Preliminary Decommissioning and Closure Plan

Iron Ore Mine and Downstream Processing, Balmoral South, Western Australia

International Minerals Pty Ltd

April 2007

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Prepared for

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Prepared by

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Table of Contents

1.0 Introduction

1.1 Background

The Balmoral South Iron Ore Project proposes the development of an iron ore mine and downstream processing facilities at Cape Preston, 80km south west of Karratha. The co-proponents of the project are Mineralogy Proprietary Limited (Mineralogy) and International Minerals Proprietary Limited (IM). The iron ore deposit for this project is located in the southern section of the Balmoral deposit and this is within existing Mining Leases and other *Mining Act* tenements held by Mineralogy.

The Balmoral South Project proposes the establishment of a new mine and processing facilities. Through its agreement with Mineralogy, IM has access to additional infrastructure that is the subject of separate approvals applications including:

- A 400m wide services corridor linking the assessed Mineralogy project processing facility to Cape Preston. The services corridor will contain a dedicated conveyor, power, water and road access, which will be constructed by IM.
- A 1 Mt stockyard at Cape Preston, dedicated to handling IM product.
- A port and associated infrastructure through which IM's product will be exported.
- A temporary import facility through which prefabricated modules will be imported.
- A borefield located on the west side of the Fortescue River (Currently the subject of a separate water allocation application being prepared by Mineralogy.)
- A tailings dam located within the General Purpose Lease G08/63

The proposed mine will be an open pit. Mining activities will generate 47 Mtpa of ore and 38 Mtpa of waste. After processing, approximately 5.2 – 12 Mtpa of iron ore concentrate, 7 Mtpa of pellets and 2 Mtpa of hot briquette iron (HBI) will be exported through the Cape Preston port facility. The project is expected to employ 600 permanent staff during operation and 3000-4000 personnel during the construction phase.

1.2 Relevant Legislation and Guidelines

State Government Legislation	Application
Environmental Protection Act 1986	Mechanism that provides for formal assessment of the proposal and assigns impact management responsibilities to the proponent
Mining Act 1978	Governs mining operations and practices
Mines Safety and Inspections Act and Regulations 1994	Governs safety issues related to closure activities
Rights to Water and Irrigation Act 1914 *Iron Ore Processing (Mineralogy Pty Ltd) Agreement Act 2002*	Governs extraction of water resources Overrides all State acts other than environmental legislation and the Commonwealth *Native Title Act*, and is the primary Act for the project

The following guidelines are produced by the Commonwealth Department of Environment and Heritage and are relevant to closure planning issues.

Best Practice Guidelines. Commonwealth Department of Environment and Heritage
Contaminated Sites 1999a
Environmental Monitoring and Performance 1995a
Hazardous Materials Management Storage and Disposal 1997a
Landform Design for Rehabilitation 1998
Rehabilitation and Revegetation 1995b
Tailings Containment 1995c
Managing Sulphidic Mine Wastes and Acid Drainage 1997b
Environmental Risk Management 1999b
Community Consultation and Involvement 1995d
Mine Planning for Environmental Protection 1995e
Strategic Framework for Mine Closure 2000
Strategic Framework for Tailings Management 2003

1.3 Purpose of this Document

This Preliminary Decommissioning and Closure Plan has been created to accompany the referral document submitted to the EPA under Section 38 (Part IV) of the *Environmental Protection Act 1986*. Environmental impact assessment of this project is informed by an accumulation of environmental investigations from the Mineralogy Cape Preston Iron Ore project proposed for the central iron ore deposit in the Cape Preston area (HGM, 2000) and additional consideration for cumulative impacts. This Plan is submitted in conjunction with the project referral in order to provide the framework to ensure that the project area is left in an environmentally acceptable condition upon completion of the mining operation.

The purpose of this document is to address the specific environmental management in the project decommissioning and closure phase and to ensure sufficient consideration is given to mine closure during the initial planning phase of the project. It includes an analysis of potential impacts of project decommissioning and closure, and a detailed account of the operational strategies and procedures that will be implemented to achieve the identified environmental outcomes and objectives.

1.4 Objectives of this Document

The objectives of this Preliminary Decommissioning and Closure Plan are as outlined below. It should be read in conjunction with the project Environmental Management System and Construction Environmental Management Plan:

- ensure that mine development is consistent with closure objectives and strategies;
- ensure that adequate resources are set aside to implement environmental plans during operations and closure;
- prevent or minimise long term environmental and public health and safety impacts; and
- create a stable landform suitable for an agreed subsequent land use.

1.5 Decommissioning and Closure Planning

Mine decommissioning occurs at a point where it is no longer economical to continue recovering minerals from the deposit. This may be when all minerals have been extracted, or current methods of extraction are such that economic returns are outweighed by the cost of the process. In the latter case, it may be necessary (and is not uncommon) for the mine to be temporarily closed, awaiting improvements in economic conditions in order for extraction to recommence. This is called a 'Care and Maintenance' phase, and is subject to factors such as changes in extraction costs (due to improved efficiencies and methods) and changes in mineral prices. There may also be occasions where the mine operators are no longer able to operate the mine for some unforseen reason, resulting in an unplanned closure (see Section 1.6).

Although decommissioning occurs at the end of the project, it is effectively the culmination of the ongoing operational processes, including progressive rehabilitation programmes. As such, decommissioning and closure planning must commence at an early stage in the operational life of the project. Mine planning can have a significant effect on the eventual costs of decommissioning through the location of spoils and tailings dams, formation of slopes, and testing of various rehabilitation techniques throughout the mine life (EA, 1995e). Furthermore, commencing closure planning from the outset allows for site specific factors to be taken into account and hence for the plan to evolve throughout the life of the project as changes occur and an increased understanding of the local environment is developed (ANZMEC, 2000). Necessarily, the final Decommissioning and Closure Plan will be developed in consultation with relevant regulatory agencies. It will reflect outcomes from the progressive implementation of project environmental programmes and include rehabilitation and other management measures as agreed with these agencies.

1.6 Closure Scenarios

There are several different scenarios which may prompt the closure of a mine, including planned, unplanned and temporary closure (care and maintenance). Closure planning should allow for an appropriate strategy for each of these scenarios. This plan deals specifically with planned closure. Other scenarios will be considered in more depth during future revisions of the mine closure plan. Each closure scenario is outlined in the subsequent sections (after ANZMEC, 2000).

In order to ensure that unplanned closures do not result in excessive, unachievable rehabilitation requirements, International Minerals will undertake progressive rehabilitation throughout the life of the project, ensuring that only operational areas require rehabilitation should such an event occur.

1.6.1 Planned Closure

Planned closure involves the preparation of a Preliminary Closure Plan and the timely evolution from it of a Closure Plan. Planned closures occur when the resource has been depleted to such an extent that it is no longer viable to continue extraction. This moment in time is usually established pre-construction, and is reviewed throughout the whole of mine life as extraction rates vary. A planned closure will involve removal of all infrastructure (depending on subsequent land use objectives) and rehabilitation of all disturbed surfaces to encourage the return of the natural environment or an environment compatible with the proposed subsequent land use objectives. In some cases, closure will include plans for the redevelopment of the ore body should more efficient extraction techniques become available, or ore values increase to a level where extraction becomes viable. In such an event, it is common practice to leave the remaining orebody exposed (in the case of open pits) so as to avoid the cost burden of removing the infill in order to recommence extraction, while ensuring that the remainder of the site is adequately rehabilitated. This situation is usually anticipated from the outset, as opposed to an unplanned closure, where the closure is sudden and unforseen.

Closure plans are developed based on the current level of understanding of bio-physical and socio-economic factors, mine planning and development detail, and of advances in rehabilitation methodology. As the project progresses, this understanding and correspondingly, planning for project decommissioning and closure, will also develop. In effect, therefore, Decommissioning and Closure Plans will be developed progressively throughout the life of the project.

On this basis, the proponent commits to:

- review and updating of the preliminary Decommissioning and Closure Plan every five years following commencement of project operation and submission of the updated plan to relevant regulatory authorities for information; and
- finalisation and submission of the project Decommissioning and Closure Plan to the EPA and such other regulatory authorities as agreed between the proponent and the Authority at least five years prior to project closure.

1.6.2 Unplanned Closure

Unplanned closures may occur for a variety of reasons such as reduced mineral values, unanticipated operational constraints, or a change in economic circumstances. In the event of a sudden or unplanned closure, the closure process will need to be accelerated and implemented. In order to achieve this, a decommissioning plan will need to be prepared and implemented immediately (based on the pre-existing Closure Plan). Where provisional allowances set aside for mine closure are insufficient, additional funding will need to be made available from other company sources.

1.6.3 Temporary Closure (Care and Maintenance)

Temporary closures are most commonly required in response to short term adverse economic or operational circumstances. Such closures are usually planned for and assume that the operation will recommence at some stage in the future. Prior to any temporary closure, a decommissioning plan will be required for immediate implementation, taking into account the potential for future re-activation of the site. Where possible, temporary closures should ensure that all disturbed areas are left in a stable condition, and that site remediation and works to prevent potential degradation (such as erosion) and off-site contamination are undertaken. When implementing a temporary closure plan, the final Closure Plan should be reviewed in preparation for implementation should circumstances remain adverse for reopening of the operation.

1.6.4 Management and Monitoring

Monitoring should be designed to demonstrate that the completion criteria set out in the Closure Plan have been, or are being met, and that the site is safe, stable and has achieved the land use objectives set during the planning process. Monitoring will be required well beyond the closure of the site, and will require appropriate support.

2.0 Project Outline

The proponents plan to mine the southern ore body of the Balmoral iron ore deposit in the Pilbara region of Western Australia. The project footprint area will be located between 7672 248mN, 405 342mE (NW corner) to 7655 570mN to 422 397mE (SE corner). The project will use infrastructure associated with the approved Mineralogy Iron Ore Mine and Downstream Processing project at Cape Preston (MGM, 2000).

The major components of this project are:

- open pit mining at an estimated rate of 85Mtpa for a minimum of 25 years
- a concentrator plant
- HBI (Hot Briquetted Iron) plant
- pellet plant
- desalination plant
- tailings dam
- waste dumps
- system of conveyors
- water treatment facilities (potable and sewage)
- accommodation for employees and construction staff

3.0 Impact Assessment

In order to determine the necessary actions required to achieve closure at the site the various impacts likely to occur during the life of the mine and in particular, those which have residual affects beyond the mine life, need to be addressed. These issues are discussed in the following sections.

3.1 Environment

While every effort is made to minimise environmental impacts during the course of operating the mine, it is inevitable through the very nature of mining that impacts will occur. International Minerals' objectives, performance and strategies for managing these impacts are outlined in the various Environmental Management Plans produced for the Balmoral South Project. A number of impacts will or have the potential to continue beyond the operational life of the mine and therefore require consideration in the closure and rehabilitation planning processes. These impacts are outlined in the following sections.

3.1.1 Air Quality

It is anticipated that a number of activities at the site will generate dust, the main sources being exposed surfaces, stock piles, vehicle movement, crushing facilities and ore transport. Other atmospheric pollutants are expected from the processing plants. Once production ceases, most of these sources will no longer contribute to environmental impacts, although it is probable that dust will continue to arise from any exposed surfaces and from vehicular and heavy machinery activity during site rehabilitation.

The suppression techniques used during operations will most likely be required to continue beyond the closure phase of the project until such time as any exposed surfaces are stabilised and a vegetative cover has been re-established. Implementation of best practice techniques for the rehabilitation of waste rock dumps and disturbed sites (Environment Australia, 1998, 1995b & ANZMEC, 2000) will minimise post-closure impacts resulting from dust generation. Given the length of time required to re-establish vegetative cover, it will be beneficial to undertake progressive rehabilitation of the site as the focus of operations progress (refer also to Section 3.1.5).

3.1.2 Surface Water and Drainage

Surface water and drainage impacts likely to occur post-closure are similar in nature to those expected during the life of the mine. In particular, post-mining impacts include discharge of contaminated water or disruption to drainage patterns, potentially leading to erosion / scouring and siltation.

Internal runoff from the site will be directed via an internal drainage system to the water treatment facility and then on to the tailings dam for evaporative dispersal. Assuming this process is effective, and all contamination sources are removed prior to closure, impacts from contaminated surface water should be minimal and confined to the tailings dam. The process of rehabilitating the tailings dam, in accordance with best practice guidelines (EA, 1995c, 1997a, 1999a), will ensure that the contaminants stored over the life of the mine will be adequately managed. Any runoff collected from the site which is not contaminated is directed immediately away into natural drainage lines downstream from the project site. Appropriate design of site drainage post closure will ensure that no impacts associated with site runoff will be encountered.

Erosion of waste rock dump slopes and other reconstructed landforms could result in down-gradient sedimentation. However, as the dumps will be armoured with erosion resistant waste rock from the banded iron formation, they will not be prone to erosion. Additionally, implementation of accepted stabilisation measures (eg EA 1995b, 1997b and 1998) will minimise erosion of other reconstructed landforms. Similarly, the *Mines Safety and Inspections Act, 1994* requires mining related structures to

be constructed so as to ensure stability and human safety, including prevention of access to the site through adequate fencing.

Materials that could give rise to acid mine drainage have not been encountered during the extensive test drilling of the ore body undertaken and are therefore considered unlikely to occur. However, International Minerals commits to continual assessment of waste rock being generated by the project and in the event that acid generating material is encountered, it will be encapsulated within the waste rock dump in impervious material. Additionally, International Minerals will inform the appropriate authorities of its existence and, through a process of liaison, will determine the need for the preparation of a formal Acid Rock Management Plan.

Accordingly, adverse post closure impacts are not anticipated.

3.1.3 Soils

The primary soil related concern for closure is the potential presence of contaminants. In most cases, contamination will be localised and confined to the operational areas. Assuming any spillages or other contaminations are cleared as and when they occur during the life of the mine and that the correct procedures for containing contaminants (such as hydrocarbon bunding) are in place, any impact at these sites is expected to be minimal. As part of the mine closure procedure, it will be necessary to conduct a contamination survey in order to detect any sites which require remediation prior to relinquishment of the lease. Remediation of any contaminated sites, in accordance with all relevant requirements, will then be undertaken. As most of the concentrating process is of a mechanical nature this is not expected to be a significant issue.

There is a potential for the loss of topsoil through wind and water erosion. Progressive treatment of disturbed areas, incorporating attention to slope design and application of proven post-closure rehabilitation techniques, will limit this risk.

Site development procedures include the prior stripping of topsoil for reuse in the rehabilitation of disturbed areas. To maximise its viability as a medium for site rehabilitation, topsoil will be reused as soon as practicable following stripping, direct transfer being the ideal in this regard. Additionally, as practicable, topsoil will be used to rehabilitate similar areas to those from which it was sourced.

3.1.4 Groundwater

Closure related groundwater issues could arise as a result of:

- seepage from tailings storage facilities or other contaminated sources;
- extraction of ground water for dewatering or process purposes;
- infiltration of rainfall and runoff through contaminated or acid producing material; and
- impacts on groundwater from open pits and voids existing below the water table.

The preferred water supply for the project is from a borefield to be located adjacent to the mine site. This is the subject of a separate application for approval. As a contingency, harvesting of seasonal high flow events in the Fortescue River is proposed, with harvested water pumped to a storage reservoir for mine use. Pit dewater will be used for dust suppression. It is anticipated that dewatering drawdown and bore water extraction will affect phreatophytic vegetation in the Fortescue River area.

Bunding and adequate sealing of operational areas such as hydrocarbon storage facilities, tailings dams, process plants and workshops in line with acceptable environmental management practices will minimise the potential for contamination of the ground water from these sources. Ongoing monitoring and established operational (incident response) procedures during production will enable the identification and consequent remediation of any contamination during the operational phase. Any

residual contamination of the ground water from these sources will be remediated as part of the site decommissioning and closure process.

Extensive drilling has identified no acid producing material within the mine body. Accordingly, impacts resulting from infiltration of rainfall and runoff through acid producing material are not expected. However, as a contingency, International Minerals commit to continual monitoring of waste rock quality and, in the event of encountering acid producing material, will ensure that it is suitably encapsulated in impervious material within the waste rock dump to ensure it cannot be transported to the groundwater resource. Additionally, International Minerals will engage with the appropriate authorities to determine the need for a formal Acid Rock Management Plan if it is encountered.

As the current proposal does not involving extracting the full amount of available ore, the proponent intends leaving the pit open once mining has ceased. This will result in the pit filling to a point some depth below the water table with the net balance of inflow from the aquifer and loss to evaporation ensuring that the pit does not fill. Accordingly, salinity levels within the pit could increase over time as a result of evaporative losses, although it is anticipated that this would not have any adverse effect on groundwater due to the pit becoming a groundwater sink (HGM, 2000).

Accordingly, adverse post closure impacts are not anticipated.

3.1.5 Flora and Fauna

Mining will have a significant impact on phreatophytic (groundwater dependant) vegetation at the project site, however, with careful management, impacts on other vegetation and habitats beyond the operational areas can be minimised. The impact on fauna is slightly less in terms of causing a reduction in numbers, although native fauna will suffer from displacement from their local habitats as infrastructure and production facilities are established. During the operating life of the mine, further impacts can be imposed through the introduction of exotic pests, such as weeds and feral animals. The company plans to limit as reasonably practicable the occurrence of such further impacts.

The aim of successful mine closure is to sustain or enhance the level of biodiversity at the site. Best-practice management relating to flora and fauna during both the operational and closure phases of a project entails the re-establishment of pre-mining natural conditions where reasonably practicable, although it needs to be recognised that the open pit, overburden / waste rock and tailings storage facilities will remain. Specific completion criteria will, however, vary depending on the ultimate land use intended for the site, and will need to be developed in consultation with the relevant regulatory authorities as part of the closure planning process. Necessarily, the completion criteria adopted will be documented in the final decommissioning and closure plan.

As practicable, vegetation removed for the purposes of project construction and operation will be reused in the progressive rehabilitation of decommissioned areas, and the proponent provides the following commitments:

- progressive rehabilitation, as practicable;
- utilisation of locally sourced seed; and
- ongoing refinement of rehabilitation procedures throughout the operating life of the mine to develop appropriate site specific methodology (eg addressing the collection, storage and treatment of seed, and re-establishment of vegetation cover).

International Minerals will implement reasonable measures to control the introduction of exotic biota to the site and surrounding environs. It is possible, however, that fresh infestations may occur unless actively controlled. Closure strategies will address this potential.

3.1.6 Natural Landscape

Mine construction will result in significant alteration to the natural landscape. The mine pit, waste rock and overburden dumps, and tailings dams will be the most prominent features in this regard. In addition, land clearing for construction of process plants, transport corridors, accommodation facilities, tailings dam and waste disposal areas will cause changes to the natural landscape. Design constraints and requirements limit the extent to which these impacts can be minimised. Mine closure requires the successful decommissioning of all mine infrastructure not required for any subsequent land use. In accordance with the *Iron Ore Processing (Mineralogy Pty Ltd) Agreement Act 2002*, this process may involve the removal of structures, recontouring the landscape to limit erosion and revegetating certain areas.

The priority for the reconstruction of all landscapes is to ensure that human risk is minimised in accordance with the *Mines Safety and Inspections Act, 1994.* Accordingly, any artificially created landscape features such as those outlined above will be constructed in such a way as to ensure their stability and, in the case of the mine pit, to control public access, which will also assist in reducing potential impact on wildlife.

International Minerals will undertake rehabilitation of the waste rock and overburden storage dumps. Where possible (ie commensurate with the requirements of the mining programme) this will be done progressively. Monitoring procedures will determine the stability of all slopes and surfaces of these areas and the success of rehabilitation techniques used to establish vegetative cover as required by best practice rehabilitation standards (see EA, 1998 & 1995b) wherever possible. As this is a progressive task, it is anticipated that only limited further work will be required to achieve closure objectives regarding slope stabilisation.

As previously indicated, the completed mine pit will be left open (consistent with accepted operational practices) and will progressively fill with water. As practicable, the waste rock dumps will be shaped to meld with surrounding landforms and will be self draining. The tailings impoundment structures will be similarly treated although it needs to be recognised that opportunities to shape these structures so that they will meld with the surrounding landscape will be limited by their function. It also needs to be recognised that any drainage from the impounded tailings will need to be contained.

Potential impacts associated with the tailings dam also need to be considered in several other contexts. The tailings are a by-product of the ore beneficiation process. This is essentially a mechanical process and accordingly, the tailings are unlikely to represent a significant threat of potential groundwater contamination. Additionally, any contamination associated with the tailings dam will be identified during the operational phase of the project through implementation of the environmental monitoring required pursuant to the operating licence for the dam. Outcomes from the operational phase monitoring will determine what, if any, groundwater contamination related remedial action is required at the time of closure.

Breaching or collapse of the tailings dam could result in uncontrolled discharge of the impounded material into the surrounding environment with a range of environmental impacts. However, the stringent geotechnical and design requirements imposed at the construction stage along with the nature of the material being stored minimise any risk in this regard.

During the mine life, waste is disposed of responsibly and in accordance with waste management guidelines (EA, 1999a). In this regard, inert waste will be separated from any potential contaminants and all contaminated waste will be treated in land farms through bioremediation processes. Closure procedures will ensure that all inert waste is either buried on site or removed and recycled where appropriate. Land farms will be monitored until such time that it can be demonstrated that the bioremediation process has successfully treated all contaminants. Alternatively, any contaminated waste remaining at the time of closure will be removed for off-site treatment or disposal in consultation with the relevant authorities.

3.2 Social Impacts

During the construction phase of the project, the workforce is expected to reach approximately 4000, to be accommodated both on-site and offsite (subject to availability). Operational personnel will be accommodated on site.

Social impacts arising from mine closure will include:

- loss of employment for project workforce;
- reduced contributions to the regional economy;
- potentially some diminution of local infrastructure (eg local access) and management programmes

The final closure plan will need to address issues of repatriation and redundancies for employees and other potential impacts. Community consultation processes during the life of the project will assist in identifying community expectations as a basis for development of post closure social impact management strategies.

4.0 Proponent Commitments

The following section outlines the broad principles International Minerals and/or its successors and joint venturers and/or co-proponents as the case may be will apply to facilitate effective decommissioning and closure. These commitments will be adjusted as final land use objectives are defined in more detail following stakeholder consultation during the project life.

On this basis, International Minerals commits to:

- developing and implementing rehabilitation trials throughout the operational life of the mine to develop appropriate site specific methodology;
- undertaking 5 yearly reviews of this plan to ensure that it reflects developing standards and expectations of both the public and regulatory authorities;
- developing a final Decommissioning and Closure plan not less than five (5) years prior to cessation of site operations, incorporating a rehabilitation plan that draws on the findings of the rehabilitation trials;
- undertaking stakeholder consultation while developing its final Decommissioning and Closure Plan;
- dealing with infrastructure in accordance with the *Iron Ore Processing (Mineralogy Pty Ltd) Agreement Act 2002* at the time of closure;
- ensuring that all project components comply with relevant requirements pursuant to the *Mines Safety and Inspections Act, 1994*;
- removing all sources of contamination such as waste disposal and hydrocarbon storage facilities;
- ensuring that the natural drainage is restored as far as is practicable to minimise erosion at the time of closure;
- ensuring progressive rehabilitation is undertaken as practicable to restore the natural vegetative cover over any disturbed areas in order to minimise the potential for wind erosion and dust generation;
- using locally sourced (provenance) seed for rehabilitation purposes;
- restoring as far as practicable any access to any sites which had been restricted by the operation to a level consistent with the pre-project condition at the time of closure;
- ensuring that the site is returned to a state which minimises the risk to public health and safety;
- monitoring and managing site rehabilitation in accordance with International Minerals' obligations under the *Iron Ore Processing (Mineralogy Pty Ltd) Agreement Act 2002* and the *Environmental Protection Act (1986)*; and
- lodging any documents and records deemed relevant with the responsible authority.

5.0 Closure Strategy

As previously stated, the development of mine closure plans is an evolutionary process, developing as the level of understanding of requirements, costs and methods associated with closure increases. A preliminary closure plan defines the impacts known prior to commencement of operations which are likely to continue beyond the life of the project and outlines proposals for the management of those impacts.

International Minerals will undertake consultation with the relevant regulatory authorities to reduce any long term liabilities to either International Minerals or the State, which will assist in prioritising and scheduling the required works. All relevant stakeholders will be able to discuss and review the key aspects of the closure plan throughout the project life span, as outlined in section 5.1 of this report. The process required for developing the adequate funds for the ultimate rehabilitation of the project site is identified in Section 5.4. Development of appropriate completion criteria for the decommissioning of the Balmoral South project is outlined in section 5.6 of this report. These procedures are intentionally non-prescriptive to enable International Minerals to develop its closure strategy in consultation as community and stakeholder expectations evolve and rehabilitation and decommissioning techniques improve.

The following sections identify the processes required to develop this Preliminary Decommissioning and Closure Plan to a final document.

5.1 Stakeholder Consultation

Community involvement in the decision making processes of mining companies improves both public perception of the industry and the quality of decision making regarding environmental management. Successful stakeholder consultation results in improved planning decisions, public perception and receptiveness to future mining proposals, better acceptance of closure decisions and a better understanding of desired outcomes (MCMPR, 2003).

Stakeholders are those who have the potential to be affected by the mine closure process, as opposed to interest groups with an interest in the process or outcome. Stakeholders fall into three broad categories, the company, the community and government. Guidelines for managing mining related consultation processes are available (EA, 1995d for example).

International Minerals will consult regularly with relevant stakeholders and the community during the process of preparing the final Decommissioning and Closure plan to ensure that it addresses relevant issues. This will be achieved through the involvement of company representatives in public meeting with stakeholder groups, the publication of information in respect of the project in the local press and through distribution of project related information by the company to the local community. The company will also conduct one to one meetings with special interest groups. The assembly of information regarding stakeholder expectations relating to post mining site conditions will be a priority during the consultation process. The consultation process will focus on facilitating the earliest possible identification of completion criteria to assist with rehabilitation planning and implementation.

5.2 Planning

The objective of closure planning is to ensure that closure occurs in an orderly, cost-effective and timely manner (ANZMEC, 2000). It is vital that closure planning occurs from the outset in order to minimise future costs, ensure that rehabilitation requirements at the end of mine life are reduced through progressive rehabilitation and that any works undertaken are compatible with the goals of closure from the outset. Such early planning will significantly reduce the final cost burden on closure.

Risk based studies will be undertaken as early in the project life as practicable to facilitate identification and minimisation of short/long term rehabilitation liabilities. These studies will incorporate the inclusion of stakeholder consultation, mining schedules and completion criteria.

International Minerals will carry out annual critical reviews of their closure plan throughout the life of the operation. As the project develops, a better understanding of costs related to infrastructure decommissioning, rehabilitation and environmental and social impacts will be achieved. Technological and scientific advances in rehabilitation will be incorporated into the plan as they become available and as trials and research conducted by the company are assessed.

Due to the long term duration of the project, the need to consider potential implications for project decommissioning and closure arising from climate change induced sea level rise has been identified.

Estimates of the current rate of rise in sea level vary between 1-3mm/yr (CSIRO, 2001). Based on this estimate, a rise of between 30 and 90 mm over the life of the mine could be expected. Due to site topography, this magnitude of sea level rise would not represent a threat to any residual post operational features. Additionally, further modelling of the 100 year recurrence flood level will be undertaken in accordance with the Construction Environmental Management Plan and this will be used to test any potential impact on project infrastructure from various sea level rise scenarios. Outcomes from this modelling will be incorporated as appropriate into decommissioning and closure strategies.

5.3 Decommissioning Targets

Individual closure strategies relating to each component of the project will be developed in consultation with relevant regulatory and other agencies. Likely strategies relating to the project component are canvassed below:

Mine Pit:

The condition of the mine pit at completion of the mining operation will be in accordance with requirements pursuant to:

- *Iron Ore Processing (Mineralogy Pty Ltd) Agreement Act 2002*;
- *Mining Act 1978* (including conditions attached to the mining leases); and
- *Mines Safety and Inspections Act and Regulations 1994*.

Desalinisation Plant

Whether or not the desalinisation plant would be closed down or remain following completion of the mining operation will need to be determined in conjunction with relevant regulatory agencies as part of the final closure planning process. If the plant is to be removed, its closure and removal will be planned and undertaken in consultation with relevant regulatory agencies.

Processing Facilities

The need for closure and removal of processing facilities will be determined in consultation with relevant State Government agencies. If closure and removal is required, such will be planned and undertaken in consultation with these agencies and it is anticipated that this could include:

- demolition and removal of all structures;
- treatment of any residual contamination in consultation with relevant regulatory authorities; and
- re-instatement as practicable of the site/s to pre-project conditions.

Tailings Dam

All tailings dams will be left in a stable condition in accordance with requirements established pursuant to the *Mining Act 1978* (including conditions attached to the mining leases).

Waste Dump

All waste dumps will be left in a stable condition in accordance with requirements established pursuant to the *Mining Act 1978* (including conditions attached to the mining leases) and Guidelines for Waste Dump Design and Rehabilitation (Department of Mines, undated).

Hazardous Material

Necessarily, all hazardous materials will be removed from the site upon cessation of mining operation. Any residual contamination will be treated in consultation with relevant regulatory authorities.

5.4 Financial Provision

Considering the geological reserves available it is not likely that any closure plan would be implemented for at least 20 years. Nevertheless, determining procedures to be carried out in respect of closure from the outset enables the proponent of a project to provide effectively for the closure process, ensuring that once income derived from production ceases, there will be adequate funds available to finance any closure requirements. Financial provisions should be independent and not include any bonds or securities that have been set aside as part of the mining agreement. They should also take into account inflation, additional closure cost requirements and changing community standards and expectations.

5.5 Implementation

Implementation of closure plans requires similar management processes to mine commissioning. Accountability, resource requirements and on-going management and monitoring must be clearly defined, to enable a smooth and efficient implementation of desired outcomes. International Minerals will ensure that provisions are made for these requirements through the closure review process as the mine develops and a more clear understanding of closure requirements and costs over time is developed.

5.6 Completion Criteria

Completion criteria are an agreed set of indicators that will demonstrate successful rehabilitation once met. They are based on legislative requirements, recognition of final land use objectives and are arrived at through consultation with stakeholders. Suitable completion criteria will be quantitative and measurable through objective verification and are specific to the mine sites environmental, social and economic circumstances (ANZEMC, 2000).

International Minerals will define detailed completion criteria during the life of the mine in consultation with and to the satisfaction of stakeholders, including the Department of Environment and Conservation.

5.7 Relinquishment

At this juncture, International Minerals does not envisage relinquishing any of its Cape Preston leases. However, in the event that the company changes its position on this matter, it is acknowledged that relinquishment could only be pursued once all completion criteria and other requirements had been met to the satisfaction of the responsible authorities. The final decision on whether a site satisfies the requirements of completion criteria will be made by the responsible authority and will include

assurance that the site is stable, there is no danger to public health or safety and that the requirements of the agreed post mining land use are met. It is important that any records held by the proponent regarding operating and closure issues are lodged with the responsible authorities in order to facilitate future land use planning and to determine success or otherwise of rehabilitation techniques employed. International Minerals will determine in consultation with the responsible authority what records are required in this regard.

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