earthworks to fill dams in using berms. Land investigation included .Residual water management included in separate rates.
#7.41	Exploration and Water Management Input Sheets	Evaporation and Other Water Structure (Unlined) - <=1 ML	structure	\$ 6,084	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#7.42	Exploration and Water Management Input Sheets	Evaporation and other Water Structure (Unlined) - >1 and <= 3.5 ML	structure	\$ 17,526	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#7.43	Exploration and Water Management Input Sheets	Evaporation and other Water Structure (Unlined) - >3.5 and <= 7.5 ML	structure	\$ 29,434	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#7.44	Exploration and Water Management Input Sheets	Evaporation and other Water Structure (Unlined) - >7.5 and <= 10 ML	structure	\$ 39,086	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#7.45	Exploration and Water Management Input Sheets	Evaporation and other Water Structure (Unlined) - >10 and <= 20 ML	structure	\$ 69,453	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#7.46	Water Management Input Sheet	Evaporation and other Water Structure (Unlined) - >20 and <= 50 ML	structure	\$ 91,835	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#7.47	Water Management Input Sheet	Evaporation and other Water Structure (Unlined) - >50 and <= 100 ML	structure	\$ 126,354	Enter number of water structures	Earthworks to fill dams in using berms. Land investigation included. Residual water and salt management included in separate rates.
#7.48	Water Management Input Sheet	Water pumping/transfer between pits	ML	\$ 115.00	Enter the volume of water that is required to be pumped/transferred on site.	D10 size motorised pontoon pump: Fuel - \$1.00 / L @ 1500L / day + Maintenance and support =\$600 / day + Equipment rental = \$300 / day = ~\$2400 / day. Water moved – 250 L / s = 20 ML /day.
#7.49	Water Management Input Sheet	Removal of evaporation fans and / or other water transfer and management infrastructure	Item	\$ 25,000	Provisional sum for removal of water management infrastructure.	
8 Process Equipment						

#8.01	Process Equipment tab	Demolish and remove processing equipment	m ² /floor	\$ 265.00	Use for washery, crushers, mills, furnaces, agglomeration, electrowinning, floatation, sizing stations, rotary breakers etc.) - include the area of each floor of the structure.	Must be calculated per floor/level (Assume 1 floor/level = 3-4 m).
#8.02	Process Equipment tab	Remove stacker or reclaim	Item	\$ 1,000,000	Apply this rate for the removal of each radial and/or luffing (or similar) stacker or reclaim.	Just removal of the stacker or reclaim unit - does not include terminate services, remove rails and ballast etc.
#8.03	Process Equipment tab	Demolish and remove bucket wheel stacker/reclaimer or wing stacker	Item	\$ 2,500,000	Apply this rate for the removal of each bucket wheel stacker reclaim.	Just removal of the bucket wheel stacker/reclaim unit - does not include terminate services, remove rails and ballast etc.
#8.04	Process Equipment tab	Remove rails and ballast for stacker and/or reclaim	m	\$ 75.00	Apply this rate for removing the rails and ballast/footings when rail mounted stacker reclaimers are present.	Includes both rails, does not include the conveyor system.
#8.05	Process Equipment tab	Collapse, cut and remove ~1250 t silo / bin / hopper	Item	\$ 24,584	Enter the number of small silos to be removed.	
#8.06	Process Equipment tab	Collapse, cut and remove ~3000 t silo / bin / hopper	Item	\$ 42,997	Enter the number of medium silos to be removed.	
#8.07	Process Equipment tab	Collapse, cut and remove ~5000 t silo / bin / hopper	Item	\$ 63,727	Enter the number of large silos to be removed.	
#8.08	Process Equipment tab	Demolish and remove on-ground conveyors and gantries	m	\$ 285.00	Enter the length of conveyors that are on the ground.	Estimate for on-ground conveyer. Scrap only – does not include dismantling for reuse at another site)
#8.09	Process Equipment tab	Demolish and remove overhead conveyors and gantries (scrap only – does not include dismantling for reuse at another site)	m	\$ 370.00	Enter the length of conveyors that are elevated >5 but <10 m off the ground.	Estimate for overhead conveyor.
#8.10	Process Equipment tab	Demolish and remove elevated conveyors and gantries (scrap only – does not include dismantling for reuse at another site)	m	\$ 1,150	Enter the length of conveyors that are elevated >10 m off the ground.	Estimate for conveyors that may require a crane for removal.
#8.11	Process Equipment tab	Demolish reclaim tunnel, cut reo and expose reclaim conveyor, then collapse into the reclaim tunnel void (Does not include excavation to expose reclaim tunnel, removal of conveyor or backfilling void)	m ²	\$ 80.00	Apply this rate to the area of the roof of the reclaim tunnel to be "punched in" to expose the conveyor for removal - does not include excavation of material to expose the structure.	Does not include conveyor removal or backfill.
#8.12	Process Equipment tab	Remove and demolish conveyor from reclaim tunnel (Does not include excavation and demolition of reclaim tunnel roof)	m	\$ 150.00	This rate applies to conveyors in reclaim tunnels that do not have canopies or protection from the elements .	Due to no canopy or infrastructure attached.
#8.13	Process Equipment tab	Demolition of reclaim tunnel concrete (Assumes complete removal of concrete structure and local disposal)	m	\$ 950.00	If a reclaim tunnel is to be completely removed.	Assumes this area will be used for another land-use that requires the structure to be dug up and re-buried somewhere else.
#8.14	Process Equipment tab	Dismantle on-ground conveyors for reuse/resale	m	\$ 750.00	If the intention is to re-use the conveyor in another location, the cost is ~2.5x the demolition cost.	Approximately 2.5 times the cost of demolition.
#8.15	Process Equipment tab	Dismantle overhead conveyors for reuse/resale	m	\$ 1,000	If the intention is to re-use the conveyor in another location, the cost is ~2.5x the demolition cost.	Approximately 2.5 times the cost of demolition.
#8.16	Process Equipment tab	Transport small tank and dispose	Item	\$ 5,000	Tanks <= 5000 L that can be transported whole on a flat-bed truck.	Lifting of tank onto flat bed truck, transport to disposal location and dispose.
#8.17	Process Equipment tab	Demolish and remove above ground small tank clean (Fuel storage, thickener etc. 3 - 9 m diameter)	Item	\$ 10,000	This includes removing all tanks (i.e., fuel storage, thickener, flocculation tanks etc.) from the site including an associated pipework and pumps, etc.	Assume tank is clean - contents removed. If tank is full allow extra 30% for clean-out.
#8.18	Process Equipment tab	Demolish and remove above ground medium tank clean (Fuel storage, thickener etc. 10 - 15 m diameter)	Item	\$ 30,000	This includes removing all tanks (i.e., fuel storage, thickener, flocculation tanks etc.) from the site including an associated pipework and pumps, etc.	Assume tank is clean - contents removed. If tank is full allow extra 30% for clean-out.
#8.19	Process Equipment tab	Demolish and remove above ground large tank clean (Fuel storage, thickener etc. 16 - 25 m diameter)	Item	\$ 45,000	This includes removing all tanks (i.e., fuel storage, thickener, flocculation tanks etc.) from the site including an associated pipework and pumps, etc.	Assume tank is clean - contents removed. If tank is full allow extra 30% for clean-out.
#8.20	Process Equipment tab	Demolish and remove above ground extra large tank clean (Fuel storage, thickener etc. 26 - 50 m diameter)	Item	\$ 85,000	This includes removing all tanks (i.e., fuel storage, thickener, flocculation tanks etc.) from the site including an associated pipework and pumps, etc.	Assume tank is clean - contents removed. If tank is full allow extra 30% for clean-out.

#8.21	Process Equipment tab	Demolish and remove above ground extra extra large tank clean (Fuel storage, thickener etc. >50 m diameter)	Item	\$ 100,000	This includes removing all tanks (i.e., fuel storage, thickener, flocculation tanks etc.) from the site including an associated pipework and pumps, etc.	Assume tank is clean - contents removed. If tank is full allow extra 30% for clean-out.
#8.22	Process Equipment tab	Removal of small underground tank (<5000 L) - including pipes, bunds etc.	Item	\$ 21,000	Apply this rate only for small underground tanks.	Assume tank is clean - contents removed. If tank is full allow extra 50% for pumping, excavator and 2 men to dig out and dispose.
#8.23	Process Equipment tab	Removal of large underground tank (>5000 L) - including pipes, bunds etc.	Item	\$ 30,000	Apply this rate only for large underground tanks.	Assume tank is clean - contents removed. If tank is full allow extra 50% for pumping, excavator and 2 men to dig out and dispose.
#8.24	Process Equipment tab	Remove rail, road, water course overpass	Item	\$ 350,000	Provisional sum for significant civil structure.	Indicative cost for removal of an overpass structure.
#8.25	Process Equipment tab	Remove bitumen (aprons, sealed areas) for dumping in a void on-site	m ²	\$ 10.00	Apply this rate to all bitumen sealed areas within the domain.	Demolition expert estimate however economies of scale could reduce this number.
#8.26	Process Equipment tab	Remove bitumen (airstrip) for dumping in a void on-site	m ²	\$ 20.00	Apply this rate for airstrips.	Assumes increased thickness for airstrip.
#8.27	Process Equipment tab	Remove concrete pads & footings (<0.3 m thickness) and dumping in void	m ²	\$ 15.00	Enter the total area of the buildings where concrete footings are estimated to be <0.3 m thick.	Breaking up slab and loading into void or crushing area for conversion to road aggregate.
#8.28	Process Equipment tab	Remove concrete pads & footings (>0.3 m thickness) and dumping in void	m ²	\$ 65.00	Enter the total area the workshops and buildings where concrete footings are estimated to be >0.3 m thick.	Breaking up slab and loading into void or crushing area for conversion to road aggregate.
#8.29	Process Equipment tab	Crush concrete to make road aggregate - 75 mm	tonne	\$ 10.00	Apply this rate if the option to produce aggregate is required for waste concrete.	Does not include haulage of materials - assumes crushing plant is readily available.
#8.30	Process Equipment tab	Crush concrete to make road aggregate - 50 mm	tonne	\$ 14.50	Apply this rate if the option to produce aggregate is required for waste concrete.	Does not include haulage of materials - assumes crushing plant is readily available.
#8.31	Process Equipment tab	Crush concrete to make road aggregate - 30 mm	tonne	\$ 15.50	Apply this rate if the option to produce aggregate is required for waste concrete.	Does not include haulage of materials - assumes crushing plant is readily available.
#8.32	Process Equipment tab	Remove fence (cyclone/wire fence)	m	\$ 20.00	Apply this rate for the removal of security fencing (or similar) that will be removed.	-
#8.33	Process Equipment tab	Removal of conveyors and support services down Drift/Decline	item	\$ 75,000	Assumes removal of conveyor to allow for backfill plug of drift/decline down to 100m	Does not include drift/decline plug backfill
9 Underground Mines						
#9.01	Underground Input Sheet	Demolition and removal of vent fans, electrical substation and winch	Item	\$ 25,000	This includes the removal of the fan and all surface infrastructure associated with a ventilation shaft.	Does not include filling and capping the shaft.
#9.02	Underground Input Sheet	Demolition and removal of hoisting shaft headframe, winder building, and support infrastructure	item	\$ 1,200,000	This includes removal of man and materials hoisting infrastructure, headframe, winder and winder house, shutes, bins, conveyors, and emergency winder.	Does not include filling and capping the shaft.
#9.03	Underground Input Sheet	Removal of conveyors and support services down Drift/Decline	item	\$ 75,000	Assumes removal of conveyor to allow for backfill plug of drift/decline down to 100m	Does not include drift/decline plug backfill
#9.04	Activity 27 Underground Input Sheet	Install gate or grill over the adit (Where site might be used by bats)	Item	\$ 7,000	This rate includes installation of gate or grill.	Cost for standard installation.
#9.05	Activity 27 Underground Input Sheet	Seal small adits (width <2m) – install 0.5 m concrete plug 3 m back from adit and backfill with appropriate material.	Item	\$ 26,574	This item includes backfilling the adit with suitable material to 25m down adit.	Includes for backfill of small adit (using small loader/bobcat) to 25m, stabilised sand/cement plug, and portal gate/signage
#9.06	Activity 27 Underground Input Sheet	Seal portals, declines, adits, drifts, (width >2 m) – backfill the drive for at least 50 m against a concrete bulk head with drainage slots. If concrete bulk head not required, reduce rate by 50%	Item	\$ 276,148	This rate includes constructing a concrete bulk head at least 50m into the adit and then backfilling with material.	Costs include haulage of suitable material to portal entry, 3000mm thick concrete plug with drainage holes at least 50m down decline, rehandle and backfill using suitable U/G loader to tram and place backfill material down decline.
#9.07	Activity 27 Underground Input Sheet	Plug to seal (concrete plug) and rehabilitate ventilation shafts (up to 4m diameter)	Item	\$ 123,181	This includes plug (concrete) and sealing, fence and signage and rehabilitation of the ventilation shaft to make safe. The number of ventilation shafts for the whole mine is to be included.	Assumed 450mm concrete plug, over shaft crown and ventilation foundation slab, chain security fence and signage

#9.08	Activity 27 Underground Input Sheet	Plug to seal (concrete plug) and rehabilitate hoisting and man haulage shafts (up to 8m diameter)	Item	\$	220,806	This includes plug (concrete) and sealing, fence and signage and rehabilitation of the ventilation shaft to make safe. The number of ventilation shafts for the whole mine is to be included.	Assumed 450mm concrete plug, over shaft crown and ventilation foundation slab, chain security fence and signage
#9.09	Activity 28	Cover to seal (steel plate) and rehabilitate ventilation shafts (up to 4m diameter)	Item	\$	53,181	This includes steel plate (25mm) to cover, fence and signage and rehabilitation of the ventilation shaft to make safe. The number of ventilation shafts for the whole mine is to be included.	Assumed 25mm steel plate, anchored to shaft crown and ventilation foundation slab, chain security fence and signage
#9.10	Activity 28	Cover to seal (steel plate) and rehabilitate hoisting and man haulage shafts (up to 8m diameter)	Item	\$	96,362	This includes steel plate (25mm) to cover, fence and signage and rehabilitation of the shaft to make safe. The number of hoisting shafts for the whole mine is to be included.	Assumed 25mm steel plate, anchored to shaft crown and foundation slab, chain security fence and signage
#9.11	Activity 28 Underground Input Sheet	Backfill Ventilation Shafts using suitably sized (screened) material (up to 4m diameter)	m	\$	255.78	Enter total depth of all ventilation shafts (up to 4m diameter). This allows for full backfill of shaft using screened material (to prevent hang-ups).	Includes source and screen of suitable material, haulage (2km) to stockpile adjacent to shaft, feed chute arrangement for centre fill, CAT 980 loader feeding into shaft, concrete bulkheads at base of shaft to contain fill, and shaft footprint rehab
#9.12	Activity 28 Underground Input Sheet	Backfill hoisting and man haulage shafts using suitably sized (screened) material (up to 8m diameter)	m	\$	1,023.12	Enter total depth of all hoisting shafts (up to 8m diameter). This allows for full backfill of shaft using screened material (to prevent hang-ups).	Includes source and screen of suitable material, haulage (2km) to stockpile adjacent to shaft, feed chute arrangement for centre fill, CAT 980 loader feeding into shaft, concrete bulkheads at base of shaft to contain fill, and shaft footprint rehab
10 Miscellaneous Activities							
#10.01	Activity 2, 19, 28 Miscellaneous Activities tab	Maintenance of rehabilitated areas	ha	\$	2,133	All areas that have been rehabilitated and need maintaining (i.e., where revegetation was unsuccessful) whether previously disturbed or proposed to be disturbed and rehabilitated within the FA period.	Includes general maintenance - weed management, re-seeding, amelioration, minor rehabilitation repair D10T dozer shape and rip.
#10.02	Activity 2, 19, 28 Miscellaneous Activities Input Sheet	Minor earthworks and ripping or Maintenance of mine subsidence areas	ha	\$	1,746	Enter total area requiring minor earthworks. Enter only total area experiencing surface expression of subsidence effects (i.e. cracking, sink holes etc.) that have not previously undergone successful remedial works.	D10 doze, shape and rip
#10.03	Activity 2, 19, 28 Miscellaneous Activities tab	Existing rehabilitation repair - minor	ha	\$	1,194	Enter total area requiring minor repairs.	D10 doze, shape and rip
#10.04	Activity 2, 19, 28 Miscellaneous Activities Input Sheet	Existing rehabilitation repair - moderate	ha	\$	1,746	Enter total area requiring moderate repairs.	D10 doze, shape and rip
#10.05	Activity 2, 19, 28 Miscellaneous Activities tab	Existing rehabilitation repair - major	ha	\$	2,851	Enter total area requiring major repairs.	D10 doze, shape and rip
#10.06	Activity 20 Miscellaneous Activities Input Sheet	Existing rehabilitation repair - total failure of intended landform	ha	\$	35,508	Enter only specific area of landform requiring re-construction following failure of intended design.	Areas that require extensive rehabilitation repair - re-design and re-construction of landform. Assumes, dozing, shaping, suitable repair material haulage and place, topsoiling, and reseedling
#10.07	Miscellaneous Activities Input Sheet	Land management of undisturbed areas (i.e., weed management, feral animal control, erosion and sediment control works etc.)	ha	\$	450.00	Enter area requiring land management.	Includes general maintenance - weed management, seeding, amelioration, minor land repair.
#10.08	Miscellaneous Activities Input Sheet	Pest management on buffer lands, non-disturbed, and rehabilitated areas	ha	\$	150.00	This item covers the costs associated with the management of pests on the site.	Baiting feral animals.
#10.09	Activity 18 Miscellaneous Activities Input Sheet	Create cut-through drainage to re-establish natural water courses and drainage channels following subsidence	ha	\$	20,678	Enter surface area of the surface expression of chain pillars to re-establish natural drainage pathways.	Engineered cut-through drain (6m wide) riprap lined based on catchment size of subsidence.

#10.10	Miscellaneous Activities Input Sheet	Repairs and/or stabilisation of new or compromised water course diversion	m	\$ 2,500	This item includes the length (m) requiring stabilisation of recently constructed diversions that have not been completely stabilised. It assumes a suitably qualified engineer has designed and signed off on construction of the diversion.	Assumes material is suitable for revegetating and has a reasonable chance of stabilising.
#10.11	Miscellaneous Activities Input Sheet	Long term maintenance of water course diversion – Channel constructed through backfilled material	m	\$ 1,500	This item includes the length (m) requiring ongoing maintenance of diversions 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.	Assumes maintenance has been kept up and significant works are not required.
#10.12	Miscellaneous Activities Input Sheet	Long term maintenance of water course diversion – Channel constructed through competent material	m	\$ 750.00	This item includes the length (m) requiring ongoing maintenance of diversions constructed through competent 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.	Assumes maintenance has been kept up and significant works are not required.
#10.13	Miscellaneous Activities Input Sheet	Installation of rock armouring	m ²	\$ 6.00	Enter area of diversions requiring rock armouring to ensure long term stability.	Assumes competent material is locally available.
#10.14	Miscellaneous Activities Input Sheet	Preliminary site investigation (Phase 1 investigation)	Cluster	\$ 15,000	Apply to a discrete area (e.g. a GPF) or areas that are close together and share similar characteristics (e.g. operating history).	Desktop assessment of the area and site history, incidents, hazardous liquids and solids storage, sources of potential impacts and receptors.
#10.15	Miscellaneous Activities Input Sheet	Land investigation one-off costs	lump	\$ 33,819	Apply once to areas that can feasibly be investigated during one campaign. Typically this means facilities in close proximity.	Includes preparation of work plan, health and safety plan, procuring equipment, reporting.
#10.16	Miscellaneous Activities Input Sheet	Land investigation per unit area costs	ha	\$ 4,040	Enter the area to be investigated (not the total facility area).	Includes soil augers for two days (per hectare), 50 soil samples for organics and inorganics with QA/QC samples, consumables and PPE, decontamination, 2 field staff for total 10 hour days.
#10.17	Activity 2 Miscellaneous Activities Input Sheet	Rip and push up material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site	m ³	\$ 0.33	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	CAT D9 dozer rip and push length up to 20m into piles for removal
#10.18	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$ 2.99	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.19	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$ 3.02	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.20	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$ 3.48	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.21	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$ 3.94	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck

#10.22	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$	3.97	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.23	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$	4.31	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.24	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$	4.64	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.25	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$	4.98	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.26	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$	5.65	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.27	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$	6.32	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.28	Activity 6 Miscellaneous Activities Input Sheet	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (select haul distance >>)	m ³	\$	6.65	Enter the total volume of material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads	Small fleet (CAT 980 loader, CAT 740ADT trucks, CAT 14M grader, and water truck
#10.29	Miscellaneous Activities Input Sheet	Load, cart and disposal of low level contaminated material (Hydrocarbons (unsuitable for land farming), Nitrates, Lead, Copper etc.) off-site to a licensed landfill.	m ³	\$	200.00	Enter volume of soil to be treated	Assumes a suitable location for low level contaminant disposal is available regionally. Allows for disposal fee and cartage.
#10.30	Miscellaneous Activities Input Sheet	Load, cart and dispose of high level contaminated material (PCB's, Dioxins, Mercury etc.) off-site to a licensed local landfill.	m ³	\$	700.00	Enter volume of soil to be treated	Assumes a suitable location for high level contaminant disposal is available regionally. Allows for disposal fee and cartage.
#10.31	Activity 29 Miscellaneous Activities Input Sheet	On-site remediation of hydrocarbon contaminated soils (<50m ³) - manual land farming	m ³	\$	108.84	Where an assessment has been made to confirm that bioremediation is possible the total volume of material can be included for on-site land farming.	Assumes the use of CAT 14G grader, CAT 980 loader, water truck, bioremediation chemicals and labour.
#10.32	Activity 29 Miscellaneous Activities Input Sheet	On-site remediation of hydrocarbon contaminated soils (>50m ³ but <100m ³) - manual land farming	m ³	\$	75.07	Where an assessment has been made to confirm that bioremediation is possible the total volume of material can be included for on-site land farming.	Assumes the use of CAT 14G grader, CAT 980 loader, water truck, bioremediation chemicals and labour.
#10.33	Activity 29 Miscellaneous Activities Input Sheet	On-site remediation of hydrocarbon contaminated soils (>100m ³ but <500m ³) - manual land farming	m ³	\$	25.60	Where an assessment has been made to confirm that bioremediation is possible the total volume of material can be included for on-site land farming.	Assumes the use of CAT 14G grader, CAT 980 loader, water truck, bioremediation chemicals and labour.
#10.34	Activity 29 Miscellaneous Activities Input Sheet	On-site remediation of hydrocarbon contaminated soils (>500m ³) - manual land farming	m ³	\$	7.64	Where an assessment has been made to confirm that bioremediation is possible the total volume of material can be included for on-site land farming.	Assumes the use of CAT 14G grader, CAT 980 loader, water truck, bioremediation chemicals and labour.
#10.35	Miscellaneous Activities	Mobilisation of cement stabilisation plant and equipment for hydrocarbon (i.e., PAH, long chain hydrocarbons, etc.) contaminated soil treatment	Item	\$	150,000	Required if treatment of contamination is in excess and required to be fast tracked	Required if treatment of contamination is in excess and required to be fast tracked

#10.36	Miscellaneous Activities	On-site remediation of hydrocarbon contaminated soils - using a mobile treatment unit	m ³	\$	165.00	Required if treatment of contamination is in excess and required to be fast tracked	Additional cost as the treatment process is fast tracked.
#10.37	Miscellaneous Activities	Remove and dispose of asbestos (<750 m ³)	m ³	\$	50.00	Enter total area of asbestos to be removed.	Remove, contain, transport and dispose of asbestos materials This rate is for smaller volumes only (<750 m ³).
#10.38	Miscellaneous Activities	Remove and dispose of asbestos (>750 m ³)	m ³	\$	40.00	Enter total area of asbestos to be removed.	Remove, contain, transport and dispose of asbestos materials This rate is for large volumes only (>750 m ³).
#10.39	Miscellaneous Activities	Removal and disposal of plastic liner (i.e. dam, leach pad etc.)	m ²	\$	1.00	This rate includes cutting, removal and on-site disposal of liner.	
#10.40	Miscellaneous Activities	Planting mature trees (>15 cm)	Item	\$	20.00	This includes the seedling, fertiliser tablet, weed mat and guard - small tube stock.	4 m centres.
#10.41	Miscellaneous Activities	Planting tube stock (<=15 cm)	Item	\$	10.00	This includes the seedling, fertiliser tablet, weed mat and guard - small tube stock.	4 m centres.
#10.42	Miscellaneous Activities	Hydro-seeding with mulch and bitumen tack	m ²	\$	1.80	Areas that require additional stabilisation.	Utilising locally sourced mulch material.
#10.43	Miscellaneous Activities	Single application of fertiliser (pasture)	ha	\$	315.00	If additional fertilising is required - assumes a rate of ~0.2 - 0.25 t / ha.	
#10.44	Miscellaneous Activities	Single application of fertiliser (trees)	ha	\$	315.00	If additional fertilising is required - assumes a rate of ~0.2 - 0.25 t / ha.	
#10.45	Miscellaneous Activities	Amelioration - lime (or similar)	ha	\$	860.00	This includes adding a soil ameliorant prior to preparation of seed bed for rehabilitation or assist stabilising dispersive soils.	For ameliorants such as agricultural lime which is ~\$345 / t and assumes ~2.5 t / ha.
#10.46	Miscellaneous Activities	Amelioration - gypsum	ha	\$	250.00	This includes adding a soil ameliorant prior to preparation of seed bed for rehabilitation or assist stabilising dispersive soils.	For ameliorants such as gypsum which is ~\$100 / t and assumes ~2.5 t / ha.
#10.47	Miscellaneous Activities	Amelioration - recycled gypsum	ha	\$	125.00	This includes adding a soil ameliorant prior to preparation of seed bed for rehabilitation or assist stabilising dispersive soils.	For ameliorants such as recycled gypsum which is ~\$50 / t and assumes ~2.5 t / ha
#10.48	Miscellaneous Activities	Topdressing amelioration with biosolids / organic amendments	ha	\$	1,015	Enter area required for treatment with biosolids.	Sourced locally.
#10.49	Miscellaneous Activities	Construct no-climb stock fence around rehabilitated areas	m	\$	19.20	This item include the construction of a no-climb stock fence around the site to prevent stock and unauthorised persons entering the site while it is being rehabilitated.	1.2 m high, 0.05 x 0.1 m (or similar) mesh .
#10.50	Miscellaneous Activities	Construct standard stock fence around rehabilitated areas	m	\$	15.20	This item include the construction of a standard stock fence around the site to prevent stock and unauthorised persons entering the site while it is being rehabilitated.	Standard 5 strand barbed wire stock fence.
#10.51	Miscellaneous Activities	Supply from external sources a combination of virgin excavated natural material and spoil from large excavation for filling voids and/or capping	m ³	\$	71.40	Enter volume of material to be imported onto site suitable for use in filling voids and / or capping.	D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$60/m3 for imported fill material.
#10.52	Miscellaneous Activities	Supply from external sources virgin excavated natural material for growth media	m ³	\$	80.80	Enter volume of material to be imported onto site suitable for use as topdressing / growth media.	D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$70/m3 for imported fill material.
#10.53	Miscellaneous Activities	Borehole - backfill with cuttings	bore	\$	611	Enter number of bores (e.g. water supply, monitoring, exploration)	Includes labour, utility truck and backhoe. Backfill with cuttings
#10.54	Miscellaneous Activities	Boreholes - grout and cap	bore	\$	6,778	Enter number of bores (e.g. goaf and gas drainage)	Includes labour, grout (for average 300m deep holes), utility truck and backhoe. Grout and cap.
#10.55	Miscellaneous Activities	Boreholes - grout and cap	bore	\$	6,859	Enter number of bores (e.g. water supply, monitoring, exploration)	Includes labour, grout (for average 500m deep holes), utility truck and backhoe. Grout and cap.
#10.56	Miscellaneous Activities	Boreholes - collar cut and plug only	bore	\$	241	Enter number of bores (e.g. water supply, monitoring, exploration)	Includes labour, and utility truck

#10.57	Miscellaneous Activities	Boreholes – cap and seal	bore	\$ 45,000	Enter number of bores (e.g. service holes for UG operations and/or grout (with concrete) cap and seal bore holes (i.e. where sealing aquifers)	Includes large diameter boreholes used for supplying electricity (66kV), compressed air, water, solsenic etc. Includes multi skin sleeves to prevent aquifer mixing. Requiring some level of engineering (collar removal, plugging etc.) and recorded on site services register.
#10.58	Miscellaneous Activities	Direct seeding / fertiliser (pasture grass species)	ha	\$ 1,415	This includes direct seeding of non native pasture grass species with the principal aim of returning the land to a stable, sustainable grazing land use. It is different to using pasture grasses in temporary erosion and sediment control.	Source and spread fertiliser and seed.
#10.59	Miscellaneous Activities	Direct seeding / fertiliser (native tree/shrub/grass species)	ha	\$ 3,635	This rate includes acquiring a diverse mix of native tree & shrub species appropriate for the area (including understorey), mixing and treating the seed (i.e. smoke and heat as required) and applying the seed at a rate between 4 - 10kg/ha (as applicable).	Source and spread fertiliser and seed.
#10.60	Miscellaneous Activities	Removal of scrap metal and bury on-site	tonne	\$ 13.6	Enter mass of miscellaneous scrap to be buried on-site. Scrap associated with facilities, pipelines, buildings etc is included in those rates and does not need to be accounted for here.	Load scrap onto truck, transport to void, cover over and track roll.
#10.61	Miscellaneous Activities	Removal of scrap metal and dispose off-site	tonne	\$ 29.8	Enter mass of miscellaneous scrap to be disposed off-site. Scrap associated with facilities, pipelines, buildings etc is included in those rates and does not need to be accounted for here.	Load scrap onto truck, transport to disposal facility. No gate fee charged (or credit taken).
11 Mobilisation and Demobilisation						
#11.01	Mobe sheet	Mobilisation & Demobilisation - Small Fleet (<= 150 km)	Site	\$ 123,000	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.02	Mobe sheet	Mobilisation & Demobilisation - Small Fleet (> 150 km and <= 500 km)	Site	\$ 226,000	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.03	Mobe sheet	Mobilisation & Demobilisation - Small Fleet (> 500 km and <= 1000 km)	Site	\$ 427,500	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.04	Mobe sheet	Mobilisation & Demobilisation - Small Fleet (> 1000 km)	Site	\$ 526,000	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.05	Mobe sheet	Mobilisation & Demobilisation - Medium Fleet (<=150 km)	Site	\$ 184,000	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.

#11.06	Mobe sheet	Mobilisation & Demobilisation - Medium Fleet (> 150 km and <= 500 km)	Site	\$ 337,500	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.07	Mobe sheet	Mobilisation & Demobilisation - Medium Fleet (> 150 km and <= 500 km)	Site	\$ 638,000	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.08	Mobe sheet	Mobilisation & Demobilisation - Medium Fleet (> 1000 km)	Site	\$ 785,000	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.09	Mobe sheet	Mobilisation & Demobilisation - Large Fleet (<= 150 km)	Site	\$ 201,000	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.10	Mobe sheet	Mobilisation & Demobilisation - Large Fleet (> 150 km and <= 500 km)	Site	\$ 368,500	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.11	Mobe sheet	Mobilisation & Demobilisation - Large Fleet (> 500 km and <= 1000 km)	Site	\$ 697,000	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.
#11.12	Mobe sheet	Mobilisation & Demobilisation - Large Fleet (> 1000 km)	Site	\$ 858,000	This is to cover the cost of the contractor/s mobilising / demobilising suitable plant and equipment. Apply once per completed FA calculator.	Site specific requirements will dictate the types of plant and equipment that will be required to be mobilised / demobilised for decommissioning and rehabilitation activities - this rate is a provisional sum to cover these costs.

Assumptions and Rehabilitation Requirements

List or record any assumptions made when completing this tool:

Note: use Alt Enter if you require a line to end before the end of the box.

The proposed Estimated Rehabilitation Cost (ERC) is the initial rehabilitation liability costing undertaken by Adani Australia utilising the ERC Calculator developed and release by the administering authority. Subsequently, the major change between the financial assurance values currently held and the proposed costing is the development, construction and implementation of all major infrastructure projects for the Carmichael Mine Project. The increase in rehabilitation liability lies within the Infrastructure, Water Storage and Management and Process Equipment domains.

Due to the construction phase of the current proposed developments at the Carmichael Mine Project, the disturbance footprint of elements contained within the ERC/Spatial information dataset are position to the current design specifications. However, it is anticipated that minor amendments may occur during construction (i.e. positioning of buildings and concrete pads).

The following section outlines the principal cost associated within each domain:

Exploration: All articles included within the Exploration domain are from historical works, no further disturbance will be undertaken during the current proposed ERC. The disturbance includes 270 historical exploration boreholes, 237km of basic access tracks and 149 hectares for access tracks during exploration, drilling activities and pre-strip exploration works.

Infrastructure: The construction of multiple mining infrastructure areas includes a temporary MIA, permanent MIA, Go-line, AN Pad and adjoining road network include light vehicle and heavy vehicles roads. Several features from the Water Storage and Management domain have been included within the Infrastructure domain (i.e. the rehabilitation of construction areas and MAW drainage channels). Five borrow pits will be created to supply the materials necessary for the road network and laydown areas.

Overburden Dump Piles: One single overburden dump will be created under the proposed ERC with the final re-profiled slope angel adjusted +C12 to 10 degrees in accordance with EA rehabilitation conditions. Six topsoil stockpiles will provide surplus material to rehabilitate the areas disturbed under the proposed ERC including haulage and seeding. Alternate haulage rates have been provided for the use of "Large Fleet" as the calculator does not permit alternatives to be made to "Small Fleet". For Map ID 67, haulage has not been included as this stockpile will be used to rehabilitate the OB Dump which has been included within its own costings above within the User Defined heading. The two other stockpiles do not included haulage as these are currently excess and will remain in place.

Tailings Storage Facilities: The Tailings Storage Facility includes a single small structure that will be positioned within the CPP extended footprint. The structure will be used solely in emergency situations (i.e. extreme weather events) when the transportation and deposition of rejects is inaccessible. The lined structure is anticipated to be 100x175m.

Pits: The Pit DE Box Cut will be excavated as part of the proposed ERC. The rock for the safety bund will be sourced from the nearby OB Dump. The benches, highwall and low wall will be re-profiled slope angels will meet the EA criteria of 10 degrees.

Water Storage and Management: The major water storage infrastructure will be cleaned and returned to the landholder. 50% of the respective Design Storage Allowances have been allocated for water treatment from within the Southeast MAW Dam and CHPP MAW Dam. Additionally, 50% of the Southeast MAW Dam and CHPP MAW Dam and 100% of the Mathenson's Dam floor space will have 0.1m sludge removed and deposited in the voids. The remaining costs associated within Water Storage Management relate to two sediment dams that will be retained after closure (sediment dam and raw water dam), while 3 small dams will be decommissioned (AN Pad, MIA and Washdown Bay).

Processing Equipment: The rehabilitation liability associated with the CHPP disturbance is proposed to significantly increase with the construction of the ROM, Product and Reject pads, processing equipment, conveyors, admin offices and associated vehicles tracks. A series of conveyors will transport the coal from the ROM Pad through two different sizing stations delivering coal to either the CPP or the Product ROM and then onwards to the Train Loadout Facility. The Reclaim Tunnel beneath the Product ROM is designed to be

ELIGIBLE MINING ACTIVITIES

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Total Cost for this Input Sheet

\$0

\$26,296,898

Total ERC (from Summary Sheet)

Colour Code Key		Use: This sheet is to be used if you are calculating the ERC for an eligible mining activity only. If you are calculating ERC for an EA which was applied for via a variation EA application, you can use this sheet to calculate only the elements of your activity that comply with the standard conditions and eligibility criteria for the mining lease activities. You will then need to use the other relevant tabs to calculate the ERC for the elements of your activity which were the subject of the variation(s).	User Comments (enter any supporting information assumptions to assist department review. Additional space at bottom)
User Input Cells			
User Input - Alternate Rates / Justification			
Locked cell - Default Rates			
Locked cells - blanks			
Locked cell - calculations or text			

Map ID	ITEM	SCOPE AND KEY ASSUMPTIONS	QUANTITY	DEFAULT RATE	ALTERNATE RATE	UNIT	TOTAL COST (\$)	RATIONALE FOR ALTERNATE RATE	USER INFORMATION
	Exploration								
	Exploration disturbance Includes costearns, bore holes, exploration pits, drill holes	Backfill with removed material (<1 km haulage) Cap and seal open bore holes Rip and seed (pasture grass)		\$ 341.14		hole	\$ -		
	Pits								
	Pits	Bunding (4m x 2m) Fencing and signage (4 strand x 1.2m high)		\$ 250.62		m	\$ -		
	Waste Rock Dumps, Tailings Storage Facilities and Heap Leach Pads								
	HIGH RISK Waste Rock Dump/Low-grade Ore Stockpile The unoxidised zone has been mined	Recontouring, rip and trim Capillary break rock cover @ 0.4m thick Clay cover, compacted @ 0.3m thick Spread topsoil @ 0.2m thick (haulage < 1km) Seed and fertilise (pasture grass)		\$ 25.40		m2	\$ -		
	HIGH RISK Tailings Storage Facility The unoxidised zone has been mined, processing utilises hazardous chemicals (e.g cyanide, sulfuric acid etc.)	Double Capillary break rock cover @ 0.4m thick Clay cover, compacted @ 0.3m thick Spread topsoil @ 0.2m thick (haulage < 1km) Rip and trim Seed and fertilise (pasture grass)		\$ 27.16		m2	\$ -		
	HIGH RISK Heap Leach Pads	Recontouring, rip and trim Capillary break rock cover @ 0.4m thick Clay cover, compacted @ 0.3m thick Spread topsoil @ 0.2m thick (haulage < 1km) Seed and fertilise (pasture grass)		\$ 25.40		m2	\$ -		
	LOW RISK Waste Rock Dump/Low-grade Ore Stockpile The oxidised zone only has been mined	Recontouring, rip and trim Seed and fertilise (pasture grass)		\$ 20.28		m2	\$ -		
	LOW RISK Tailings Storage Facility The oxidised zone has been mined only; no chemicals used for processing.	Rip and trim Seed and fertilise (pasture grass)		\$ 19.72		m2	\$ -		
	Infrastructure								
	Processing Plant Chemical processing or non-gravity/magnetic separation	Remove footprint area (to 0.3m depth) Rip and trim Spread topsoil @ 0.2m thick (haulage < 1km) Seed and fertilise (pasture grass)		\$ 33.00		m2	\$ -		
	Processing plant - Fixed Gravity/magnetic separation or non-chemical processing	Rip and trim Seed and fertilise (pasture grass)		\$ 20.19		m2	\$ -		
	Processing plant - Mobile (without footings) Gravity/magnetic separation or non-chemical processing	Rip and trim Seed and fertilise (pasture grass)		\$ 19.72		m2	\$ -		
	Infrastructure Includes buildings (camps, administration buildings, accommodation, caravans, bath house etc.), plant and equipment, pipes, general waste	Dismantle and remove Rip and trim Seed and fertilise (pasture grass)		\$ 396.12		m2	\$ -		
	Run of mine areas	Remove footprint area (to 0.3 m depth) Rip and trim Seed and fertilise (pasture grass)		\$ 32.81		m2	\$ -		
	Fuel and chemical storage areas (land area)	Remove		\$ 27.60		m2	\$ -		
	Fuel and chemical storage areas (tanks)	Remove		\$ 2,952.12		tank	\$ -		
	Uranium core disposal	Dispose at a suitable location. The input is the total length of core.		\$ 10.00		m	\$ -		
	Regulated waste disposal	Transport and dispose - distance to disposal facility is 250 km.		\$ 120.19		tonne	\$ -		
	Roads and access tracks	Rip and trim Seed and fertilise (pasture grass)		\$ 19.72		m2	\$ -		
	Landfill	Decommission		\$ 4.84		m2	\$ -		
	Underground operations - Backfill shafts	Backfill shaft		\$ 255.78		m	\$ -		
	Underground operations - Plug Portals	Seal portal		\$ 26,148		each	\$ -		
	Water Storage and Dams								
	Water Storage Dams Contaminated	Remove contaminated sediment Backfill Recontour, rip and trim Spread topsoil @ 0.2m thick (haulage < 1km) Seed and fertilise (pasture grass)		\$ 27.60		m2	\$ -		
	Water Storage Dams Treatment	Treatment of contaminated water		\$ 2,680.22		ML	\$ -		
	Water storage dams Uncontaminated	Backfill Recontour rip and trim Seed and fertilise (pasture grass)		\$ 19.79		m2	\$ -		
	User added or Additional Items								
	User added						\$ -		
	User added						\$ -		
	User added						\$ -		

Assumptions:

All haulage distances associated with backfilling are less than <1km.
All seed refers to pasture grass mix only.
Only small fleets will be used.
High risk activity line items will be chosen when the unoxidised zone has been mined

Additional Information (All Enter to start new row):

EXPLORATION

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Total Cost for this Input Sheet

\$1,268,109

\$26,298,898

Total ERC (from Summary Sheet)

Colour Code Key

User Input Cells

User Input - Alternate Rates / justification

Locked cell - Default Rates

Locked cells - blanks

Locked cell - calculations or text

Use: Use this input sheet to show the quantities for exploration activities including seismic corridors, grid-lines, minor tracks, drillholes and small water structures. For seismic, the User may choose to enter the total length of 2D and 3D seismic in one line only if the individual line length are not known. Click in title cells for tips on specific use.
Note: "not owned by company" means the infrastructure / facilities is owned by a third party and they would remove it. The only liability for the EA holder in these cases is the grade and seed.

User Comments (enter any information that will support assumptions and assist department review)

All historical exploration activities (bores and tracks) will be accounted for rehabilitation. This includes 130 exploration bores (low impact) and 140 core/geological bores (high impact). All future exploration activities like Dewatering bores, Geology /Geotech/Lox bores and associated access track disturbance is accounted. The cost of rehab for an area of 149 ha required for future borefield and exploration tracks and 19.35 ha for area of pads used for low impact drilling (130+45+40=215 bores) is included in "Miscellaneous Tab"

Seismic, Grid-Lines, Minor Tracks

Map ID	Land type	Total Length (km)	Rehab length (km)	TOV#	Default Rate	Alternate Rate	Total	Rationale for Alternate Rate
	In Pasture		0.0	#1.01	\$ 901		\$ -	
	In Native		0.0	#1.02	\$ 1,678		\$ -	
	Seismic in area X		0.0				\$ -	
	Other (used entered)		0.0				\$ -	
		0	0				\$ -	\$ - per km (average)

Drillholes

Map ID	Type	Qty	Unit	TOV#	Default Rate	Alternate Rate	Total	Rationale for Alternate Rate
	Exploration drillholes (coal / mineral sands / large impact drilling)	140	holes	#1.03	\$ 4,664		\$ 652,982	Old geological and exploration bores.
	Exploration drillholes (metalliferous / low impact drilling)	130	holes	#1.04	\$ 341	\$611	\$ 79,430	Old exploration bores (LoX, shallow exploration bores). Filling with drill cuttings
			holes				\$ -	
96P , 155P 13	Dewatering bores	45	holes			\$611	\$ 27,495	Used TOV 10.54- backfill cased bores
within domain	Resource Delineation (High Impact)	15	holes			\$4,664	\$ 69,960	Used TOV # 1.03- geotech and large Diameter cored holes
within domain	Resource Delineation (Low Impact)	40	holes			\$611	\$ 24,440	Used TOV # 10.54 shallow Line of Oxidation deleneation holes up to 100m deep by chip drilling. Filling with Drill cuttings
		370					\$ 854,307	\$ 2,309 per hole (average)

Tracks and Roads

Map ID	Type	Qty	Unit	TOV#	Default Rate	Alternate Rate	Total	Rationale for Alternate Rate
157L	Track (earthen) - rip, grade and re-seed	237.0	km	#1.05	\$ 1,746		\$ 413,802	
	Road (gravel/crushed rock) - remove rock, grade and re-seed		km	#1.06	\$ 5,322		\$ -	
	Road (gravel/crushed rock) - remove rock and replace		km	#1.07	\$ 8,034		\$ -	
			km				\$ -	
	Other (user entered)		km				\$ -	
	Other (user entered)		km				\$ -	
	Other (user entered)		km				\$ -	
		237					\$ 413,802	\$ 1,746 per km (average)

Water Structures

Map ID	Type	Qty	Unit	TOV#	Default Rate	Alternate Rate	Total	Rationale for Alternate Rate
	Lined Water Structure Exp - <=1 ML		structure	#1.08	\$ 6,911		\$ -	
	Lined Water Structure Exp - >1 and <= 3.5 ML		structure	#1.09	\$ 23,517		\$ -	
	Lined Water Structure Exp - >3.5 and <= 7.5 ML		structure	#1.10	\$ 36,875		\$ -	
	Lined Water Structure Exp - >7.5 and <= 10 ML		structure	#1.11	\$ 49,008		\$ -	
	Lined Water Structure Exp - >10 and <= 20 ML		structure	#1.12	\$ 89,298		\$ -	
	Unlined Water Structure Exp - <=1 ML		structure	#1.13	\$ 6,084		\$ -	
	Unlined Water Structure Exp - >1 and <= 3.5 ML		structure	#1.14	\$ 17,526		\$ -	
	Unlined Water Structure Exp - >3.5 and <= 7.5 ML		structure	#1.15	\$ 29,434		\$ -	
	Unlined Water Structure Exp - >7.5 and <= 10 ML		structure	#1.16	\$ 39,086		\$ -	
	Unlined Water Structure Exp - >10 and <= 20 ML		structure	#1.17	\$ 69,453		\$ -	
	Other (user entered)		structure				\$ -	
	Other (user entered)		structure				\$ -	
	Other (user entered)		structure				\$ -	
	Other (user entered)		structure				\$ -	
		0					\$ -	\$ - per structure (average)

Camps and Water Treatment Plants (Disturbance)

Map ID	Type	Footprint	Unit	TOV#	Default Rate	Alternate Rate	Total	Rationale for Alternate Rate
	Demountable camps (not owned by company) - pasture land		ha	#1.18	\$ 1,610		\$ -	
	Demountable camps (not owned by company) - native land		ha	#1.19	\$ 3,830		\$ -	
	Water treatment plants (not owned by company) - pasture land		ha	#1.20	\$ 1,610		\$ -	
	Water treatment plants (not owned by company) - native land		ha	#1.21	\$ 3,830		\$ -	
	Other (user entered)		ha				\$ -	
	Other (user entered)		ha				\$ -	
	Other (user entered)		ha				\$ -	
	Other (user entered)		ha				\$ -	
		0					\$ -	\$ - per ha (average)

[illegible]

Requester Information										Request Details										Processing Information										Tracking & Status									
Requester Name	Requester Address	Requester City	Requester State	Requester Zip	Requester Phone	Requester Email	Requester Title	Requester Organization	Requester Date	Request Number	Request Title	Request Description	Request Status	Request Date	Request Due Date	Request Assigned To	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date	Request Assigned Date

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RTI Act 2009

Figure 1 is a schematic representation of the study design. It shows a timeline from baseline (T0) to follow-up (T1) and then to the final outcome (T2). The study design is a parallel, randomized, controlled trial. The intervention group (n=100) receives the intervention (n=50) and the control group (n=50) receives the control (n=50). The outcome is measured at T2.

Published on DES Disclosure Log
RTI Act 2009

Total ERC (from Summary Sheet)

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UNDERGROUND MINES

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Total Cost for this Input Sheet

\$0

\$26,298,898

Total ERC (from Summary Sheet)

Colour Code Key

User Input Cells

User Input - Alternate Rates / Justification

Locked cells - Default Rates

Locked cells - blanks

Locked cell - calculations or text

Use: Use this input sheet to show the quantities for underground mines.
Click in title cells for tips on specific use.
Gas drainage and subsidence rectification is entered to 10.
Miscellaneous Activities Sheet.

User Comments (enter any information that will support assumptions and assist department review)

UNDERGROUND MINE INFORMATION

#	Map ID	Name	Terminate and disconnect all services to the U/G workings?	Number of Ventilation Shafts	Total Depth of Ventilation Shafts (m)	Backfill, plug or cover ventilation shafts	Number of Hoisting Shafts (persons and/or materials)	Total Depth of Hoisting Shafts (m)	Backfill hoisting shafts or cover with steel plate	Number of small Adits (<2m in diameter) proposed to cover	Number of small Adits (<2m in diameter) to seal	Number of Declines/ Drifts	Number of Drifts/Declines with conveyors	Number of small (historic) shafts proposed for closure	User Comments
UG1			0			Plug			Plug						
UG2			0			Cover			Cover						
UG3			0			Backfill			Backfill						
UG4			0			Backfill			Backfill						
UG5			0			Backfill			Backfill						
UG6			0			Backfill			Backfill						
UG7			0			Backfill			Backfill						
UG8			0			Backfill			Backfill						
UG9			0			Backfill			Backfill						
UG10			0			Backfill			Backfill						
										0.0	0.0				

UNDERGROUND SURFACE INFRASTRUCTURE REMOVAL

SEALING OF UNDERGROUND OPENINGS

TOV X	#9.01	#9.01	#9.02	#9.03	#9.04	#9.05	#9.06	#9.07	#9.08	#9.09	#9.10	#9.11	#9.12			
Default value	\$ 35,000	\$ 25,000	\$ 1,200,000	\$ 75,000	\$ 7,000	\$ 26,574	\$ 276,148	\$ 123,181	\$ 220,806	\$ 53,181	\$ 96,382	\$ 256	\$ 1,023			
	Terminate and disconnect all services to the U/G workings (\$)	Remove Ventilation fans including electric (\$)	Remove hoisting shaft headframe and support infrastructure (\$)	Removal of U/G Drift/Decline Conveyor and services down decline (\$)	Cover small adits (< 2 m in diameter)	Seal small adits (< 2 m in diameter) (\$)	Seal portals, declines, adits, drifts, (width >2 m) (\$)	Plug to seal (concrete plug) and rehabilitate ventilation shafts (up to 4m diameter) (\$)	Plug to seal (concrete plug) and rehabilitate hoisting and man haulage shafts (up to 8m diameter) (\$)	Cover to seal (steel plate) and rehabilitate ventilation shafts (up to 4m diameter) (\$)	Cover to seal (steel plate) and rehabilitate hoisting and man haulage shafts (up to 8m diameter) (\$)	Backfill Ventilation and small shafts using suitably sized (screened) material (up to 4m diameter) (\$)	Backfill hoisting and man haulage shafts using suitably sized (screened) material (up to 8m diameter) (\$)	Total Cost for underground mines using defaults (\$)	Alternate Rate (\$/mine)	Total Cost for underground mines (\$)
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Rationale for Alternate Rates for Underground Mines

MISCELLANEOUS ACTIVITIES

Total EBC (from Summary Sheet)

Total Cost for this Input Sheet		AL-500-547	AL-500-548-600	Total ERC (from Summary Sheet)
Color Code Key User Input Cells User Input - Alternates Rows / justification Locked cell - Default Rows Locked cells - Stories	Use this input sheet for rehabilitation of areas not included in other estimates, repair of subsidence and land erosion. Click in the cells for the specific use. For land investigation, the User can enter an area or the dimensions of the area. If the dimensions are added, the User should add the area in acres, on acres, and width.	User Comments (enter any information that will support assumptions and assist department review) site investigations have been maintained to several areas that will undergo initial remediation actions including the removal of E-2 and from the initial footprints. All drainage channels carrying MAR will have the initial E-1s removed and deposited in the void prior to rehabilitation. First year maintenance of all is included. Management of undisturbed land and peat management is included.		

Land Rehabilitation and Repair of Subsidence and Land Management

[illegible]

Grand Total		\$ 1,268,723
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Rationale for Alternate Rates (Below)

Abstract

[illegible][illegible]

Land investigations

[illegible]

	4.0	4.50	0.00	4.50	\$	45,000	\$	125,276
Rationale for Alternate Rates (below):								

Remediation of Contaminated Areas

Process information for business facilities, emergency assets, health and safety and other assets										On-site information for transportation controlled assets										Removal and disposal of materials			
Asset ID		Asset Name		Asset Type		Asset Location		Asset Status		Asset Condition		Asset History		Asset Maintenance		Asset Disposal		Asset Removal					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40				
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60				
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80				
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100				
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120				
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140				
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160				
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180				
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200				
201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220				
221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240				
241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260				
261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280				
281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300				
301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320				
321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340				
341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360				
361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380				
381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400				
401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420				
421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440				
441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460				
461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480				
481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500				
501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520				
521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540				
541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560				
561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580				
581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600				
601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620				
621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640				
641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660				
661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680				
681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700				
701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720				
721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740				
741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760				
761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780				
781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800				
801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820				
821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840				
841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860				
861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880				
881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900				
901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920				
921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940				
941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960				
961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980				
981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000				
1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020				
1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040				
1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060				
1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080				
1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100				
1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120				
1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140				
1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160				
1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180				
1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200				
1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220				
1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240				
1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260				
1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280				
1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300				
1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320				
1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340				
1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360				
1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380				
1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400				
1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420				
1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440				
1441	1442	1443	1444	1445	1446	1447	1448	14															

Referrals by Alternate Status (Indefinite)					
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Miscellaneous Rehabilitation and Maintenance	(for areas not included elsewhere)
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[illegible][illegible]

Home and Day Services

Form and Data Storage										
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	32	33
34	35	36	37	38	39	40	41	42	43	44
45	46	47	48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63	64	65	66
67	68	69	70	71	72	73	74	75	76	77
78	79	80	81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96	97	98	99
100	101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120	121
122	123	124	125	126	127	128	129	130	131	132
133	134	135	136	137	138	139	140	141	142	143
144	145	146	147	148	149	150	151	152	153	154
155	156	157	158	159	160	161	162	163	164	165
166	167	168	169	170	171	172	173	174	175	176
177	178	179	180	181	182	183	184	185	186	187
188	189	190	191	192	193	194	195	196	197	198
199	200	201	202	203	204	205	206	207	208	209
210	211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230	231
232	233	234	235	236	237	238	239	240	241	242
243	244	245	246	247	248	249	250	251	252	253
254	255	256	257	258	259	260	261	262	263	264
265	266	267	268	269	270	271	272	273	274	275
276	277	278	279	280	281	282	283	284	285	286
287	288	289	290	291	292	293	294	295	296	297
298	299	300	301	302	303	304	305	306	307	308
309	310	311	312	313	314	315	316	317	318	319
320	321	322	323	324	325	326	327	328	329	330
331	332	333	334	335	336	337	338	339	340	341
342	343	344	345	346	347	348	349	350	351	352
353	354	355	356	357	358	359	360	361	362	363
364	365	366	367	368	369	370	371	372	373	374
375	376	377	378	379	380	381	382	383	384	385
386	387	388	389	390	391	392	393	394	395	396
397	398	399	400	401	402	403	404	405	406	407
408	409	410	411	412	413	414	415	416	417	418
419	420	421	422	4						

[illegible]

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[illegible]

Purchase and Loss Deduction Limits of Loss

Worksheet: Fuel Price Comparison & Savings Analysis									
		Default rates (2024-01-01)							
				2023		2024		2025	
Item ID	Name of Item	Volume to Import (L)	Discount to Import (L)	Volume to Import (L)	Volume to Import (L)	Volume to Import (L)	Volume to Import (L)	Volume to Import (L)	Volume to Import (L)
1	Item 1	100	10	100	100	100	100	100	100
2	Item 2	200	20	200	200	200	200	200	200
3	Item 3	300	30	300	300	300	300	300	300
4	Item 4	400	40	400	400	400	400	400	400
5	Item 5	500	50	500	500	500	500	500	500
6	Item 6	600	60	600	600	600	600	600	600
7	Item 7	700	70	700	700	700	700	700	700
8	Item 8	800	80	800	800	800	800	800	800
9	Item 9	900	90	900	900	900	900	900	900
10	Item 10	1000	100	1000	1000	1000	1000	1000	1000
Total		5000	500	5000	5000	5000	5000	5000	5000

Long Distance Carting of Clay

[illegible]

<p>Miscellaneous Song (not associated with facilities, buildings, pipelines etc)</p>	
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Step ID	Type	Mass (g)	TCDF	Rate (\$/g)	Alternate Rate (\$)	Total cost (\$)	Rationale for Alternate Rates
1	Heavy waste	50.00	#10.00	\$ 10.00			
2	Unusable off-site	50.00	#10.01	\$ 20.00		1,480.23	
	Total	100.00				\$ 1,490.23	20

Feeding (not included elsewhere)

[illegible]

Total Cost for this Input Sheet

\$2,465,689

\$26,298,898

Total ERC (from Summary Sheet)

Colour Code Key	
User Input Cells	
User Input - Alternate Rates / justification	
Locked cell - Default Rates	
Locked cells - blanks	
Locked cell - calculations or text	

User Comments (enter any information that will support assumptions and assist department review)	
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Additional items include the removal of liners from two structures constructed within the CHP area (reject cell and emergency tailing storage facility). The rehabilitated works nominated below (4.161) accounts for the footprint beneath the CHP work areas that have previously been remediated with the removal of the initial 0.3m base layer. Carting of topsoil and seeding pit slope areas. Rehab of borrow pits and HV roads. Rehab of exploration areas and tracks used for exploration works.

Mobilisation and Demobilisation

[illegible]

Additional Items

Map ID	#	User Description	Qty	Unit	Rate	Total	Comments
134,135,137	1	>>Waste Rock Landforms, Spoil Piles, Stockpiles, Run of Mine pads, Headframes	36.95	ha	\$4,456	\$164,649	From Infrastructure Process equipment tab; Use #10.101 from TOV for Road; 1 Product pads; 0.11; 0.12; 0.13; 0.14; 0.15; 0.16; 0.17; 0.18; 0.19; 0.20; 0.21; 0.22; 0.23; 0.24; 0.25; 0.26; 0.27; 0.28; 0.29; 0.30; 0.31; 0.32; 0.33; 0.34; 0.35; 0.36; 0.37; 0.38; 0.39; 0.40; 0.41; 0.42; 0.43; 0.44; 0.45; 0.46; 0.47; 0.48; 0.49; 0.50; 0.51; 0.52; 0.53; 0.54; 0.55; 0.56; 0.57; 0.58; 0.59; 0.60; 0.61; 0.62; 0.63; 0.64; 0.65; 0.66; 0.67; 0.68; 0.69; 0.70; 0.71; 0.72; 0.73; 0.74; 0.75; 0.76; 0.77; 0.78; 0.79; 0.80; 0.81; 0.82; 0.83; 0.84; 0.85; 0.86; 0.87; 0.88; 0.89; 0.90; 0.91; 0.92; 0.93; 0.94; 0.95; 0.96; 0.97; 0.98; 0.99; 1.00; 1.01; 1.02; 1.03; 1.04; 1.05; 1.06; 1.07; 1.08; 1.09; 1.10; 1.11; 1.12; 1.13; 1.14; 1.15; 1.16; 1.17; 1.18; 1.19; 1.20; 1.21; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.28; 1.29; 1.30; 1.31; 1.32; 1.33; 1.34; 1.35; 1.36; 1.37; 1.38; 1.39; 1.40; 1.41; 1.42; 1.43; 1.44; 1.45; 1.46; 1.47; 1.48; 1.49; 1.50; 1.51; 1.52; 1.53; 1.54; 1.55; 1.56; 1.57; 1.58; 1.59; 1.60; 1.61; 1.62; 1.63; 1.64; 1.65; 1.66; 1.67; 1.68; 1.69; 1.70; 1.71; 1.72; 1.73; 1.74; 1.75; 1.76; 1.77; 1.78; 1.79; 1.80; 1.81; 1.82; 1.83; 1.84; 1.85; 1.86; 1.87; 1.88; 1.89; 1.90; 1.91; 1.92; 1.93; 1.94; 1.95; 1.96; 1.97; 1.98; 1.99; 2.00; 2.01; 2.02; 2.03; 2.04; 2.05; 2.06; 2.07; 2.08; 2.09; 2.10; 2.11; 2.12; 2.13; 2.14; 2.15; 2.16; 2.17; 2.18; 2.19; 2.20; 2.21; 2.22; 2.23; 2.24; 2.25; 2.26; 2.27; 2.28; 2.29; 2.30; 2.31; 2.32; 2.33; 2.34; 2.35; 2.36; 2.37; 2.38; 2.39; 2.40; 2.41; 2.42; 2.43; 2.44; 2.45; 2.46; 2.47; 2.48; 2.49; 2.50; 2.51; 2.52; 2.53; 2.54; 2.55; 2.56; 2.57; 2.58; 2.59; 2.60; 2.61; 2.62; 2.63; 2.64; 2.65; 2.66; 2.67; 2.68; 2.69; 2.70; 2.71; 2.72; 2.73; 2.74; 2.75; 2.76; 2.77; 2.78; 2.79; 2.80; 2.81; 2.82; 2.83; 2.84; 2.85; 2.86; 2.87; 2.88; 2.89; 2.90; 2.91; 2.92; 2.93; 2.94; 2.95; 2.96; 2.97; 2.98; 2.99; 3.00; 3.01; 3.02; 3.03; 3.04; 3.05; 3.06; 3.07; 3.08; 3.09; 3.10; 3.11; 3.12; 3.13; 3.14; 3.15; 3.16; 3.17; 3.18; 3.19; 3.20; 3.21; 3.22; 3.23; 3.24; 3.25; 3.26; 3.27; 3.28; 3.29; 3.30; 3.31; 3.32; 3.33; 3.34; 3.35; 3.36; 3.37; 3.38; 3.39; 3.40; 3.41; 3.42; 3.43; 3.44; 3.45; 3.46; 3.47; 3.48; 3.49; 3.50; 3.51; 3.52; 3.53; 3.54; 3.55; 3.56; 3.57; 3.58; 3.59; 3.60; 3.61; 3.62; 3.63; 3.64; 3.65; 3.66; 3.67; 3.68; 3.69; 3.70; 3.71; 3.72; 3.73; 3.74; 3.75; 3.76; 3.77; 3.78; 3.79; 3.80; 3.81; 3.82; 3.83; 3.84; 3.85; 3.86; 3.87; 3.88; 3.89; 3.90; 3.91; 3.92; 3.93; 3.94; 3.95; 3.96; 3.97; 3.98; 3.99; 4.00; 4.01; 4.02; 4.03; 4.04; 4.05; 4.06; 4.07; 4.08; 4.09; 4.10; 4.11; 4.12; 4.13; 4.14; 4.15; 4.16; 4.17; 4.18; 4.19; 4.20; 4.21; 4.22; 4.23; 4.24; 4.25; 4.26; 4.27; 4.28; 4.29; 4.30; 4.31; 4.32; 4.33; 4.34; 4.35; 4.36; 4.37; 4.38; 4.39; 4.40; 4.41; 4.42; 4.43; 4.44; 4.45; 4.46; 4.47; 4.48; 4.49; 4.50; 4.51; 4.52; 4.53; 4.54; 4.55; 4.56; 4.57; 4.58; 4.59; 4.60; 4.61; 4.62; 4.63; 4.64; 4.65; 4.66; 4.67; 4.68; 4.69; 4.70; 4.71; 4.72; 4.73; 4.74; 4.75; 4.76; 4.77; 4.78; 4.79; 4.80; 4.81; 4.82; 4.83; 4.84; 4.85; 4.86; 4.87; 4.88; 4.89; 4.90; 4.91; 4.92; 4.93; 4.94; 4.95; 4.96; 4.97; 4.98; 4.99; 5.00; 5.01; 5.02; 5.03; 5.04; 5.05; 5.06; 5.07; 5.08; 5.09; 5.10; 5.11; 5.12; 5.13; 5.14; 5.15; 5.16; 5.17; 5.18; 5.19; 5.20; 5.21; 5.22; 5.23; 5.24; 5.25; 5.26; 5.27; 5.28; 5.29; 5.30; 5.31; 5.32; 5.33; 5.34; 5.35; 5.36; 5.37; 5.38; 5.39; 5.40; 5.41; 5.42; 5.43; 5.44; 5.45; 5.46; 5.47; 5.48; 5.49; 5.50; 5.51; 5.52; 5.53; 5.54; 5.55; 5.56; 5.57; 5.58; 5.59; 5.60; 5.61; 5.62; 5.63; 5.64; 5.65; 5.66; 5.67; 5.68; 5.69; 5.70; 5.71; 5.72; 5.73; 5.74; 5.75; 5.76; 5.77; 5.78; 5.79; 5.80; 5.81; 5.82; 5.83; 5.84; 5.85; 5.86; 5.87; 5.88; 5.89; 5.90; 5.91; 5.92; 5.93; 5.94; 5.95; 5.96; 5.97; 5.98; 5.99; 6.00; 6.01; 6.02; 6.03; 6.04; 6.05; 6.06; 6.07; 6.08; 6.09; 6.10; 6.11; 6.12; 6.13; 6.14; 6.15; 6.16; 6.17; 6.18; 6.19; 6.20; 6.21; 6.22; 6.23; 6.24; 6.25; 6.26; 6.27; 6.28; 6.29; 6.30; 6.31; 6.32; 6.33; 6.34; 6.35; 6.36; 6.37; 6.38; 6.39; 6.40; 6.41; 6.42; 6.43; 6.44; 6.45; 6.46; 6.47; 6.48; 6.49; 6.50; 6.51; 6.52; 6.53; 6.54; 6.55; 6.56; 6.57; 6.58; 6.59; 6.60; 6.61;

TERMS AND CONDITIONS OF USE

1. The Estimated Rehabilitation Cost (ERC) calculator (the "Calculator") is copyright and the Licensee may only use the Calculator subject to these terms and conditions of use. In using the Calculator, the Licensee agrees to be bound by the terms and conditions of use.

2. The Calculator is a general tool which identifies a range of work processes relating to rehabilitation. The Calculator is made available by the Licensor to assist the Licensees in the calculation of a ERC. ERC assessments are used in the determination of rehabilitation bonds required to be lodged pursuant to the *Environmental Protection Act 1994* (Qld). The Calculator does not purport to contain all the information a Licensee will require to calculate any rehabilitation liability.

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3. The Licensor grants to the Licensee a non-exclusive, non-transferable licence to:

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TERMS AND CONDITIONS OF USE

Third parties

5. Except as permitted by the terms and conditions of use or the *Copyright Act 1968*, the Licensee must not, and must not permit a third party to:

(a) decompile, disassemble, reverse engineer or otherwise attempt to derive the source code of the Calculator ;

(b) modify or make any adaptation or other derivative work from the Calculator; or

(c) use, copy, reproduce, publish, store in a retrieval system or transmit the calculator or any Derivative Work) to any third party; or

(d) sell, rent, lease, licence, sub-licence, display, publish or communicate the Calculator (or any Derivative Work) to any third party without the prior written consent of the *State of Queensland*.

Accuracy of information

6. The Department may revise the rates and formulae used in the Calculator at any time without notice but is not under any obligation to do so.

7. The Licensee should rely on their own independent investigations, review and analysis in using the Calculator.

8. The output of the Calculator will depend on the accuracy of the information entered by the Licensee concerning the relevant work plan and rehabilitation plan and current and future site conditions.

9. The default third party rates included in the Calculator are for general information only and use typical market 'third party' contract rates current as at October 2018. As a result, the default third party rates may not be applicable to some mining or extractive operations. For the purposes of a rehabilitation liability assessment, the Department or an auditor appointed under the *Environmental Protection Act 1994* may set different rates for specific sites. These rates may be higher for specific sites.

10. The Licensee must review default rates included in the Calculator and ensure they are applicable to their site conditions. If not, they should specify an alternative rate and insert this rate into the Calculator. Any alternative rate must be substantiated in a form acceptable to the Department and must be determined using current market 'third party' contract rates.

Review of rehabilitation bonds

11. Rehabilitation bonds are determined and may be reviewed by the Chief Executive under the relevant legislation. In undertaking these responsibilities the Chief Executive or the Department may refer to any ERC assessment undertaken by the Licensee but is not bound to do so, and may take other matters into account including those specified in *DES Guidelines* from time to time.

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Actual costs of rehabilitation

12. The actual costs of current and future rehabilitation required to be undertaken by a Licensee may be more or less than any calculation derived by use of the Calculator or the amount of any rehabilitation bond determined by the Chief Executive or the Department. The Licensee must make their own independent investigations, review and analysis and obtain independent advice before taking any action on the basis of any calculation derived by use of the Calculator.

Warranties, representations and liability

13. The Licensors do not warrant or represent that the Calculator or the information it contains is free from errors or omissions or is suitable for a Licensee's intended use. To the maximum extent permitted by law, the Licensors:

13.1 exclude any representation or warranty (express or implied) as to the accuracy, reliability, completeness, quality, performance or fitness for any purpose of the Calculator or any information it contains, or any calculation derived by use of the

Calculator; and

13.2 exclude any liability (whether arising from negligence or otherwise) for any claims, expenses, losses, damages and costs, including direct, indirect or consequential loss, legal costs and including loss of revenue, contracts, profit or opportunity which the Licensee (including their respective employees, contractors, consultants, agents or assigns) may directly or indirectly suffer in connection with:

(a) the Licensee's use of or access to (or inability to use or access) any part of the Calculator, or any information contained in the Calculator or any calculation derived by use of the Calculator;

(b) the Licensee's reliance on any part of the Calculator, any information contained in the calculator or any calculation derived by use of the Calculator;

(c) any part of the Calculator or any information contained in the Calculator or any calculation derived from the Calculator:

(i) being inaccurate, incomplete or unfit for any particular purpose;
or

(ii) incapable of being processed on your equipment or systems; or

(d) any computer virus or other harmful code contained in or arising from access to or use of the rehabilitation liability calculator, or any damage to or interference with any data, software or hardware arising from access to or use of the Calculator.

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- (a) replacement of the goods or supply of equivalent goods
- (b) payment of the costs of replacing the goods or of acquiring equivalent goods
- (c) supplying the services again; or
- (d) payment of the costs of having the services supplied again.

Calculator means the rehabilitation bond calculator developed by EHS Support Pty Ltd and Mike Slight and Associates and owned by the State of Queensland for use in calculating rehabilitation liabilities under the *Environmental Protection Act 1994*.

Definitions and Governing Law

15. These terms have the following meaning in these terms and conditions of use:

Chief Executive means the chief executive responsible for administering the *Environmental Protection Act 1994*.

Department means the State of Queensland through the Department of Environment and Science including any successor agency or authority.

Derivative Work includes any assessment of rehabilitation liability undertaken by or on behalf of the Licensee using the Calculator or other information product derived by reference to or use of the Calculator.

Licensee means any person who uses the Calculator or on whose behalf the licence is taken to use the Calculator.

Licensors mean the State of Queensland (through the Department of Environment and Science).

Permitted Use means the calculation of a rehabilitation liability assessment for the purposes of the determination of rehabilitation bonds required to be lodged pursuant to the *Environmental Protection Act 1994* (Qld).

16. These terms and conditions and the copyright notice are governed by and are to be construed in accordance with the laws of the State of Queensland.

ACCEPTANCE

I accept the terms and conditions of use above.

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3 July 2020

STRICTLY CONFIDENTIAL
COMMERCIAL IN CONFIDENCE
EXEMPT FROM DISCLOSURE UNDER THE RTI ACT

To:

Juliana McCosker
Manager, Environmental Services and Regulation
Department of Environment and Science
99 Hospital Road
Emerald, QLD 4720

**Reference: EPML01470513 – Carmichael Coal Mine – Information Request for ERC
Decision Application**

Dear Juliana,

Adani has received an information request notice from the department on 23 June 2020, on the application submitted by Adani on estimated rehabilitation cost on 09 June 2020.

Adani has prepared a response on the items included in the information request notice and attached here with as Annexure -1 Adani response to information request notice for estimated rehabilitation cost (ERC) decision.

The required information supporting the response is provided in the link below, which includes updated ERC Calculator spreadsheet. Please note that the ERC has been changed from \$ 26,298,898.13 to \$ 26,283,898.13.

Please acknowledge the receipt of this response and confirm once the information provided via the link above is downloaded.

e

sch4p4(6) Personal information

Annexure-1- Adani response to information request notice for estimated rehabilitation cost (ERC) decision

Application Requirements	Information Required	Adani Response
Application		
<p><u>Reason for the Application</u></p> <p>For question 2 of the ERC application form, the option of "there is an increase in the likely maximum amount of disturbance" has been selected as the reason for the ERC application.</p> <p>This option corresponds to section 304(1)(a) of the <i>Environmental Protection Act 1994</i> (EP Act) which requires the ERC application being made within 10 business days of the environmental authority (EA) holder becoming aware of the increase, if the disturbance has already commenced.</p>	<p>1. Please confirm the increase has not yet commenced and will only commence after the relevant EA amendment application and ERC decision are approved and issued.</p>	<p>The increase has not yet commenced and will not do so until the ERC decision is approved and issued.</p>
<p>Within the ERC application and supporting information, it indicates that the underlying landholder will retain some structures. The Assumptions Tab within the ERC Calculator states that the following infrastructure will be retained:</p> <ul style="list-style-type: none"> • 15 Groundwater monitoring bores; • Airstrip and Northern Levee; • Fence lines and fire breaks; • Southeast MAW Dam, CPP Dam, Sediment Dam, Matheson Dam and Raw Water Dam; • Water infrastructure inspection tanks; • Road causeways. <p>The provided Landholder Statement, states the following will be retained:</p> <ul style="list-style-type: none"> • Water Storage Areas 	<p>1. Please provide an updated Landholder Statement which reflects the infrastructure retained as per the Assumptions Tab in the ERC Guideline, specifically including groundwater monitoring bores and levees.</p>	<p>The Assumptions Tab within the ERC Calculator has been amended to align with the Landholder Statement. Amended wording as below-</p> <ul style="list-style-type: none"> • 15 Groundwater Monitoring Bores (Returned to the DNRME, Queensland Government for future monitoring); • Airstrip; • -Water infrastructure(Southeast MAW Dam, CPP Dam, Sediment Dam, Matheson Dam and Raw Water Dam) including bunds and inspection tracks, and • -Roads including causeways, fence line and fire breaks <p>Information is now consistent and no update to the Landholder Statement is required. The revised ERC Calculator has been re-submitted for the Department's record.</p>

Application Requirements	Information Required	Adani Response
<ul style="list-style-type: none"> Roads Fencing Airfield <p><u>Rehabilitation plan</u></p> <p>ERC Application Appendix 2 appears in complete, The columns for Rehabilitation Works Already Undertaken and Post Mining Land Use appear incomplete for some domains.</p>	<ol style="list-style-type: none"> Please confirm rehabilitation works undertaken and those proposed with relevant PMLU identified for each mining domain. Please confirm how ERC Application Appendix 2 corresponds with ERC Operational Plan Section 4. Rehabilitation and Closure Requirements. 	<p>ERC Application Appendix 2 Rehabilitation Plan has been expanded to cover PMLU for each mining domain in accordance with Closure and Rehabilitation Strategy (EMM, September 2019). Rehabilitation works undertaken to date are associated with exploration activities carried out under EPC1690 EA EPPR00745013. There is no further rehabilitation proposed during this ERC period as the Project is currently under construction phase.</p> <p>ERC Application Appendix 2 covers the overarching strategy for rehabilitating domains and associated PMLU of each domain. Rehabilitation and closure requirements outlined in the ERC Operational Plan addresses the disturbance footprints relevant to the ERC period. The information presented in this table aims to support the ERC calculator.</p>
<p><u>Mine Waste Structures</u></p> <p>As per the content requirements for an ERC application as outlined within the guideline, details of mine wastes onsite are required including the types, characterisation, volume and location. This information is required to inform the suitability of the capping methods and rehabilitation strategies selected in the ERC calculator.</p>	<ol style="list-style-type: none"> Please confirm which document/s pertain to these criteria. 	<p>Relevant documents include:-</p> <ul style="list-style-type: none"> Waste Spoil and Rejects Management Plan Materials Balance Memo (within ERC Operational Plan) Mine Waste and Rehabilitation Assessment

Application Requirements	Information Required	Adani Response
<p>In the provided Application Form (ESR/2018/4426) you have stated at page 7, 'Yes, Refer to previous document submitted to Department as per Appendix 3'.</p> <p>Page 3 of the provided Operation Plan states that no coal will be mined during the proposed ERC period.</p>	<p>2. Please provide a copy of this document/s.</p> <p>3. Within the identified document/s, please indicate where the ERC content criteria for mine waste is referenced.</p> <p>4. Please confirm whether any mine waste structures (tailings storage facilities, waste rock</p>	<p>A Sharefile link has been provided.</p> <p>Material Balance Memo (see Appendix within ERC Operational Plan):-</p> <ul style="list-style-type: none"> Section 1 Pit – specifies volume of overburden materials planned to be excavated during ERC period. Section 3 – specifies schedule of overburden removal Section 4 – specifies topsoil areas pertaining to the General Arrangement Map within the ERC Operational Plan, locations where topsoil will be recovered and relevant topsoil volume available for rehabilitation. <p>Mine Waste and Rehabilitation Assessment Report:-</p> <ul style="list-style-type: none"> Refer to Executive summary as a starting point as the assessments to date demonstrate that materials are Non Acid Forming and pose a very low risk of acid generation and a high factor of safety with respect to potential for Acid and Metalliferous Drainage. Refer to Section 2 (Summary of Previous Reports) to obtain an understanding of key waste types. <p>Mine Waste and Rejects Management Plan:-</p> <ul style="list-style-type: none"> Overarching plan that outlines Adani's approach to managing mining waste and rejects. General background information only. <p>Mine waste structures to be constructed during ERC Period:-</p> <ul style="list-style-type: none"> Waste rock/overburden dump only

Application Requirements	Information Required	Adani Response
<p><u>Water Management</u></p> <p>As per the content requirements for an ERC application as outlined within the guideline, details of water management are required, including but not limited to site water balance, dam capacity, dam construction, water quality, treatment of water (particularly acidic and saline).</p> <p>In the provided Application Form (ESR/2018/4426) you have stated at page 7, 'Yes, Refer to previous document submitted to Department as per Appendix 3'.</p>	<p>dumps/overburden dumps) will be constructed during the ERC period.</p> <ol style="list-style-type: none"> Please confirm which document/s pertain to these criteria. Please provide a copy of this document/s. Within the identified document/s, please indicate where the ERC content criteria for water management is referenced. 	<p>Relevant document:-</p> <ul style="list-style-type: none"> 10Mtpa Phase – Surface Water and Sediment Management Plan <p>A Sharefile link has been provided.</p> <p>10Mtpa Phase – Surface Water and Sediment Management Plan, please refer to below sections of the report:-</p> <ul style="list-style-type: none"> Section 2 covers key objectives of the plan, design criteria for channels, culverts, pit bund, MAW dam Tables 2.14 through to 2.18 provide a summary of dam sizing and parameters Section 2.5 discusses water controls for various mine facilities under construction. Section 2.6 discusses water balance modelling for the site water storage dams.
<p><u>Spatial Information</u></p> <p>Spatial Information for polygons/line/points of the following has not been provided:</p> <p>a) existing disturbance; and b) existing rehabilitation.</p>	<ol style="list-style-type: none"> Please provide spatial files for both existing disturbance and existing rehabilitation. 	<p>A Sharefile link has been provided.</p>

Application Requirements	Information Required	Adani Response
As per the guideline 'Spatial Information Submission' (ESR/2018/4337), spatial information must depict the existing areas of disturbance and rehabilitation.		
ERC Calculator		
<p><u>Tab 1: Exploration</u></p> <p>Alternative TOV rates are utilised for rows 31, 33, 34 and 35.</p> <p>The department notes these are existing values in the ERC Calculator.</p>	<p>1. Please provide further justification for use of these alternative TOV values.</p>	<p>Adani response: ERC calculator spreadsheet – "<i>Exploration</i>" tab is updated with additional justification for using alternate rates which is summarised as below.</p> <p>Row 31 and 35: 130 exploration drill holes, 40 LOX drill holes will be backfilled using drill cuttings as per rates in TOV #10.54. The assumed rates are higher than default low impact bore holes rehabilitation costs mentioned in TOV#1.04 .</p> <p>Row 33: 45 dewatering bores are also assumed to be low impact bore holes, These are cased bores screened across coal seam aquifers. Alternate rates from TOV# 10.54- to backfill cased bores to suit to rehab requirements.</p> <p>Row 34: Used default rates from TOV # 1.03- to rehabilitate 15 geo-tech and large diameter cored holes which are considered to be high impact bores.</p>
<p><u>Tab 2: Infrastructure</u></p> <p>Alternative TOV rates are utilised for rows 99, 178-181, 275, 298-299.</p> <p>The department notes these are existing values in the ERC Calculator.</p>	<p>1. Please provide further justification for use of these alternative TOV values.</p>	<p>Adani response: ERC calculator spreadsheet – "<i>Infrastructure</i>" tab is updated with additional justification in "<i>rationale for alternate rate</i>" column for using alternate/default rates which is summarised as below.</p> <p>Row 99: The northern drain will be backfilled by carting the material from the bunds formed on either side of northern drain. Alternate rate used from TOV 4.116, which is based on cost per m3 of material to be carted, which is more appropriate for meeting the rehabilitation requirement of Northern drain. This item is included in "<i>Infrastructure</i>" tab as there is no default line item available from "<i>Water Storage and management</i>" tab.</p>

Application Requirements	Information Required	Adani Response
		<p>Rows 178-181: These are additional line items added into the buildings section of the "Infrastructure" tab for removal of fencing around camp and other infrastructure area. The rates used are default rates for removal of fencing as per TOV # 8.32 which are taken from "Process equipment" tab.</p> <p>Rows 275: This is an additional line item added for preparation of rail infrastructure area for rehabilitation. The default vale from TOV# 2.38 is used which is considered to be more appropriate cost.</p> <p>Rows 298-299: Row 298, is the cost required for rehabilitation of 1.75 ha sewage dispersal area. Alternate rate from TOV# 2.35 is considered to be most appropriate cost, as most of the area is currently in rehabilitated state.</p> <p>Alternate Row 299 is now deleted as it is identified that the cost of removal of 600m of fence around effluent dispersal field is already included in Row 179. The total cost of "Infrastructure" tab is reduced by \$12,000 (from \$9,263,226 to \$ 9,251,226). The updated ERC calculator is provided.</p>
<p><u>Tab 11: Mobilisation and User</u></p> <p>Alternative TOV rates are utilised for rows 40-46.</p> <p>The department notes these are existing values in the ERC Calculator.</p>	<p>1. Please provide further justification for use of these alternative TOV values.</p>	<p>These are the additional rehabilitation cost items, that aren't able to be provided with standard line items in several tabs. The alternate costs selected are most appropriate to meet rehabilitation requirements. Additional comments are provided in "rationale for alternate rate" column for using alternate rates.</p>