

Jervois Base Metal Project

Environmental Management Plan

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1 Introduction

This Environmental Management Plan (EM Plan) is specific to the Jervois Base Metal Project and has been designed to ensure that the appropriate environmental management practices are identified and implemented during the construction, operational, decommissioning, closure and post-closure stages of the Project. The management and mitigation strategies outlined herein have been designed to keep the risks to the environmental values of the area to an acceptable level and achieve sound environmental outcomes. This EM Plan is a working document that will be periodically reviewed and amended throughout the life of the Project to reflect the different Project phases, changes in site conditions and practices, changing environmental conditions, monitoring results, legislative changes and developments in good environmental management practice.

Some of the subordinate plans provided in this EM Plan have also been designed to be made available to the public and provide transparency and assurance to stakeholders that the risks to the environmental values will be managed to acceptable levels.

This plan has been developed in accordance with the NT EPA Guideline for the Preparation of an Environmental Management Plan.

2 Background

The Jervois Base Metal Project was assessed under the *Environmental Assessment Act* (EA Act) through the submission of a draft Environmental Impact Statement (EIS) to the NT EPA in October 2018. A draft EM Plan was included in the draft EIS. In response to stakeholder feedback on the draft EIS and additional commitments made in the Supplement Report, the original draft EM Plan was updated and submitted to the NT EPA as part of the Supplement Report in July 2019. This version of the EM Plan has been further refined to address the NT EPA Assessment Report recommendations and adapted to be operationally practical to the day to day on-site environmental management activities.

3 EM Plan Structure

This EM Plan has been developed as an overarching document with specific management plans providing detailed and specific targets, objectives, management and mitigation strategies for each environmental aspect. These subordinate management plans have been designed as stand-alone documents which can be utilised on a day to day basis without having to reference back to this main EM Plan. These plans relate to:

- Biodiversity;
- Bushfire;
- Dust;
- Water;
- Groundwater;
- Erosion and Sediment Control;
- Acid Mine Drainage;
- Waste;
- Cultural Heritage;
- Social Impacts;
- Traffic;
- Mine Rehabilitation and Closure; and

- Environmental Emergencies.

As the Project has been assessed under the Environmental Assessment Act, details on the Project Overview, Existing Environment, Risk Assessment and Communication have not been repeated within this EM Plan. This information is available in numerous documents including the draft EIS, Supplement to the draft EIS, the Mining Management Plan and the subordinate management plans listed above.

This EM Plan forms the basis of the environmental management component of the Mining Management Plan (MMP).

4 Project Overview

The Project is located within Exploration Licence (EL) 25429 and several Mineral Leases held by Jinka Minerals Limited, a 100% owned subsidiary of KGL Resources as detailed in Table 1. The granted tenures are located within EL 25429 as shown in Figure 1. The borefield that will service the Project is covered by ML 32277, which is currently under application and is shown in Figure 2.

Table 1 - Mining Interests

Tenure No.	Status	Grant Date	Expiry Date	Holder	Area (Ha)
ML 30180	Granted	28/01/2014	27/01/2024	Jinka Minerals Limited	33.21
ML 30182	Granted	26/03/2014	25/03/2024	Jinka Minerals Limited	481.7
ML 30829	Granted	18/08/2017	17/08/2032	Jinka Minerals Limited	1,438
EL 25429	Granted	02/02/2007	01/02/2021	Jinka Minerals Limited	Approximately 3,800
ML32277 (Lucy Creek Borefield)	Under Application			Jinka Minerals Limited	124

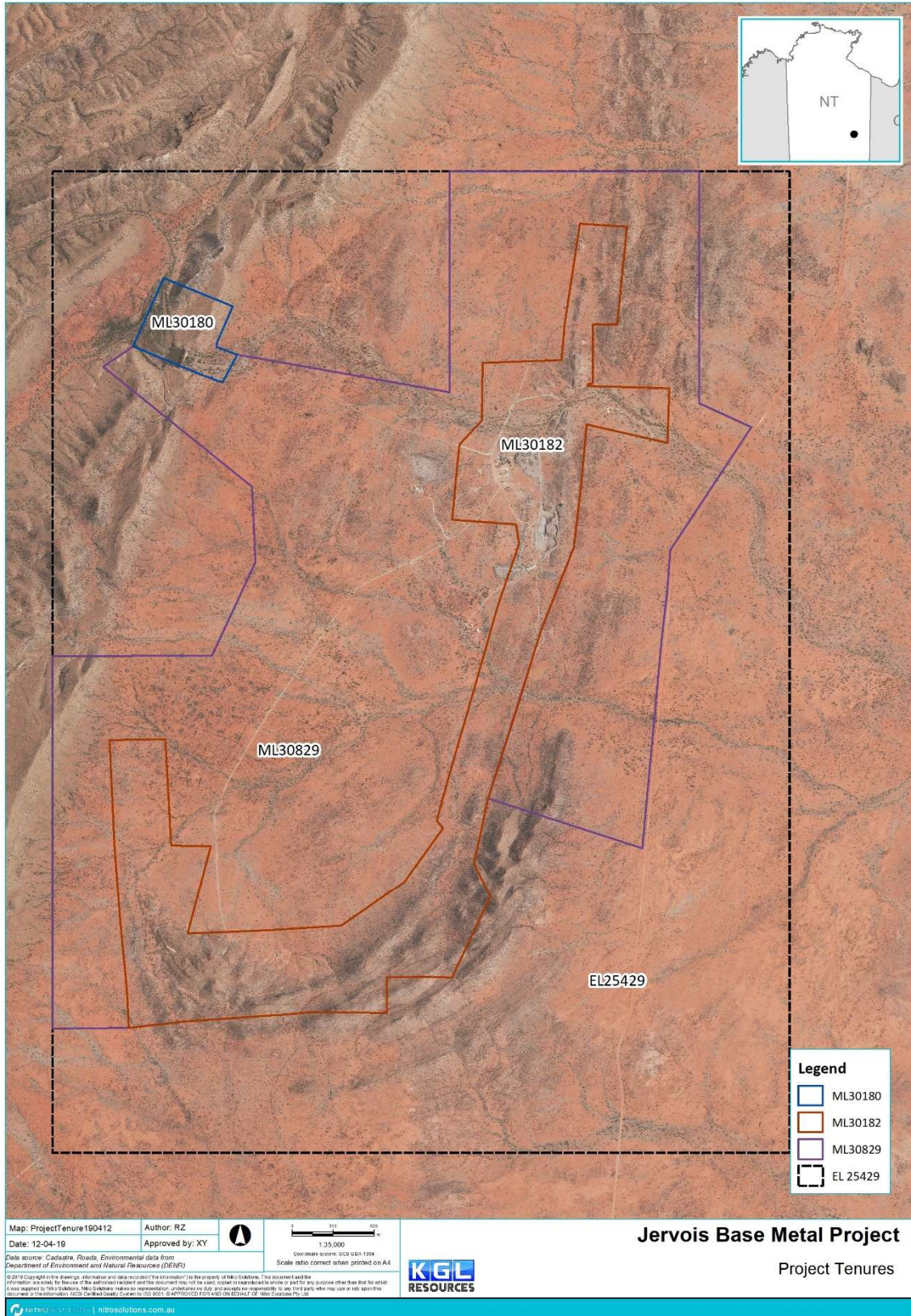


Figure 1 – Granted Project Tenures

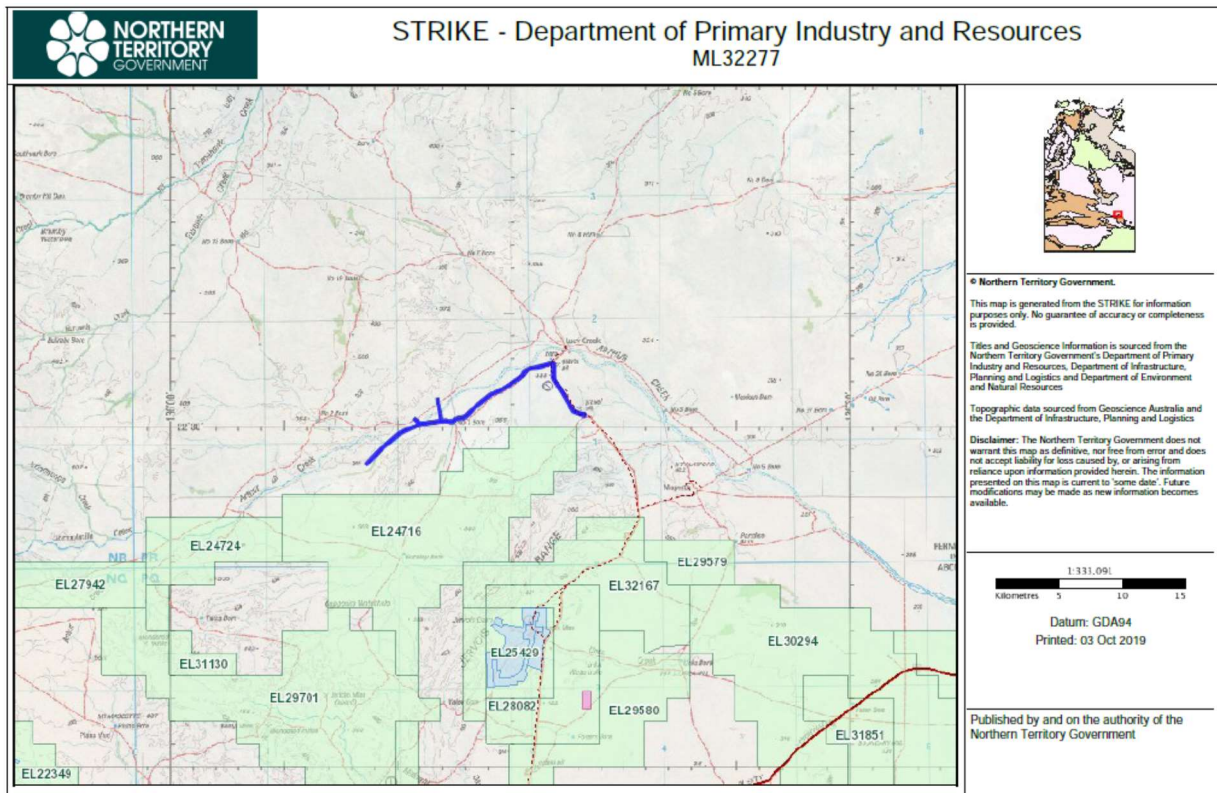


Figure 2 - Project Tenures Outside EL 25429

The Jervois Project has a rich history of exploration and mining activities over the past 90 years. Base metals were first discovered in the Jervois Range area in 1929 during the mustering of stray cattle on a track leading from Tobermorey on the Northern Territory/Queensland border. Small scale mining commenced and a small mining settlement (The Plenty River Mining Camp) was located at Jervois in the 1930's. In the 1950's leases over the area were acquired by Kurt Johannsen who mined copper carbonate on a small scale for the fertiliser industry and later as a flux in the smelting process at Mount Isa. Since then, numerous companies have owned the Project and conducted exploration and mining activities across the site.

As a result of this historic activity, the Project area is littered with a substantial amount of disturbance. This historic disturbance includes tailings storage facilities, waste rock dumps, decommissioned processing plants and equipment, pits, prospecting trenches, ROMs, water storages and evaporation ponds, an exploration camp, exploration disturbances, roads and tracks. The historic disturbance covers an area of approximately 174 hectares.

5 Legal and Other Obligations

5.1 Statutory Requirements

Federal legislation applicable to the Project activities include:

- *Aboriginal Land Rights (Northern Territory) Act 1976;*
- *National Greenhouse and Energy Reporting Act 2007;*
- *Native Title Act 1993;* and
- *Transport of Dangerous Goods by Road and Rail (National Uniform Legislation) Act 2016.*

Territory Legislation applicable to the Project may include:

- *Environmental Assessment Act 1982;*
- *Environmental Assessment Administrative Procedures 1984;*
- *Mineral Titles Act 2010 and Regulations 2011;*
- *Mining Management Act 2001 and Regulations 2001;*
- *Bushfires Management Act 2016 and Regulations 1985;*
- *Dangerous Goods Act 1998 and Regulations 2012;*
- *Heritage Act 2011;*
- *Northern Territory Aboriginal Sacred Sites Act 1989 and Regulations 2004;*
- *Public and Environmental Health Act 2011;*
- *Territory Parks and Wildlife Conservation Act 1976 and Regulations 2001;*
- *Waste Management and Pollution Control Act 1998;*
- *Water Act 1992;*
- *Weeds Management Act 2013 and Regulations 2001; and*
- *Work Health & Safety (National Uniform Legislation) Act 2011.*

Other licences, agreements, codes and guidelines that apply to the Project include:

- Aboriginal Areas Protection Authority Certificate conditions;
- AS/NZS 4801:2001 Occupational Health and Safety Management Systems;
- Australia New Zealand Food Standards Codes;
- Australian Drinking Water Guidelines;
- Australian Groundwater Modelling Guidelines;
- AUSTROADS Guide to Traffic Management;
- Code of Conduct for Mineral Explorers in the Northern Territory of Australia (2002);
- DENR's Non-Urban Water Metering Policy and Non-Urban Water Metering Code of Practice for water extraction licenses;
- Guidelines for Preventing Mosquito Breeding Sites Associated with Mining Sites;
- Indigenous Land Use Agreement (ILUA) between Kentor Minerals (NT) Pty Ltd and Central Land Council;
- National Environmental Protection Measures (NEPM);
- NT Worksafe Codes of Practice; and
- NT Land Clearing Guidelines.

Legislation, codes and guidelines relative to the specific management plans are provided within these plans.

6 Environmental Management Framework

The benchmark environmental management document for the Project is the KGL Environmental Policy (www.kglresources.com.au). This EM Plan addresses the concepts of the Environmental Policy, brings together the commitments made in the draft EIS and the Supplement to the draft EIS, addresses stakeholder suggestions and feedback on the draft EIS and recommendations provided in the NT EPA Assessment Report. This EM Plan will guide compliance and continuous improvement for the Jervois Project and will form part of the Mining Management Plan. The subordinate management plans provided within this EM Plan outline detailed activities which will be implemented to manage and protect specific environmental values associated with the Project.

Whilst the MM Act provides for an obligation for mining companies to protect the environment, environmental responsibility for the Project will lie with the Project Director. The Environmental Manager and other environmental personnel (Environmental Officers and Trainees) will be responsible for the day to day environmental management of the Project. Specific responsibilities for site environmental personnel are detailed throughout the management and monitoring strategies in the subordinate management plans. The Environmental Manager will report directly to the Project Director.

In accordance with the MM Act, every person on site has an obligation to take care of the environment. All site personnel and contractors will be required to comply with the environmental protection strategies provided in this EM Plan and any directions provided by the environmental personnel.

7 Corrective Actions

Corrective actions to be taken if the objectives and targets of this EM Plan are not met will include:

- Additional workforce training to include obligations of personnel under this EM Plan;
- Investigation of non-compliances with this EM Plan by the site environmental personnel;
- Investigation of complaints in accordance with the process outlined in the Social Impact Management Plan;
- Remedial actions to ensure the continued compliance with this EM Plan and the targets outlined herein;
- Addressing non-compliances during monthly management meeting and reporting in the Annual Report;
- Reviews of worker Codes of Conduct, policies and guidelines; and
- Review of this EM Plan and subordinate plans to ensure that further incidents are avoided.

7.1 Environmental Incidents

Environmental incidents will be investigated in a timely manner by the site environmental personnel. Incidents will be investigated to ensure that they are resolved and the appropriate actions are taken to minimise potential impacts to stakeholders and the environment. Actions taken in resolving incidents will include a focus on the avoidance of repeat occurrences. Environmental emergencies will be addressed in accordance with the Environmental Emergency Management Plan.

Incidents will be reported on an Incident Report as detailed in Appendix A2. This report will be completed by the person reporting the incident, the site Environmental Manager or the Occupational Health and Safety Manager, depending on the nature of the incident. All incidents will also be documented in an Environmental Incidents Register (Appendix A1) which will provide a summary of the details contained in the Incident Report. The number of incidents will be used to measure the success of management and mitigation strategies provided in this EM Plan.

The process for investigating incidents will include:

- Investigation of the incident in a timely manner by the site Environmental Manager or the Occupational Health and Safety Manager depending on the nature of the incident;
- Undertake follow up actions to resolve the incident;
- Review of the site procedures and work practices which led to the incident;
- Review of this EM Plan and other Management Plans as necessary;

- Advise the person who reported the incident of follow up actions taken to resolve the incident or those that are intended to be taken if the incident cannot be resolved immediately;

Incident report proformas will be held by the Environmental Manager and made available at various locations across site.

Environmental incidents will be reported in the Annual Report and discussed during the monthly site management meetings. Where necessary, incidents will also be mentioned during toolbox talks to keep the workforce informed.

Where relevant, environmental incident reports will be submitted to the relevant regulatory body in accordance with the external reporting requirements provided in Section 10.

8 Auditing & Review

This EM Plan and the subordinate plans will be continually reviewed throughout the Project life to determine the effectiveness of the control strategies, to ensure they accurately reflect site activities and are updated in accordance with regulatory changes. Additional reviews will be undertaken as a result of feedback from regulatory authorities, environmental audits, incidents, non-compliances with any aspect of this EM Plan or the subordinate plans or as a result of changes to the Project activities. Review updates will be listed in the individual management plan Document Review tables provided at the front of each plan.

Annual internal audits will be conducted to determine the level of compliance with the requirements of this EM Plan and will include a review of performance against the objectives and targets in each management plan. Records of these audits will be maintained on site and the outcomes reported in the Annual Report.

Suitably qualified experienced independent auditors will be engaged to evaluate compliance with this EM Plan following two years of operation when the Project is developed to a stage where most aspects of the individual management plans have been implemented. Audits will include a review of specific management and monitoring activities, corrective actions, Annual Reports and the mine authorisation conditions.

External audits may also be conducted in response to a direction by the relevant regulator as a result of a significant environmental incident or an environmental emergency.

9 Reporting

The reporting requirements for the Project will include:

- Monitoring reports required by management plans, licences or approvals;
- Event-based;
- Internal environmental reporting; and
- External environmental reporting.

9.1 Monitoring Reports

Activities that have the potential to have a significant environmental impact require the establishment of regular monitoring and measurement. Monitoring programs have been established for each of the individual management plans which are designed to measure performance against:

- Policy, objectives and targets;

- Regulatory requirements; and
- Any applicable NTG or national measurement standards.

The Environmental Manager is responsible for ensuring monitoring is conducted as frequently as required by each management plan. Monitoring reports will be collated by the Environmental Manager who will conduct a review monitoring results and the associated analyses of the results. Over time this will allow the findings to be assessed against trends, trigger levels or benchmarks to determine the effectiveness of control strategies.

9.2 Event Based Reporting

Event based reporting will be conducted in response to environmental incidents or emergencies. Internal reports will be prepared for inclusion in the monthly report and discussion at monthly management meetings. Additional incident, compliance and event-based reports will be prepared for external parties and regulators as requested and in accordance with legislative requirements.

A Section 14 Incident Report will be provided to the NT EPA if an environmental incident occurs on site which causes or threatens to cause pollution resulting in material or serious environmental harm. The Project Director will notify the NT EPA of such incidents immediately after they occur and within at least 24 hours of becoming aware of the incident.

All environmental incidents will be reported to the Department of Primary Industries and Resources (DPIR) in accordance with Section 29 of the *Mining Management Act*. The Project Director will notify the DPIR immediately after becoming aware of the incident and written notification will be provided as soon as practicable.

A summary of all event-based reports prepared throughout the year will be provided in the Annual Report.

9.3 Internal Environmental Reporting

The EM Plan will be reviewed annually as part of internal annual reporting requirements and through internal and third-party auditing. All information from the audit reports, incident reports and environmental monitoring reports will be collated into an annual environmental summary which will form part of the overall Annual Report. The environmental summary will provide an assessment of how the Project is achieving the objectives and targets outlined in the management plans.

The Environmental Manager will also prepare a monthly environmental summary for inclusion in the monthly report and discussion at monthly management meetings.

9.4 External Environmental Reporting

External reports will be prepared by the Environmental Manager and provided to regulators as required by any conditions of approval or other requests as required. Reports may include periodic compliance reports, audit reports, monitoring reports or incident reports. All external reports will be listed in the Annual Report.

As the Project will trigger the *National Greenhouse Energy and Reporting Act 2007* (NGER Act) reporting threshold for a single facility of 25,000 tonnes CO₂-e of greenhouse gases and 100,000 MJ of energy consumed during the operational phase, annual NGER reports will be prepared by the Environmental Manager and submitted to the Clean Energy Regulator.

10 Training and Awareness

As all site personnel and contractors have an obligation to take care of the environment, the site induction will be delivered to anyone conducting work on site. This induction will include an environmental management component which will address their responsibilities in relation to this EM Plan. Additional training will be provided to those engaged in activities which have a higher risk of causing harm to the environment such as vegetation clearing and excavation works.

The site Environmental Manager will be responsible for updating the site induction as required to ensure it remains consistent with any updated management plans. In addition, fact sheets and notices will be placed on notice boards to provide workers with regular updates on specific environmental management activities and warnings.

Personnel nominated for responsibilities under the Bushfire Management Plan and the Environmental Emergency Management Plan will undergo additional training on these plans to ensure they are fully aware of their responsibilities and actions to be taken.

Training and induction records will be maintained on site and will include details of attendees, training content, name and qualifications of the trainer and dates of the induction/training.

11 References

KGL Resources, Jervois Base Metal Project Draft Environmental Impact Statement, October 2018

KGL Resources, Jervois Base Metal Project Supplement to the Draft Environmental Impact Statement, July 2019

KGL Resources, Jervois Project draft Environmental Management Plan, October 2018

Appendices

A1 Environmental Incident Register

Date	Details	Corrective Actions Taken	Responsibility	Close Out Date

A2 Environmental Incident Report

ENVIRONMENTAL INCIDENT REPORT

Date and Time of Incident:

Location:

Details of Person who Reported the Incident

Name:

Phone No:

Address:

Email:

Details of Incident:

Investigation and Actions Undertaken:

Outcome/Resolution:

Follow Up Actions Required:

Response to Person who Reported the Incident:

Name & Title of Respondent:

Date/Time:

Format:

Recorded on Environmental Incident Register:

Yes

No

Name of Coordinator/Respondent:

Signature:

Date:

A3 Biodiversity Management Plan

A4 Bushfire Management Plan

A5 Dust Management Plan

A6 Water Management Plan

A7 Groundwater Management Plan

A8 Erosion and Sediment Control Management Plan

A9 Acid Mine Drainage Plan

A10 Waste Management Plan

A11 Cultural Heritage Management Plan

A12 Social Impact Management Plan

A13 Traffic Management Plan

A14 Mine Rehabilitation and Closure Plan

A15 Environmental Emergency Management Plan