Iron Ore (WA)

Brockman 4

Mineral Waste Management Work Practice

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1 Purpose

The objective of this plan is to detail the mineral waste activities and accountabilities during Expansion Studies and Mine Operation.

The purpose of this document is to plan for management of, and monitor, mineral waste risks. Once a risk is identified a separate plan is required to manage the risk i.e. the Spontaneous Combustion and ARD (SCARD) Management Plan for Operations, site specific process waste/tailings operating plans and site specific asbestiform management plans.

2 Scope

This procedure covers the management of mineral wastes at the Pilbara Iron and Expansion Projects business units of the RTIO (WA) product group. Mineral wastes generated at RTIO (WA) operations include:

- Non-mineralised waste rock (mining overburden)
- Mineralised waste rock (low grade)
- Processed waste rock (tailings)
- Waste rock exposures (pit walls)
- Dredging materials (spoil)
- Quarried rock extracted for construction

Although not a waste, mineralised waste rock or low-grade may have many of the same characteristics and pose many of the same risks as mineral wastes and should also be assessed as a potential contaminant sources.

For the purpose of this document mineral waste excludes:

- Management of landfills
- Products imported to site i.e. hydrocarbons (see Biofarm Remediation Facility and Spill Response procedures)
- Management of sewerage farms
- Dust

3 Requirements, Accountabilities and References for Expansion Studies

This plan provides guideline for mineral waste management that should be undertaken at the different phases of project development. The amount of work in the study stages of order of magnitude, pre-feasibility and feasibility can vary for different projects and therefore work programs should be adapted for each specific project. If a stage such as pre-feasibility is skipped then work that has been identified for this stage must be completed in the feasibility stage of the project (or preferably earlier).

Requirements

3.1 Resource and Mine Lease Evaluation Drilling

The level of mineral waste analysis required must be determined at the scoping stage of the model progression. If it is likely that the deposit will be developed then the Second Phase of mineral waste work can occur immediately without a First Phase program. The minimum amount of work is within Items 3.1.1 to 3.1.5 and work that must be completed before the end of the study is with Items 3.1.6 to 3.1.12.

First Phase

Initial drilling program to broadly define a known mineral deposit (e.g. 400 m x 100 m program).

3.1.1 Visually identify oxidised shale (SHL), black carbonaceous shale (SHC), lignite (LIG) and pyrite (PYT) in all drilled holes and log lithological sequences.

3.1.2 Perform total sulfur analyses on all sampled intervals. The total sulfur results must be compiled in a format that can be used to construct block models.

3.1.3 Analyse representative samples from each waste lithology that surrounds the ore body for the standard chemistry suite.

Drill holes should extend past the orebody to define all waste that could be reasonably disturbed by mining. The samples should have adequate spatial and volumetric representation to reflect possible variability in the lithology and regional structural features.

3.1.4 Measure the water table elevation in all drill holes.

3.1.5 Follow relevant SWPs and site Management Plans for fibrous minerals. Fibre occurrence data should also be recorded. This information should be sent to the relevant Health and Safety Advisor/Divisional Ventilation Officer for notification to the DMP District Inspector.

Second Phase

Infill drilling program to define the orebody for development (e.g. 50 m x 50m)

ARD and Spontaneous Combustion - MCS

See Items 3.1.1 to 3.1.4

3.1.6 If MCS might be encountered during future mining, ensure that sufficient drill holes are extended into the MCS to accurately define the geometry of the Footwall Zone/upper MCS contact, define the transition from oxidised to un-oxidised MCS and to define the transition from cold to hot black shale. Sample for total sulfur and provide representative samples of FWZ, upper, middle and lower MCS to the Mineral Waste Management team for full acid/base accounting.

3.1.7 Develop resource models for ore bodies that can be used to predict cold and hot BS production for different pit scenarios. Ensure new resource models classify potential waste rock into no risk (0), low risk (1), moderate risk (2),high risk (3) or neutralising potential (4) sulfide categories.

3.1.8 Unless identified as fully oxidised by drill hole logging, occurrences of MCS below the water table must be assigned to one of the sulfide risk categories (2 or 3).

ARD and Spontaneous Combustion – Sulfides in other lithologies

3.1.9 If elevated total sulfur concentrations are found in other lithologies contact the Mineral Waste Management team to arrange a laboratory to send the samples for full acid/base accounting analysis. Consult a recognised ARD expert to review the results.

3.1.10 For elevated sulfides (i.e. S > 0.1%) that are not within MCS (e.g. sulfides in detritals and BIF, whaleback shale, DG) assign it a sulfide risk variable in the resource block model. Sulfur should always be included in resource models. Assign material with neutralising potential (ie. calcrete in

Requirements	
	detritals and dolomite within the Wittenoom formation) to a 4th sulfide risk variable (if present in these deposits).
	Geochemical Risk
3.1.11	In all lithologies sufficient drill holes should extend below the ore body to allow geochemical characterisation of waste material that could be mined. The samples should have adequate spatial and volumetric representation to reflect possible variability in the lithology. In non-sulfide lithologies undertake geochemical analyses of ore and waste.
	Fibrous Minerals and Asbestiform Minerals
	See Item 3.1.5.
3.1.12	If fibrous minerals are likely to be exposed, the model should classify the material by one of the four fibre occurrence variables: unlikely fibre occurrence (0), possible fibre occurrence (1), likely fibre occurrence (2), or almost certain fibre occurrence (3).
3.2	**Conceptual/Order of Magnitude**
Geology See Item 3.1	
3.2.1	Consider the mineral waste risks of the deposit from know site specific geology information.
Water Resource Evaluation	
3.2.2	Consider the mineral waste risks of the deposit from known site specific geology information.
3.2.3	In consultation with relevant groups complete the AMD Hazard Screening Scorecard.
3.2.4	Assess the mineral waste risks based on known characteristics of the ore and waste that will be mined including the amount that will be below the water table.
Environment	
3.2.5	Include assessed risks in the Operational Environmental Risk Register (OERR).
3.3	**Pre-Feasibility**
Geology	
	See Item 3.2.1 to 3.2.4.
Environment	
	See Item 3.2.5
3.3.1	During pre-feasibility study at the latest there must be a conceptual understanding of all potential mineral waste related impacts. Consideration should be given to potential risks from: • ARD *From waste dumps, pits, dewatering of orebody, dewatering for geotechnical depressurisation*. • Spontaneous combustion in dumps or while using explosives *If pyrite and carbon are present in sufficient quantities.* • Fibrous minerals and asbestiform minerals *If intersected during drilling or if fresh BIF is identified for mining.* • Contaminated seepage or surface runoff *If enriched/elevated contaminants in waste leach into water.* • Salinity *From waste dumps (containing either reactive or inert waste), tailings or pits.* • Nitrogen compounds *From ANFO explosives.*
3.3.2	Based on the geochemistry of drillhole data collected by Resource Evaluation, determine the geochemical risk of any enriched contaminants in the waste and ore. Make recommendations for monitoring, management and further analysis. Consult a recognised mineral waste expert as necessary.
3.3.3	Quarry rock should be geochemically characterised. The likely presence of fibrous minerals and asbestiform minerals should be reviewed based on the geology.

Requirements	
3.3.4	If the mineral waste is soil or dredged material ensure it is analysed. Site specific soil or dredge spoil management plans should be developed and followed.
3.3.5	Ensure background surface water quality information is collected (at a suitable frequency to build up the data). Make recommendations for site groundwater and surface water monitoring based on enriched elements identified by Resource Evaluation.
3.3.6	Make recommendations for monitoring of drinking water bores that potentially contain asbestiform material.
3.3.7	Provide advice for monitoring, management and analysis of mineral waste risks that are flagged by the Resource Evaluation and EP project environment groups.
Water Resource Evaluation	
	See Item 3.1.1.
3.3.8	For temporary water bores (< 3 months of use) that intersected sulfidic or black shale material in a location that will not be 100% submerged by water at all times (i.e. the black shale will have some exposure to oxygen) one representative sample should be collected and analysed for the appropriate water chemistry. Compare the results to the relevant ANZECC (2000) or background water chemistry. A hydrogeologist should review the results and determine if the likely ongoing water quality is suitable for purpose. Measurements of pH and EC are regularly collected and are assessed to determine if results are acceptable and do not increase significantly over the period that water is extracted. If EC concentrations increase significantly, collect another full water chemistry sample should be collected.
3.3.9	For permanent water extraction bores that intercept sulfides or black shale in a location that will not be 100% submerged by water at all times (i.e. the black shale will have some exposure to oxygen), measure the full water chemistry during pump testing. Collect a sample 1 hour after the test begins and 1 hour before it finishes. Analyse for the appropriate water chemistry. Prior to commissioning the bore, determine if the water is of acceptable quality. A hydrogeologist should review the results and determine if the likely ongoing water quality is suitable for purpose. Permanent water bores should be analysed for full water chemistry once a year.
3.3.10	For each new deposit that is assessed in pre-feasibility, ensure sufficient groundwater samples are collected to represent the background water quality and spatial variability at the site. Enough samples should be collected to represent seasonal variability.
3.3.11	See Item 3.1.5. Determine if there is a risk of intersecting fibrous minerals and if so ensure the appropriate drilling methods and precautions are taken, complying with the relevant SWPs and site management plans. Enter data into acQuire such that it is captured in new models that are developed for the site. Information on fibre occurrence should be sent to the relevant Health and Safety Advisor/Divisional Ventilation Officer for notification to the DMP District Inspector.
3.3.12	Based on the geochemistry of drillhole data collected by Resource Evaluation, determine the geochemical risk of any enriched contaminants in the waste and ore. • Background and surrounding environment • Lithology chemistry • Spatial Distribution • Chemical Enrichment • Acid Base Accounting
Geotechnical Drilling	
	See Item 3.3.11
3.3.13	See Item 3.1.1. Collect waste samples that are in the mining zone for standard assaying.
3.3.14	If de-pressurisation horizontal dewatering is required (in black shale or sulfidic detritals/BIF) alert the Mineral Waste Management team so an AMD risk assessment can be undertaken.
Resources Studies and Technology	
	Requirement to consult with the SCARD Management Plan for dump specifications, dump locations and open pit closure.

Requirements	
3.3.15	Designs should attempt to minimise potential BS, sulfidic material or fibrous mineral intersection impacts and costs.
3.3.16	Use Reserve models to predict production volumes for potential acid forming and fibrous material.
3.3.17	Mine plans must estimate hot and cold BS production or sulfidic material production if the sulfides are not in MCS. Quantities should be compared to inert waste production to ensure that sufficient material will be available for dump construction. See the Category S and Category SR dump specifications in the SCARD Management Plan for operations. The tonnes of material with neutralising potential (i.e. calcrete in detritus and dolomite in the Wittenoom Formation) should also be estimated.
3.3.18	Ensure that dumps of black shale or sulfidic material (in BIF or detritals) are sited to minimise long term environmental impacts and financial liabilities. Ensure that appropriate Environment, Hydrogeology, and Hydrology groups have been consulted before finalisation of designs.
3.3.19	Ensure that final pit and dump designs are consistent with the requirements of the SCARD Management Plan for operations or existing site-specific fibrous mineral management plans. If management plans do not exist consult with EP Environment or a mineral waste expert. Obtain signoff from Environment, Hydrogeology, and Hydrology.
3.3.20	Estimate the extent of sulfidic material exposures on final pit walls.
Study	
3.3.21	During feasibility studies at the latest, financial analyses must include the additional costs associated with any mineral waste management
Closure Planning	
3.3.22	In consultation with stakeholders identify a closure vision, final landform plan and post-closure land use option. Closure studies should consider long term mineral waste risks in the knowledge base.
3.4	**Feasibility**
Geology	
	See Section 3.2: Pre-Feasibility
Resources Studies and Technology	
	See Section 3.2: Pre-Feasibility
Water Resource Evaluation/Geotechnical Drilling	
	See Section 3.2: Pre-Feasibility
Metallurgy	
3.4.1	Perform test work to determine the geochemical composition of likely fine and coarse process wastes to be produced from the ore of any new development.
Environment	
3.4.2	Review long term planning waste dump designs to ensure the long term environmental impact is minimised.
3.4.3	Review final pit and dump designs to ensure consistency with the SCARD Management Plan and the RTIO (WA) Mineral Waste Management Plan (this plan).
3.4.4	If existing management plans cannot be used, commission the development of an ARD, fibrous mineral, or other geochemical risk site specific management plans, as required.
Study	
3.4.5	See Item 3.3.21
3.5	**Mine Site Development**
Study	
3.5.1	Any material that is excavated from the site for fill or for the placement of mine infrastructure should be assessed geochemically. This material should also be assessed for the likely presence of fibrous minerals. If fibrous minerals may be present then a fibrous mineral management plan should be developed and applied during the excavation.

Requirements	
3.6	**Expansion Projects General Requirements**
Environment	
3.6.1	Ensure that Section 3 of this management plan is periodically refined and updated so that it is consistent with current best practice and other management plans and procedures. Any changes to this plan need to be approved by the RTIO Mineral Waste steering committee before it is accepted as final.
3.6.2	Coordinate a technical review of Expansion Studies compliance with this mineral waste management plan every two years. It will be sufficient to review 1 case study plus a general review of procedures and practices.
3.6.3	Develop, maintain and present a mineral waste training package on relevant aspects of this management plan to all groups involved with mineral waste management in Expansion Studies.
Study	
3.6.4	If there are a significant number of mineral waste related actions, develop a study mineral waste working group which meet on a monthly basis to discuss implementation of this management plan, progress, issues and the way forward. Agenda items and meeting minutes should be produced. Draw in expertise into this group from other RTIO, RT and external business units as necessary.

4 Requirements, Accountabilities and References for Operating Mine Sites

The mineral waste management plan for an operating mine site has been written with the following assumptions:

- No sulfidic material is put through processing plants (i.e. fresh FWZ from Southern Ridge at Tom Price); and
- Sulfides, fibrous minerals and process wastes are the only mineral waste risks in the Hamersley Group geology that require special management.

If there is a change to any of these assumptions then this management plan will need to be revised.

Requirements

4.1 Planning

Resources Studies and Technology

4.1.1 Ensure inert waste disposal facilities are located in accordance with the Pilbara Iron Landform Design Guidelines and sulfidic waste in accordance with the SCARD Management Plan. To minimise long term environmental impacts and financial liability the waste disposal design should:

- Be safe and stable;
- Be considered aesthetically compatible with the surrounding landscape;
- support native vegetation;
- be free draining and non-polluting;
- be compatible with agreed post mining land use; and
- be rehabilitated progressively.

4.1.2 In pit disposal should be considered as a priority over out of pit dumping. Especially mineral waste with suitably identified geochemical risks should be preferably dumped in pit.

4.1.3 Plan and design works for final inert waste rock dump surfaces and inactive open pits in a manner consistent with Pilbara Iron Landform guidelines and the Rehabilitation Handbook. Plan and design works for final sulfidic waste rock dump surfaces and inactive open pits in a manner consistent with the SCARD Management Plan.

4.1.4 All land disturbance projects must consider topsoil recovery and storage in accordance with the Soil Resource Management Plan.

4.1.5 Life of Mine Plans and Reserve models must include estimates of waste production by the different material types. Material with negligible risk can be grouped together however material with higher risk (i.e. fibrous minerals and sulfides) should be separated. The life of mine plan for overburden storage should include financial analysis of the different closure options.

4.1.6 Any material flagged with a geochemical or fibrous mineral risk should be managed in accordance with a specific management plan including the RTIO (WA) SCARD Management Plan for black shale.

4.1.7 Final pit walls for mine closure must be designed with consideration of geotechnical stability. An abandonment bund outside the zone of geotechnical stability should be included in the design.

Closure Planning

See Item 3.3.21

4.1.8 Review and update the closure management plan with significant changes to the knowledge base and cost estimates.

4.1.9 Undertake a comprehensive technical review of the closure management plan and ensure the review and plan is externally audited.

Technical Services/Site Planning

4.1.10 Five year plans should include estimates for the first two years:

- The material type, volume and source location of waste (pit by pit), separating out material with a mineral waste risk (i.e. fibrous minerals and sulfides) or neutralising potential;

Requirements

- The volume of process wastes;
- Waste dump locations, footprint and dump capacity;
- Pit and waste dump development strategies – land bridges;
- Clearance areas, topsoil volumes and dump locations;
- Available rehabilitation areas

Plans should be saved in the document management system and relevant stakeholders should be informed of their location. Any waste with a geochemical (see Section 3.1.7) or fibrous mineral risk (see Section 3.1.12) should be flagged as a different material type and waste volumes need to be calculated.

4.1.11 Medium term mine plans (current year + 2 i.e. 0-3 years) should be developed quarterly and include:

- Approval request status and action plan
- The material type, volume and source of waste (by pit), separating out material with a mineral waste risk (i.e. fibrous minerals and sulfides) or neutralising material;
- The volume of process wastes;
- Waste dump locations, footprint and dump capacity;
- Pit and waste dump development strategies;
- Clearance areas, topsoil and subsoil volumes and stockpile locations; and
- Available rehabilitation areas.

Any waste with a geochemical (see Section 3.1.7) or fibrous mineral risk (see Section 3.1.12) should be flagged as a different material type and waste volumes need to be calculated.

4.1.12 Short term plans (3 months) should detail:

- Material type, volume and source location of the waste (pit by pit), separating out material with a mineral waste risk (i.e. fibrous minerals and sulfides) or neutralising material;
- The volume of process wastes;
- Waste dump locations, ‘footprint’ and dump capacity;
- Pit and waste dump development strategies;
- As-built designs incorporated into the Mine Design Program; and
- Topsoil and subsoil volumes, source locations and stockpile locations.

Any waste with a geochemical (see Section 3.1.7) or fibrous mineral risk (see Section 3.1.12) should be flagged as a different material type and waste volumes need to be calculated.

4.1.13 Plan and design works for final inert waste rock dump surfaces and inactive open pits in a manner consistent with Pilbara Iron Landform guidelines and the Rehabilitation Handbook. Plan and design works for final sulfidic waste rock dump surfaces and inactive open pits in a manner consistent with the SCARD Management Plan.

4.1.14 All land disturbance projects should consider topsoil and subsoil recovery and storage in accordance with the Soil Resource Management Plan.

Mine Geology

4.1.15 Sulfidic material should be characterised according to the SCARD Management Plan and relevant SWPs.

4.1.16 Representative samples from each waste type (including process wastes) reflecting the spatial, physical and volumetric variation should be analysed for solid and liquid extract geochemistry. The samples should represent the spatial and volumetric variability of the lithology in the deposit and should not just be collected from the 1 location in 1 batch. Results should be compared to trigger concentrations and that of the previous year to ensure that they are consistent with the modelled geochemical characteristics of the waste (reactive or inert).

4.1.17 Undertake systematic geochemical characterisation of new materials (new rock types, changed ore mix or type, changed processing or deposition).

4.1.18 Undertake waste material characterisation through the process of blast hole logging and sampling. Waste grade blocks should be generated in the Mine Design Program based on the Mine Geology

Requirements

System (MGS) material type logging and assay results and should be saved in the production database (TPPS). All waste shots that do not have a geochemical risk (currently only sulfides in black shale, BIF and detritals have known risks) or fibrous mineral risk should be tagged by destination as 'W'. Sulfidic material should be tagged according to the SCARD Management Plan and fibrous minerals need to be managed according to the site-specific fibrous mineral management plans.

4.1.19 Examine any material that is suspected of containing fibrous minerals and follow the site-specific fibrous mineral management plans.

Water Resource Evaluation

4.1.20 For pits that intersect the water table, compile a 'Pit Conceptual Model'.

4.1.21 Determine the geochemical risk of the pit. Update the report for any significant changes.

4.1.22 Geochemical, hydrogeology and hydrology modelling to determine contaminant release from the pit should be undertaken if the report (in Item 4.1.20) finds a significant geochemical risk (i.e. a significant amount of sulfidic material exposed on the pit wall, a significant amount of dewatering occurring over many years, a likely saline and flow through water body etc).

4.1.23 A conceptual model should be completed for waste dumps where material with a mineral waste risk will be stored. Geochemical models should be undertaken if a significant risk is identified.

Operational Planning

4.1.24 Create a "Waste Dump Progression Plan" at least every three months to implement the detailed dump designs in the field.

4.1.25 Create "PLOD" sheets to aid dig operators in waste assignment and ensure the Fleet Dispatch Program is working.

4.1.26 In conjunction with the Rehabilitation Specialist and the Life of Mine team plan and implement rehabilitation works for the final

4.1.27 Monitor and adjust to reconcile rehabilitation designs with as built specifications as appropriate.

4.1.28 Track material placement so that the mass of inert waste, sulfidic waste, material with the potential to contain fibrous minerals, or any other material with geochemical risks delivered to each dump or impoundment is recorded. Record this information within Fleet Dispatch Program.

4.1.29 Perform field inspections to ensure waste is placed as required in dump designs from site planning.

Environment

4.1.30 With assistance of a mineral waste specialist where necessary, analyse the solid and liquid extract geochemistry results that are collected every two years by Mine Geology. If there is deemed to be a geochemical risk in a waste material type then further analytical work should be undertaken and a management plan should be written.

4.1.31 Develop, maintain and present a mineral waste training package on relevant aspects of this management plan to all groups involved with mineral waste management in active operating mine sites. Every 2 years present the training package with assessment of individual's competencies for recording within the Rio Tinto compliance database.

4.1.32 Identify the waste storage facilities at each site that contain mineral waste with a potential geochemical risk to the surrounding environment. The risk of waste within the dump leaching contaminants into the surrounding environment should be assessed and if a risk is identified consult a Mineral Waste expert. Column leach tests may be required to further investigate the risk.

4.1.33 For material identified in 4.1.32 with a mineral waste risk (i.e. sulfidic waste or waste containing fibrous minerals) compile a 'Conceptual Model' that considers the environmental risk.

4.1.34 A geochemical model should be created and updated as required for process waste/wet tailings dams.

4.1.35 Ensure that Section 4 of this management plan is periodically refined and updated so that it is consistent with current best practice and other management plans and procedures. Any changes to this plan need to be approved by the RTIO Mineral Waste steering committee before it is accepted as final.

4.2 Monitoring

Environment

4.2.1 Organise a once off independent and external review of major inert waste storage facilities. High risk

Requirements	
	facilities (i.e. sulfidic waste or waste containing fibrous minerals) should be reviewed every 4 years for compliance with the operational component of this management plan, SCARD Management Plan, the RTIO (WA) Fibrous Minerals Management Plan and site specific management plans. Process wastes/tailings audits are arranged by the plant manager and are excluded from this. Significant issues/actions are to be tracked internally.
4.2.2	Determine the environmental risk of the sites mineral waste based on the geochemical characterisation undertaken by the geologists. Consult a recognised mineral waste expert as required. If a mineral waste risk is identified organise the development of a management plan or modification to the SCARD Management Plan.
4.2.3	Monitor the groundwater levels and water chemistry surrounding geochemically reactive waste facilities and all process wastes/tailings facilities. Advise relevant operations personnel if there are significant changes or non compliance. All monitoring data should be stored in a user friendly database and assigned a unique sample number and sampling date.
4.2.4	Groundwater monitoring should be increased (spatially and temporally) as is deemed necessary in response to any groundwater changes.
4.2.5	Ensure that routine sampling and visual inspection is performed on dewatering discharges and any other water (including water bodies) that may occasionally discharge off site i.e. some tailings facilities. Advise relevant operational personnel if there are significant changes or new non-compliances. All monitoring data should be stored in a user friendly database and assigned a unique sample number and sampling date. Ensure problems are rectified.
4.2.6	Annually investigate the long term trends in water quality. Significant changes in water quality, infiltration rate or other key parameters should be investigated and mitigation actions should be instituted if required.
4.2.7	Perform field inspections to ensure sump construction, rehabilitation and store and release cover performance is consistent with the requirements of the RTIO (WA) Landform guidelines, Rehabilitation Handbook and SCARD Management Plan.
4.2.8	Monitor topsoil in accordance with the Soil Resource Management Plan.
4.2.9	Review annually the quantity of material with geochemical risk in each waste dump (i.e. sulfidic waste, waste containing fibrous minerals, and process wastes/tailings).
Water Resource Evaluation	
4.2.10	For sites where water quality issues have been identified, investigate the long term trends in water quality.
Geotechnical	
4.2.11	Undertake a regular waste dump audit (active and inactive dumps) to assess conformance to design, impacts on infrastructure and emergency access. Any hazards identified should be reported to Mine Operations.
4.2.12	Monitor the stability of pit wall excavations during operations and make recommendations to long term planners for stable pit walls on mine closure.
4.2.13	Inspect process waste/tailings storage facilities monthly. Record any non-conformities as incidents in the Rio Tinto compliance database. Recommend remedial action for any non-conformities. Distribute summaries of the monitoring results for the month and observations of any movements which may have occurred to Shift Supervisors and Superintendents at the plant.
4.2.14	Perform non-routine inspections of the process waste/tailings facility following a heavy rainfall event. Follow the procedure specified in the site process waste/tailings operating manual.
Pit	
4.2.15	Undertake remedial work for actions that arise from the quarterly geotechnical stability audit of waste dumps undertaken by Technical Services. Ensure there is continual follow up of remedial actions.
Plant/Process Wastes	
4.2.16	Annually report on the tonnes of coarse and fine process wastes produced to the site environment advisor.
4.2.17	Ensure an independent (of design and ongoing management) audit and review of the wet tailings storage facility occurs annually. External reviews should occur every 2 years. Audit findings and

Requirements	
	recommended actions should be provided to the Plant Manager for distribution and action.
4.2.18	Undertake remedial work for actions arising from the monthly geotechnical stability audits and the annual external audit of the tailings facilities. Ensure there is continual tracking of remedial actions in the Rio Tinto compliance database.
4.2.19	Maintain a current operating plan for the wet tailings storage facility.
4.2.20	Inspect wet tailings facilities at least once per shift and complete a site specific inspection log. Record any non-conformities as incidents in the Rio Tinto compliance database.
4.2.21	Prior to entering the wet tailings facility cell for repairs to pumps or pipes the protocol in the site tailings operating manual should be followed.
4.2.22	Ensure the wet tailings facility is regularly maintained in accordance with the site process waste/tailings operating plan.
4.2.23	Maintain a tailings dam failure emergency plan.
4.2.24	Undertake progressive rehabilitation where possible.
4.2.25	Update the tailings management plan as required.
ALL	
4.2.26	Any significant modifications in mineral waste generation, handling and disposal processes should be accompanied by a change management process. Changes need to be made to this document by the Site Environment Advisor who will need to ensure the document is approved by the RTIO Mineral Waste steering committee.