URBAN Green cc
Sustainability Consultants

22 May 2023

The Environmental Commissioner
Ministry of Environment, Forestry and Tourism
Directorate Environmental Affairs
Private Bag 13346
Windhoek
Namibia

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM
DIRECTORATE OF ENVIRONMENTAL AFFAIRS
22 MAY 2023
RECEIVED 1
Signature.....

Attention: Mr T. Mufeti

RE: APP-00962 ECC-00301 - APPLICATION FOR RENEWAL OF AN ENVIRONMENTAL CLEARANCE CERTIFICATE TO CONTINUE WITH AN AUTHORISED LISTED ACTIVITY (QUARRY ACTIVITY) AT ML38 & 104, WALVIS BAY DISTRICT, ERONGO REGION

Urban Green cc (the Environmental Assessment Practitioner (EAP)) has been appointed by Damara Granite (PTY) Ltd. (the Proponent) to apply for the renewal of an Environmental Clearance Certificate for their existing mining activity at ML38 & 104 situated within the Walvis Bay Magistrate District, Walvis Bay Rural Constituency, in the Erongo Region.

Mining License 38 & 104 is currently lying dormant due to slow world economic market and ample stock reserves.

The screening notice on the eia portal indicated the submission of an updated EMP to effect amendment.

Given the above, find attached hereto the updated Operational Environmental Management Plan dated May 2023, for review.

Should your office require any further information and/or assistance, please contact us.

Yours faithfully,

Brand van Zyl

Telephone: +264-61-300 820
Fax: +264-61-401 294
Cell.: +264-81-129 5759
E-mail: urbangreen@iway.na
Website: www.urbangreenafrica.net

GREEN BUILDING COUNCIL NA
MEMBER ORGANISATION

P O Box 11929
Klein Windhoek
Namibia

No. 19, Elysium Field Complex
No. 40, Berg Street, Klein Windhoek

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

DAMARA GRANITE (PTY) LTD MINING LICENCE 38 & MINING LICENCE 104 WALVIS BAY DISTRICT (ERONGO REGION)

MAY 2023

RED QUARRIES & BLOCKS

URBAN green cc
Town and Regional Planning Consultants
Environmental Managers

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

DAMARA GRANITE (PTY) LTD MINING LICENCE 38 & MINING LICENCE 104 WALVIS BAY DISTRICT (ERONGO REGION)

MAY 2023

RED QUARRIES & BLOCKS

URBAN green cc
Town and Regional Planning Consultants
Environmental Managers

PROJECT INFORMATION

Project Title:	**OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN FOR DAMARA GRANITE (PTY) LTD MINING LICENCE 38 & MINING LICENCE104 WALVIS BAY (ERONGO REGION)**
Type of Study:	**BASELINE SCOPING REPORT**
Project Location:	**WALVIS BAY DISTRICT (ERONGO REGION)**
Project Number:	**ERONGO/R.E.D/DAMARA/2014-05**
Competent Authority:	**DIRECTORATE OF ENVIRONMENTAL AFFAIRS (MINISTRY OF ENVIRONMENT AND TOURISM)**
Proponent:	**R.E.D GRANITI (NAMIBIA) (PTY) LTD** **PO BOX 4076** **WALVIS BAY**
Consultancy:	**URBAN GREEN CC** **PO BOX 11929, KLEIN WINDHOEK** **TELEPHONE: +264-61-300 820** **FAX: +264-61-401 294** **E-MAIL: urbangreen@iway.na** **WEBSITE: www.urbangreenafrica.com**

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LIST OF ACRONYMS

BMP	Best Management Practice
BSR	Baseline Scoping Report
DWAF	Water Affairs and Forestry
HSE	Health, Safety and Environment
IUCN	International Union for Conservation of Nature
ML	Mining License
OEMP	Operational Environmental Management Plan

FIGURES

TABLE

APPENDICES

OEMP REVISION STATUS

Version	Date Approved	Revision Details
V1 – Original OEMP	May 2014	

GLOSSARY

The definitions given below are for explanatory purposes only.

Activity:	The physical work that a proponent carries out, operates, modifies, decommissions or abandons or an activity that a proponent proposes to undertake.
Assessment:	The process of identifying, predicting and evaluating the significant effects of activities on the environment; and the risks and consequences of activities and their alternatives and options for mitigation with a view to minimise the effects of activities on the environment.
Audit:	Regular inspection and verification of operational activities for implementation of the OEMP.
Emergency Situation	An incident, which potentially has the ability to significantly impact on the environment, and which, could cause irreparable damage to sensitive environmental features.
Environment:	The complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including: (a) The natural environment that is the land, water and air, all organic and inorganic material and all living organisms; and (b) The human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values.
Environmental Impact Assessment (EIA):	The process of examining the environmental effects of a activity as prescribed by the Environmental Impact Assessment Regulations (GN. No. 30 of 2012) for activities listed as List of Activities which may not be undertaken without an Environmental Clearance Certificate from the Environmental Commissioner (GN. No. 29 of 2012).
Excavation:	Excavation is defined in the Mineral Act 33 of 1992 as; Any trench, pit, quarry, shaft or other open or underground working made in the course of mining operations, prospecting operations or quarrying operations, as the case may be, excluding any superficial excavations made for purposes of geochemical soil and rock sampling.
Hazardous Materials:	Materials that poses substantial or potential threats to public health or the environment.
Mineral:	Mineral is defined in the Mineral Act 33 of 1992 as;

	Any substance, whether in solid, liquid or gaseous form, occurring naturally in, on or under any land and having been formed by, or subject to, a geological process.
Mining:	Mine is defined in the Mineral Act 33 of 1992 as; When used as a noun; any place where mining operations are or have been carried on, and includes any excavation or accessory works which is or are necessary for, or incidental to, such mining operations; or When used as a verb; means any operations calculated to win any mineral or group of minerals from a mine or from any ore won from a mine, and includes any operations which are necessary for, or incidental to, such operations, and 'mining' shall have a corresponding meaning.
Operational Environmental Management Plan (OEMP):	A plan that describes and gives guidance on how activities that may have significant environments effects on the environment are to be mitigated controlled and monitored.
Operator:	The principal person or company, including all subcontractors, undertaking the operation of the facilities as appointed by the Proponent.
Proponent:	The legal entity duly authorised and appointed representative, with rights to undertake the activity/ies.
Specification:	Specification may refer to an explicit set of requirements to be satisfied by a material, design, product, or service.

CHAPTER 1 ADMINISTRATION

1.1 INTRODUCTION

This OEMP has been compiled in support of obtaining an Environmental Clearance Certificate to continue with existing mining of the mineral dimension stone (i.e. granite) which is an existing listed activity. Application is made on behalf of Damara Granite (PTY) Ltd, operating and owned by R.E.D Graniti (Namibia) (PTY) Ltd, in accordance with Section 27(3) of Namibia's Environmental Management Act (No. 7 of 2007), and based on feedback received from the Office of the Environmental Commissioner (Appendix A of the Baseline Scoping Report).

The OEMP aims to guide and manage the operational, environmental, rehabilitation and monitoring management activities on the Project site and surrounding areas as they relate to the environment (i.e. natural and social environment). This document must further be seen as open-ended, requiring regular review and updating via the correct channels in order for it to effectively guide environmental management practices.

The responsibility for the implementation of this OEMP rests with the Proponent and his appointed Management.

1.2. OPERATIONS

1.2.1 Overview

R.E.D. Graniti Group has been extracting and marketing granite blocks for over 50 years, with operations worldwide. R.E.D Graniti Namibia currently employs about twenty people located at their head office in Walvis Bay or at the various Project sites, all located within the Erongo Region.

The operational processes of Damara Granite (PTY) Ltd are discussed in section 6.2 of the Baseline Scoping Report.

(i) Damara Granite (PTY) Ltd

Location:	ML 38 and ML 104 are located within the Walvis Bay District, and also fall within the Walvis Bay Urban Constituency and Dorob National Park, Erongo Region, Namibia
Access:	Situated about 15km from Walvis Bay in a south-easterly direction following the M36 and turning off onto the D1983
Property Description:	State owned land administered by the Directorate of Mines, under the auspice of the Ministry of Mines and Energy

Proponent:	R.E.D Graniti (Namibia) (PTY) Ltd
ML's Holder:	Damara Granite (PTY) Ltd
Local Authorities:	Erongo Regional Council; Walvis Bay Municipality
Land Use:	Mining of the mineral dimension stone (i.e. granite)
Geology:	Central Namib Desert -Granite; Gypsum
Topography:	Flat to undulating gravel plains, interspersed with sporadic ridges and isolated hills and mountains
Vegetation:	Gravel and sparse grassland and shrubland

1.3. ROLES AND RESPONSIBILITIES

The implementation of this OEMP requires the involvement of stakeholders, each fulfilling a different but vital role to ensure sound environmental management during the operational phase. The Organogram below shows the management structure.

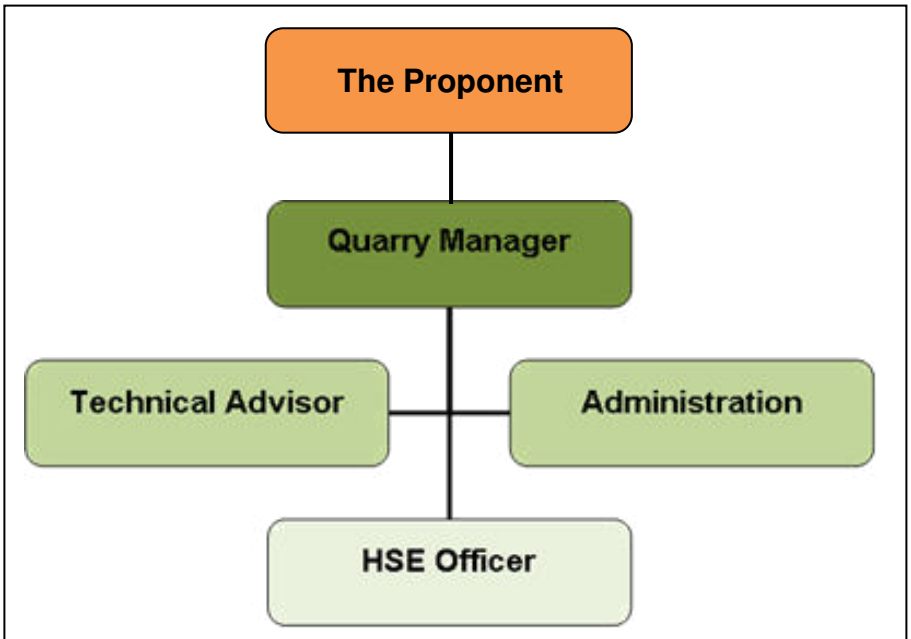


Figure 1.1: Organogram of the Management structure

1.3.1 The Proponent

- The Proponent is ultimately responsible for the implementation of the OEMP and the financial cost of all environmental control measures.
- The Proponent must ensure that any person acting on their behalf complies with the conditions/specifications contained in this OEMP.
- The Proponent must take overall responsibility for adherence to and implementation of the Environmental Clearance Certificate once approved.
- The Proponent must take responsibility for the repair and rehabilitation of any environmental damage that may occur as a result of his works.

1.3.2 The Quarry Manager

- The Quarry Manager must ensure that a safe and healthy work environment is maintained and implemented.
- The Quarry Manager must practice good leadership skills.
- The Quarry Manager must ensure that on-site practices abide by Government mining regulations.
- The Quarry Manager must ensure that on-site practices abide by company rules and regulations and codes of practice.
- The Quarry Manager must ensure that a low cost, production orientated target is maintained.
- The Quarry Manager must ensure on-site practices abide to Government labour regulations.
- The Quarry Manager must plan and control reject waste sites.

1.3.3 The Technical Advisor

- The Technical Advisor must ensure that all lawful instructions from the Quarry Manager are followed.
- The Technical Advisor must ensure and maintain a respectful relationship between work teams and management.
- The Technical Advisor must ensure honest target orientated behaviour amongst workers.
- The Technical Advisor must ensure and foresee punctual service and maintenance of projects.

1.3.4 The Administration

- The Administration is to record all mining removals, production and waste.
- The Administration is to control and perform all requirements from top management.
- The Administration is to maintain healthy stock-on-hand totals.

1.3.5 The HSE Officer

- The HSE Officer must ensure that all employees and outside service providers (and their staff members) are sensitised to this OEMP.
- The HSE Officer must monitor and record environmental compliance in accordance with the Environmental Clearance Certificate once approved, and the OEMP.
- The HSE Officer must maintain and update environmental management records, including a complaints register and records of environmental compliance that must be kept on site. It is good practice to keep a diary of environmental matters and photographic records (where possible).
- The HSE Officer must provide on-going advice on environmental management of the project.
- The HSE Officer can suspend operations that pose an immediate and urgent threat to the environment.

1.3.6 Other Parties May:

Be provided with the OEMP if any environmental concerns or questions are raised, so that this may be used as a benchmark for environmental management and to evaluate compliance.

1.4. ENVIRONMENTAL TRAINING & AWARENESS

The purpose of environmental training and awareness is to provide a general explanation of sustainable environmental practises, and to explain the content of the OEMP, the relevance thereof and how it will be implemented through monitoring.

All existing and new employees will be informed on the content of the OEMP as part of their induction and/or training. All employees are to receive yearly re-induction and/or training on the content of the OEMP. All contractors and sub-contractors working at the Project site will be informed on the content of the OEMP as part of their induction and/or training.

1.5. COMMUNICATION & REPORTING

1.5.1 Implementation of the OEMP

Implementation of the OEMP will be the responsibility of all parties involved during the entire operational phase (pre-operational, operational, and post-operational phase). The Proponent and his appointed Management will be central to this implementation.

A copy of the OEMP must be kept on the Project site. The OEMP must be assessable to all employees working for, or on behalf of the Proponent, as well to any authorities or stakeholders for inspection. Project meeting minutes must reflect environmental queries, agreed actions and dates of eventual compliance.

(i) Site Instruction Entries

The Site Instruction Book entries will be used for the recording of general site instructions as they relate to the works on site and OEMP measures. It will also be used for the issuing of stop-work orders issued by the HSE Officer for the purposes of immediately halting any particular activity/ies that the HSE Officer sees as being an immediate risk to a person's health, safety or to the environment.

(ii) Environmental Incidents

All environmental incidents must to be reported, recorded and investigated. The Proponent shall establish and maintain procedures for defining responsibility for handling and investigating environmental incidents. An Environmental Incident Register Template is given in Appendix B.

(iii) HSE Officer Diary Entries

The purpose of these entries will be to record the comments of the HSE Officer as they relate to activities on site including infringements, possible changes to the OEMP or work stop orders.

(iv) Dealing with Complaints

Any complaints received must be dealt with appropriately to ensure due consideration to the complainant and to ensure public and environmental safety. A Complaints Register Template is given in Appendix C.

- All complaints must be recorded in a complaints register with details of the nature of the compliant, the person or organization that lodged the complaint, the date and the name of the responsible person dealing with the complaint.

- The compliant must be fully investigated. Further clarity may also be obtained from operation and environmental records, from employees, from third party specialists or from the complainant.
- A strategy to deal with the compliant must be formulated, documented in the complaints register and communicated to the complainant.
- The formulated strategy must be implemented by the allocation of resources.
- The effects of the strategy should be monitored and the strategy modified if need be.
- Once the situation leading to the compliant has been resolved, the complainant must be informed. The date hereof should be recorded in the complaints register.
- Actions must be taken to prevent the situation from reoccurring and, if necessary, a contingency plan should be developed.
- If a situation leading to a complaint cannot be resolved under normal conditions, an amicable solution should be devised with inputs from the complainant.
- The complaints register must be reviewed regularly to ensure that all complaints have been dealt with effectively.

(v) Record Keeping

All records related to the implementation of this OEMP (e.g. site instruction entries, environmental incidents, HSE officer diary entries, and complaints) must be kept together in an office where it is safe and can be retrieved easily. All relevant records should be kept for a minimum of three years after operations have seized and should at any time be available for scrutiny by any relevant authority or stakeholder.

1.6. OEMP AUDIT, REVIEW & AMENDMENTS

1.6.1 OEMP Audit

It is recommended that the OEMP is to be audited at least once a year by a qualified and independent environmental practitioner. The audit shall include, but shall not be limited to; the examination and verification of the actions taken by the Proponent in implementing the OEMP; and the environmental monitoring conducted against the OEMP by the Proponent.

1.6.2 OEMP Review

It is recommended that the OEMP be reviewed on a five yearly basis or as operational procedures change by a qualified and independent environmental practitioner.

1.6.3 OEMP Amendments

Any party involved with the Project can suggest changes to the OEMP via the Proponent. Approved changes will be made to the OEMP to represent an updated OEMP in the form of an Appendix or Amendment document.

CHAPTER 2 OPERATIONAL MANAGEMENT & MONITORING

2.1 MANAGEMENT AND MONITORING OF SIGNIFICANT ENVIRONMENTAL IMPACTS

These specifications cover the requirements for controlling the pre-determined impact/s of operational activities on the natural and social environment which requires continues monitoring to establish the effectiveness of proposed mitigations and if required propose changes to the mitigations to become more effective.

2.1.1 EROSION & SEDIMENTATION

The clearing of vegetation as well as the exposing of soil during operational activities may lead to erosion of the surfaces due to rain and/or wind. Given the areas predominantly flat topography (Refer to BSR 5.3.4) the potential for erosion and sedimentation is low.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to minimise erosion and sedimentation as a result of his operational activities. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.2 HABITAT DESTRUCTION AND LOSS OF BIODIVERSITY

The alteration of the land use from natural environment to mining activities has changed the present landscape and resulted in the permanent displacement of the existing vegetation and faunal populations. Given the natural characteristics of the environment (Refer to BSR 5.3.5), removal of top and sub-soil cover is expected to have a moderate impact before mitigation and a low impact following proper mitigation measures and continues monitoring.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to minimise further habitat destruction and loss of biodiversity as a result of his operational activities. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.3 VISUAL & SENSE OF PLACE

The Project site has been disturbed by current mining activities (Refer to BSR 5.2.5). The activities associated with the Project site (e.g. site camp, vegetation clearance, excavations, quarries, reject waste site, operation of plant and machinery etc.) will be visible. Given the natural characteristics of the environment, visual and sense of place impact is expected to have a moderate impact before mitigation and a low impact following proper mitigation measures and continues monitoring.

(i) Objectives and Targets

The Proponent shall ensure that the visual and sense of place characteristics of the Project site does negatively affect the surrounding environment. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.4 HEALTH, SAFETY AND SECURITY

Operational activities on-site have the potential for accidental injury, either minor or major accidents. On-site health, safety and security of all personnel is an important aspect and requires special attention from the side of the Proponent. Health, safety and security impacts is expected to have a moderate impact before mitigation and a low impact following proper mitigation measures and continues monitoring.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to ensure the health, safety and security of all personnel working on the Project site. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.5 TRANSPORT

Operational activities are associated with an increase in plant and vehicle movement both on- and off-site, although plant and vehicle movement are expected to be more site specific. General road safety and maintenance of plant and vehicles is an important aspect and requires special attention from the side of the Proponent. Transport and its associated impacts are expected to have a moderate impact before mitigation and a low impact following proper mitigation measures and continues monitoring.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to minimise the impact of transportation and haulage of material on the environment. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.6 NOISE & VIBRATION

The area surrounding the Project site is largely of an undeveloped desert nature (Refer to BSR 5.3.3), with the exception of the Walvis Bay International Airport situated less that 5km form the Project site in a north-easterly direction, and an industrial warehouse situated less that 2km from the Project site in a westerly direction. A noise nuisance is defined as meaning “any sound that disturbs or impairs or may disturb or impair the convenience or peace of persons”. Noises and vibrations are expected as a result of operational activities by the use of plant, machinery and blasting on-site. Given the distance to the nearest receiver (i.e. Walvis Bay International Airport), noise and vibration are expected to have a moderate impact before mitigation and a low impact following proper mitigation measures and continues monitoring.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to minimise the generation of noise as a result of his operational activities from becoming a nuisance or impact on the wellbeing of persons on site or in the surrounding area. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.7 DUST & EMISSIONS

Nuisance dust is defined as “the total dust in the air including inhalable and respirable fractions.” Dust and gaseous emissions can be associated with on-site operations, of which the severity is directly related to the extent of operational activities and the nature of the receiving environment. Given the distance to the nearest receiver (i.e. Walvis Bay International Airport and an Industrial Warehouse), dust is not regarded as having a significant impact. Strong winds could cause dust pollution in terms of sand storms from the desert (Refer to BSR 5.3.2). Potential dust and emission impacts are regarded as being low in significance.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to minimise the generation of dust as a result of his operational activities from becoming a nuisance or impact on the wellbeing of persons on site or in the surrounding area. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.8 WASTE MANAGEMENT

Operational activities are associated with waste generation (Refer to BSR 5.2.2). Waste management is an important aspect and requires special attention from the side of the Proponent. Waste management is expected to have a moderate impact before mitigation and a low impact following proper mitigation measures and continues monitoring.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to minimise waste streams and waste pollution on site. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.9 WATER MANAGEMENT

Operational activities are associated with the use of water. Given the fact that the Project site falls within a water scarce area (Refer to BSR 5.3.4), the implementation of

water conservation measures are an important aspect and should be considered by the Proponent. Water management is expected to have a low impact.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to minimise water wastage and shall apply water conservation measures on site. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.10 STORAGE AND HANDLING MANAGEMENT

Proper storage and handling management of plant, vehicles, machinery, hazardous substances, explosives etc. are an important aspect and requires special attention from the side of the Proponent. Storage and handling maintenance is expected to have a moderate impact before mitigation and a low impact following proper mitigation measures and continues monitoring.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to reduce improper storage and handling practices on-site, and shall implement proper storage and handling practices. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.11 SOCIO-ECONOMIC

No major negative socio-economic impacts can be associated with the Project. The operational phase is likely to only generate a low significant socio-economic impact as only a limited amount of employment opportunities exist given the fact that the process is mostly machine intensive and not labour intensive (Refer to BSR 6.3). Socio-economic impacts are expected to have a low impact.

(i) Objectives and Targets

The Proponent shall take all reasonable measures to ensure that all socio-economic aspects are developed and addressed. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

2.1.12 HERITAGE/ARCHAEOLOGICAL RESOURCES

The Erongo region is known to be an archaeologically sensitive area, however no record of any cultural or historical importance or on-site resemblance of any nature could be located within the footprint of the Project site during the on-site visit (Refer to BSR 5.2.4). The probability of locating any important archaeological heritage remains during operational activities is regarded as being low.

(i) Objectives and Targets

If an archaeological site or remains are discovered during any operational activities the Proponent shall follow the prescribed reporting procedure as listed in Table 2.1. The Proponent shall comply with all relevant Legislation, Guidelines and/or Policies.

(ii) Management and Mitigation Measures

An assessment table of potential management and mitigation measures as well as applicable legislation is listed in Table 2.1.

Table 2.1: Assessment table of probable Management and Mitigation measures and applicable Legislation

Impact Description	Nature	Mitigation Measures	Monitoring Measures, Responsibility and Frequency	Applicable Legislation (Based on Chapter 4 of the BSR)
Erosion & Sedimentation	Negative impact on indigenous vegetation	Apply acceptable engineering standards and design, or Best Management Practices (BMP). BMPs are defined as physical, structural, and/or managerial practices, that when used singly or in combination, prevent or reduce the expected impact/s. Structural BMPs typically include sediment ponds or traps, filter fences, check dams, and riprap. Managerial BMPs include preserving the natural vegetation, leaving buffer zones, and providing dust control. Sand should be stockpiled away from drainage channels and low berms need to be placed around sand heaps. Plan the timing of operations to avoid clearing and grading during erosive high rainfall months of the year. If excavation cannot be avoided during rainy seasons, temporarily exposed soil surfaces should be covered e.g. by tarpaulin, and	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to; Weekly inspections by the HSE Officer for any evidence of erosion and sedimentation on-site, especially prior to and after rain events.	Environmental Management Act (Act No. 7 of 2007). Soil Conservation Act (Act 76 of 1969), As Amended. Where legislation is lacking, industry best practice to attain sound environmental management should be applied.

		access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.		
Impact Description	**Nature**	**Mitigation Measures**	**Monitoring Measures, Responsibility and Frequency**	**Applicable Legislation** **(Based on Chapter 4 of the BSR)**
Habitat Destruction and Loss of Biodiversity	Potential negative effect on ecological diversity	Show overall environmental commitment by adapting a 'minimalistic damage' approach. Vegetation clearance should be restricted to the area footprint. Conduct a Vegetation and Species Site Survey prior to any future clearing activities to establish protected / endangered species Identify and mark vegetation that should be protected (no-go areas).	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to; Conduct a Vegetation and Species Site Survey prior to any future clearing activities to establish protected / endangered species. Weekly inspections by the HSE Officer to check that all no-go areas (if any) are	Environmental Management Act (Act No. 7 of 2007). Soil Conservation Act (Act 76 of 1969), As Amended. Forestry Act (Act 12 of 2001), As Amended. Nature Conservation Ordinance (Ordinance 4 of 1975), As Amended. Parks and Wildlife Management Bill.

		In the event of protected species being found within the footprint appropriate methods should be applied to relocate these species appropriately. This should be done in consultation with a qualified and experienced ecologist. Restrict plant and vehicle movement to the Project site and restrict movement into identified no-go areas (if any) or beyond the ML boundaries. No hunting, trapping, setting of snares or any other disturbance of any fauna species should be tolerated. Fires on-site shall be kept small and appropriate to their function. The Proponent shall ensure that the fire risk is reduced to a minimum and shall take immediate and effective steps to extinguish any fire that may break out.	protected and maintained. Weekly inspections by the HSE Officer for any evidence of hunting, trapping, setting of snares or any other disturbance of any fauna species. Weekly inspections by the HSE Officer for any evidence of informal open fires within the ML site boundary.	Where legislation is lacking, industry best practice to attain sound environmental management should be applied.
Impact Description	**Nature**	**Mitigation Measures**	**Monitoring Measures, Responsibility and Frequency**	**Applicable Legislation** **(Based on Chapter 4 of the BSR)**
Visual & Sense of Place	Negative impact on the immediate landscape	Keep as much natural vegetation on site if possible. Buildings and infrastructure on-site should be painted with natural colours to promote blending with the natural environment.	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to;	Environmental Management Act (Act No. 7 of 2007). Where legislation is lacking, industry best practice to attain sound environmental management should be applied.

		Care needs to be taken with reflective or bright surfaces so that glare is avoided. Light sources must be placed in such a way, or shielded, so as to provide light only to the area that needs to be lit. All light spillage and pollution must be minimised. Restrict the height and extent of the reject waste site.	Weekly inspections by the HSE Officer to check that all light sources are specific to the area that needs to be lit, as to ensure that all light spillage and pollution are minimised. Weekly inspections by the HSE Officer to check height and extent of the reject waste site, if restricted. HSE Officer to keep a photographic record of the visual characteristic of the site, taken from four defined photo points. These photos can be taken by the HSE Officer on a monthly basis.	
Impact Description	**Nature**	**Mitigation Measures**	**Monitoring Measures, Responsibility and Frequency**	**Applicable Legislation** **(Based on Chapter 4 of the BSR)**
Health, Safety and Security	Negative impact on people's health, safety and security	Personnel should not be allowed to overnight on-site, with the exception of security personnel if required. Ensure that all personnel are properly trained depending on the nature of their work. Education and training of personnel and the public through on-site inductions. Provide for a first aid kit and properly trained person to apply first aid when necessary.	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to; Weekly inspections by the HSE Officer to ensure that all HSE related documents are filled and up to date. Daily inspections by the HSE Officer to ensure that all persons on site have been inducted.	Environmental Management Act (Act No. 7 of 2007). Labour Act No. 6 of 1992, As Amended. Public Health Act (Act 36 Of 1919), As Amended. Minerals (Prospective and Mining) Act 33 of 1992, As Amended; Mine Health & Safety Regulations, 10th Draft, made under Section 138A of the

		A lead person should be identified and appointed to be responsible for emergencies occurring on the site. This person should be clearly identified to the personnel. Restrict unauthorised access to the sites and implement access control measures. Speed limits on-site should be defined (e.g. 25km/h), and enforced, for all vehicles on the site. Clearly demarcate the ML boundaries along with signage of unauthorised access. Personnel and visitors to the site must be fully aware of all health and safety measures and emergency procedures. The Proponent must comply with all applicable occupational health and safety requirements. The workforce should be provided with all necessary Personal Protective Equipment including earplugs. Access roads on site should be clearly demarcated. All plant and vehicles should be maintained regularly as to not leak and	Daily verification checks by the HSE Officer to ensure that the Proponent complies with all applicable occupational health and safety requirements. HSE Officer to verify stock of Personal Protective Equipment on a monthly basis. HSE Officer to check and control the maintenance of all plant, vehicles and machinery on-site by implementing a maintenance checklist, to be completed on a monthly basis. Daily inspection by the HSE Officer to ensure that all drip trays are being utilised for their intended purpose, and emptied daily. Daily inspection by the HSE Officer to ensure that all spill kits are being utilised for their intended purpose. Daily inspection by the HSE Officer to ensure that all applicable health and safety signage are displayed and visible.	Minerals (Prospecting and Mining) Act that deals with the Health and Safety of Persons Employed or Otherwise Present in or at Mines Parts; • Part IV: General duties and responsibilities of owners of mines, mine managers and persons employed or otherwise present in or at mines; • Part VI: Accidents, dangerous occurrences and diseases; • Part VIII: Mine workings; • Part X: Explosives and blasting; • Part XI: Blasting certificates; • Part XVII: Machinery; • Part XXI: Protective equipment, clothing and devices; • Part XXIII: First aid. Minerals Policy of Namibia. Where legislation is lacking, industry best practice to attain sound environmental

		cause spillages. Spill kits should be readily available and used on-site. Drip trays should be readily available and used on-site. Secure and proper fencing and warning signs should be erected around the open quarry areas. Care must be taken in the storage and handling of all chemicals as to not have a negative health and safety impact on the user. *Blasting;* Develop well planned health and safety procedures to be followed during blasting events. Develop a well planned blast strategy to minimise the impacts of flyrock, noise and dust. Ensure that blasting operations are conducted as to minimise the risk of adverse environmental impact. Use alternative methods to blasting if possible.		management should be applied.

Impact Description	Nature	Mitigation Measures	Monitoring Measures, Responsibility and Frequency	Applicable Legislation (Based on Chapter 4 of the BSR)
Transport	Negative impact on road infrastructure and road users	Appropriate traffic safety awareness signs should be placed at conspicuous locations on-site. Drivers of plant and vehicles should have valid driver's licenses with ample experience on proper road usage and manners on-site as well as when making use of public roads. Speed limits on-site should be defined (e.g. 25km/h), and enforced, for all vehicles on the site. All plant and vehicles need to be in a road worthy condition. The Proponent shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road. All plant and vehicles should be maintained regularly as to not leak and cause spillages. Spillages should be avoided. When these occur, they should be cleaned immediately. Access roads on site should be clearly	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to; HSE Officer to check and control the maintenance of all plant, vehicles and machinery on-site by implementing a maintenance checklist, to be completed on a monthly basis. Daily inspection by the HSE Officer to ensure that all drip trays are being utilised for their intended purpose, and emptied daily. Daily inspection by the HSE Officer to ensure that all spill kits are being utilised for their intended purpose. Daily inspection by the HSE Officer to ensure that all applicable traffic signage are displayed and visible.	Environmental Management Act (Act No. 7 of 2007). Labour Act No. 6 of 1992, As Amended. Minerals (Prospective and Mining) Act 33 of 1992, As Amended; Mine Health & Safety Regulations, 10th Draft, made under Section 138A of the Minerals (Prospecting and Mining) Act that deals with the Health and Safety of Persons Employed or Otherwise Present in or at Mines; • Part XVI: Haulage and transport. Where legislation is lacking, industry best practice to attain sound environmental management should be applied.

		demarcated. Drip trays must be placed underneath construction vehicles when not in use to contain all oil that might leak from these vehicles.		
Impact Description	**Nature**	**Mitigation Measures**	**Monitoring Measures, Responsibility and Frequency**	**Applicable Legislation (Based on Chapter 4 of the BSR)**
Noise & Vibration	Negative impact on the immediate environment	Use equipment that is properly fitted with noise reduction devices such as mufflers. Appropriate directional and intensity settings are to be maintained on all hooters and sirens. Operate noise-generating equipment during set out working hours to reduce the potential of creating a noise nuisance. Workers operating equipment that generates noise should be equipped with noise protection. It is recommended that workers operating equipment generating noise of ≥ 80 dBA (decibels) continuously for 8 hours or more should use ear muffs. Workers experiencing prolonged noise levels 70 - 80 dBA should wear	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to; Monitoring and investigation by the HSE Officer and/or Proponent in response to a justified complaint. HSE Officer to check and control the maintenance of all plant, vehicles and machinery on-site by implementing a maintenance checklist, to be completed on a monthly basis.	Environmental Management Act (Act No. 7 of 2007). Labour Act No. 6 of 1992, As Amended. Draft Pollution Control and Waste Management Bill (July 1999). Minerals (Prospective and Mining) Act 33 of 1992, As Amended; Mine Health & Safety Regulations, 10th Draft, made under Section 138A of the Minerals (Prospecting and Mining) Act that deals with the Health and Safety of Persons Employed or Otherwise Present in or at Mines Parts; • Part X: Explosives and

		earplugs. Ensure that plant and machinery are maintained in a well working order as to not be a noise nuisance. No amplified music should be allowed on the sites. The Proponent shall not use sound amplification equipment on site unless in emergency situations. *Blasting;* Notify all applicable parties of blasting times and dates. Blasting shall be avoided during high wind and undesirable weather conditions, as to reduce the effects of noise, fumes and dust impacts. Develop a well planned blast strategy to minimise the impacts of flyrock, noise and dust. Blasting times must, where possible be limited to the hours from 08:00 to 17:00 during weekdays only. Use alternative methods to blasting if possible.		blasting; • Part XXI: Protective equipment, clothing and devices, Section 21.4. Where legislation is lacking, industry best practice to attain sound environmental management should be applied.

Impact Description	Nature	Mitigation Measures	Monitoring Measures, Responsibility and Frequency	Applicable Legislation (Based on Chapter 4 of the BSR)
Dust & Emissions	Negative visual and air quality impact	Removal of vegetation should be restricted to the minimum. Speed limits on-site should be defined (e.g. 25km/h), and enforced, for all vehicles on the site. Construction activities during high winds should be limited to those activities not generating dust. Handling and transport of erodible materials should be avoided under high wind conditions. Where possible stockpiles of fine material (e.g. sand) should be located in sheltered areas and covered. Raw materials such as sand should be adequately covered after placement for transportation, as to prevent any escaping particles into the air. Drop heights should be minimised. Appropriate dust suppression measures should be used when dust generation is unavoidable. Effective dust screens, sheeting or netting should be provided to restrict dust from being blown.	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to; Wind conditions can be monitored on a daily basis by installing a weather station on-site, indicating wind speed and direction. Based on this information the Proponent and/or HSE Officer can plan their actions accordingly. Daily visual inspection by the HSE Officer of dust conditions on site. Visual inspection by the HSE Officer during stripping of topsoil. Dust fall out samples can be taken by a qualified service provider should the need arise.	Environmental Management Act (Act No. 7 of 2007). Labour Act No. 6 of 1992, As Amended. Atmospheric Pollution Prevention Ordinance (Ordinance 11 of 1976), As Amended. Draft Pollution Control and Waste Management Bill (July 1999). Public Health Act (Act 36 Ofn1919), As Amended. Minerals (Prospective and Mining) Act 33 of 1992, As Amended; Mine Health & Safety Regulations, 10th Draft, made under Section 138A of the Minerals (Prospecting and Mining) Act that deals with the Health and Safety of Persons Employed or Otherwise Present in or at Mines Parts; • Part XI: Ventilation, gases

		Fires on site shall be kept small and appropriate to their function. The Proponent shall ensure that the fire is reduced to a minimum and shall take immediate and effective steps to extinguish any fire that may break out. No burning of any waste is allowed on site. It is imperative that all machinery and vehicles on site is road worthy and do not give rise to excessive smoke or emissions. Where unavoidable, personnel working in dusty areas should be provided and fitted with respirators. Blasting shall be avoided during high wind and undesirable weather conditions, as to reduce the effects of noise, fumes and dust impacts. Controls on each blast require weather conditions to be incorporated into the blast design to reduce the effects of fume and dust impacts on neighbours and the environment. During high wind conditions, the Proponent and/or HSE Officer will evaluate the situation and make recommendations as to whether dust management measures are adequate,		and dust, Section 9.13; • Part XXI: Protective equipment, clothing and devices, Section 21.5. Where legislation is lacking, industry best practice to attain sound environmental management should be applied.

		or whether working will cease altogether until the wind speed drops to an acceptable level.		
Impact Description	**Nature**	**Mitigation Measures**	**Monitoring Measures, Responsibility and Frequency**	**Applicable Legislation (Based on Chapter 4 of the BSR)**
Waste Management	Negative impact on the immediate environment	Classify waste according to their waste type (e.g. General, Hazardous, and Recyclable). Raise awareness through educational talks. No burning, burying or dumping of any waste materials, vegetation or refuse shall be allowed to occur. The accumulation of solid and hazardous waste materials must be avoided as far as possible. The Proponent shall set up a solid waste control and removal system. Soil contaminated by oil, fuel or chemicals shall be removed and disposed of at a registered Hazardous Waste Disposal Site or rehabilitated in-situ. Receipts for hazardous waste disposal shall be filled and kept in the on-site filling system.	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to; Daily inspection by the HSE Officer to ensure that identified waste streams are being disposed of correctly. Weekly inspections by the HSE Officer for any evidence of informal burning, burying or dumping of any waste material, vegetation or refuse. Monthly inspection by the HSE Officer to ensure that waste is being collected and removed off site at planned intervals. Monthly inspections by the HSE Officer to ensure that all HSE related documents (i.e. waste receipts) are filled and up to date. Establish a measurable and achievable waste reduction target for the Project	Environmental Management Act (Act No. 7 of 2007). Hazardous Substance Ordinance (Ordinance 14 of 1974), As Amended. Draft Pollution Control and Waste Management Bill (July 1999). Public Health Act (Act 36 Of 1919), As Amended. Minerals Policy of Namibia. Where legislation is lacking, industry best practice to attain sound environmental management should be applied.

		Refuse shall be disposed of into scavenger- and weather-proof lidded bins. The Proponent shall remove the refuse collected from the site at least once a week, or as needed. Refuse must be disposed of at an authorised landfill acceptable to the DEA (i.e. Walvis Bay Landfill). The Proponent shall make provision for clean-up of the site at least once a week. Where possible and practical, materials used or generated by operational activities shall be recycled. Where possible and practical, containers for glass, paper, metals and plastics shall be provided (a four bin recycling system). Office areas are particularly suited to this form of recycling process. Where possible and practical, such as at stores and offices, waste shall be sorted for recycling purposes. The Proponent shall set up a sewage waste control and removal system. The use of soakaways has been prohibited by the Department of Water	site.	

		Affairs and Forestry (DWAF) (Code of Practice, Vol. 1, 2008). It is recommended that chemical toilets be used on-site. These should be serviced and maintained by a service provider at regular agreed intervals. Chemical toilets should be secured to the ground in order to prevent them from toppling due to wind or any other cause. Chemical toilets should be maintained in a clean and tidy state and effluent disposed of accordingly.		
Impact Description	**Nature**	**Mitigation Measures**	**Monitoring Measures, Responsibility and Frequency**	**Applicable Legislation** **(Based on Chapter 4 of the BSR)**
Water Management	Negative impact on water reserves	Reduce water usage through implementing water conservation measures, such as; Re-use water for dust suppression. Identify and fix any leaking taps or water features on-site.	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to; HSE Officer to record monthly water usage on site. HSE Officer to check and control the maintenance of all taps and water features on-site, to be completed on a	Environmental Management Act (Act No. 7 of 2007). The Water Act (Act No. 54 of 1956). Water Resources Management Act (Act 11 of 2013). Labour Act No. 6 of 1992, As Amended. Minerals (Prospective and Mining) Act 33 of 1992, As

			bi-monthly basis.	Amended; Mine Health & Safety Regulations, 10th Draft, made under Section 138A of the Minerals (Prospecting and Mining) Act that deals with the Health and Safety of Persons Employed or Otherwise Present in or at Mines Parts; • Part XXI: Protective equipment, clothing and devices, Section 21.15. Where legislation is lacking, industry best practice to attain sound environmental management should be applied.
Impact Description	**Nature**	**Mitigation Measures**	**Monitoring Measures, Responsibility and Frequency**	**Applicable Legislation** **(Based on Chapter 4 of the BSR)**
Storage & Handling Management	Negative impact on the immediate environment	The Proponent must comply with all applicable occupational health and safety requirements. All hazardous substances used on site should be stored in a bunded area. All plant and machinery should be maintained regularly as to not leak and cause spillages. Ensure that oil/ fuel spillages from	The Proponent and/or his Management shall develop preventative monitoring programs and checks to control identified environmental hazards. Some of these may include but shall not be limited to; HSE Officer to check and control the maintenance of all plant, vehicles and machinery on-site by implementing a	Environmental Management Act (Act No. 7 of 2007). Hazardous Substance Ordinance (Ordinance 14 of 1974), As Amended. Draft Pollution Control and Waste Management Bill (July 1999). Labour Act No. 6 of 1992, As

		construction vehicles and machinery are minimised and that where these occur, that they are appropriately dealt with. Oil leakage or spillage should be contained and cleaned up immediately, and disposed of appropriately. Drip trays must be placed underneath construction vehicles when not in use to contain all oil that might leak from these vehicles. Spill kits should be readily available and used on-site. All breakdowns should be taken to the main workshop for repairs. The Proponent shall ensure that delivery personnel are supervised during offloading. When loading materials, materials shall be appropriately secured to ensure safe passage between destinations. Loads including, but not limited to sand, stone and refuse, shall have appropriate cover to prevent them spilling during transit. The Proponent shall be responsible for any clean-up resulting from the failure by his employees or suppliers to	maintenance checklist, to be completed on a monthly basis. Daily inspection by the HSE Officer to ensure that all drip trays are being utilised for their intended purpose, and emptied daily. Daily inspection by the HSE Officer to ensure that all spill kits are being utilised for their intended purpose. Daily visual inspection by the HSE Officer to ensure that no spillages have occurred on site. HSE Officer to ensure that all breakdowns are serviced at the dedicated main workshop on-site. Weekly inspections by the HSE Officer of all storage areas, to ensure that storage and handling practices are conducted in the appropriate manner. Bi-monthly inspections by the HSE Officer of all bunds on site, to ensure that no cracks are visible that might question the integrity of the bund.	Amended. Minerals (Prospective and Mining) Act 33 of 1992, As Amended; Mine Health & Safety Regulations, 10th Draft, made under Section 138A of the Minerals (Prospecting and Mining) Act that deals with the Health and Safety of Persons Employed or Otherwise Present in or at Mines Parts; • Part X: Explosives and blasting, Section 10.4; • Part XVII: Machinery; • Part XXI: Protective equipment, clothing and devices; • Part XXII: Mine Fires, Section 22.3. Where legislation is lacking, industry best practice to attain sound environmental management should be applied.

		properly secure transported materials. All manufactured and/or imported material shall be stored within the Proponents site footprint, and, if so required, out of the rain. Imported fill/soil/sand materials shall be free of weeds, seeds, litter and contaminants. Where reasonably practical, construction vehicles and equipment shall be refuelled at the fuel depot on site. The surface under the refuelling area shall be protected (bunded) against pollution. The Proponent shall ensure that there is always a supply of absorbent material (e.g. chemcap, spill-sorb, drizzat pads, enretech and peat moss) readily available to neutralise and where possible be designed to encapsulate minor spillage. The quantity of such materials shall be able to handle a minimum of 200 ℓ of liquid spill. Fuels shall be stored at a suitable location inside the Proponents site footprint. The fuel storage area must not be		

		located near (i.e. less than 100m) any water resource, including a river, stream or surface water body. The Proponent shall ensure that all liquid fuels (petrol and diesel) are stored in tanks with lids, which are kept firmly shut. The tanks shall be situated on a smooth impermeable surface (plastic or concrete) base with an earth bund (plastic must have sand on top to prevent perishing). The impermeable lining shall extend to the crest of the bund and the volume inside the bund shall be 110% x the total capacity of all the storage tanks. Bunds must be kept free of debris and any other object not originally designed to be included in the bund. The drainage valve/s of the bund/s must be closed at all times, and only opened under controlled conditions. The Proponent shall keep fuel under lock and key at all times. No smoking shall be allowed in the vicinity of fuel tanks. The Proponent shall educate workers (e.g. toolbox talks) on the appropriate		

		methods for workshop maintenance and fuel points to prevent fuel and oil being washed out of containment areas. Only empty and externally clean tanks may be stored on the bare ground. All empty and externally dirty tanks shall be sealed and stored on an area where the ground has been protected. In addition, if fuel is dispensed from 200 ℓ drums, the proper dispensing equipment shall be used, and the drum shall not be tipped in order to dispense fuel. The dispensing mechanism of the fuel storage tank shall be stored in a waterproof container when not in use. Symbolic safety signs depicting “No Smoking”, “No Naked Lights” and “Danger” are to be provided, and are to conform to the requirement of SABS 1186. The product contained within the tank shall be clearly identified, using the emergency information system detailed in SABS 0232 part 1. Any electrical or petrol-driven pump shall be equipped and positioned, so as not to cause any danger of ignition of the product. Areas for storage of fuels and other		

		flammable materials shall comply with standard fire safety regulations and may require the approval of a fire safety officer. The Proponent shall ensure that there is adequate fire-fighting equipment at the fuel stores and that personnel are adequately trained to use this equipment. All on-site fuel storage tanks are to be designed and constructed in accordance with a recognised Act and code (Petroleum Product and Energy Act, No. 13 of 1990, as amended). The rated capacity of such a fuel storage tank shall provide sufficient capacity to permit expansion of the product contained therein by the rise in temperature during storage. The fuel storage tank shall be erected at least 3.5m from buildings, boundaries and any other combustible or flammable materials. Adequate precautions shall be provided to prevent spillage during the filling of any tank. If larger capacity tanks are required then an acceptable rational design based on a relevant national or international code		

		or standard shall be submitted to the Directorate Energy, Petroleum and Downstream (Ministry of Mines and Energy).		
Impact Description	**Nature**	**Mitigation Measures**	**Monitoring Measures, Responsibility and Frequency**	**Applicable Legislation (Based on Chapter 4 of the BSR)**
Socio-Economic	Positive impact on socio-economic security	Preference should be given to local labour. Benefits to local labourers should not be restricted to short term financial benefits, but longer term social upliftment through skills transfer and entrepreneurial skills development and initiatives.	The Proponent and/or his Management shall develop a documented process to show the percentage of local labourers employed as well as what socio-economic skills- and entrepreneurial transfer programs have been implemented.	Environmental Management Act (Act No. 7 of 2007). Labour Act No. 6 of 1992, As Amended. Public Health Act (Act 36 Of 1919), As Amended. Minerals Policy of Namibia. Where legislation is lacking, industry best practice to attain sound environmental management should be applied.
Impact Description	**Nature**	**Mitigation Measures**	**Monitoring Measures, Responsibility and Frequency**	**Applicable Legislation (Based on Chapter 4 of the BSR)**
Heritage / Archaeological Resources	Negative impact on historical heritage artefacts	If an archaeological site or remains (i.e. fossils, coins, articles of value or antiquity) is discovered during any operational activities, the work is to be halted and the Proponent and/or HSE	If an archaeological site or remains is discovered during any operational activities the Proponent and/or his Management shall record it.	Environmental Management Act (Act No. 7 of 2007). National Heritage Act (No. 27 of 2004). Where legislation is lacking,

		Officer notified immediately, who shall contact the Namibian Heritage Council. Only after the site has been inspected will the Proponent be allowed to continue.		industry best practice to attain sound environmental management should be applied.

CHAPTER 3 DECOMMISSIONING AND REHABILITATION

3.1 OBJECTIVES AND TARGETS

The main objectives and targets for the decommissioning and rehabilitation of the mining quarry and the site as a whole (if intended) are to;

- To rehabilitate the site to a state approximating the predevelopment state.
- Minimize the visual impact.
- Stabilize the soil.
- Create a safe and functional landscape that will provide a habitat to local fauna and flora.
- Ensure that rehabilitation is effectively established and maintained if needed.

3.2 MANAGEMENT AND MITIGATION MEASURES

Although mining operations are expected for an extended period of time, the following steps are recommended to be taken if the Project were ever decommissioned and rehabilitated.

Decommissioning;

- All applicable authorities must be informed of the decommissioning.
- All hazardous substances must be removed and disposed of responsibly.
- All below and above ground infrastructures must be removed.
- Waste may not be dumped on or near the Project site.
- Any soil that might be contaminated by fuel or other hazardous substances must be removed and disposed of at a hazardous waste disposal site.
- Contaminated soil may not be dumped on or near the Project site.

Rehabilitation;

- Rehabilitate the site to a state approximating the predevelopment state.
- No alien plant species may be established on the site during rehabilitation.
- Reject rock and sand from the reject waste site should be placed back into the quarry by means of backfilling.

- The reject rock should be covered with sand as far as possible, as to blend in with the flat topography of the surrounding environment (Refer to BSR 5.3.4).
- Keep the slope of the reject waste dump as low as possible, as to blend in with the flat topography of the surrounding environment (Refer to BSR 5.3.4).
- If the Proponent intends to use the process of rock-shading (Refer to BSR 6.6), care must be taken in the handling and storage of the chemical ferric chloride.
- Although studies have shown that if washed away by rain ferric chloride has a negligible impact on the quality of runoff water, it is recommended that the application of the product be planned as such as to not be during any forecast rain events.

3.3 APPLICABLE LEGISLATION

The following relevant legislation applies to decommissioning and rehabilitation:

- **Environmental Management Act (Act No. 7 of 2007)**
    - Section 3 (j): a person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage.
- **Labour Act No. 6 of 1992, As Amended**
    - Part XI, Section 101 (an): the conservation, rehabilitation and safe making of land disturbed by any operations.
- **Minerals (Prospective and Mining) Act 33 of 1992, As Amended**
    - PART XII, Section F (iii): the manner in which it is intended to prevent pollution, to deal with any waste, to safe guard the mineral resources, to reclaim and rehabilitate land disturbed by way of the prospecting operations and mining operations and to minimize the effect of such operations on land adjoining the mining area.
- **Minerals Policy of Namibia**
    - Chapter 5 Section 5.3: Rehabilitation based on the 'polluter pays' concept should ensure protection of the environment both during and after mining operations.

3.4 PRE- AND POST-MONITORING, REPORTING AND REVIEW

Ongoing rehabilitation maintenance, monitoring and rectification will be carried out by the Proponent. Once final decommissioning and rehabilitation has been completed it is recommended that a post-rehabilitation audit be conducted by a qualified environmental practitioner and the report be submitted to the Office of the Environmental Commissioner.

Appendix A

Environmental Monitoring Inspection Form Template

ENVIRONMENTAL MONITORING INSPECTION FORM TEMPLATE			
Report No:			
Date:			
Issue	**Observation**	**Remedial action**	**Compliance**
1. Operation			
1.1 All plant, personnel, etc. restricted to project site footprint?			
1.2 Where needed, sensitive areas adequately fenced off?			
1.3 Fencing around quarry area well maintained?			
1.4 Fencing in and around project site well maintained?			
1.5 No unauthorised entry, stockpiling, etc. outside project site footprint?			
1.6 All vehicles and plant remain on designated routes?			
1.7 Information posters in place and maintained where needed?			
1.8 No smoking in hazardous areas?			
1.9 Basic fire fighting equipment available at designated areas?			
1.10 No burning of wastes as a means of disposal?			

1.11 Staff aware of procedures in the event of spills/leaks?			
1.12 Materials for dealing with spills/leaks available?			
1.13 Emergency contact numbers displayed?			
1.14 Complaints Register up to date?			
1.15 Archaeological material found on project site mitigated?			
1.16 No animals trapped or harmed?			
1.17 No flora removed or damaged outside project site footprint?			
1.18 Adequate drainage and retaining works in place to control erosion/siltation where applicable?			
1.19 No pollution from drilling operations?			
2. Materials			
2.1 Operational materials (e.g. sand) adequately secured to ensure safe transportation?			
2.2 All materials being stored inside Project site footprint?			
2.3 All imported materials free of weeds, litter, etc.?			

2.4 Topsoil stripped and stockpiled at a suitable site prior to excavation works?			
2.5 Spoil stockpiled at a suitable location?			
2.6 Spoil stockpiles correctly shaped and protected?			
3. Plant			
3.1 Fuel/oil storage facilities adequately secured and protected against leakage?			
3.2 Safety signage provided at fuel storage areas?			
3.3 All electrical/petrol pumps suitably equipped and placed not cause any danger of ignition?			
3.4 Fuel storage areas comply with fire safety regulations?			
3.5 Necessary authorisations obtained for temporary above ground fuel tanks?			
3.6 Capacity of fuel tank/s does not exceed 9000 ℓ?			
3.7 Fuel tanks erected at least 3.5 m away from buildings, boundaries or other flammable materials?			
3.8 Adequate toilet facilities provided for staff (min. 1 toilet per 30 workers)?			

3.9 Toilets adequately maintained?			
3.10 All workers use toilets?			
3.11 Scavenger-proof bins with lids provided at eating areas?			
3.12 Waste temporarily stored inside Project site footprint in weather- and scavenger-proof bins?			
3.13 No burying or dumping of wastes on site?			
3.14 Waste management system in place?			
3.15 Refuse disposed of at licensed landfill?			
3.16 Adequate water management system in place?			
3.17 Runoff from workshops, fuel depots, etc. directed into conservancy tanks for disposal at approved site?			
3.18 Wash areas placed and built in such a way that does not cause any pollution?			
3.19 All maintenance of plant and equipment takes place in dedicated workshop?			
3.20 All plant is well maintained (no leaking)?			
3.21 Workshop has a			

bunded, impermeable floor sloping towards oil trap?			
3.22 Project site tidy?			
3.23 All plant and machinery have drip trays, which are checked and emptied daily?			
3.24 All repairs on machinery using fuels or lubricants done over a drip tray?			
3.25 Static plant located within a bunded area?			
3.26 Bunds kept free of debris and any other object not originally designed to be included in the bund?			
3.27 Drainage valve/s of the bund/s closed at all times, and only opened under controlled conditions?			
3.28 Measures in place to minimise dust generation?			
3.29 Measures in place to minimise noise generation?			
3.30 No handling/transport of erodible materials under high wind conditions?			
3.31 All hazardous substances used on site (e.g. ferric chloride) should be stored in a bunded area.			

Appendix B

Environmental Incident Register Template

ENVIRONMENTAL INCIDENT REGISTER TEMPLATE	
Reported By:	
Title:	
Date:	
Incident Location:	
Incident Time:	
Incident Description:	
Root Cause:	
Action Taken:	
Action Required To Prevent Reoccurrence:	
Incident Close Out Date:	
Signature:	

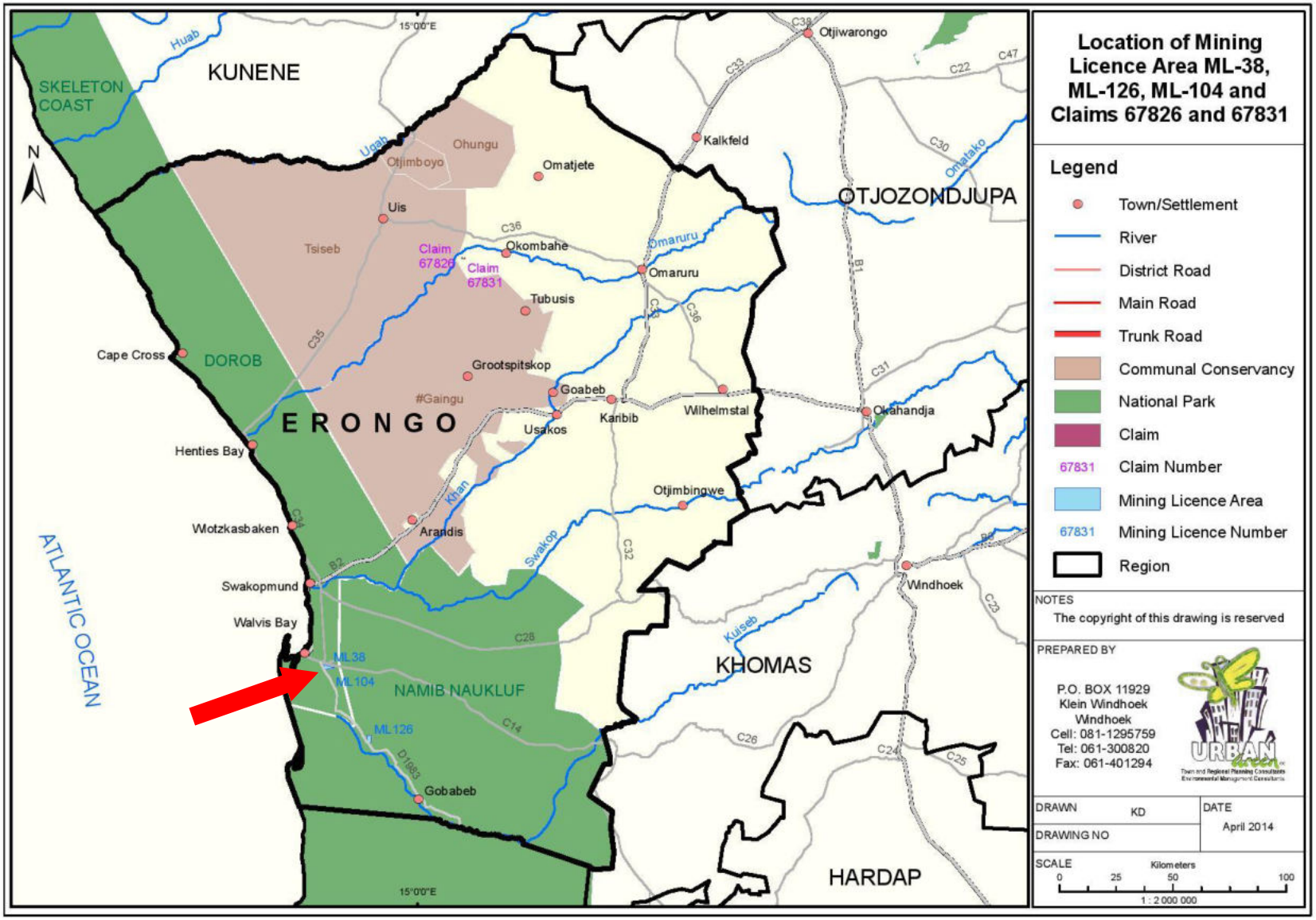
Appendix C

Complaints Register Template

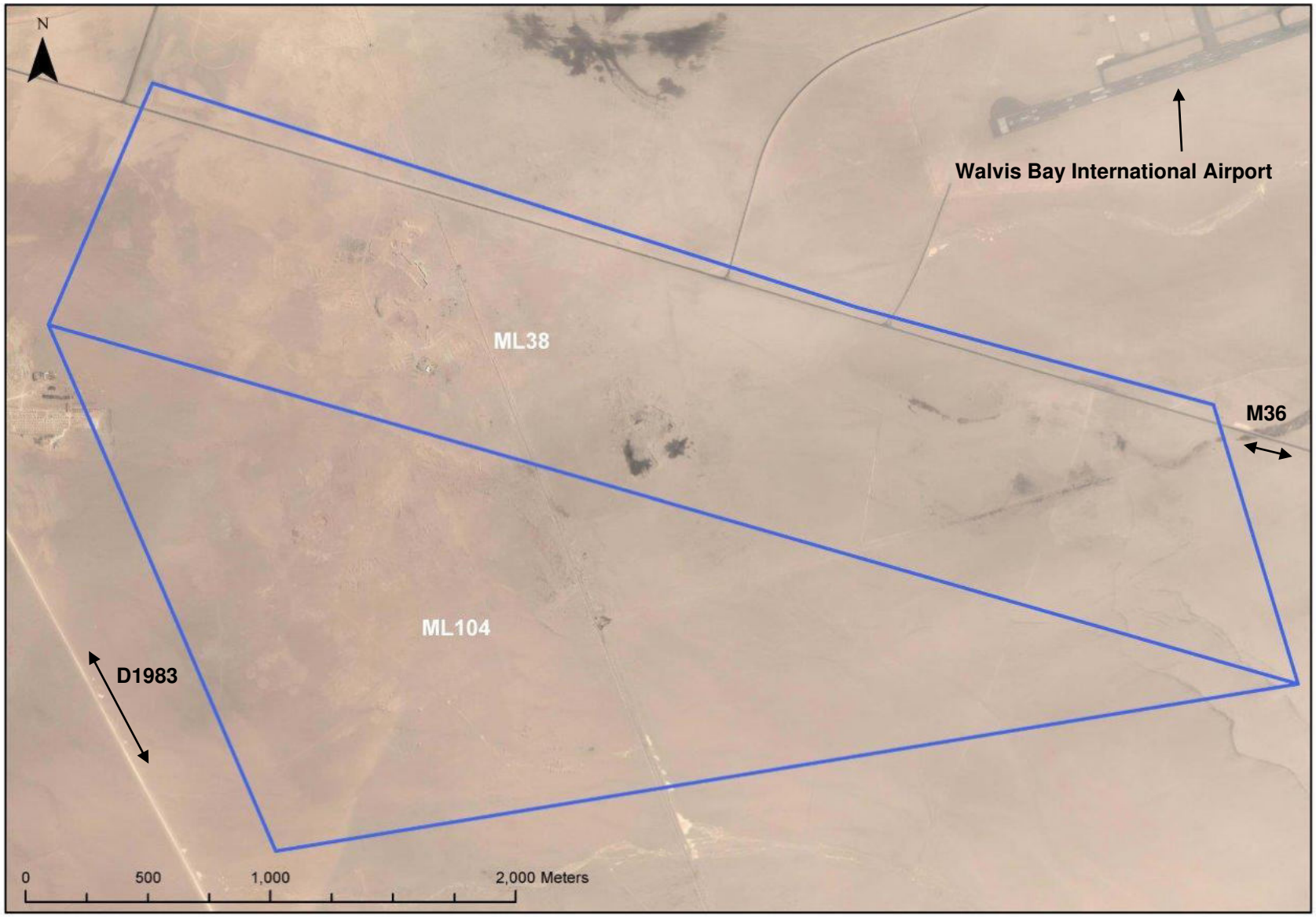
COMPLAINTS REGISTER TEMPLATE			
Complainant's Contact Details			
Name:			
Tel:			
Cell:			
Email:			
Address:			
Detail of Complaint	**Description of Complaint**	**Date Reported**	**Date Responded**
Detail of Actions Taken	**Description of Action**	**Date Closed out**	**Signature**

Appendix D

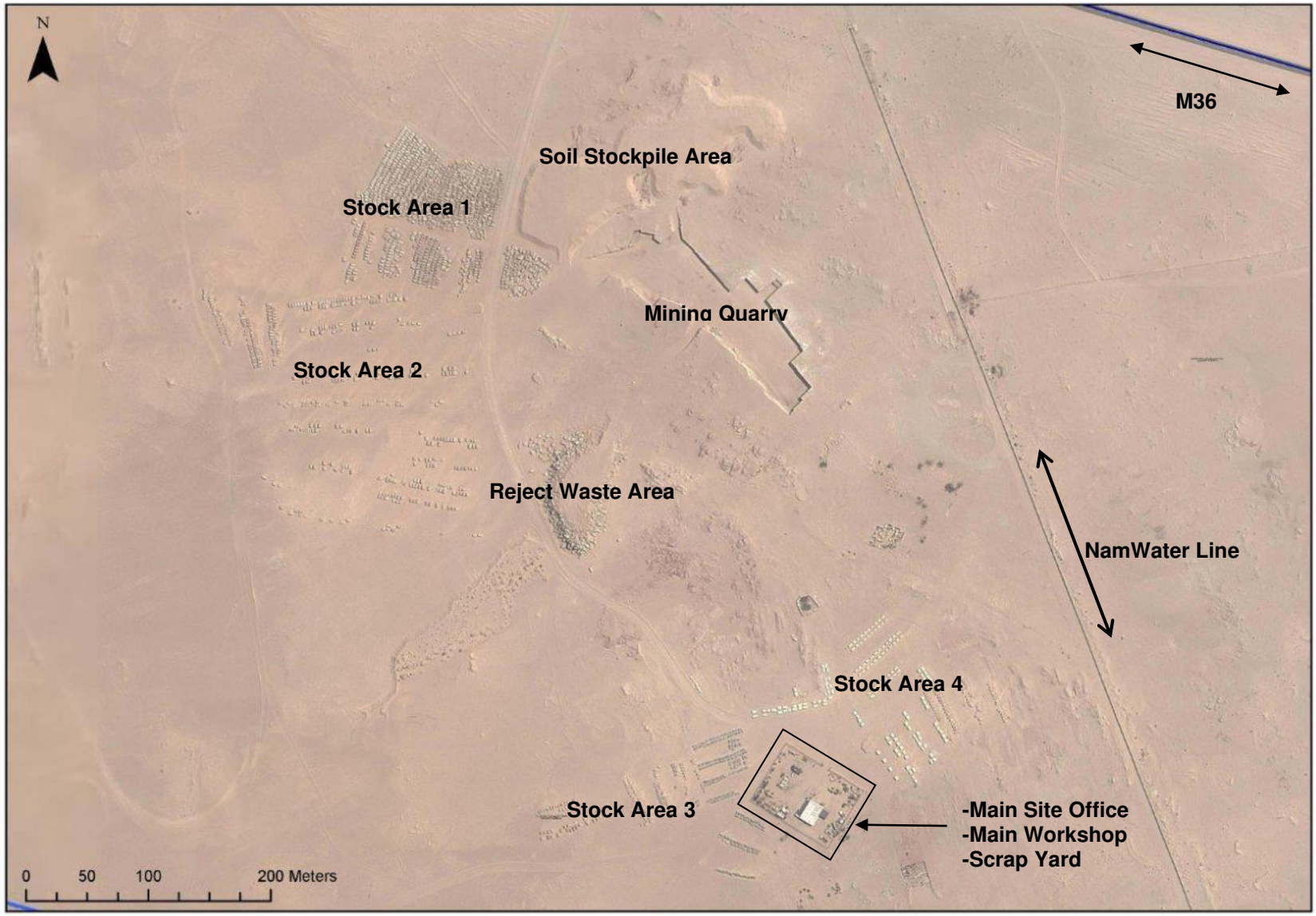
Project Site Maps



Regional Map of ML 38 and ML 104



Area Map of ML 38 and ML 104



Area Map of operations on ML 38