Application form

Environmental Protection Act 1994

Submission of a progressive rehabilitation and closure plan

This is the approved form for a progressive rehabilitation and closure plan (PRC plan) under section 126C of the Environmental Protection Act 1994 for a site-specific application for a mining activity relating to a mining lease.

Only use this application form if you are required to submit a PRC plan, where:

- You are applying for a new site-specific environmental authority for a mining activity relating to a mining lease.

  OR

- The administering authority has included the requirement to submit a proposed PRC plan in an information request for a new site-specific environmental authority for a mining activity relating to a mining lease.

  OR

- You completed a PRC plan as part of an EIS process and are submitting the PRC plan in the approved form as required under section 126C.

  OR

- You have an existing site-specific environmental authority for a mining activity relating to a mining lease and have received a transition notice from the administering authority[1] in accordance with section 754 of the *Environmental Protection Act 1994* (EP Act).

Before completing this application form it is recommended that you:

- Read the Guideline – Progressive Rehabilitation and Closure Plans (ESR/2019/4964[2]), which explains the information you are required to provide with this application.
- Have a pre-lodgement meeting. To request a pre-lodgement meeting, please fill out and lodge the form Application for pre-lodgement services (ESR/2015/1664).

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 (Section 10).

Privacy statement

The administering authority is collecting the information on this approved form to process your application for a PRC plan. The collection of information is authorised under Chapter 3 and Chapter 5 of the EP Act. Some of the information may be disclosed to the Department of Resources and Queensland Treasury for the purpose of processing 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**.

Queensland Government

Please note that the administering authority is required to keep this application on a register of documents open for inspection by members of the public under section 541 of the EP Act, and must permit a person to take extracts from the register pursuant to section 542 of the EP Act.

Your personal information will not be otherwise disclosed to any other parties unless authorised or required by law. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Definitions of terms used in this form	
(Where there is inconsistency between the definition of terms used here and the terms used in the EP Act, the terms in the EP Act apply)	
Available for improvement	In relation to land in an improvement area for a non-use management area, means land in the improvement area that is not being mined, other than land to which any of the following applies– a) the land is being used for operating infrastructure or machinery for mining, including, for example, a dam or water storage facility; b) the land is identified in the PRCP schedule or the application for an environmental authority relating to the schedule as containing a probable or proved ore reserve that is to be mined within 10 years after the land would otherwise have become available for improvement; c) the land is required for the mining of a probable or proved reserve mentioned in paragraph (b).
Available for rehabilitation	For a rehabilitation area, means land in the area is not being mined, unless– a) the land is being used for operating infrastructure or machinery for mining, including, for example, a dam or water storage facility; or b) the land is identified in the PRCP schedule or the application for an environmental authority relating to the schedule as containing a probable or proved ore reserve, under section 126D(6) of the EP Act, that is to be mined within 10 years after the land would otherwise have become available for rehabilitation; or ba) the land is required for the mining of a probable or proved reserve mentioned in paragraph (b); or c) the land contains permanent infrastructure identified in the proposed PRCP schedule as remaining on the land for a post-mining land use.
Land outcome document	For land, means the following documents relating to the land– a) an environmental authority for a resource activity on the land; b) a document made under a condition of an environmental authority mentioned in paragraph (a), if– i. the document relates to the management of a void within the meaning of section 126D of the EP Act on the land, or the rehabilitation of the land; and ii. the document was received by the administering authority before the assent date; and iii. the administering authority has not, within 20 business days after the assent date, given notice to the environmental authority holder that the document is insufficient in a material particular relevant to a matter mentioned in subparagraph (i); and

	iv. before the assent date, the document has not been superseded; c) a document made under a condition of an environmental authority mentioned in paragraph (a), if– i. the document relates to the management of a void within the meaning of section 126D of the EP Act on the land, or the rehabilitation of the land; and ii. the environmental authority requires the document to be given to the administering authority on a stated day that is on or after the assent date, or does not state a day when the document must be given; and iii. the document is received by the administering authority within three years after the assent date; and iv. the administering authority does not, within 20 business days after receiving the document, give the environmental authority holder a notice that the document is insufficient in a material particular relevant to a matter in subparagraph (i); d) a report evaluating an EIS under the *State Development and Public Works Organisation Act 1971*, section 34D; e) an EIS assessment report; f) a written agreement between the holder of an environmental authority mentioned in paragraph (a) and the State that is in force on the assent date.
Improvement area	For a non-use management area, means an area of land in the non-use management area to which a management milestone relates.
Management milestone	For a non-use management area, means each significant event or step necessary to– a) achieve best practice management of the area; and b) minimise risks to the environment.
Non-use management area	Means an area of land the subject of a PRC plan that cannot be rehabilitated to a stable condition after all relevant activities for the PRC plan carried out on the land have ended.
Post-mining land use	For land the subject of a PRC plan, means the purpose for which the land will be used after all relevant activities for the PRC plan carried out on the land have ended.
PRC plan	For land the subject of a mining lease, means a progressive rehabilitation and closure plan for the land that consists of – a) the rehabilitation planning part of the PRC plan; and b) the PRCP schedule for the PRC plan, including any conditions imposed on the schedule.
PRCP schedule	For a PRC plan, means a schedule of the plan that – 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.
Proposed PRC plan	For an application, a proposed PRC plan means a PRC plan proposed for land the subject of a mining lease that: (a) complies with Chapter 5, part 2, division 3; and

	(b) either – accompanies the application; or is submitted for the application after the application is made
Rehabilitation area	For land the subject of a post-mining land use, means an area of the land to which a rehabilitation milestone for the post-mining land use relates.
Rehabilitation milestone	For the rehabilitation of land, means each significant event or step necessary to rehabilitate the land to a stable condition.

The fields marked with an asterisk * are mandatory. If they are not completed then your application may be considered not properly made under section 128 of the EP Act.

Section 1 – Environmental authority details

Does this application relate to an existing environmental authority for a mining activity relating to a mining lease approved through a site-specific application? *	☐ No – Provide the reference number for your environmental authority application:	AR Insert.
	☒ Yes – Provide your environmental authority number:	EPML00712113

Section 2 – Applicant details

Details of the applicant are to be provided in this section.

If there is an agent acting on behalf of the applicant, details of the agent are to be provided. An agent could be a consultant or contractor for the environmental authority holder.

The person nominated as the application contact will receive correspondence relating to this application.

NAME / COMPANY NAME* Mt Rawdon Operations Pty Ltd	TRADING NAME (*IF AN ORGANISATION) Evolution Mining Ltd
REGISTERED BUSINESS ADDRESS / RESIDENTIAL ADDRESS (NOT A POST OFFICE BOX) * Level 24, 175 Liverpool Street, Sydney NSW 2022	POSTAL ADDRESS (*WHERE DIFFERENT) PO BOX 1168, Bundaberg QLD 4670
ABN / ACN (*IF AN ORGANISATION) 77 152 727 663	NAME OF APPLICATION CONTACT* Paul Wright
EMAIL* paul.wright@evolutionmining.com.au	TELEPHONE* 07 4156 2293

☒ INDICATE IF YOU WANT TO RECEIVE CORRESPONDENCE VIA EMAIL

☐ INDICATE IF THIS FORM IS BEING COMPLETED BY AN AGENT FOR THE ENVIRONMENTAL AUTHORITY HOLDER*

NOTE: If an agent is nominated, please provide evidence of appointment by the authority holder/s.

Section 3 – Website address

If this application relates to an application for a new site-specific environmental authority for a mining activity, would	☒ No – Provide details below.
	☐ Yes – Go to next section.

you like to use the details on the environmental application form?		
Provide the website address for the application notice and application documents.	https://evolutionmining.com.au/	
Provide details of the contact person if technical assistance is required.	NAME Insert.	TELEPHONE Insert.
	EMAIL Insert.	

Section 4 – Non-use management areas (new EA applications only)	
Does this application for a proposed PRC plan include a NUMA justified under section 126D(2)(b) of the EP Act? *	☒ No – Go to next section.
	☐ Yes
Has a public interest evaluation been carried out by a qualified entity for the NUMA(s)? *	☒ No – Go to next section.
	☐ Yes
Has the proposed NUMA(s) changed since the public interest evaluation was carried out in the EIS? *	☒ No – Go to next section.
	☐ Yes – Provide details below.
How has the proposed NUMA(s) changed since the public interest evaluation was carried out?	Please provide details below.

Section 5 – PRC plan structure	
The PRC plan must be prepared in accordance with the structure/format shown in Appendix 1 of this application form.	
Requirement	**Requirement met?**
Include a cover page that complies with Appendix 1 of this application form.	☒ Yes
Include a table of contents that complies with Appendix 1 of this application form.	☒ Yes

Section 6 – PRC plan Checklist *			
The PRC plan must meet the information requirements stated in section 3 of the Guideline – Progressive Rehabilitation and Closure Plans (ESR/2019/4964), and sections 126C and 126D of the EP Act (note there is a limited exception for transitional PRC plans). All PRC plan requirements are mandatory. For each requirement, insert a reference to the section of the PRC plan which satisfies the requirement. Justification must be provided for any requirement for which the response is Not Applicable (NA). If more space is required, please attach a separate sheet.			
PRC plan Requirement	**Requirement met? (Yes / NA)**	**PRC Plan Section No.**	**Justification**
Rehabilitation planning part of the PRC plan The rehabilitation planning part of the PRC plan must include the information required under section 126C the EP Act, including information requirements described in the Guideline – Progressive Rehabilitation and Closure Plans (ESR/2019/4964) in accordance with section 126C(1)(j) of the EP Act.			
Project description *Note: For existing mines transitioning to the PRC plan framework, pre-disturbance information collected as part of an EIS process or original environmental authority application should be included. If this information is unable to be provided, or cannot be developed because of the mine's life stage, this should be clearly explained in this section of the rehabilitation planning part of the PRC plan.*			
Describe the following:			
• each resource tenure, including the area of each tenure, to which the application relates;	Yes	1.1	Insert.
• the relevant activities to which the application relates;	Yes	1.3	Insert.
• the likely duration of the relevant activities	Yes	1.3	Insert.

Include a detailed description, including maps, of how and where the relevant activities are to be carried out.	Yes	1.1	Insert.
Consultation			
Include details of the consultation undertaken by the applicant in developing the proposed PRC plan.	Yes	2	Insert.
Include details of how the applicant will undertake ongoing consultation in relation to the rehabilitation to be carried out under the plan.	Yes	2.4	Insert.
Post-mining land use			
State the extent to which each proposed post-mining land use identified in the proposed PRCP schedule for the plan is consistent with the outcome of consultation with the community in developing the PRC plan.	Yes	2.4	Insert.
State the extent to which each proposed post-mining land use identified in the proposed PRCP schedule for the plan is consistent with any strategies or plans for the land of a local government, the State or the Commonwealth.	Yes	2.4 and 3.2	Insert.
Non-use management area *Note for Transitional PRC plans: The holder is not required to comply with a requirements under section 126C(1)(g) or (h) or 126D(2) or (3) for the proposed PRCP schedule for the plan in relation to land if a land outcome document identifies the outcome for the land as the same, or substantially similar to, the outcome for the land if it were a non-use management area.*			
State the extent to which each proposed non-use management area identified in the PRCP schedule for the plan is consistent with the outcome of consultation with the community in developing the PRC plan.	NA	Insert.	No NUMAs

State the extent to which each non-use management area identified in the PRCP schedule for the plan is consistent with any strategies or plans for the land of a local government, the State or the Commonwealth.	NA	Insert.	No NUMAs
For each proposed non-use management area, state the reasons the applicant considers the area cannot be rehabilitated to a stable condition because of a matter mentioned in section 126D(2).	NA	Insert.	No NUMAs
For each matter mentioned in the requirement above, include copies of reports or other evidence relied on by the proponent for each proposed non-use management area.	NA	Insert.	No NUMAs
Rehabilitation and management methodology *Note: Section 3.5 of the Guideline – Progressive Rehabilitation and Closure Plans (ESR/2019/4964) outlines the range of information that must be included as appendices to the rehabilitation planning part of the PRC plan.*			
For each post-mining land use, state the applicant's proposed methods or techniques for rehabilitating the land to a stable condition in a way that supports the rehabilitation milestones under the proposed PRCP schedule.	Yes	5	Insert.
For each non-use management area, state the applicant's proposed methodology for achieving best practice management of the area to support the management milestones under the proposed PRCP schedule for the area.	NA	Insert.	No NUMAs
Risk assessment			
Identify the risks of a stable condition for land described as a post-mining land use not being achieved, and how the applicant intends to manage or minimise the risks.	Yes	6	Insert.

PRCP Guideline			
Include any other information prescribed by the administering authority in the Guideline – Progressive Rehabilitation and Closure Plans (ESR/2019/4964).	Yes	8	See supporting documents and appendices
Include the spatial information required in the Guideline – Progressive Rehabilitation and Closure Plans (ESR/2019/4964). See Attachment 1 of this form for details on how spatial information must be submitted.	Yes	8.2	Insert.
Other information			
Include the other information the administering authority reasonably considers necessary to decide whether to approve the PRCP schedule.	Yes	8	See supporting documents and appendices
PRCP Schedule The proposed PRCP schedule must comply with section 126D of the EP Act, and be written in accordance with the Guideline – Progressive Rehabilitation and Closure Plans (ESR/2019/4964). The administering authority will assess the proposed PRCP schedule in conjunction with the rehabilitation planning part of the PRC plan and other application documents, and decide whether to approve the proposed PRCP schedule, with or without conditions, or refuse the proposed PRCP schedule.			
Include a PRCP schedule prepared using the PRCP schedule template (ESR/2019/5103[3]).	Yes	8.1	Insert.
Include maps showing all of the land mentioned in the PRCP schedule, as it relates to being progressively rehabilitated.	Yes	8.1	Insert.

[3] 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**.

Section 7 – Non-use management areas (transitional applications only)	
Does this application for a proposed PRC plan include a NUMA? *	☒ No – Go to next section.
	☐ Yes
Does the relevant environmental authority or any other land outcome document identify an outcome for the land that is the same, or substantially similar, to the outcome for the land if it were a NUMA under a PRCP schedule?	☒ No – Go to next section.
	☐ Yes
Does the environmental authority or any other land outcome document state sufficient detail to identify either the location or the area of the land to which the outcome relates?	☒ No – Provide details below.
	☐ Yes – Provide the document name(s) in Section 8.
If the area is not identified – how will the total area of the land to which the outcome relates be minimised? *	N/A
If the location is not identified – how will the EA holder ensure the location of the land to which the outcome relates minimises risks to the environment? *	N/A

Section 8 – Transitional PRC plan requirements (transitional applications only)

In accordance with transitional provisions in the EP Act, an applicant with an existing EA is able to transition aspects of the PRCP schedule from existing land outcome documents. Indicate below any information that is being transitioned from a land outcome document.

PMLU/NUMA	Rehabilitation /Improvement area	Milestone Reference	Identify which of the below is being transitioned from a land outcome document		Land outcome document	Page No.
			Land outcome	Milestone criteria		
Water storage	Pit	Various	☒	☒	FLURP 2015	Various

Low intensity grazing / open woodland	Most areas	Various	☒	☒	FLURP 2015	Various
Stock Water	Water Mgmt Infrastructure and dams	Various	☒	☒	FLURP 2015	Various
Insert.	Insert.	Insert.	☐	☐	Insert.	Insert.
Insert.	Insert.	Insert.	☐	☐	Insert.	Insert.
Each land outcome document must be submitted with this approved form						
☒ All land outcome documents identified above have been attached to this approved form.						

Section 9 – Declaration*

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

I declare that:

- I am the holder of the environmental authority, or authorised signatory for the holder of the environmental authority.
- The information I have 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 an incomplete application may be invalid. Invalid applications will be returned without processing and will only be processed if resubmitted with all invalidating issues addressed.
- 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.*
- I will comply with all conditions and milestones of my approved PRCP schedule as well as any relevant provisions in the *Environmental Protection Act 1994*.
- I understand that I am responsible for managing the environmental impacts of these activities, and that approval of this application is not an endorsement by the administering authority of the effectiveness of management practices proposed or implemented.

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

☒ I HAVE AUTHORITY TO SIGN THIS FORM ON BEHALF OF ALL THE JOINT HOLDERS OF THE ENVIRONMENTAL AUTHORITY.

Applicant's signature

APPLICANT'S NAME	POSITION	COMPANY / ORGANISATION
Greg Coase	Sustainability Manager	Evolution Mining Ltd – Mt Rawdon Operations Pty Ltd
APPLICANT'S SIGNATURE		DATE 30/06/2021

Joint holder(s) signature if applicable

NAME, POSITION AND COMPANY NAME	SIGNATURE	DATE
Insert.		Select.
NAME, POSITION AND COMPANY NAME Insert.	SIGNATURE	DATE Select.

OR ☐ I HAVE ATTACHED A DOCUMENT THAT PROVIDES THE REQUIRED INFORMATION FOR ALL JOINT HOLDERS.

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

If you are signing on behalf of the environmental authority holder(s) you must provide a letter of authorisation.

Section 10 - Submission

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:

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

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/2019/4957 for this form) or title as a search term.

Appendix 1–PRC plan structure

Appendix 1 describes the formatting/structural requirements for a completed PRC plan. This includes the information required in a PRC plan cover page and table of contents, and the structure of a PRC plan.

A PRC plan must include the following sections in the order listed:

1. **Cover page**
2. **Table of contents**
3. **Rehabilitation planning part**
   - **3.1. Project planning**: This section will include baseline information, site location details, a description of the project and information on rehabilitation/improvement planning.
   - **3.2. Community consultation**: This section will include information on stakeholder consultation including a community consultation register and community consultation plan.
   - **3.3. Post-mining land use**: This section will include the assessment of PMLU options, methodology for determining PMLU options, and details of each nominated PMLU.
   - **3.4. Non-use management areas (if applicable)**: This section will include the justification for the NUMA and details of each nominated NUMA.
   - **3.5. Rehabilitation management methodology**: This section will include information describing how the proposed rehabilitation and management methodology have been develop and will be implemented.
   - **3.6. Risk assessment**: This section will include a risk assessment that identifies the risk of a stable condition for land not being achieved and a risk treatment plan outlining how the applicant will manage or minimise the risk.
   - **3.7. Monitoring and maintenance**: This section will include a monitoring and maintenance program that identifies and describes the monitoring systems that will be undertaken to demonstrate a milestone and milestone criteria have been achieved.
4. **Appendices and attachments**: The completed PRCP schedule and any relevant required reports/plans are to be included in this section.

A PRC plan must contain a cover page including the following information:

- Title of the project
- Document title
- Version number
- Document ID number
- Date of submission
- Tenure number(s)
- EA holder name
- EA holder contact details

A PRC plan must contain a table of contents including the following information:

- Sections of PRC plan
- Sub-sections of PRC plan
- Figures, tables and maps (as applicable)

Attachment 1—Spatial data requirements for PRC plan

Attachment 1 provides guidance on the required content of spatial information (shapefiles) for the submission of a PRC plan. This attachment should be read in conjunction with the department's guideline: Spatial Information Submission (ESR/2018/4337). To obtain a copy of the guideline, the spreadsheet containing the schema (in Table 2) and a shapefile template for PCR plans are available on the Queensland Government's website at www.qld.gov.au, using the search term "submission of spatial information'. The following sections provide information about the required fields and attributes for datasets.

Required files—Table 1

The applicant must submit shapefiles detailing the following:

- the location and maximum extent of disturbance footprint for the mine life
- the PMLU and NUMAs for the area within the resource tenure(s)
- the rehabilitation and improvement areas within the resource tenure(s)
- any sensitive receptors
- extent of a floodplain
- existing rehabilitation (if the PRC plan is for an existing EA)

A minimum of one (1) shapefile must be submitted for a PRC plan, detailing the above-listed information, as outlined within Table 1. Each file must be named in accordance with the requirements outlined within the department's guideline: Spatial Information Submission (ESR/2018/4337).

Where the PRC plan relates to a site where a NUMA or floodplain are not present, this should be stated in the spatial information submission email to which the relevant spatial files are attached.

Table 1: Shapefile checklist

File	Spatial information requirement	Schema	Example file name (e.g. using submission date of 30 June 2020)
1	PRC plan – polygon	Table 2	EPPR00372556_PRCP_PY_30062020

Where:

- PRCP = PRC plan
- PY = polygon (geometry)

Table 2: Schema for PRC plan

Field Name	Type	Length	Definition	Domain Values[4]	Domain Value Description	Mandatory/ Optional
FID	Object ID	N/A	The unique identifier for the spatial feature.			Mandatory
SHAPE	Geometry	N/A	Allowed Geometry: Polygon			Mandatory
PERMIT_REF	TEXT	50	The alpha-numeric environmental authority number relevant to the spatial information (if this PRC plan does not relate to an existing EA, please provide the relevant application number instead).			Mandatory
PROCESS	TEXT	4	The relevant process spatial data is being submitted for	PRCP	Progressive rehabilitation and closure plan	Mandatory
SITE_NAME	TEXT	254	Site name relating to the environmental authority.			Mandatory
SITE_ID	TEXT	20	This field contains a unique identifier for the spatial feature, which has been generated by the applicant.			Mandatory
FEATURE	TEXT	10	This field contains the land use feature on site which this polygon or point is describing. Select the relevant option of either post-mining land use, rehabilitation area, non-use management area, improvement area, maximum disturbance footprint, sensitive receptor, existing rehabilitation or floodplain using the codes specified.	PMLU	Post-mining land use	Mandatory
				REHAB_AREA	Rehabilitation area	Mandatory
				NUMA	Non-use management area	Mandatory if the PRCP schedule proposes or changes a non-use management area
				IMPRV_AREA	Improvement area	Mandatory if the PRCP schedule proposes or changes a non-use management area
				FOOTPRINT	Maximum disturbance footprint over mine life	Mandatory
				SR	Sensitive receptor	Mandatory

[4] If blank, populate based on Attribute type and definition.

Field Name	Type	Length	Definition	Domain Values[4]	Domain Value Description	Mandatory/ Optional
				EX_REH	Existing rehabilitation	Mandatory if the application is for an existing EA and there is existing rehabilitation undertaken
				FLDP	Floodplain	Mandatory if there is a floodplain located within the EA boundary
FEAT_DESC	TEXT	254	Feature description		This field provides a description of the feature identified in 'FEATURE'.	Mandatory
PMLU_TYPE	TEXT	10	This field provides a description of the post mining land use type.	GRAZ	Grazing	Mandatory for each PMLU.
				NAT_ECO	Native ecosystem	
				WTR_ST	Water storage	
				REC	Recreation	
				HB_ECS	Habitat and ecosystem services	
				AGRI	Agriculture	
				FOR	Forestry	
				CROP	Cropping	
				PERM_INFRA	Permanent infrastructure	
				IND	Industrial	
				LNDFL	Landfill	
				Oth	Other	
DATE_	DATE	dd/mm/ yyyyy	Date of submission. This field identifies the date the spatial information was submitted.			Mandatory
SOURCE	TEXT	5	This field identifies the source of the spatial information and the capture methodology for the spatial information provided.	DIG	Digitising (Tracing over Ortho Imagery)	Mandatory
				GPSD	GPS Differential Survey	

Field Name	Type	Length	Definition	Domain Values[4]	Domain Value Description	Mandatory/ Optional
				GPSND	GPS Non Differential Survey	
				RTK	Real-Time Kinematic (RTK) Survey	
				UK	Un Known	
AREA_HA	DOUBLE	N/A	This field indicates the area in Hectares. (Polygon only)			Mandatory if GEOMETRY = polygon.
COMMENTS	TEXT	254	A free text field has been provided to include any additional information the proponent wishes to provide in relation to the data.			Mandatory if PMLU_TYPE = Oth

northern resource consultants

Final Land Use and Rehabilitation Plan

Mt Rawdon Operations

January 2015

prepared for

Mt Rawdon Operations Pty Ltd

Contact Information	Details
Organisation	Northern Resource Consultants Pty Limited
Contact Person	Marty Costello
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Document Control	Details including responsible party and date
Emily Gerard	Changing FLURP to new template, updating September 2013 edition. 15/08/2014
Gemma Kenny	Review 04/09/2014, generating RFI for MRO
Emily Gerard	15 /01/15 Completing FLURP with response to RFI
Marty Costello	25/02/2015- Changes according to client review

Limitations of this Report

Client: Mt Rawdon Operations Pty Ltd

Prepared by Northern Resource Consultants (NRC)

This disclaimer brings the limitations of the investigations to the attention of the reader.

The information in this report is for the exclusive use of Mt Rawdon Operations Pty Ltd. Mt Rawdon Operations Pty Ltd is the only intended beneficiary of our work.

We cannot be held liable for third party reliance on this document. The information within this report could be different if the information upon which it is based is determined to be inaccurate or incomplete.

The results of work carried out by others may have been used in the preparation of this report. These results have been used in good faith, and we are not responsible for their accuracy.

This report has been formulated in the context of published guidelines, field observations, discussions with site personnel, and results of laboratory analyses.

NRC's opinions in this document are subject to modification if additional information is obtained through further investigation, observations or analysis. They relate solely and exclusively to environmental management matters, and are based on the technical and practical experience of environmental scientists.

They are not presented as legal advice, nor do they represent decisions from the regulatory agencies charged with the administration of the relevant Acts.

Any advice, opinions or recommendations contained in this document should be read and relied upon only in the context of the document as a whole and are considered current as of the date of this document.

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Introduction

In Queensland, rehabilitation of mining operations is required under the *Environmental Protection Act 1994* (Qld) s 262, applicable in cases where the environmental authority contains conditions about rehabilitation. Under this Act, rehabilitation is required to reduce the disturbance caused by authorised mining activities and to minimise the potential for future environmental harm.

This Final Land Use and Rehabilitation Plan (FLURP) has been prepared for Mt Rawdon Operations Pty Ltd, a wholly owned subsidiary of Evolution Mining Ltd, and outlines the rehabilitation requirements for the Mt Rawdon Operations (MRO). This plan is designed to meet the rehabilitation specifications and requirements of the MRO environmental authority EPML00712113, dated 4 September 2014 (the EA).

The strategies and approaches described in this document align with the Department of Environment and Heritage Protection's (EHP) guideline *EM1122 Rehabilitation requirements for mining resource activities* (version 2, May 2014) (EHP 2014a).

This plan is a living document and is designed to be updated as the environmental authority is updated, and as best practice rehabilitation techniques are further developed. Wherever experimental rehabilitation has been conducted on site and a preferred approach for site conditions identified, such approaches will be included in future revisions of this document, under Section 7: Description of Rehabilitation Management Techniques.

This plan differentiates between three different mine closure scenarios: planned closure, unplanned closure and transition into temporary care and maintenance. The precise approach to rehabilitation strategies described in this plan will be dependent on the applicable mine closure scenario.

This FLURP has been prepared for MRO. MRO is located approximately 14km southeast of Mount Perry and approximately 80km southwest of Bundaberg (see location map in Appendix A of this document).

Operations at MRO are subject to the conditions within the EA. Schedule F of the EA details the rehabilitation specifications and criteria authorised for the operation. Condition F9-2 of the EA specifically outlines:

> *The holder of this authority must develop and implement a Final Land Use and Rehabilitation Plan to ensure that all areas disturbed by mining activities will be suitably rehabilitated to achieve the final land use descriptions specified in Schedule F – Table 3, and the objectives specified in (F8-1). The Plan must include, but may not be limited to the following:*
>
> *i) disturbance type;*
>
> *ii) disturbance area;*
>
> *iii) pre and post mine land descriptions;*

iv) pre mine and post mine land suitability;

v) reference site(s) identification;

vi) proposed vegetation species;

vii) a description of rehabilitation management techniques incorporating works and monitoring programs and timetables;

viii) indicators for success; and

ix) keeping of appropriate records of rehabilitation implemented including taking of photographs demonstrative of rehabilitation achieved and the preparation of annual rehabilitation progress reports. A summary of the annual rehabilitation progress report must be submitted to the administering authority with each annual return.

The scope of this Plan is to provide rehabilitation methodologies consistent with the above condition of the MRO EA and the current EHP guideline *EM1122 Rehabilitation requirements for mining resource activities.*

Final Land Use and Rehabilitation

1. About the Mt Rawdon Operation

1.1 Background

The Mount Rawdon gold deposit is a large tonnage, volcanic-hosted, low-grade gold deposit, with gold occurring as either fine-grained free gold or closely associated with sulfide minerals.

Site-specific exploration at Mount Rawdon Operations (MRO) began in 1969 with rock chip sampling undertaken by Noranda Ltd identifying a significant +0.7g/t Au surface anomaly (Placer Pacific 1996). An in-depth feasibility study was conducted in the mid 1990s. Equigold NL acquired the project, and construction on MRO commenced, in early 2000. MRO was commissioned in January 2001. During operations in 2001, Equigold completed a targeted drilling program immediately below and adjacent to the existing pit. The result of this program was an increase in the reserve from 22.8Mt to 45.85Mt of ore.

In 2005, a redesign of the open pit was completed based on the increased cut-off grade and steeper pit wall angles. In 2008 Equigold merged with Lihir Gold Limited. In 2010 Lihir Gold Limited merged with Newcrest Mining.

In 2011 the project reached a milestone – one million ounces of gold produced in the 10 years since commissioning. Later in that same year, Evolution Mining was created through a merger between Catalpa Resources and Conquest Mining, and acquired 100% of MRO via a concurrent acquisition of Newcrest Mining's Cracow and Mount Rawdon gold mines. In July 2014 another milestone was reached: 40t of gold produced.

1.2 Current Operations

MRO is an active open pit gold mine that operates using conventional open pit mining methods. The associated processing plant incorporates primary and secondary crushing, semi-autogenous grinding (SAG) and ball milling, followed by conventional cyanide leaching. As of 2014, mill throughput is maintained at 3.5 million tonnes per annum of ore with a gold recovery of approximately 90 per cent, and the pit is currently over 200m deep below the original mountain outcrop.

The current life of the mine estimates production continuing until 2022, which is eight years from the date of this application to amend the Environmental Authority (EA) EPML00712113. Processing is undertaken adjacent to the open cut pit, via conventional cyanide leach extraction. Tailings are stored in the TSF1, which has a disturbance footprint of approximately

160ha, located 400m north of the open pit. The Process Water Dam and the TSF operate in a closed circuit by recycling water back to the processing operation.

MRO has approximately 230 employees including full time, part time, casual and contract workers. The majority of the MRO workforce rent locally and return to permanent places of residence when off shift, with an overall breakdown as follows:

- Approximately 45 per cent of staff are permanent residents of the Mt Perry, Burnett Region,
- Around 20 per cent of staff commute from the Gin Gin and South Kolan area
- A further 20 per cent of staff drive in and out from residential accommodation in the greater Wide Bay region,
- The remaining 15 per cent of the workforce are located outside the Wide Bay region.

Since operations commenced, the population of Mt Perry has grown from around 250 people to close to 500. MRO is the largest employer in the area encompassed by the North Burnett Regional Council. MRO is a major contributor to the Mt Perry community and the broader North Burnett.

Based on current economic and operational considerations, including geological confidence, cost of production and metal prices, there is potential for extension of MRO's life of mine past 2022. This would allow the operation to capitalise on the significant mineral resources remaining unmined. MRO is assessing potential ways to extend the life of mine and realise the continued benefits to the operation, the local community, and the state of Queensland.

2. Disturbance Type and Area

Current disturbance types and surface area as outlined in the EA at MRO are provided in Table 1.

Table 1: Current disturbance types and sizes at MRO

DISTURBANCE TYPE	SURFACE AREA (ha)
Total Pit Crest Area	69.5
Residual Void (Pit)	40.8
Residual Void – Batters	NA
TSF1 – 175mRL Designed Capping	118
TSF1 – Outer Batters	NA
North Waste Rock Dump (WRD) – Capping and Benches (inclusive ROM)	105
North WRD – Outer Batters	NA
West WRD – Current Capping and Benches	37.2
West WRD – Outer Batters	NA

DISTURBANCE TYPE	SURFACE AREA (ha)
Plant	15
Site Roads	25.7
Sediment Dams and WRD Containment Dams	28.8
Topsoil Stockpiles	26.9
Fuel and Oil Storage	0.42
Water Supply Corridor (exclusive of roads)	2.4

NA = Not available

3. Pre and Post-mine Land Descriptions

The main pre-mining land use of the MRO site was cattle grazing on native and improved pastures (LGL MRO 2010). Swindon Station and surrounding properties had been extensively grazed by sheep since the 1850s and by cattle since the 1880s (Royle 1980).

The MRO site has been divided into a number of domains that will require rehabilitation to achieve the post-mine land use objectives that are outlined in Schedule F of the EA. The post-mine descriptions of the domains at MRO as per the EA are provided in Table 2. For a map that conceptually illustrates the fundamental design elements of the final landform of the mine site, please refer to the final land use map in Appendix A of this document.

Table 2: Post-mine land descriptions for MRO domains, (as per Schedule F – Table 3 of the EA)

DOMAIN	DOMAIN DESCRIPTION	POST-MINE DESCRIPTION
Residual Void (Pit)	MRO operates a single, open cut pit with a surface area of 69.5 ha. With a water surface area of 40.8 ha at RL120m.	Water storage
WRDs, Run of Mine (ROM) and stockpiles	**The Northern Waste Rock Dump (NAF and PAF)** The Northern WRD is utilised for the disposal of both NAF and PAF waste rock material. The dump covers an area of approximately 105 ha	Open woodland/ Low intensity grazing
	The Western Waste Rock Dump (NAF Only) Construction of the Western WRD began in 2014. It is a NAF material only dump. The final approved footprint of the dump is 73ha. The current disturbance footprint however is 49.1ha.	
TSF1 and TSF2	The TSF1 covers an area of 165.5ha. The TSF2 has yet to be approved.	Open woodland/ Low intensity grazing

DOMAIN	DOMAIN DESCRIPTION	POST-MINE DESCRIPTION
Roads and Access Tracks	The total disturbed area on site that has been allocated to haul roads, access roads and tracks and power corridors is approximately 25.69ha	Open woodland/ Low intensity grazing
Workshops and Infrastructure Management Areas	The majority of the site infrastructure located at Mt Rawdon is centralised to the operation, with the TSF to the northwest, the pit to the east-northeast and the Western WRD to the west-southwest. The total disturbance area calculated for workshops and infrastructure management areas is approximately 17.86ha	Open woodland
Water Management Infrastructure and Dams	Water management dams (excluding Perry River Dam) at MRO cover approximately 28.8ha in total.	Stock water/ Low Intensity Grazing

4. Pre-mine and Post-mine Land Capability

Pre-mine land capability was assessed by Land Reclamation Services in 1996. This report assessed the land capability against Rosser *et al*. 1974, which continues to be the main method for land capability assessments today.

Under this system, land can be claasified into eight classes, as outlined in Table 3.

Table 3: Land Capability Classes (EHP 2014b)

CLASS	DESCRIPTION
I	Suitable for permanent cultivation with few limitations
II	Suitable for permanent cultivation with slight limitations
III	Suitable for permanent cultivation with moderate limitations
IV	Suitable for occasional or limited cultivation with severe limitations
V	Unsuitable for cultivation; can be used for grazing when not flooded
VI	Unsuitable for cultivation; can be used for grazing and forestry with moderate limitations
VII	Unsuitable for cultivation but suitable for grazing and forestry with severe limitations
VIII	Unsuitable for cultivation, grazing and forestry

Land Reclamation Services (1996) classified the majority of land at MRO as Class VII and VIII. Class VIII land was mainly present on the deposit area itself (residual void). Some marginal Class VI existed on flatter slopes between drainage lines in the north and east of the project area. In general the land was already cleared and pastures improved. No superior classes of

land were noted to exist. Post-mine land capability classes for the domains at MRO are provided in the EA, and included in Table 4.

Table 4: Post-mine land capability classes for MRO domains (as outlined in Schedule F – Table 3 of the EA)

DOMAIN	POST-MINE LAND CAPABILITY CLASSIFICATION
Residual Void (Pit)	Water Storage
WRDs, Run of Mine (ROM) and stockpiles	VII
TSF1 and TSF2	VII
Roads and Access Tracks	VI / VII
Workshops and Infrastructure Management Areas	VI
Water Management Infrastructure and Dams	Water Storage / VI

5. Identification of Reference Sites

Reference sites are used in revegetation monitoring as a means of providing a baseline, against which future land use rehabilitation can be measured to prove success. General reference sites for the domains at MRO have been provided in the EA and reproduced in Table 5 of this report; (MRAS_OW represents 'Mt Rawdon Analogue Site_Open Woodland', and MRAS_LIG represents 'Mt Rawdon Analogue Site_Low Intensity Grazing'). Specific locations for the revegetation assessments will be determined upon decommissioning of each domain and the revegetation monitoring program designed.

Once domains have been revegetated, specific reference sites will be selected in areas adjacent to current mining operations, within areas that have the corresponding land use capability, as provided in Table 5.

Table 5: Reference sites per domain (as provided in Schedule F – Table 3 of the EA)

DOMAIN	POST-MINE LAND DESCRIPTION	GENERAL REFERENCE SITE
Residual Void	Water Storage	NA
Residual Void batters	Rock face. Must demonstrate long term geotechnical stability. Top of put to be safely bunded.	NA
Tailings dam capping	Open woodland/Low intensity grazing	MRAS_OW / MRAS_LIG

DOMAIN	POST-MINE LAND DESCRIPTION	GENERAL REFERENCE SITE
North WRD capping and benches	Open woodland/Low intensity grazing	MRAS_OW / MRAS_LIG
North WRD outer batters	Rock face	NA
West WRD capping and benches	Open woodland/Low intensity grazing	MRAS_OW / MRAS_LIG
West WRD outer batters	Rock face	NA
Plant	Open woodland	MRAS_OW
Site roads	Open woodland/Low intensity grazing	MRAS_LIG
Sediment dams and WRD containment sames	Stock water	NA
	Low intensity grazing	MRAS_LIG
Topsoil stockpiles	Open woodland/Low intensity grazing	MRAS_OW / MRAS_LIG
Fuel and oil storage	Low intensity grazing	MRAS_LIG
Water supply corridor	Open woodland	MRAS_OW
Water supply weir	Water storage	NA

NA = not applicable

6. Proposed Vegetation Species

A number of native vegetation species have been proposed for rehabilitation at MRO. These vegetation species were chosen based on the regional ecosystems and the vegetation currently present in the MRO surrounds. The vegetation species proposed at MRO are provided in Table 6.

Table 6: Potential species for rehabilitation at MRO

FORM	SPECIES NAME	COMMON NAME	INFORMATION
Tree	*Corymbia tessellaris*	Moreton Bay Ash	Dominant – associated with RE 12.12.5 (Ryan 2012).
	Corymbia citriodora subsp. *variegata*	Lemon-scented Gum	Dominant – associated with RE 12.12.5 (Ryan 2012).
	Corymbia trachyphloia	Brown Bloodwood	Sporadically occurring – associated with RE 12.12.5 (Ryan 2012).
	Eucalyptus crebra	Narrow Leaved Ironbark	Dominant – associated with RE 12.12.5 (Ryan 2012).

FORM	SPECIES NAME	COMMON NAME	INFORMATION
	Eucalyptus moluccana	Gum-topped Box	Subdominant – associated with RE 12.12.5 (Ryan 2012).
	Eucalyptus tereticornis	Forest Red Gum	Dominant – associated with RE 12.12.5 (Ryan 2012).
	Lophostemon confertus	Brush Box	Sporadically occurring (predominantly wetter areas but also tolerant of drier soils) – associated with RE 12.12.5 (Ryan 2012).
Shrub	*Acacia disparrima* subsp. *disparrima*	Hickory Wattle	Frequently occurring – associated with RE 12.12.5 (Ryan 2012). Nitrogen fixing, good for soil improvement (Maslin and McDonald 2011; Brockwell *et al.* 2005).
	Acacia leiocalyx	Black Wattle	Dominant – associated with RE 12.12.5 (Ryan 2012). Nitrogen fixing, good for soil improvement (Maslin and McDonald 2011; Brockwell et al. 2005).
	Alphitonia excelsa	Red Ash	Dominant – associated with RE 12.12.5 (Ryan 2012). Most common shrub in the area, good pioneer species (will compete with invasive shrubs such as lantana). Tolerates wide range of temperatures and moisture conditions (Doran and Turnbull 1997).
	Acacia falcata	Sickle Leaf Wattle	Nitrogen fixing, good for soil improvement (Maslin and McDonald 2011; Brockwell et al. 2005).
	Leptospermum polygalifolium	Tantoon	Frequently occurring – associated with RE 12.12.5 (Ryan 2012). Hardy, adaptable to soil conditions and frost tolerant (Greening Australia 2007). Good windbreaker, used to shelter exposed sites (Greening Australia 2007).
	Glycine tabacina	Glycine Pea	Nitrogen fixing, good for soil improvement.
Legume	*Crotalaria montana*	Rattlepod	Nitrogen fixing, good for soil improvement.
	Bothriochloa decipiens	Pitted Bluegrass	Erect, perennial grass that is widespread across communities in Southeast Queensland. Low weed potential, tolerant of low nitrogen levels, well adapted to areas that receive over 500mm of rainfall, but will persist in drier areas also (Clayton 2012).
Grass	*Cymbopogon refractus*	Barb Wire Grass	Prefers poor soils, low forage value, drought tolerant.

FORM	SPECIES NAME	COMMON NAME	INFORMATION
	Eriochloa pseudoacrotricha	Cupgrass	Naturally colonises topsoil. Potentially salt tolerant. Can form extensively – creating good groundcover. Good forage value.
	Heteropogon contortus	Black Spear Grass	Dominant – associated with RE 12.12.5 (Ryan 2012). Well established in the area, very common in woodland vegetation communities throughout Southeast Queensland (Debuse and Lewis 2007).
	Themeda triandra	Kangaroo Grass	Associated with woodland vegetation communities in the Southeast Queensland region (Debuse and Lewis 2007).
	Eragrostis leptostachya	Paddock Love Grass	Associated with woodland vegetation communities in the Southeast Queensland region (Debuse and Lewis 2007).

7. Description of Rehabilitation Management Techniques

7.1 Identification and Management of Closure Issues

The Evolution Corporate Performance Standard (*EVN-COR-STD-0003 Risk Management)* provides a process of risk assessment to evaluate proposed closure methods and alternative options for the project. The process is based on the AS/NZS ISO 31000:2009 standard.

It is intended that following a risk-based approach will lead to a closure process that offers the following benefits:

- A more confident and rigorous basis for decision-making and planning,
- Better identification of opportunities and threats,
- Gaining value from uncertainty and variability,
- Proactive rather than reactive management,
- More effective allocation and use of resources,
- Improved incident management and reduction in loss and the cost of risk,
- Improved stakeholder confidence and trust,
- Improved compliance with relevant legislation.

7.2 Rehabilitation Guidelines

The rehabilitation guideline set out by EHP within the *EM1122: Guideline requirements for mining projects* specifies that the rehabilitated landforms should meet four general rehabilitation goals. They must be:

1. Safe to humans and wildlife
2. Non-polluting
3. Stable
4. Able to sustain an agreed post mining land use.

Possible strategies outlined in the guideline to achieve these general rehabilitation goals are provided in Table 7.

Table 7: Possible strategies to achieve rehabilitation goals for various domains (sourced directly from *EM1122 Guidelines requirements for mining projects*)

DOMAIN	OUTCOMES	GOALS			
		Safe	**Non-polluting**	**Stable Landform**	**Sustains Agreed Land Use**
Final Voids, Shafts, Audits and Subsidence	**Generally acceptable**	- Backfill to original ground level (or higher to allow for settlement) - Seal or install bat gates for shafts and audits - Structurally sound; safe to people and animals - No hazardous materials - Treat hazardous material - Remove hazardous material.	- Contains good quality water - Moderate quality but no connectivity - Low risk of groundwater contamination or overflow but monitoring and management in place.	- Backfill voids and shallow shafts Stable collar and capping or cover for shafts - Battered slopes with vegetative cover.	- Natural ecosystem restored - Alternative high value use, e.g. water reservoir, good quality agricultural land, recreational use.
	May be acceptable	- Cover hazardous material with benign material or water - Build safety barriers.	- Void acts as a sink or reservoir for contaminated water with minor risk to stock or wildlife.	- Battered moderate slopes with little vegetation - Steep slopes in competent rock.	- Waste disposal (if site approved under the *Sustainable Planning Act 2009*) - Industrial or commercial land use - Unused void with low risk.
	Rarely acceptable	- Contains exposed hazardous materials (e.g. potentially acid forming or containing heavy metals).	- Poor water quality that poses a high risk to stock or wildlife.	- No action is structurally unsound, geotechnical instable, a threat to nearby sensitive places and infrastructure.	- Accumulates hazardous material.
Waste Disposal	**Generally acceptable**	- Structurally safe, no hazardous material - Structurally safe, treated hazardous material.	- Runoff and seepage will be good quality water that is unlikely to affect known environmental values.	- Place wastes below natural land surface (i.e. below grade) - Place wastes above natural surface with minimal slopes (e.g. less than 5°)	- Reinstate original ecosystem - Create a different use with enhanced environmental, economic or social values acceptable to stakeholders - Return to previous use/condition.

	May be acceptable	- Structurally safe, hazardous material adequately contained.	- Potential for pollution of water that is managed by:
			  - Natural low groundwater connectivity (demonstrated by hydrological studies)
			  - Impervious capping or lining
			  - Store and release capping.
				- Place wastes above ground with moderate slopes.	- Return to previous use, or a different use, or a different use with reduced environmental, economic or social values (evidence that use is acceptable to stakeholders would be essential).
					- Managed constrained use.

	Rarely acceptable	- uncontained or inadequately contained hazardous materials.	- Waste disposal facility contains inadequately managed severely contaminated water or water requiring continuing treatment.	- Place above ground with angle of repose slopes.	- Unusable contaminated site that is not adequately managed.
Tailings Dam	**Generally acceptable**	- Structurally safe (appropriate certification against relevant code) – no hazardous materials - Structurally safe – treated hazardous material.	- Runoff and seepage will be good quality water that is unlikely to affect known environmental values.	- Stored in redundant pit below natural surface level with appropriate erosion control - Outer walls designed for long term stability - Vegetation cover established and preventing erosion.	- Reinstate original ecosystem - Create a different use with enhanced environmental, economic or social values acceptable to stakeholders - Return to previous use/condition - Site management plan in place and effective.

DOMAIN	OUTCOMES	GOALS			
	May be acceptable	- Containment of hazardous material but limited strengthening of walls or capping.	- Eliminate inflow - Breach wall to prevent ponding - Armoured impervious capping with capillary break if needed - Store and release capping - Collect and treat seepage.	- Appropriate maintenance program proposed.	- Return to previous use, or a different use with reduced environmental, economic or social values (evidence that use is acceptable to stakeholders would be essential) - Manage constrained use.
	Rarely acceptable	- Unstable poorly designed structure.	- Seeping contaminated water to surface or ground water.	- High risk of instability and structural failure.	- Unusable contaminated site that is not adequately managed.
Infrastructure	**Generally acceptable**	- No hazardous structure or chemicals used in mine - Avoid effects of hazardous materials on site by restricting use to fully contained facilities which are cleaned and removed from site - Treat hazardous materials - Remove hazardous materials.	- After removal of infrastructure – runoff and seepage will be good quality water that is unlikely to affect known environmental values - Remediate contamination so that runoff and seepage will not have unacceptable effects on known environmental values.	- Allow continued use of permanent infrastructure that is stable or is managed under a maintenance program - Remove infrastructure, reshape disturbed areas to resemble surrounding landscape and establish adequate vegetation cover.	- Avoid areas of remnant vegetation by locating infrastructure on previously cleared areas - Reinstate original ecosystem - Create a different use with enhanced environmental, economic or social values acceptable to stakeholders - Return to previous use/condition.
	May be acceptable	- Containment or hazardous materials.	- Minimise runoff or seepage that is likely to have unacceptable effects on known environmental values e.g. by eliminating inflow through impervious capping - Collect and treat seepage.	- Erosion rates higher than surrounding areas but an appropriate maintenance program proposed.	- Return to previous use, or a different use with reduced environmental, economic or social values (evidence that use is acceptable to stakeholders would be essential) - Managed constrained use.
	Rarely acceptable	- Unsafe poorly designed structure.	- Seeping contaminated water to surface or groundwater.	- Landform has doubtful stability.	Unusable contaminated site that is not adequately managed.

7.3 Rehabilitation Techniques for the MRO Domains

Residual Void (Pit)

Final Land Use Objective

The intended final land use for the pit at MRO is as a residual void acting as a water storage. In order to achieve this land use, it is vital that the water in the pit poses no harm to the receiving environment. The safety risk of a water body of this nature also needs to be managed, so the water body poses minimal risk to people, wildlife and stock.

Indicative Completion Goals

The pit can be considered successfully rehabilitated to an agreed final land use when:

- Access to the pit is restricted by construction of a safety bund that would prevent accidental access to the pit.
- In the case of a person or animal ending up in the water body in the pit, egress from the pit is manageable through reasonable means.

Rehabilitation Activities

In order to achieve the indicative completion goals for rehabilitating the pit to an agreed final land use, the following actions should take place post operational activity.

Rim stabilisation activities will be conducted within 20 metres from of the pit crest to counter any possible landslip of the pit edge into the pit and a 2m high bund be constructed 20 metres from the crest of the residual void. Where possible, access ramps into the pit should be retained to allow reasonable egress in the event of accidental immersion in the water body. A fence around the perimeter of the pit will also be installed to restrict entry of wildlife and livestock.

Waste Rock Dumps

Final Land Use Objective

The post-mine land use objectives for the waste rock dumps is as fully revegetated, natural looking landforms capable of sustaining appropriate regional ecosystems for the area and the possibility of light intensity cattle grazing where the steepness of the slopes allow it.

The steepness of the slopes on the finished landform must be conducive to a geotechnically stable structure, with erosion and sediment control landscaping that ensure erosion rates will not interfere with the achievement of final land use.

In the case of the Northern WRD, which has a combination of NAF and PAF material, the hazardous material content of the final landform must be managed appropriately to ensure that any runoff of precipitation or seepage from the WRD poses no harm to the receiving environment. While the Western WRD is nominated as a NAF only dump, the similiar precautions should be taken into consideration when rehabilitating this landform.

Indicative Completion Goals

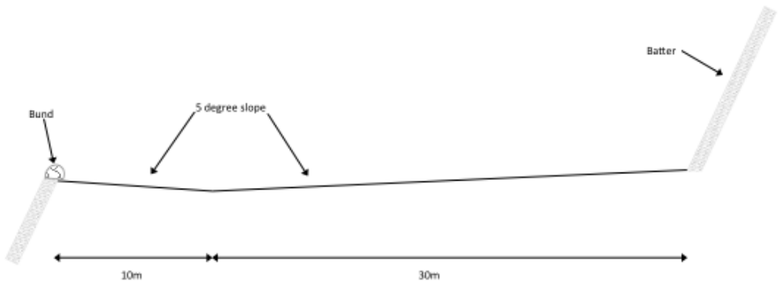
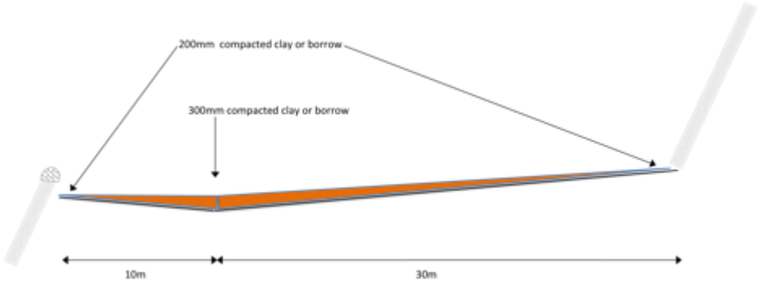
The EA designates the post-mine land use capability for the rehabilitated WRDs should be class VII for the crest of the dumps, and benches and no applicable land class for the outer batters. According to the EA (condition F8-1) In terms of final dump structure:

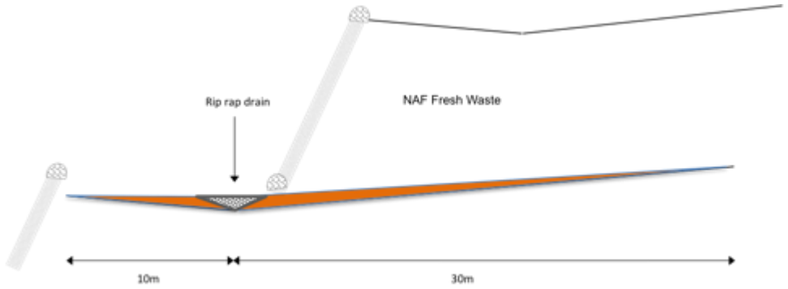
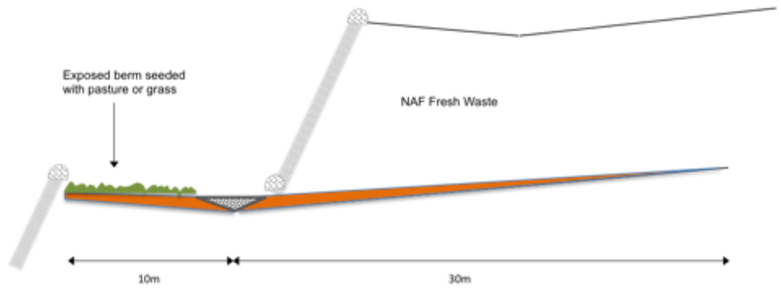
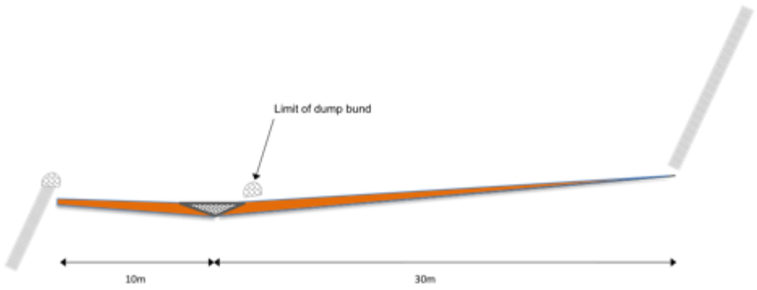
- Slopes must not exceed the angle of repose,
- The maximum bench intervals should be no greater than 25m vertical height,
- The minimum bench width of six metres,
- Benches must be constructed with a 5% back-slope grade,

Rehabilitation Activities

The following rehabilitation activities are required to rehabilitate the WRDs in relation to preparation of the berms and batters. This information was provided to MRO by Haymont (2013) and has now been provided in Table 8.

Table 8: Rehabilitation Activities

REHABILITATION ACTIVITY	
Preparing Mine Waste	Mine waste should be prepared such that a minimum 40m wide berm is prepared to a smooth traffic compacted surface, material permitting. The berm should reach from the toe of the crest bund to the toe of the batter rill. The berm should grade laterally across the face of the dump at a nominal 2% fall. The grade across the berm should be a V-section, with a 30m section grading downwards from the toe of the North Dump rill to the bottom of the drain at a 5% slope. There should then be a 10m section grading downwards from the toe of the crest bund to the bottom of the drain.
Preparing Crest Bund	A bund, not less than 1m in height, should be constructed at the outer edge of the berm. Armouring oxide or growth media is the most desirable material for construction of the bund. All berm surfaces, even temporary surfaces, should grade away from this bund and towards the batter toe.  Figure 1: Waste rock berm preparation, configuration, trim and perimeter bund
Lining the Drain	If there is available clay from a clay stockpile or borrow, this should be used to construct a conditioned drain liner. If there is no clay available, the next best alternative growth media or borrow should be used. This material should be harvested, placed, conditioned and compacted such that after compaction the lining is at nominal 200mm thick at the shallowest point. The bottom of drain area should be approximately 300mm thick. These lining surfaces should be finished and trimmed to a good standard across the entire berm surface. At this point in construction, work should be checked to ensure the construction specifications and angles have been met.  Figure 2: Sealing material compacted as liner and trimmed

REHABILITATION ACTIVITY	
Armouring the Drain	A 2-3m wide section straddling the bottom of the drain should be armoured to a depth of 100mm, using well-graded, coarse NAF waste. To place this material, cut a slot from the toe of the limit of dump marker bund outwards for 2.5m, with the cut material cast up onto the 10m-berm that is adjacent to the new cut. This cut should be filled with select material which is well graded but coarse. The fill material should not exceed 150mm in depth. It is essential that this material be placed below the drain batter, such that water from each side of the drain will flow onto the armoured section, and not run beside the armour, eroding the fill to the sides of the armour and causing the armour to sit proud of the base of the drain. If the material is placed into the drain to the level of the edge of the cut and is heavily compacted and conditioned, it should compact to the desired invert level below the drain batter.  Figure 3: Installation of bottom of drain armour layer  Figure 4: Detail section of armoured layer at the bottom of the drain
Marking the Limit of Dumping	Once the drain lining is laid, a line of flagged pegs should be placed at 100m intervals to mark the placement of the limit of tipping. These pegs should be placed so no butt-dumped waste comes within 1m of the bottom of the drain. Smaller haul trucks would be more desirable vehicles, to minimise disturbance to the drain liner. Oversized dump trucks should be avoided in these bund lines.  Figure 5: Placement of pegs and limit of dumping butt dump marker bund

REHABILITATION ACTIVITY	
Revegetation of the Exposed Berm	All of the exposed berm, apart from the armoured section of the bottom of the drain, should be very lightly scarified and seeded with pasture species or couch grass. The crest bund can also be hand seeded. Once established, this vegetation will help to prevent erosion and hold the surfaces of the crest bund and the exposed berm in place.
Monitoring, Repairs and Maintenance	In some areas of the berm, differential consolidation or a failure to meet the required construction tolerances may lead to localised failure of the drain. This will most likely present in the first few years of drain operation. If these areas are promptly restored to construction and quality standards described in this document, they should stabilise for the long term.
Accumulated Flow	The steps described above are for generic segments of the berm. In exceptional instances, segments of the berm may transport flow more than 2km. Other segments of the berm may have to cope with additional volumes of flow redirected from other berms higher up on the North Dump. Such accumulated flows may have a flow velocity in excess of the capacity of the measures implemented in berm construction. Hydrologic assessments may be required where large flow accumulations may occur. Site water engineers, ATC Williams, would be able to conduct hydrologic modelling on the berm designs and identify areas that would require specific erosion control measures to preserve the integrity of the drain. Wherever possible, water delivered from higher berms should not accumulate in berms down gradient, but should be directed to natural ground or feed into an engineer-designed drop structure.
Drop Structures	The berms should be constructed to direct runoff to the closed circuit impacted water system, until the water quality is demonstrated to be appropriate for discharge into the receiving environment. The drop structures should be carefully designed and constructed to carry a probable maximum precipitation (PMP) level flow. Revetment or laminar flow concrete segment structures are recommended in drop structure design, as these are very long term structures.

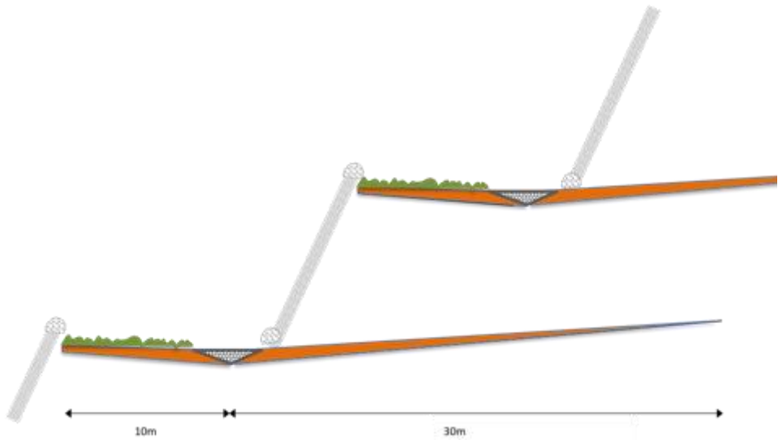


Figure 6: Rehabilitation of exposed berm with stoloniferous or rhizatomous grass

Tailings Storage Facilities

Final Land Use Objective

The post-mine land use objectives for TSFs is fully revegetated, natural looking landforms capable of sustaining appropriate regional ecosystems for the area and the possibility of light intensity cattle grazing on flat sections.

The steepness of the embankment slopes on the finished landform must be conducive to a geotechnically stable structure, with erosion and sediment control measures that ensures erosion rates will not interfere with the achievement of final land use objective.

All hazardous material content of the final landform must be managed appropriately to ensure that any runoff of precipitation or seepage from the TSF poses no harm to the receiving environment or to environmental values.

Proposed Capping System for TSF1 and TSF2

The proposed TSF capping system was outlined in the response to EHP's Request for Information (RFI) regarding TSF1's capping system and reproduced here (MRO 2014). While this capping system is proposed for TSF1, it will be the same capping system used for TSF2 once it is approved and constructed.

The proposed TSF capping system is:

- 100mm topsoil or growing media, overlying
- 900mm of well graded earthen mine overburden (rock mulch), overlying
- a trafficking mattress, the depth of which is dependent on tailings foundations conditions which will be determined at the time of cap construction.

Based on the geochemical characteristics of the tailings, tailings are considered benign and non-acid forming. Hence, it was considered the preferred capping option for the TSFs, taking into considered MRO's climate, is to sustain surface vegetation and to minimise the net movement of moisture into the tailings mass (as recharge to seepage). The design philosophy of the capping system is based on unsaturated flow subject to the influence of both rainfall and evaporation. Under these conditions, moisture moves from pore to pore by flowing over the surfaces of particles while there is a considerable amount of air in the larger pore spaces. This design approach is based on hydrological modelling by numerical techniques, with the relative performance of different capping option in terms of moisture storage and losses from the model to be assessed (seeTable 13 for capping options to be trialles and timeframes fo undertaking these trials).

The TSF capping concept is summarised as a Bulk Cover Concept System (Figure 7) which included subsoil horizon placed beneath the topsoil layer, the purpose of which is to provide a buffer between the vegetation rooting zone and the underlying tailings, and also to provide additional capacity for moisture storage.

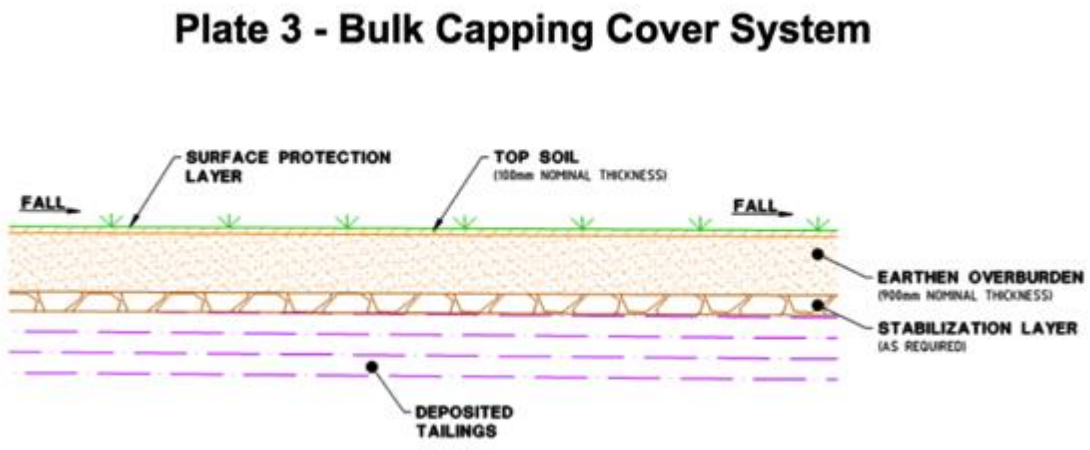


Figure 7: Bulk Capping Cover System design

Indicative Completion Goals

The post-mine land use capability for the rehabilitated TSFs should be class VI
I for the capping, and not applicable for the outer batters due to rock armouring, as per Schedule F – Table 3 of the EA. According to the EA (condition F8-1) In terms of embankments of the landform:

- Slopes must not exceed 45 degrees in angle,
- The maximum bench intervals should be no greater than 10m vertical height,
- The minimum bench width of six metres,
- Benches must be constructed with a 5% back-slope grade.

Rehabilitation Activities

In order to achieve the indicative completion criteria for rehabilitating the TSFs to an agreed final land use, the following actions should take place post operational activity.

The structure of the TSFs should be constructed with maximum bench intervals of 25m and minimum bench widths of six metres as per the EA (condtion F8-1) The embankment slopes should be reshaped if necessary to achieve long term geotechnical stability and establish adequate drainage to limit ponding. Interception of any seepage will be redirected through a network of interception drains.

The revegetation of the structures should involve the ripping to 300mm on flat sections to allow for the establishment of vegetation. Revegetation of top surfaces using available topsoil resources (to a minimum of 100mm thick where possible) and native, tree and pasture species to meet the final land use classes and original ecosystem. Slopes will remain rock armoured as per Schedule F – Table 3 of the EA. Declared weed species under the *Land Protection Act 2002* (Qld) should be controlled to allow native vegetation time to grow and establish

A site management plan as defined by the Guideline EM1122 should be in place, and updated regularly to ensure it continues to be effective. At MRO, this site management plan is replaced by the Plan of Operations.The Plan of Operations identifies and describes all mining activities, including decommissioning and rehabilitation of domains, particulars of the implementation of

management systems to address environmental issues, and a plan and costing of closure activities.

Roads and Access Tracks

Final Land Use Objective

The intended final land use for road and access tracks at MRO is open woodland/low intensity grazing (Class VI and VII). In order to achieve this land use, it is vital that all areas are rehabilitated appropriately and revegetated to their original condition, with erosion managed and runoff water of a quality that does not present a risk of environmental harm.

Indicative Completion Goals

The post-mine land use capability for the rehabilitated roads and access tracks at MRO should be class VI/VII unless otherwise agreed to be maintained with respect to infrastructure:

- Surfaces should align with natural contours of the land either side
- If access roads are to remain, these should be done so under written agreement with the landholder and should remain in an appropriate condition

Rehabilitation Activities

In order to achieve the indicative completion goals for rehabilitating roads and access tracks to an agreed final land use, the following actions should take place post operational activity.

Higher road surfaces should be minimised to align with the natural contour of the land. Slopes should be minimised to limit erosion potential and water runoff potential. Revegetation work should involve the ripping to 300mm on all sections to allow for the establishment of vegetation. Revegetation should occur using available topsoil resources (to a minimum of 100mm thick where possible) and native, tree and pasture species to meet the final land use classes and original ecosystem. Declared weed species under the *Land Protection Act 2002* (Qld) should be controlled to allow native vegetation time to grow and establish, as required under the *Land Protection (Pest and Stock Route Management) Act 2002*.

Workshops and Infrastructure Management Areas

Final Land Use Objective

The intended final land use for workshops and infrastructure areas at MRO is open woodland/low intensity grazing, with and land capability class of VI. In order to achieve this land use, it is vital that all areas are rehabilitated appropriately and revegetated to their original condition, with erosion managed and runoff water of a quality that presents an acceptablerisk of environmental harm.

Indicative Completion Goals

The post-mine land use capability for workshop and infrastructure areas at MRO should be class VI, unless otherwise agreed to be maintained on the land. Surfaces should align with natural contours of the land if being rehabilitated. If any infrastructure is to remain, this should

be done so under written agreement with the landholder and should be left in an appropriate condition, otherwise, all infrastructures should be decommissioned and removed from the site. Any recoverable scrap metal to be recycled and any contaminated soil should be removed appropriately and managed adequately before rehabilitation of these domains take place

Rehabilitation Activities

In order to achieve the indicative completion goals for rehabilitating workshop and infrastructure areas to an agreed final land use, the following actions should take place post operational activity.

Any contaminated soil from workshop areas will be cleaned up appropriately and managed to prevent further environmental harm. Rehabilitation works will commence once the area to be rehabilitated has been verified as being at or below acceptable contamination levels. Where activities have resulted in land contamination, a land contamination assessment should be undertaken in compliance with the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland* (DoE 1998). Where contamination exists, the site management plan should include clean up options. Contaminated soil is remediated *in situ* or transported under a disposal permit under the Environmental Protection Act 1994 (Qld) if on the Contaminated Land Register (CLR) or otherwise via regulated waste transport.

All surfaces should be minimised to align with the natural contour of the land. Any slopes should be minimised to limit erosion potential and water runoff potential. Revegetation work should involve the ripping to 300mm on all sections to allow for the establishment of vegetation. Revegetation should occur using available topsoil resources (to a minimum of 100mm thick where possible) and native, tree and pasture species to meet the final land use classes and original ecosystem. Declared weed species under the *Land Protection Act 2002* (Qld) should be controlled to allow native vegetation time to grow and establish, as required under the *Land Protection (Pest and Stock Route Management) Act 2002*.

Water Management Infrastructure and Dams

Final Land Use Objective

The intended final land use for water management infrastructure and dams at MRO is to remain as a water storage. In order to achieve this, it is vital that the water in the dams poses no harm to the receiving environment. The safety risk of a water body of this nature also needs to be managed, so the water body poses minimal risk to people, wildlife and stock.

Indicative Completion Goals

The water dams can be considered successfully rehabilitated to an agreed final land use when:

- Dam walls and bypass channels are stabilised with adequate vegetation or rock.
- Erosion does not compromise dam wall integrity.
- In the case of a person or animal accessing the water body, egress from the dam should be manageable through reasonable means.

Rehabilitation Activities

In order to achieve the indicative completion goals for rehabilitating water dams to the agreed final land use, the following actions should take place upon decommissioning.

- Sediment dams should be de-silted as necessary to reduce sediment loads within downstream stream environs with any sediment placed in the pit.
- Where appropriate, dam walls should be re-profiled if required upon decommissioning to allow adequate drainage and limit erosion potential.
- Dams walls and clean water diversions should be stabilised by using native vegetation or rock.

7.4 Rehabilitation Success Monitoring for the MRO Domains

General Rehabilitation Success Monitoring

In order to ensure general plant, workshop areas and site access roads and tracks have been successfully rehabilitated to the designated objectives, the following activities should be carried out:

- Erosion and sediment control structures should be inspected regularly
- Revegetation assessments should be undertaken biannually, once in the wet season and once in the dry season. Revegetation assessments should include:
    - Assessment of vegetation using Landscape Function Analysis (LFA) (Tongway and Hindley 2004) Methodology (incorporates groundcover, density, species richness, weed presence and soils nutrient analysis)
    - Land suitability assessment

Monitoring of indicators will start as soon as practically possible after decommissioning.

Rehabilitation Success Monitoring for Specific Domains

Residual Void (Pit)

In order to ensure that the pit has been successfully rehabilitated to the designated objectives, the following activities should be carried out:

- Surface water quality should be monitored at regular intervals,
- The ramp into the pit should be assessed for integrity and ongoing stability,
- The site should be mapped to include the bund and the residual void and site inspections should take place at acceptable intervals to ensure the integrity of the bund and residual void.

Monitoring of indicators, as defined in Final Land Use and Rehabilitation section 9: Indicators for Success and Completion Criteria, will start as soon as practically possible after decommissioning

Waste Rock Dumps

In order to ensure that the WRDs have been successfully rehabilitated to the designated objectives, the following activities will be carried out:

- Surface water quality will be monitored at regular intervals.
- Stream sediment quality will be monitoring at regular intervals.
- Erosion and sediment control structures will be inspected regularly
- Revegetation assessments will be undertaken biannually, once in the wet season and once in the dry season. Revegetation assessments should include:
    - Assessment of vegetation on both slopes and flat areas using Landscape Function Analysis (LFA) Methodology (Tongway and Hindley 2004) (incorporates groundcover, density, species richness, weed presence and soils nutrient analysis)
    - Land suitability assessment
    - Soil stability analysis on slopes (erosivity) including an erosion assessment
    - Determination of areas impacted by acid mine drainage (AMD) that will require further rehabilitation and revegetation
- The slopes should be assessed for integrity and ongoing stability.

Monitoring of indicators will start as soon as practically possible after decommissioning

Tailings Storage Facilities

In order to ensure that the TSFs have been successfully rehabilitated to the designated objectives, the following activities will be carried out:

- Surface water quality will be monitored at regular intervals.
- Stream sediment quality will be monitoring at regular intervals
- Assessment of slope stability
- Assessment of any exposed hazardous material and recommendation for treatment where required
- Erosion and sediment control structures will be inspected regularly
- Revegetation assessments will be undertaken biannually, once in the wet season and once in the dry season. Revegetation assessments will include:
    - Assessment of vegetation on both slopes and flat areas using Landscape Function Analysis (LFA) Methodology (Tongway and Hindley, 2004) (incorporates groundcover, density, species richness, weed presence and soils nutrient analysis)
    - Land suitability assessment
    - Slope stability analysis including an erosion assessment
    - Determination of areas impacted by acid mine drainage (AMD) that will require further rehabilitation and revegetation

Monitoring of indicators will start as soon as practically possible after decommissioning.

Water Management Infrastructure and Dams

In order to ensure that water dams have been successfully rehabilitated to the designated objectives, the following activities should be carried out:

- Surface water quality should be monitored at regular intervals if dams are kept for stock water.
- The slope into the dams should be assessed for integrity and ongoing stability.
- If dams walls and clean water diversions are revegetated, revegetation assessment should occur biannually, once in the wet season and once in the dry season. Revegetation assessments should include:
    - Assessment of vegetation using Landscape Function Analysis (LFA) Methodology (Tongway and Hindley 2004) (incorporates groundcover, density, species richness, weed presence and soils nutrient analysis).

Monitoring of indicators will start as soon as practically possible after decommissioning.

7.5 Revegetation Activities

Topsoil Preparation

All surfaces to be rehabilitated should be ripped to ≥100mm to increase the success of seeding. Before utilising topsoil stockpiles, a soil nutrient analysis will be conducted to determine if the topsoil material has suitable soil nutrients or whether fertiliser application will be required.

The following treatments are recommended in order to maximise the potential of soils used in the rehabilitation program:

- Topsoil to be spread to a minimum depth of 100 mm
- Where required, erosion and sediment control measures will be implemented,

Surface contouring will be undertaken in the preparation of disturbed areas prior to the establishment of vegetation. Surface contouring will minimise erosion and maximise beneficial land use

Seeding

Re-establishment of vegetation will be based on direct seeding. The species in Table 6 are potential species for rehabilitation activities conducted at MRO. Any seed material waiting for use in rehabilitation should be stored in cool, dry conditions and protected from insects. Some seeds may require pretreatment to enhance or facilitate germination. All direct seeding should take place prior to the wet season to allow for adequate rainfall during the establishment period. Establishment of seedlings should take place in approximately one month with adequate rainfall. Reseeding may be necessary if germination fails.

Weed invasion should be controlled by spot spraying during the establishment period to reduce the likelihood of desirable species being outcompeted.

Stakeholder Management

Stakeholder Consultation Planning

In the event of mine closure, whether that be planned, unplanned or a temporary transition into care and maintenance, there is a appreciable effect on project stakeholders that is best managed by the proponent. MRO has a social responsibility beyond that of caring for its own employees. That responsibility can be discharged in the event of mine closure through implementation of a stakeholder consultation plan.

Stakeholder Identification

In order to estimate the impact of mine closure, the first step is identifying the mine's stakeholders. The mine employees and contractors are obvious stakeholders, as are landholders of underlying and neighbouring properties. However mine closure can have further impacts, for instance on local industry and business who relied on the presence of mine workers and their families. Establishing the stakeholder list for a mine can be done through a desktop demographic study on the region. This study can be carried out using the census data, statistics from the Office of Economic and Statistical Research (OESR) and a number of reports commissioned by the North Burnett Regional Council (NBRC).

At a high level, the townships of Mt Perry and Gin Gin are likely to be most heavily impacted by the closure of the MRO mine site.

Stakeholder Tiers

The next step after identifying stakeholders would be to divide them into tiers, using criteria on the frequency and degree of likely impact upon each tier to determine the tier structure. In identifying the tier system, the group can be broken down to the following:

Tier One Stakeholders

Tier one stakeholders are those likely to be impacted most frequently and most heavily. For the purpose of the closure planning process, identified tier one stakeholders, or interested and affected parties are as follows:

- Staff and contractors of the MRO,
- Title holders across the tenement and on land bordering the tenement,
- Property managers on land across the tenement,
- The traditional owners of the land,
- North Burnett Regional Council,
- Local interest groups including agricultural and business organisations such as the chamber of commerce,
- Queensland government departments.

Given the commitment to meaningful engagement with these parties, MRO will aim to communicate specifically tailored information to these tier one stakeholders as a priority. These stakeholders will be sent all relevant information about the impending closure and be invited to participate in focus groups and a closure consultation committee.

These stakeholders will be sent all compulsory information, but will be given the opportunity to opt out of receiving any marketing collateral or general community updates

Tier Two Stakeholders

Tier two stakeholders are those likely to be impacted with less frequency and less severity, but who will still have a high degree of interest in the opportunities and potential outcomes of the project.

The tier two stakeholder listing includes the broader community around the project. Tier two stakeholders represent a much larger group including:

- Local businesses as individual entities,
- Primary, secondary and tertiary education institutions,
- Local financial institutions,
- Community groups including the Rotary Clubs, Lions Clubs and Country Women's Associations,
- Community engagement officers working with the local councils,
- Voluntary and welfare organisations in the North Burnett region,
- Providers of services like power and water to the tenement.

Tier two stakeholders will be sent generic information on the impending closure, and given the opportunity to opt in to receiving any marketing collateral and general community updates. Tier two stakeholders who feel sufficiently informed can request less frequent information, or nominate specific areas of focus, moving themselves into tier three for communication strategy purposes.

Tier Three Stakeholders

Tier three stakeholders are those likely to be impacted infrequently and minimally affected by the closure of the project. Tier three stakeholder listing includes state organisations, NGOs and businesses geographically removed from the immediate project region. Our communication with tier three stakeholders is flexible, and allows stakeholders themselves to register increased levels of interest and request further information at any time in the consultation process.

Consultation Process

Community

The Stakeholder Consultation Register has been developed to record consultation activities undertaken with stakeholder groups and individuals. This register allows for record keeping of stakeholder interests, comments and concerns and records Evolution's response to their comments and concerns. The Closure Communication strategy is detailed within Table 8 below. It is highly likely that only certain aspects of closure are likely to be of interest to certain stakeholder groups, these have also been identified.

The Community Relations Department will co-ordinate appropriate levels ofcontact with members of the local traditional owners, government departments, local community and farmers.

Table 9: Closure communication engagement strategy for tier one and two stakeholders

STAKEHOLDER GROUP	PROPOSED CONSULTATION TIMING (MINIMUM)	PROPOSED CONSULTATION METHODS	TOPICS LIKELY TO BE ADDRESSED
Tier One Stakeholders			
Adjacent Properties	Monthly, or as requested by the stakeholder	Site/Community meetings One on one meetings Update emails	Erosion Groundwater/surface water management Feral animal and weed control Future land use
Traditional Owners	Monthly, or as requested by the stakeholder	Site/Community meetings One on one meetings Closure Committee Update emails	Erosion and surface water management Groundwater/ surface water management Future land use including impacts on traditional land use
Department of Environment and Heritage Protection	Ongoing	Regular review of the Final Land use and Rehabilitation Plan Site Inspections Closure Committee Update emails	Decommissioning Safety Rehabilitation progress and financial assurance Closure criteria Surface water and groundwater management Sustainability Final land use
North Burnett Shire Regional Council	Monthly, or as requested by the stakeholder	Shire council meetings Site/Community meetings Closure committee Update emails	Future land use Transition to post-mining business Sustainability
Registered Interest Community Groups	Monthly, or as requested by the stakeholder	Shire council meetings Site/Community meetings Closure Committee Update emails	Sustainability Transition to post-mining business Welfare

STAKEHOLDER GROUP	PROPOSED CONSULTATION TIMING (MINIMUM)	PROPOSED CONSULTATION METHODS	TOPICS LIKELY TO BE ADDRESSED
Tier Two Stakeholders			
Other Community Groups	On an as-and-when basis (when there is news to be shared)	Community meetings and information sessions One on one meetings	Sustainability Transition to post-mining business
Local Businesses and Services	On an as-and-when basis (when there is news to be shared)	Community meetings and information sessions One on one meetings	Contracting opportunities Transition to post-mining business
Other Government Departments and Utility Providers	On an as-and-when basis (when there is news to be shared)	Community meetings and information sessions One on one meetings	Decommissioning or sustaining use of infrastructure

Employees

Employees will be updated at least one year prior to the closure of the site to ensure that they are provided with the information, support and training to minimise the impact of the closure of the operations. Employee consultation will be managed by the Evolution Mining Human Resources Department. Prior to closure, feedback from the workforce will be collected on:

- Redundancy timing,
- Transfers,
- Closure concerns,
- Re-training,
- Advice on dealing with closure,
- Access to counselling.

The responses to the feedback sessions will form the basis for establishment of communication, training and counselling services. The following areas will be targeted and specific initiatives/tasks proposed for each:

- Communication/Information meetings – either directly with the employees or with their chosen representatives,
- Employee counselling services – to assist personnel in maintaining the effort with respect to safety and productivity until mine closure,
- Career and financial advice – to prepare for work prospects and other opportunities after closure,
- Employee appraisals – to ensure that performance until closure is maintained at the highest level possible,

- Training – to ensure that operating tickets are renewed

7.6 Work Program

Closure Stages

Final mine closure occurs in two distinct stages.

1. Decommissioning: involves removal and appropriate disposal of all infrastructure and contaminated material.
2. Rehabilitation: includes undertaking of specific earthworks to create appropriate landforms and subsequent revegetation of those landforms.

After the active stages of closure a period of maintenance and monitoring occurs. This period can extend for many years to allow for the regeneration of vegetation and rehabilitation performance monitoring to occur. Compliance monitoring with the Environmental Authority is required during this time.

Closure implementation stages can be applied through both planned and unplanned mine closure. A third option to be considered is the temporary shutdown of operations, in which case the project goes into a state of care and maintenance until further notice.

Planned Closure

Planned closure takes place at the end of mine life, when no further exploitable mineral resource remains. Closure implementation will follow a project schedule outlined in a Post Closure Management Plan that will be submitted to the regulator at least six months prior to cessation of all mining and mineral processing activities. Planned closure may see mineral processing extend for some time after all actual mining ceases. All salvageable equipment and infrastructure will be removed. All services to the mine workings (including dewatering operations) will cease. An appropriate abandonment bund will be constructed around the entire mine pit.

Once mineral processing ceases, all mine related infrastructure (process plant, workshops, stores, core yards, magazine, laboratory, administration and support buildings) will be decontaminated prior to the dismantling and removal of all salvageable machinery, structures and plant. All remaining infrastructure will be demolished and either sold for scrap or buried on site. Any contaminated soils or water will be identified, assessed and if necessary remediated.

All decontamination work will be done in consultation with the relevant government guidelines and the effectiveness of such work will be audited by a suitably qualified external consultant. Rehabilitation activities on disturbance domains are commenced to create geotechnically stable, non-polluting landforms. It will only be possible to do the final reclamation works on the decant portion of the TSF after decommissioning, to allow time for dewatering and adequate drying of the tailings such that equipment can safely access the upper tailings surface. All mine landforms will have closure designs and encapsulation of any PAF/mineralised material and tailings material. All surfaces will be rehabilitated and seeded with appropriate seed stock. Where possible, progressive rehabilitation will occur during the operation stage and performance trends

will be established well before closure. Rehabilitation performance monitoring will continue until such time as closure criteria have been met and the Final Rehabilitation Report accepted by the regulator.

Unplanned Closure

The unforseen, earlier than expected cessation of mining may happen due to a number of reasons, including market forces and initial overestimation of ore reserves. The closure process followed is similar to that for planned closure, except that many mine waste landforms will not have been constructed to final design.

At MRO, a significant number of ore and sub-grade ore stockpiles are likely to remain on the ROM and adjacent WRD in the event of unplanned closure. These represent a resource that may in future years have considerable value to other mining companies. The mine pit may also contain ore and not be classified as sterile. In the event of an unplanned closure scenario, the processing plant and mining operation may cease operations simultaneously, with the result that all closure related work may need to be done by a third party.

It will be necessary to maintain the mine affected water management system (given the operational approach to water balance management) and basic services until such time as demolition crews are able to salvage equipment and infrastructure. This could add considerable expense to the closure provision and a cost benefit analysis will need to be done as soon after closure as possible, so that a timely decision can be made as to what, if anything, (pumping equipment and pipeline) is worth salvaging within the open pit.

Care and Maintenance

A third closure planning scenario may occur if MRO goes into temporary shut down or care and maintenance. A care and maintenance period may come about for a number of reasons including the possible sale of the operation to a third party. The care and maintenance period may be months or years in duration, where site activities are reduced to a minimum.

It is expected that the following activities would be conducted during the care and maintenance period:

- A risk assessment of the current requirements for the management of environmental aspects,
- The demobilisation of mining fleet,
- Continuation of the operation of the mine affected water management system,
- Fencing of all mine property, with locked gates to reduce the likelihood of unauthorised access,
- Processing of the remaining ore stockpiles in some instances, in addition to cleaning the ROM Pad, ore bins, conveyor system, crushing and processing plant,
- Flushing and wash down of all areas prior to lubricating machinery,
- Removal of, lubricants, fuels, chemicals and spares from site,
- Flushing of all tailings disposal pipelines, storage tanks and bins,

- Reducing fuel storage levels to that required by the remaining skeleton crew,
- Maintenance of buildings and infrastructure, including main access roads, in working order,
- Compliance monitoring and reporting as required by the site's Environmental Authority.

The operation should establish an emergency response action plan, to be initiated if compliance monitoring indicates non-compliance with the terms of the site's EA.

7.7 Work Timeline

The following projected timeframe for decommissioning and rehabilitation of domains at MRO is provided in Table 10. These timeframes can be changed and updated as changes to operations occur.

Table 10: Projected decomissioning and rehabilitation works timeframe

DOMAIN	PROJECTED DECOMISSIONING	PROJECTED REHABILITATION
Residual Void (Pit)	2022	2022
WRDs, Run of Mine (ROM) and stockpiles	North WRD West WRD Stockpiles	2022
TSF1 and TSF2	TSF1 2019 - 2020 TSF2 2022	2022 2022
Roads and Access Tracks	2022	2022
Workshops and Infrastructure Management Areas	2022	2022
Water Management Infrastructure and Dams	2022	2022

7.8 Monitoring Program

Revegetation Monitoring Methods

A significant component of determining the rehabilitation success of decommissioned sites is to monitor vegetation re-establishment, growth and sustainability. This is done annually, in both dry and wet seasons, to capture seasonally variability in growth of vegetation.

Regular vegetation monitoring forms a relevant requirement by EHP to make decisions on the adequacy and sustainability of rehabilitation. EHP's (2006) '*Guideline 18: Rehabilitation requirements for mining projects*' states monitoring the indicators for an area of progressive

rehabilitation should result in a clarification of issues, minimisation of risks and an increasing certainty in the sustainability of the rehabilitation.

Rehabilitation success on mine sites is typically determined through using the Ecosystem Function Analysis (EFA) Methodology, developed by the CSIRO (Tongway and Hindley 2004). Ecosystem Function Analysis is a fast and rigorous method for monitoring landscapes using simple, visual and rapidly assessable indicators that focus on soil surface processes, focused around Landscape Function Analysis.

EFA is made up of three components:

- Landscape Function Analysis (LFA) Monitoring Procedure,
- Vegetation composition and dynamics, and
- Habitat complexity.

Landscape Function Analysis (LFA; Tongway and Hindley 2004)

Rehabilitation of an ecosystem involves the restoration or replacement of missing or ineffective processes in the landscape in order to improve the soil habitat quality for desired biota (Tongway and Hindley 2004).

A large component of the EFA is Tongway and Hindley's LFA. LFA is a monitoring procedure that uses simple indicators, such as soil cover, litter cover, cryptogram cover and soil texture, to determine function of the ecosystem at the time of monitoring and assess how well an ecosystem works as a biogeochemical system (Tongway and Hindley 2004).

The data for LFA is collected along line transects, oriented in the direction of resource movement (down slope). This line is differentiated into two zones: where resources accumulate (patch) and where resources are transported away (interpatch; Tongway and Hindley 2004). These data produce a set of indicators which determine the function of the ecosystem. The repeated measurement of the same indicators over time helps develop a time series to determine how effectively an ecosystem has been rehabilitated.

LFA compares rehabilitated sites to analogue sites. Analogue sites are those that are self-sustaining and have many of the attributes of the final landscape, particularly in respect to function (Tongway and Hindley 2004).

Tongway and Hindley's '*Landscape Functional Analysis: Procedures for monitoring and assessing landscapes with special reference to mine sites and rangelands'* explains the methodology of LFA in detail. These assessments determine how sustainable the landscape is when presented with possible disturbance, high rainfall events or various climatic conditions. Broadly, the process to be used at MRO will involve a number of the permanent transects being randomly chosen to conduct LFA within each domain including slope and flat terrain. These transects are extended to 50 metres to suit LFA methodology.

These assessments determine how sustainable the landscape is, when presented with possible disturbance, high rainfall events or various climatic conditions. The LFA process allows the broad assessment of how rehabilitation is performing or if the vegetation is likely to be sustainable over a long period of time.

Table 11: LFA monitoring methods

MONITORING METHOD	DESCIPTION
1. Walking the transect and identifying features known as 'patches' and inter-patches	- Patches accumulate resources by trapping litter, nutrients, water etc. - Inter-patches are the spaces between patches where nutrients are quickly transported over an area e.g. bare soil - A 'healthier' landscape could be considered one with a high patch to inter-patch ration as little organic material and topsoils are lost to the system
2. Measuring patch and inter-patch distances	- Gauging the potential energy that could be caused during a high rainfall event - The larger the distance between the patches and inter-patches the more risk of erosion (Hill-Slope assessment)
3. Characterising the soil surface properties (Soil Surface Assessment) of the patches/inter-patches	- Determining soil stability, infiltration and nutrient cycling - Characteristics include rain-splash protection (vegetative or other protection of the bare soil), perennial vegetation cover, litter cover, cryptogram cover, crust brokenness, erosion type and severity, amount of deposited materials, surface roughness, surface resistance to disturbance, stability following rapid wetting and soil texture
4. Scoring habitat complexity for faunal habitat potential	- Assessing the habitat features of a given area to identify the development of environmental niches provided for vertebrate fauna. - Habitat as well as vegetation descriptions and condition notes should be recorded.

Vegetation Composition and Dynamics

Vegetation composition and dynamics is determined by assessing a number of parameters based on the biological success of the ecosystem rehabilitated (first used by Bonham, 1989). Indicators used to determine vegetation composition and dynamics include density, and species composition.

To determine this at MRO, a series of permanent 20m long monitoring transects should be established in each domain when decommissioned and rehabilitated. Analogue sites should be established in nearby land that has not been subject to mining impacts and land clearing has not occurred. Vegetation within the control site should be characteristic of natural conditions. These control sites will represent suitable comparison targets for assessing rehabilitation success.

In each domain, transects will exist as permanent locations to ensure accurate comparisons of the same transects over seasons and years. Transects should be placed on both slope and flat terrains. Table 12 outlines the vegetation information recorded for each transect.

Table 12: Revegetation monitoring methods per transect

MONITORING METHODS	DESCRIPTION
Quantitative Vegetation Monitoring	Within each 20m transect, five quadrats are sampled every 5m (therefore five quadrats per transect). Within each 1m x 1m quadrat, the species, number of plants and % foliage cover of vegetation, litter and bare is recorded. All quadrat data for each transect is pooled, to form one sampling unit. The data is then queried to extrapolate the following characteristics: - Ground cover (%) - Tree cover (%, basal cover only) - Species density (%) - Species abundance (count of individuals) - Species richness (number of species per quadrat)
Photographic Monitoring	Photographic monitoring is useful in providing a permanent record of site conditions and allowing qualitative comparisons of vegetation development over time. Several photographs should be taken during revegetation monitoring, including photographs of each transect and a representative quadrat in each transect. These photographs should be obtained from a height of approximately 1.5m above the ground to be used for comparison with photographs taken from previous visits. Photographs should also be taken from areas requiring further rehabilitation works.

Habitat Complexity

Habitat complexity for animals is determined through the use of a number of indicators to assess the ecological success of the ecosystem rehabilitated. Indicators used to determine vegetation composition and dynamics include tree canopy cover, shrub cover, ground cover, coarse woody debris (logs, rocks and debris) and soil moisture.

Habitat complexity is determined through the use of a 50 x 50m line transect. Habitat complexity is scored from 0 – 4 based on per cent cover of each parameter (0 = 0%, 1 = <30%, 2 = 30-70% and 4=>70%).

Water and Stream Sediment Monitoring

Water monitoring activities will occur in a similar fashion to the operational period, however frequency of monitoring will be reduced according to the level of data and trend analysis required.

7.9 Monitoring Timetable

Revegetation monitoring should be undertaken biannually, in the wet season and the dry season, to quantify the progress of revegetated areas and document land capability against reference sites and the rehabilitation completion criteria. It is expected that revegetation monitoring will ultimately produce results that validate the methodology and management of rehabilitation at MRO.

Revegetation monitoring should take place biannually until such time that revegetation is deemed successful against the rehbailitaiton completion criteria and is accepted by EHP as successfully rehabilitated.

8. Gap Analysis and Research Program

8.1 Introduction to the Research Program

This Final Land Use and Rehabilitation Plan is a living document that is based on the current Plan of Operations, the EA, and best practice rehabilitation techniques. Best practice rehabilitation techniques aredependent on the location of the mine, due to climate and geological differences and the extent of the disturbance. These project specific requirements need to be identified over time and knowledge gaps must be filled in order to prepare for the closure of the mine.

The studies required to close the identified knowledge gaps should be undertaken with the operating mine life of each domain in mind. Milestones have been assigned to each domain, with priority given to rehabilitation studies that represent a dependency for any other rehabilitation aspect.

Major milestones for the research program include completion of the hydrological, geotechnical and geochemical investigations in addition to the rehabilitation trials. These investigations and trials should be initiated by late 2015 to allow sufficient time to complete the studies and implement the findings into rehabilitation planning.

8.2 Action Program

An action program has been developed outlining the research areas required to close the identified knowledge gaps.

Table 13: Action program for areas where there are gaps in our knowledge

RESEARCH AREA	ACTION	TIMEFRAME
Final Footprint and Characterisation for each Domain	The final footprint of each domain will need to be identified for rehabilitation purposes. For the waste rock dumps, the footprint, volume and characteristics of the waste rock material within the North and West WRDs will need to be determined in order to design the final drainage design, nature of the abandonment bunds if any, and whether or not there is a requirement for a seepage or runoff interception system. Water quality testing of the runoff channelled to WD1, WD2, WD3 and WD4 to continue to establish the nature of runoff from the Northern WRD. Water quality testing of the runoff channelled to South Dam South and the West Dam to be undertaken to establish the nature of runoff from TSF1 and West WRD.	**Milestone Timeframe:** Progressive waste rock characterisation to continue up to end of mine (2022). Water quality testing of runoff from the WRDs to continue up to end of mine (2022). Sealing media to be trialled on sections of the WRD to investigate revegetation success. (Recommended to commence at least three years before end of mine, pre-wet season 2020, to allow three wet seasons to trial different approaches and note rehabilitation success).
Surface Hydrology Investigation	A surface hydrology investigation will be undertaken to identify clean and impacted runoff streams likely to be generated by the proposed rehabilitated landforms. This will determine clean and impacted water drainage area plans, drain and armour/rip rap requirements and pipe or spillway designs for the final closure configuration to meet agreed standards. Given that the success of rehabilitation is dependent on the ongoing management of water it is imperative that once the final landform footprint is determined, a water management design for the site is developed. This will prevent drainage management conflict between individual domains and allow for the design structures sized appropriately for expected accumulated flow from a number of domains (reducing the chance of drain failure).	**Milestone Timeframe:** End of 2016
Geochemical Investigation	A geochemical investigation into the composition of the WRDs will be undertaken to determine best rehabilitation strategy for these structures. This study will identify if there is the potential for acid mine drainage impacts to cause significant environmental harm and whether a seepage management system will need to be incorporated in to the final rehabilitation design. This investigation will include the results of the progressive waste rock characterisation as one of its inputs.	**Milestone Timeframe:** End of 2017, to allow information to influence design of WRD seal and design of potential seepage containment systems.

RESEARCH AREA	ACTION	TIMEFRAME
Geotechnical Investigation	A geotechnical investigation will be undertaken on the WRD's to ensure that the drainage measures are adequate to ensure long term landform stability.	**Milestone Timeframe**: End of 2016.
Water Storage Plan – Treatment and Discharge	A water storage plan must be created for management of the volume of non-dischargeable water which may require passive or active treatment. The plan should include intended methodologies for water treatment and the expected duration of that treatment. It should also include a post-closure monitoring plan with monitoring locations, frequency and parameters.	**Milestone Timeframe:** End of 2016
Rehabilitation and Revegetation Trials	Further research into rehabilitation techniques to be used at MRO will involve rehabilitation trials. A number of rehabilitation trial methods should be used to find the most effective style of rehabilitation for each site domain, with special emphasis on the TSF structures and the WRDs. Over a period of approximately 12 months, a small scale representative area in each domain should be used to trial a variety of rehabilitation options including cover type and thickness, seed species and proportion of understorey species. A 12 month revegetation trial should be undertaken so that monitoring of the progress can occur over the subsequent dry and wet seasons. Trial approaches will be undertaken on the TSF1 to determine the most effect rehabilitation method. Growth of seed will be investigated using the following substrate: TSF material TSF material covered with topsoil TSF material, Bulk Cover Capping System	**Milestone Timeframe:** Rehabilitation and revegetation trials for TSF1 to continue up until the completed construction of TSF2 (pending approval) which is currently envisioned as End of 2018.
Decommissioning and Salvage Plan	A decommissioning and salvage plan for the removal of the process plant and infrastructure will be created.	**Milestone Timeframe:** End of 2017

RESEARCH AREA	ACTION	TIMEFRAME
Closure Contamination Program	A closure contamination program will be put in place which aims to determine how MRO will address each of the dams proposed to be kept for stock water upon mine closure. This closure contamination program will include determining the likely water quality of each dam proposed to be kept for stock water, and the feasibility of building the structures up to 1:100 ARI compacity, decommissioning or modifying the water quality of the dams if unsuitable for release.	**Milestone Timeframe:** The closure contamination program to continue up to end of mine (2022).
Determining reference sites for revegetation monitoring	Nominating and establishing representative reference sites will involve both desktop and field studies. Desktop studies will involve determining the most representative vegetation areas for each rehabilitated domain and finding potential locations for analogues sites based on aerial imagery. Field studies will involve groundtruthing these potential analogue site locations to determine suitability.	**Milestone Timeframe:** Determining reference sites is a requirement by the end of mining life (2022).

9. Indicators for Success and Completion Criteria

Having adequate indicators for rehabilitation success provides a method of measuring success of the rehabitliation against the defined completion criteria. Completion criteria are defined to ensure all rehabilitated areas successfully meet the rehabilitation goals and objectives.

MRO currently proposes a number of potential indicators for success and completion criteria that meet the four general rehabilitation goals set out in the EHP guideline EM1122: *Rehabilitation requirements for mining resource activities*. These indicators for success and completion criteria are outlined in Table 14. These indicators of success should be reviewed before decommissioning of domains at MRO and before implementation of rehabilitation. These indicators should be finalised ones the gaps in our knowledge (outlined in Table 13 of this document) are determined.

Table 14: Potential MRO indicators for success and completion criteria which meet the four general rehabilitation goals and the rehabilitation objectives (note these indicators will be finalised once the gaps in our knowledge are determined (according to Table 13 of this document)

REHABILITATION GOALS	REHABILITATION OBJECTIVE	POTENTIAL MRO INDICATORS FOR SUCCESS	POTENTIAL MRO COMPLETION CRITERIA
Safe to humans and wildlife	All domains are safe for humans and wildlife and remain so for the foreseeable future	Residual voids will be bunded and fenced.	Certification from a suitably qualified professional in the final rehabilitation report that the residual void is now safe and will remain so.
		Slopes of WRDs and TSFs should not exceed angle of repose, with maximum bench intervals of 25m vertical height and minimum bench widths of six metres.	- Assessment within the revegetation monitoring reports that slopes comply with the appropriate angles and height. - Certification in the final rehabilitation report that slopes are now safe and will remain so.
		A specified cover thickness of native vegetation relating to the appropriate reference sites	Evidence in the final rehabilitation report that specified cover thickness is in place, with predictions about future changes.
		Leaching tests of exposed material meet specified guideline values	Evidence in the final rehabilitation report that leaching tests of exposed material meet specified guideline values (using standard protocols such as US EPA Toxic Characteristic Leaching Procedure
		Surface water quality complies with specified guidelines or background water quality conditions where appropriate.	Evidence that monitoring of surface water quality has complied with specified guideline values.
		A site management plan that includes measures for fire reduction and to control declared weeds under the *Land Protection (Pest and Stock Route Management) Act 2002*.	Site management plan in place which includes measures for fire reduction and to control woody weeds.
Non-polluting	Hazardous material is adequately managed	Gain a technical design for capping of potentially hazard producing structures	- Engineer certification of construction and mainentance to specified design performance. - Evidence that monitoring data demonstrates that capping is functioning according to design.
	Acid mine drainage will not cause serious environmental harm	Gain technical design of all barriers constructed to contain acid mine drainage	Engineer certification of construction and maintenance to specified design performance.
	Polluted water contained onsite	Ensure water dams and creeks are in line with stock drinking water quality requirements, as outlined in ANZECC and ARMCANZ (2000).	Evidence in the final rehabilitation report that monitoring data meet specified guideline values
		Ensure appropriate diversion/containment structures are in place to minimise polluted water and contain it onsite.	Certification in the final rehabilitation report that water diversion/containment structures minimise quantities of polluted water and adequately contain it on site
Stable	Very low probability of subsidence or rock falls with serious consequences	Risk assessment to be undertaken on existing structures, high walls and voids, and control measures that will continue to meet agreed requirements put in place upon rehabilitation.	Certification in final rehabilitation report that appropriate risk assessment has been undertaken and control measures in place that will continue to meet agreed requirements.
	Landform design achieves appropriate erosion rates	Slopes on non-vegetated aspects (WRDs and TSFs) should not exceed angle of repose, with maximum bench intervals of 25m vertical height and minimum bench widths of six metres.	- Assessment within the final rehabilitation report that non-vegetated slopes comply with the appropriate angles and height. - Certification in the final rehabilitation report that non-vegetated slopes are now safe and will remain so.
	Vegetation cover to minimise erosion	Vegetation type and density are of the species suited to the soil composition, slope, aspect, climate and other factors.	Evidence that the vegetation type and density are of species suited to the waste composition, slope, aspect, climate and other factors, and that the measured erosion meets limits set.
		Foliage cover in excess of 70% to meet the set values based on the regional assessment of cover requirements.	Evidence that the percentage cover meets the set values.
		Ensure nutrient cycling is occurring through the presence of leaf litter to assist in limiting erosion.	Evidence that nutrient cycling is occurring and the presence of leaf litter is assisting in limiting erosion of the soil surface.
Able to sustain an agreed post-mine land use	Soil properties that support and will continue to support the desired land use	Test topsoil before use in rehabilitation to ensure it meets revegetation standards or within a range of reference site topsoil pH and salinity, otherwise topsoil requires treatment before use in rehabilitation.	Evidence that pH and salinity values comply with the specified values.

REHABILITATION GOALS	REHABILITATION OBJECTIVE	POTENTIAL MRO INDICATORS FOR SUCCESS	POTENTIAL MRO COMPLETION CRITERIA
	Establish a specified self sustaining natural vegetation or habitat	Incorporate key species for desired ecosystem, ensure a high species diversity while limiting the abundance of weeds.	Evidence in the final rehabilitation report that key species are present, that desired species diversity is achieved and weed management is successful.
	Establish water bodies with a low risk of environmental harm	Water bodies to have adequate storage requirements to hold rainfall from an 1:100 ARI event or water stored in the dams meet published guidelines to ensure no impact to aquatic ecosystems.	Certification that water bodies will not overflow in 1:100 ARI events or evidence that water quality meets published guidelines for protection of aquatic ecosystems (QWQG and ANZECC).
		Surface water quality complies with specified guidelines	Evidence that monitoring data has complied with specified guideline values.
	Establish desired land use	Achieve agrred land capability class	Evidence that revegetation monitoring data suggests agreed land capability calss has been achieved.

10. Record Keeping

10.1 Monitoring of Rehabilitation Works

At the commencement of rehabilitation works at MRO, a Revegetation Monitoring Program will be developed which outlines the revegetation monitoring techniques to be used, the reporting requirements, the permanent transect locations for each domain and the subsequent analogues site, an outline of the indicators of success and the completion criteria. This Revegetation Monitoring Program will be a living document which is amended once new domains are decommissioned and rehabilitated, and the permanent transect locations determined.

10.2 Biannual Revegetation Monitoring Reports

Following implementation of the Revegetation Monitoring Program, biannual revegetation monitoring should take place, once during the wet season and once during the dry season. This monitoring should follow the monitoring techniques outlined in the Revegetation Monitoring Program and should compare domain revegetation data to analogue data seasonally to determine whether the rehabilitation and revegetation are progressing toward meeting the indicators for success and the completion criteria specified. The information contained within these biannual monitoring reports will lead into the final rehabilitation report for a domain if rehabilitation and revegetation is deemed to have met the completion criteria.

10.3 Final Rehabilitation Report

EHP will base their decision on whether to approve a surrrender application on the final rehabilitation report. A final rehabilitation report can be completed for all or some domains once rehabilitation is deemed successful against the completion criteria for the relevant domains. This report will include evidence and certification that the rehabilitation and revegetation of the relevant domains meets the completion criteria and risk assessments.

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Appendix summary

Appendix A Maps

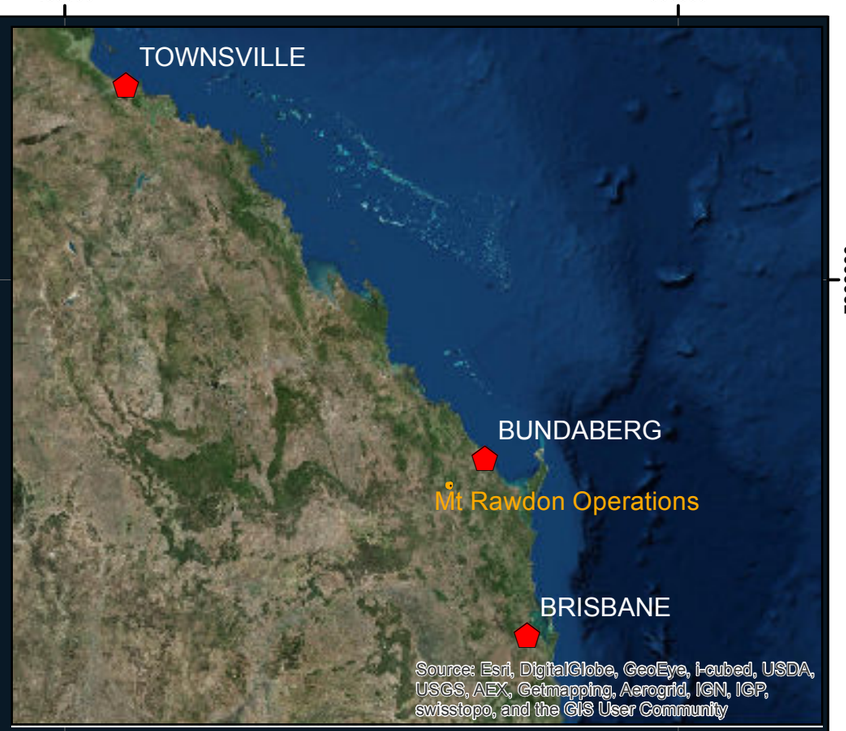
Appendix A

Maps

MOUNT RAWDON OPERATIONS

TSF2 EA AMENDMENT APPLICATION

SITE LOCATION



Legend

- Towns
- Highways
- Roads
- Mine Lease

Notes:
Mine Lease boundary extracted from ml.shp, State of Queensland.
Highways and roads sourced from Physical Road Network, State of Queensland.
Towns sourced through Place Names Gazetteer, State of Queensland.
Imagery sourced through ArcGIS Basemaps.

10 5 0 10
Kilometers

Scale: 1:500,000 at A3

N

Coordinate System: GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994

Date: 25/08/2014
Document Name: MRO_TSF2_Site_Location

nrc
northern resource consultants

350000 400000 450000 500000

7300000

7250000

7200000

BUNDABERG
GIN GIN
MOUNT PERRY
Mt Rawdon Operations

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Document Path: C:\GIS_Projects\MRO\NRC_data\TSF2\Maps_mxd\MRO_TSF2_Site_Location.mxd

MOUNT RAWDON OPERATIONS

TSF2 EA AMENDMENT APPLICATION

REHABILITATION STRUCTURES

374000 376000 378000

7208000 7206000 7204000

Legend

- Mine Lease
- Proposed TSF2
- Proposed Access Road
- Proposed Sediment Dams
- Discharge Location
- Drainage Direction

Rehabilitation Structures

- Engineered Cap
- Engineered Spillway
- Rock Drainage Channel
- Vegetation
- Water Storage
- Fence
- Abandonment Bund
- TSF1 Rehabilitation contours
- Engineered Spillway
- Vegetation

Notes:
Proposed infrastructure layers sourced from client.
Mine lease boundary extracted from ml.shp, from IRTM© State of Queensland 2012.
TSF1 rehabilitation contours sourced from ATC Williams.
All other features features constructed by NRC.
Imagery supplied by client : Evolution_Mining_overall_15cm.ecw (2013)

400 200 0 400
Metres

N

Scale: 1:20,000 at A3

Coordinate System: GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Date: 1/09/2014

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northern resource consultants

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