APPENDIX Z

EMP Framework

CLIENTS | PEOPLE | PERFORMANCE

Vista Gold Australia Pty Ltd

Mt Todd Gold Project

Environmental Management Plan Framework

June 2013

INFRASTRUCTURE | MINING & INDUSTRY | DEFENCE | PROPERTY & BUILDINGS | ENVIRONMENT

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1. Introduction

1.1 Overview

This document outlines the Environmental Management Plan (EMP) framework for the Vista Gold Australia Pty Ltd Mt Todd Gold Project (the Project), consisting of the re-establishment, operation and rehabilitation of the Mt Todd Gold Mine.

1.2 Purpose

The EMP Framework has been prepared as part of the Draft Environmental Impact Statement (EIS) for the Mt Todd Gold Project.

The EMP framework is intended to guide environmental management at the mine. It outlines an environmental management system including regular on-site environmental monitoring and annual review and reporting of environmental performance for the construction and operational phases of the Project. The EMP framework will need to be updated and finalised by Vista Gold and its Contractors to reflect final detailed design, construction and operation.

The objectives of the framework are to:

- provide Vista Gold with a clear framework for effective environmental management;
- define the statutory obligations that must be fulfilled;
- present a range of specific environmental management actions necessary to control, minimise or avoid impacts identified through the environmental assessment process;
- assign clear and appropriate responsibilities for the implementation of specific environmental undertakings;
- specify monitoring regimes to enable assessment of environmental performance;
- facilitate self-assessment to ensure that mitigation measures are implemented; and
- provide the community with evidence that the Project will be managed in an environmentally acceptable manner.

The EMP framework will be:

- reviewed and amended annually to maintain relevance to all aspects of the Project. Any updates to the framework will be included in the Mining Management Plan (MMP) annual review; and
- used by Vista Gold employees and its Contractors to assist them in performing their relevant roles and responsibilities.

1.3 Stakeholders

A list of stakeholders has been developed through background research in the local and regional area, and liaison with different individuals and organisations (Table 1).

Table 1 Key Stakeholders

Stakeholder Category	Representatives
Federal Government	
Federal Government Departments	◗ Sustainability, Environment, Water, Population and Communities (Department of)
Elected Representatives	◗ Member of Goyder ◗ Member of Katherine
Northern Territory Government	
Government Agencies	◗ Department of Mines and Energy ◗ Department of Housing, Local Government and Regional Services ◗ Department of Health ◗ Department of Lands Planning and the Environment and NT Environment Protection Agency ◗ Department of Business Employment ◗ Aboriginal Areas Protection Authority
Local Government	
Katherine Town Council	◗ Mayor, CEO, Aldermen, Key Council Officers
Roper-Gulf Shire Council	◗ Mayor, CEO, Aldermen, Key Council Officers
Victoria-Daly Shire	◗ Mayor, CEO, Aldermen, Key Council Officers
Local Communities	
Local Residents	◗ Katherine ◗ Pine Creek ◗ Indigenous communities (Werenbun, Rockhole, Binjari, Gorge Camp, Kalano, Eva Valley etc.)
Other Key Stakeholders	
Emergency and Health Services	◗ Police Service ◗ Ambulance and Emergency Services ◗ Fire and Rescue Service ◗ Katherine Hospital & Health Service ◗ Private Health Providers
Utility Service Providers	◗ Power and Water Corporation
Indigenous Groups and Traditional Owners	◗ Jawoyn Association ◗ Northern Land Council ◗ Nitmiluk National Park Board of Management

Stakeholder Category	Representatives
Community, Business and Industry Groups	◗ Katherine Chamber of Commerce ◗ Northern Territory Minerals Council ◗ Amateur Fisherman's Association of the Northern Territory ◗ Mt Todd Mine Site Rehabilitation Working Group ◗ Katherine Land Care Group
Environmental Groups	◗ Environment Centre Northern Territory
Media	
Print	◗ Katherine Times, Northern Territory News
TV / Radio	◗ ABC Radio, Katherine Community Radio

2. Draft EMP Framework

2.1 Purpose and Scope

The EMP will clearly describe the broad risk management strategies to be adopted by Vista Gold to manage the Mt Todd site during construction, operation and closure. The EMP will be based on the management principle of "plan, do, check and act":

- Plan – and define the organisations policy commitments by setting objectives and processes needed to achieve the results in accordance with policy;
- Do – implement the plans;
- Check – monitor, measure and evaluate performance against relevant policy, legal requirements, objectives and plans; and
- Act – take actions to ensure continued improvement in environmental performance.

2.2 Objectives

The objectives of the EMP are to provide a practical working framework for environmental management of the Mt Todd Gold Mine that:

- set objectives and benchmark performance measures to address risk;
- outlines management of the process and activities to ensure that adverse environmental impacts are avoided or minimised during all phases of the Project;
- establishes monitoring protocols as a means of evaluating the success of the management practices and mitigation measures; and
- provides for review of management strategies at regular and appropriate intervals to determine success areas and areas requiring additional attention.

2.3 Targets

The targets of the EMP are as follows:

- avoid, minimise or control health and safety risk to site personnel, visitors and surrounding land users;
- avoid, minimise or control environmental incidents and hazards;
- no non-vexatious complaints from surrounding land users;
- no unauthorised clearance of vegetation;
- no harm to cultural heritage values of the site;
- zero non-conforming water discharges;
- no uncontrolled release or discharge of chemicals to the receiving environment; and
- zero native fauna deaths.

2.4 Legal and Other Requirements

The EMP will contain a register of related approvals, licences and approval conditions. This register is the primary source for Vista Gold managers and staff in relation to the relevant legal, regulatory and other associated requirements in relation to environmental risk and performance.

2.5 Structure and Responsibility

Vista Gold will maintain responsibility for the overall environmental management of the Project during the construction phase. Contractor selection will depend in part on proven environmental health and safety performance on projects of similar size and complexity. Contractual conditions will apply in terms of compliance with the EMP.

The construction contractor will be responsible for the preparation and implementation of the construction elements of the EMP. The contractor will identify responsibilities and the organisation required to implement the accountabilities of the construction phase of the EMP, including the principal contractor and all sub-contractors.

The contractor will also develop and implement a site-specific induction program for all construction workers. This program will include EHS hazards and aspects and their control measures. Construction workers will be trained and hold the appropriate certification to competently carry out the tasks that they will be undertaking.

In the event of a non-compliance with the EMP, the construction contractor must investigate, report and implement appropriate corrective actions in accordance with Vista Gold procedures.

Vista Gold's General Manager will have overall responsibility for ensuring that all environmental commitments are met during the operational phase of the mine. All employees will be responsible for day-to-day implementation of the requirements of the EMP. Supervisors will report on the implementation and performance of the EMP within their areas of responsibility.

In the event of a non-compliance with the EMP, it will be the responsibility of the Supervisors to undertake appropriate investigation, reporting and implementation of corrective actions in accordance with Vista Gold procedures.

The EMP will be progressively updated to include changes associated with the mine as they occur.

3. Environmental Management System

3.1 Training, Awareness and Competence

Effective implementation of the EMP requires all staff to receive appropriate training in order to have an awareness of their roles and responsibilities. All staff and contractors have a cooperative responsibility to minimise adverse environmental impacts and to understand the compliance requirements of the EMP and the environmental assessment / approval conditions.

The training program will outline processes for:

- identifying training needs;
- development of appropriate training programs; and
- maintaining training records.

Details of training requirements, content, dates and personnel involved shall be documented for the Project. Training will include, but not be limited to, Environmental Awareness Inductions, formal presentations, Toolbox meetings, Job Safety Environment Analysis (JSEA's) and Execution Plans.

3.2 Communication and Reporting

Internal communication and reporting mechanisms will be developed to facilitate:

- communication to employees and contractors regarding the EMP requirements, the identified environmental impacts, objectives and targets, and other relevant environmental issues;
- communications and liaison with stakeholders in relation to environmental policy and EMP; and
- reporting internally to management and staff on environmental performance.

3.3 Emergency Preparedness and Response

The definition of an emergency is a situation that poses a serious threat to life, health or the environment and requires immediate attention by site staff and possibly more resources than the Project personnel have available at the time of the incident.

In the event of an emergency, Project personnel and subcontractors are to follow the procedures outlined in the Project Emergency Preparedness and Response Plan. Immediately following an incident, emergency services are to be contacted if required, followed by the General Manager.

A Communication Plan for unexpected or emergency discharge of waste water has been developed as per the requirement of the Waste Discharge Licence (WDL).

A record of dangerous goods, chemicals and fuels stored and used on the site will be developed. Specific management and handling procedures will be developed for each storage facility.

In the event of an incident which has a direct or indirect environmental impact the following steps will be taken:

- make site safe and secure;
- isolate the source or cause of pollution or environmental damage, id possible; and
- follow incident management protocols in the Emergency Response Plan, Communication Plan, and EMP (whichever is appropriate).

3.3.1 Emergency Contact Register

The contact names and phone numbers of key Project personnel, other relevant authorities and off site emergency services phone numbers will be displayed on site. Emergency procedures and contact telephone numbers will be displayed in a prominent position.

3.3.2 Emergency Procedure

After a person causes, or becomes aware of an environmental incident, they should:

1 - Ensure the site is safe	First, consider personnel safety and *if safe to do so*, prevent any further environmental impact from occurring
2 - Notify	The General Manager and emergency services as required
3 - Follow Procedure	Follow the Vista Gold Emergency Response Procedure

Employees and contractors are required to report all environmental incidents. These include, but are not limited to:

- spills of hydrocarbons, chemicals any other potentially toxic substance greater than 25 litres;
- significant discharge of Acid Metalliferous Drainage (AMD); and
- injury to, or deaths of, threatened native fauna / flora.

Personnel are asked to report threatened species deaths and photograph the animal / plant to confirm species identification.

DME may make a written request for further details in relation to any of the incident matters if it is not satisfied with the report provided. The General Manager will provide further details to the DME within the time specified in the request.

3.4 Monitoring and Measurement

Environmental performance will be monitored and reported against performance indicators specified in this EMP and in the environmental approval conditions. The methodology for measuring, reviewing and reporting on environmental performance indicators to track progress towards environmental objectives and targets will be outlined in environmental aspect specific procedures.

Regular auditing and review of the EMP, combined with corrective and preventative action, will facilitate continual improvement on environmental performance.

3.5 Non-Conformance and Corrective and Preventative Action

To ensure continual improvement any non-conformance with the environmental approval conditions will be registered and investigated, followed by corrective and preventative actions to minimise the risk of re-occurrence. An EMP non-conformance is defined as a failure to:

- meet nominated environmental objectives and targets (within a two year period);
- comply with EA conditions, environmental legislation or other requirements; or
- comply with EMP procedures.

Once a non-conformance has been identified, corrective or preventative action is initiated. Any EMP improvement opportunities, identified as a result of emergencies or incidents, monitoring or measurement, unforseen environmental impacts, audit findings or other review, will be documented.

3.6 Review, Records and Audits

Environmental audits will be conducted prior to construction, during construction, prior to operations, and regularly during operations. Audit results will be fed back into the review process and contribute to continual improvement of environmental performance.

Where the audit identifies the need for corrective action, the EMP procedures and the EMP will be amended accordingly.

The EMP will be reviewed and updated on an as-needs basis depending on any non-conformance issue or incident. Review may also be initiated by a change in operating strategy or production process, or by any amended licence or approval and their associated conditions.

An internal audit of compliance with the EMP will be undertaken on a quarterly basis. The findings of this audit will be recorded and referred to when applying continuous improvement processes and subsequent changes to operational activities.

3.7 Environmental Reporting

Site and Management Personnel will be made aware of issues regarding the Project's environmental performance. A written report of non-conformance will be reported to the Health, Safety and Environment Manager and General Manager. Details provided will include the date, type and location of the non-conformities, how the non-conformities occurred and the corrective action employed.

The Health, Safety and Environment Manager and General Manager should monitor environmental performance based on reports received from the Environmental Team and other personnel. Additional strategies or training will be developed / implemented when environmental strategies do not attain the management objective. Records will be kept, along with a Non-Conformance Register.

Non-conformities (e.g. serious spills) or other incidents requiring reporting will be made to NT EPA / DME / appropriate agency within time limits specified in legislation.

Documentation of environmental management activities will be held by the Health, Safety and Environment Manager in the designated site office during the operational phase.

Reports to DME on environmental performance will be made as required by the MMP.

Following the audit procedure an inspection report will be forwarded to the DME.

All environmental management is subject to continual review and improvement as required.

3.8 Environmental Management and Mitigation Measures

The following section has been prepared in accordance with the draft EIS Guidelines identifying key risks. The measures contained below build on current caretaker responsibilities, and also adopt the mitigation measures recommended in different sections of the draft EIS.

The framework has been prepared to be a strategic guidance document for environmental management during the construction, operation and closure phases of the Project. Prior to each phase of the Project, specific sub-plans will be developed that recognise the need to tailor management and mitigation measures to specific activities.

A final EMP framework will be prepared at the conclusion of the assessment process, taking into account comments on the Draft EIS, the EIS Supplement, and incorporating Assessment Report recommendations.

3.8.1 Community

Objectives	◗ Maximise beneficial social and/or community effects from the Project
Target	◗ No complaints
Actions	**Community Values and Change** ◗ A community and stakeholder engagement plan will be developed. ◗ The Project will establish a community and stakeholder relations role and a community reference group that will advise the Proponent on community matters. ◗ The community reference group will include representatives of vulnerable groups. ◗ A complaints and feedback register will be established to track complaints and feedback and the response of the Proponent. ◗ The Proponent will continue to maintain, develop and operate the Mt Todd Project Website in order to inform the community **Local Industry Participation, Employment and Training** ◗ An Industry Participation Plan will be developed in accordance with the requirements of the Northern Territory Government, and with a preference to build business, industry and community capability within the Northern Territory. ◗ The Proponent will work with local training providers to develop local training programs that will provide opportunities for employment to unskilled people. **Housing and Accommodation** ◗ Further develop the preferred housing and accommodation strategy with key stakeholders prior to construction. **Workforce Management Strategy** ◗ Develop an overall workforce management strategy including workforce sources, management, health and wellbeing and appropriate behaviour prior to construction. ◗ The workforce management strategy will include a recruitment policy that allows for appropriate notice periods to be served for new employees. ◗ A purpose built construction camp will be built outside of existing communities. **Near Neighbour Program** ◗ Develop and implement a near neighbour program with adjacent and downstream landholders to maintain a regular system of contact with landholders to monitor any concerns or issues that might arise. **Indigenous Resources, Values and Aspirations** ◗ Continue to work with the Jawoyn Association under a partnership agreement. ◗ Establish clear mechanisms for ongoing consultation and communication with Indigenous groups potentially affected by the Project. ◗ Implement and monitor the Cultural Heritage Management Plan. **Community Health and Safety** ◗ Occupation health and safety policies will be developed for the construction and operational phases of the Project. ◗ First aid will be available at the mine site.

	◗ A site safety plan will be developed that includes preventative measures for a range of on and off-site incidents that might impact on community health and safety. ◗ An Emergency Response Plan will be developed that includes any emergency incidents that might involve members of the public. The Proponent will work closely with the Katherine Emergency Services in developing the plan.
Performance Indicators	◗ Community and Stakeholder relations role, Community Reference Group and Stakeholder Engagement plan established. ◗ Community feedback mechanism in place. ◗ Local employment and training plan in place. ◗ Number and type of employment opportunities available. ◗ Near neighbour program developed and implemented. ◗ Continued involvement with Jawoyn Traditional Owners as part of the Jawoyn Partnership Agreement. ◗ Emergency Response Plan prepared. ◗ Number of community initiatives funded. ◗ Value of community development fund. ◗ Comprehensive database maintained on complaints, employee health and social issues. ◗ Recurring issues analysed and addressed.
Monitoring	◗ Track the identified impacts and the delivery of their mitigation strategies ◗ Identify new impacts arising from changing conditions and develop responses ◗ Enable regular stakeholder contact and feedback ◗ Comprehensive database maintained on complaints, employee health and social issues
Reporting	To facilitate monitoring various reporting mechanisms will be put in place including: ◗ A newsletter will be regularly prepared and distributed to the community and stakeholders. In addition to reporting on activities at the mine and upcoming events it will also provide a snapshot of the key performance indicators as they relate to mine operations, provide up-to-date realistic information on forecasts for mining operations, workforce (including contractors) and any Project changes. ◗ Internal reporting within Vista Gold – Annual Corporate Reporting ◗ Internal reporting within Vista Gold – including monthly reporting on the grievance and dispute resolution mechanism. ◗ Community issues will be reported in the annual Mining Management Plan.
Responsibility	◗ Community and Stakeholder Relations role.
Contingency	◗ In the event of noncompliance, an investigation will be undertaken by the General Manager (or suitable delegate) into the cause of the incident, and the failure to comply.

Relevant standards and legislation	◗ International Principles for Social Impact Assessment, International Association for Impact Assessment (IAIA 2003). ◗ International Association for Public Participation, Core Values for Public Participation Processes (IAP2 2007). ◗ Territory: 2030 Strategic Plan 2009 and relevant government initiatives falling within this plan such as Housing the Territory and Working the Future. ◗ Local Government Regional Management Plan – Big Rivers Region (Northern Territory Government – NTG 2008). ◗ Katherine Town Council Municipal Plan 2011-2016. ◗ Roper Gulf Shire Plan 2011-2012. ◗ Victoria Daly Shire Plan 2011. ◗ ICMM Community Development Toolkit. ◗ Enduring Value - The Australian Minerals Industry Framework for Sustainable Development 2005.

3.8.2 Cultural Heritage

Objectives	◗ Minimise impacts on the region's cultural heritage values. ◗ All personnel aware of constraints to site access/movements/activity due to presence of archaeological, sacred and heritage sites.
Target	◗ Activities on site do not impact on archaeological, sacred or heritage sites or objects. ◗ Cultural heritage values understood and protected by Vista Gold.
Actions	The following management measures are recommended: **Ground disturbance and land clearing** ◗ Where possible impacts to archaeological sites of medium and high significance will be avoided. ◗ Areas of heritage and or archaeological significance will be clearly demarcated at a given buffer/standoff distance and 'no go' areas will be applied. ◗ Permit to Disturb applications and consultation for isolated artefacts and small sites if necessary to disturb and or relocate. ◗ Consultation with traditional owners as part of the management, permitting and possible salvage of sites using acceptable archaeological methodology. ◗ Implement a Cultural Heritage Management Plan for the sites remaining and sites to be removed with approval. ◗ Consultation with Heritage Branch and other relevant stakeholders in relation to heritage management decisions and location of heritage objects removed with approval under the Heritage Act. ◗ Maintain Authority Certificate(s) for the Project Area and the proposed works. ◗ Undertake inductions and provide all personnel with an understanding of the need to understand and comply with the conditions of the AAPA certificate. ◗ Locations of unrecorded archaeological sites that may be discovered during the course of works to be reported to the Heritage Brach of DLPE and the Jawoyn Association **Major open pit slope failure** ◗ Identify sacred sites within close proximity of open pit crest. ◗ Ensure adjacent slope design configuration and Factor of Safety and / or Probability of Failure are commensurate with nature of sensitive site (i.e. acceptable design tolerance given level of confidence in geotechnical model and analysis – within detailed design phase). ◗ Develop and implement a suitably robust and appropriate Ground Control Management Plan (including comprehensive slope design verification, protection measures and monitoring routines). ◗ Any sacred sites in proximity to the open pit crest will be the subject of a Ground Control Management Plan. The plan will be accompanied by verification of slope design, protection measures and monitoring routines that are commensurate with the sensitivity of the site.

Performance Indicators	◗ Implementation of, and compliance with, the Cultural Heritage Management Plan ◗ Record of disturbance, or infringement of cultural heritage.
Monitoring	◗ Vista Gold, in conjunction with Traditional Owners, to undertake heritage clearances before disturbance are undertaken in new areas. ◗ Known sacred sites, Aboriginal sites and archaeological sites will be monitored during mining activity to ensure none is being disturbed (other than those that have a Permit to Disturb). ◗ Review feedback from the Traditional Owners.
Reporting	The Construction Contractor, Community and Stakeholder Relations Officer and Health, Safety and Environment Manager will keep records of the locations of all known sites, report new sites to the General Manager, DME, Jawoyn Association, NLC and NT EPA as appropriate.
Responsibility	◗ Construction Contractor(s). ◗ Community Relations Officer. ◗ Health, Safety and Environment Manager.
Contingency	Accidental or other disturbance to sites will be recorded by Vista Gold and reported to the Jawoyn Association, AAPA or Heritage Branch of DLPE as appropriate.
Relevant standards and legislation	◗ *NT Aboriginal Sacred Sites Act 1989.* ◗ *Heritage Act 2011.*

3.8.3 Acid and Metalliferous Drainage (AMD)

Objectives	◗ The footprint, intensity and duration of AMD impacts associated with waste rock and tailings disposal is minimised. ◗ Prevent, mitigate or manage AMD so that it does not create off-site environmental impact during mine operations and legacy issues both on and off site after mine closure.
Target	◗ To manage AMD utilising the following hierarchical approach: – prevention; – minimisation; – control; and – treatment.
Actions	**Batman Pit (RP1)** ◗ Continue current treatment of RP1 waters to level deemed appropriate for discharge in accordance with the WDL. ◗ Ongoing monitoring of water quality prior to discharge. ◗ Collection and treatment of AMD pit waters resulting from incident rainfall. ◗ Develop and implement a Water Management Plan and Closure Plan with detailed monitoring and contingency plans. **Waste Rock Dump** ◗ A Waste Rock Management Plan (WRMP) will be developed that specifies how waste rock is to be handled to minimise the potential for AMD and maximise the beneficial use of NAF waste rock for closure. **Tailings Storage Facilities** ◗ Comply with approved tailings management plan that will specify how tailings will be handled to minimise AMD, closure, rapid dewatering and consolidation of tailings. **Existing and new diversion drains** ◗ Maintain existing diversion drains. ◗ Restrict excavation depths to oxidised material. ◗ Inspect material types and classify as necessary.
Performance Indicators	◗ Surface and groundwater quality will be measured against the dilution factor, and site specific trigger value at monitoring location SW4. ◗ No visible trace of AMD on site outside processing and managed areas.
Monitoring	◗ A surface water monitoring program is a component of the WDL. ◗ Surface water samples will be collected in accordance with the Australian Standard Surface Water Sampling Guidelines by trained environmental scientists.
Responsibility	◗ Construction Contractor(s). ◗ Health, Safety and Environment Manager/Scientist. ◗ Process Plant Manager.

Reporting	◗ Water quality monitoring reported as part of MMP requirements.
Contingency	Should noncompliance with the EMP occur, the following corrective actions will be undertaken as appropriate: ◗ contain and remediate, and, or dispose of contaminated material through the appropriate facility. ◗ review cover and seepage and collection systems.
Relevant standards and legislation	◗ *Mining Management Act 2001.* ◗ *Waste Management and Pollution Control Act 2009.* ◗ International Network for Acid Prevention (INAP) Gard Guide http://www.gardguide.com/index.php/Main_Page. ◗ Australian Government Department of Resources, Energy and Tourism Leading Practice Sustainable Development Program Handbooks – Managing Acid and Metalliferous Drainage: http://www.ret.gov.au/resources/Documents/LPSDP/LPSDP-AcidHandbook.pdf ◗ The Australian Standards used for monitoring include: – Australian/New Zealand Standard, Water Quality – Sampling Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples. AS/NZ 5667.1:1998. – Australian/New Zealand Standard, Water Quality – Sampling Part 4: Guidance on sampling from lakes, natural and man-made AS/NZ 5667.4, 1998. – Australian/New Zealand Standard, Water Quality – Sampling Part 6: Guidance on sampling from rivers and streams AS/NZ 5667.6, 1998.

3.8.4 Groundwater

Objectives	◗ Protect the quality of the existing groundwater resource. ◗ Protect the local groundwater regime from significant drawdown.
Target	◗ No deterioration in groundwater quality.
Actions	◗ Manage disposal of wastes in accordance with the Waste Management and Pollution Control Act and waste management hierarchy through the MMP. ◗ Chemical and hydrocarbon storage facilities bunded and managed in accordance with the MMP including inventory of chemicals onsite, material safety data sheets, spill kits and spill response procedures. ◗ Monitoring of bores that are potentially influenced by groundwater drawdown. ◗ Rehabilitation of monitoring bores proposed to be retained, to meet most current Minimum Construction Requirements for Water Bores in Australia; and closure of redundant bores and/or grouting of exposed exploration drill holes. **Tailings Storage Facilities** ◗ Tailings will be managed in accordance with the Tailings Management Plan. ◗ Reinstate existing TSF1 underdrainage system and associated infrastructure to reduce seepage to groundwater. ◗ TSF2 will be underlain by a system of under-drains, geo-membrane liner, toe drains and over-drains. There will be no hydraulic contact between TSF2 and groundwater. ◗ Monitoring of water levels and quality adjacent to TSFs to establish if there is a linkage with the surrounding environment. **Waste Rock Dump** ◗ Investigate alternative methods of neutralising PAF rock. ◗ AMD materials selectively handled to remove oxygen and water. ◗ WRD will be managed in accordance with the Waste Rock Management Plan. ◗ Groundwater Monitoring Program. ◗ Construction of 8m wide benches at 30m vertical intervals to collect stormwater drainage and convey to surface water collection ditch. ◗ A surface water collection ditch will be constructed down gradient of the WRD to collect flows for treatment prior to discharge. ◗ Potentially Acid Forming rock will be contained in a Non-Acid Forming shell reducing exposure to air and water during operations and post mining. ◗ Monitoring of water levels and quality adjacent to WRD to establish if there is a linkage with the WRD and the surrounding environment. ◗ Continued collection of seepage from WRD by RP1 ◗ Installation of Geosynthetic Clay Liner (GCL) progressively throughout closure of areas of the WRD. The GCL will reduce/eliminate infiltration and generation of AMD in the structure.

	Heap Leach Pad ◗ Processing or rehabilitation of heap leach materials. ◗ Ongoing maintenance of HLP post wet season. ◗ Cleaning of moat and repairs of liners as required. ◗ Pumping of stormwater from HLP to TSFs. ◗ Monitoring of water levels and quality adjacent to HLP to establish if there is a linkage with the surrounding environment.
Performance Indicators	◗ Adherence with the Water Quality Monitoring Plan. ◗ Groundwater level monitoring shows consistent baseline levels. ◗ Where an incident causing pollution occurs the NT EPA will be informed within 24hrs, as per the *Waste Management and Pollution Control Act 1998*.
Monitoring	Groundwater monitoring should include: ◗ Monitoring of groundwater levels (and usage) on neighbouring properties (Edith Falls and Werenbun) and the subsequent development of trigger values to monitor and manage any drawdown or contamination resulting from the proposed development. ◗ The geochemical monitoring of a limited set of key groundwater bores (including those deemed 'background' or 'boundary' bores continued on a quarterly basis. ◗ Water retention structures and dumps should have specific groundwater monitoring infrastructure installed. ◗ Site water balance data, including pumping, rainfall and stream flows, should be maintained in a suitable format. ◗ Water levels monitored in all groundwater monitoring bores on site.
Reporting	◗ The results groundwater monitoring program will be reported in the annual MMP.
Responsibility	◗ Contractor(s). ◗ Health, Safety and Environment Manager.
Contingency	◗ Should an incident or failure to comply with the EMP occur in relation to groundwater management, the following corrective actions will be considered where relevant: – identify the source of the seepage and effect remedial action to the seepage control system – recover contaminated groundwater for reuse in the processing plant.
Relevant standards and legislation	◗ *Waste Management and Pollution Control Act 2009.* ◗ *Water Act 1992.* ◗ Australian Drinking Water Guideline (NHMRC and NRMMC 2004). ◗ Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ 2000).

3.8.5 Surface Water

Objectives	◗ Avoid, minimise or control adverse impact on surface water quality. ◗ Avoid, minimise or control erosion and the discharge of contaminated surface water generated from construction activities to the surrounding environment. ◗ Minimise the discharge of mine affected (or 'contaminated') surface water to the surrounding environment.
Target	◗ Compliance with the WDL. ◗ Water quality monitoring assessed in accordance with site-specific trigger levels. ◗ No erosion or deposition of sediment within surface water courses beyond natural fluctuations. ◗ Year-round collection, containment and treatment of all AMD prior to release. ◗ Ensure treated AMD complies with the WDL water quality standards. ◗ Minimise the volume and water content of sludge produced from water treatment. Provide adequate long-term storage and containment of sludge. Promote rapid sludge consolidation.
Actions	**Stormwater Management** ◗ Infrastructure includes erosion protection and sediment control structures. ◗ Segregate "clean" from "dirty" stormwater runoff and collect and treat "dirty" water runoff within the mine site. ◗ Stormwater drainage will be designed for a 100 year ARI design event and all drainage will be regularly checked and maintained. ◗ Minimise stormwater runoff into the pit by construction of runoff barriers (e.g. engineered mounds / levees) around the pit. ◗ Stormwater runoff from material storage dumps will be minimised by: – construct dumps in a manner that dissipates runoff through seepage and evaporation – construct the outer batter slopes of dumps with inert overburden material – construct perimeter drains that collect runoff from the outer batter slopes and perimeter areas – construct drainage lines that convey runoff from dump perimeter drains to water retention ponds **Surface water contamination and flooding** ◗ Water retention ponds will be sized to capture an ARI event appropriate to their hazard category, plus an appropriate freeboard allowance for sedimentation. ◗ The ponds will be designed to discharge to the natural environment in periods of extreme rainfall to protect the integrity of the structure. ◗ A Water Management Plan will be developed, implemented and regularly reviewed. ◗ Water retention ponds will be managed to maximise their available storage in the wet season, including discharge in accordance with the WDL.

	◗ Additional pumping capacity will be installed to accommodate severe rainfall. ◗ If all water storages are at capacity, in an emergency, excess water will be transferred to the TSFs for temporary storage. ◗ Surface Monitoring will be undertaken to validate Water Balance Model. ◗ Design and construction of infrastructure in accordance with Australian National Committee on Large Dams (ANCOLD) requirements ◗ Capacity of WTP and equalisation pond will be sufficient to prevent overflows in normal operating conditions. ◗ Mine pit water will evaporate or be pumped to the water treatment plant. ◗ During operations, water will be treated for general on-site use and to meet discharge criteria for release to the Edith River during the wet season. ◗ During the pre-production phase, construct a lined equalisation pond for mixing of AMD from various on-site sources prior to treatment and to temporarily store AMD in case of system upset. A lined sludge disposal cell will also be constructed for the permanent disposal of water treatment sludge. **Tailings management** ◗ Comply with the Tailings Management Plan. ◗ Design and construct infrastructure in accordance with (ANCOLD) requirements. **HazMat** ◗ All chemicals, fuels and oils will be stored and contained according to Australian Standards and Regulations for the protection of surface water from impacts of spills. ◗ Surface water quality monitoring.
Performance Indicators	◗ Adherence with: – WDL – surface water site specific trigger values.
Monitoring	◗ Monthly surface water monitoring program implemented in accordance with WDL. ◗ Surface water quality monitoring will be conducted in accordance with the Australian Standard Surface Water Sampling Guidelines by trained environmental scientists. ◗ The data from the monitoring programs will be reviewed on a monthly basis and the requirements for modifying the sampling programs will be assessed. ◗ The use of trigger values will determine the quality of water observed at the monitoring sites. ◗ Regular engineering safety/ audit assessments will be undertaken on the integrity of water storages where there is potential for spill to receiving waters in the event of a storage breach.
Reporting	◗ surface water monitoring reports submitted to the NT EPA as per WDL requirements. ◗ Annual site Mining Management Plan reporting to DME.

Responsibility	◗ Contractor(s). ◗ Health Safety and Environment Officer. ◗ Process Plant Manager.
Contingency	◗ Should an incident or failure to comply occur in relation to surface water, Section 14 of the *Waste Management and Pollution Control Act* 2009 stipulates a process for notifying the NT EPA about incidents causing, or threatening to cause pollution. ◗ Contingency management measures include: – repair water management controls (e.g. ponds, pipes or drains) – contain and remediate or dispose using an appropriate carrier and facility – modify the operating strategies for the surface water management system – clean out the sedimentation ponds – modify channel cross sections – implement additional revegetation – provide other rectification measures as appropriate ◗ Increase/change monitoring schedule and review actions, if it is found there is evidence of contamination or impact to downstream users.
Relevant standards and legislation	◗ *Commonwealth Environment Protection and Biodiversity Conservation Act 1999.* ◗ *National Environment Protection Measures (Implementation) Act 1998.* ◗ *Mining Management Act 2001.* ◗ *Heritage Act 2011.* ◗ *Water Act 1992.* ◗ *Waste Management and Pollution Control Act 2009.* ◗ *Territory Parks and Wildlife Conservation Act 2006.* ◗ *Dangerous Goods Act 1994.* ◗ Australian and New Zealand guidelines for Fresh and Marine Water Quality ANZECC & ARMCANZ (2000). ◗ Guidelines to Prevent Mosquito Breeding, Department of Health and Community Services 2005. ◗ Australian/New Zealand Standard, Water Quality – Sampling Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples. AS/NZ 5667.1:1998. ◗ Australian/New Zealand Standard, Water Quality – Sampling Part 4: Guidance on sampling from lakes, natural and man-made AS/NZ 5667.4, 1998. ◗ Australian/New Zealand Standard, Water Quality – Sampling Part 6: Guidance on sampling from rivers and streams AS/NZ 5667.6, 1998.

3.8.6 Air Quality

Objectives	◗ Avoid, minimise or control impacts associated with dust and other emissions resulting from, and during, mine construction and operation.
Target	◗ Mitigation measures will be progressively implemented as required to meet air quality objectives at the lease boundary. ◗ Management of emissions to air, including dust causing or likely to cause a significant impact or nuisance on Werenbun Community, Yinberrie Hills (site of conservation significance) or beyond the lease boundaries.
Actions	**Dust** ◗ Standard dust mitigation will include chemical treatment of roads to reduce dust generation, use of water sprays, wetting of ore prior to crushing, hooded crushers and enclosed HPGR (High Pressure Grinding Rolls). ◗ Sprays on primary crusher dump pocket. ◗ Dust suppression sprays on conveyor. ◗ Monitoring of dust levels during preproduction, construction and operations to validate the model results. ◗ Reconsider likely risks with validated model results. ◗ Implement additional management controls if exceedance is likely. ◗ Retention of vegetation around the boundary as a buffer, and to limit potential dust sources. ◗ Covering areas of disturbed soil, stockpiles and temporary spoil containment with mulch or other material as best practicable. ◗ Whenever possible, avoid conducting dust generating activities during high wind speed conditions. **Other** The following mitigation measures should be progressively implemented as required, to meet required air quality objectives: ◗ Operation and maintenance of power station in accordance with the design and emission criteria. ◗ All construction and maintenance equipment / vehicles to be operated and maintained to manufacturers' specifications in order to minimise exhaust emission. ◗ Defined haul routes to be used wherever it is necessary for vehicles to traverse unsealed surfaces or unformed roads. ◗ All gravel roads to and from the Project can be upgraded from gravel to a spray sealed surface of "all weather" road designation. ◗ Vehicular speeds limited to 25km/h on areas of unsealed surfaces. ◗ Burning of waste and materials is not allowed on site at any time.
Performance Indicators	◗ Comply with NEPM (Air) air quality objectives and goals, and the Mining PEM criteria at the closest sensitive receptor location of Werenbun

Monitoring	◗ A Dust Management Plan will be developed including monitoring to indicate how well the system is performing and whether additional mitigation is required. ◗ Consideration will be given to the PEM for Mining (EPA Victoria 2007) which provides guidance on operational control requirements and monitoring for reactive management purposes as there are no specific Territory guidelines. ◗ Monitoring of potential dust impacts on fauna as a component of the proposed monitoring program.
Reporting	◗ Results of dust monitoring will be stored in a monitoring database and reviewed. ◗ Dust levels exceeding monthly trigger levels, inclusive of adjustment for background, will implement a review of the management plan and additional dust control measures used to reduce dust levels to the guideline value. ◗ Vista Gold's air quality performance will continue to be reported in the annual MMP.
Responsibility	◗ Construction Contractor(s). ◗ Health, Safety and Environment Manager.
Contingency	◗ Should an incident or failure to comply with the EMP occur, Vista Gold will take the necessary actions to identify the causes of the non-conformance and implement all actions necessary to achieve compliance ◗ Reactive management to exceedances in emissions and dust deposition.
Relevant standards and legislation	◗ *Mining Management Act 2001.* ◗ *Fire and Emergency Act 2012.* ◗ *Waste Management and Pollution Control Act 2009.* ◗ *Work Health and Safety Act 2011.* ◗ AS 2724.3 Ambient air particulate matter – Determination of total suspended particulates (TSP) – High volume sampler gravimetric method. ◗ AS 3580 Methods of sampling and analysis of ambient air. ◗ National Environment Protection Measures (Implementation) Act 1998, Section 14 (1) NEPM. ◗ PEM for Mining (EPA Victoria, 2007).

3.8.7 Greenhouse Gases, Sustainability and Climate Change

Objectives and targets	◗ Reduce or minimise greenhouse gas emissions to as low as is practicable. ◗ Promote energy efficiency and management. ◗ Project facilities and features designed with consideration for extreme weather events and climate change projections.
Actions	**Fuel** ◗ Implement a fuel management strategy. ◗ Opportunities for the use of biodiesel on the Project should be further examined. **Energy Efficiency and Management** There are a number of legislative requirements for measuring, monitoring and reporting GHG emissions and energy consumption that are applicable to the Project: ◗ Commit to energy efficiency within the final site EMP. ◗ Integrate appropriate management into all activities and processes. ◗ Monitor greenhouse gas emissions and report Scope 1 and Scope 2 emissions as part of NGERS. ◗ Seek continuous improvement in compliance and emissions reduction throughout the Project life through assessment and review processes including legislative reporting. ◗ Consider voluntary offsets for additional GHG emissions when assessing the Project's liability under the carbon pricing mechanism. **Climate change** ◗ Consideration of appropriate temperature ranges in selection of plant and equipment. ◗ Undertake adequate preventative maintenance of plant, pumps and generators etc. as part of standard procedures. ◗ Monitor plant and equipment on days of extreme weather conditions. ◗ Appropriate design of structures and material selections. ◗ Consider appropriate temperature suitability of stored chemicals and explosives. ◗ Site drainage will be sufficient to manage potential extremes in rainfall events. ◗ Appropriate bunding of watercourse redirection and overflow collection areas. ◗ For recycled plant process water, design will consider both dry and wet periods. ◗ Ponds sized appropriately, including overflow capacity. ◗ Open pit slopes walled and designed to withstand appropriate flood volumes.

	Sustainability Implement a system to effectively monitor measure and report on environmental management. This may include: – Key Result Areas; – Key Performance Indicators; – Environmental Management Systems. ◗ Educate Vista Gold personnel, Contractors and other individuals on-site to make them aware of EMS procedures and work within the system. ◗ Where practicable incorporate sustainability criteria and requirements into tender documents such as material specifications (i.e. establish preferential priority to products which are locally sourced/contain recycled materials/are low in volatile organic compounds/etc.). ◗ Communicate procedures to ensure Contractors are aware of any requirements that have been incorporated into tender documents. ◗ Review key contractors based on past performance and/or audit during contract delivery. ◗ Identify appropriate and achievable sustainability goals for the Project and reflect outcomes of subsequent monitoring and reporting annually. ◗ Consider whole of life costing in the design. ◗ Consider resilience of equipment to reduce long term costs. ◗ Undertake mine planning to achieve efficient recovery, processing and resource use. ◗ Apply risk management systems to provide early identification and corrective action to avoid Project/mine failure. ◗ Create a culture of risk awareness and risk management through site construction and operational activities. **Extreme weather events** ◗ Appropriate bunding of watercourse redirection and overflow collection areas should be provided as appropriate / necessary. ◗ Ensure site drainage is sufficient to manage potential extremes in rainfall events.
Performance Indicators	◗ Fuel management strategy recording fuel use and efficiency. ◗ Greenhouse gas emission levels. ◗ Project performance during extreme weather events.
Monitoring	◗ Undertake regular energy efficiency review to identify opportunities for improving processes and reducing energy use. ◗ Review design criteria and functionality of operational components sensitive to climatic changes. ◗ Record and analyse fuel and energy consumption and cost.

Reporting	◗ Estimate and report annual greenhouse gas emissions to relevant regulatory authorities, as required under *National Greenhouse and Energy Reporting Act 2007,* the *Clean Energy Act 2011* and the *Energy Efficiency Opportunities Act 2006.* ◗ The Projects fuel and energy use, and ability to function during extreme weather events will be reported in the annual environmental performance report.
Responsibility	◗ Construction contractor(s). ◗ Health, Safety and Environment Manager.
Contingency	Should an incident or failure to comply occur, Vista Gold will: ◗ Take the necessary actions to identify the causes of the non-conformance. ◗ Implement all actions necessary to achieve compliance.
Relevant standards and legislation	◗ *National Greenhouse and Energy Reporting Act 2007.* ◗ *Clean Energy Act 2011.* ◗ *Energy Efficiency Opportunities Act 2006.* ◗ Environmental Protection (National Pollution Inventory) Objective 2004. ◗ ICMM Sustainable Development Framework. ◗ Enduring Value - The Australian Minerals Industry Framework for Sustainable Development 2005.

3.8.8 Flora, Vegetation and Terrestrial and Aquatic Fauna

Objectives	◗ Avoid, minimise or control potential for significant impact on native flora and fauna and the conservation significance of the Yinberrie Hills SOCS. ◗ Avoid, minimise or control the impact of construction activities on biodiversity adjacent to construction areas (including prevention of weeds).
Target	◗ Implement actions to avoid or manage adverse impacts on biodiversity. ◗ No disturbance of native flora and fauna outside of designated construction activity areas.
Actions	**Land Clearing** ◗ Adhere to buffer widths recommended by the NT Land Clearing Guidelines where possible, with regard to riparian vegetation in drainage lines. If not possible install structures that would capture sediment downstream of development. ◗ Stage clearing of vegetation to minimise areas of bare ground and clear land only as required and in accordance with Erosion and Sediment Control Plan (ESCP). ◗ Avoid land clearing for construction during the wet season (Dec-May). ◗ Develop and implement Vegetation Clearing Plans which include areas not to be cleared (no-go areas) and make all workers aware of them through EMPs. ◗ Clearly mark limits of clearing. ◗ Project personnel and contractors will be educated to understand the vegetation clearing plans as part of general environmental inductions for the workforce. ◗ Clearing will be monitored to ensure compliance with areas marked for clearing; no intrusion of any kind will be made on areas outside the clearing zone. ◗ Areas of potential habitat for threatened species will be fenced off and clearly marked as 'no-go' areas. ◗ Where clearing is proposed for habitat of the threatened *Ultricularia singeriana* or *Fimbrostylus fimrostyloides*, a targeted survey will be conducted prior to clearing. ◗ The Gouldian finch habitat, *E. tintinnans* woodlands adjacent to the pit, will only be cleared during the non-breeding season i.e. the wet season. ◗ Standard noise mitigation will be applied to minimise noise levels during clearing. **Dust** ◗ Standard dust mitigation will include chemical treatment of roads to reduce dust generation, use of water sprays, wetting of ore prior to crushing, hooded crushers, and enclosed HPGR (High Pressure Grinding Rolls). ◗ Additional mitigation measures are planned should dust levels prove excessive. ◗ Monitoring of the Gouldian finch breeding population will continue and will also assist with inferring impacts on the crested shrike-tit and partridge pigeon populations. ◗ Dust levels will be monitored. ◗ Artificial nest boxes will be established throughout the area of Gouldian finch habitat potentially subject to >50 µg/m^3 levels of dust as part of the monitoring program.

Fire

- The existing system of early dry season controlled burns will be maintained to support the Gouldian finch and other significant species. Subsequent fires late in the dry season (following early dry season burns) should be avoided. Expansion of fire management to the entire Yinberrie Hills site of conservation significance is recommended.

Feral Animals

- Good housekeeping and waste management onsite should be enforced to prevent introduction, or limit potential for colonisation of exotic species (e.g. Black rats)

Artificial Light

- Artificial light will be mitigated in accordance with an EMP and include:
  - limiting artificial light to areas actively required at any given time, and turning off lights that are not required
  - ensuring that artificial lighting does not point vertically upwards or laterally i.e. should point towards the ground
  - use of lower rather than higher lighting installations
  - avoiding the flood of light into natural habitats
  - use of lower wavelengths of light wherever possible i.e. red/yellow lights
  - use of light intensities that are as low as possible
  - avoiding painting large structures bright colours.

AMD Contamination of Aquatic Environments

- Proactive management of water levels to ensure adequate storage capacity.
- Increase the rate of treatment and discharge if uncontrolled release likely.
- Ongoing monitoring and evaluation of water quality, macroinvertebrate and fish community structure.
- Targeting sampling of refugia pools during the dry season to investigate the potential of groundwater seepage to impact aquatic fauna
- Effective implementation of site Water Management Plan.
- Compliance with the WDL.
- Effective implementation of site Water Management Plan.
- Tailings dam design to ANCOLD guidelines.
- Surface Water Monitoring program.
- Compliance with MMP conditions.

Diversion Channel Design

- A revegetation plan will be developed prior to creek diversion to suit the physical characteristics and requisite environmental values of the waterway.
- Incorporate appropriate materials into the design to achieve the requirements for habitat creation.
- Post-construction monitoring to assess creek bank remediation measures.

- A macroinvertebrate monitoring program will be developed that takes into account the location of potential sources of impact, rainfall during the wet season and the necessary level of statistical power to detect change in macroinvertebrate communities.
- Modelling at normal flow conditions will be undertaken to assess the hydraulic impacts of diversion channels on fish passage.
- Fish passage will be considered in the design of diversion channels to provide sufficient depth, velocity and resting habitat during regular flow events.

Diversion Channel - Sediment and Erosion Control

- A clearly definable site boundary will be delineated (where practicable), with construction and vegetation clearance not occurring outside of this area. Site entry and exit points will be clearly defined.
- Works will be scheduled so that construction coincides with periods of low flow and low rainfall.
- Implement spill and sediment control measures (such as silt curtains within the river channel) to minimise the potential for sediments to deposit on downstream foraging areas.
- Stabilise banks, including appropriate native plantings, to consolidate banks post-construction and restore habitat to current, or improved, condition.
- Avoid stockpiling of soil along existing drainage lines, keep vehicles to tracks and divert storm water away from disturbed areas to minimise soil loss.
- Minimise the area of exposed ground.
- Conduct excavation in stages to minimise ground exposed to erosion.
- Existing crossings should be used to move equipment across the waterway. If there is no crossing, machinery should be carefully 'walked' across the waterway.
- If frequent crossings are required, a pad of clean rock will be laid at a shallow point of the waterway to make a temporary crossing. Temporary crossings will be entirely removed when works have finished.
- Any diversion will be constructed using clean non-erodible material.
- Develop contingency measures to prevent flooding of the worksite by a rapid rise in the creek.
- Long-term measures will be used to control erosion at the works site including slope stabilisation, revegetation, soil coverings, rip-rap and armouring, check dams, sediment traps, brush barriers and vegetation filters.

Diversion Channel - Pollution Control

- Implement spill control measures.
- Petroleum products and other hazardous substances will be kept out of the waterway.
- Refuelling, top-ups and oil checks will be done well away from the waterway.
- Non-toxic hydraulic fluids, such as vegetable-based fluids will be used if possible.

	◗ All equipment will be inspected and repaired regularly to prevent oil and other fluids leaking. ◗ If equipment is to be immersed in the waterway, it will be cleaned beforehand to remove any external grease, oil and other fluids. ◗ Dirt and mud will be removed from all equipment before entering the works site and waterway to avoid transferring weeds and disease. ◗ Wash-down water will not be allowed to enter waterways. ◗ Any cast-in-place concrete will be isolated from the waterway for at least 48h to allow pH to neutralise. ◗ Paints will not be allowed to enter the waterway when constructing, repairing and maintaining in-stream structures. ◗ If using wood treated with preservatives, the chemicals will be given enough time to fix before immersing the wood in the water.
Performance Indicators	◗ Clearing has only occurred on approved areas and in accordance with the EMP and approved Project footprint/disturbance areas. ◗ Minimal disturbance to native flora, vegetation and terrestrial and aquatic fauna. ◗ Results of flora and fauna monitoring programs. ◗ Native flora and fauna recolonising the mine site following decommission works.
Monitoring	**Dust** ◗ Monitoring will focus on dealing with uncertainties surrounding the highest recorded risk to the Yinberire Hills fauna. Monitoring program would include: – the levels of near ground dust concentration and dust deposition in the breeding habitat adjacent to the Mt Todd mine before and during mine operation – the effects of dust levels on intensity of Gouldian finch nesting and nesting success. ◗ Monitoring of nesting frequency and success will artificial nest boxes throughout the area potentially subject to >50ug/m^3 of dust. ◗ Continuation and expansion of the long term monitoring of Gouldian finch conducted by the NT Government to determine the presence and size of populations adjacent to the Yinberrie Hills and/or Mt Todd to Pine Creek region. **Aquatic Fauna Monitoring** ◗ A macroinvertebrate monitoring plan for future assessment of surface water mine impacts on the biological communities of the Edith River is required under the WDL. ◗ Sampling should focus on targeting refugia pools during the dry season to investigate to potential of groundwater seepage impacting the aquatic fauna. Sites should be located upstream and downstream of known discharge locations. **Other** ◗ Conduct ongoing weed monitoring during the construction and operation of the mine, especially in areas disturbed by ongoing construction activities. ◗ Use photo monitoring points to help determine success/failure of rehabilitation.

Reporting	◗ Reporting of incidents in accordance with relevant legislation (e.g. Section 29 of Mining Management Act) ◗ Internally report any native fauna kills (including fish and birds). ◗ Internally report any evidence of plant stress as a result of construction activities. ◗ Internally report any occurrence of additional, excessive or unapproved vegetation clearing. ◗ Internal reports to be collated and information included in the updated MMP. ◗ Record any occurrence of listed weed species in the MMP. ◗ Record conditions of inspections / monitoring / occurrences for reporting to the Health, Safety and Environment Manager. ◗ Any non-compliance will be recorded, and reported to the Health, Safety and Environment Manager. ◗ Reporting on the results of monitoring will be undertaken in accordance with the requirements of the DME. ◗ All injuries and deaths of native animals are to be reported using the identified internal reporting system.
Responsibility	◗ Construction contractor(s). ◗ Health, Safety and Environment Manager.
Contingency	◗ In the event of a failure to comply with the EMP, investigations will be undertaken and the appropriate actions will be carried out.
Relevant standards and legislation	◗ *Mining Management Act 2001.* ◗ *Endangered Species Protection Act 1992.* ◗ *Environment Protection and Biodiversity Conservation Act 1999.* ◗ *Fisheries Act 1988.* ◗ *Weeds Management Act 2001.* ◗ *Plant Diseases Control Act 2000.* ◗ *Territory Parks and Wildlife Conservation Act 2006.* ◗ *Planning Act 2009.* ◗ NRETAS Land Clearing Guidelines 2010.

3.8.9 Invasive Species Management

Objectives	◗ Avoid, minimise or control the introduction of listed weeds and feral animals or spread of existing species across the mineral leases.
Target	◗ Construction and operation does not increase the spread of existing weed and feral species across the mineral leases ◗ Construction and operation does not cause the introduction of new weed and feral species to the mineral leases.
Actions	**Weeds** Preparation of a Weed Management Plan to include: ◗ Control measures to eradicate existing infestations of listed weeds. ◗ Protocols for the movement of people and machinery around the mine site and to and from the mine site, including wash down procedures. ◗ Management of soil stockpiles to prevent sediment and/or weed transfer. ◗ Installation of erosion and sediment control devices. ◗ Protocols for sourcing soil and other earthen materials from offsite (where required). ◗ Surveillance of the greater mine area for newly established infestations. **Exotic Fauna** ◗ Vehicles and equipment inspection procedures and wash down. ◗ Standard mitigation, good housekeeping and waste management to limit potential for colonisation by black rats (*Rattus rattus)*.
Performance Indicators	◗ Impacts associated with weeds and feral animals are minimised on the mineral leases.
Monitoring	◗ Weed Management Plan will include inspections of mine site and the broader mineral lease and recording and control of weed infestations that appear to be associated with mining activities e.g. weeds not previously seen/recorded from the area/region. ◗ Exotic fauna and weeds will be regularly monitored, and any incursion eradicated.
Reporting	◗ Weeds or feral animal reported to the Health, Safety and Environment Manager.
Responsibility	◗ Construction contractor(s). ◗ Health, Safety and Environment Manager.
Contingency	◗ Failure to comply with the EMP will be reported, followed by an investigation, and the appropriate action undertaken.
Relevant standards and legislation	◗ *Territory Parks and Wildlife Conservation Act 2006.* ◗ *Weeds Management Act 2001.* ◗ ICMM: Good Practice Guidance for Mining and Biodiversity. ◗ Enduring Value - The Australian Minerals Industry Framework for Sustainable Development 2005.

3.8.10 Biting Insects Management

Objectives and Targets	◗ Avoid, minimise or control increase in nuisance levels of mosquitoes. ◗ Avoid, minimise or control the potential for disease transmission by biting insects. ◗ Avoid, minimise or control possible breeding sites of biting insects in the leases.
Actions	◗ Storm water drainage designed and managed to avoid ponding and maximise sheeting. ◗ Containers (drums, tyres etc) to be appropriately disposed of, stored under cover. ◗ Rainwater tanks appropriately screened at the inlet and outlet. ◗ Construction to avoid establishment of areas of temporary water. ◗ Monitoring for mosquito presence. ◗ Larvacides used if breeding detected. ◗ Personnel to wear long sleeved shirts, long trousers and mosquito repellent. ◗ The Project will comply with "Guidelines for preventing mosquito breeding sites associated with mining sites" (Medical Entomology Centre for Disease Control 2005). ◗ Drainage of grassy waterways will be maintained or improved.
Performance Indicators	◗ Nuisance level onsite attributed to biting insect. ◗ Biting insect disease transmission.
Monitoring	◗ Regularly inspect buildings and work areas to repair damage to insect screens. ◗ Have appropriately trained people survey the site for potential mosquito breeding sites within 5 days of rain occurring twice in the wet season, and as appropriate during the dry season.
Reporting	◗ The Health, Safety and Environment Manager will record results of inspection for breeding mosquitoes and make recommendations on use of larvacides. ◗ Occurrences of biting insect transmitted disease are to be reported to the Health, Safety and Environment Manager and Department of Health, Centre for Disease Control.
Responsibility	◗ Health, Safety and Environment Manager.
Contingency	Should failure to comply with the EMP occur, the following actions will be taken: ◗ An investigation will be undertaken into why directives are not being carried out. ◗ Employees will be informed on desired practices. ◗ Consultation with authorities (Department of Health, Centre for Disease Control) may occur.
Relevant standards and legislation	◗ Guidelines for preventing mosquito breeding sites associated with mining sites in the NT, (Department of Health and Families, Northern Territory Government 2005). ◗ Personal protection from mosquitoes & biting midges in the NT (Department of Health and Families, Northern Territory Government 2010).

3.8.11 Erosion and Sedimentation

Objectives	◗ Avoid, minimise or control extent of soil disturbance that leads to erosion and sedimentation. ◗ Reduce potential for erosion and sedimentation impacts on drainage lines and water courses
Target	◗ Rehabilitation works will result in a stable vegetated landscape and stable drainage channels with minimal impact on the surrounding environment.
Actions	◗ Prepare an Erosion and Sediment Control Plan to minimise soil erosion and the discharge of sediment to land and waterways. **Prior to Construction** ◗ Identify existing and proposed site drainage patterns. ◗ Identify the location of permanent and temporary sediment holding ponds to prevent debris escaping into the natural drainage systems and contain sediment to the designated construction areas. **During construction** ◗ Minimise the disturbance footprint and undertake progressive rehabilitation. ◗ Avoid clearing of new areas during the wet season, where practicable. ◗ Keep vehicles to well-defined tracks and roads. ◗ Excavate and rehabilitate progressively, where practicable. ◗ Minimise the area of exposed ground by utilising appropriate construction measures, to minimise the amount of ground subject to erosion problems. ◗ Avoid the stockpiling soils near existing and proposed drainage lines. ◗ Provide optimal surface conditions to promote revegetation. ◗ Revegetate final surfaces with fast establishing ground cover. ◗ Ensure compliance with relevant guidelines and apply appropriate techniques to minimise impacts on areas especially sensitive to erosion. ◗ Implement measures to mitigate and manage erosion resulting from changes in drainage patterns and localised concentrations of stormwater flow. ◗ Suspend construction work during heavy rain. **During operation** ◗ During mining operations, quantification of soil resources available for rehabilitation works, stripping and re-application schedules and stockpiling inventories would be included in a Sediment and Erosion Control Plan. ◗ Where practicable, recovered topsoil and subsoil would be spread directly onto mine waste rock emplacements that have been prepared for rehabilitation. ◗ Where direct spreading is not practicable, the material would be stockpiled. Soil stockpiles would be managed to improve long term viability of the soil resource through implementation of the following management practices: – soil stockpiles to be located outside of active mining areas – stockpiles to be constructed with a rough surface condition to reduce erosion

	hazard, improve drainage and promote revegetation – cover stockpiles with weighted plastic or tarpaulins, when not being actively used, to minimise the mobilisation of sediments during storm events – stockpiles which are inactive for extended periods will be fertilised and seeded, to maintain soil structure, organic matter and microbial activity – soil stockpiles to be deep-ripped to establish aerobic conditions, prior to soil use in rehabilitation. **Post Construction** ◗ Implement a soil stabilisation and revegetation program. ◗ Maintain sediment control measures (including clearing where necessary) until the site is completely stabilised (at least 4 weeks).
Performance Indicators	◗ Levels of erosion following high rainfall. ◗ Evidence of sedimentation in, and surrounding watercourses.
Monitoring	◗ Based on the Erosion and Sediment Control Plan, develop and implement a monitoring system, to review the effectiveness of erosion mitigation measures during construction, operation and decommission.
Reporting	◗ The construction contractor will report monthly to Vista Gold's General Manager on the following: – compliance with the approved erosion and sediment control plan – incidents of erosion – incidents of any discharge of contaminated runoff – results of weekly inspections – results of any corrective actions. ◗ The results of Vista Gold's monitoring and rehabilitation program will be reported in the annual MMP on the sites environmental performance.
Responsibility	◗ Construction contractor(s). ◗ Health, Safety and Environment Manager.
Contingency	◗ Should failure to comply with the EMP occur, an investigation will be undertaken by the Health, Safety and Environment Manager into the cause of the incident and the appropriate actions will be taken.
Relevant standards and legislation	◗ *Mining Management Act 2001.* ◗ *Water Act 1992.* ◗ *Waste Management and Pollution Control Act 2009.* ◗ *Soil Conservation and Land Utilisation Act 2001.* ◗ NRETAS Erosion and Sediment Control Plan Guidelines 2006.

3.8.12 Noise and Vibration

Objectives	◗ Avoid, minimise or control the generation of noise emissions and mitigate any potential noise impacts.
Target	◗ Noise levels from operational activities not to exceed 35dB at closest receptor site (Werenbun). ◗ Construction and operational traffic arising from the proposal should not lead to an increase of more than 2dB on existing noise levels.
Actions	◗ A complaint system will be implemented during construction of the Project. ◗ Management measures adopted should noise complaints be received. ◗ Operation and maintenance of power station in accordance with the design and emission criteria. ◗ Operation and maintenance of equipment in accordance with standard noise and vibration controls. ◗ Blast design for production.
Performance Indicators	◗ Recorded acoustic levels attributable to construction and operation. ◗ Number of complaints associated with noise nuisance.
Monitoring	A complaint management system will be implemented during construction of the Project. The complaint system will include the following measures as relevant: ◗ A community liaison phone number and permanent site contact number will be established so that noise complaints can be received and addressed in a timely manner. ◗ Determine whether any unusual activities were taking place at the time of the complaint that may have generated higher noise levels than usual. ◗ Conduct noise monitoring at the location of the complainant. ◗ If noise levels are excessive, or above environmental authority conditions, implement noise mitigation and amelioration measures.
Reporting	◗ Any complaints will be documented in the complaints register, investigated and reported to the Health, Safety and Environment Manager and Vista Gold's General Manager. ◗ Complaints to be addressed in a timely manner. ◗ Results of audits and use of complaints register to be reported in MMP.
Responsibility	◗ Construction contractor(s). ◗ Health, Safety and Environment Manager.
Contingency	Should failure to comply with the EMP occur, Vista Gold will: ◗ Identify the source of the noise. ◗ If appropriate, adjust work practice and/or maintain or replace equipment or implement a monitoring program.

Relevant standards and legislation	◗ *Mining Management Act 2001.* ◗ *Waste Management and Pollution Control Act 2009.* ◗ *Waste Management and Pollution Control (Administration) Regulations 2012.* ◗ *Work Health and Safety Act 2011.* ◗ AS 1055 Description and measurement of environmental noise. ◗ AS 2012 Measurement of airborne noise emitted by earth-moving machinery and agricultural tractors. ◗ AS 2221 Methods for measurement of airborne sound emitted by compressor units including prime movers and by pneumatic tools and machines. ◗ AS 2436 Guide to noise control on construction, maintenance and demolition sites. ◗ AS 2659 Guide to the use of sound-measuring equipment.

3.8.13 Waste Management

Objectives	◗ Efficient use of resources and minimisation of waste generation and disposal. ◗ Appropriate disposal of wastes over the life of the mine.
Target	◗ Reduce level of waste produced and associated environmental impact. ◗ Reuse and recycle where practicable. ◗ Create awareness of the waste management strategy and waste commitments/targets. ◗ Optimise re-use and recycling systems.
Actions	◗ Waste management addressed in EMP. ◗ Separation of waste for disposal, recycling and recovery. ◗ Removal of residual waste to landfill. ◗ Record waste types and volumes generated on-site and being transported off-site. ◗ Treatment of sewage. ◗ All site employees and contractor's to undertake the necessary training on the handling of, and disposal of, waste material types on site. ◗ Wherever practical and economically viable, all waste materials will be recycled. ◗ Disposal areas will be appropriately maintained. ◗ Putrescible and domestic waste will be collected and disposed of at a designated landfill site. ◗ Contaminated waste from both the mine site and sludge from the sewerage treatment plant will be disposed of in the tailings storage facility. ◗ Hazardous waste material will be transported off-site by a licenced carrier for disposal/treatment at an appropriate facility. ◗ Waste oil will be collected for transport and disposal off-site. ◗ Batteries will be transported off-site for disposal. ◗ Vegetation waste (weed free) will be managed on site through reuse for ground surface stabilisation and rehabilitation.
Performance Indicators	◗ Volume of waste disposal and associated cost. ◗ Volume of waste minimised and reused/recycled wherever possible.
Monitoring	Monitoring the activities and outcomes related to waste management include: ◗ Recording of waste types and volumes generated on-site and transported off-site. ◗ Assessing actual waste results against forecasted waste volumes. ◗ Monitoring any potential environmental impacts. These activities will help form the appropriate corrective actions to reduce or eliminate waste generation or impacts associated with waste.

Reporting	◗ During construction, the Contractor will report every month to the Vista Gold General Manager on the results of the waste monitoring program and other relevant waste management issues. ◗ During operation, waste management is the responsibility of the Health, Safety and Environment Manager. ◗ Annual reporting of Project waste emissions will be conducted in accordance with the National Pollutant Inventory (NPI) Guide. ◗ Reporting of incidents in accordance with relevant legislation (e.g. Section 29 of *Mining Management Act 2001.* ◗ Reporting requirements occur under the *National Greenhouse and Energy Reporting Act 2007* (NGER).
Responsibility	◗ Construction Contractor. ◗ Health, Safety and Environment Manager.
Contingency	Should failure to comply with the EMP occur, Vista Gold will: ◗ Take the necessary actions to identify the causes of non-conformance with the waste management plan performance requirements. ◗ Implement all actions necessary to achieve compliance.
Relevant standards and legislation	◗ *Mining Management Act 2001.* ◗ *Dangerous Goods Act 1994.* ◗ *Dangerous Goods (Road and Rail Transport) Act 2012.* ◗ *Public Health Act 1987.* ◗ *Waste Management and Pollution Control Act 2009.* ◗ *Water Act 1992.* ◗ *National Greenhouse and Energy Reporting Act 2007.* ◗ National Pollutant Inventory (NPI) Guide (SEWPAC 2011b). ◗ Enduring Value - The Australian Minerals Industry Framework for Sustainable Development 2005.

3.8.14 Fuels and Chemicals Management

Objectives	◗ To safely manage, store, handle and dispose of fuels and chemicals. ◗ Avoid minimise or control the uncontrolled release of chemicals to the environment. ◗ No human health issues or incidents from the use of fuels and chemicals.
Target	◗ Compliance with relevant Australian Standards (e.g. for the storage and handling of flammable and combustible liquids and dangerous goods). ◗ No spills of chemicals or release of chemicals to the environment.
Actions	**Fuels and Chemicals** ◗ Diesel will be stored on-site in a bunded area. Refuelling facilities will be provided in the heavy vehicle workshop area for vehicles belonging to the operation. ◗ Implement standard procedures for the transport, storage, containment, disposal and spill response for potentially hazardous materials. ◗ All hydrocarbons will be stored and handled in accordance with the requirements of AS 1940:2004: 'The Storage and handling of combustible and flammable liquids'. ◗ All chemicals will be stored, handled and used according to provisions in their MSDA. MSDSs of all chemicals used during operations will be kept in a register. ◗ Contaminants from the workshop and truck wash-down areas will be directed to a sump or drain where they can be contained for treatment or disposal. ◗ All relevant workers will be trained in appropriate handling, storage and containment practices for chemicals and dangerous goods. ◗ Emergency spill response will be employed, including training and handling procedures. ◗ Any land contamination that occurs will be recorded on a register and remediated. ◗ Records will be kept on the storage, location and disposal of all chemical and hazardous goods used on-site. ◗ Spills of dangerous goods will be rendered harmless and collected for treatment and disposal at a designated site, including cleaning materials, absorbents and contaminated soils. ◗ Spills must be appropriately cleaned up as soon as is reasonably practicable. ◗ Contaminated runoff and soil will be collected and disposed of in the TSFs. ◗ Non-toxic hydraulic fluids, such as vegetable-based fluids, will be used if possible. ◗ The use of non-hazardous, low toxicity non-ionic or anionic flocculants will be investigated. **Ore Processing Plant reagents** ◗ Cyanide management in accordance with International Cyanide Management Code. ◗ Reagents will be appropriately handled and stored in the proper designated location. **Explosive Magazines/Depot** ◗ Explosives will be stored in storage bins, powder magazines and a cap magazine, to be built and operated in accordance with the Dangerous Goods regulations.

	Waterways ◗ Petroleum products and other hazardous substances will be kept at a reasonable distance from waterways. ◗ Refuelling, top-ups and oil checks will be done at a reasonable distance from waterways. ◗ If equipment is to be immersed in the waterway, it should be cleaned beforehand to remove any external grease, oil and other fluids. ◗ Wash-down water is not to enter waterways. ◗ Fresh concrete should be kept out of the waterway. Any cast-in-place concrete should be isolated from the waterway for at least 48h to allow the pH to neutralise. ◗ Paints should not be allowed to enter the waterway when constructing, repairing and maintaining in-stream structures. ◗ If using wood treated with preservatives, the chemicals should be given enough time to fix before immersing the wood in water.
Performance Indicators	◗ No contamination of the environment by hazardous goods. ◗ Any spills are addressed and appropriate remedial action has been implemented.
Monitoring	**Surface Water Quality Monitoring** ◗ Additional analytes have been included into the proposed surface water monitoring program. **Other** ◗ Inspections of storages, tanks and bulk containers and the integrity of bunded areas, pavement and associated containment systems will be conducted at least quarterly. ◗ Inspections will be undertaken on the process plant, mine mobile maintenance shop, fuel bays, explosive magazines and ANFO facility. ◗ Regular audits will be conducted.
Reporting	◗ Spills will be reported to the General Manager. ◗ Spills reported to the appropriate authorities, as required. ◗ Any non-compliance to be reported in the MMP.
Responsibility	◗ Construction contractor(s). ◗ Health, Safety and Environment Manager.
Contingency	◗ Should a failure to comply with the EMP occur, the following corrective actions will be undertaken as appropriate: – contain and clean up spilt material immediately and remediate or appropriately dispose of contaminated material – report to the appropriate authorities as soon as possible – repair containments systems – review storage and handling areas – if a spill occurs, sandbags or earth bunds will be placed to block flow path to drains and watercourses.

Relevant standards and legislation	◗ *Mining Management Act 2001.* ◗ *Waste Management and Pollution Control Act 2009.* ◗ *Public Health Act 1997.* ◗ *Dangerous Goods (Road and Rail Transport) Act 2001.* ◗ *Dangerous Goods (Road and Rail Transport) Regulations 2004.* ◗ *Petroleum Amendment and Related Matters Act 2010.* ◗ *Water Act 1992.* ◗ *Work Health and Safety Act 2011.* ◗ AS 4452 The Storage and Handling of Toxic Substances. ◗ AS 1940 The Storage and Handling of Flammable and Combustible Liquids. ◗ AS 3740 The Storage and Handling of Corrosive Substances. ◗ National Standards for the Storage and Handling of Dangerous Goods [NOHSC:1015(2001)]. ◗ National Code of Practice for the Storage and Handling of Workplace Dangerous Goods [NOHSC:2017(2001)]. ◗ Environmental Health Information Bulletin No. 6 Requirements for Mining, Construction & Bush Camps, NT DHCS 2006. ◗ International Cyanide Management Code.

3.8.15 Traffic and Transport

Objectives	◗ Manage construction and operation traffic to and from the Project.
Target	◗ Avoid, minimise or control impact on road safety and pavement conditions. ◗ Minimal increase in road congestion.
Actions	◗ Prepare Road Transport Management Plan (TMP), including community consultation strategy, haulage routes and hours, requirement for over-dimensional permits, requirement for traffic controllers. ◗ Use of pooled vehicles such as buses and work vehicles (to minimise exposure). ◗ Fitness for work assessments for site personnel. ◗ Workforce management strategy and TMP to address driver fatigue. ◗ Prepare Contractor Management Plan. ◗ Regular pavement condition review of Edith Falls Road. ◗ Liaise with NT Government to ensure funding and maintenance routines are appropriate. ◗ Consolidation of freight and reagent transportation to rationalise transport movement. **Dangerous Goods Transport** ◗ Loads being transported to and from the mine would be secured in accordance with the relevant legislation. ◗ Transport of dangerous goods in accordance with relevant legislation with measures incorporated into the TMP. ◗ Prepare Incident Management Plan ◗ Prepare and comply with TMP and statutory approvals. **Tracking of Dirt** ◗ Measures to minimise the tracking of soil off-site will be implemented at access gates and may include exit rumble grids or wheel wash facilities, sweeping of sealed roads to remove deposited material where applicable, and/or stabilisation of site roads/tracks with aggregate where appropriate.
Monitoring	◗ A pavement condition monitoring program would assist in identifying any pavement deterioration during the life of the Project. ◗ Routine monitoring of near-misses and traffic accidents (incident reporting system).
Performance Indicators	◗ Road safety. ◗ Pavement conditions.
Reporting	◗ Data will be gathered and communicated through various reporting systems. ◗ Independent reports will be produced for any investigations triggered by a complaint or audit findings.

Contingency	Should a failure to comply with the EMP occur, the following measures will be implemented: ◗ If practicable, alternative routes will be investigated and logistics plan altered as required and/or traffic monitoring will target the particular route. ◗ Any spills will be cleaned up in accordance with best practice standards and an investigation will be conducted into the incident, followed by remedial action.
Responsibility	◗ Construction contractor(s). ◗ Administration Manager. ◗ Health Safety Environmental Supervisor.
Relevant standards and legislation	◗ *Mining Management Act 2001.* ◗ *Waste Management and Pollution Control Act 2009* ◗ *Public Health Act 1997.* ◗ *Dangerous Goods (Road and Rail Transport) Act 2001.* ◗ Dangerous Goods (Road and Rail Transport) Regulations 2004 ◗ *Petroleum Amendment and Related Matters Act 2010.* ◗ *Water Act 1992.* ◗ *Work Health and Safety Act 2011.*

3.8.16 Bushfire Management

Objectives	◗ Adopt appropriate fire management regimes to assist in minimising damage to flora and fauna and conservation significance of the Yinberrie Hills SOCS. ◗ Avoid, minimise or control impact from wildfires.
Target	◗ Controlled burning maintains grass species diversity and minimises impact on flora and fauna and conservation significance of the Yinberrie Hills SOCS. ◗ No wildfires resulting from mining activities.
Actions	**Controlled Burning** ◗ The existing system of early dry season controlled burns will be maintained. Fires late in the dry season (following early dry season burns) will be avoided. Expansion of fire management to the Yinberrie Hills SOCS is recommended. ◗ Controlled fires are to focus on burning patches of vegetation in a mosaic. ◗ Fire breaks constructed to prevent wildfires entering the site from Edith Falls Road. **Personal Behaviour** ◗ All site inductions are to include instruction fire safety. ◗ Mine vehicles will carry fire extinguishers and/or 'on-board' fire suppressant systems. ◗ The undercarriage of mine vehicles is to be regularly checked and cleaned to ensure build-up of grass is limited, minimising the risk of vehicle fires and trailing spot fires. **Wildfires** ◗ Personnel will avoid wildfire areas and evacuate to downwind positions. Evacuation location will be clearly marked and identified to all staff during induction. ◗ If fire threatens the mine site, emergency services will be notified, and staff evacuated to a safe location.
Performance Indicators	◗ No fires as a result of mining activity. ◗ No fire damage to surrounding environment and mine facilities.
Monitoring	◗ Monitor the presence of bushfires on www.firenorth.org.au. ◗ Record any fires attributable to mining activities and as appropriate remedy procedures/training. ◗ Record early dry season burning regime.
Reporting	◗ The Health, Safety and Environment Manager is to record all fire incidents and report incidents and findings to the General Manager.
Responsibility	◗ Health, Safety and Environment Manager
Contingency	◗ The Health, Safety and Environment Manager will report all major fires to, and consult with the NT Bushfires Council as appropriate.
Relevant standards and legislation	◗ *Bushfires Act 2009.*

3.8.17 Rehabilitation, Decommissioning and Closure

Objectives	◗ Limit environmental impact and to leave mineral leases with minimal or no ongoing management requirements once Project is complete. ◗ Achieve a stable and functioning landform which is consistent with environmental and stakeholder values.
Target	◗ To establish realistic and achievable closure criteria, in consultation with key stakeholders. ◗ Integrate rehabilitation, decommissioning and closure program into mine plan during operations ◗ Control AMD conditions. ◗ Minimise erosion of facilities containing mine waste. ◗ Reduce or eliminate the acid and metal loads of seepage and runoff water. ◗ Minimise adverse impacts to the surface and groundwater systems surrounding the mineral leases. ◗ Physical and chemical stabilisation of mine waste and other mine-related surface disturbances. ◗ Protect public safety. ◗ Comply with NT Government regulations governing mine development and closure. ◗ Ensure that the full cost of decommissioning and rehabilitation is understood.
Actions	◗ Development of a Tailings Management Plan. ◗ Rehabilitation Plan prepared and regularly updated. ◗ Ongoing revegetation and weed management trials. ◗ Erosion and Sediment Control Plan. ◗ Annual review of security calculations. ◗ Closure Plan included as part of the MMP conditions. ◗ Progressive rehabilitation where practicable. ◗ Cost estimation processes with contingency. ◗ Further study will be undertaken prior to mine operation on – waste and cover material hydraulic properties characterisation and analysis – tailings trafficability testing – improvement of the watershed hydrologic data collection system to enable an update of precipitation-yield characteristics of the site – completion of the site-wide soils and closure cover materials inventory and characterisation to identify material sources, properties, and balance – erosion and sediment control analysis ◗ Effective and appropriate design of cover thickness on WRD. ◗ Engagement with NT regulatory authorities on plans to leverage off other projects. ◗ Implement passive water treatment system.

	◗ Vista Gold will retain responsibility for legacy water until the NT Government accepts relinquishment. ◗ Temporary erosion controls should remain in place until long-term erosion control methods are established and functioning. ◗ The rehabilitation strategy will remain flexible and will be amended as new rehabilitation techniques emerge and as environmental investigations progress, or when the mine plan is modified.
Performance Indicators	◗ Consulting with stakeholders prior and during closure. ◗ Achievement of closure criteria. ◗ Compliance with mining legislation.
Monitoring	◗ Develop an environmental monitoring and reporting program which is focused towards demonstrating the achievement of closure outcomes. ◗ Within this program, rehabilitation will be monitored to validate rehabilitation performance and identify any additional work required to meet success criteria. ◗ The drainage channels will be monitored for vegetation health and growth success including before and after each wet season until the vegetation matures and bank stability is attained. ◗ Weeds across the mineral leases will be monitored.
Reporting	◗ The results of Vista Gold's rehabilitation program will be reported in the MMP. ◗ A Closure and Rehabilitation Strategy will be developed over the life of the Project and a current version will be provided to relevant authorities at all times.
Responsibility	◗ Construction Contractor(s). ◗ Health, Safety and Environment Manager. ◗ General Manager.
Contingency	**Unexpected closure** The Closure and Rehabilitation Strategy will include plans and strategies for the Project's forced or otherwise unanticipated early closure. At the minimum, unexpected closure would result in the following actions: ◗ An environmental audit of the entire site. ◗ A review of the Care and Maintenance Plan. ◗ Submission of the reviewed Care and Maintenance Plan to the relevant authorities for their information. In order for this to occur, the Care and Maintenance Plan will include: ◗ An Emergency Response Procedure. ◗ A mine access and security review. ◗ A geotechnical monitoring program to monitor stability of Batman Pit, the WRD, TSF1 and TSF2. ◗ A program to address incomplete rehabilitation and remediation works.

	◗ An environmental monitoring and inspection program, which includes: – license requirements – chemical and hydrocarbon storage – treatment plant condition – pit water monitoring – erosion monitoring – rehabilitation monitoring.
Relevant standards and legislation	◗ *Mining Management Act 2001.* ◗ *Mineral Titles Act 2010.* ◗ *Native Title Act 1993.* ◗ Rehabilitation Management Plan. ◗ Department of Resources Mine Close Out Objectives (February 2008). ◗ ANZMEC/MCA (2000), Strategic Framework for Mine Closure. Australian and New Zealand Minerals and Energy Council and Minerals Council of Australia. Canberra, Australian Capital Territory. ◗ Association of Mining and Exploration Companies Mine Closure Guidelines (AMEC, 2000). ◗ Australian Mining Industry Council (1989), Mine Rehabilitation Handbook. ◗ Commonwealth Guidelines for Mine Closure and Completion (March 2009). ◗ Commonwealth Guidelines for Mine Rehabilitation (October 2006). ◗ Medical Entomology, Centre for Disease Control, DOH and Families, NTG 2005.

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