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PILBARA IRON ORE AND INFRASTRUCTURE PROJECT

Waste Management Plan

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1. INTRODUCTION

1.1 BACKGROUND / STATUS

The Fortescue Metals Group Limited (Fortecue) is proposing to develop the Pilbara Iron Ore and Infrastructure Project in the Pilbara region of Western Australia (Figure 1) of which the Cloud Break mine site is an integral part. The Cloud Break mine site is located within the Chichester Ranges in the Pilbara region of northern WA, approximately 120km north-northwest of Newman and 240km south-southeast of Port Hedland (Figure 1).

Mining at Cloud Break will involve only direct ship material being extracted for the first few years. After this time low grade material will be mined in conjunction with direct ship material. Low grade material will be stockpiled until the beneficiation plant is constructed at Christmas Creek in Year 7 as part of Pilbara Iron Ore and Infrastructure Project. The layout of Cloud Break mine site facilities and associated infrastructure is presented on Figure 2.

Ministerial approval for the non-beneficiation stage of the Cloud Break Project was received on 24 April 2006 (*Ministerial Statement 0721*). Further detailed information about the project specifications can be found in the Cloud Break Public Environmental Review (ENVIRON, 2005b).

A proponent commitment defined in the Ministerial conditions was that a Waste Management Plan shall be developed, including a procurement policy that minimises waste generation. This plan thus details a procurement policy and waste management procedures relevant to the construction, operation and closure phases of the Cloud Break mine site. It is structured in accordance with the Department of Environment and Conservation's *Draft Compliance Monitoring Guidelines: Preparing Environmental Management Plans* (DEC 2006a).

1.2 ENVIRONMENTAL ISSUE AND POTENTIAL IMPACTS

The Cloud Break Project will generate various waste streams during construction and operations. These may broadly be classified into the following categories[1]:

- Inert solid wastes (non-putrescible building and demolition wastes, e.g. bricks, concrete, asphalt, sand)

[1] Overburden or waste rock material will be utilised in the progressive rehabilitation of mining strips and therefore management of this 'waste' material is not included in this Plan Refer to the *Rehabilitation and Revegetation Plan* for procedural information relevant to the management of overburden.

- Putrescible solid wastes (food waste, vegetative waste, timber, paper, plastics, packaging)
- Solid and liquid hazardous wastes (hydrocarbons, corrosives, biomedical wastes, pharmaceuticals, poisons and other toxic substances)
- Domestic liquid effluent (sewage and grey water)

If inappropriately managed, these waste streams have the potential to:

- degrade the environment through the contamination of soil, groundwater and surface waters;
- pose a risk to human health leading to the spread of disease; and/or
- reduce the amenity of an area due to visual and odourous impacts.

1.2.1 Definitions

Since management procedures are varied and specific to particular types of waste, it is very important to explicitly delineate and segregate waste streams at the outset to ensure they are appropriately identified and managed. The management of some hazardous or 'controlled' waste is regulated by specific treatment and disposal procedures. Further, certain components of each individual waste stream may be recyclable to some extent. It is thus necessary to firstly define 'wastes' so they may be clearly separated and managed according to best practice procedures.

For the purposes of this Management Plan, the Department of Environment and Conservation's (DEC 2005a) *Landfill Waste Classification and Waste Definitions 1996* (As Amended) are utilised. The DEC document is appropriate since it is explicitly applicable to the regulatory framework of waste management under the *Environmental Protection Act 1986* and subsidiary Regulations in Western Australia (see Section 1.2.2). Important definitions are included below but the reader is referred to the source document for detailed advice on waste classification.

Waste	For the purposes of these guidelines waste may mean one or more of the following: Any substance that is discarded, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration to the environment; Any discarded, rejected, unwanted, surplus or abandoned substance; Any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, reprocessing, recovery or purification by a separate operation from that which produced the substance; Any substance described in regulations under the *Environmental Protection Act* 1986 as waste.
Putrescible Waste	Component of the waste stream likely to become putrid – including wastes that contain organic materials such as food wastes or wastes of animal or vegetable origin, which readily biodegrade within the environment of a landfill. Examples include: food waste; vegetative waste; biosolids; office and packaging wastes (e.g. paper, cardboard, wood, plastics) that is not mixed with any other type of waste); clean plastic containers; oil rags, crushed oil filters and oil absorbent materials (not containing free liquids); sewage treatment plant grits and screenings; sanitary napkins and nappies etc (not otherwise classified as biomedical waste due to the presence of infectious material).
Hazardous Waste	Component of the waste stream which by its characteristics poses a threat or risk to public health, safety or the environment (includes substances which are toxic, infectious, mutagenic, carcinogenic, teragenic, explosive, flammable, corrosive, oxidising and radioactive). Hazardous wastes are generally unsuitable for landfill disposal and would only be accepted after appropriate treatment and/or in accordance with specific licence conditions.
Sewage	Waste containing faecal matter or urine. An “apparatus for the treatment of sewage” means any apparatus for the bacteriolytic or aerobic treatment of sewage or any other apparatus for the treatment of sewage approved by the Executive Director, Public Health under the *Health Act 1911*.

Controlled Waste	Waste types listed in Schedule 1 of the *Environmental Protection (Controlled Waste) Regulations 2004*. The DEC (2006b) states that the Regulations apply to controlled waste that is produced by, or as a result of: an industrial/commercial activity; activities carried out at a laboratory; and/or an apparatus for the treatment of sewage. Controlled wastes include many hazardous wastes and are generally defined as all liquid waste, and any waste that cannot be disposed as a Class I, II or III landfill site (DEC, 2006b). This includes, but is not limited to: asbestos; clinical and laboratory waste; contaminated containers (with the residue of controlled wastes); explosive wastes (not subject to any other written law); fire debris or washwaters; grease trap wastes; mineral oil emulsions and wastes; sewage; soils contaminated with a controlled waste; tyres; various toxic heavy metals and/or their organic/inorganic compounds. Further, see Appendix A – Controlled Waste Categories and Descriptions.
Clean Fill	Material that will have no harmful effects on the environment and which consists of rocks or soil arising from the excavation of undisturbed material. For material not from a clean excavation, it must be validated to have contaminants below relevant ecological investigation levels (as defined in Assessment Levels for Soil, Sediment and Water [DEC, 2003]).
Landfill	A site used for disposal of solid material (i.e. is spadeable) by burial in the ground that is licenced as a landfill under the *Environmental Protection Act 1986*. Further definition of technical Classes of Landfill (I to V) is provided in Appendix B.

1.2.2 Regulatory Framework

The main legislation relevant to waste management is listed together with a brief summary of its application in Table 1. Employees and contractors of Forterscue will comply with all State and Commonwealth legislation that applies to the treatment, handling and disposal of waste.

Table 1: Relevant Legislation and its Application

State Government Legislation	Application
Environmental Protection Act 1986	Part IV - Environmental Impact Assessment (EIA) and implementation of proposals; Part V – Environmental regulation of pollution, prescribed premises, works approvals and licences.
Environmental Protection Regulations 1987	Part III - General control of pollution (administration, works approval, licencing & registration of prescribed premises); Part VI - Disposal of tyres.
Environmental Protection (Rural Landfill) Regulations 2002	Applicable to the construction and management of registered Putrescible Landfill Sites with a design capacity of more than 20 but less than 5000 tonnes per year (i.e. prescribed premises category 89).
Environmental Protection (Unauthorised Discharges) Regulations 2004	Defines materials which must not be burnt or discharged into the environment.
Environmental Protection (Controlled Waste) Regulations 2004	Obligations relating to the transportation and disposal of 'controlled' (generally hazardous) wastes. Controlled wastes listed in Schedule 1 of the Regulations.
Environmental Protection (NEPM UPM) Regulations 2003	Details recycling measures to comply with the National Environmental Protection Measure on Used Packaging Materials, which supports the National Packaging Covenant.
Iron Ore (FMG Chichester Pty Ltd) Agreement Bill 2006 [yet to be ratified]	Mining proposals subject to *Environmental Protection Act 1986*
Mining Act 1978	Regulation and imposition of environmental conditions on mining tenements.
Litter Act 1979	Defines actions legally considered as littering and associated penalties
Health Act 1911	Regulates the use of apparatus for the treatment and disposal of sewage
Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974	Applicable to the construction or installation of apparatus for the treatment of sewage and disposal procedures
Health (Asbestos) Regulations 1992	Procedures for the disposal of material containing asbestos

In collaboration with the Waste Management Board (WMB), the DEC is responsible for developing policy regarding waste management in Western Australia and for undertaking, on behalf of the Board, specific projects aimed at key points in the waste stream (DEC 2006b). The Waste Management Board is an advisory body, established by the Cabinet of the Western Australian Government to provide advice to the Minister for the Environment on strategic direction and priorities for waste in Western Australia (DEC 2006b). Together, these bodies have developed a strategic approach to address waste issues, drawing upon past strategies but reliant upon participation by industry and the greater community. Much information on the strategic approach to waste can be found on the affiliated Zero Waste web site (http://www.zerowastewa.com.au). Regarding applicable policies, strategies and programmes for the prevention, recovery and disposal of waste, this Waste Management Plan draws heavily from industry-specific information provided on the Zero Waste website. The reader is referred to this source for more detailed information.

Importantly, the DEC is in the process of developing an Industry Waste Reduction and Materials Management Strategy (WRMMS) to promote and facilitate waste reduction and reduced resource use in the industrial sectors (WMB 2006). The strategy will provide a platform for various stakeholders to collectively work towards significant waste reduction throughout the entire supply chain for products and services in the WA economy (WMB 2006). A Priority Waste List will also be developed which will guide industry waste reduction activities undertaken by the Waste Management Board and the DoE (WMB 2006). Upon its implementation, Fortescue will act in accordance with the WRMM Strategy.

1.3 OBJECTIVES AND SCOPE

As defined within Schedule 2 of *Ministerial Statement 0721*, Fortescue has committed to an overall objective of:

"*ensuring that the disposal and management of wastes do not adversely affect environmental values or the health, welfare and amenity of people and land uses, by meeting statutory requirements and acceptable standards*".

Proponent Commitments 26 and 27 of Schedule 2 legally bind Fortescue to developing and implementing a *Waste Management Plan* (*WMP*) for the Cloud Break Project. A procurement policy which minimises waste generation must be implemented as part of this plan.

Accordingly, the purpose of this *WMP* is to provide guidance to Fortescue employees and contractors in regards to the minimisation and management of waste streams generated by the Cloud Break Project. The following Sections thus detail requisite management measures for the:

Procurement of materials - aimed at minimising the generation of waste (Section 2);

Re-use and recycling of materials wherever practicable (Section 3); and

Handling and treatment of waste prior to re-use and/or disposal to landfill or hazardous waste receptors (Section 4).

Also provided in Sections 2 to 4 are the implementation strategies (including timing and personnel responsibilities), performance indicators, monitoring and contingency requirements for each individual waste management measure/action (Tables 2, 3 & 4). Key waste management measures are summarised in an auditable table in Appendix D.

2. PROCUREMENT POLICY AND STRATEGY

2.1 PROCUREMENT POLICY

To reduce the generation and impact of wastes, Fortescue will adopt a 'green' Procurement Policy which applies a proactive decision-making approach to product purchases by considering factors of environmental preferability. Fortescue's Procurement policy is stated below.

Procurement Policy

Where practicable, purchasing preference will be given to 'green' products which:

(1) Are recyclable or contain recycled content;

(2) Have longer life-spans in terms of performance and durability;

(3) Are biodegradable and/or non-toxic; and/or

(4) Have been endorsed as a "Good Environmental Choice" from a whole of product life perspective, *via* an accredited life-cycle assessment process.

The price, quality and availability of alternative product choices shall be utilised as pertinent criteria when assessing the practicability of 'green' product choices. Preferred product choices shall be recorded and updated in a 'preferred product' log.

Fortescue staff and contractors shall be trained in this Procurement Policy and the procurement management measures detailed in the Waste Management Plan.

2.2 PROCUREMENT STRATEGY

Fortescue is committed to minimising both the generation and impact of waste from the Cloud Break Project by implementing 'green' procurement management measures wherever practicable. This section thus details Fortescue's general approach to application of the Procurement Policy. Specific procurement measures to aid waste minimisation are provided in Table 2. The reader is also referred to the *Chemical and Hydrocarbon Management Plan* (FMGL 2006) for procedures relevant to the procurement of hydrocarbons and chemicals.

In many cases, application of the Procurement Policy's preference criteria to alternative product choices can be a reasonably simple and logical/intuitive process; however, it should also be acknowledged that the task can become more complicated because environmental product information is not always readily available. Fortescue will ensure that purchasing staff and contractors are familiar with the useful resources detailed in Sections 2.2 to 2.4, which provide dedicated environmental information about a range of products and/or which may generally aid in the application of green procurement principles.

Importantly, these 'green' considerations will necessarily need to be balanced against 'traditional' procurement decisions. To further elaborate, a recent study on the state of green procurement in Australia (GECA 2004) identified three fundamental test criteria that a green product must 'pass' prior to effective take-up by industry or the general consumer:

Price, Quality and Access (in that order).

Sustainable alternatives should not be more expensive, inferior or more difficult to locate than polluting ones (GECA 2004). These traditional criteria need not mutually exclude the environmental requirements pertaining to green product choices, indeed they are often complementary, and many green product procurement options are financially feasible or even desirable. For example, recycled products are in many cases of similar quality and cheaper than those without recycled material content (WMB, 2006). The purchase of long-life products over disposable alternatives not only minimises waste generation but may also result in significant financial savings over the life of a project. Furthermore, potential whole-of-life-cycle financial benefits may be derived from:

the future sale or re-use of purchased recyclable materials;

the reduced costs implicated with lesser waste disposal and handling requirements (due to diversion of recyclable materials from the waste stream); and/or

depreciated liabilities from using biodegradable and non-toxic products, and lowered costs associated with monitoring, remediation *etc*.

Where higher costs of green products are apparent, these financial benefits may be used to offset the difference in purchase price to some extent, and should be factored in to the total cost of procurement decisions.

However, it must also be recognised that green procurement will not be possible for every single product or service purchased. When purchasing products, whilst every effort will be made by Fortescue to evaluate green options, it will be the general cost-effectiveness, quality and availability of green products that will determine their success of procurement. Potential impediments to 'buying green' include factors such as:

The remoteness of the Cloud Break Project and an implicated reduction in accessibility to a wide range of products and services;

Possible conflicts with Fortescue's general commitment to economic development of the Pilbara region *via* local procurement of products and services (i.e. trade-offs in socio-economic versus environmental benefits);

Project timelines may not allow purchasing of green products due to availability; and

The infancy of the green product market in Australia and general lack of access to verified "entire life-cycle" information on product choices.

Regardless of these legitimate challenges, Fortescue's overall strategy is to identify green procurement opportunities where they exist, with an aim of reducing both the environmental and financial costs associated with product purchases. Preferred product choices will be subject to regular review so as to continually identify potential waste minimisation opportunities and financial benefits.

2.3 AUSTRALIAN GREEN PROCUREMENT DATABASE

Good Environmental Choice Australia Ltd (GECA) maintains the Australian Green Procurement website (at http://www.greenprocurement.org/), which provides access to:

The Australian Green Procurement Database (AGPD);

The Australian Environmental Labelling Association (AELA) and the Good Environmental Choice Label; and

General best practice information and guidance material for green procurement in Australia.

The AGPD is a free internet resource which provides details of environmentally preferable products. The database product list is growing and includes items such as cements, paints and coatings, cleaning products, toiletries, shampoos, sanitary products, office products, oil absorber clean-up kits and recycled rubber products, amongst other items. The AGPD provides a meaningful and quantifiable evaluation of each item's environmental performance in addition to providing contact details and technical information (GECA 2006). Many of the products listed on the database have been endorsed by the Good Environmental Choice Label, illustrated below:

The Good Environmental Choice Label is the only environmental labelling program which indicates the environmental performance of a product from a whole of product life perspective for consumer goods (GECA 2006). Other labels providing verified environmental information on products do exist in Australia but these are generally restricted to a small number of competing forest products labels and the well-known energy star label which indicates the energy efficiency of a select set of appliances (GECA 2006). Further information on the Good Environmental Choice and other labelling programs may be accessed *via* the website referenced above. Fortescue procurement officers will be familiarised with these programs since the purchase of environmentally endorsed and labelled products ensures a level of certainty in green procurement decisions. However, it must be acknowledged that the range of 'labelled' product choices in Australia is still relatively limited.

In the absence of labelling, the Australian Green Procurement website (link above) is an excellent resource of further information and guidance material on best practice green procurement strategies. Fortescue purchasing staff and contractors will be made aware of this resource.

2.4 BUY RECYCLED GUIDE

The Buy Recycled Guide has been developed by the Government of Western Australia to address the need for a long-term index of businesses that include recycled materials in the manufacture of their products and services (WMB 2006). The internet-based guide may be accessed via:

http://www.zerowastewa.com.au/ourwork/specificprograms/buyrecycled/

Currently listed businesses utilise recycled materials to manufacture products for:

Building and Construction – geofabrics, roadbase, aggregate, drainage pipes, pallets, traffic control signs/bollards, salvaged timber and other materials;

Catering – plates and trays;

Cleaning – industrial cleaning cloths, paper towels and toilet rolls;

The Office – paper, archfiles, archive boxes, pencils and pens; and

Packaging and Storage – builders film and paper bags.

The range of listed products and services will constantly grow and the guide will be continually updated to reflect this growth (WMB 2006). Fortescue purchasing staff and contractors will be made aware of this resource.

2.5 FURTHER GREEN PROCUREMENT INFORMATION / RESOURCES

Consideration of the recycled content, recyclability, biodegradability and environmental labelling of alternative product choices will generally be aided by access to information. Other resources which either provide environmental details of products or general information on green procurement strategies are listed in Appendix C. Fortescue will ensure that purchasing staff and contractors are familiar with these useful green procurement resources.

Table 2: Procurement Management Measures

Ref #	Management Measure	Performance Indicator / Target	Monitoring	Corrective Action	Timing	Responsibility
1	Product purchases shall be in alignment with the Procurement Policy detailed in the Waste Management Plan. That is, procurement preference will be given to 'green' products, where practicable, as defined by the Policy.	Preference being given to 'green' products where practicable.	Annual review of preferred products log to verify assessment of product alternatives and preference to green products where practicable	Non-compliance with this measure to trigger the re-training of purchasing staff in Procurement Policy	Project Duration	Procurement / Logistics Manager
2	Purchasing / procurement staff and contractors shall be trained in the Procurement Policy detailed in this Waste Management Plan and made familiar with identified 'green' procurement resources, including the: • Australian Green Procurement Database (GECA 2006) • Buy Recycled Guide (WMB 2006) • Further Green Procurement Resources detailed in Appendix C of the Waste Management Plan.	All purchasing / procurement staff trained in Procurement Policy	Procurement / Logistics Manager to ensure that all purchasing / procurement staff are trained in Procurement Policy	Train purchasing staff in Procurement Policy	Project Duration	Procurement / Logistics Manager
3	Establish and maintain a purchasing log of preferred products, including product alternatives.	Establishment and updating of preferred products log	Procurement / Logistics Manager to ensure that preferred products log has been established and maintained	Purchasing log to be established and maintained	Project Duration	Procurement / Logistics Manager
4	As far as practicable, minimise the use and purchase of consumable / disposable products (e.g. plastic, styrofoam, and other non-biodegradable food and drink containers)	Listing of disposable product choices minimised on preferred products log	Annual review of preferred products log to verify minimisation of disposable products	Non-compliance with this measure to trigger the re-training of purchasing staff in Procurement Policy	Project Duration	Procurement / Logistics Manager

Ref #	Management Measure	Performance Indicator / Target	Monitoring	Corrective Action	Timing	Responsibility
5	Wherever practicable, required consumables and other products shall be purchased in bulk to reduce the content of individual packaging waste.	Bulk product purchases maximised	Annually assess the frequency of product purchases	Non-compliance with this measure to trigger the re-training of purchasing staff in Procurement Policy	Project Duration	Procurement / Logistics Manager
6	Subject preferred product choices to regular review (at least annually) to continually identify potential waste minimisation opportunities and financial benefits.	Annual review of preferred products log has been conducted	Procurement / Logistics Manager to ensure that Annual Review of preferred products log has been conducted	Review annual products log	Project Duration	Procurement / Logistics Manager

3. RECYCLING

In addition to green procurement strategies, a large part of the waste minimisation process is appropriate diversion of recyclable or re-usable materials from the waste stream. Recycling not only reduces landfill requirements and associated costs, but the off-site sale of recycled items and/or on-site re-use of materials may be financially desirable in many instances. However, recycling strategies must be considered within a regional context because material transport costs linked with the long travelling distances and general isolation of the Pilbara often erodes potential profit *via* the sale of recyclable materials (sometimes to the point of non-viability). The success of recycling programs for any type of material will rely on the presence of a suitable quantity of the recyclable resource (accumulation or stockpiling over time is often required), and viable transportation options of moving these products to markets. This section briefly summarises Fortescue's general recycling strategy for the Cloud Break Project. Specific management measures aimed at separating, recycling and or re-using 'waste' materials generated by the Project are provided in Table 3.

The first step of effective recycling strategies is to identify recyclable or re-usable materials. Materials that may potentially be recycled or re-used for various purposes are listed below:

- glass — Recycle for sale
- aluminium cans — Recycle for sale
- scrap metal — Recycle for sale
- paper — Recycle for sale or diversion from waste
- wooden pallets — Re-use on-site or return to vendor
- vegetative waste — Re-use as mulch for dust suppression on site
- oily waste — Treat and re-use on-site
- tyres — Return to vendor or rubber recyclers for sale
- batteries — Recycle to battery recyclers
- grey water — Re-use for dust suppression and/or other site water requirements
- old machinery / equipment — Salvage to third parties

The viability of these recycling options will be holistically assessed accounting for transport costs, sale price of recycled materials and other more indirect savings (e.g. reduced landfill requirements, reduced procurement needs by re-using materials on-site *etc*.). Viable recyclable or re-usable materials will be segregated from the general waste stream. Induction of employees and contractors will involve training as to which items are to be recycled. Wherever practicable, separate bins and signage for general waste and recyclable items will be placed at the initial point of disposal. Further segregation of waste and recyclable materials shall occur at the central waste processing facility.

Fortescue will endeavour to identify practicable recycling opportunities wherever they exist, and commits to becoming involved in any viable regional recycling programs that are initiated.

Table 3: Recycling Management Measures

Ref #	Management Measure	Performance Indicator / Target	Monitoring	Corrective Action	Timing	Responsibility
7	Employees and contractor inductions to outline key aspects of the Waste Mgmt Plan, including waste definitions, recyclables, re-use and disposal.	Types of waste included in induction and training modules	Site bins will be included in weekly inspections. Any incorrect storage of waste shall be recorded	If wastes separation within receptacles is inadequate, personnel will be re-trained at toolbox meetings	Project Duration	Environmental Manager
8	Fortescue will recycle and/or re-use viable materials where practicable, considering transport costs, sale price and indirect savings.	Costing and implementation report completed for potentially viable recyclable / re-usable materials	Procurement / Logistics Manager to ensure that costing and implementation reports have been completed	Conduct viability assessment of recyclable / re-usable materials	Ongoing	Procurement / Logistics Manager
9	Within all office, workshop and camp areas separate bins shall be made available for any viable recyclable materials, which may include: • Glass; paper; aluminium cans; scrap metal; and/or any other viable materials.	Separate receptacles are available for recyclable items and general waste	Site Environmental Inspections to include check for appropriate provision of receptacles for recyclables / waste	Provide appropriate receptacles	Project Duration	Environmental Manager / Logistics Manager
10	Workshop, other applicable mine site areas and/or the central waste management facility will have designated bins or stockpiles (as appropriate) for recyclable or re-usable materials, which may include: • Oily waste; batteries; tyres; wooden pallets; vegetative waste; and/or any other viable materials.	Separate receptacles or stockpile areas are available for recyclable / re-usable items	Site Environmental Inspections to include check for appropriate provision of receptacles or stockpiles for recyclables / re-usables	Provide appropriate receptacles or stockpile areas	Project Duration	Environmental Manager / Logistics Manager

Ref #	Management Measure	Performance Indicator / Target	Monitoring	Corrective Action	Timing	Responsibility
11	Signage will be provided to indicate appropriate segregation of waste into bins / receptacles.	Bins / receptacles have appropriate signage	Site Environmental Inspections to include check for appropriate signage	Provide signage	Project Duration	Environmental Manager / Logistics Manager
12	Ensure storage, handling, collection and/or transport of any recyclable material classified as a controlled waste (e.g. sewage, tyres, oily wastes) is in accordance with *Environmental Protection (Controlled Waste) Regulations 2004* (further see Ref # 18).	Recyclable materials classified as controlled waste to conform with targets for Ref # 18.	See monitoring requirements for Ref # 18.	N/A	Project Duration	Environmental Manager / Logistics Manager
13	Quantify the volume of all individual streams of recyclable / re-usable materials diverted from the waste stream.	Monthly volumes of all recycled / re-used materials are recorded. Volumes of materials recycled presented in Annual Environmental Report.	Monitor Monthly volumes of all recycled / re-used materials.	If any monthly volume are 'missed', either estimate or quantify value from subsequent month's volume	Project Duration	Environmental Manager / Logistics Manager
14	Annually review recycling of all office, workshop, mine and other minesite areas.	Evidence of annual review performed.	Environmental / Logistics Manager to ensure that annual review has been sufficiently completed.	Ensure that review is undertaken.	Project Duration	Environmental Manager / Logistics Manager

4. WASTE HANDLING, TREATMENT AND DISPOSAL

Whilst every effort shall be made to minimise the generation of waste via practical procurement and recycling strategies, the final objective is to treat and dispose of any remaining waste streams in an environmentally acceptable manner. This section defines the general strategy for waste management of putrescible and other hazardous/controlled wastes. Table 4 provides targeted management measures developed to ensure appropriate treatment, handling and disposal of all waste materials.

4.1 CONTROLLED WASTE MANAGEMENT

In accordance with the DEC's (2004) *Guideline for Controlled Waste Generators*, Appendix A describes and categorises all hazardous wastes which must be duly recognised, handled, treated and/or disposed of as controlled waste (including septage wastes, oily wastes, Class IV or V contaminated soils, low strength waste waters, tyres, pesticides, paints *etc*.; see Appendices A and B), as defined by the *Environmental Protection (Controlled Waste) Regulations 2004*. The Guideline (DEC 2004) states that a controlled waste generator must:

- Ensure the controlled waste is properly contained on premises to prevent discharge into the environment (see *Environmental Protection (Unauthorised Discharges) Regulations 2004*);
- Ensure a DEC licensed Carrier is engaged to transport controlled waste to an approved location for disposal;
- Ensure the controlled waste meets specific criteria for transportation, before the Carrier transports the waste;
- Prior to the controlled waste being transported by the Carrier, provide accurate information to that Carrier regarding the category, quantity and type (Bulk or Packaged) of controlled waste;
- Ensure that a Receipt is obtained from the Driver prior to the controlled waste being transported from the premises of the Generator. The Receipt must be kept for a period of at least 3 years;
- Ensure that Packaged Controlled Waste is provided to the Carrier in a container compatible with the waste being transported;

- Ensure that Category Groups 7 (solvents), 11 (chromium) and 12 (cyanide) controlled wastes hold a certified laboratory certificate, and that the certificate is shown to the Driver collecting these category groups of controlled waste for transportation on public roads.

These obligations shall be met to ensure compliance with the *Controlled Waste Regulations* (i.e. Management Measure Ref # 18, Table 4). Further, Fortescue will adopt the *Guideline for Controlled Waste Generators* (DEC 2004) as a primary information reference document for the preparation and tracking requirements of controlled wastes prior to collection for disposal; thus ensuring general complicity with the *Environmental Protection (Controlled Waste) Regulations 2004*. Wherever practicable, separate receptacles and signage for individual types of controlled waste will be placed at the initial point of disposal. Further segregation of controlled wastes shall occur at the central waste processing facility. Bulk receptacles, bins or stockpile areas will be designated and appropriately managed to allow storage of controlled wastes prior to collection for disposal.

Additionally, Fortescue's (2006) *Chemical and Hydrocarbon Management Plan* (*CHMP*) details appropriate management measures for the handling, use, transport and storage of these particular types of hazardous substances. Application of the *CHMP* extends to hydrocarbon and chemical waste products (and materials contaminated with these substances) and both this *Waste Management Plan* and the *CHMP* should be consulted when handling, storing and transporting these types of waste. Further, the *CHMP* provides specific response procedures for accidents/incidents and spills involving chemicals and hydrocarbons.

4.2 PUTRESCIBLE WASTE AND LANDFILL MANAGEMENT

To prevent potential health and environmental issues specific measures for putrescible waste are mainly aimed at: (i) containment of wastes; and (ii) avoidance of the attraction of animals to food scraps. Specific measures that shall be implemented for putrescible waste and disposal to landfill are detailed in Table 4. A summary of the landfill strategy is provided below.

4.2.1 Landfill Management

Following collection at the central waste processing facility, and final separation of recyclable materials and controlled wastes from the general waste stream, the remaining putrescible and inert wastes (or otherwise contaminated solid wastes meeting specific waste acceptance criteria; see below) will be disposed to an appropriate Landfill Facility, either on-site or off-site. Appendix B defines Landfill Classes (I to V) and acceptable waste types in conformance with the DEC's (2005a) *Landfill Waste Classification and Waste Definitions 1996 (As amended)*.

To ensure that Project wastes intended for landfill are disposed to suitable facilities, the waste characterisation and sampling procedures defined in the above DEC (2005a) document will be applied to all landfill waste streams.

Any on-site Landfill Facilities will be constructed and managed in accordance with the *Environmental Protection (Rural Landfill Regulations) 2002*, as detailed in Table 4. The *Regulations* are applicable to registered Class II Putrescible Landfills (Unlined), operated as category 89 prescribed premises, i.e. with an annual intake of more than 20 tonnes but less than 5000 tonnes per year. Works approval and registration applications to construct and operate any such on-site Landfill Facility will be made to the DEC.

Furthermore, the DEC's (2005b) *Siting, Design, Operation and Rehabilitation of Landfills [Draft]* will be consulted in relation to any Class II Landfill Facility constructed and operated on-site. The document is presently intended for application to Class III Putrescible Landfills (Lined), but is proposed to be amended to have reference to Class II Landfills (Unlined). In the interim, the document may be used for general guidance on conservative best practice environmental measures to be undertaken at any on-site Class II Landfill Facility.

As defined by the DEC (2005a), either Class II or Class III Landfill Facilities can generally accept Putrescible Waste, Clean Fill and Type 1 Inert Wastes[2]. The main difference in waste acceptance criteria between Class II and III (& IV) Landfill Facilites is the 'strength' of contaminated solid wastes that they can accept (i.e. the concentration thresholds of hydrocarbons, heavy metals *etc*. in contaminated soils or other solid waste stream). Thus, any Class III (or higher) contaminated solid wastes will be disposed to an appropriate off-site Landfill Facility (also see section 4.1 - Controlled Waste Management) and/or subject to alternate on-site treatment options (e.g. see section 4.3 below).

[2] Type 2 Inert Wastes (tyres) plus Type 1 and 2 Special Wastes (asbestos and biomedical waste) may also be accepted, but only under specific licence condtions and/or at sites registered as approved under the *Controlled Waste Regulations*.

4.3 LAND-FARMING OILY WASTE

A potential option for the treatment of hydrocarbon wastes and contaminated soils is to bio-remediate these substances by land farming. Land farming is the controlled and repeated application of oily wastes to the soil surface, using microorganisms in the soil to naturally biodegrade hydrocarbon constituents, dilute and attenuate metals, and transform and assimilate waste constituents (ANL *et al*. 2006). Optimal land farming techniques balance the additions of waste against a soil's capacity to assimilate the waste constituents without destroying soil integrity, creating subsurface soil contamination problems, or causing other adverse environmental impacts (ANL *et al*. 2006). Land farming can be a relatively low-cost oily waste management approach (ANL *et al*. 2006). Fortescue will investigate the feasibility of land farming at Cloud Break subsequent to the commencement of mining operations. Its application will be dependent upon the amount of hydrocarbon wastes generated and the predicted balance of environmental and financial costs/benefits. Any land farming programme would be developed in consultation with the DEC and in accordance with relevant guidelines, monitoring and compliance requirements regarding the protection of adjacent sensitive environmental receptors (e.g. surface and ground waters, soils, fauna and vegetation *etc*.).

Table 4: Waste Handling, Treatment and Disposal Management Measures

Ref #	Management Measure	Performance Indicator / Target	Monitoring	Corrective Action	Timing	Responsibility
15	Designated bins for general putrescible refuse (fitted with secure lids), including food scraps, will be made available for easy access within all office, workshop and camp areas.	Separate lidded receptacles are available for general putrescible refuse	Site Environmental Inspections to include check for appropriate provision of receptacles for general putrescible waste	Provide appropriate receptacles	Project Duration	Environmental Manager / Logistics Manager
16	General putrescible refuse and inert wastes (or otherwise contaminated solid wastes meeting specific waste acceptance criteria) will be disposed to an appropriate Landfill Facility, either on-site or off-site.	All landfill waste disposed to an appropriate Facility	Waste characterisation and sampling in accordance with the *Landfill Waste Classification and Waste Definitions 1996 (As amended)*	Non-compliance to trigger review of staff's interpretation of waste characterisation and disposal procedures, and re-training if necessary.	Project Duration	Environmental Manager / Logistics Manager
17	Record the monthly volume of all individual landfill and controlled waste streams, including: • Putrescible landfill waste • Oily waste • Tyres • Sewage • Any other individual waste stream.	Monthly volumes of all waste streams are listed.	Monitor and record monthly volume of waste streams.	If recording is 'missed' for any month, ensure it is quantified or estimated in the subsequent month	Project Duration	Environmental Manager / Logistics Manager
18	Handling and disposal of controlled wastes (e.g. septage wastes, oily wastes, Class IV or V contaminated soils, low strength waste waters, tyres, asbestos, pesticides, paints etc) shall be in compliance with *Environmental Protection (Controlled Waste) Regulations 2004*.	Handling and disposal of controlled wastes in compliance with the *Controlled Waste Regulations*.	Audits conducted to ensure that controlled wastes are disposed in accordance with *Controlled Waste Regulations*	Employees and/or third-party controlled waste contractors made explicitly aware of controlled waste requirements *via* training	Project Duration	Environmental Manager / Logistics Manager

Ref #	Management Measure	Performance Indicator / Target	Monitoring	Corrective Action	Timing	Responsibility
19	The *Chemical and Hydrocarbon Management Plan* (FMG 2006) shall be consulted (i) when handling, storing and transporting chemical and hydrocarbon wastes; and (ii) for response procedures in relation to accidents/incidents and spills involving these types of waste.	*Chemical and Hydrocarbon Management Plan (CHMP)* always consulted regarding relevant waste materials	Audits conducted to ensure that management of chemical and hydrocarbon wastes in accordance with *CHMP*	Non-compliance to trigger the re-training of staff in procedures of the *CHMP*	Project Duration	Environmental Manager
20	Works approval and registration/licence applications to construct and operate any on-site Landfill Facility will be made to the DEC.	Works approval and registration/licence applications made	N/A	N/A	Prior to Landfill Construc-tion	Environmental Manager
21	Any on-site landfill will be constructed as a registered Class II (unlined) Facility and managed in accordance with the *Environmental Protection (Rural Landfill Regulations) 2002*.	Construction and operation of on-site landfills in compliance with the *Rural Landfill Regulations.*	Site environmental audits to include landfill inspections to ensure that management practices are in accordance with *Rural Landfill Regulations.*	Any failures in the landfill management shall be recorded during inspections and audits and rectified	Project Duration	Environmental Manager
22	The potential for land farming hydrocarbon contaminated wastes, in accordance with Section 4.3 of this *Waste Management Plan*, will be investigated.	Feasibility study complete	Environmental Manager to ensure that feasibility study has been completed	Conduct and complete feasibility study	As required, During Operation	Environmental Manager
23	Investigate the cost effectiveness of engaging a commercial waste management operator to manage waste at the site	Completed cost evaluation. Engagement of contractor if cost effective.	Logistics Manager to ensure that feasibility study has been completed	Conduct and complete feasibility study	As required, During Operation	Logistics Manager

5. MONITORING

The monitoring requirements detailed in Tables 2, 3 and 4 will be utilised to assess the compliance status of individual measures associated with procurement, recycling and general waste management.

6. CONTINGENCIES

While it is anticipated that the measures detailed in this Plan will be adequate to ensure that the disposal and management of wastes do not adversely affect health, amenity or environmental values, Fortescue recognises that it is best practice to develop contingency actions which are to be implemented upon the identification of non-compliance with the intended waste management measures. Contingency actions to be undertaken upon the failure of management measures are detailed as “corrective actions” in Tables 2, 3 and 4.

7. STAKEHOLDER CONSULTATION

Due to the isolation of the Cloud Break Project and lack of adjacent sensitive community receptors, the DEC is the only stakeholder with a vested interest in waste management at the Cloud Break mine site. However, Fortescue will openly consult with any adjacent land user that legitimately has a vested interest in off-site waste management impacts. Furthermore, during the establishment and operation of any on-site Landfill Facility, Fortescue will liaise with the Waste Management Branch of the DEC. Fortescue will also participate in the establishment and development of any viable regional waste management strategies.

8. AUDITING AND REPORTING

This Waste Management Plan is subject to review and approval by the Environmental Audit Section of the DEC. The key waste management measures arising from this Plan and their intended auditable targets / performance criteria are tabulated in Appendix D. Non-compliance with these targets will instigate review, corrective and/or contingency actions, as detailed in this document.

The performance of this Waste Management Plan will be described within Annual Environmental Report (AERs). Within the AERs, reporting measures undertaken for key management measures shall be detailed in a copy of the table provided in Appendix D.

9. REVIEW PROCEDURES

The management measures outlined in this management plan, and employee / contractor work instructions and training arising from it, will be reviewed and/or amended where appropriate:

- to account for major modifications to green procurement or recycling strategies identified *via* ongoing review of waste minimisation and cost benefit opportunities;
- in response to changes of the regulatory framework of waste management in Western Australia; or
- if the plan is not providing adequate levels of waste management.
- This review procedure has been included as a specific management measure in Appendix D.

10. REFERENCES

Argonne National Laboratory, ChevronTexaco and Marathon (2006). *The Drilling Waste Management Information System Fact Sheet – Land Application*. The U.S. Department of Energy's (DOE's) Natural Gas & Oil Technology Partnership and DOE's National Energy Technology Laboratory.

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ENVIRON (2004). *Public Environmental Review: Pilbara Iron Ore and Infrastructure Project: Port and North-South Railway (Stage A)*. Report prepared for Fortescue Metals Group, September 2004.

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ENVIRON (2005b). *DRAFT Public Environmental Review: Pilbara Iron Ore and Infrastructure Project: Cloud Break*. Report prepared for Fortescue Metals Group Limited, July 2005.

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GECA (2004) *The State of Green Procurement in Australia*. Report by Good Environmental Choice Australia.

WMB (2006) *Zero Waste WA: Industry Waste Reduction*. Accessed from, <http://www.zerowastewa.com.au/ourwork/specificprograms/iwr/>, July 2006. Waste Management Board, Perth, Western Australia.

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Figures

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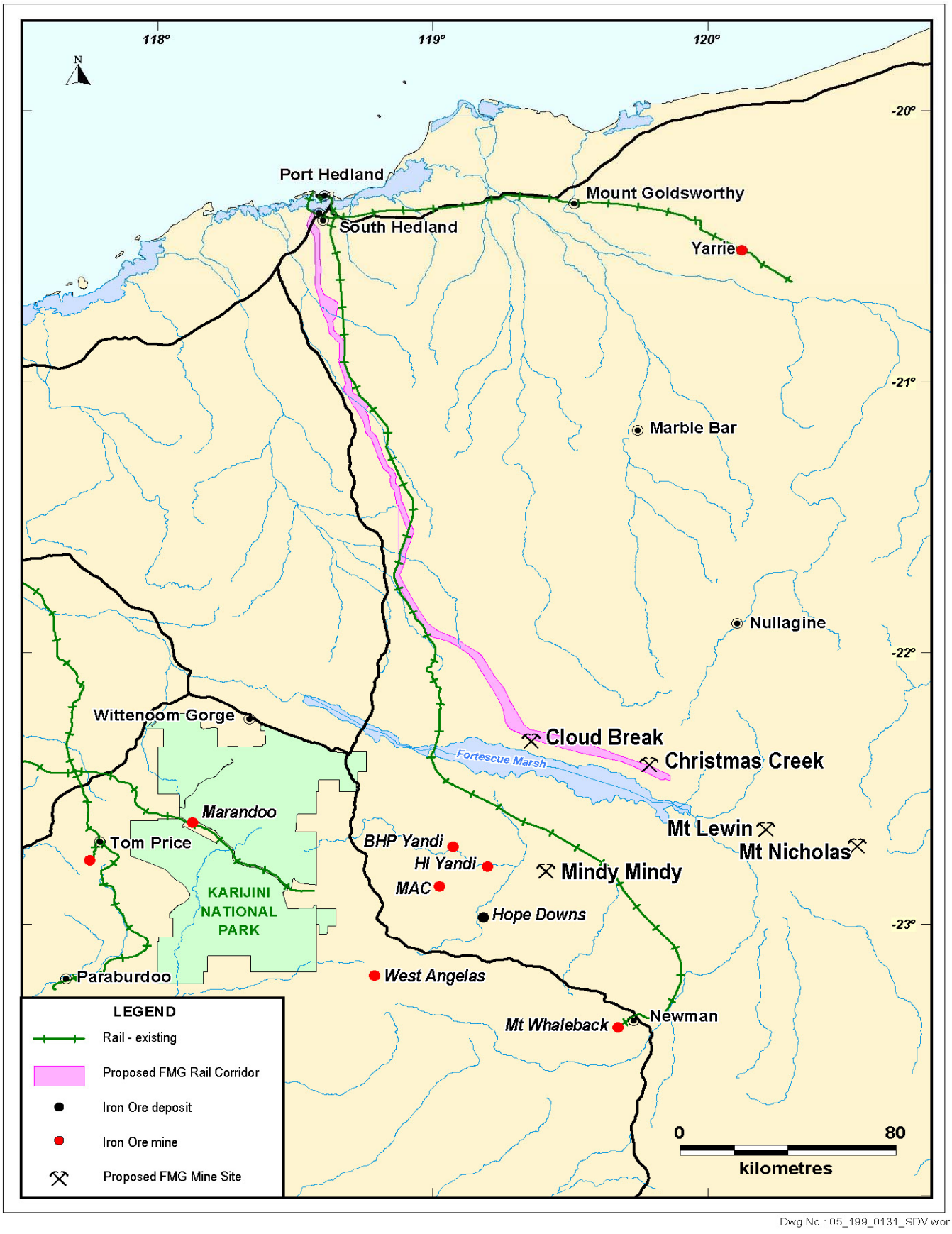

Figure 1: General Location of Fortescue Operations.

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Appendix A

Controlled Waste Categories and Descriptions

Source: *Guideline for Controlled Waste Generators* (DEC 2004)

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Appendix A – Controlled Waste Categories and Descriptions

Category Group No.	Category Group Name	Category No.	Description
1	Biological Wastes	1.01	Animal wastes - smallgoods; tallow; and animals slaughtered for quarantine purposes.
		1.02	Septage wastes - wastes from apparatus for the treatment of sewage
		1.03	Grease wastes - wastes resulting from food preparation processes
		1.04	Vegetable oils and derivatives and other wastes (excluding wastes referred to in categories 1.01, 1.02 and 1.03)
		1.05	Sewage waste from the reticulated sewage system (ie Water Corporation)
2	Solid/Sludge Waste Requiring Special Handling	2.02	Contaminated soils (Class IV or V))
		2.03	Fly ash
		2.04	Filter cake
		2.05	Containers or drums contaminated with residues of a controlled waste
		2.06	Encapsulated, chemically-fixed, solidified or polymerised wastes
		2.07	Waste of an explosive nature not subject to other legislation
		2.08	Industrial waste treatment plant sludge's and residues
3	Clinical and Pharmaceutical Wastes	3.01	Clinical and related wastes (biomedical)
		3.02	Pathogenic substances
		3.03	Cytotoxic substances
		3.04	Waste from the production or use of pharmaceutical products
4	Pesticide Wastes	4.01	Concentrates
		4.02	Solutions
		4.03	Organochlorine pesticides
5	Paints and Resins	5.01	Wastes from the production formulation or use of inks, dyes, resins, adhesives, glues, latex or plasticisers
		5.02	Oil based paints (all options)
		5.03	Water based and acrylic paints (all options)
6	Oils and Emulsions	6.01	Oil interceptor waste
		6.02	Oil/water mixtures
		6.03	Oil sludge's i.e. plate separators
		6.04	Waste mineral oils unfit for their originally intended use

Appendix A - Continued

Category Group No.	Category Group Name	Category No.	Description	
7	Solvents	7.01	Halogenated aliphatics	See Appendix B – *Classification of Category 7 Solvents*
		7.02	Non-halogenated aliphatics	
		7.03	Halogenated aromatics	
		7.04	Non-halogenated aromatics	
8	Other Organic Chemicals	8.01	Engine Coolants	
		8.02	Ethers	
		8.03	Highly odorous organic chemicals (including mercaptans and acrylates)	
		8.04	Isocyanate compounds	
		8.05	Organohalogen compounds other than substances referred to elsewhere in this schedule	
		8.06	PBB's (polybrominated biphenyls)	
		8.07	PCB's (polychlorinated biphenyls)	
		8.08	PCN's (polychlorinated napthalenes)	
		8.09	PCT's (polychlorinated terphenyls)	
		8.10	Phenols and phenol compounds including chlorophenols	
		8.11	Phosphorous compounds	
		8.12	Surface acting agent (Surfactant) - Detergents	
		8.13	Surface acting agent (Surfactant) – Wetting Agents	
		8.14	Surface acting agent (Surfactant) - Emulsifiers	
9	Acids	9		
10	Alkalis	10		
11	Chromium	11		
12	Cyanide	12.01	Inorganic cyanide	
		12.02	Organic cyanide	
13	Inorganic chemicals other than inorganic chemicals referred to in Category Groups 9 - 12	13.01	Antimony or Antimony compounds	
		13.02	Arsenic or Arsenic compounds	
		13.03	Barium compounds (excluding barium sulphate)	
		13.04	Beryllium; beryllium compounds	
		13.05	Boron	
		13.06	Cadmium or cadmium compounds	
		13.07	Chlorates	
		13.08	Cobalt compounds	
		13.09	Copper compounds	
		13.10	Fluorine compounds (excluding calcium fluoride)	
		13.11	Lead; lead compounds	
		13.12	Mercury	
		13.13	Metal Carbonyls	
		13.14	Nickel compounds	
		13.15	Non toxic salts	
		13.16	Perchlorates	
		13.17	Phosphorous compounds	

Appendix A - Continued

Category Group No.	Category Group Name	Category No.	Description
13	Inorganic chemicals other than inorganic chemicals referred to in Category Groups 9 - 12	13.18	Photographic waste
		13.19	Selenium; selenium compounds
		13.20	Sulphides
		13.21	Tellurium
		13.22	Thallium
		13.23	Vanadium compounds
		13.24	Zinc compounds
14	Low strength waste water	14.01	Industrial wash waters
		14.02	Storm water
		14.03	Pond water
		14.04	Fire debris and wash water (may vary)
15	Miscellaneous	15.01	Residues from industrial waste treatment or disposal operations
		15.02	Waste from the manufacture, formulation and use of wood-preserving chemicals
		15.03	Waste chemical substances arising from research and development or teaching activities including those which are not identified or new, or the effects on environment or human health are not known etc.
		15.04	Waste resulting from surface treatment of metals and plastics (potentially various categories)
		15.05	Waste tarry residue arising from refining, distillation or pyrolytic treatment.
		15.06	Waste tyres

Note: Controlled Waste Categories and Descriptions are subject to change. For complete and up to date information, please contact the DEC.

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Appendix B

Landfill Classes and Waste Types

Source: *Landfill Waste Classification and Waste Definitions 1996 (As Amended)* (DEC 2005a)

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APPENDIX B

LANDFILL CLASSES AND THE WASTES THEY ACCEPT

Table 1 below, lists the types and classes of landfill and the types of wastes each class of landfill can accept.

Table 1 Landfill classes and waste types

LANDFILL CLASS	COMMON NAME	WASTE TYPES PERMITTED FOR DISPOSAL
Class I (Prescribed Premises Category 63)	Inert Landfill	• Clean Fill • Type 1 Inert Waste • Contaminated solid wastes meeting waste acceptance criteria specified for Class I landfills (possibly with specific licence conditions) • Type 2 Inert Waste (with specific licence conditions) • Type 3 Inert Waste (subject to DEP approval) • Type 1 Special Waste
Class II (Prescribed Premises Category 64 or 89)	Putrescible Landfill	• Clean Fill • Type 1 Inert Waste • Putrescible Wastes • Contaminated solid waste meeting waste acceptance criteria specified for Class II landfills (possibly with specific licence conditions) • Type 2 Inert Wastes (with specific licence conditions) • Type 1 and Type 2 Special Wastes (for registered sites as approved under the Controlled Waste Regulations)
Class III (Prescribed Premises Category 64)	Putrescible Landfill	• Clean Fill • Type 1 Inert Waste; • Putrescible Wastes; • Contaminated solid waste meeting waste acceptance criteria specified for Class II or Class III landfills (possibly with specific licence conditions) • Type 2 Inert Wastes (with specific licence conditions) • Type 1 and Type 2 Special Wastes
Class IV (Prescribed Premises Category 65)	Secure Landfill	• Clean Fill • Type 1 Inert Waste; • Contaminated solid waste meeting criteria specified for Class II, Class III or Class IV landfills (possibly with specific licence conditions) • Type 2 Inert Wastes (with specific licence conditions) • Type 1 and Type 2 Special Wastes
Class V (Prescribed Premises Category 66)	Intractable Landfill	• Intractable and other wastes in accordance with the approvals for the site.

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Appendix C

Further Green Procurement Information

Source: *The State of Green Procurement in Australia GECA (2004)*

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APPENDIX C

Further Green Procurement Information

ECO-Buy. For further information on green purchasing and products.

http://www.ecobuy.org.au/

Energy Star. The website of the Australian Energy Star program and products.

www.energystar.gov.au/

Queensland Government Depart of Public Works. Buy Green Sustainable Procurement Website provides much information on green procurement strategies.

http://www.qgm.qld.gov.au/10_sus_procure/index.htm

Sustainability Victoria. A Victorian government source of information on waste reduction and improving materials efficiency.

http://www.sustainability.vic.gov.au/

US EPA. Environmentally Preferable Purchasing (EPP) is a program run across government in the USA. The website contains useful information on green purchasing.

http://www.epa.gov/epp/

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Appendix D

Key Waste Management Measures

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APPENDIX D

Key Waste Management Measures

(* P = Procurement, R = Recycling, W = Waste Management; ** To be completed during compliance auditing and reporting)

Type*	Ref #	Management Measure	Target / Performance Indicator	Reporting / Evidence**	Status**
P	1	Product purchases shall be in alignment with the Procurement Policy detailed in the Waste Management Plan. That is, procurement preference will be given to 'green' products, where practicable, as defined by the Policy.	Preference being given to 'green' products where practicable.		
P	2	Purchasing / procurement staff and contractors shall be trained in the Procurement Policy detailed in this Waste Management Plan and made familiar with identified 'green' procurement resources, including the: • Australian Green Procurement Database (GECA 2006) • Buy Recycled Guide (WMB 2006) • Further Green Procurement Resources detailed in Appendix C of the Waste Management Plan.	All purchasing / procurement staff trained in Procurement Policy		
P	3	Establish and maintain a purchasing log of preferred products, including product alternatives.	Establishment and updating of preferred products log		
P	4	As far as practicable, minimise the use and purchase of consumable / disposable products (e.g. plastic, styrofoam, and other non-biodegradable food and drink containers)	Listing of disposable product choices minimised on preferred products log		
P	5	Wherever practicable, required consumables and other products shall be purchased in bulk to reduce the content of individual packaging waste.	Bulk product purchases maximised		

P	6	Subject preferred product choices to regular review (at least annually) to continually identify potential waste minimisation opportunities and financial benefits.	Annual review of preferred products log has been conducted		
R	7	Employees and contractor inductions to outline key aspects of the Waste Mgmt Plan, including waste definitions, recyclables, re-use and disposal.	Types of waste included in induction and training modules		
R	8	Fortescue will recycle and/or re-use viable materials where practicable, considering transport costs, sale price and indirect savings.	Costing and implementation report completed for potentially viable recyclable / re-usable materials		
R	9	Within all office, workshop and camp areas separate bins shall be made available for any viable recyclable materials, which may include: • Glass; paper; aluminium cans; scrap metal; and/or any other viable materials.	Separate receptacles are available for recyclable items and general waste		
R	10	Workshop, other applicable mine site areas and/or the central waste management facility will have designated bins or stockpiles (as appropriate) for recyclable or re-usable materials, which may include: • Oily waste; batteries; tyres; wooden pallets; vegetative waste; and/or any other viable materials.	Separate receptacles or stockpile areas are available for recyclable / re-usable items		
R	11	Signage will be provided to indicate appropriate segregation of waste into bins / receptacles.	Bins / receptacles have appropriate signage		
R	12	Ensure storage, handling, collection and/or transport of any recyclable material classified as a controlled waste (e.g. sewage, tyres, oily wastes) is in accordance with *Environmental Protection (Controlled Waste) Regulations 2004* (further see Ref # 18).	Recyclable materials classified as controlled waste to conform with targets for Ref # 18.		

R	13	Quantify the volume of all individual streams of recyclable / re-usable materials diverted from the waste stream.	Monthly volumes of all recycled / re-used materials are recorded. Volumes of materials recycled presented in Annual Environmental Report.		
R	14	Annually review recycling of all office, workshop, mine and other minesite areas.	Evidence of annual review performed.		
W	15	Designated bins for general putrescible refuse (fitted with secure lids), including food scraps, will be made available for easy access within all office, workshop and camp areas.	Separate lidded receptacles are available for general putrescible refuse		
W	16	General putrescible refuse and inert wastes (or otherwise contaminated solid wastes meeting specific waste acceptance criteria) will be disposed to an appropriate Landfill Facility, either on-site or off-site.	All landfill waste disposed to an appropriate Facility		
W	17	Record the monthly volume of all individual landfill and controlled waste streams, including: • Putrescible landfill waste • Oily waste • Tyres • Sewage • Any other individual waste stream.	Monthly volumes of all waste streams are listed.		
W	18	Handling and disposal of controlled wastes (e.g. septage wastes, oily wastes, Class IV or V contaminated soils, low strength waste waters, tyres, asbestos, pesticides, paints etc) shall be in compliance with *Environmental Protection (Controlled Waste) Regulations 2004*.	Handling and disposal of controlled wastes in compliance with the *Controlled Waste Regulations*.		

W	19	The *Chemical and Hydrocarbon Management Plan* (FMG 2006) shall be consulted (i) when handling, storing and transporting chemical and hydrocarbon wastes; and (ii) for response procedures in relation to accidents/incidents and spills involving these types of waste.	*Chemical and Hydrocarbon Management Plan (CHMP)* always consulted regarding relevant waste materials		
W	20	Works approval and registration/licence applications to construct and operate any on-site Landfill Facility will be made to the DEC.	Works approval and registration/licence applications made		
W	21	Any on-site landfill will be constructed as a registered Class II (unlined) Facility and managed in accordance with the *Environmental Protection (Rural Landfill Regulations) 2002*.	Construction and operation of on-site landfills in compliance with the *Rural Landfill Regulations.*		
W	22	The potential for land farming hydrocarbon contaminated wastes, in accordance with Section 4.3 of the *Waste Management Plan*, will be investigated.	Feasibility study complete		
W	23	Investigate the cost effectiveness of engaging a commercial waste management operator to manage waste at the site	Completed cost evaluation. Engagement of contractor if cost effective.		