

# PRIMARY GOLD

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## Mining Management Plan

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Toms Gully Project Area  
Part B. Mining Operations  
Plan (Confidential)  
2013 - 2014

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Resumption of Mining  
Authorisation 0740 01

Submission: November 2013

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Y/N	Page	PART B – Mining Operations Plan	COMMENT
Y	1	Have Operator details been included?	
Y	1	Is the company structure described?	
Y	2	Are title holder details included, if different to operator details?	
Y	3	Is there a project summary and description of improvements/amendments	
NA	-	Have all DoR comments for improvement and audit outcomes been addressed and mapped?	
Y	4	Have all statutory and non-statutory obligations been identified and included?	
Y	6	Have Aboriginal and heritage sites been identified?	
Y	8	<p>Have all operational activities for the site been addressed in the MMP?</p> <p>Mining</p> <p>Methods</p> <p>Mine Design</p> <p>WRD design and PAF/metals management</p> <p>Ore and product stockpiles</p> <p>Reserves and mine geology</p> <p>Infrastructure</p> <p>Dangerous materials storage and handling</p> <p>Energy requirements</p> <p>Performance against the previous MMP</p> <p>Key activities for next reporting period</p> <p>Processing</p> <p>Methods</p> <p>TSF location, construction and management</p> <p>Energy requirements</p> <p>Performance against previous MMP</p> <p>Key activities for next reporting period</p> <p>Exploration</p> <p>Type of disturbance</p> <p>Area of disturbance</p> <p>Rehabilitation methods</p> <p>Other</p>	
Y	31	<p>Waste Rock Characterisation</p> <p>Have results of waste rock characterisation been included and discussed?</p> <p>Has a waste characterisation report been included?</p> <p>Does the MMP include a PAF management plan?</p>	
Y	34	Life of Plan (LoP) Closure	



		<p>Have the following been included?</p> <p>LoP closure activities</p> <p>LoP rehabilitation</p> <p>Rehabilitation progress report</p>	
Y	34	<p>Security</p> <p>Does the MMP include a detailed costing of closure activities for the LoP?</p> <p>Have all past disturbances and those proposed for the next reporting period been identified and included?</p>	
Y	throughout	<p>All Sections</p> <p>Maps</p> <p>Maps and plans have scale, scale bar, legend and north point where relevant</p> <p>Datums used are MGA94 or GDA94 (expressed in decimal degrees) with elevation based on AHD</p>	

## Part B - Amendments

Section	Amendment Summary
All sections	Change in ownership of tenements reflected throughout document
	Amended to include recommencement of mining and processing operations



## EXECUTIVE SUMMARY

Primary Gold Limited submits this Mining Management Plan (MMP) for the resumption of underground mining and milling operations at the Toms Gully Project Area (TGPA). Toms Gully is owned and operated by Primary Minerals, a wholly owned subsidiary of ASX listed Primary Gold Limited.

Toms Gully is located on the Old Mount Bundy pastoral station located approximately 100 km southeast of Darwin, the capital city of the Northern Territory. All operations will be contained within Mining Lease MLN1058 located on the eastern side of the Company's Mt Bundy Gold Project.

Current mineral resources for Toms Gully are estimated at 1,065,000 tonnes @ 9.0g/t for a total of 310,000 ounces and JORC Ore Reserve of 775,000 tonnes at 6.9g/t for 175,000 ounces of gold.

The Plan is based on the recently completed Feasibility Study and contemplates a 5 year operation producing approximately 65,000 ounces gold per annum. Production in years 1 to 3 are underpinned by ore reserves with year 4 and 5 by mineral resources and 'blue-sky'. To convert production planned for these later years to ore reserve Primary intends to conduct exploration drilling in future years. Mineralisation has not been closed-off by drilling and the Company considers the potential to convert the latter years and further increase mine life to be high.

The proposed mining method is a room & pillar-style underground mining from the existing decline and proposed new development. Dewatering of the existing workings will be required to re-gain access to the mine. Mined ore will be hauled to the existing Toms Gully processing facility which is rated at 250,000 dry tonnes per annum (tpa). Refurbishment of the plant is required and will take place concurrently with the mine dewatering and refurbishment. Throughput is planned to increase to 350,000 tpa with this upgrade to be completed in year2 after the initial 12 month ramp-up of mine production.

Pending funding and approvals, mine production for the reporting period to end of 2014 is planned to be 85,000 tonne of ore grading 6.9g/t for approximately 18,000 contained ounces gold.

Activities planned prior to production commencing include: mine dewatering, mine refurbishment, mill refurbishment and upgrade, raising the walls of the existing tails storage facility (TD 2) and raising the north wall of evaporation pond number 2.

A workforce of approximately 100 people will be sourced predominantly from the nearby towns (e.g. Humpty Doo and Darwin) employed predominantly on a 5-day week basis.

Rehabilitation of the site will be carried out on an ongoing basis as detailed in the current Mine Closure Plan. All planned activities will be carried out within the current bounds of the existing site, hence no additional ground disturbance or clearing is currently proposed.



## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	iv
TABLE OF CONTENTS .....	v
LIST OF FIGURES .....	vi
LIST OF TABLES.....	vii
<b>1. INTRODUCTION .....</b>	<b>1</b>
1.1. Operator Details .....	1
1.2. Organisational Structure.....	1
1.3. Title Holder Details .....	2
1.4. Project Summary and Improvements .....	3
<b>2. STRATEGIC PLANNING .....</b>	<b>3</b>
2.1. Company Goals .....	3
2.2. Accreditations and Certifications .....	3
2.3. Key Business Activities for Oncoming Reportable Period .....	3
<b>3. STATUTORY AND NON-STATUTORY REQUIREMENTS .....</b>	<b>4</b>
3.1. Statutory Requirements .....	4
3.2. Non-statutory Obligations .....	5
3.3. Environmental Initiatives .....	5
3.4. Sacred, Archaeological and Heritage Sites .....	6
3.5. Environmental Commitments.....	6
<b>4. OPERATIONAL ACTIVITIES.....</b>	<b>8</b>
4.1. Mining Activities .....	8
4.1.1. Mine Design.....	11
4.1.2. Waste Rock Dump .....	13
4.1.3. Ore & Product Stockpiles .....	14
4.1.4. Mining Reserves & Geology .....	15
4.1.5. Storage, Transport and Handling of Dangerous Goods .....	18
4.1.6. Energy Requirements for Mining .....	19
4.1.7. Mining performance against previous MMP .....	20
4.1.8. Key Mining Activities for Oncoming Period.....	20
4.2. Processing Activities .....	20
4.2.1. Treatment and Ore Processing Operations .....	21
4.2.1.1. Proposed Improvements to Toms Gully Plant.....	25
4.2.2. Residue/Tailings Storage Facility .....	27
4.2.3. Process/Mine Water Dams.....	28
4.2.4. Energy Requirements for Processing .....	29



4.2.5. Processing performance against previous MMP .....	30
4.2.6. Key Processing Activities for Oncoming Period.....	30
4.3. Exploration .....	31
5. WASTE ROCK CHARACTERISATION.....	31
6. INCIDENT REPORTING .....	32
7. LIFE OF PLAN CLOSURE.....	34
7.1. Costing of Closure Activities.....	34
8. RISK ASSESSMENT MATRIX.....	34
8.1. Risk Identification .....	34
8.2. Risk Level Determination.....	35
9. APPENDICES .....	38
APPENDIX A.....	38
Water Management Plan .....	38
APPENDIX B.....	38
EGi Report .....	38
10. BIBLIOGRAPHY .....	38
11. USEFUL LINKS AND RESOURCES.....	39

## LIST OF FIGURES

Figure 1: Primary Gold Management Team Organisation Chart .....	2
Figure 2: Toms Gully Mining Infrastructure.....	9
Figure 3: Toms Gully Stopping Layout.....	11
Figure 4: Toms Gully Mine Design.....	12
Figure 5: Stylised view of split face firing.....	13
Figure 6: Proposed changes to current waste rock dump.....	14
Figure 7: Surface geology.....	15
Figure 8: Ore body, major faults and current mine development .....	16
Figure 9: Toms Gully process plant layout.....	21
Figure 10: Toms Gully Processing Plant.....	22
Figure 11: Additional Gravity Circuit and Flotation Concentrate Redirected to Acacia Reactor .....	25
Figure 12: Proposed Toms Gully Processing Plant Flowsheet, 350ktpa.....	26
Figure 13: Evaporation ponds (looking south).....	29
Figure 14: Evaporation ponds plan .....	29
Figure 15: Incident Reporting Procedure.....	33
Figure 16: Enterprise Risk Assessment (ERA) Flowchart.....	34

## LIST OF TABLES

Table 1: Mining interests associated with the TGPA .....	3
Table 2: Statutory Legislation .....	5
Table 3: Non-Statutory Organisations.....	5
Table 4: Environmental Commitments for TGPA 2013-2014.....	8
Table 5: Toms Gully JORC gold Probable Ore Reserves as at 27 August 2013 (ounces rounded).....	16
Table 6: Toms Gully JORC gold Resources as announced 3 July 2013 (Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserve) .....	16
Table 7: Mining Schedule for reporting Period.....	17
Table 8: Mine Power .....	20
Table 9: Toms Gully Recovery Breakdown Including Gravity .....	23
Table 10: Toms Gully Recoveries Including Gravity and Flotation Tails Bypass.....	24
Table 10: Toms Gully Recovery Breakdown Including Gravity and Flotation Redirection .....	25
Table 11: Throughput, Expected Yield and Capital Expenditure Summary .....	26
Table 12: Operating Cost Summary.....	26
Table 14: Reagents .....	27
Table 14: Processing Power .....	30
Table 15: Activities undertaken at TGPA and those planned for the oncoming period.....	31
Table 16: Risk Consequence Levels.....	37
Table 17: Risk Matrix .....	37
Table 18: Risk Analysis Reporting Procedure.....	38



## ABBREVIATIONS

Acronym	Description
AAPA	Aboriginal Areas Protection Authority
AHC	Australian Heritage Commission
AMD	Acid Mine Drainage
ANZECC	Australian and New Zealand Environment and Conservation Council
AS	Australian Standards
CRF	Cemented Rock Fill
DCI	Department of Construction and Industry
DCP	Decommissioning and Closure Plan
DDH	Diamond Drill Hole
DLPE	Department of Lands, Planning and Environment
DME	Department of Mines and Energy
EFA	Ecosystem Function Analysis
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EMS	Environmental Management System
EPA	Environmental Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ERT	Emergency Response Team
KPI	Key Performance Indicators
MSDS	Material Safety Data Sheets
MMP	Mining Management Plan
NAF	Non Acid Forming
NAG	Net Acid Generation
NATA	National Association of Testing Authorities
NEPM	National Environment Protection Measures
NGERS	National Greenhouse Emissions Reporting System
NPI	National Pollutant Inventory
NT	Northern Territory
NTGS	Northern Territory Geological Survey
PAF	Potentially Acid Forming
PER	Public Environmental Report
PPE	Personal Protective Equipment
RC	Reverse Circulation
ROM	Run of Mine
TGM	Toms Gully Mine
TGPA	Toms Gully Project Area
TPWC	Territory Parks and Wildlife Conservation



TSF	Tailings Storage Facility
VTEM	Versatile Time Domain Electro-Magnetics
WDL	Waste Discharge Licence
WMP	Water Management Plan



# 1. INTRODUCTION

## 1.1. Operator Details

Primary Gold Limited submits this Mining Management Plan (MMP) for the resumption of underground mining and milling operations at the Toms Gully Project Area (TGPA). Primary Gold is a listed Company on the Australian Stock Exchange who in early 2013 completed the acquisition of a number of gold assets, including Toms Gully, from Crocodile Gold.

Primary Gold's focus is on gold in the Northern Territory and in addition to the Toms Gully mine, its assets include the Rustlers Roost and Quest 29 projects and 2,600 km<sup>2</sup> of exploration tenure.

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## 1.2. Organisational Structure

The overall management/organisational structure of Primary Gold is illustrated in **Table 1**. The organisational structure reflects the relatively new nature of the Company. As operations and development of Primary Gold's assets expands, the organisational structure will develop and be updated to reflect this.

The Managing Director and Departmental Managers are responsible for:

- Ensuring compliance with all relevant Statutory Acts and Regulations;
- Ensuring compliance with Safety Management and Emergency Response Plans;
- Ensuring MMPs and Water Management Plans (WMPs) are adhered to; and
- Establishing and maintaining environmental and safety performance monitoring.

An environmental specialist consultant has been engaged to provide initial advice on environmental management and monitor risks to the environment. This person is also responsible for ensuring environmental compliance and regulatory reporting is conducted. A full-time Primary Gold employee will fulfil this role on recruitment of a suitably qualified person. The senior environmental position is supported by a site environmental officer who will be responsible for undertaking all environmental monitoring, land management and rehabilitation activities.

Within Primary Gold, the Environmental Team provides an advisory and co-ordination role to support the management team, employees and contractors. The Environmental Team may recommend a corrective course of action that will require the appropriate manager to:

Initiate action if monitoring programs or incidents indicate non-compliance with established procedures; and

Ensure that all incidents, which may result in an adverse environmental impact, are recorded, investigated and corrected.

The environmental performance of all contractors is an integral component of their compliance to their contract and prior to and during a contract, their environmental performance is assessed.

Project contacts are as follow:

Postal Address: Level 1, 17 Ord Street West Perth 6005  
 Phone: 08 9488 8874  
 Fax: NA  
 Name: Mr Clay Gordon  
 Title: Managing Director  
 Email: [cgordon@primarygold.com.au](mailto:cgordon@primarygold.com.au)

Name: Mr Jamie Coad  
 Title: EH&S Acting Manager  
 Email: [jamie.coad@westnet.com.au](mailto:jamie.coad@westnet.com.au)

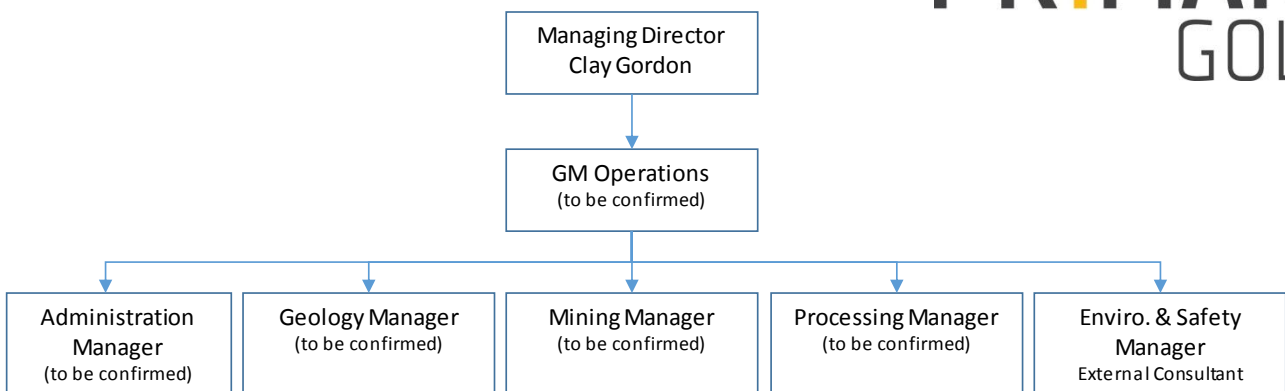


Figure 1: Primary Gold Management Team Organisation Chart

### 1.3. Title Holder Details

A register of land ownership for the mining interests associated with the project area is presented in Table 1 – Mining interests associated with TGPA. All licences for Toms Gully are held in the name of Primary Minerals NL, a wholly owned subsidiary of Primary Gold Limited.

Title Number	Title Holder	Grant Date	Expiry Date
MLN1058	Primary Minerals NL	03/08/1989	2/08/2014

ML29812	Primary Minerals NL	06/02/2013	05/02/2023
ML29814	Primary Minerals NL	06/02/2013	05/02/2023

Table 1: Mining interests associated with the TGPA

## 1.4. Project Summary and Improvements

The TGPA is a disturbed site from previous mining operations with many legacy mining features remaining present on-site. The site is currently under care and maintenance however, the activities contemplated in this MMP involve the re-commencement of mining activities which in the first 12 months will involve de-watering and refurbishment of the underground mine and processing facility. All activities will be completed with a focus on ensuring the site remains in a safe and stable condition and that potential off-site impacts are identified and minimised.

## 2. STRATEGIC PLANNING

### 2.1. Company Goals

The corporate objectives of Primary Gold include the following:

- To become a Northern Territory-focused, self-funded minerals explorer and miner;
- To establish a long-term regional gold production within the Northern Territory (NT); and
- Continued development and expansion of a regional exploration program.

### 2.2. Accreditations and Certifications

Primary Gold currently does not hold any accreditations and certifications in respect to environmental management.

### 2.3. Key Business Activities for Oncoming Reportable Period

Primary Gold plans to continue with safe, environmentally sustainable and commercially efficient mining, processing and resource-development operations, regularly reviewing practices and procedures with a view to constant improvement with the assistance of appropriate advice.

Subject to successful capital raising Primary Gold plans to move into production in this reporting period utilising the existing underground access and surface infrastructure. However, prior to this occurring, a period of site set-up and infrastructure refurbishment will be undertaken and this will include:

- Dewatering the Toms Gully Pit
- Refurbish both portals and underground declines
- Refurbish the crushing and processing plant
- Upgrade the Tailings Storage Facility (TSF2)
- Increase the water storage capacity on site



- Develop a Waste Rock Storage area within the existing WRD system
- Reinstall the mine offices and buildings

Primary intends to relocate its corporate office to Darwin and will strive to utilise as much local labour and suppliers as feasible in the refurbishment phase and ongoing operation of the project.

### 3. STATUTORY AND NON-STATUTORY REQUIREMENTS

#### 3.1. Statutory Requirements

The Primary Gold management team will identify and track the legal and other requirements applicable to its activities and services in accordance with the MMP. A legislation register is maintained, providing a complete listing of applicable Acts, Regulations, Codes of Practice, Standards, Approvals, Licenses and Permits. Primary Gold will comply with statutory legislation presented in Table 2 – Statutory Legislation.

Specific licensing and authorisations required, relevant to this MMP, are as follows:

- Authorisation (#0740 01) for mining operations from DME under Section 35 of the *Mining Management Act*.

In addition, Primary Gold will comply with industry codes of practice with respect to environmental management and closure planning.

Northern Territory	Commonwealth
Australasia Railway (Special Provisions) Act	Aboriginal Land Rights (Northern Territory) Act
Building Act	Aboriginal and Torres Strait Islander Heritage Protection Act
Bushfires Act	Australian Heritage Council Act 2003
<i>Control of Roads Act</i>	Environment and Heritage Legislation Amendment Act (No 1) 2003
Crown Lands Act	Environment and Heritage Legislation Amendment Act (No 1) 2006
Dangerous Goods Act	Environment Protection and Biodiversity Conservation Act
Dangerous Goods (Road and Rail Transport) Act	Native Title Act
Disasters Act	National Environmental Protection Measures (NEPM)
Electrical Workers and Contractors Act	
Energy Pipelines Act	
Environmental Assessment Act	
Environmental Offences and Penalties Act	
Fences Act	
Heritage Conservation Act	
<i>Lands, Planning and Mining Tribunal Act</i>	
Litter Act	
Mineral Royalty Act	
<i>Minerals (Acquisition) Act</i>	
<i>Mineral Titles Act</i>	
Mining Management Act	



<p><i>Motor Vehicles Act</i></p> <p>Northern Territory Aboriginal Sacred Sites Act</p> <p><i>Northern Territory Employment and Training Authority Act</i></p> <p>Northern Territory Land Corporation Act</p> <p>Northern Territory Rail Safety Act</p> <p><i>Ozone Protection Act</i></p> <p>Parks and Wildlife Commission Act</p> <p>Pastoral Land Act</p> <p>Plant Health Act</p> <p>Public Health Act</p> <p>Soil Conservation and Land Utilisation Act</p> <p>Territory Parks and Wildlife Conservation Act</p> <p>Traffic Act</p> <p>Validation (Mining Tenements) Act</p> <p>Waste Management and Pollution Control Act</p> <p>Water Act</p> <p>Weeds Management Act</p> <p>Work Health and Safety (National Uniform Legislation) Act</p>	
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Table 2: Statutory Legislation

### 3.2. Non-statutory Obligations

Primary Gold endeavours to work closely with all project stakeholders to satisfy common interests and resolve potential concerns. Primary Gold operates with the guidance of the non-government organisations presented in Table 3 – Non-Statutory Organisations. A major stakeholder in the project is the owner and manager of the underlying pastoral lease, Mr Barry Coulter. Over a number of years, Mr Coulter and his team have entered into contracted works to oversee the site through the wet season, covering various water and land management projects.

Organisation	Identified Groups or Departments
Non-Government Organisations	<p>Northern Land Council</p> <p>Minerals Council of Australia – NT Division</p> <p>Fire and Emergency Response Groups</p>

Table 3: Non-Statutory Organisations

### 3.3. Environmental Initiatives

In the initial stages of the refurbishment of the mine prior production there will be a focus on Environmental Programs that are site based. This will include, but not be limited to:

- Pest Monitoring



- Weed mapping
- Fauna Surveys
- Waste Management, in particular recycling of metals and waste oils generated during the refurbishment
- Establishing an environmental data management system

Other specific environmental initiatives will be developed during the term of the MMP.

### 3.4. Sacred, Archaeological and Heritage Sites

No sites of Aboriginal or other historical significance have been documented for the TGPA. A Native Title Claim (Tribunal File number DC00/31) that covers the Project Area was lodged on 22 December 2000 and registered in 2001. It is currently active. The claim was lodged by the Northern Land Council on behalf of the Angwinmil and Warai Peoples.

Primary Gold commit to undertake a documented AAPA database search regarding Aboriginal Sacred Sites for the area and will undertake consultation with the Heritage Group of the DLPE with regards to potential heritage sites in the area.

### 3.5. Environmental Commitments

Environmental commitments are provided in Section 3 of Part A of this MMP and summarised in Table 4 below.

Commitments	Issue	Section in MMP
<b>Fire Prevention</b>		
Liaise with Bushfires NT regarding regional (and site) fire break scheduling and implementation	To reduce impacts of wildfire impacts.	Fire Prevention EMP
Further develop and define the management strategies of the TGM Fire Prevention Action Plan	Mitigate against uncontrolled wildlife impacts	Fire Prevention EMP
<b>Soil, Landform and Rehabilitation</b>		
Maintain structural integrity of landforms.	To prevent erosion and sediment of waterways and exposure of PAF materials.	Soils, Landform and Rehabilitation EMP
Maintain effective erosion and sedimentation control where required.	Impact to waterways.	Soils, Landform and Rehabilitation EMP
Documented routine (quarterly) inspections, including photographic monitoring. Documented risk assessment to prioritise areas for remediation.	Erosion and sedimentation	Soils, Landform and Rehabilitation EMP
Conduct biannual inspections of rehabilitated areas (including landfills and drill sites)	Determine success of rehabilitation programs and requirements for maintenance	Soils, Landform and Rehabilitation EMP

		Native Flora and Fauna EMP
Remediate gullies on west side of Sulphide Waste Rock Dump	Erosion, landform stability	Soils, Landform and Rehabilitation EMP
<b>Native Flora and Fauna</b>		
Maintain register of fauna sightings	Impact to native flora and fauna.	Native Flora and Fauna EMP
<b>Waste Management</b>		
Manage waste generated appropriately and reduce waste where possible.	Impact to soil, surface and groundwater.	Waste Management EMP
On-going and regular inspections of project areas to determine compliance against appropriate waste management standards	Impact to receiving environment and visual amenity	Waste Management EMP
<b>Water Management</b>		
Refer to Water Management Plan in Part B		
<b>Weed and Pest Management</b>		
Conduct annual weed mapping of project area by June 2014	To minimise impact to native flora and fauna and reduce risk or impact from uncontrolled wildfires.	Weed and Pest EMP
Conduct weed control activities in consultation with local landholder as necessary and in accordance with the site Weed Action Plan	To minimise impact to native flora and fauna.	Weed and Pest EMP
Develop and implement Weed Action Plan	Minimise impacts to native flora and fauna and reduce risk of uncontrolled wildfires	Weed and Pest EMP
<b>Cultural Heritage Commitments</b>		
Undertake a search for the project area with the AAPA regarding Aboriginal Sacred Sites.	Potential for unknown Aboriginal Sacred Sites in the project area.	Part B Section 3.4.
Undertake consultation with the Heritage Group of DLPE with regards to potential heritage sites in the area.	Potential for impact of unknown heritage sites.	Part B Section 3.4.
<b>Closure Plan</b>		
Develop a Closure Plan by 30 April 2014.		Part A Section 5 and Part B Section 7.
<b>General Commitments</b>		
All events/incidents to be reported and managed through to resolution via event/incident reporting procedures.	For appropriate resolution.	NA
All personnel will be inducted into the area and informed of the hazards and relevant management protocols of the areas.	Personnel awareness of hazards and requirements.	NA



All personnel will be trained in the appropriate management practices as is relevant to their position.	To ensure appropriate training of staff.	NA
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Table 4: Environmental Commitments for TGPA 2013-2014.

## 4. OPERATIONAL ACTIVITIES

### 4.1. Mining Activities

No mining activities have been conducted at TGM since 2010 when the site was placed under Care and Maintenance. The main activities have been focused on decommissioning the underground mine and site cleanup, with remnant ore stockpiles being sent to the Union Reef mill by the previous owners.

Activities undertaken at the TGM site during the reporting period were limited to minor changes to site drainage and pumping, fencing, and weed and fire management/control.

Pending a successful capital raising and approvals being gained, mining activities planned to be carried out on the site for the duration of this MMP include:

- Dewatering of the existing workings
- Increase surge/flood storage capacity of existing infrastructure
- Refurbishment to regain access of existing mine workings
- Commencement of capital development and ore stoping within the underground
- Stockpiling of waste rock (where possible, waste will be stockpiled in existing underground voids.)
- Increasing the capacity of the new TSF



Figure 2: Toms Gully Mining Infrastructure

**Access** – The TGM is an underground mine with two portals to the main decline at the base of the historic open pit mine. These declines will be used to re-gain access.

**Quantities** – The current mine plan has approximately 85,000 tonnes grading 6.7g/t Au for (7,500 ounces) to be mined during the reporting period (to end of 2014 calendar year). Approximately 80,000 tonnes of waste material will be extracted during this time frame. Where possible, waste rock will be permanently stored in existing underground voids.

**Drilling programmes** – no drilling is planned for the coming 12 months. However, the mine plan has a resumption of surface drilling in year 3 (mid 2015 calendar year). This programme consists of approximately 24 surface diamond and RC holes targeting the down dip extensions of the current resource.

**Blasting** – all blasting activities will be restricted to the underground mine. There are no surface mining activities planned hence no requirement for surface blasting activities.

**Dewatering requirements** - Initial dewatering of the existing workings will be conducted utilising a combination of treatment and discharge (as per the current water discharge licence), assisted evaporation, relocation of water to proximal storage facilities (including stock-quality water to Lake Bazzamundi).

The aim will be to ensure that there is a negative water balance during the life of the mine, utilising the enhanced evaporation and the release of treated water during high creek flows in the wet season.



Enhanced evaporation methods may include a combination of water sprays, fan evaporation, multi-spigot trickle lines over black plastic recycled back into the evaporation ponds.

With respect to ongoing dewatering of the mining operations, Primary has developed a wet-season strategy based around a maximum rainfall event i.e. 544mm in 24 hour period with inflow rates up to 1,200 litres per second. Primary proposes to install and maintain a pontoon pumping arrangement capable of up to 650 litres per second providing an additional 12 hours of surge capacity beneath the portal.

During the dry season, pumping capacity can be reduced, but will be maintained at levels sufficient to cope with inflows in the order of 40 to 60 litres per second.

Evaporation ponds - A key feature of Primary's flood prevention strategy is to provide additional surge/flood capacity by increasing the volume of the evaporation ponds. The current capacity is estimated at 0.5 giga-litres and Primary plans to raise the existing dam wall to achieve up to 1.2 giga-litre capacity.

Life of Mine Schedule - The current mine plan has 1.4million tonne at 6.9g/t Au (277,000 ounces Au recovered) being mined over 5 years, half of which is included in a JORC Ore Reserve of 775,000 tonnes at 6.9g/t for 175,000 ounces.

Water requirements – approximately 120,000,000 litres per annum of water will be required for processing. This equates to less than a quarter of the (minimum estimated) natural inflow of ground water, hence it is planned to source process water from stocks captured during routine de-watering of the mine.

Extraction method - The proposed mining method is room & pillar-style underground mining from the existing decline and proposed new development. Ore and waste will be mined separately using a 'split-face' firing technique.

Scale of Operations – Operations are planned to ramp-up to full capacity (350ktpa) over approximately 24 months from start-up.

Haulage & Stockpiles – Ore will be hauled out of the mine and stockpiled on the existing 'run-of mine' stockpiles located adjacent to the Toms Gully processing facility. Waste will either be stored underground (for as much PAF material as possible) or be hauled to the current waste stockpiles located to the west of the mine.

Equipment – conventional underground equipment will be utilised consisting of 2 x Jumbo drills, 2 x boggers, 3 x 40 tonne trucks, 1 x road grader and 1 x fork lift. A workforce of approximately 50 will be required.

Improvements – a number of improvements are planned including, concentration on high-tenor areas of the orebody, increased geological supervision to reduce ore loss and dilution, and use of 'split-face' firing in order to minimise dilution of the ore.



### 4.1.1. Mine Design

The proposed mining method is based on a modified room and pillar method. Existing mine development will be utilised and extended progressively to expose the orebody.



Figure 3: Toms Gully Stopping Layout

The main decline (5.0 m wide × 5.0 m high) has been designed to run sub parallel to the western boundary of the deposit. A second access decline runs parallel to the main decline, on the east side of the deposit providing a path for return air in the primary ventilation circuit and the second means of egress for the mining block.

As the main decline advances past the designed access point for a mining block, cross drives, running across the deposit, are planned on 100m intervals connecting the main decline to the return airway. Stockpiles will be developed every 100 m along the main decline linking to the access decline and creating the primary airway.

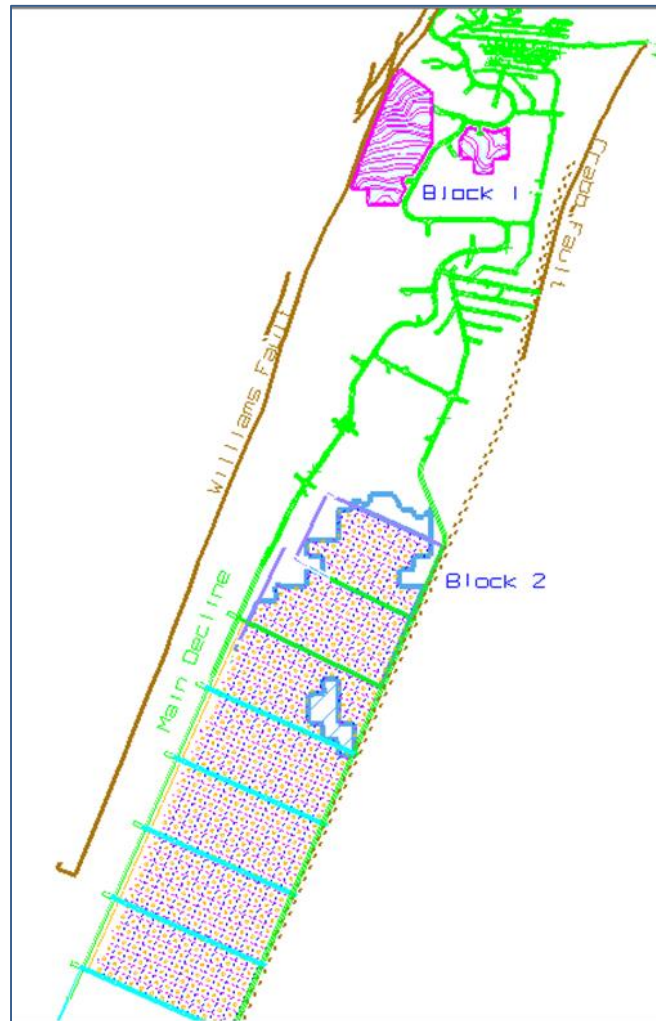


Figure 4: Toms Gully Mine Design

Ore drives (4.0 m wide × 3.7 m high) will be mined up dip, sub parallel to the decline at 16 metre centres (leaving a 12 metre pillar between ore drives). Diagonal ore drives will be mined on 16 metre centres up the length of the up dip drives to connect the drives and provide a free face for subsequent stoping of the vein.

To minimise the dilution during development, all drives are mined using a two-pass split face (resue) firing sequence. The waste in the lower section of the face is fired and bogged first, followed by a second firing and bogging cycle to remove the largely undiluted ore.

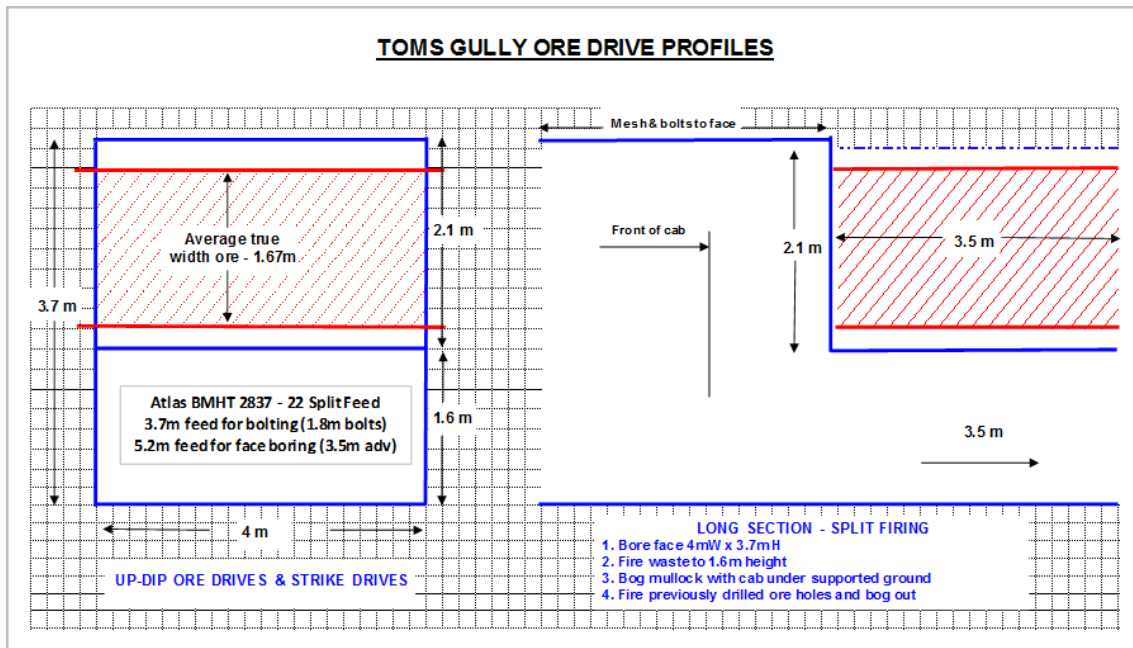


Figure 5: Stylised view of split face firing

Hazards – no hazards identified over the reporting period.

Bunding – to be refurbished as required to ensure safety is maintained.

Geotechnical reports – reports by consultants (including current consultants Geotechnical Consulting Pty Ltd (GCPL) contributed to the recent Feasibility Study with the preparation of a report based on the most recent available empirical data (including their observations from the last phase of mining). Findings from this and earlier reports form the basis of the mine design and the planned geotechnical support and monitoring strategy.

Monitoring - Ground conditions and stope stability performance will be continually monitored and reviewed to confirm long term regional pillar requirements.

Design changes – no changes anticipated.

Modifications – This is Primary’s first MMP proposing mining, hence there are no relevant previous MMPs.

#### 4.1.2. Waste Rock Dump

The mine schedule has approximately 200,000 tonnes of waste being mined per annum and for any waste that cannot be stored underground, Primary intends to continue to use the current fresh waste rock dump located to the west of the mine (see Figure 6).

The WRD is a horseshoe shaped structure approximately 20m high, with a flat top approximately 100m wide, contoured walls at approximate 17° angle covering a and of 26 hectares. There is potential to raise the height of the facility by up to 5 meters, however as noted Primary will prioritise



underground stockpiling then encapsulate left over PAF material on the top of the current fresh waste rock dump.

The encapsulation will include a NAF bunded area and place the PAF within the bund and compact this material. It will be covered with NAF material which will be compacted. This will then have a second paddock dumped NAF layer. The final contour will be formed to ensure that rainwater runs off of this area.

In the future Primary will assess whether extending the structure to the south to cover the 'old' tailings is a viable and sustainable option.

The WRD has been partly rehabilitated by previous operators. Primary intends to continue this rehabilitation in a progressive fashion by completing the contouring and revegetation. Primary has shown its intention during the reporting period through remediation work completed, which included back-filling of erosion channels and augmenting the drainage system.

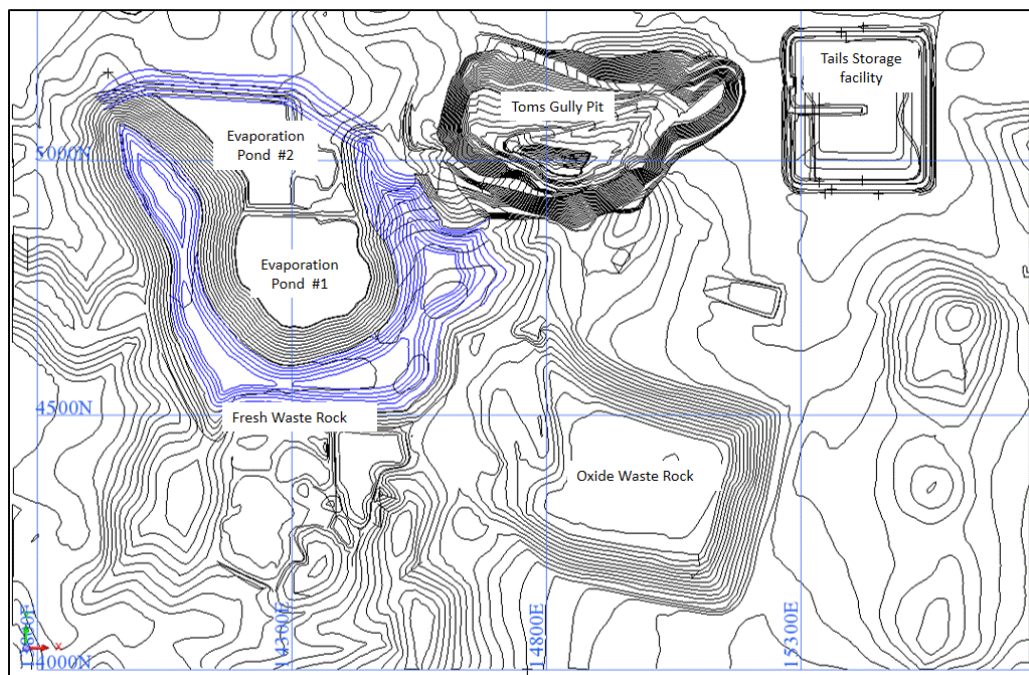


Figure 6: Proposed changes to current waste rock dump

### 4.1.3. Ore & Product Stockpiles

Primary intends to continue to use the current 'run-of-mine' ore stockpile area located to the south of the mine and adjacent to the processing facility (see Figure 2).

The ROM is a relatively flat area of approximately 200m square. The mine schedule has approximately 30,000 tonnes per month of ore being hauled directly from the mine to be stockpiled for treatment. Over the reporting period the stockpile is expected to grow to approximately 5,000 tonnes, however, over the life of the project, the stockpile has a planned maximum size of 100,000

tonnes which will be treated over a 4 month period (from the cessation of mining). That is, all ore will be treated and hence zero stockpiles at closure.

#### 4.1.4. Mining Reserves & Geology

Gold mineralisation is associated with south-southwest dipping & plunging sulphide quartz horizons which are intimately associated with possible thrust related brecciation and re-crystallisation of early barren quartz. When early quartz is absent from the thrust, gold mineralisation is not well developed, indicating that the secondary brittle fracturing was essential for sulphide and gold deposition.

Gold also occurs in the enveloping sheared and brecciated wall rock. The mineralised vein or reef has a thickness ranging from 0.5m up to 4.0m and a strike length of 800m. Surface drilling indicates that the ore shoot extends down plunge for over 1,500m. Gold grades typically range from 3g/t to 30g/t.

The quartz reef is a composite structure comprised of two main quartz types being euhedral, textured quartz along with minor comb-textured and ribbon-textured milky quartz, and blue-grey cherty quartz. .

Sulphides (mainly pyrite, arsenopyrite, loellingite with gold along with minor pyrrhotite, galena, chalcopryrite and rare sphalerite) may comprise 10 to 40% of the mineralisation, with the ratio of pyrite to arsenopyrite being between 2:1 and 5:1. Gold often forms as particles of electrum, with arsenopyrite on crystal faces or as fracture fillings within the arsenopyrite.

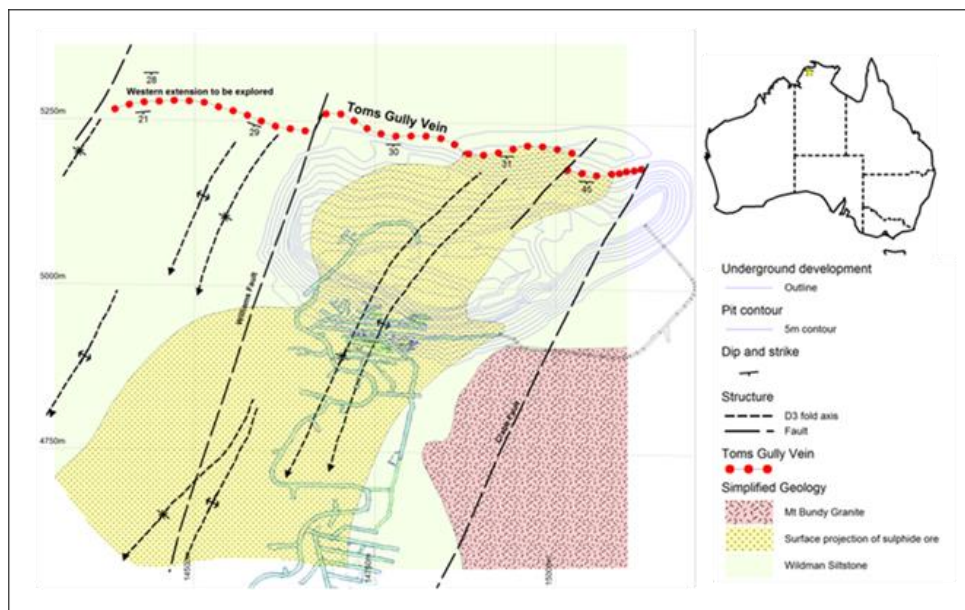


Figure 7: Surface geology

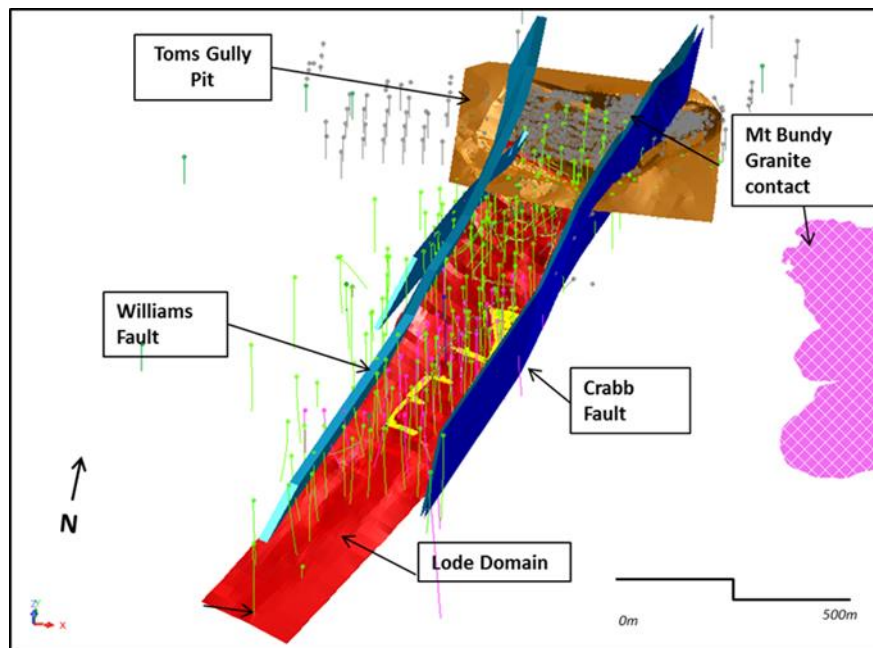


Figure 8: Ore body, major faults and current mine development

Ore reserves have been estimated by Golder Associates at 775,000 ore at a grade of 6.9g/t containing 175,000 ounces gold. During the reporting period to end of 2014 an estimated 85,444 tonnes of ore will be mined at a grade 6.5g/t containing 17,838 ounces gold. In addition 80,360 tonnes of waste will be removed at a ore:waste ration of 1.1 to 1.

Ore Reserves	Tonnes (k t)	Grade (g/t)	Au (k Oz)
Probable	775	6.9	175

Table 5: Toms Gully JORC gold Probable Ore Reserves as at 27 August 2013 (ounces rounded)

Mineral Resources	Tonnes (k t)	Grade (g/t)	Au (k Oz)
Indicated	815	9.1	240
Inferred	250	8.7	70
Total	1,065	9.0	310

Table 6: Toms Gully JORC gold Resources as announced 3 July 2013 (Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserve)

Primary Gold TOM's Gully Feasibility August, 2013						2014																	
SUMMARY						Sep	Oct	Nov	Dec	Full Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
<b>Mining</b>																							
<b>Ore Mined</b>																							
Ore tonnes	tns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,544	8,556	14,183	17,156	19,609	21,397	85,444
Grade	g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.73	5.93	6.25	6.31	6.23	7.01	6.49
Ounces Mined	ozs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,130	1,630	2,848	3,481	3,926	4,823	17,838
<b>Ore Treatment</b>																							
Ore tonnes	tns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,500	11,500	14,250	17,100	19,500	20,000	83,850
Grade	g/t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.73	6.40	6.25	6.31	6.23	7.00	6.48
Ounces Treated	ozs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	373	2,366	2,862	3,469	3,905	4,504	17,479
<b>Ore Stockpiles</b>																							
Ore tonnes	tns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,044	99	32	89	197	1,594	1,594
Grade	g/t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.73	6.40	6.25	6.31	6.23	7.00	7.00
Ounces on S/Pile	ozs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	757	20	6	18	39	359	359
Metallurgical Recovery	%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.00%	85.00%	86.00%	87.00%	88.00%	88.20%	87.06%
Recovered Ounces	ozs																317	2,011	2,461	3,018	3,436	3,972	15,216
<b>Development</b>																							
Decline Development (incl S/Piles)	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	600
Ore Development	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	200	300	500	500	500	2,200
<b>Total Development</b>	<b>m</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>300</b>	<b>300</b>	<b>400</b>	<b>600</b>	<b>600</b>	<b>600</b>	<b>2,800</b>
Ore Development tonnes	tns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,544	4,704	7,056	11,760	11,760	11,760	51,584
Ore Air Leg tonnes	tns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,000	5,000	5,000	5,000	18,000
Ore Mechanised Stopping tonnes	tns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,852	4,127	396	2,849	4,637	15,860
<b>Total Ore tonnes</b>	<b>tns</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,544</b>	<b>8,556</b>	<b>14,183</b>	<b>17,156</b>	<b>19,609</b>	<b>21,397</b>	<b>85,444</b>
Total Waste tonnes	tns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,360	10,360	12,180	15,820	15,820	15,820	80,360
Haulage	tn km's	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35,768	45,776	64,326	81,122	87,863	93,042	407,897
Total Break tonnes	tns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14,904	18,916	26,363	32,976	35,429	37,217	165,804
Haul Distance	kms	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40	2.42	2.44	2.46	2.48	2.50	2.45

Table 7: Mining Schedule for reporting Period



#### 4.1.5. Storage, Transport and Handling of Dangerous Goods

Bulk Fuel - Diesel fuel will be trucked from Darwin to the site. It has been assumed that a bulk fuel facility consisting of self bunded tanks and a refuelling station will be leased from the fuel supplier. Fuel stored on site will be approximately 20,000 litres.

Explosives Storage Compound - An explosives storage compound located at the southern side of the oxide waste dump will be refurbished & recommissioned.

Cyanide - Cyanide will be delivered to site in bulk liquid form at approximately 30% w/w concentration and in 30 cubic meter loads. A 70 cubic meter storage tank will provide capacity for approximately 6 days and will be located near the CIL tanks within the general footprint of the process plant.

The storage tank will be designed to meet both dangerous good requirements and also the requirements of the supply contractor. The latter will enable deliveries to be unloaded using a standardise system. Cyanide addition within the process plant will be via a positive displacement pump and ring main system.

The use of a bulk liquid cyanide system has the following advantages:

- Unit cost of cyanide is less than solid briquette type cyanide,
- Inherently safer system with no requirement for plant operators to mix cyanide batches, and
- Takes advantage of plentiful local supply of liquid cyanide whereas solid cyanide is more difficult to purchase.

Quicklime - Quicklime will be delivered to site in bulk powder form at approximately 82% available lime content. A 50 tonne live capacity storage silo, mill and mixing tank are located on the northern side of the mill. Lime can be added to the conveyor at a pre-determined rate by mechanical screw feeder. The silo will have a pneumatic fill system with couplings and fill pipework designed to match the standardise system of the bulk delivery trucks.

Sodium Hydroxide - Sodium hydroxide will be delivered to site in 1 cubic meter Intermediate Bulk Containers (IBC) as a liquid at 50% w/w solution strength. The IBC will be located near the elution circuit in the process plant and distribution within the process plant will be via a pump and rising main system.

A flexible coupling between the IBC outlet and the pump inlet will enable changing of the IBC when it is empty. Approximately 3 IBC's will be held on site to enable sufficient time for empty IBC's to be freighted to Darwin, filled and returned to site. The full IBC's on site will be stored in a bunded area which complies with requirements of the Act and the Regulations.

Hydrochloric Acid - Hydrochloric acid will be delivered to site in 1 cubic meter IBC's as a liquid at 32% w/w solution strength. The IBC will be located near the elution circuit but bunded separately from



all areas where cyanide will exist so as to avoid mixing of cyanide and acidic solutions which could enable formation of hydrogen cyanide gas.

A flexible coupling between the IBC outlet and the pump inlet will enable changing of the IBC when it is empty. Approximately 5 IBC's will be held on site to enable sufficient time for empty IBC's to be freighted to Darwin, filled and returned to site. The full IBC's on site will be stored in a bunded area which complies with requirements of the Act and the Regulations.

LPG - LPG will be delivered to site in bulk liquid form. Two 7,500 litre bulk storage tanks together with all manifold and fill pipework will be leased from the LPG supplier who will also have responsibility for installation and commissioning of the facility.

Discharge pipework to the process plant will be installed by the EPCM contractor as well as necessary bollards and other safety requirements for the storage facility including firefighting equipment.

Hydrocarbons - Various hydrocarbons will be required on site in the process plant, light vehicles and heavy vehicles. Supply will be in 200 litre sized drums or smaller. New oils and greases will be stored on bunded containers prior to use. Used oils and greases will be collected and stored in old 200 litre drums on bunded containers prior to despatch off site as part of the site recycling programme.

#### **4.1.6. Energy Requirements for Mining**

The site is serviced through the Northern Territory power grid with 22kv power lines running directly to the mill, underground portal and tails storage facility and with the capacity to supply 4.5MVA. Power requirements for the mine are estimated at 1,500 megawatts per month.



POWER					
Item	Amps	Power (kW) (k Watts)	Number	Utilisation (%)	Power Used (k Watts)
<b>UNDERGROUND</b>					
<b>Pumping</b>					
5.6 kW 2640 Flygt Pump	4	5.6	4	75%	16.80
8 kW 2125 Flygt Pump	6	8.0		65%	
10 kW 2660 Flygt Pump	7	10.0		65%	
18.5 kW 2670 Flygt Pump	13	18.5	2	65%	24.05
20 kW 2151 Flygt Pump	14	20.0		65%	
37 kW 2201 Flygt Pump	27	37.0	1	65%	24.05
55 kW Mono Pump	40	55.0	2	75%	82.50
90 kW Stalker Pump	65	90.0		60%	
110 kW Mono Pump	79	110.0		60%	
Surface Borehole Pumps	27	37.0	4	95%	140.60
<b>Equipment</b>					
2 Boom Jumbo - 140 kW	100	140.0	1	65%	91.00
620 Solo (small one) - 85 kW	60	85.0		65%	
Single Boom Jumbo	50	75.0	1	75%	56.25
ITH Rig - 120 kW	100	140.0		65%	
Compressor - 160 kW	120	160.0	1	85%	136.00
<b>Fans</b>					
55 kW Fan	40	55.0	4	75%	165.00
110 kW Fan ( 2 X 55 kW)	79	110.0	6	90%	594.00
90 kW Fan	65	90.0	4	90%	324.00
180 kW Fan (2 X 90 kW)	130	180.0		90%	
220 kW Fan (2 X 110 kW)	160	220.0		90%	
330 kW Fan (3 X 110 kW)	240	330.0	1	95%	313.50
<b>Power Use</b>					<b>1,968</b>
<b>kW hrs per month</b>					<b>1,468,729</b>

Table 8: Mine Power

#### 4.1.7. Mining performance against previous MMP

The previous MMP was for care and maintenance of the site hence there are no operational activities to compare against.

#### 4.1.8. Key Mining Activities for Oncoming Period

No further initiatives, developments or changes to report.

### 4.2. Processing Activities

No ore processing has occurred at the TGM during the past reporting period, however, following a period of refurbishment of the facility 83,850 tonnes of ore grading 6.5g/t Au are scheduled to be processed over the coming reporting period to end of 2014, recovering 15,216 ounces.

Refurbishment of the processing infrastructure will include minor repairs to the following circuits: crushing & grinding, floatation, leaching & absorption, thickener, reagent tanks & pumps. The flow-sheet will be also improved with the addition of a gravity concentration circuit, intensive leach circuit, and



improvements to the floatation circuit. The walls of the tails storage facility will also be lifted by 3metres, addressing both issues of current free-board and immediate storage requirements.

A second phase of improvements are planned for the mill in year 2 (2015) and will include the addition of further fine grinding capacity, a new elution circuit and second lift of the tails storage facility.



Figure 9: Toms Gully process plant layout

#### 4.2.1. Treatment and Ore Processing Operations

The Toms Gully processing plant consists of a ROM ore bin feeding a two stage crushing circuit. The crushed ore, P80 of 12 mm, is stockpiled and fed into a crushed ore bin before being delivered to the primary grinding circuit. A 3.4 m diameter by 5.7 m primary ball mill (1000 kW), fed at a nominal feed rate of 31 tph, is in closed circuit with hydro-cyclones to produce a nominal product P80 of 75 µm. The cyclone overflow is pumped to a conditioning tank where the ground ore is primed for flotation and fed to the first of two 15 m<sup>3</sup> rougher flotation cells.

Rougher flotation concentrate, containing approximately 25% of the mass and 83% of the contained gold, is pumped to the regrind ball mill and ground in closed circuit with hydro-cyclones to produce a product P80 of 20 µm. The reground concentrate is then fed into a tower mill in closed circuit with hydro-cyclones and further ground to a P80 of 12 µm.

The finely ground rougher concentrate is recombined with the rougher tails in a pre-leach thickener to produce an underflow slurry of approximately 50% w/w. The thickened tails is pumped into the first of six leach/adsorption tanks giving a total residence time of 14 hours. Gold adsorption is achieved using 3000 g/t of carbon.



Loaded carbon is eluted in a 2 tonnes AARL elution column with an acid wash facility and carbon regeneration kiln to regenerate the carbon.

The Toms Gully plant does not include a gravity recovery circuit.

The facility was placed on care and maintenance in 2010 with the mills last turned in July of that year. The primary mill has been jacked up off its bearings, the vertical mill requires relining (new liners have been purchased and are currently stored on site) and the CIL tanks have been filled with water to ensure they remain in good condition. The crushing circuit was last used in January 2011 and were in good working order at that time. The plant remains operationally sound.

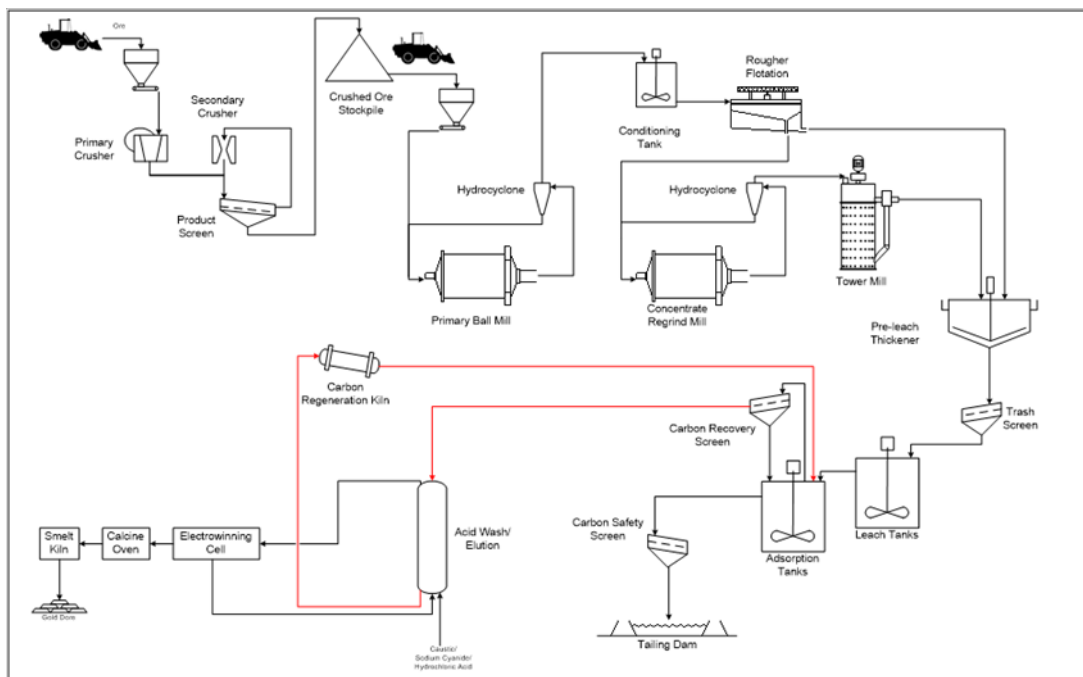


Figure 10: Toms Gully Processing Plant

Various options to improve the processing capacity of the Toms Gully processing plant have been reviewed with specific emphasis on low cost measures to increase the overall recovery of gold. The following flowsheets have been assessed with the aim to identify areas of process improvement:

- Toms Gully Plant + Gravity;
- Toms Gully Plant + Gravity + Partial Tails Bypass; and
- Toms Gully Plant + Gravity + Intense Leaching of Rougher Flotation Concentrate

Recent and historical testwork indicates that the Toms Gully ore body contains significant amounts of gravity recoverable gold, with most recent testwork indicating the potential to recover over 50% of the contained gold using gravity concentration. A gravity circuit is expected to reduce the presence of coarse gold in the flotation tails that has been reported during testwork which may not be completely dissolved in the subsequent CIL tanks.

The testwork results indicate an increase in gold recovery from 81.0% to 90% could be achieved by the installation of a gravity circuit, including a Knelson feed screen, Knelson Concentrator and Acacia Reactor. The total recovery has been estimated assuming 98% recovery of the gravity gold in the Acacia reactor. A breakdown of the expected recoveries of the current processing plant with the inclusion of a gravity circuit is displayed in Table xx.

Unit Operation	Stream	Particle Size (µm)	Mass Recovery		Au Recovery	
			Unit	Overall	Unit	Overall
<b>Gravity</b>	Con	75	0.1%	0.1%	52.9%	52.9%
	Tail	75	99.9%	99.9%	47.1%	47.1%
<b>Flotation</b>	Con	75	20.7%	20.7%	84.3%	39.7%
	Tail	75	79.3%	79.2%	15.7%	7.4%
<b>CIL (combined)</b>	Float Con	12	-	-	82.9%	32.9%
	Float Tail	75	-	-	71.3%	5.3%
<b>Acacia Reactor</b>	Gravity	75	-	-	98.0%	51.8%
Final Tail						<b>10.0%</b>
Overall Extraction						<b>90.0%</b>

Table 9: Toms Gully Recovery Breakdown Including Gravity

The flotation circuit in the Toms Gully processing plant provides an effective concentration of the contained gold, particularly when downstream of a gravity circuit. The overall gold recovery to the concentrate for gravity and flotation are 52.9% and 39.7% respectively, for a combined total recovery of 92.6%.

Testwork results indicate that pre-concentration in a gravity circuit of a 7 g/t feed would result in a feed grade to the flotation plant of approximately 3.3 g/t. The flotation circuit is expected to produce a concentrate with a gold grade of 13.4 g/t and a tails grade of 0.65 g/t. With such a small amount of the gold reporting to the flotation tailings, effort should be concentrated on increasing gold recovery from the flotation concentrate. This could be achieved by reducing the proportion of flotation tailings to the CIL circuit and thus increasing the residence time in the CIL tanks for the reground flotation concentrate.

A reduction of 50% of the flotation tails to the CIL circuit would increase the residence time by approximately 40% with the likely outcome of increasing the total gold recovered. In addition to the increased residence time, the leach conditions could also be tailored to better suit the flotation concentrate. It would be expected that reducing the amount of oxide material being processed through the CIL circuit is likely to have a positive effect of reagent consumption and operating costs. A summary of the possible recoveries of the current processing plant with the inclusion of a gravity circuit and redirection of the flotation tails is provided in Table #.

Unit Operation	Stream	Particle Size (µm)	Mass Recovery		Au Recovery	
			Unit	Overall	Unit	Overall
<b>Gravity</b>	Con	75	0.1%	0.1%	52.9%	52.9%
	Tail	75	99.9%	99.9%	47.1%	47.1%
<b>Flotation</b>	Con	75	20.7%	20.7%	84.3%	39.7%
	Tail (to TSF)	75	39.7%	39.6%	7.9%	3.7%
	Tail (to CIL)	75	39.7%	39.6%	7.9%	3.7%
<b>CIL (combined)</b>	Float Con	12	-	-	92.0%	36.5%
	Tail (to TSF)	75	-	-	0.0%	0.0%
	Tail (to CIL)	75	-	-	80.0%	3.0%
<b>Acacia Reactor</b>	Gravity	75			98.0%	51.8%
Final Tail						<b>8.7%</b>
Overall Extraction						<b>91.3%</b>

Table 10: Toms Gully Recoveries Including Gravity and Flotation Tails Bypass

Historical testwork indicates that 82.9% of the gold contained in a gravity/flotation concentrate is recovered in conventional CIL processing at a P80 of 14 µm. If this recovery is assumed for a flotation concentrate without gravity pre-concentration then approximately 7% of the overall gold remains locked in the CIL tailings.

An intense leach reactor would provide increased oxidising conditions in the leach, so redirection of the reground flotation concentrate (20.7% of the mass or 6.5 tph) to an intense leach reactor could result in an increased gold recovery. It is possible that up to 90% of the gold contained in the flotation concentrate could be recovered in an intense leach reactor, however additional testwork would be required to confirm this value.

The available testwork results and assumptions mentioned above indicate that the installation of a gravity circuit and redirecting the flotation concentrate to an intense leach reactor would increase the total gold recovery from 81.0% to 92.8%. A summary of the expected recoveries of the current processing plant with the inclusion of a gravity circuit is provided in Table 9.



Unit Operation	Stream	Particle Size (µm)	Mass Recovery		Au Recovery	
			Unit	Overall	Unit	Overall
Gravity	Con	75	0.1%	0.1%	52.9%	52.9%
	Tail	75	99.9%	99.9%	47.1%	47.1%
Flotation	Con	75	20.7%	20.7%	84.3%	39.7%
	Tail	75	79.3%	79.2%	15.7%	7.4%
CIL	Float Tail	12	-	-	71.3%	5.3%
Acacia/Intense Reactor	Gravity	75	-	-	98.0%	51.8%
	Float Con	75	-	-	90.0%	35.7%
Final Tail						7.2%
Overall Extraction						92.8%

Table 11: Toms Gully Recovery Breakdown Including Gravity and Flotation Redirection

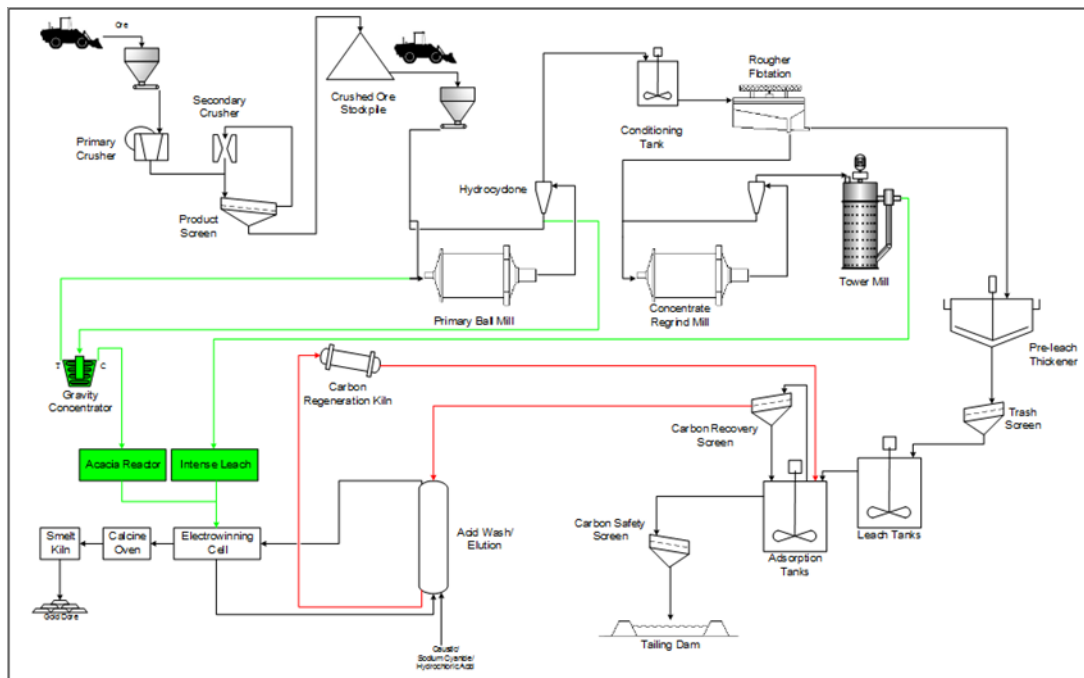


Figure 11: Additional Gravity Circuit and Flotation Concentrate Redirected to Acacia Reactor

#### 4.2.1.1. Proposed Improvements to Toms Gully Plant

Prior to the commencement of mining operations, it is proposed to refurbish the existing plant and upgrade with addition of gravity concentrator and acacia reactor for intense leaching of flotation concentrate (as described above).

During the 12 month period coinciding with the ramp-up in mine production, a second upgrade will be completed in order to lift through put to targeted 350ktpa. This will entail the addition of a second primary mill, modifications to the flotation circuit, and additional capacity of leach tanks. Reagent and chemical requirements are set out in the table below.



Option	Throughput	Head Grade (g/t Au)	Annual Production (oz/a Au)	Variation from Base Case	Gold Recovery	Capital Expenditure
8	350,000	6.85	69,065	23,491	89.6 <sup>1</sup> %	\$6.17 M <sup>2</sup>

Table 12: Throughput, Expected Yield and Capital Expenditure Summary

Process Option	Gold Recovery		Operating Cost		Cost Breakdown (%)			
	%	oz/a	AUD/t milled	AUD/oz Au	Labour	Power	Reagents	Other
8	89.6	69,065	48.2	244.1	25	31	19	25

Table 13: Operating Cost Summary

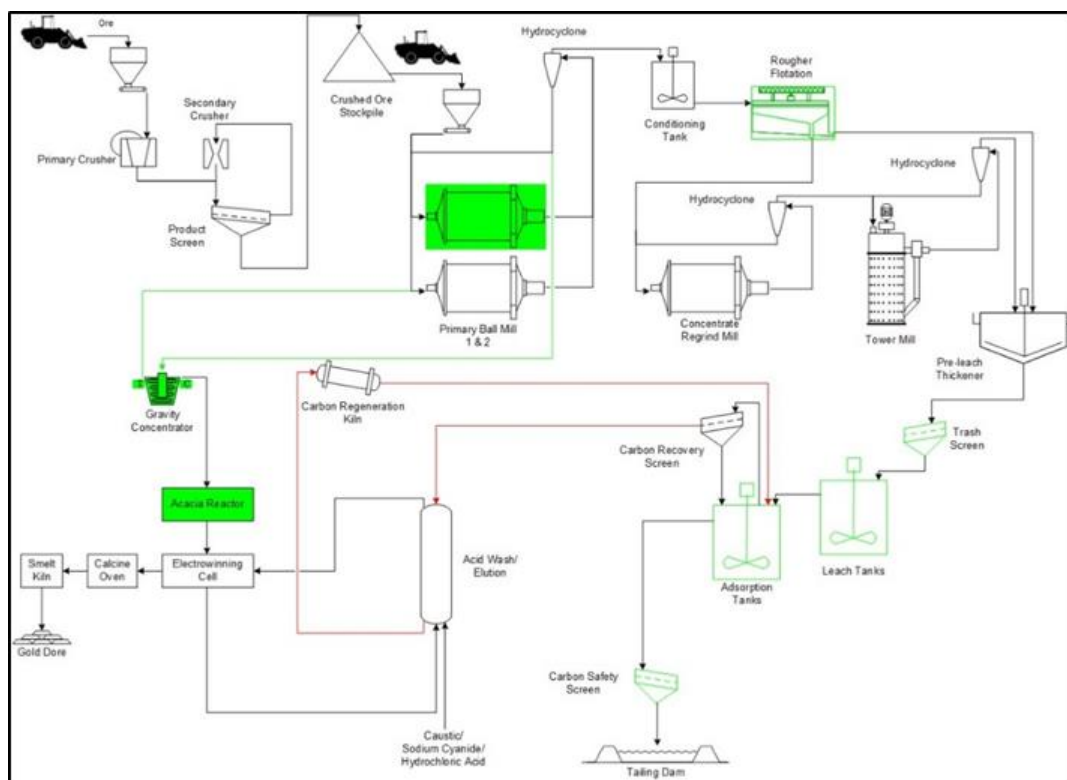


Figure 12: Proposed Toms Gully Processing Plant Flowsheet, 350ktpa

<sup>1</sup> Based on historical leach recovery data

<sup>2</sup> Based on estimate from Koeppern Machinery Australia (±20%)

Reagents	Usage (tpa)	Cost (\$)
Grinding Media	617.32	1,049,445
Sodium Cyanide	543.25	2,607,600
Quicklime	367.50	110,250
Sodium Iso-Butyl Xanthate	52.50	179,813
Copper Sulphate	52.50	199,500
Frother	28.00	123,200
Caustic Soda	54.75	45,443
Hydrochloric Acid	54.75	37,230
Activated Carbon	10.50	28,350
Smelting Flux	5.93	19,262

Table 14: Reagents

Water consumption is estimated at approximately 120,000 litres per annum which is planned to be sourced from surface water storage dams.

#### 4.2.2. Residue/Tailings Storage Facility

There are two tailing dams located at Toms Gully. The old tailing dam (TD 1) is located south of the fresh rock WRD and was used during open cut production. The new tailing dam (TD 2) was used during production by Renison and GBS Australia and currently has capacity for approximately 1 years of tailing from the Toms Gully Treatment Plant.

TD 1 is approximately 3.5Ha in area and contains approximately 250,000t. Approximately 15% of the material in this dam is sulphide minerals. Tailing Dam No 1 has over 60,000t capacity remaining, excluding the decant pond volume and may require the southern wall to be raised for additional capacity. However it is not planned to utilise this dam other than to sample and test the remaining material to determine if there is recoverable Au within the tailings.

The 7.5Ha TD 2 was designed to contain re-processed tailing from the Tailing Dam 1. The dam was designed to store 350,000t of tailing solids with an average beaching slope of 1v:120h, at an assumed density of 1.2t/m<sup>3</sup> while maintaining a 0.5m freeboard, even during an extreme rainfall event (1:100 year, 72 hour duration). TD 2 currently holds some 125,000t of sulphide and oxide tailing i.e. approximately 225,000t of remaining capacity.

Primary plans to lift the walls of TD 2 a further 4 metres, addressing both current issues of limited freeboard and immediate storage requirements. The construction will be done utilising the existing tailings within the dam. The walls will be constructed of compacted tailings on top of the existing tailings wall and stepped inwards to maintain the existing tailings dam wall slope. This method is widely used in the industry and will be covered in NAF waste rock at the end of the mine life.

In the past overflow has been directed by pipe to the open pit, however with the resumption of mining, this system will be re-configured to direct overflow to the evaporation ponds.



### 4.2.3. Process/Mine Water Dams

The raw water pond located on the north side of the process facility (see Figure 9) is fed from the six mine bores. In the past, the raw water pond pumps feed a reverse osmosis unit via a separate feed tank that provides potable quality water which is used in the strip circuit, reagent mixing (copper sulphate, cyanide, caustic, flocculent) and domestic needs.

Process water can also be sourced from a number of catchments on the mine site including the storm water and evaporation ponds.

With respect to existing water management plan, which is based on containing all surge water on-site, all surge/flood water is currently diverted from the various water storages to the pit. However, once the mine is back in operation, this strategy will need to rely on an alternate storage facility, which does not currently exist.

It is therefore intended to increase the capacity of the evaporation ponds which is currently estimated at approximately 450,000 m<sup>3</sup>. Preliminary designs have been completed in order to ascertain construction quantities and capacity gains for various lift height scenarios, which show the potential to increase effective capacity towards 1.1m<sup>3</sup> by lifting the earth-wall dam a further 5m (ie 10m total height).

However, it is important to note that the additional dam capacity is required to manage initial dewatering and intermittent rain events that threaten access to the mine. At all others time, minimum water levels will need to be maintain.

Further studies are required including engineered designs to ensure that the wall lift meets the required guidelines and to ensure that the wall has adequate stability.





Figure 13: Evaporation ponds (looking south)

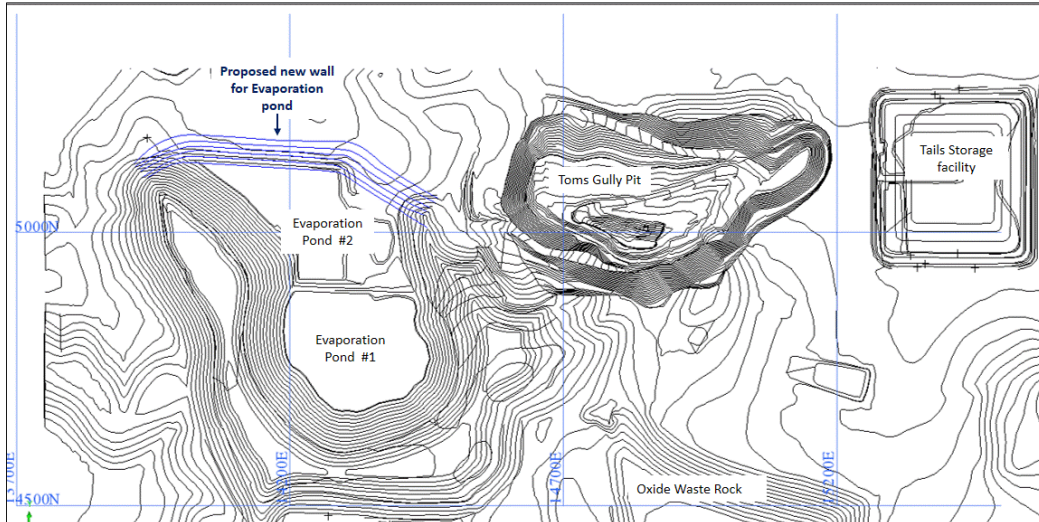


Figure 14: Evaporation ponds plan

#### 4.2.4. Energy Requirements for Processing

The site is serviced through the Northern Territory power grid with 22kv power lines running directly to the mill, underground portal and tails storage facility and with the capacity to supply 4.5MVA. Power requirements for the processing plant and administration area are estimated at 2,500 megawatts per month.



POWER					
Item	Amps	Power (kW) (k Watts)	Number	Utilisation (%)	Power Used (kW hours)
<b>PROCESSING</b>					
Primary Crusher		75.0	1	75%	56.25
Secondary Crusher		150.0	1	75%	112.50
Tertiary Crusher		150.0	1	75%	112.50
Conveyors		30.0	1	75%	22.50
Primary Mill		1,000.0	1	87%	870.00
Mill d/c Pump		55.0	1	75%	41.25
Regrind Ball Mill		600.0	1	87%	522.00
Mill d/c Pump		15.0	1	75%	11.25
Tower Mill		220.0	1	87%	191.40
Mill d/c Pump		15.0	1	75%	11.25
Regrind Ball Mill 2		600.0	1	87%	522.00
Mill d/c Pump 2		15.0	1	75%	11.25
Tower Mill 2		220.0	1	87%	191.40
Mill d/c Pump 2		15.0	1	75%	11.25
Tower Mill 3		220.0	1	87%	191.40
Float Conditioner		15.0	1	75%	11.25
Flotation Cells		60.0	1	75%	45.00
Air blower		11.0	1	75%	8.25
Thickener		5.5	1	75%	4.13
U/F Pumps		7.5	1	75%	5.63
CIL Tanks		150.0	1	75%	112.50
Tails Pumps		55.0	1	75%	41.25
Intertank Screens		12.0	1	75%	9.00
Loaded, Barren, Safety screens		7.5	1	75%	5.63
Sump Pumps		30.0	1	50%	15.00
Elution		60.0	1	75%	45.00
Reagent & Services		100.0	1	75%	75.00
<b>Power Use</b>					<b>3,256</b>
<b>kW hrs per month</b>					<b>2,376,752</b>
<b>GENERAL / ADMINISTRATION</b>					
Lighting	50	75.0	1	90%	67.50
Refuge Chambers	15	25.0	1	90%	22.50
Surface Offices	25	35.0	1	90%	31.50
Surface Lighting	25	70.0	1	90%	63.00
<b>Power Use</b>					<b>185</b>
<b>kW hrs per month</b>					<b>137,711</b>

Table 15: Processing Power

#### 4.2.5. Processing performance against previous MMP

The previous MMP was for care and maintenance of the site hence there are no operational activities to compare against.

#### 4.2.6. Key Processing Activities for Oncoming Period

No further initiatives, developments or changes to report.

### 4.3. Exploration

No exploration activities were undertaken within the TGPA during the reporting period and no exploration activities are planned for the duration of this MMP.

However, the current Feasibility Study includes a total of \$3million allocated for drilling from mid-2015. The timing of the drilling is contingent on mine performance, and this date coincides with the end of the ramp-up period and commencement of steady state production.

Key Mining Activities for Oncoming Period	Activity details during this reporting period	Activity planned for next reporting period
Ore mining	No ore was mined during the reporting period.	85,000 tonnes grading 6.9g/t Au for (18,000 ounces)
Crushing & or milling of existing ore stocks on ROM.	No ore was crushed during the reporting period	There is no ore stocks remaining on the TGM ROM.
Haulage of ore to URGM processing facility.	No ore was hauled during the reporting period	No ore haulage is planned for the oncoming period.
Crushing & or milling of underground ore in Toms Gully plant	No ore was processed during the reporting period.	80,000 tonnes grading 6.9g/t Au
Drill pad site rehabilitation.	No exploration is conducted in reporting period.	No exploration is planned for this reporting period. However, exploration is planned to resume once mining and processing operations have reached steady state.
Mine site clean-up and removal of materials no longer required eg.waste oils, scrap metal.	The significant clean-up effort during the 2011 reporting period has resulted in limited further significant clean-up required. Ongoing maintenance and tidy up as required will be conducted by the contracted site caretaker.	Ongoing maintenance and tidy up as required will be conducted.
Removal and relocation of buildings to Cosmo site.	Completed.	N/A

Table 16: Activities undertaken at TGPA and those planned for the oncoming period.

Once final inspections of rehabilitated drill hole locations have been completed, details including photographic monitoring will be provided.

## 5. WASTE ROCK CHARACTERISATION

Due to the long history of mining at the TGM, significant disturbance associated with historic operations is present on the site. This disturbance includes metalliferous drainage (AMD) generated from waste rock



dumps created in the late 1980's. AMD is currently managed during the care and maintenance of TGM with further details provided in the TGM Water Management Plan. The Conceptual Closure Plan developed for the TGPA also outlines the general approach to managing AMD.

Environmental Geochemistry International Pty Ltd (EGi) were engaged by the previous operators (Crocodile Gold) to assist in identifying suitable methods to prevent further AMD risks and propose methods for remediation of existing problem areas. Initial works undertaken in consultation with EGi included preliminary sampling of the OWRD in June 2012. Further study will be undertaken to understand this waste rock dump and establish a final close out method for this area.

Waste rock will be tested for ARD characteristics prior to being brought from underground. Samples will be taken of the waste material during the development of an area and as waste is trucked from underground.

PAF Material will be stored separately, compacted and encapsulated within NAF material. Where possible the PAF material will be stored underground.

## 6. INCIDENT REPORTING

Measurable environmental events and other incidents will be required to be promptly reported and investigated to identify and evaluate the immediate and contributory causes to enable prompt and effective corrective actions to be implemented.

All events, incidents and injuries will be reported and assessed and appropriately recorded where required using the Incident Reporting Procedure, as set out in Figure 15. All incidents are entered into an electronic reporting database.

This procedure requires that:

- All hazards and incidents are to be reported to the appropriate Manager as soon as the hazard or incident is identified;
- All significant safety incidents will be recorded and reported to NT WorkSafe under the *Work Health and Safety (National Uniform Legislation) Act*;
- All significant environmental incidents will be recorded and reported to Department of Mines and Energy (DME) as required under Section 29 of the *Mining Management Act*;
- Where required, copies of the environmental incident report will be submitted to the Department of Lands, Planning and Environment (DLPE) and a copy will be submitted to the Aboriginal Areas Protection Authority (AAPA) where the incident involves damage or destruction of Aboriginal cultural heritage sites; and
- Incidents will be investigated to improve systems and prevent recurrence.

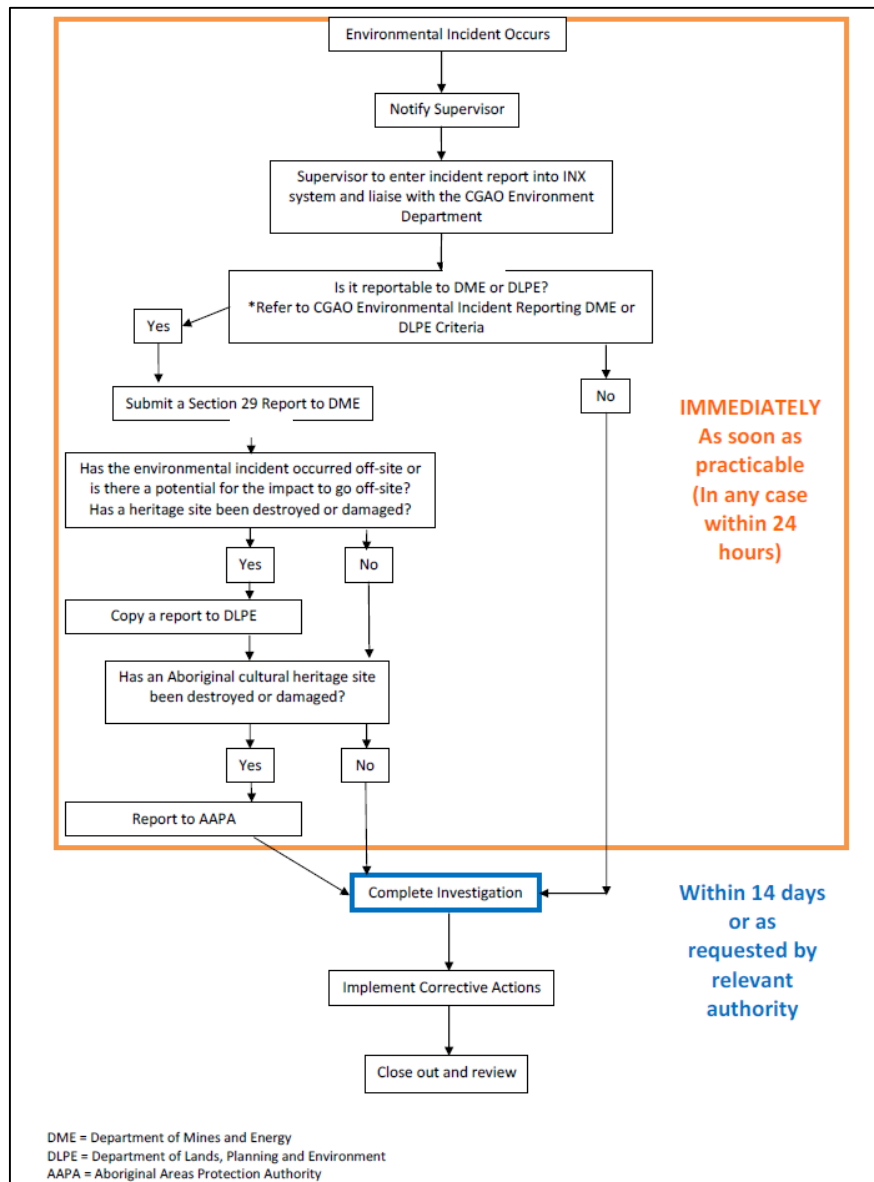


Figure 15: Incident Reporting Procedure

Reportable incidents may include environmental events, minor illnesses, minor injuries, medically treated injuries, or serious and potentially serious injuries.

Checks by the Management Team and routine inspections by Health and Safety and Environmental personnel will ensure prompt reporting of any problems. In the event of a major environmental or safety incident the matter will be reported to the Managing Director and Acting EH&S Manager who will coordinate any necessary response. It is the responsibility of the Managing Director to report the occurrence of a serious accident or critical incident to the Chief Executive Officer of the Department of Mines and Energy in accordance with Section 29 of the *Mining Management Act* and conduct a full investigation.

During the reporting period, no incidents were recorded for the TGM.

## 7. LIFE OF PLAN CLOSURE

A conceptual closure plan for the TGPA was provided in the previously submitted 2012 MMP. A Closure Plan will be developed by 30 June 2014. A copy of the EGi Site Visit report has been provided in the previously submitted 2012 MMP.

### 7.1. Costing of Closure Activities

A security calculation will be submitted under a separate cover.

## 8. RISK ASSESSMENT MATRIX

### 8.1. Risk Identification

Risks are identified through a physical site inspection process where each risk is identified, as are the causes or contributing factors to the risks and the consequences or outcomes to the Company and in the case of Environmental Risk to the Environment and the Company should the risk activity occur. Existing controls to manage the risks are also identified during the inspection process. The Risk Information is calculated using the Risk Assessment Matrix. The process of a risk assessment is shown in Figure 16 below.

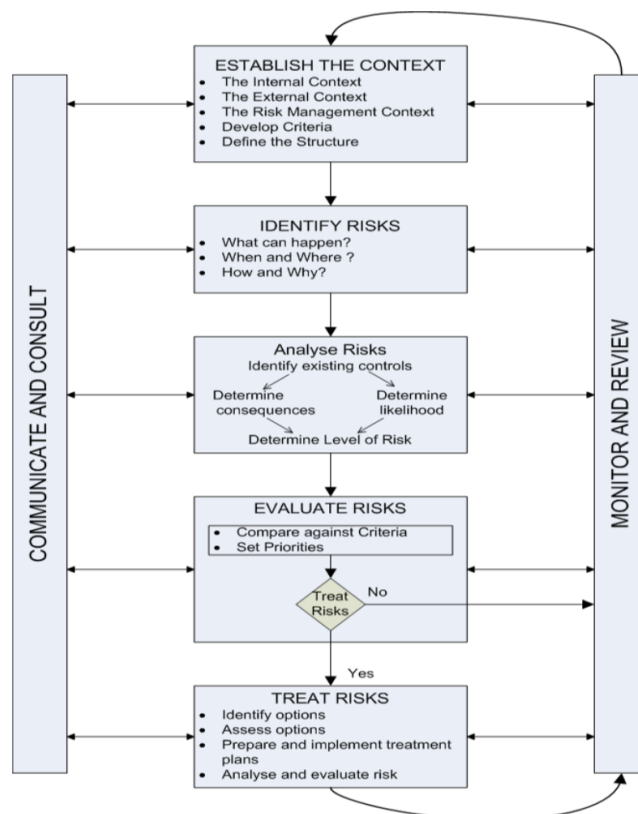


Figure 16: Enterprise Risk Assessment (ERA) Flowchart



## 8.2. Risk Level Determination

Each identified environmental risk is assigned a Severity Level or Risk Rating of low, medium, significant, major or high from the table below Table 17 from the level of potential consequence which may result. Each Risk Rating is assigned a number 1 for Low to 5 for high.

Once a risk rating has been established, the Risk Level Before Controls (refer to Risk Assessment table in Part A) is determined from the Risk Matrix (Table 18). The Risk Level Before Controls is determined by utilising the Rating, identified above, multiplied by the likelihood of the event occurring. For example, if the severity level of the potential consequence is determined as 3 - Significant and the likelihood of the event occurring is determined to be 5 - Almost Certain, the resultant Risk Level Before Controls is 3 multiplied by 5 and determined to be High (15).

The process is repeated when determining the Risk Level After Controls (refer to Risk Assessment table in Part A) to give a Subsequent Risk Score. Once all risks have been assigned a Subsequent Risk Score, all potential environmental risks are ranked in order from highest to lowest to give a Risk Ranking. Some environmental risk scenarios may have the same risk ranking if their Subsequent Risk Scores are the same.

### Impact descriptors

- EPBC listed species and their communities
- Native Flora and Fauna
- Declared heritage places listed on NT and /or Commonwealth registers
- Indigenous/ recorded sacred sites.
- NT declared weeds or WONS listed species
- Surface and Groundwater quality
- Controlled burning practices and wildfires
- Air quality
- Land clearing/Land disturbance and soil erosion
- Constructed landforms
- Protected habitats
- Hazardous materials
- Pests
- Community and Stakeholders
- Legacy sites
- Waste
- Energy use



Risk Rating	Financial Measure	Impact	Personal, Commercial, Community/Govt./ Reputation/Media	Legal
5 High	> \$10M	An event or incident that causes substantial permanent damage to environment. Significant resources required to implement control resulting in permanent damage.	Definite serious negative personal and or commercial effect; attention from regulators, workforce, contractors, public or national media outcry.	Highest level damage prosecution and fines. Major litigation including class action up to and including potential revocation of operating licenses and permits and fines.
4 Major	\$1M - \$10M	An event or incident that causes substantial long-term negative effect or damage to environment with significant resources required to implement control resulting in minor permanent damage. Significant resources required to implement control resulting in minor permanent damage.	Serious negative personal and or commercial effect; attention from regulators, workforce, contractors, public or national media outcry.	Major damage, breach of regulation, litigation, up to and including potential revocation of operating licenses and permits and fines.
3 Significant	\$100K - \$1M	An event or incident that causes widespread temporary damage, which requires extended resources to remedy resulting in full recovery. Extensive resources to remedy resulting in full recovery.	Significant negative personal and or commercial effect; attention from regulators, workforce, contractors, public or national media outcry.	Serious damage, breach of regulation with investigation or report to authority including potential suspension of operating licenses and permits and fines.
2 Medium	\$10K - \$100K	An event that causes localised low level damage that is controlled and remedied with minimal resources. Controlled and remedied with minimal resources.	Medium negative personal and or commercial effect; attention from regulators, and potential media and/or heightened concern by workforce, contractors and local community. Criticism by non government organisations.	Serious damage; minor legal issues, non-compliances and breaches of regulations, potentially resulting in fines.
1 Low	<\$10K	An event that is contained within controls and/or an event that is too minor to cause a long term measurable impact. Controlled and remedied with minimal resources.	Medium negative personal and or commercial effect; attention from regulators, and potential minor adverse workforce, contractor, local public or media attention or complaints.	Damage, non-compliances and breaches of regulations, resulting in investigation and reparation.

Table 17: Risk Consequence Levels

The ranking of risk is carried out referencing the Australian and New Zealand Standard using a scale of 1 to 5 for consequence and probability (likelihood). The multiplication of the scores across each axis formed the scoring and therefore ranking of the risks. The risk ranking matrix contains the two axes consequence and probability (likelihood) and is detailed in Risk Matrix below.

LIKELIHOOD	CONSEQUENCES				
	1 LOW	2 MEDIUM	3 SIGNIFICANT	4 MAJOR	5 HIGH
5 ALMOST CERTAIN	Significant	Major	High	High	High
4 LIKELY	Significant	Significant	Major	High	High
3 POSSIBLE	Low	Significant	Significant	Major	High
2 UNLIKELY	Low	Low	Significant	Major	High
1 RARE	Low	Low	Low	Significant	Major

Table 18: Risk Matrix

Level of Risk	Event Notification Requirements	Notify Within	Investigation Coordinators
High Risk	Managing Director EH&S Manager Environmental Specialist Department Manager Area Supervisor	All within 1 hour	Managing Director EH&S Manager Environmental Specialist Department Manager
Major Risk	Managing Director EH&S Manager Environmental Specialist Department Manager Area Supervisor	All within 1 hour	Managing Director EH&S Manager Environmental Specialist Department Manager
Significant Risk	Managing Director EH&S Manager Environmental Specialist Department Manager Area Supervisor	Managing Director within 24 hours, all others within 1 hour	Managing Director EH&S Manager Environmental Specialist Department Manager
Medium Risk	Managing Director EH&S Manager Environmental Specialist Department Manager Area Supervisor	Managing Director within 24 hours, all others within 1 hour	Managing Director EH&S Manager Environmental Specialist Department Manager Area Supervisor
Low Risk	Managing Director EH&S Manager Environmental Specialist Department Manager Area Supervisor	Managing Director in monthly report, all others within 1 hour	Managing Director EH&S Manager Environmental Specialist Department Manager Area Supervisor

Note: The Managing Director and EH&S Manager must be notified of all Potential High Impact or Major Impact Events.



Table 19: Risk Analysis Reporting Procedure

## 9. APPENDICES

### APPENDIX A

#### Water Management Plan

### APPENDIX B

#### EGi Report

## 10. BIBLIOGRAPHY

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## 11. USEFUL LINKS AND RESOURCES

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