KARARA
MINING LTD

Karara Mining Limited

Environmental Procedure - Land Rehabilitation

CORP-EN-PRO-1002

11 January 2023

SYNOPSIS

This Land Rehabilitation Procedure forms part of Karara Mining Limited Corporate Standards and describes the procedures specification that shall be used for all land rehabilitation works within Karara Mining Limited.

Disclaimer

"This document has been prepared by Karara Mining Limited for their exclusive use ("the Purpose"). Use of this document other than for the Purpose is not permitted."

CORP-EN-PRO-1002 – KARARA CORPORATE STANDARDS

REV	DESCRIPTION	ORIG	REVIEW	APPROVED	DATE
0	issued for Use	K L'Estrange	R Houlihan	M Todd	25-May-12
1	Reissued for use	K L'Estrange	G Williams	R Houlihan	20-Dec -12
2	Reissued for use	K L'Estrange	G Williams	R Houlihan	01-Jun-2013
3	Reissued for use	D Hirsch	G Williams	R Houlihan	21-Oct-2014
4	Reissued for use	J Baker	C Pascov	R Houlihan	01-Mar-2017
5	Reissued for use	D Juniper	M Chen	G Trench	11- Jan-2023

CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 PURPOSE AND SCOPE

The purpose of this procedure is to outline the stages of Karara Mining Limited's (KML) progressive rehabilitation process for land cleared and/or disturbed within the Greater Karara Iron Ore Project (The Project) boundaries. This procedure does not include exploration rehabilitation or seed collection methods which are detailed within the environmental procedures Exploration Rehabilitation Standard CORP-EN-PRO-1030 and Seed Collection, Clearing and Storage CORP-EN-PRO-1037.

1.1 Objectives

The objectives of this procedure include:

- Identifying relevant legal obligations in relation to progressive rehabilitation and the processes in place to ensure these obligations are met.
- Detailing how to plan and undertake earthworks for progressive rehabilitation of each land domain.

This procedure supports the Environmental Plan – Environmental Management Plan CORP-EN-PLN-1020, Greater Karara Iron Ore Project Mine Closure Plan CORP-EN-PLN-1038 and associated plans and procedures. Compliance with this procedure and the requirements of both the Environmental Management Plan and Mine Closure Plan is mandatory.

2 DEFINITIONS

Table 1: Definitions

Term	Definition
BIF	Banded Iron Formation rock
BIF Gravel	Competent non eroding Banded Iron Formation crushed Rock <300mm diameter
BIF-mix	Banded iron formation mixed with topsoil in a 2:1 ratio
DMIRS	Department of Mines, Industry Regulation and Safety
GPS	Global Positioning System
INX	'In Control' Event and Risk Management Software
KML	Karara Mining Limited
NAF	Non-Acid Forming material
PAF	Potentially Acid Forming material
RoM	Run of Mine
Shall	Indicates a mandatory requirement that must be complied with.
The Project	Present and future mining and processing activities along with associated infrastructure of the Greater Karara Iron Ore Project
TSF	Tailings storage facility
WA	Western Australia
WRD	Waste rock dump

3 PLANNING

3.1 Legal and Other

The correct execution of land rehabilitation processes is integral to ensure compliance with KMLs obligations and closure criteria. The KML standard for land rehabilitation is designed to meet the land rehabilitation commitments, legal requirements and the expectations of external stakeholders made for the Project. To achieve this, KML must produce stable, safe and non-polluting landforms that allow for the re-establishment of native vegetation as close as possible to its pre-disturbance condition.

KML conduct and monitor rehabilitation in accordance with the following acts and associated approvals:

- *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*
- *Environmental Protection Act 1986 (WA)*
- *Conservation and Land Management Act 1984 (WA)*
- *Mining Act 1978 (WA)*
- *Soil and Land Conservation Act 1945 (WA)*
- *Biodiversity Conservation Act 2016 (WA)*

For a detailed explanation of how each of the above Acts and associated approvals relate to the Project, refer to the Environmental Legal & Other register, Obligations register, or contact the KML Environment Department.

3.2 Roles and Responsibilities

Table 2 below provides a summary of the roles and responsibilities to ensure compliance with legal requirements through implementation of this procedure. The main body of the procedure should be referred to where clarification is required.

Table 2: Roles and Responsibilities

Role	Responsibility
KML Environmental Dept.	• *Provide advice and assistance to the supervisors and operators on the implementation of this procedure onsite;* • *Provide training to key personnel on this procedure;*

Role	Responsibility
	• *Conduct inspections on active rehabilitation areas and raise corrective actions as required; and* • *Sign-off on completed rehabilitation.*
KML Mining & Operations	• *Overall responsibility for implementation of this procedure onsite;* • *Conducting audits, inspections and raising corrective actions as required; and* • *Report the progress of rehabilitation to the KML Environmental Department via daily progress meetings.*
Contractors	• *Ensure compliance with the procedure;* • *Ensure all relevant personnel are aware of the requirements of the procedure through education material and training;* • *Ensure experienced and competent operators are utilised to conduct earthworks; and* • *Maintain all documentation (hard copy, electronic and emails) for inspection during audits.*
Operational staff (Pit technicians, spotters, digger/truck/bulldozer operators)	• *Conduct material identification and earthworks in accordance with the procedure* • *Report and document any constraints around completing rehabilitation works to the Contractor supervisor and KML; and* • *Attend training as required.*

3.3 Competence, Training and Awareness

All personnel identified in 'Roles and Responsibilities' are required to undertake the KML's Environment Department Rehabilitation Toolbox Training prior to commencing any rehabilitation works, in addition to completion of KML's Safety Procedure – Training and Induction CORP-HS-PRO-1001. The Contractor shall maintain training records which will include a record of attendance as a minimum and forward these records to KML Environmental and Safety Departments for upload onto INX and training registers.

The Contractor conducting rehabilitation earthworks is required to discuss the status of the progressive rehabilitation as a regular component of their toolbox and site meeting agendas. KML will regularly meet with the Contractor to discuss the works as they progress.

4 IMPLEMENTATION AND OPERATION

4.1 Rehabilitation Planning

KML is required to progressively plan its rehabilitation. Mine material characterisation, conforming to land design specifications, correct identification of land domains, and rehabilitation scheduling are important planning stages in the execution of the rehabilitation earthwork process. Planning is integral to ensure rehabilitation work can be completed on-time, safely, efficiently and to a required standard. The KML Quarry Manager and General Manager - Health, Safety, Environment & Community are responsible for ensuring that the following considerations are taken into account in respect to planning for rehabilitation.

4.1.1 Mine Material Characterisation and Stockpiling

Mine site materials include ore, benign and reactive waste rock, tailings, cover materials and soils. Material identification is required to ensure that the most appropriate Banded Iron Formation (BIF) waste rock material is selected, transported and stockpiled for use in the final landform rehabilitation. The use of inappropriate material placement during Waste Rock Dump (WRD) construction can compromise long term surface stability. Correct material selection can reduce surface impacts from erosion and provide better conditions for vegetation recovery.

Shale and some dolerite will be the main waste types generated from the pits in the Karara region. Mineralised waste BIF or equivalent competent non-eroding inert blocky waste rock (BIF gravel) is identified as the ideal material to construct the external surfaces of the WRD. Specific rehabilitation domains also require BIF gravel to be incorporated into the topsoil.

Potentially Acid-Forming (PAF) material shall also be characterised for quarantine within the WRD. PAF is classified as any material that has a total sulphur assay greater than 0.3%. Encapsulation of PAF is detailed in section 5.1.2.2 of this procedure.

The KML Mining Department is responsible for defining and planning BIF and PAF material movement from the pit and subsequent placement within approved designed cell structures within the WRD. This shall be communicated to the Contractor who is responsible for managing the material type correctly prior to handing these materials.

4.1.2 Topsoil Management

Topsoil management is detailed in the Environmental Procedure – Soil Resource Management CORP-EN-PRO-1015. The management measures and requirements shall be complied to ensure suitable material for final land rehabilitation.

4.1.3 Tailings Storage Facility and Waste Rock Dump Design

Tailing Storage Facility (TSF) and WRD disturbance footprints shall be designed to allow for heavy machinery access to topsoil, vegetation, and BIF gravel stockpiling at the toe and crest of the final ≤17° batter. This buffer distance will vary according to TSF and WRD height and tipping angle.

Waste rock dumps should be constructed extending outwards from static peripherals where possible. This will allow the peripherals to be progressively rehabilitated prior to the cessation of mining.

Final WRD faces shall have external surfaces of rock armoring consisting of BIF rock or equivalent blocky rock material. WRD external faces shall not have any converging features which can increase erosion from water runoff.

Final dry-stack TSF external surfaces shall contain materials as determined by the KML Environmental Department based on the outcomes of the trial rehabilitation on the dry-stack TSF.

4.1.4 PAF Cell Design

The KML Mining Department is responsible for provision of a PAF cell within the designed WRD.

Materials quarantined in PAF cells, must be contained on all sides by compacted impermeable Non Acid Forming (NAF) waste. PAF material shall be covered progressively during mining activities with a dry cover NAF to minimise the influx of water and exposure to oxygen.

The PAF cell cap layer shall be;

- Constructed from clay or equivalent impermeable NAF material;
- ≥1m in depth from all exposed surfaces;
- Have a gradient to encourage diversion of groundwater flows away from the quarantine cell; and
- Be compacted by heavy machinery by track rolling to remove air gap and water penetration.

The cell shall be capped upon cessation of mining with ≥1m of compacted NAF material.

All PAF cells shall be surveyed at completion [i.e. capping] and included in the Annual Environmental Report submitted to the Department of Mines, Industry Regulation and Safety (DMIRS).

Figure 1 provides the basic methodology for PAF cell construction. KML Mining Department shall design specific PAF cells for each WRD based on pit geology.

On completion of the capping of the PAF cell, and prior to further material being deposited upon the cap layer, sign-off of the works shall be completed in accordance with Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053. Completion of this form requires sign-off by representatives from Environment Department, Mining Department and the Contractor.

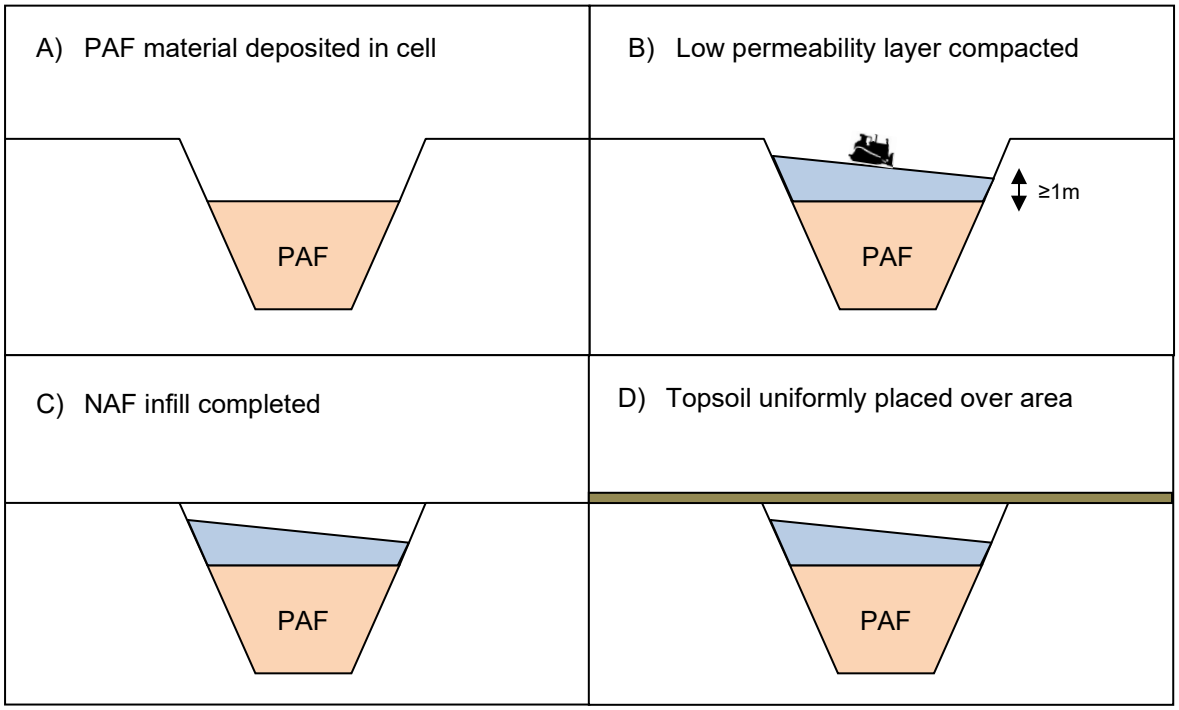

Figure 1: Schematic diagram of cap placement over PAF cell

4.2 Rehabilitation Process

The following stages make up the overall rehabilitation earthwork process. Several of these stages only apply to specific domains. For a summary of which rehabilitation stages are required in each domain, refer to Table 4. All stages of rehabilitation shall be inspected at the completion of each stage using the Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053; this form shall be signed off by all relevant parties prior to the next step progressing.

4.2.1 Rehabilitation Domains

Different land use types generate specific rehabilitation constraints and require different management processes to achieve effective rehabilitation. These land use types are referred to as domains. Through KML activities, it has been identified that ten different domains exist; which are separated into two overarching rehabilitation processes; Waste Landform, and Surface Rehabilitation. A summary of each domain and its features are provided in Table 3.

Table 3: Domain Types

Type	Domain	Description
Waste Landforms	Waste Rock Dump (WRD) Slopes	Also referred to as batters, slopes are the edges of waste dumps, including the designed extent, tipping edge and ramps.
	WRD Flat Surfaces	WRD top surface and benches, which are typically flat or with a shallow gradient
	PAF cells	Quarantine cells located within the WRD for containment of PAF material.
	Tailings Storage Facility	Facilities made up of wet and dry waste material from the beneficiation plant. The material is made up of very fine particles that are inert and benign. The KML TSF does not include ecologically significant contaminants typically found in other metal production tailings.
Pit Void	Direct Return Pits	Where waste material is placed in an inactive mining pit void.
	Open Mine Pits	Mine pits where material is not returned. In these situations, mine pits are classified as closed when an

Type	Domain	Description
		abandonment bund is constructed around the pit, outside the zone of instability. The zone of instability inside this bund is not rehabilitated as per DMP requirements.
Surface Rehabilitation	Borrow Pits, sumps, voids, turkeys nests.	These domains are excavations and/or embankments that require blending to the natural surface to meet completion criteria
	Haul Roads	Include roads and loading zones frequented by heavy mining equipment.
	Hardstand, Laydown, Workshops etc.	Laydown, Offices and Workshops areas are generally flat working surfaces.
	Drill Pads	Drill pads are isolated drilling areas which are often levelled and can contain sumps and drill holes.
	Access Tracks	Roads which are predominantly only used by light vehicles

Table 4: Rehabilitation earthworks process matrix according to domain

Type	Domain	Remove Infrastructure	Deep Rip	Cap	Shape	Topsoil & Rock Mix	Fertiliser	Apply Topsoil	Contour Rip	Spread Vegetation	Perimeter Bund
Waste Landform Domains	WRD Slope				≤17° batter	✓	✓	✓	✓	✓	✓
	WRD Flat				Inward draining			✓	✓	✓	✓
	Quarantine (PAF) Cell			✓				✓	✓	✓	✓
	TSF	✓		✓[1]	≤17° batter	✓	✓	✓	✓	✓	✓
Pit Void Domains	Direct Return Pit					Required if substrate is not BIF Gravel		✓	✓	✓	
	Open Mine Pit										✓
Surface Domains	Borrow Pit	✓	✓		Blend to natural surface			✓	✓	✓	
	Haul Road	✓	✓		Blend to natural surface			✓	✓	✓	
	Hardstand	✓	✓		Blend to natural surface			✓	✓	✓	
	Drill Pads	✓	✓		Blend to natural surface			✓	✓	✓	
	Access track	✓	✓		Blend to natural surface			✓	✓	✓	

[1] Relevant to Wet TSF only

4.2.2 Removal of Infrastructure

Prior to undertaking any rehabilitation earthworks, all infrastructure and waste shall be removed from the area and managed according to Environmental Plan – Environmental Waste Management CORP-EN-PLN-1013. The Contractor is responsible for removing all litter, signs and infrastructure, unless directed by the KML Supervisor. Infrastructure requiring removal includes, but is not limited to:

- Buildings, workshops, concrete pads and supporting infrastructure.
- Removing surface water pipelines.
- Removing plastic liners from turkey nests, generators and hydrocarbon bunds.
- Excavating and removing residual contaminated soil and conducting required soil analysis.
- Removing fences, delineators and signs.
- Removing any litter.

For sealed roads and airstrips (if required to be rehabilitated), this task shall include the removal of bitumen and correct disposal in an appropriate landfill facility.

4.2.3 Deep Rip of Compacted Areas

Surface areas used for roads, workshops, laydowns, RoM pad or material stockpiles shall be deep ripped by a multi-tine dozer to a depth of 0.5-1.0m to alleviate any compaction hardpan. Dependent on the level of compaction, and in consultation with the KML Environmental Department, deep ripping may be combined when topsoil application has been completed.

4.2.4 Shaping the Landform

Sloped or backfilled rehabilitated surfaces shall be shaped to blend to the surrounding natural surface. Material may need to be reshaped or removed altogether to imitate drainage and resource distribution prior to disturbance. Slopes shall be battered down to ≤17° where feasible. Steeper natural slopes shall be engineered to mitigate erosion and shall only be allowed after approval is obtained from the KML Environmental Department. Sumps, voids and turkey nests shall be backfilled and blended to natural surface to ensure normal surface water flow over the area and prevent converging features.

For WRD slopes the surface shall be constructed as a straight flat surface. All external surfaces shall have complete surface cover with BIF rock armour or equivalent, and slopes shall be battered to ≤17°. The Contractor is responsible for ensuring the final surface is flat and free from converging flow features. This is critical to prevent erosion. In order to achieve this, the following guidelines shall be adhered to:

- Heavy machinery operators should be guided by Global Positioning System (GPS) and/or survey pegs when battering slopes.
- Final dozer runs should be completed laterally to remove vertical track marks and other converging features.

Figures 2 and 3 provide examples of battering slopes and acceptable final landform, respectively.

The Contractor is required to submit a digital survey file of the final landform to confirm topography gradients of ≤17° as part of the sign-off process for Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053; Sign-off on this form is required prior to proceeding to the topsoil application stage.

Figure 2: (Left Up) a dozer in the process of battering a slope. (Left Down) a dozer completing the final surface run by laterally traversing the battered angle. (Right) Example of converging features such as boulders and downslope track marks.

Figure 3: Example of an acceptable WRD surface batter free from flow converging features

4.2.5 Topsoil and BIF Gravel Preparation

4.2.5.1 General topsoil preparation

Even volume distribution is important to ensure topsoil can be applied to all surfaces at the required ≥100mm thickness. Calculations shall be conducted by the Contractor prior to placement of topsoil at domains to ensure topsoil volumes do not exceed 100mm in thickness. Topsoil handling shall be managed in accordance with the Environmental Procedure - Soil Resource Management CORP-EN-PRO-1015.

4.2.5.2 Waste landforms - BIF gravel preparation

Rehabilitation domains (including WRD slopes, direct return pits and TSF slopes) require suitable BIF gravel allocated prior to push down over slopes with topsoil. BIF gravel aids in protecting the topsoil layer from erosion impacts and aids in vegetation establishment.

The following shall be undertaken in relation to BIF gravel:

- Calculations shall be conducted by the Contractor prior to placement of BIF gravel at rehabilitation domains to ensure volumes do not exceed 200mm in thickness of the area it is required to cover.
- Suitable non-acid forming BIF gravel shall be identified and assigned to required rehabilitation domains at a thickness of 200mm (≈4000 T/ha).

- Ideal BIF rock material shall be of <300mm in diameter, ideally with a median diameter (D50) of 70-100mm (Landloch, 2011).
- BIF gravel shall be stockpiled along the tipping edge in front of the topsoil stockpile, (Figure 4) for incorporation during application. Alternatively, BIF material and topsoil can be mechanically mixed in a 2:1 ratio prior to being stockpiled at the rehabilitation area.

Should the battered WRD slope already have an acceptable 200mm covering of BIF gravel material without large rocks or boulders, the KML Environmental Department may issue a partial or full exemption to the requirement for applying additional BIF gravel.

On completion of this step, and prior to fertilizer application, sign-off of the works shall be completed in accordance with Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053. Completion of this form requires sign-off by representatives from Environment Department, Mining Department and the Contractor.

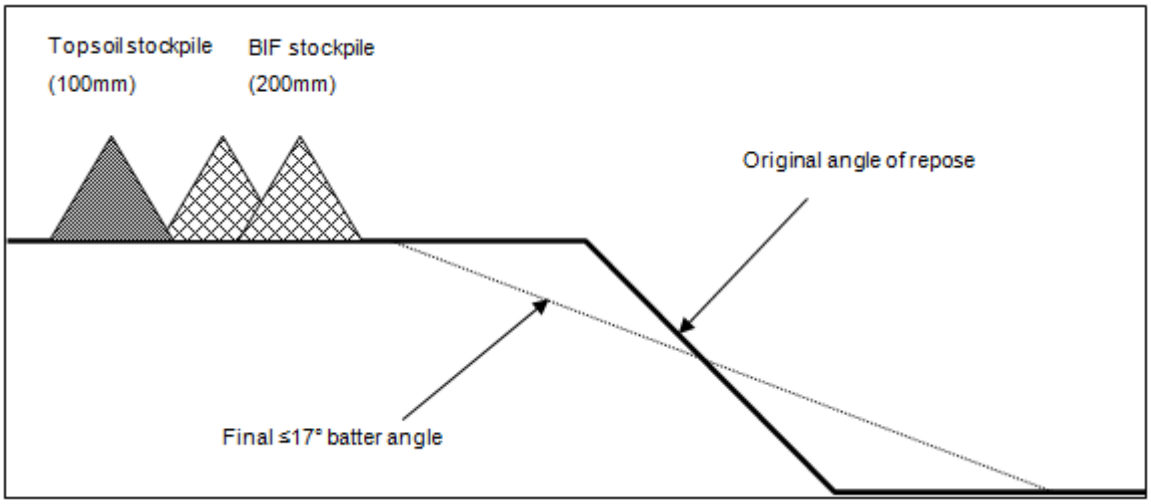

Figure 4: Topsoil and BIF gravel stockpile location in relation to final batter slope

Figure 5: Comparison of (left) rehabilitation applied without BIF rock incorporation and (right) where BIF rock has been mixed into the topsoil prior to application

4.2.6 Fertiliser Application

Domains constructed from waste material including WRDs and TSFs may require fertiliser to supplement macronutrients for successful vegetation recovery. Application of fertilisers shall be conducted at the discretion of KML Environmental Department, and is usually applied onto topsoil stockpiles immediately before pushdown. KML Environmental Department is responsible for supply of fertiliser. The Contractor is responsible for confirming fertiliser requirements with KML Environmental Department during preparation of topsoil stockpiles and applying fertiliser onto stockpiles at the advised rate. Fertiliser shall be evenly distributed along topsoil stockpiles using light equipment (i.e. skid steer or IT loader). Approximate rates for WRDs are as follows:

- 100 kg/ha diammonium phosphate (DAP) or equivalent bio solids

On completion of this step, and prior to the application of topsoil on waste landform areas, sign-off of the works shall be completed in accordance with Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053. Completion of this form requires sign-off by representatives from Environment Department, Mining Department and the Contractor.

4.2.7 Topsoil Application

4.2.7.1 General Topsoil Application

Topsoil application is required on all rehabilitation domains, with the exception of areas within mine abandonment bunds. Topsoil shall be evenly dispersed across areas at a thickness of ≥100mm or as advised by the KML Environmental Department. Topsoil can be applied by a variety of earthmoving machinery including scrapers, dozers, loaders and excavators. Where vegetation has been mulched / chipped, it can be incorporated with topsoil during application. Topsoil handling shall be managed in accordance with the Environmental Procedure - Soil Resource Management CORP-EN-PRO-1015. Water carts cannot be used over areas where topsoil has been spread.

4.2.7.2 Waste landform topsoil application

Topsoil application cannot be undertaken on waste landforms until all landform and topsoil stockpile preparation work is inspected and signed off in accordance with Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053. Topsoil on waste material slopes shall be applied as a 300mm BIF rock and topsoil composite layer over the substrate material (200mm of BIF to 100mm of topsoil). Care should be made not to apply excess topsoil onto sloped areas. If a topsoil thickness of ≥150mm is noted on inspection the Contractor shall skim the excess topsoil from the area to prevent future erosion.

On completion of the topsoil application, and prior to undertaking the cross-rip, sign-off of the works shall be completed in accordance with Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053. Completion of this form requires sign-off by representatives from Environment Department, Mining Department and the Contractor.

Figure 6: Scraper applying topsoil to a deep ripped hardstand area

4.2.8 Ripping

4.2.8.1 General Ripping

Upon application of topsoil the surface shall be mechanically ripped at a depth of 100-300mm to reduce compaction and encourage infiltration. Narrow vehicle tracks used for exploration may be ripped using a toothed excavator bucket, where ripping cannot be achieved with a grader.

4.2.8.2 Contour/Cross ripping of waste landforms

Upon sign-off of topsoil/ BIF-mix application in accordance with Section 5.2.7.2 of this document, a suitable dozer fitted with a multi-tine ripper shall be used to rip the slopes along contours. The following conditions apply:

- Sloped areas shall always be ripped along the contour to prevent flow convergence.
- Final contour lines must be continuous, horizontal and perpendicular to the slope.
- The Contractor is responsible for rectifying any flaws in contour lines such as gullies, vertical track marks, and deviations from the contour.
- Examples of common flaws which can affect the integrity of the final landform are shown in Figure 7.

Where an exemption to apply additional BIF gravel onto a sloped waste landform has been granted, the Contractor is responsible for ensuring BIF gravel is amalgamated with the surface topsoil during cross ripping, such that the final surface coverage of rock is ≥30% without boulders present. To achieve this outcome a deep rip followed by a shallow rip may be required.

On completion of the cross-ripping, and prior to vegetation dispersal, sign-off of the works shall be completed in accordance with Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053. Completion of this form requires sign-off by representatives from Environment Department, Mining Department and the Contractor.

Figure 7: Example: (Left) single tine ripping leaving track marks over contour rip lines. (Centre) rip lines deviating from horizontal contours creating a zone of convergence, (right) satisfactory contour ripping along contour.

4.2.9 Vegetation Dispersal

4.2.9.1 General Vegetation Dispersal

Stockpiled vegetation which has not been mulched and incorporated into topsoil (refer to Section 5.2.6.1) shall be spread evenly across onto rehabilitated areas. On surface domains this can be conducted in conjunction with topsoil spread and ripping. Prior to the re-spreading of vegetation all stockpiled rocks and hollow logs must be checked by the KML Environmental Department to ensure there is no presence of fauna which may be impacted by the works.

4.2.9.2 Waste landform vegetation dispersal

For waste landform domains, remaining vegetation stockpiles should be evenly dispersed along the crest and toe of the landform slopes, as far as practicable without traversing onto the cross ripped area. This is best achieved with the reach of a loader or excavator.

On completion of the vegetation dispersal, sign-off of the works shall be completed in accordance with Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053. Completion of this form requires sign-off by representatives from Environment Department, Mining Department and the Contractor.

4.2.10 Perimeter bund

Perimeter bunds constructed from suitable gravel or waste rock materials are required at the crest of WRDs and TSFs. Topsoil shall not be used in the construction of bunds.

The bund at the crest of waste landforms consists of two parts, which are constructed in order to restrict surface water movements after large rain events and prevent erosion:

1. A ≥1.5m perimeter bund around the edge of the crest of each bench of the WRD. The inner face 5m from the bund should be graded back towards the center of the WRD at a 1:10 gradient to prevent water pooling against the bund as per Figure 8.
2. The flat area at the crest of the waste dump should be compartmentalised into 1-3ha sections using internal bunds ≥0.5m in height.

On completion of the construction of the perimeter bund, sign-off of the works shall be completed in accordance with Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053. Completion of this form requires sign-off by representatives from Environment Department, Mining Department and the Contractor.

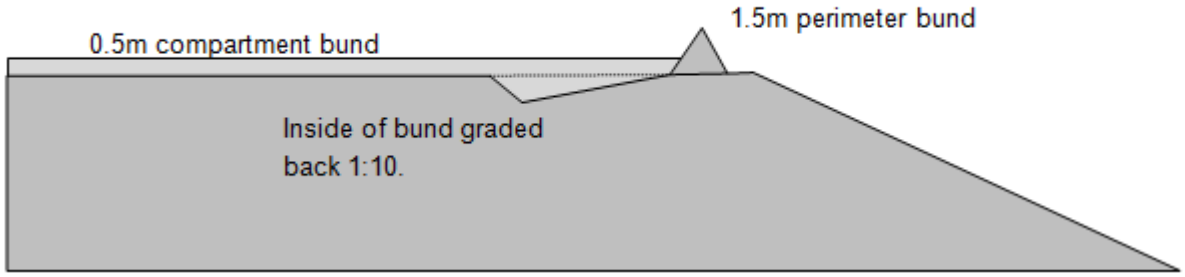

Figure 8: Schematic diagram of bunds required at the crest of waste landforms to control surface drainage.

4.2.11 Seeding and Revegetation

Seeding and planting rates are carried out as determined and by KML Environmental Department upon completion of land rehabilitation works, in order to achieve vegetation

recovery and stabilisation of landforms in accordance with closure criteria. Seed may be applied to WRD slopes prior to cross ripping if activities are underway immediately prior to winter rainfall. Seeding and planting may also be conducted in response to poor natural germination where determined by the KML Environmental Department.

4.2.12 Final Cleanup and Inspection

Prior to final inspection by KML, the Contractor shall ensure that rehabilitation areas have been left in a state free of vehicle tracks, infrastructure, rubbish, ponding or remnant waste rock, vegetation or topsoil stockpiles. Entrances must be windrowed and signposted to prevent vehicle entry.

The KML Environmental Department shall complete a final inspection with the Quarry Manager and Contractor supervisor to confirm that works have been completed in accordance with this procedure. This inspection shall be documented using Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053.

If rehabilitation works are considered by KML to not meet the requirements outlined in this procedure, the Contractor supervisor shall be responsible for rectifying the works to the required standard.

The KML Mining Department shall provide a final survey pick-up of the rehabilitated site and provide this detail to the Environmental Department for inclusion in the Annual Environmental Report submitted to the DMIRS.

4.2.13 Abandonment bund

For open pits, KML Mining Department shall design abandonment bunds for construction by the Contractor either during mining or at the completion of mining activities. The Contractor is responsible for constructing the abandonment bunds around the complete perimeter as per the design provided by KML Mining Department. All topsoil resources shall be recovered from within the perimeter of the abandonment bund for reallocation to other domains.

The KML Mining Department shall provide a final survey pick-up of the abandonment bund and provide this detail to the Environmental Department for inclusion in the Annual Environmental Report submitted to the DMIRS.

4.3 Timing & Scheduling

Landforms are scheduled for rehabilitation when the area is no longer required for mining operations or infrastructure. The KML Quarry Manager and Contractor project manager are responsible for coordinating works such that areas can be progressively rehabilitated. These areas include;

- Redundant roads and cleared areas no longer required for the purposes of mining;
- Completed segments of the WRD and TSF; and
- Direct return mining areas.

Rehabilitation earthworks are scheduled around the seasons to ensure final surfaces are in place by the onset of seasonal rainfall in April. Seeding landforms prior to seasonal rainfall is important to maximise the success of plant establishment.

4.4 Land Rehabilitation Performance and Amendments

Where land rehabilitation is identified as not meeting the requirements of the Environmental Procedure – Rehabilitation Performance Monitoring CORP-EN-PRO-1040, or issues have been detected during inspections using the Environmental Form – Land Rehabilitation Inspection CORP-EN-FRM-1017 the KML Site Environmental Department will be required to submit an Incident Report via the Safety Procedure – Incident Management Procedure CORP-HS-PRO-1046. Such occurrences will be documented in INX and investigated as per the incident reporting system with corrective actions assigned where necessary.

Amendments to correct failed land rehabilitation will be undertaken as per the relevant steps outlined in this Procedure. For example, if an area only requires amendment to significant erosion of the surface, then the area may only require a re-rip by multi-tine equipment.

Reseeding or planting of seedlings on amended areas will be carried out as determined by the KML Environmental Department upon completion of the works to a required standard.

Where excessive weeds are detected on rehabilitated areas they shall be managed as per the Environmental Procedure – Flora, Weeds and Plant Pathogens (CORP-EN-PRO-1009).

Where excessive feral fauna grazing has been detected on revegetated areas the most suitable management as per the Environmental Plan – Feral Animal Management (CORP-EN-PLN-1009) will be put in place.

5 CHECKING

5.1 Incident Reporting

Where a deviation from steps of this procedure is not followed by the Contractor without written permission from the KML Environmental Department an Incident Report will be required to be submitted to the KML Environmental Department via the Safety Procedure – Incident Management Procedure CORP-HS-PRO-1046. Such occurrences will be documented in INX and investigated as per the incident reporting system with corrective actions assigned where necessary.

5.2 Control of Records

Once completed, the information collected on the signed off Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053 shall be recorded on the KML Environmental Department Rehabilitation Progress Register. All survey data shall be maintained in the GIS database in accordance with the Environmental Procedure – Environment and Heritage Data Management CORP-EN-PRO-1045. This data is analysed during the desktop and annual reviews.

The Contractor shall complete the monthly reports by using the Environmental Form – Contractor Monthly Report CORP-EN-FRM-1001 and provide the monthly reports to the KML Environmental Department. The monthly report shall include the information on the rehabilitation works completed for the month.

5.3 Audits and Inspection

Rehabilitation activities must be inspected and signed off by the KML Environmental Department at the completion of each stage of works, using the Environmental Form – Land Rehabilitation Sign off CORP-EN-FRM-1053. Any actions raised during inspections shall be listed on INX for rectification. Re-inspection is then undertaken prior to commencement of the next stage of rehabilitation.

The Contractor is responsible for contacting the KML Environmental Department to arrange inspections. Before final inspection of a domain, the Contractor shall submit a survey pickup of all areas rehabilitated. Once the rehabilitation domain is completely signed off as complete, the Contractor transfers responsibility to manage the rehabilitation to KML.

Post-rehabilitation all areas will be inspected regularly and recorded on INX by the KML Environmental Department using the Environmental Form – Land Rehabilitation Inspection CORP-EN-FRM-1017 to ensure that rehabilitation areas remain compliant to the relevant regulatory and KMLs internal requirements.

6 DOCUMENTS LIST

The documents referred to in this procedure are listed in the table below.

Table 5: Document List

Document Title	Document Number
Environmental Form – Contractor Monthly Report	CORP-EN-FRM-1001
Environmental Form – Land Rehabilitation Inspection	CORP-EN-FRM-1017
Environmental Form – Land Rehabilitation Sign off	CORP-EN-FRM-1053
Environmental Plan – Fauna Management	CORP-EN-PLN-1008
Environmental Plan – Environmental Waste Management	CORP-EN-PLN-1013
Environmental Plan – Environmental Management Plan	CORP-EN-PLN-1020
Environmental Plan - Exploration Environmental Management Plan	CORP-EN-PLN-1022
Environmental Plan – Greater Karara Iron Ore Project Mine Closure Plan	CORP-EN-PLN-1038
Safety Procedure – Training and Induction	CORP-HS-PRO-1001
Safety Procedure – Incident Management Procedure	CORP-HS-PRO-1046
Environmental Procedure – Flora, Weeds and Plant Pathogens	CORP-EN-PRO-1009
Environmental Procedure – Feral Animal Management and Monitoring	CORP-EN-PRO-1050
Environmental Procedure - Soil Resource Management	CORP-EN-PRO-1015
Environmental Procedure – Exploration Rehabilitation Standard	CORP-EN-PRO-1030
Environmental Procedure – Rehabilitation Performance Monitoring	CORP-EN-PRO-1040
Environmental Procedure – Environment and Heritage Data Management	CORP-EN-PRO-1045

7 REFERENCES

Landloch Pty Ltd (2011), Design of stable final landforms for Terapod and Blue Hills North waste dumps. Report prepared for Karara Mining Ltd.