Environmental Management System

Rixs Creek North – Rix's Creek Pty Ltd.

WASTE MANAGEMENT PLAN – Rixs Creek North

2016 – 2018

Doc No:	–Waste Management Plan – Rixs Creek North
Doc Owner:	Senior Environmental Officer Rix's Creek Pty Ltd

Approval:

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Date: 4/2/2016

Revision	Issue Date	Originator	Reviewed	Approved
Final for DII Review	22/2/2011	C. Davies	S Clibborn	G. MacKenzie
Draft Final V1	30/03/2011	C. Davies	Clibborn	G. MacKenzie
Draft Final V2	31/01/2012	EMM	J Trotter	K Plasto
Draft Final V7	26/03/2012	EMM	J. Sargent	K Plasto
Final	04/06/2012	EMM	J Trotter	K Plasto
Update	6/1/2016	John Hindmarsh		Garry Bailey
Update 1.1	3/2/2016	John Hindmarsh		Garry Bailey

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1. Introduction

1.1 Background

Glencore and Bloomfield's purchase of the Integra Operations Complex was completed on the 18th December 2015. Subsequent to the purchase Bloomfield have ownership of the Open Cut operations and surface infrastructure including Coal Handling and Preparation Plant (CHPP) and Train loader and HV Coking Coal Pty Limited (a subsidiary of Glencore Coal Pty Ltd) have ownership of the Underground operations.

The Integra Open Cut operation will be operated and managed by Bloomfield as Rixs Creek North, an integrated part of the existing Rixs Creek Mine.

Prior to the purchase the open cut operation was in care and maintenance with no mining operations were taking place on the site. Bloomfield has submitted, to the Department of Resources and Energy, Mining Operation Plans (MOP) that would allow for a maximum yearly production of 1 million saleable tonnes from the open cut mine operation. This production will be in the western extension to the South Pit. The North Open Cut will be utilized for temporary water storage. Production will utilise the existing Integra open cut machinery with Rixs Creek employing up to 70 additional employees to achieve these production targets. The operation will involve the utilization of CHPP and train loading facilities.

This Waste Management Plan - Rixs Creek North (WMP) forms part of a series of Environmental Management Plans for Rixs Creek North site. Current and approved operations within the Complex include the North Open Cut. South Pit and the Extended South Pit (Western Extension). Relevant infrastructure associated with the Complex includes the Coal Handling and Preparation Plant (CHPP), tailings dams and associated clean and dirty water storage facilities.

Whilst this WMP is dynamic and changes will be made as warranted over time, its formal life is three years, beginning on the date of formal acceptance of the plan by the Department of Planning and Environment (DP&E). The document will be reviewed and amended as outlined in Section 7.2.

1.2 Statutory Requirements

The following comprises a summary of statutory requirements relevant to this Waste Management Plan (MP).

1.2.1 PROJECT APPROVAL REQUIREMENTS

The Integra Mine Complex Project Approval (08-0101 and 08-0102) dated 26 November 2010, Condition No. 54 of Schedule 3, requires that a WMP be prepared. The requirements of Condition 54 that apply to this WMP and sections in which they are addressed are outlined in Appendix A.

1.2.2 OTHER STATUTORY REQUIREMENTS

Waste at the Complex has to be managed in compliance with the *Protection of the Environment Operations* (POEO) *Act 1997*, the *Protection of the Environment Operations (Waste) Regulation 2005*, the *Waste Avoidance and Resource Recovery Act 2000*, the *Mining Act 1992* and the *Coal Mine Health and Safety* (CMH&S) *Act 2002.*

The emplacement of mine waste rock is regulated by the Department of Resources and Energy (DRE) under the Mining Act and the CMH&S Act.

Mining Operations Plans (MOPs), required by mining lease conditions, have been approved by DRE for Open Cut operations including the associated infrastructure and areas of disturbance. Tailings management is specified under s100 of the CMH&S Act and Integra Coal Operations has approval for current tailings emplacements TD1, TD2 and TD3 including the augmentation of TD1 and TD2 into a larger facility. Additional s100 approvals will be submitted to meet future tailings management storage requirements, as necessary.

1.3 Commitments Made in Environmental Assessments

Project Approval was based, amongst other things, on the government's consideration of the two environmental assessments which accompanied the application for the project, Integra Open Cut Project (June 2009). The Statements of Commitments in both these assessments make certain commitments in respect of waste management at the Complex. Appendix A sets out the relevant commitments and where they are addressed in the WMP.

1.4 Relationship with Other Environmental Documentation

The relationships between this WMP and other environmental documentation held by RCN are shown conceptually in Figure 1-1.

Figure 1-1 Waste MP's Connections to Other Environmental Documents

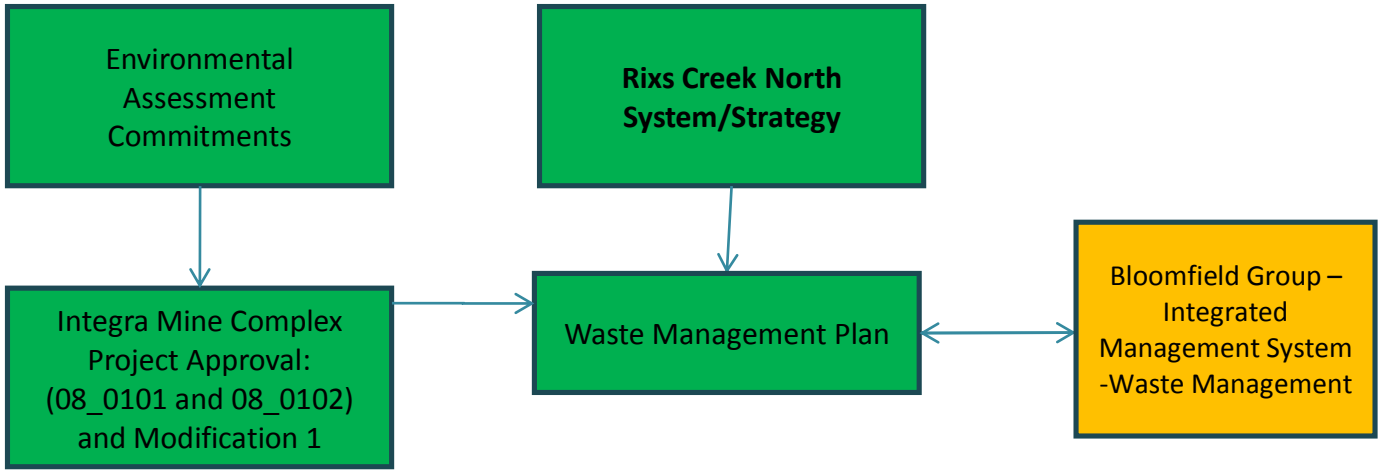

Figure 1.1
Waste MP'S CONNECTIONS TO OTHER ENVIRONMENTAL DOCUMENTS

1.5 Plan Objectives and Performance Indicators

The objectives of the WMP and the associated performance indicators are set out in Table 1-1.

Table 1-1 Objectives and Performance Indicators

Objectives	Performance Indicators
Comply with legislative requirements	• waste generated at Rixs Creek North is kept to a minimum. • waste is stored, handled, and disposed of appropriately. • no infringements of waste legislation occurs.
Have procedures in place to manage waste and improve recycling and reuse within the Complex	• unnecessary resource consumption is avoided; reuse, reprocessing, recycling and energy recovery are undertaken wherever possible. • mine water is reused for dust suppression. • all waste oils are pumped into on site storage tanks for subsequent transfer to a registered waste processing company. • old batteries are stored in a designated bin prior to collection by a licensed contractor. • all scrap steel is stored in dedicated skips and sold to scrap steel merchants for recycling. • bulk chemical containers are returned to suppliers for reuse as part of the supply arrangement. • pallets are collected by a recycling contractor. • colour-coded recycling containers are placed in identified areas for collection of cardboard and paper products and collected regularly by licensed contractors/recyclers. • sewage waste from the site offices, administration building, maintenance areas and bath houses is treated using an aerated wastewater treatment system. Treated water is irrigated onto adjacent land. • sludge from the aerated wastewater systems is pumped out as required by contractors and disposed of to a licensed facility. • old paints/preservatives, disused chemicals, solvents and coolants are stored in allocated areas prior to being removed by a licensed hazardous waste contractor. • liquid waste from parts washers is stored in 200L containers for removal by licensed waste contractors. • waste oil filters are taken to a recycling facility by a registered waste disposal contractor. • materials containing liquids are removed by a licensed waste contractor for recycling and disposal at a licensed waste management facility. • domestic wastes and maintenance consumables are separated and collected by waste contractors.

2. Existing and Planned Operations

2.1 Rixs Creek North

The Rixs Creek North comprises the following major areas and infrastructure:

- North Open Cut (NOC), which is the most northern open cut mining area, located between the site tailings dams and a major minewater storage dam known as Possum Skin Dam;
- South Pit, which forms a significant part of the overburden emplacement area for the Extended South Pit (Western Extension);
- Extended South Pit (Western Extension) will be the primary area of open cut mining activities and will operate 24 hours a day;
- the CHPP that receives, stockpiles and washes coal from both the underground and open cut operations and loads product coal via the rail load out facility into trains for transport to the port of Newcastle;
- tailings dams; and
- open cut related facilities, which includes administration areas, workshop and hydrocarbon storage areas.

Waste is generated from all of the major mining areas and infrastructure of Rixs Creek North. However, mined waste rock and waste from the CHPP represent the greatest volumes of waste generated at the Complex. RCN has an agreement with HV Coking Coal P/L to process, stockpile and load onto rail coal from the underground when underground operation commences again.

Figure 2-1 shows the layout of the Complex.

2.2 Waste Rock and CHPP Rejects

2.2.1 OVERVIEW

Coal mining at the open cut operations involves the removal of waste materials including overburden and interburden rock to obtain Run of Mine (ROM) coal, with additional wastes being generated in the ROM coal beneficiation process at the CHPP. The waste materials include the overburden and interburden waste rock from the open cut, typically collectively called overburden, crushed reject rock from the underground and reject from the CHPP. These materials are used in landform development or for road construction. The final landform is constructed in accordance with the approved Mining Operations Plan and as described in the Environmental Assessment. Fine reject (tailings) from the CHPP is stored in approved on-site tailings management facilities.

When HV Coking Coal P/L commence underground operations ROM coal will be processed though the CHPP generating reject material which will be disposed of in the same way as open cut reject materials.

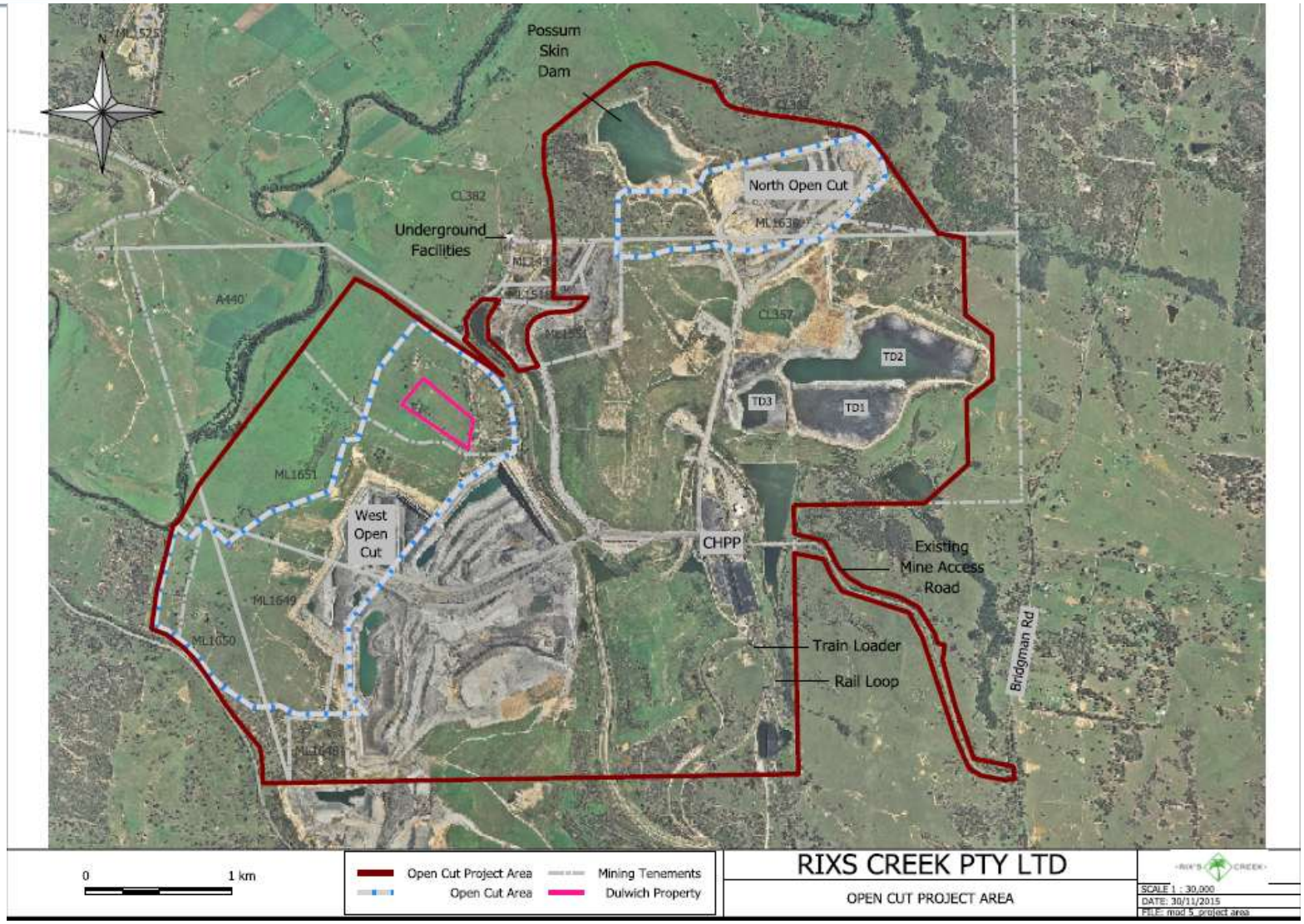

Figure 2-1 Layout of Complex

2.2.2 OVERBURDEN EMPLACEMENT

Forecast annual overburden from open cut operations is provided in Table 2-1.

Table 2-1 Rixs Creek North Overburden Production (bcm)

Year	Overburden (bcm)
2016	8,101,037
2017	8,090,412
2018	8,074,264
2019	8,009,273
2020	7,348,377
2021	8,610,834
2022	8,283,404
Total	**56,517,601**

* bcm stands for bank cubic metres. One bcm equates to a cubic metre of in-situ rock.

The total open cut overburden waste volume over the period 2016 to 2022 has been estimated at approximately 56.5 Mbcm. Sufficient area is available to emplace this overburden within the approved area of the mine in accordance with the Project Approval and Mining Operations Plan.

2.2.3 CHPP COARSE REJECT AND TAILINGS EMPLACEMENT

The Mining Operations Plan (MOP) (AECOM 2015) provides the following information regarding the total volume of coarse and fine wastes (tailings) from the CHPP.

Table 2-2 Rixs Creek North Reject Materials Generation (tonnes)

Year	Coarse & fine Rejects (tailings) (tonnes)
2016	1,061,862
2017	976,605
2018	968,894
2019	1,008,480
2020	1,080,419
2021	1,3,303,057
2022	1,176,213
Total	**6,272,473**

The production of coarse and fine reject (tailings) from the CHPP over the period from 2016-2022 is estimated from the MOP to be 6.27t.

The underground mine is currently in care and maintenance and is planned to stay in care and maintenance for the foreseeable future.

The associated tailings dams meet the requirements of the NSW Dams Safety Committee (DSC). The tailings management facilities are included in the site's rehabilitation plans and will be rehabilitated to form part of the final site landform.

To date, tailings from the CHPP have been pumped to the approved tailings management facilities named TD1, TD2 and TD3. TD1 and TD2 are currently in use. The locations of the tailings dams are shown in Figure 2-2.

2.2.4 FUTURE TAILINGS STORAGE REQUIREMENTS

Mining operations after 2022 will require additional tailings facilities which will be available in mined areas of the South Open Cut. Further s100 tailings emplacement approvals will be obtained before these areas are utilised.

Figure 2-2 Location of Tailings Dams

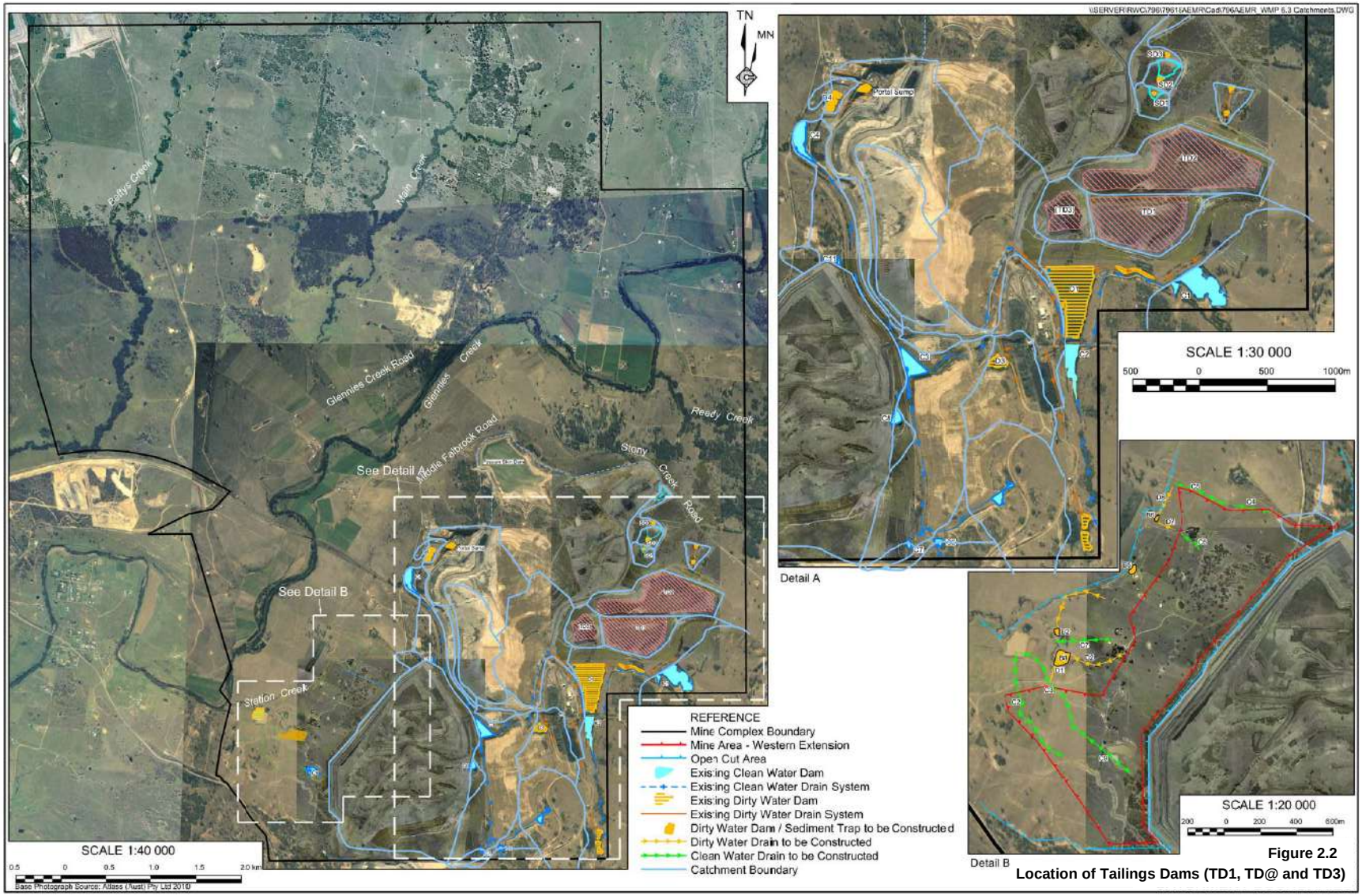

Figure 2.2
Location of Tailings Dams (TD1, TD@ and TD3)

2.3 Other Waste Streams

Tonnages (to the nearest tonne) of waste reported in the 2015 Annual Report period are provided in Tables 2.2. These figures are for the period the operation was in care & maintenance so will increase when the site returns to an operational status during 2016.

All waste is reused or recycled on site (except large vehicle tyres) or collected by a registered waste disposal contractor and disposed of at a licensed waste facility. Large vehicle tyres are disposed of in the pit as specified under Schedule 1 of the POEO Act.

Table 2-3 2015 Waste Streams and Tonnages

Hazardous Waste	**Tonnes**
Hazardous mud, dross and dusts from treatment systems	0
Used oils and greases	9.3
Batteries	0
Waste containing heavy metals	0
Waste of asbestos	0
Waste of health services	0
Waste and materials contaminated with oils and greases	0.7
Waste coolant	1.2
Paints, varnishes, solvents and chemicals	0
TOTAL (Hazardous Waste Created)	**11.2**
Non-hazardous Waste	**Tonnes**
Sand, crushed, rubble	0
Rubbers and tyres	0
Wood	0
Metallics	25.7
Paper and cardboard	0.6
Plastics	0
Non-hazardous mud and dusts from treatment systems	0
Domestic wastes	0
Mixed waste	17
Fabrics, tarpaulins and polymers	0
Glass	0
Stockyard and refractory waste	0
TOTAL (Non-hazardous Waste Created)	**43.3**
TOTAL CONSOLIDATED WASTE	**54.5**

3. Roles and Responsibilities

The roles and responsibilities of staff at the Complex in respect of this WMP are presented in Table 3-1.

Table 3-1 Roles and Responsibilities

Role	Responsibilities
Mine Manager	• Ensure adequate resources are available to enable implementation of this WMP
Manager of Mining Engineering	• Accountable for the overall environmental performance of the Integra Coal Operations, including the outcomes of this WMP.
Opencut Examiners	• Accountable for ensuring all employees in the respective areas are committed to, and implement the requirements of, waste management at the Complex as defined in this WMP.
Purchasing Officer / Storeman	• Responsible for ensuring supplier contracts include, prior to the purchase of products, the return of packaging, surplus quantities and damaged or empty items to the supplier. • Responsible for obtaining and maintaining in the Environmental Management System all records, receipts and dockets of hazardous waste materials removed from site. This includes maintaining waste data forms for a minimum of 4 years.
Environmental Officer	• Ensure a total waste management system and waste management contract is in place and is operating effectively. • Responsible for providing consultative advice and facilitating training where required for waste management requirements at the Complex. • Responsible for ensuring the removal of hazardous materials is undertaken by licensed waste contractors and that materials are taken to licensed landfills or licensed treatment plants. Ensure waste management training is included in the induction and waste management signage is displayed around the Complex.
All personnel	• Responsible for avoiding unnecessary waste generation, seeking to recycle/reuse materials where practical and disposing of waste generated in a manner consistent with procedures.

4. Monitoring

4.1.1 MONITORING OF WASTE ROCK AND CHPP REJECTS

Waste rock and CHPP rejects for on-site emplacement are monitored by several processes including:

- Survey reconciliation;
- production records – tracks loads of material throughout the mine; and
- Reconciliation with CHPP processes.

Volumes are assessed against predicted volumes and plans are regularly monitored and evaluated to track performance.

Waste rock and rejects amounts and movements are monitored and recorded in the CHPP Reporting System.

4.1.2 MONITORING OF OTHER WASTES

Monitoring of all other waste on site is undertaken monthly using invoices provided by the waste contractor. This information will be reviewed annually and reported in the Annual Review report.

Tracking of Hazardous Wastes

The Complex generates some wastes which are classified as hazardous under the Office of Environment and Heritage's (OEH) waste classification system. These wastes comprise:

- hazardous mud, dross and dusts from treatment systems
- used oils and greases
- batteries
- waste containing heavy metals
- asbestos
- waste from health services
- waste and materials contaminated with oils and greases
- paints, varnishes, solvents and chemicals

These wastes must be tracked when transported into, within or out of NSW. The waste consignor, transporter and receiving facility all have obligations to ensure that the waste is tracked, transported and dealt with in accordance with the *Protection the Environment Operations Act, 1997*.

The volumes of hazardous wastes generated at the Complex and disposed of are monitored and collated monthly.

5. Management Measures

5.1 Waste rock and CHPP wastes management

In other environmental management plans prepared for the site, management measures have been categorised as either “preventative” i.e. those measures which aim to prevent environmental incidents in the first place, or “corrective”, i.e. those measures which aim to minimise environmental damage in the event of a trigger or incident occurring.

Waste rock and CHPP wastes are used to fill the voids created by mining and to shape and form the land disturbed by mining as part of the mine rehabilitation process. Rehabilitation is a “corrective” environmental measure by its very nature. Its purpose is to restore the land disturbed by mining so that the rehabilitated areas are safe, stable, non-polluting and sustainable. It also has a preventative aspect in that rehabilitation, properly done, will prevent environmental damage into the future.

Rather than attempting to categorise management measures for waste rock and CHPP wastes as either preventative or corrective, they are treated here as just management measures.

The state government intends Mining Operation Plans (MOPs) to be the primary instruments for ensuring mine rehabilitation is carried out in a well-planned and environmentally responsible manner.

The Rixs Creek North MOP replaces the Rehabilitation Management Plan for the site.

5.2 Preventative Measures - Other Wastes

The measures, responsibility and timing for managing other waste streams, are provided in Table 5-1. The measures aim to prevent any uncontrolled releases of waste material into the environment and provide measurable monthly outcomes to enable waste management improvement on site.

Table 5-1 Management Measures for Non-rock/CHPP Wastes

Waste	Measure	Responsibility	Timing
Waste Oil/Oily Water	Waste oils are to be either collected or pumped into onsite storage tanks for subsequent transfer by a registered waste disposal contractor. There are two waste oil tanks at the open cut. The first is an underground tank located at the northern end of the workshop which is to be used to store waste oil from equipment maintenance. The second is located adjacent to the wash down bay oil water separator and is to be used to store waste oils, oily water and diesel from the wash down bay and fuel farm area.	Waste Contractor supervised by Environmental Officer	Ongoing
	The waste management contractor is to monitor the levels of all onsite waste oil storage tanks and schedules servicing as required. The waste oil is to be removed from the site and recycled by an OEH licensed waste facility.	Waste Contractor supervised by Environmental Officer	Monthly, or as required
Used Batteries	Large vehicle batteries are to be stored on bunded pallets adjacent to the maintenance facility at the open cut. Small office equipment batteries are to be stored in labelled disposable battery containers.	Waste Contractor supervised by Environmental officer	As required
	The waste management contractor is to correctly package the batteries and to transport them off site for recycling at a waste facility appropriately licensed by OEH.	Waste Contractor supervised by Environmental Officer	Ongoing
Ferrous and Non Ferrous Metals	Scrap ferrous and non-ferrous metals are to be placed into waste metal bins, colour-coded light blue.	Waste Contractor supervised by Environmental Officer	As required
	The waste is to be sold to OEH licensed metal recyclers.	Waste Contractor supervised by Environmental Officer	As required
Comingled Recyclables	Skips and 240L bins are to be provided for the collection of mixed recyclables. Suitable products, such as polyethylene terephthalate (PET) and high density polyethylene (HDPE) plastic containers,	Waste Contractor supervised by Environmental Officer	3m3, $10m^3$ and 240L bins – weekly

Waste	Measure	Responsibility	Timing
	glass bottles and jars, aluminium and steel cans are to be placed directly into the containers for recycling.		
Paper and Cardboard	Recycling containers are to be provided and labeled for the collection of paper and cardboard. Smaller collection containers are to be provided in office areas near workstations, printing and photocopy machines for the collection and transfer of paper materials to the larger lilac bins.	Waste Contractor supervised by Environmental Officer	Ongoing
	Collected paper and cardboard is to be sent to a recycling facility	Waste Contractor supervised by Environmental Officer	$3m^3$, $10m^3$ and 240L bins – weekly
Solvents	Liquid solvent waste from equipment parts washers is to be contained within the parts washing units prior to removal by licensed waste contractors.	Waste Contractor supervised by Environmental Officer	Six weekly
	Waste tracking is to be conducted in accordance with OEH requirements.	Waste Contractor supervised by Environmental Officer	Ongoing
General waste and Solid Putrescible Waste	General and putrescible waste is to be disposed of in green colour coded bins and collected weekly by a registered waste disposal company.	Waste Contractor supervised by Environmental Officer	$3m^3$,$10m^3$ bin and 240L bins – weekly
Used Tyres	Where possible, the contract for the supply of tyres is to include the return of used or old tyres to the supplier. Where this is not possible, light vehicle tyres are to be collected and removed by a tyre service centre for recycling.	Waste Contractor supervised by Environmental Officer	Ongoing
	Large equipment tyres, where they have been used on site, may be buried in the open cut. The number and location of the buried tyres is to be recorded. Tyres may also be temporarily used onsite for traffic control or as dividers between park up bays.	Operations supervised by Environmental Officer	Ongoing

Waste	Measure	Responsibility	Timing
Waste Oil Filters/ Oily Rags/ Oily Waste	Waste oil filters are to be stored in designated bins.	Waste Contractor supervised by Environmental Officer	Ongoing
	Waste is to be removed and disposed of by an approved waste disposal company.	Waste Contractor supervised by Environmental Officer	Six weekly
	Waste oily rags are to be stored in designated bins and are to be collected by an approved waste disposal company.	Waste Contractor supervised by Environmental Officer	Six weekly
	Materials containing oily liquids are to be drained, with the liquid residues going to oily water waste and the containers going to metal recycling. If the oily water residues cannot be separated then the residues will be treated as oily waste and transported to a licensed waste facility.	Waste Contractor supervised by Environmental Officer	Ongoing
Printer Toner Cartridges	Used printer toner cartridges are to be disposed of in cardboard bins located next to the printers at the administration and workshop offices.	Waste Contractor supervised by Environmental Officer	Ongoing
	When bins are sufficiently full, the cartridges are to be recycled by an approved waste disposal company.	Waste Contractor supervised by Environmental Officer	As required
Clinical and Medical Waste	Medical, clinical and sharps wastes are to be collected monthly on an exchange basis and processed through a licensed waste disposal facility.	Waste Contractor supervised by Environmental Officer	Monthly
Chemical Waste/Paints/Preservatives	240 litre bins are to be located at the generation points for the containment of these regulated wastes or a bunded area is to be provided for the storage of waste drums of these materials.	Waste Contractor supervised by Environmental Officer	Ongoing

Waste	Measure	Responsibility	Timing
	The wastes are to be transported and disposed of in accordance with the relevant OEH guidelines and at a licensed waste facility.	Waste Contractor supervised by Environmental Officer	Six weekly
Regulated Group A Waste	This waste stream includes waste grease, contaminated grease and end of life grease (blackjack). 205 litre drums are to be provided at various locations around the workshop for the disposal of this waste.	Waste Contractor supervised by Environmental Officer	Ongoing
	This material will be removed by an OEH licensed contractor(s) for recycling or licensed disposal.	Waste Contractor supervised by Environmental Officer	Six weekly
Contaminated Soil	Small volumes of contaminated soil can be placed in 240L spill kit bins. These are provided in appropriate locations.	Waste Contractor supervised by Environmental Officer	Ongoing
	The wastes generated from a spill are either to be transported and disposed of at a licensed waste facility or remediated on site for hydrocarbon contaminated soil.	Waste Contractor supervised by Environmental Officer	As required
Wood Pallets	Wood pallets are to be collected and stored at the open cut maintenance facility for collection and recycling.	Waste Contractor supervised by Environmental Officer	As required (generally when 100 are available)
Bulk Chemical Containers	Bulk chemical containers (pallecons) are to be collected and returned to the suppliers under a supply agreement. They are to be temporarily stored in designated areas open cut maintenance and CHPP facility.	Waste Contractor supervised by Environmental Officer	Ongoing
Coolants	Coolants are to be collected and stored in coolant recovery tanks at the open cut and underground maintenance areas.	Waste Contractor supervised by Environmental Officer	Ongoing

Waste	Measure	Responsibility	Timing
	The material is to be sent to a licensed coolant recycling facility.	Waste Contractor supervised by Environmental Officer	As required
Mine Water	The underground and open cut are dewatered in accordance with NSW Office of Water licensing and agreement between HV Coking Coal P/L and Bloomfield	Operations supervised by Environmental Officer	Ongoing
	The water is reused around the site for dust suppression and for coal processing in the CHPP. Mine water is not to be discharged off site.	Operations supervised by Environmental Officer	Ongoing
Sewerage	The open cut and underground facilities both operate sewerage systems approved by Singleton Council.	Environmental Officer	Ongoing
	The open cut operations have a collection and pumping system which transfers sewage and wastewater to a primary aeration pond and settlement system followed by a secondary maturation pond with irrigation of treated effluent onto the mine rehabilitation adjacent to the CHPP raw coal stockpile. The water is then utilised for irrigation on adjacent land.	Operations supervised by Environmental Officer	Ongoing
	Sludge from the effluent treatment systems is to be pumped out as required and disposed of at a licensed treatment facility.	Operations supervised by Environmental Officer	As required
	Temporary (pump out) toilet facilities are to be provided adjacent to crib huts and temporary maintenance areas. These facilities are to be serviced by a licensed waste contractor, with waste tracking done in accordance with OEH requirements.	Waste Contractor supervised by Environmental Officer	As required

5.3 Corrective Measures

Corrective measures are undertaken when waste management activities are not in compliance with actions nominated within this WMP. For example, the sewerage treatment system is subjected to routine inspection/servicing and if an operational deficiency is detected, appropriate repairs are undertaken. Also, where waste collection practices are observed to be not functioning as intended, system stakeholders will be engaged by the Environmental Officer in order to correct non-conforming activities.

All incidents are investigated and recorded as pre the *Incident Investigation Procedures.* The procedure ensures compliance with site licenses and approvals by provision of triggers, timings and criteria linked to specific responsibilities and actions.

5.4 Training

All personnel undergo waste management awareness training by completing the waste management component of the competency based site induction program. The following areas are covered in the induction:

- Importance of reducing and recycling waste; and
- Minimum requirements for avoiding/ minimising, recycling/ reusing and disposing of waste from the site appropriately.

The Environmental Officer will be responsible for ensuring the appropriate waste management training is included in the induction.

6. Complaints Handling

Any complaint received relating to waste will be managed in accordance with the Environmental Management Strategy. As a minimum, records of the complaint will include:

- Date and time the complaint was logged;
- Personal details provided by the complainant;
- Nature of the complaint;
- Action taken regarding the complaint, or if no action was taken, the reason why; and
- Follow up contact with the complainant.

7. Reporting and Review

7.1 Reporting

Waste monitoring results and interpretations will be reviewed annually and reported in the Annual Review Report.The information reported will include volumes of wastes generated. Initiatives will be presented for implementation in the following year to improve waste management at the site.

The report will provide a summary of waste related complaints, incidents and non-compliances and the responses to these.

The Environmental Officer will be responsible for the above reporting and the implementation of initiatives set out in the AEMR.

7.2 Plan Reviews

The review of this document will be in line with the Environmental Management Strategy for the site. That is, reviews will be conducted every three years, after independent environmental audits, and as required by relevant consent conditions. The purpose of the review is to ensure that the Waste MP remains suitable, adequate and effective.

The monitoring data will be reviewed as it is collected, as well as at strategic milestones in the mine life, including AEMR reporting periods.

The Waste MP will be modified as required to reflect changes to the mine plans, monitoring results or in response to valid stakeholder comments.

Any significant modifications will be made only after consultation with relevant government agencies.

8. References

Aurecon *Tailings Dam TD1/TD2 augmentation S100 application* 2011

Coal Mine Health and Safety (CMH&S) *Act 2002.*

Connell Wagner *Concept Design Report for Tailings Dams TD1 & TD2 Augmentation* 2008

DECCW (now OEH) *Waste Classification Guidelines. New South Wales* 2005

Environmental Protection Authority *Draft Environmental Guidelines for Industry – The Utilisation of Treated Effluent by Irrigation, New South Wales* 1995

Mining Act1992

OEH website http://www.environment.nsw.gov.au

Protection of the Environment Operations Act 1997

Protection of the Environment Operations (Waste) Regulation 2005

URS *Environmental Assessment, Integra Open Cut Project* 2009

Waste Avoidance and Resource Recovery Act 2000

Rixs Creek North Mining Operations Plan (AECOM 2015)

9. Glossary

Coarse reject – Coarse waste material (nominally 0.5 - 50mm) obtained from the coal separation process at the Coal Handling and Preparation Plant representing approximately 30-33% of feed material.

Hazardous Waste - Waste that has properties that are potentially harmful to people or the environment. e.g. acids, solvents, strong alkalis and other chemicals, material contaminated with hazardous materials, and clinical wastes.

Interburden – Waste rock that is deposited between the coal seams.

Overburden – Waste rock lying above the first coal seam.

Putrescible waste - Waste being; food, animal matter, unstable or untreated bio-solids. This waste is able to be readily decomposed by microbial action.

Recyclable Waste - Material that can be used as a raw material in the production of other materials or in another process. e.g. scrap metals, paper and cardboard, some plastics and woodchip.

Reusable Waste - Material that can be reused in its present form. e.g. pallets, timber, conveyor belting, metals, air filters and office toner cartridges.

Tailings – Fine waste materials (nominally <0.5 mm) derived from the coal separation process at the Coal Handling and Preparation Plant, representing approximately 9% of the feed material.

Waste -Any material whether solid, liquid or gas resulting from an activity, operation or process for which the mine has no further use.

Appendix A
Approval Conditions and EA Commitments – Where They Are Addressed in the WMP

Table A1 Approval Conditions and EA Commitments – Where They Are Addressed in the Waste MP

Approval Condition	Waste MP Reference
53. The Proponent shall: (a) Minimise the waste generated by the projects; and (b) ensure that the waste generated by the projects is appropriately stored, handled and disposed of to the satisfaction of the Director-General.	This Plan (when endorsed by DP&E) and its implementation Table 1-1
54. The proponent shall prepare and implement a Waste Management Plan for the projects to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with DRE NSW, and submitted the Director General for approval by the end of March 2011; (b) Identify the various waste streams of the projects; (c) estimate the volumes of tailings and reject material that would be generated by the projects (d) describe and justify the proposed strategy for disposing of this waste material; (e) describe what measures would be implemented to meet the requirements set out above; and (f) include a program to monitor the effectiveness of these measures.	This Plan (when endorsed by DP&E) and its implementation Table 1-1 Table 2.1 & Table 2.2 Section 5 Section 5 Section 4
EA Commitment	**Waste MP Reference**
Waste - Avoidance of unnecessary resource consumption; reuse, reprocessing, recycling and energy recovery wherever possible and , where this is not possible, disposal of wastes in an environmentally responsible manner	Table 5.1
Reuse of mine water for dust suppression at the Integra Underground and Open Cut, in the CHPP and at neighbouring mines.	Table 5.1
All waste oils will be pumped into on site storage tanks for subsequent transfer to a registered waste disposal company	Table 5.1
Old batteries will be stored in a designated bin prior to collection by a licensed contractor.	Table 5.1
All scrap steel will be stored in dedicated skips and sold to scrap steel merchants for recycling.	Table 5.1
Bulk chemical containers will be returned to suppliers for reuse as part of the supply agreement.	Table 5.1
Pallets will be collected by a recycling contractor.	Table 5.1

Colour-coded recycling containers will be placed in identified areas for collection of cardboard and paper products and collected regularly by licensed contractors / recyclers.	Table 5.1
Sewerage waste from site offices, administration building, maintenance areas and bath houses will be treated using an aerated wastewater treatment system before being discharged to an anaerobic and aerobic dam system. The water will then be irrigated onto adjacent land.	Table 5.1
Sludge from the aerated wastewater systems will be pumped out as required by contractors and disposed of to a licensed facility.	Table 5.1
Old paints /preservatives, disused chemicals, solvents and coolants will be stored in allocated areas prior to being removed by a licensed hazardous water contractor.	Table 5.1
Liquid waste from parts washers will be stored in 200L containers for removal by licensed waste contractors.	Table 5.1
Waste oil filters will be taken to a recycling facility by a registered waste disposal contractor.	Table 5.1
Materials containing liquids will be removed by a licensed contractor for recycling or disposal at a licensed waste management facility.	Table 5.1
Domestic wastes and maintenance consumables will be separated and collected by waste contractors.	Table 5.1

Appendix B – DPE Letter of Approval of Waste Management Plan

NSW GOVERNMENT | Planning & Environment

John Hindmarsh
Environment and Community Manager
Rix's Creek Colliery
PO Box 4
East Maitland NSW 2323

Contact: Chris Knight
Phone: (02) 6575 3404
Fax: (02) 6575 3415
Email: christopher.knight@planning.nsw.gov.au
Our ref: PA 08_0102.

Dear John,

Rix's Creek North- Approval of Management Plans.

Thank you for forwarding the required Rix's Creek Management Plans to the Department of Planning & Environment (the Department or DP&E).

The Department has reviewed the following list of plans and is satisfied that they generally address the requirements set out in the relevant conditions of the Project Approval.

- Blast Management Plan
- Air Quality and Greenhouse Gas Management Plan
- Noise Management Plan
- Historic Management Plan
- Water Management Plan
- Waste Management Plan

Consequently, I would like to advise you that the Secretary has approved the above listed plans.

The above listed plans come into force on the 19th February 2016 and remain in force until replaced by any future updated approved plans and associated procedures.

Could you please place a copy of the approved management plans on your website and forward a finalised copy of the above plans (preferably in PDF format with a copy of this approval letter appended to each plan) for the Department's records by the 26th February 2016.

Should you have any queries on this matter, please do not hesitate to contact Chris Knight, Senior Compliance Officer, on (02) 6570 3404 or email. christopher.knight@planning.nsw.gov.au

Yours sincerely,

W Jones 16/2/16

Wayne Jones
A / Investigations (lead) Compliance Northern Region
as the Secretary's Nominee