Iron Ore Controlled Document

bhpbilliton
resourcing the future

Standard
Rehabilitation

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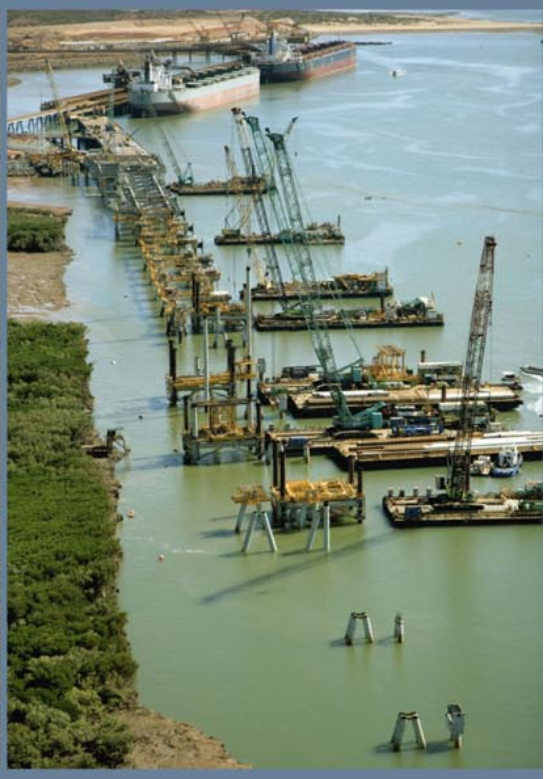

Electronic Approval Record

Author Role	Name
Specialist Rehabilitation	Steven Wishart
Reviewer Role	**Name**
Superintendent Business Partnering HSE Rehabilitation	Tony Webster
Approver Role	**Name**
Manager Business Partnering HSE	Soo Carney

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1.0	All	New Document	15/11/2011
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Table of Contents

1. Purpose

The following Rehabilitation Standards have been developed for the mining and mining related activities within BHP Billiton Iron Ore's operations in the Pilbara. The Standards have been developed to guide the process of rehabilitation of lands such that it that meets the expectations of stakeholders, enables the agreed end use objectives of the land to be met, meets the relevant regulatory and compliance requirements, and, ultimately, ensures that the completion criteria for all rehabilitation activities are met. These Standards cover all of the BHPBIO mining and mining-related activities in the Pilbara region – mining, exploration, port, road/rail, and construction.

2. Scope

BHP Billiton's commitments to the closure of disturbed lands exist within the BHP Billiton Charter, the Sustainable Development Policy, the BHPB Group Level Documents, the BHPBIO Biodiversity Strategy, the BHPBIO Rehabilitation Strategy and the Draft Completion Criteria for New Sites. The relationship between specific rehabilitation documents is shown in Figure 1.

The Rehabilitation Strategy provides the *overarching framework* for successful rehabilitation of areas impacted by BHPBIO operations in the Pilbara. It describes the context and business drivers, identifies key issues, and outlines a plan for the business to address the current knowledge, management and financial gaps. The Plan also articulates the key rehabilitation principles.

The Rehabilitation Standards (this document) define the *preferred outcomes* for rehabilitation for the different core activities associated with the planning and design phases of rehabilitation (materials management, landform construction, topsoil and growth material placement, revegetation, fauna habitat creation) for each major land disturbance type (domain). The Standards are intended to ensure the overall vision for successful rehabilitation can be achieved pragmatically, and that the completion criteria for each site can be achieved. These Standards cover all of the five stages identified in the Completion Criteria (Figure 2):

- Planning
- Rehabilitation Operations
- Early Establishment
- Maturing Rehabilitation
- Closure

Rehabilitation Procedures sit underneath the Rehabilitation Standards and provide the operational procedures and protocols needed to ensure the Standards are met.

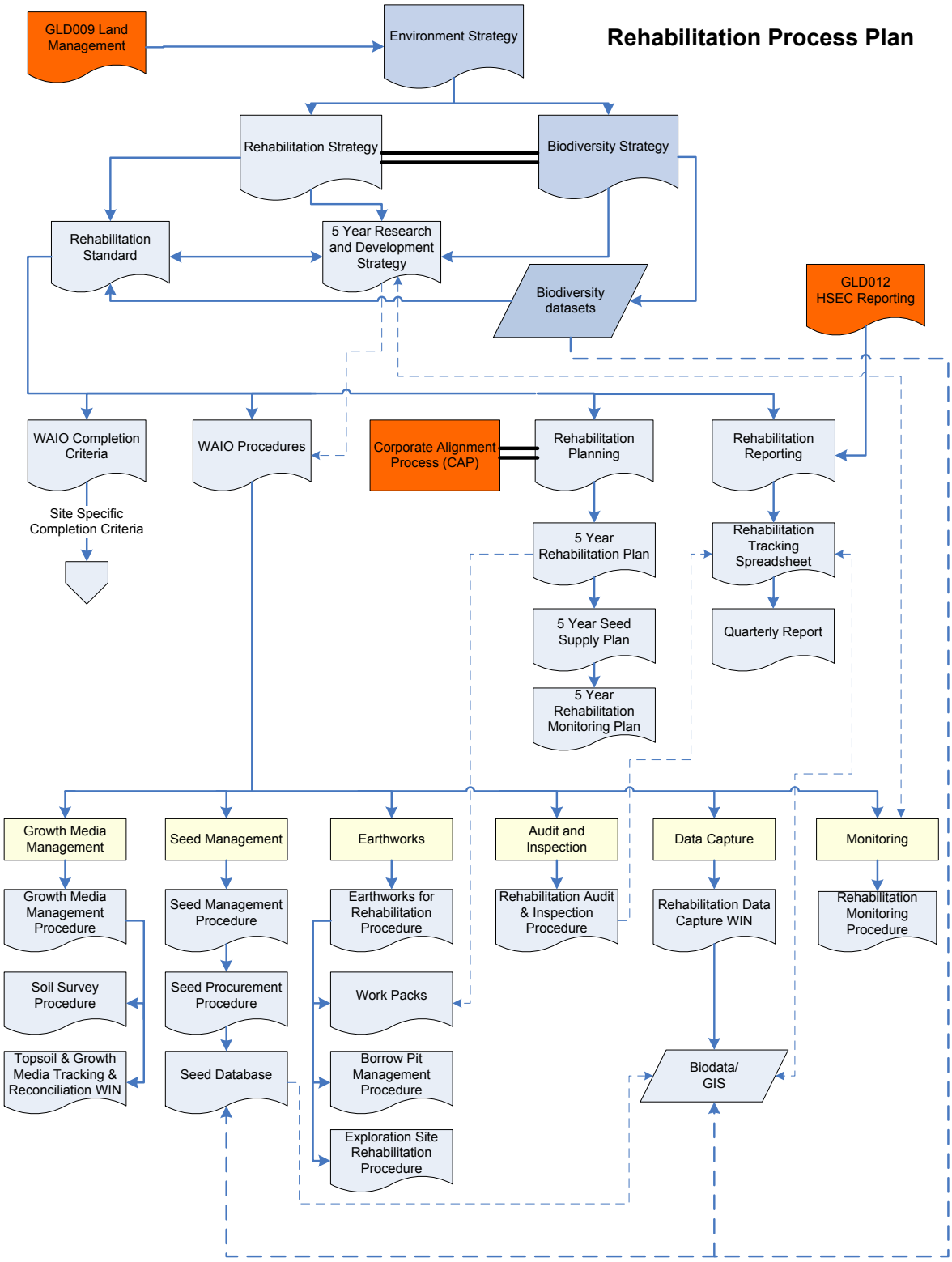
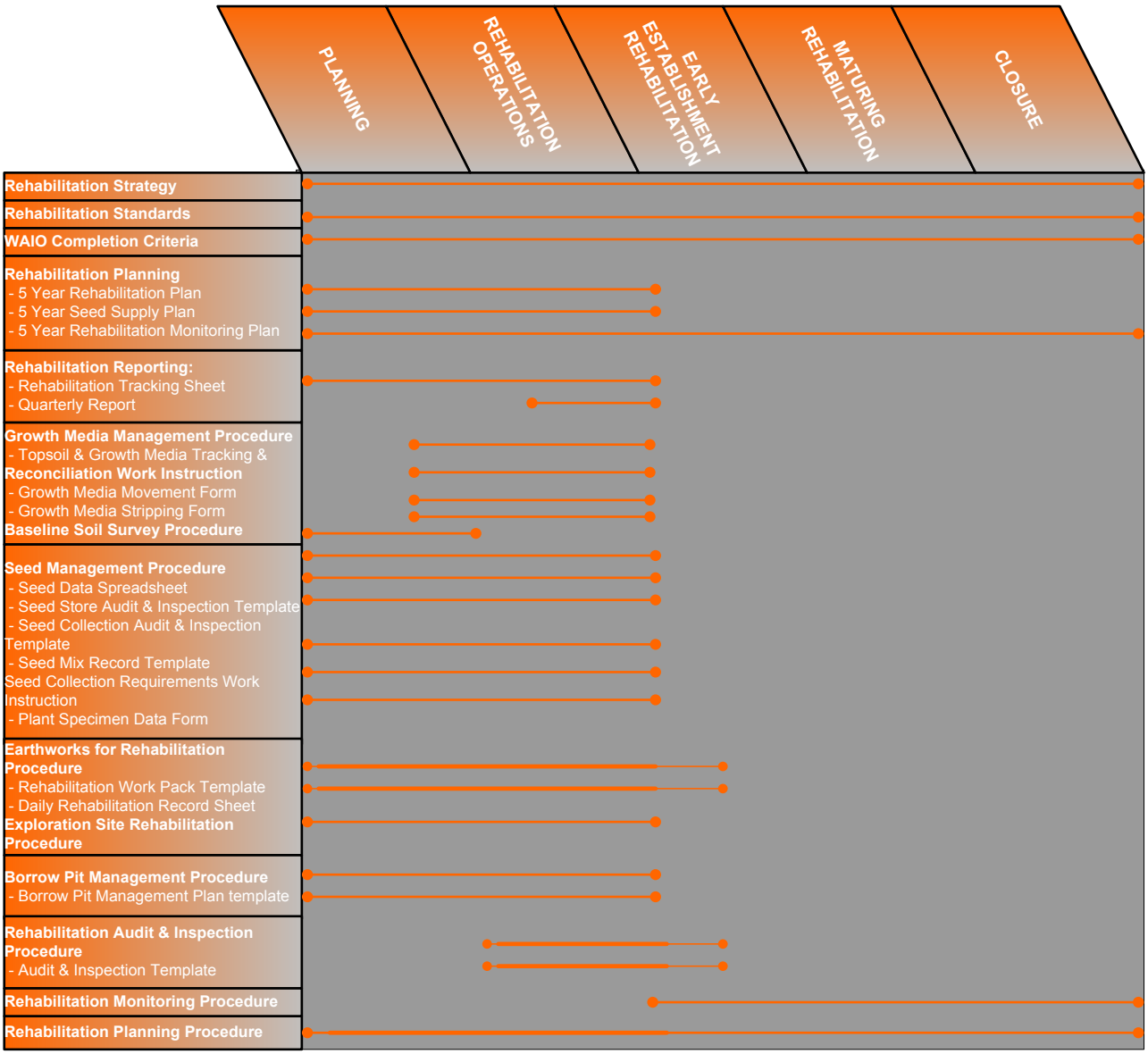


Figure 1 Rehabilitation Process Plan

Rehabilitation Process Plan



COMPLETION CRITERIA STAGES:
STAGE 1. PLANNING: Criteria that confirm the necessary planning and operating procedures have been developed and agreed with regulators and other stakeholders.

STAGE 2. REHABILITATION OPERATIONS: Criteria that confirm rehabilitation operations have been implemented according to Stage 1.

STAGE 3. EARLY ESTABLISHMENT REHABILITATION: Assesses whether completed rehabilitation has established appropriately and no early problems are apparent.

STAGE 4. MATURING REHABILITATION: Determines whether the rehabilitation is developing appropriately towards the designated final land use and has reached or exceeded various development standards and milestones.

STAGE 5. CLOSURE: Addresses final closure stage management and land capability issues.

Figure 2 Rehabilitation Documents & Procedures: Alignment with Completion Criteria Stages

3. Rehabilitation Standards

The role of Rehabilitation Standards is to set out the expectations for each stage of the rehabilitation process, for each location, each landform, and each disturbance type. They are to drive the rehabilitation implementation process and enable the monitoring and audit process. Rehabilitation Standards need to align with the Completion Criteria, and provide the certainty that these criteria shall be met at closure.

Rehabilitation methods and related procedures, which describe the operations required to meet BHPBIO Rehabilitation Standards and Completion Criteria, have been described in relevant BHPBIO Procedures (Appendix 1). Operational aspects of these are designed to meet all necessary regulatory requirements (including Ministerial Statements). The prescriptions are regularly reviewed and updated to reflect improvements in knowledge from research, technology and operational understanding, and will be reviewed and updated as needed to support the rehabilitation goals and objectives.

3.1. Rehabilitation Goals & Objectives

3.1.1. Definition of Rehabilitation

Rehabilitation refers to the physical aspects of earth moving, land-forming to a final agreed design and revegetation with the purpose of creating safe, stable landscapes, minimizing long-term environmental damage and creating a self-sustaining natural ecosystem or other land use based on an agreed set of objectives. Revegetation includes all of the steps involved in the establishment of vegetation.

In order to optimise successful rehabilitation of any disturbed lands, rehabilitation must commence at the planning stages, before disturbance and should cease once all activities and procedures for achieving the applied criteria are complete. At this point, only monitoring should be required to progressively assess and 'sign-off' the site in accordance with agreed completion criteria.

Therefore the appropriate definition of the process of rehabilitation across WAIO is:

"the planning, resourcing and operational activities associated with remediating, constructing and revegetating a disturbed area to an agreed use".

The rehabilitation process is considered complete when compliance monitoring indicates the site meets the agreed completion criteria. Note, ongoing performance monitoring is considered to form part of the rehabilitation process.

As a management measure, rehabilitation may not apply to all BHPBIO lands. The decision as to whether or not an area is to be rehabilitated is a decision currently made at the environmental approvals stage of a project. Rehabilitation of mined areas to agreed post-closure uses must recognise impacts to biodiversity have already occurred.

3.1.2. Rehabilitation Vision

Be the leading practitioner of sustainable rehabilitation by being a trusted and respected steward of the land (Rehabilitation Strategy, 2011).

The intent for rehabilitation of BHPBIO lands in the Pilbara region is to be aimed at habitat reconstruction, soil development, and ecosystem establishment (rather than vegetation establishment alone) where this is aligned with the agreed end land use. Hence, the establishment and maintenance of sustainable ecosystems post-mining relies on a broader landscape ecological approach which:

- incorporates landforms, soils, hydrology, vegetation, and fauna as *components* of rehabilitation.
- incorporates an understanding of climate cycles, biological migration (of propagules and fauna), nutrient cycling, fire, weeds and other disturbance factors, as *processes.*

Successful rehabilitation requires consideration of both the components of landscapes as well as the processes that are required to maintain them.

In most cases, rehabilitation in the Pilbara occurs in areas that are significantly disturbed, such that opportunities for restoring areas to pre-disturbance conditions are rare. In most cases, the intent of rehabilitation shall be to either re-integrate disturbed areas with surrounding areas or to create

habitats that are appropriate to the location, can function sustainably over time, and tie in with the surrounding landscape.

3.1.3. Rehabilitation Objectives

Rehabilitation Objectives are based on the land uses applicable to the particular area and recognise the fact that the land is altered fundamentally from its pre-existing condition.

The purpose of the Rehabilitation Objectives and Completion Criteria is to ensure areas shall display self-sustaining characteristics of surrounding areas and provide Government regulators confidence that, to the maximum possible extent, they can be managed in the long term according to the intended land use (or uses), using normal management practices without the input of additional resources.

The core objectives of rehabilitation of BHP Billiton Iron Ore operations are as follows:

Rehabilitation must be safe and stable, and, within the limits of the altered post-mining environment, establish a native Pilbara ecosystem that provides for low intensity grazing, protection of water quality, and conservation, by meeting the following general requirements so that it:

- *is sustainable – areas must be demonstrated to be viable in the long-term (i.e. they should show an ecological recruitment cycle, and the ability to withstand normal disturbance events such as fire and drought, similar to that demonstrated by baseline surveys of reference sites;*
- *is sympathetic to the regional landscape – areas must be designed and constructed to reflect local ecological and landscape features;*
- *is functional – areas must show evidence of ecosystem processes, such as nutrient cycling, support of faunal assemblages, etc;*
- *is based on the findings of monitoring and research into the establishment of biodiversity, ecosystem function and sustainability at rehabilitated BHPBIO sites;*
- *takes into account the views of all relevant stakeholders;*
- *results in areas that are stable and do not impact on their immediate surrounds, they must physically interface appropriately with adjacent features, ensuring natural hydrological linkages, and avoiding significant impacts on surrounding areas from erosion, slumping, run-off, and introduction of weeds; and*
- *is compatible with a 'whole-of-lease sustainable management' approach, so that rehabilitated areas can be integrated into local land management practices, and management requirements (e.g. maintenance of access tracks, fire) are not greater than those of areas prior to mining, or where extra management actions may be required, a mechanism has been put in place for addressing these*.

It must be noted that whilst the above Rehabilitation Objective and any linked Completion Criteria refer to areas where the intention is to establish a sustainable native ecosystem, specific domains such as mine pit void lakes are expected to be present. These shall need specific objectives and shall require to be addressed separately in the site specific closure strategy.

3.1.4. Application of Rehabilitation Standards

Mining related disturbance can include a range of activities that vary between sites. For convenience in mine rehabilitation planning, they can be grouped into domains. These Standards apply to each phase of the rehabilitation process across all domains:

- Overburden Storage Areas (OSA);
- Mine Voids (V);
- In pit lakes (IPL)
- Infrastructure (I);
- Roads and rail (RR)

- Corridors (power, pipelines) (C); and
- Borrow Pits (BP)

The Standards are intended to cover legacy site, existing and new areas of disturbance.

3.1.5. Completion Criteria

Completion Criteria are defined in the Leading Practice Mine Closure and Completion Handbook (DITR, 2006)[1] as 'An agreed standard or level of performance which demonstrates successful closure of a site'. BHPBIO has developed a set of draft General Criteria for New Sites for Pilbara Operations. These include criteria that shall be met for sites rehabilitated following mining related disturbance. They are designed for typical rehabilitation and address the various domains as set out in Section 3.1.4.

Completion Criteria as developed for each site shall be reviewed by BHPBIO five yearly to integrate findings from ongoing research and development programs including landform trials, improved knowledge on the ecosystem development derived from rehabilitation monitoring programs and greening initiatives. Progressive rehabilitation is an important component of this process, and involves planning the rehabilitation during the initial mine planning phase and ensuring that where possible, rehabilitation occurs concurrently with other operations as land becomes available for final landform; thereby reducing the total area open and increasing opportunities for ongoing learning and improvement. Linking progressive rehabilitation and signoff ensures that areas reformed and treated at any stage in accordance with the agreed criteria can be partially handed back to the State with no retrospective responsibility to BHPBIO.

The Criteria shall include agreed methods of assessment and verification procedures to confirm that standards and milestones have been met. These must be transparent, achievable and unambiguous.

For the ongoing development of the Criteria, it is envisaged that BHPBIO shall continue to work with regulators and stakeholders in order to produce specific site Completion Criteria in conjunction with closure plans and agreed working procedures.

3.2. Standards: Planning - Approvals

The following Planning-Approvals standards cover the relevant planning aspects needed to secure permits and approvals and ensure compliance with Ministerial Conditions and BHPBIO obligations.

3.2.1. Lease Planning

- *Ensure the area of land applied for in active leaseholds is sufficient to enable the safe mining of ore without impacting on adjacent lands, and ensuring there is sufficient space surrounding OSA's at the end of mining to facilitate recontouring / blending to final landforms.*

3.2.2. Land Clearing

- *Minimise area of disturbance footprint by planning location of infrastructure, access roads and mine areas efficiently.*
- *Minimise impacts to adjacent lands, through ensuring adequate buffers are in place to manage any impacts such as dust, drainage, noise, and sediment wash.*
- *Incorporate and maintain undisturbed tracts within lease areas such that rehabilitated areas have a physical link to surrounding functioning ecosystems (ecological corridors).* This has been found to ensure the movement of plants and animals, and ultimately increase the rate of recovery in arid land rehabilitation (Brearley, 2003)[2]. Ecological corridors may be incorporated into the planning

[1] Department of Industry Tourism and Resources (DITR, 2006). *Mine Closure and Completion. Leading Practice Sustainable Development Program for the Mining Industry Handbook*. Department of Industry Tourism and Resources, Canberra, Australia.

[2] Brearley, D. (2003). *Developing completion criteria for rehabilitation areas on arid and semi-*

and management of buffers. Ecological corridors should be a minimum of 200m width, with the actual buffer dimensions sized such that they meet the needs of significant fauna where they occur.

3.2.3. Baseline Studies

- *Undertake comprehensive baseline surveys before mining to identify landform, geology, soil types, climatic conditions, hydrology, flora and fauna (biodiversity), heritage and cultural values, and land use.*
- *For each site and as a minimum for each main area of operation (northern, southern central, western Pilbara), use the baseline survey data and existing BHPBIO biodiversity regional maps to develop a list of vegetation assemblages for each landform, species lists for revegetation purposes, including all keystone species, and significant fauna requiring specific habitat developement.*

Keystone species are defined as those dominant in each structural strata. The existing landform mapping undertaken by Van Vreeswyk *et al*. (2004)[3] for the Pilbara region should be used as a standard for landform unit identification, and the BHPBIO baseline vegetation and fauna survey reports as the basis for specific selection of target ecosystems.

3.2.4. Rehabilitation Feasibility Assessment

- *For each site and prior to developing Rehabilitation Plans, undertake an impact assessment process as it affects rehabilitation potential, identifying and mapping areas showing type and likely extent of impact, category of impact (reversible, irreversible, major, minor) and feasibility of rehabilitation.*

Impacts should include potential on-site and off-site impacts, and whether neighboring land-uses are likely to increase or decrease rehabilitation success (e.g. in the former case this may be an undisturbed ecosystem within the conservation state, in the latter may be a degraded, weed-infested site, or future mining area). The feasibility assessment should include a cost benefit analysis.

3.2.5. End Use Agreement

- *Based on the rehabilitation feasibility assessment (Section 3.2.4), assess whether or not the site is able to meet a pre-disturbance land-use or whether an alternative should be examined and discussed with stakeholders*.

The primary driver for developing completion criteria for a site is the end-use, i.e. what is the land likely to be used for after it has been rehabilitated. The general expectation across most of WAIO mined lands is that our sites shall be returned to something approaching the natural condition of the site before mining, usually with the exception of mine voids. The principal land use around the majority of BHPBIO's Pilbara Operations is low intensity grazing, pastoral.

Final end-use must be agreed with all stakeholders.

arid mine sites in Western Australia PhD thesis, Curtin University, Western Australia.

[3] Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A., and Hennig, P. (2004). *An inventory and condition survey of the Pilbara Region, Western Australia.* Department of Agriculture, Western Australia, Technical Bulletin No. 92

3.3. Standards: Planning - Operations

The following Planning - Operations standards cover the required planning steps needed to ensure rehabilitation is integrated within mine planning.

3.3.1. Integration of Rehabilitation Plans with Mine Plans

- *Ensure that rehabilitation plans are made available at the beginning of the mining life to enable integration of requirements within the mine plan*

This should include requirements for separation and stockpiling of materials for specific rehabilitation reuse; and are required to identify areas available for rehabilitation on an annual basis.

3.3.2. Landform Development

The overall rehabilitation intent for BHPBIO operations is to create landforms that match and integrate with the surrounding landscape. Across BHPBIO lands, the 'surrounding landscape' varies from coastal, off-shore islands, tablelands (comprising mesas, plains, caves, gorges and gullies) and desert. In most cases, the broad landforms targeted in rehabilitation should include mesas and hills, various plain formations, gullies and creeks, however there is significant complexity within these broad groups, and significant variability of the same landform types between the Pilbara regions. Therefore, sound baseline studies are required to set appropriate design criteria for landform design.

- *There shall be no significant, physical off-site impacts.*
- *The post-mining landform shall be designed to be stable and respond to erosive forces in a similar manner to equivalent naturally occurring landforms composed of similar rock types.*
- *There shall be no unsafe areas where members of the general public could inadvertently gain access. Access to potentially unsafe areas shall be impeded by safety bunds built to comply with the applicable Department of Mines and Petroleum (DMP) guidelines.*
- *Mine plans shall examine opportunities to minimise the number and size of out-of-pit OSAs and changes to the water flow pattern by increasing the amount of overburden material used to infill final voids as void areas become available and/or as resources are mined out.*
- *Final landform designs shall be similar to the existing regional landforms, within the constraints imposed by the physical nature of the materials.*

3.3.2.1. Voids

- *Open pit voids and in-pit-lakes are to be minimised by prioritising the reuse of excavated material for in-fill purposes. For all remaining material that cannot be used to backfill existing voids, then Overburden Storage Areas (OSA's) are to be used.*
- *The public should be excluded from pit voids unless tourism and recreation are an agreed end-use, safe access is provided and a management process exists to minimise risks and liability*.

3.3.2.2. Overburden Storage Areas

- *OSA's are to be designed and constructed such that they are of a morphometry (shape and scale) similar to an elevated landform common in the region (e.g. mesa, ridge, hill). The designs are to be modelled using baseline data collected pre-mining which should document slope lengths, angles, material characterisation at surface and subsurface, presence or otherwise of internal voids, perched water, length, orientation of internal gullies, depth of topsoil/subsoil on top, slopes and gullies, vegetation cover.*
- *The landforms are to be designed and constructed as weathering structures and are to contain appropriate internal gullies and alluvial fans at the base to promote water shedding. Each OSA is to be modeled at the design stage and prior to construction to ensure the stability, erodability and hydrological characteristics are similar to the relevant 'baseline' formation (i.e. mesa, hill, ridge etc). Slopes should be concave to facilitate water-shedding.*

3.3.2.3. Infrastructure / Lay-down Areas

- *Where surface disturbances result in compaction of the soil, ripping, disking, or other means shall be used in areas to be revegetated to reduce compaction and to establish a suitable root zone.*

3.4. Standards: Rehabilitation Operations

The following Rehabilitation-Operations standards cover the required operational steps needed to ensure rehabilitation is implemented effectively.

3.4.1. Landform Development

The overall intent for WAIO is to create landforms that match and integrate with the surrounding landscape, taking into consideration the following objectives:

- *Create stable and safe landforms which are similar to surrounds, including moving toward concave, water-shedding slope designs.*
- *Regional landform designs which consider hydrology, stability and public access, including maintaining natural surface and groundwater hydrology off-site in creek mining operations.*
- *Plan material placement to have competent waste materials on outside batters.*

3.4.1.1. Overburden Storage Areas

- *The material composition of the OSA's should be able to support the establishment of the target vegetation assemblages and keystone species for the particular site. This shall require correct placement and depth of topsoil and/or subsoil, quality management of growth media (refer Section 3.4.2). Detailed procedures should depend on outcomes of research programs.*
- *The material composition of the OSA's should ensure the geotechnical stability of the structure in the long-term and ensure constructed landforms don't erode onto adjacent tenements. Plan material placement to have more competent material on outside batters or a mix of competent & less competent material on outer batters. This should require the placement of 'blocky' material to form cliffs and stabilise steeper slopes associated with internal gullies.*
- *OSA's that have the potential to generate ARD are to be revegetated with appropriate plant species to enhance transpiration loss.*

3.4.2. Growth Media

Good topsoil and alternative growth media management is a significant aspect of successful rehabilitation as it can contribute towards avoiding significant costs associated with subsequent revegetation works (e.g. need for importing soil conditioners or alternative growth media, need for supplementary seeding). Soils (topsoil, subsoil) and semi-weathered materials provide the growing matrix for revegetation, a source of seed, as well as the stabilization for wind and water erosion control.

- *Identify the waste materials to be excavated from each mining area during exploration to enable partitioning of material types in terms of suitability for landform development, considering stabilisation of batters, identifying blocky materials suitable for rock armouring, and suitability for support of plant growth in general.*
- *Maximise the return from the topsoil resource*:
  - Identify potential topsoil and subsoil resource from baseline soil surveys.
  - Strip topsoil and surface vegetation and where possible direct return to a suitable rehabilitation area, or stockpile as required.
  - Minimise the length of topsoil storage to reduce loss of viable seeds and decline of nutrients and soil mycorrhiza.
- *Strip subsoil at sites where the material has been characterized as suitable for rehabilitation purposes, and stockpile separately*.

3.4.3. Hydrology

The groundwater environment supports plant and animal species (groundwater dependent ecosystems) and biological processes in a variety of landform types in the Pilbara. Surface water (direct rainfall, riparian and other wetland system flows and sheet run-off) is the major determinant of vegetation type in the Pilbara, with major changes to vegetation assemblages reflecting apparently subtle shifts in water dynamics. Consideration of both surface water and groundwater in rehabilitated systems is fundamental to rehabilitation success.

- *No significant impact on baseline surface water quality and flow regimes in nearby creeks*.
  - Water discharged from rehabilitated areas must conform with the more stringent of corporate or regulatory standards.
- *There shall be no significant, physical off-site impacts*.
  - Sediment control works must be planned and installed so as to minimise sedimentation of surrounding areas during mining.
- *Maintain regional hydrological connections.*
- *Run-off from surrounding areas must be managed so that the rehabilitated area is not adversely affected.*

3.4.4. Revegetation

Revegetation is the final activity prior to monitoring works, and seeks to establish the basis for the progressive development of a sustainable ecosystem, including fauna. In the Pilbara, seed is the major resource for revegetation. An understanding of the quality of seed resources is essential to determining the quantities of seed applied to site to achieve a required plant density. Conditions required to promote seed germination and foster establishment of plants (temperature, water dynamics, soil type etc) are also critical.

- *The established vegetative cover will be self-sustaining and show progression towards the surrounding undisturbed vegetation in terms of species diversity and plant density*.
  - Revegetation is to be conducted so as to establish plant species that will support the approved post- mining land use.
  - Revegetation activities shall be conducted during the most favorable period of the year for plant establishment.
  - Soil stabilising practices or irrigation measures, or both, may be used to establish vegetation
  - The quality of seed resources used in broadcasting is to be managed by appropriate storage, pre-treatments and collection protocols.
- *Revegetation of mine landforms will aim to establish local native vegetation appropriate for the area.*
  - The selection of plant species used in revegetation is to be selected from the revegetation species lists generated for each site as part of planning works, and must include a range of typical vegetation assemblages suited to the post-mined landform.
  - The diversity of vegetation types used in rehabilitation must be maximised in order to improve habitat value and encourage colonisation by a wide range of fauna.
  - *Seed for revegetation is to be collected from provenance areas as agreed by the DEC.*
  - *The establishment of vegetation species, density, or diversity which is different than pre-existing conditions or on adjacent lands will constitute successful rehabilitation if any of the following apply*:
    - the post-mining land use is different than the pre-mining land use or the use of the adjacent lands;

- the site-specific nature of the surface disturbance, including soil conditions and topography, is such that the establishment of pre-existing or adjacent conditions is not technically or economically practicable; or
- the establishment of different species is preferable for control of erosion (e.g. dry cover storages).

3.4.5. Fauna

In the Pilbara, the return of fauna, particularly of key groups such as vulnerable and short range endemic groups, will be a key measure of rehabilitation success.

- *Where significant fauna groups occur within the region, ensure specific habitat requirements, including particular landform features, are built into rehabilitation plans and activities.*
- *Maximise the diversity of vegetation types within rehabilitated areas to improve habitat value and encourage colonisation by a wide range of fauna.*
- *Ensure that appropriate logs and smaller woody debris are incorporated into rehabilitation areas to provide protection and habitat for fauna.*
- *Accommodate ecological corridor linkages in rehabilitation areas that ensure safe movement of fauna between the range of habitat types required to support populations.*

3.5. Standards: Early Establishment & Maturing Rehabilitation

An important component of leading practice rehabilitation is the use of monitoring and research to track the progress of rehabilitation, and ensure continuous improvement through adaptive management.

- *Monitoring procedures shall be used to assess whether initial establishment has been successful, rehabilitation is developing satisfactorily, and is ready for signoff*
- *Research activities shall be undertaken where knowledge gaps or deficiencies in rehabilitation progress occur.*

3.6. Standards: Closure

3.6.1. Closure Principles

The direction of rehabilitation for our BHPBIO operations is currently set by a range of existing closure principles agreed for mine sites. The current Guiding Closure Principles are as follows:

- *There will be no significant, physical off-site impacts.*
- *No significant impact on baseline surface water quality and flow regimes in nearby creeks.*
- *The established vegetative cover will be self-sustaining and show progression towards the surrounding undisturbed vegetation in terms of species diversity and plant density.*
- *The post-mining landform will be designed to be stable and respond to erosive forces in a similar manner to equivalent naturally occurring landforms composed of similar rock types.*
- *There will be no unsafe areas where members of the general public could inadvertently gain access. Access to potentially unsafe areas will be impeded by safety bunds built to comply with the applicable Department of Mines and Petroleum (DMP) guidelines.*
- *Future mine plans will examine opportunities to minimise the number and size of out of-pit OSAs and changes to the water flow pattern by increasing the amount of overburden material used to infill final voids as void areas become available and/or as resources are mined out.*
- *Residual pit voids will be left as run-of-mine (ROM) where geotechnically stable, and profiled as necessary to achieve long-term closure objectives.*
- *Final landform designs will be similar to the existing regional landforms, within the constraints imposed by the physical nature of the materials.*
- *Revegetation of mine landforms will aim to establish local native vegetation appropriate for the area.*
- *Ecosystem Function Analysis (EFA) or an equivalent long-term systems-based monitoring approach will be used to track the trajectory of rehabilitated areas towards self-sustaining status.*

4. Appendices

4.1. Appendix 1 Rehabilitation Procedures Outline

Rehabilitation Procedures

Rehabilitation Standards	Rehabilitation Standards (0001074)
Rehabilitation Planning	Rehabilitation Planning & Execution Procedure (SPR-IEN-LAND-013)
Growth Media Management	Growth Media Management Procedure (SPR-IEN-LAND-009) Growth Media Tracking & Reconciliation Work Instruction (WIN-IEN-LAND-008) Growth Media Stripping Form (FRM-IEN-LAND-009) Growth Media Movement Form (FRM-IEN-LAND-010) Baseline Soil Survey Procedure (SPR-IEN-LAND-014)
Earthworks for Rehabilitation	Earthworks for Rehabilitation Procedure (SPR-IEN-LAND-010) Rehabilitation Work Pack Template (FRM-IEN-LAND-003) Daily Rehabilitation Record Sheet (FRM-IEN-LAND-004) Exploration Site Rehabilitation Procedure (SPR-IEN-LAND-003) Borrow Pit Management Procedure (SPR-IEN-LAND-008) Borrow Pit Management Plan Template (FRM-IEN-LAND-006)
Rehabilitation Audit & Inspection	Rehabilitation Audit & Inspection Procedure (0000973) Rehabilitation Audit & Inspection Template (0000974)
Seed Management	Seed Management Procedure (SPR-IEN-LAND-011) Seed Store Audit & Inspection Procedure (0000975) Seed Collection Audit & Inspection Procedure (Doc # requested) Seed Collection Requirements Work Instruction (WIN-IEN-LAND-009) Plant Specimen Data Form (FRM-IEN-LAND-011) Seed Mix Record Template (Doc # requested)
Rehabilitation Data Management	Rehabilitation Data Capture Work Instruction (001006) Rehabilitation Report Template (FRM-IEN-LAND-005)
Rehabilitation Monitoring	Rehabilitation Monitoring Procedure (SPR-IEN-LAND-012)