

**ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR
MINING CLAIM ON (MC) 71973
ARANDIS, ERONGO REGION**

19 OCTOBER 2021

Consultancy: Namib Enviro Consultants

P.O.Box 96255,
Komasdal Windhoek
Email: namib@gamil.com
Tell: 0817606590

Proponent: Tala Investment CC

P.O.Box 810018
Olympia, Windhoek
Email: tala@gmail.com
Tell: 0814036050

EXECUTIVE SUMMARY

Tala Investment cc (referred herein as 'The proponent') proposes to undertake mining or quarrying activities on the area of mining claims (mc) 71973, which cover an area of approximately 18000 Ha respectively. These sites fall under the Arandis municipal area and are located approximately 50 km.

In accordance with the Environmental Management Act (2007) and EIA Regulations (2012) an Environmental Clearance Certificate (EIA) is required listed activities i.e mining and quarrying. Hence an Environmental Scoping report and assessment has been prepared in support of the application.

Dimension stones are important building materials used worldwide, hence valuable natural resources. Namibia has a variety of quality dimension stone; however, its potential has not yet been fully developed. The prospecting company should utilize this opportunity to take advantage of this development. Project activities include, drilling and mining methods can be classified as artificial including quarrying, strip mining contour mining dredging and hydraulic in this case the proponent will be using quarrying mining which involves the sequence of benches from the surface to the deposit. The open pit goes into the ground following of the benches above are extended in appearance an open pit excavation resembles an inverted pyramid within tip into the earth the open keeps extending from the surface deeper the method is more used in places where the topography is flat. The process used match winner like (scrapers, bull scrapers, bull end loaders scrapers, bull).

The team will utilize the existing accommodation facilities and services in the area. Power will be supplied by a generator and water will be brought to site in a tank for domestic purposes, and other uses.

Contents

1	INTRODUCTION	6
1.1	Project Background.....	6
1.2	Purpose of the Report.....	6
1.3	Namib Enviro Consultants	7
2	ENVIRONMENTAL LEGAL REQUIREMENTS	8
3	PROJECT ALTERNATIVE	10
4	DESCRIPTION OF THE PROJECT ACTIVITIES	10
4.1	Need and Desirability	10
4.2	Mining Method.....	10
4.3	Machinery and Equipment	10
4.4	Workers and Accommodation.....	11
4.5	Services and Infrastructure.....	11
4.5.1	Waste Management.....	11
5	DESCRIPTION OF THE RECOVERING ENVIRONMENT	12
5.1	Climate	12
5.2	Fauna and flora.....	13
5.3	Soil type	13
5.4	Geology.....	14
5.5	Hydrogeology.....	16
5.6	Socio-economic Environment	17
5.7	COVID-19 and HIV/AIDS.....	17
5.8	Archeology and Heritage Sites	17
6	ASSESSMENT METHOD	18
6.1	Baseline.....	18
6.2	Adverts.....	19
6.3	Site Notices.....	19
6.4	Interested and affected parties.....	19
6.5	Feedback	19
7	EVALUATION OF IMPACTS	20
8	CONCLUSION AND RECOMMENDATIONS	24
	REFERENCES	25

Bibliography 25

APPENDICES..... 26

1. site notices..... 26

2. news paper adverts 26

FIGURES

FIGURE 1: LOCALITY MAP 6

FIGURE 2..... 12

AVERAGE MONTHLY TEMPERATURE FOR ARANDIS FIGURE 3: AVERAGE MONTHLY
RAINFALL FOR ARANDIS..... 12

FIGURE 4..... 13

FIGURE 5..... 14

FIGURE 6..... 15

FIGURE 7: BASINS COVERING THE PROPOSED AREA OF MINING 16

FIGURE 8- EIA PROCESS..... 18

TABLES

TABLE 1: RELEVANT ACTS AND APPLICABILITY TO THE PROPOSED PROJECT..... 8

TABLE 2 : SUMMARY OF ASSESMENTS..... 22

LIST OF ABBREVIATIONS

BID	Background Information Document
DEA	Department of Environment Affairs
EIA	Environmental Impact Assessment
ESAR	Environmental Scoping and Assessment Report
EMP	Environmental Management Plan
ECC	Environmental Clearance Certificate
GDP	Gross Domestic Products
I&AP	Interested and Affected Parties
MEFT	Ministry of Environment Forestry and Tourism
MME	Ministry of Mines and Energy
MSDS	Material Safety Data Sheets
PPE	Personal Protective Equipment
WHO	World Health Organization

1. INTRODUCTION

1.1. Project Background

Tala Investment cc (referred herein as 'The proponent') proposes to undertake mining or quarrying activities on the area of mining claims (mc) 71973, which cover an area of approximately 18000 Ha respectively. These site fall under the Arandis municipal area -21.916872,14.862594 and are located approximately 50 km under the coordinates, refer to FIGURE 1.

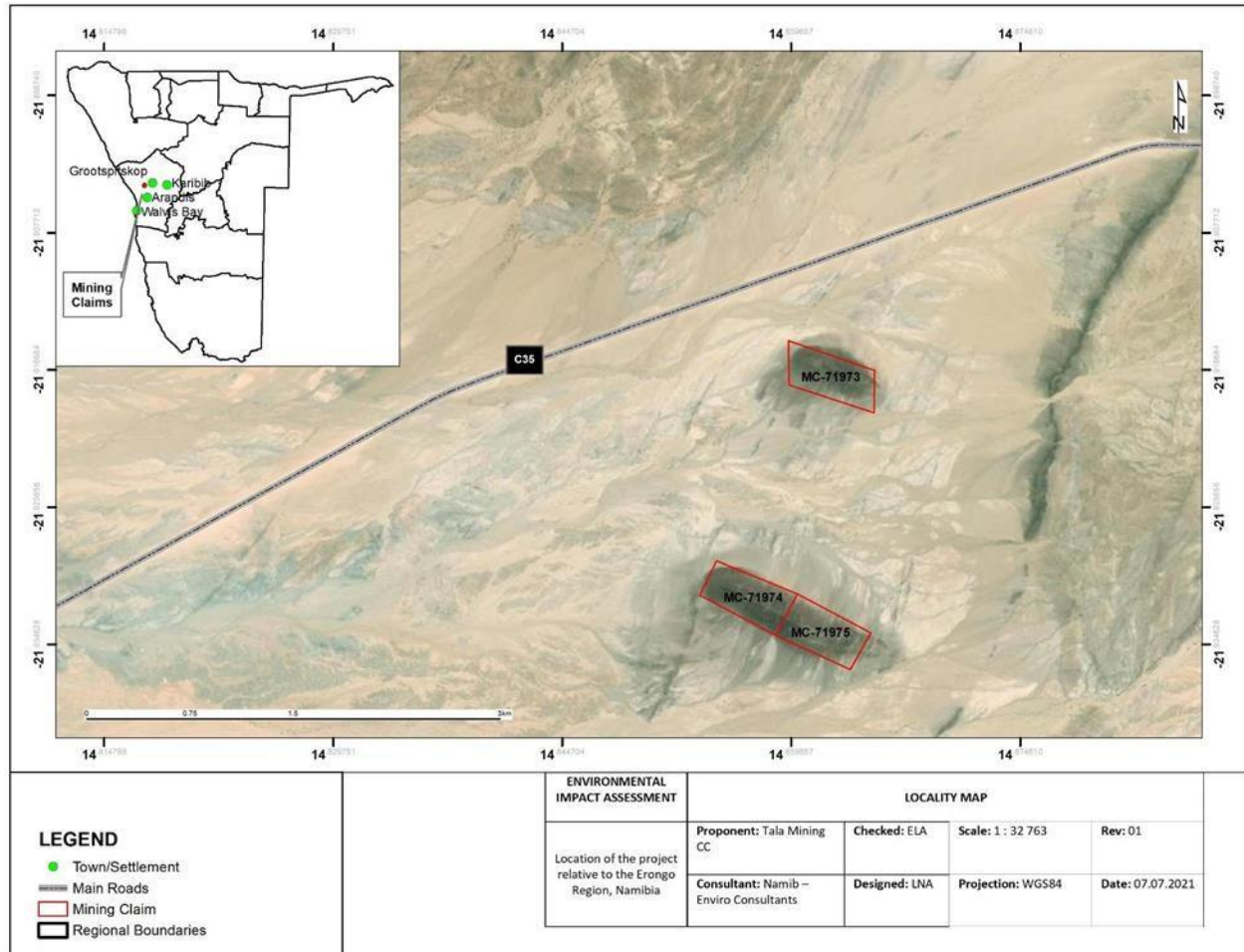


FIGURE 1: LOCALITY MAP

1.2. Purpose of the Report

In accordance with the Environmental Management Act (2007) and EIA Regulations (2012) an Environmental Clearance Certificate (EIA) is required for the following listed activities:

MINING AND QUARRYING ACTIVITIES

(2.1) The construction of facilities for any process or activities which requires a license, right or other form of authorization, and the renewal of a license, right or other form of authorization, in terms of the Minerals (Prospecting and Mining) Act, No. 33 of 1992.

(2.2) Other forms of mining or extraction of any natural resources whether regulated by law or not. (2.3) Resource extraction, manipulation conservation and related activities.

Therefore, this environmental scoping report is prepared for mining or quarrying of dimension stones at the proposed site in Arandis. The report is prepared to conclude the possible impacts associated with the activity.

An Environmental Management Plan (EMP) is required under the EMA as part of the Environmental Clearance Certificate (ECC) application. The EMP is documentation consisting of measures taken during implementation and operation of the project to eliminate, offset, or minimize adverse environmental impacts to acceptable levels. It serves as a guide to ensure the most environmentally friendly project design.

1.3. Namib Enviro Consultants

Namib Enviro consultants has been appointed to conduct an environmental impact assessment study to evaluate the potential impacts associated with the proposed project. Namib Enviro consultants is a Namibian consultancy managed by Miss Albertina Simon, she has gained experience in the past 3 years working as an environmental assessment practitioner (EAP), the consultancy conducts its eye studies under the guidelines of the Namibian environmental law, under the Environmental Management Act 7 of 2007.

2. ENVIRONMENTAL LEGAL REQUIREMENTS

The EIA is regulated by the Environmental Management Act, 2007 and the EIA Regulations No. 30 of 2012, which is ordered by the Ministry of Environment, Forestry and Tourism (MEFT), through the Department of Environmental Affairs (DEA).

The following legal frameworks is relevant to the proposed activities.

TABLE 1: RELEVANT ACTS AND APPLICABILITY TO THE PROPOSED PROJECT

LAW	DESCRIPTION
Mineral (Prospecting and Mining) Act of 1992	The Minerals Act of 1990 governs minerals prospecting and mining. The Act provides for the reconnaissance license, prospecting license and mining for, and disposal of, and the exercise of control over minerals in Namibia.
Environmental Management Act 7 of 2007 and associated Regulations of 2012	<p>Provides a list of activities that require an environmental assessment, including Mining and Quarrying. Activities such as exploration or prospecting for minerals or dimension stone, mining for minerals or dimension stone.</p> <p>The Act also provides procedures for adequate public participation during the environmental assessment process for the interested and affected parties to voice and register their opinions and concern about a project</p>
Water Resources Management Act 11 of 2013	<p>This Act provides provisions for the control, conservation and use of water for domestic, agricultural, urban and industrial purposes.</p> <p>The Act states that a license or permit is required to abstract and use water, and also discharge effluent.</p> <p>Due to the nature of the project, abstraction and use permits will not be required as an on-site water tank will be used.</p>
Nature Conservation Ordinance 4 of 1975 with amendments and special regulations	The nature conservation 4 of 19 75 covers game park and nature conservation the hunting including reptiles and wild animals as well as wild birds, problem animals, fish and indigenous plant.
Soil Conservation Act No. 76 of 1969	
Atmospheric Pollution Prevention Ordinance No.11 of 1976 with amendments as well as the associated proclamations of controlled areas	The ordinance provides for air pollution and is affected by act 21 of 1988, under this ordinance the entire country of Namibia except the east Caprivi is proclaimed as in section area (4) (a) of the ordinance.
Hazardous Substance Ordinance 14 of 1974, and amendments	The Act provides for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature of the generation of pressure thereby in certain circumstances; to provide for the prohibition and control of the importation, sale, use, operation, application, modification, disposal or dumping of such substance; and to provide for matters connected therewith"

LAW	DESCRIPTION
National Heritage Act 27 of 2004	This Act provides provisions for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. The proposed exploration project will ensure that if any archaeological or paleontological objects, as described in the Act, are found in the course of its construction, mining operations or closure that such find is reported to the Ministry immediately. If necessary, the relevant permits must be obtained before disturbing or destroying any heritage.
Forest act No 12 of 2001 Ministry of forestry	The act regulates the cutting down of tree, to consolidate the law relating to management and use of forest and fore is produce. To provide protection of the environment and to control the cutting down of trees, to repeal and preservation of honey proclamation 1923,preservation of trees and forest 1952and the fore’s act 1968 and to deal with initial matters.
Petroleum Products and Energy Act 13 of 1990	The Act provides provisions for any certificate holder or another person in control of activities related to any petroleum Product is obliged to report any major petroleum product spill (defined as a spill of more than 200ℓ per spill) to the Minister. Such a person is also obliged to take all steps as may be necessary for accordance with good petroleum industry practices to clean up the spill. Should this obligation not be met, the Minister is empowered to take steps to clean up the spill and to recover the costs thereof from the person. Used oil from this project will be disposed of at the Walvis Bay Municipality Hazardous Waste Site. Permission will be required from the facility owner prior to the dumping of the used oil
The Labor Act, 2007 (Act No. 11 of 2007)	The Labour Act gives effect to the constitutional commitment of Article 95 (11), to promote and maintain the welfare of the people. This Act is aimed at establishing a comprehensive labor law for all employees; to entrench fundamental labor rights and protections; to regulate basic terms and conditions of employment; to ensure the health, safety, and welfare of employees

3. PROJECT ALTERNATIVE

The prospecting location is dependent on the local tectonic stratigraphy and the potential regional economic geology. Therefore, finding an alternative location for the planned exploration activities is not possible. Alternatively, the target mineralization is area specific, which means exploration targets are primarily determined by the geology (host rocks) and the tectonic environment of the site (ore forming mechanism). The tenement has sufficient surface area that, should an economic good dimension stone deposit be defined there is adequate area for potential tailings storage areas, waste disposal, heap leach pads if required and processing facilities. The proponent believes to have search for the best technical, environmental, and economic solution for the proposed project.

4. DESCRIPTION OF THE PROJECT ACTIVITIES

4.1. Need and Desirability

Dimension stones are important building materials used worldwide, hence valuable natural resources. Namibia has a variety of quality dimension stone in attractive colors, texture, and patterns. The different rock types quarried are granite, marble, dolerite, soda lite and conglomerate. The dimension stone industry in Namibia has been in existence for many years; however, its potential has not yet been fully developed. The prospecting company should utilize this opportunity to take advantage of this development. The demand for dimension stone is increasing in Namibia.

4.2. Mining Method

Mining or quarrying dimension stones require high volume machineries that cuts deeper into the rocks creating an open pit, the process will include removing the top soil or materials or vegetation.

Drilling and mining methods can be classified as artificial including quarrying, strip mining contour mining dredging and hydraulic in this case the proponent will be using quarrying mining which involves the sequence of benches from the surface to the deposit. The open pit goes into the ground following of the benches above are extended in appearance an open pit excavation resembles an inverted pyramid within tip into the earth the open keeps extending from the surface deeper the method is more used in places where the topography is flat. The process used match winner like (scrapers, bull scrapers, bull end loaders scrapers, bull).

4.3. Machinery and Equipment

2.1.1 Compressor

2.1.2 Jack Hammer

2.1.3 Perforator

2.1.4 Diamond Wire Saw

2.1.5 Generator

2.1.6 Front End Loader

2.1.7 Water Tank

2.1.8 Diesel Tank

4.4. Workers and Accommodation

The proponent intends to employ approximately 10 employees excluding management. All staff will be undergoing a brief health and safety training and PPE will be provided. The team will utilize the existing accommodation facilities and services in the area. In absence of such facilities and services, the Proponent will provide onsite camping accommodation and supporting portable infrastructures such as chemical toilets as well as other requirements as may be applicable.

4.5. Services and Infrastructure

Electricity requirement for the project is minimal as the production or mining method does not require power, however for office use, emergencies, small machinery, and other personal services a generator will be used. Water will be brought to site in a tank for domestic purposes, and other uses.

4.5.1. Waste Management

Refuse and waste removals will be removed from site and area will be cleaned up after use. No waste will be left on site. The proponent is to take responsibility of rehabilitating the site at the end of mining. Left over oil and other lubricant materials will be collected and appropriately disposed of.

5. DESCRIPTION OF THE RECOVERING ENVIRONMENT

This section aims to provide details on the biophysical environment of the proposed area.

5.1. Climate

In the absence of site-specific meteorological information, a general description of the climate of the Erongo region is presented. Arandis town generally experiences all-year bearable climatic conditions, where warm days are followed by cool nights experiencing a typical desert climate. The temperature varies between 19 °C and 24 °C with the average minimum temperature between 13 °C and 19 °C (World Weather online, 2019). Rainfall occurs during the summer months and on average most of this rainfall is experienced from February to April. Arandis receives annual rainfall of approximately 44 mm (ClimateData.org). Occasional thunderstorms do occur turning the small river courses into fast-flowing rivulets and flashflood conditions do occur.

Arandis experiences average wind speed most often from the south for 1.2 months, from September to October with a peak percentage of 34%. Winds are often from the west for 5 to 6 months with a peak of 58%.

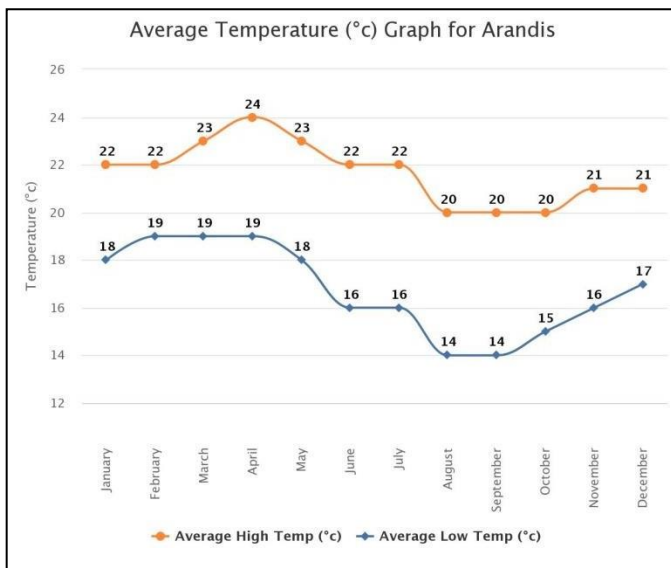


FIGURE 2: AVERAGE MONTHLY TEMPERATURE FOR ARANDIS

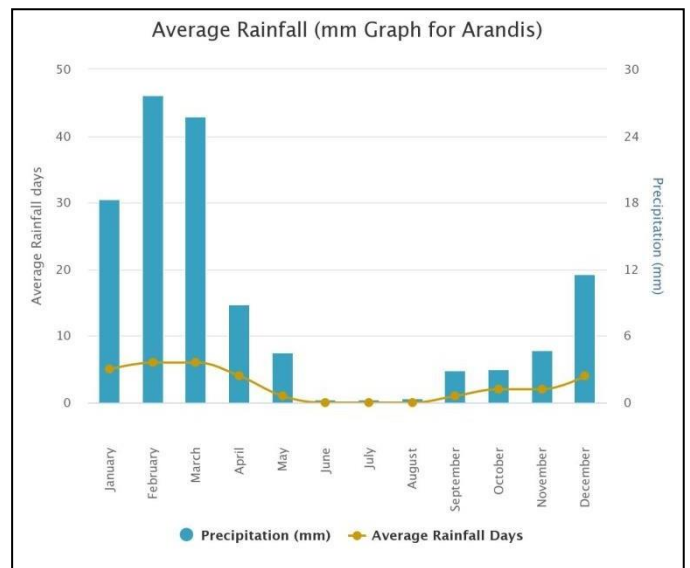


FIGURE 3: AVERAGE MONTHLY RAINFALL FOR ARANDIS

(World Weather online, 2019)

5.2. Fauna and flora

The site is situated in the Namib Biome which is characterized by less than 1% of both trees and grass cover. The vegetation type of the area is characterized as the central desert (Figure 4); the trees which are mainly shrubs rarely attain 2m in height (Mendelson, 2002). The plant resources of the area are of limited value and on a scale range of none, poor, low, moderate, good to excellent; they are classified in the non-Value however due diligence to minimize vegetation disturbance will be observed. All pandemic plant species found within the Arandis town boundaries are drought tolerant, resist and succulent short lived annual, which occurs after local rainfall and flood (Mendelson, 2002).

No fauna was observed onsite however, it is noted that ostriches have been seen in the area after good rain occurrences.

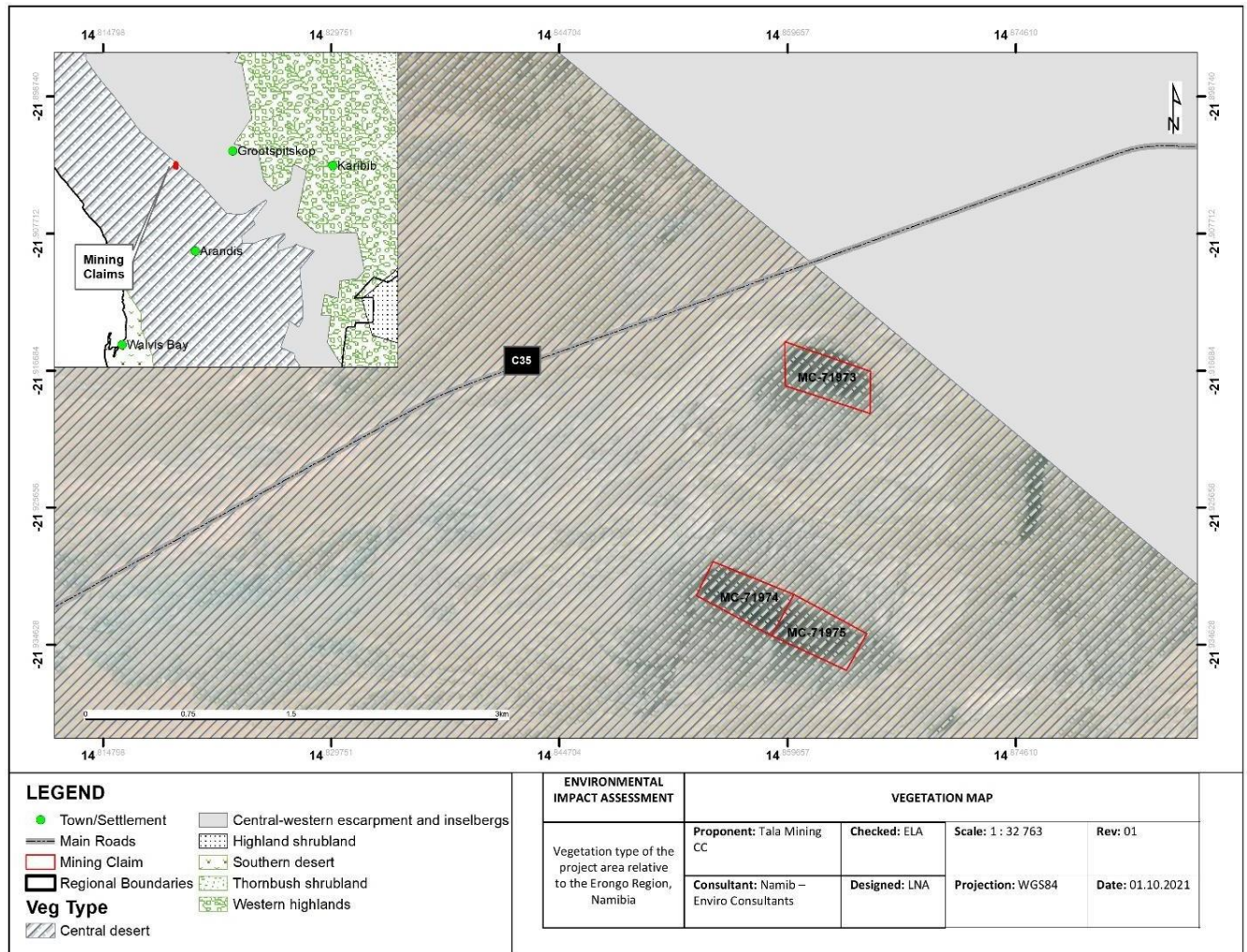


FIGURE 4: VEGETATION MAP

5.3. Soil type

The soil groups found in the proposed site area are rock outcrops FIGURE 5. The soil will be removed on the surface rocks during the drilling to recover the slabs needed for testing. During the process, the removed soil should be managed effectively to ensure regeneration of vegetation

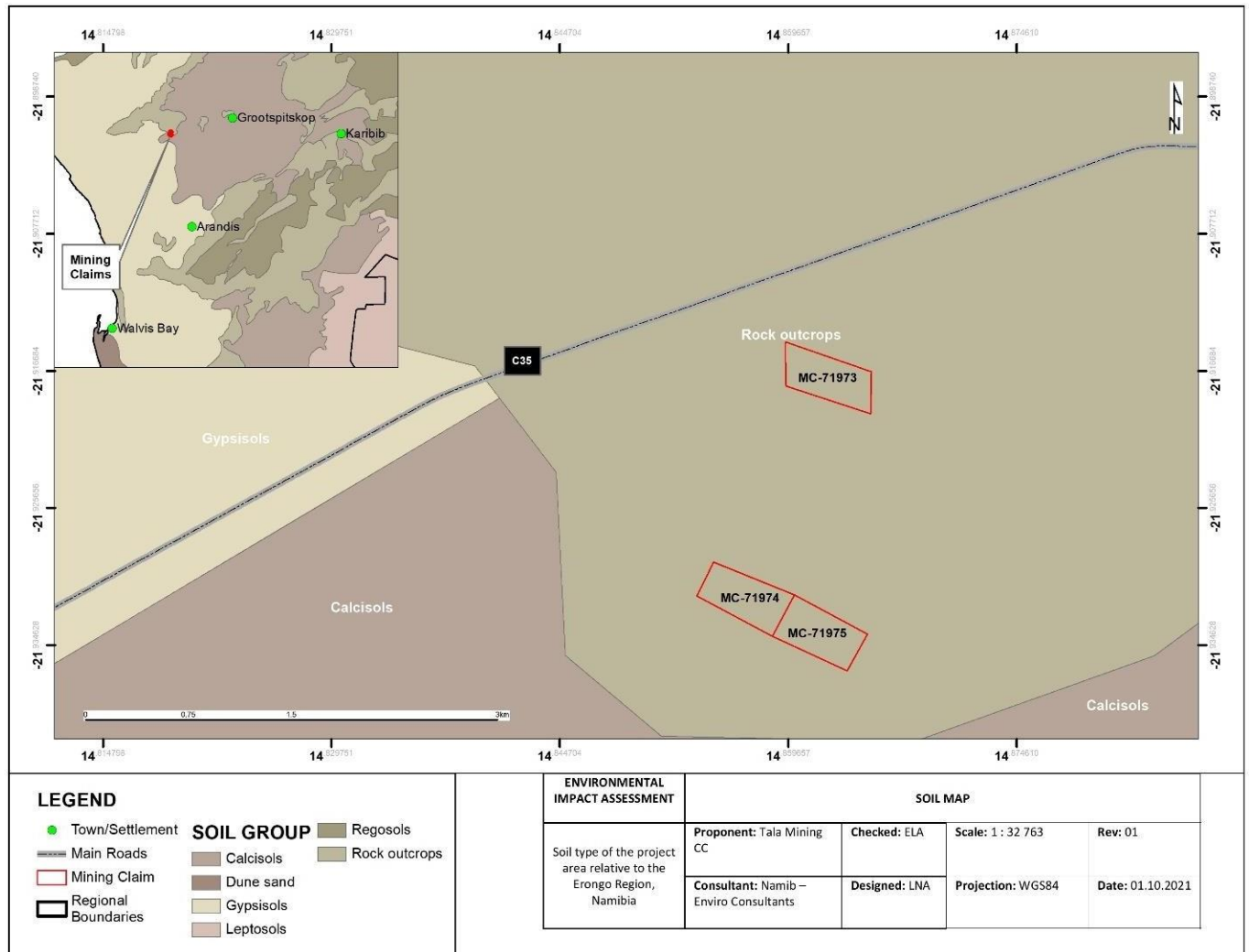


FIGURE 5 - SOIL MAP OF THE PROPOSED PROJECT SITE.

5.4. Geology

Arandis town is located approximately 581 meters above sea level; the area is characterized by undulating hills and sandy valleys of the swakop group FIGURE 6. The project site is underlain by metamorphic rocks of the Swakop Group in the Damara Supergroup (i.e. Mica, schist, and discontinuous dolomite, calc-silicate rocks, and quartzite, Arandis Formation, and associated granitic intrusions of the Damint Granite Suite (Brandt, 1985)

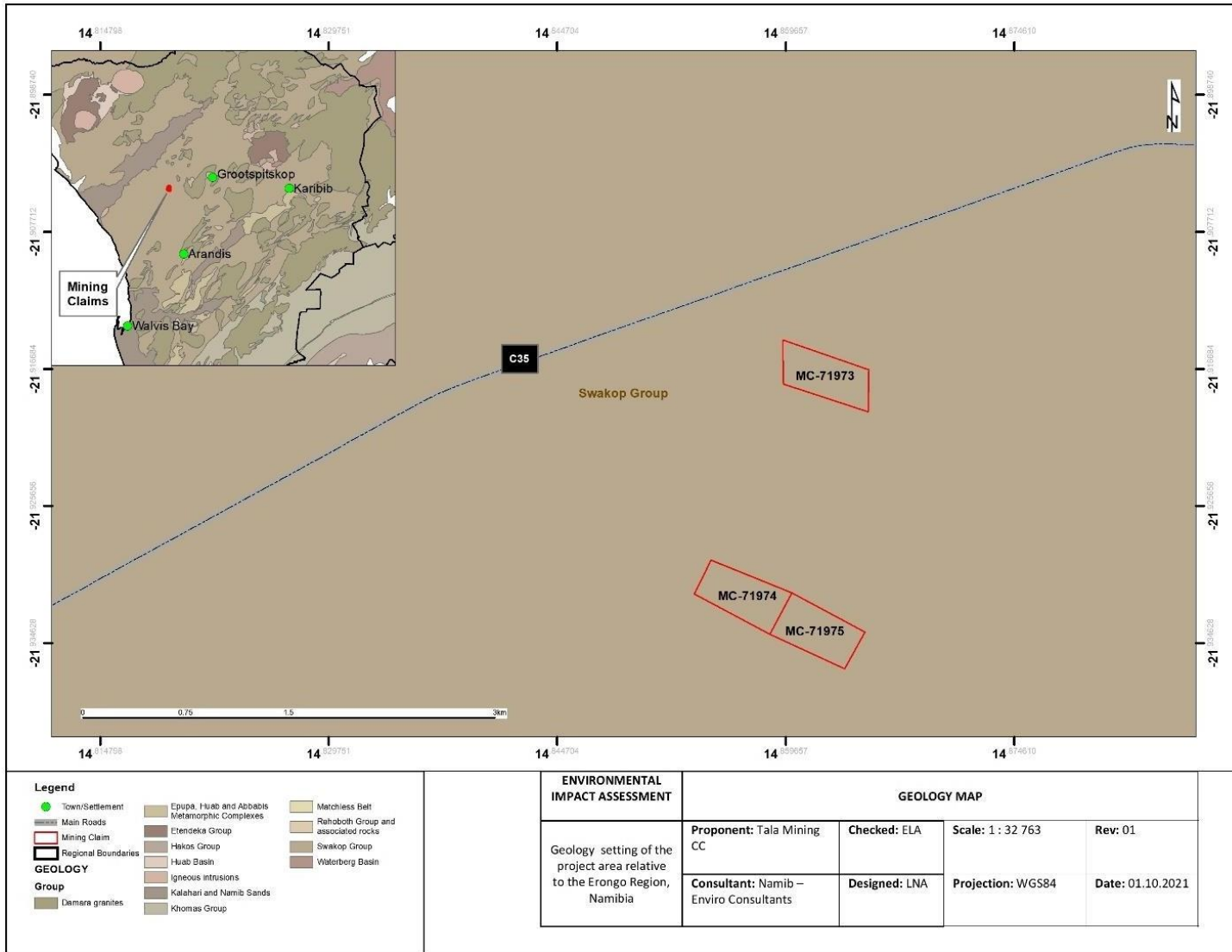


FIGURE 6: GEOLOGY OF THE MINING SITES

5.5. Hydrogeology

The site is at a rocky area, the Kahn River is the only prominent river in Arandis, located in the south. The town of Arandis therefore falls within the catchment area of the river which in turn is part of the greater Swakopmund river catchment; however these rivers are a reasonable distance from the site and will not be impacted by the proposed project. The proposed site falls within the Erongo basin as indicated in FIGURE 7.

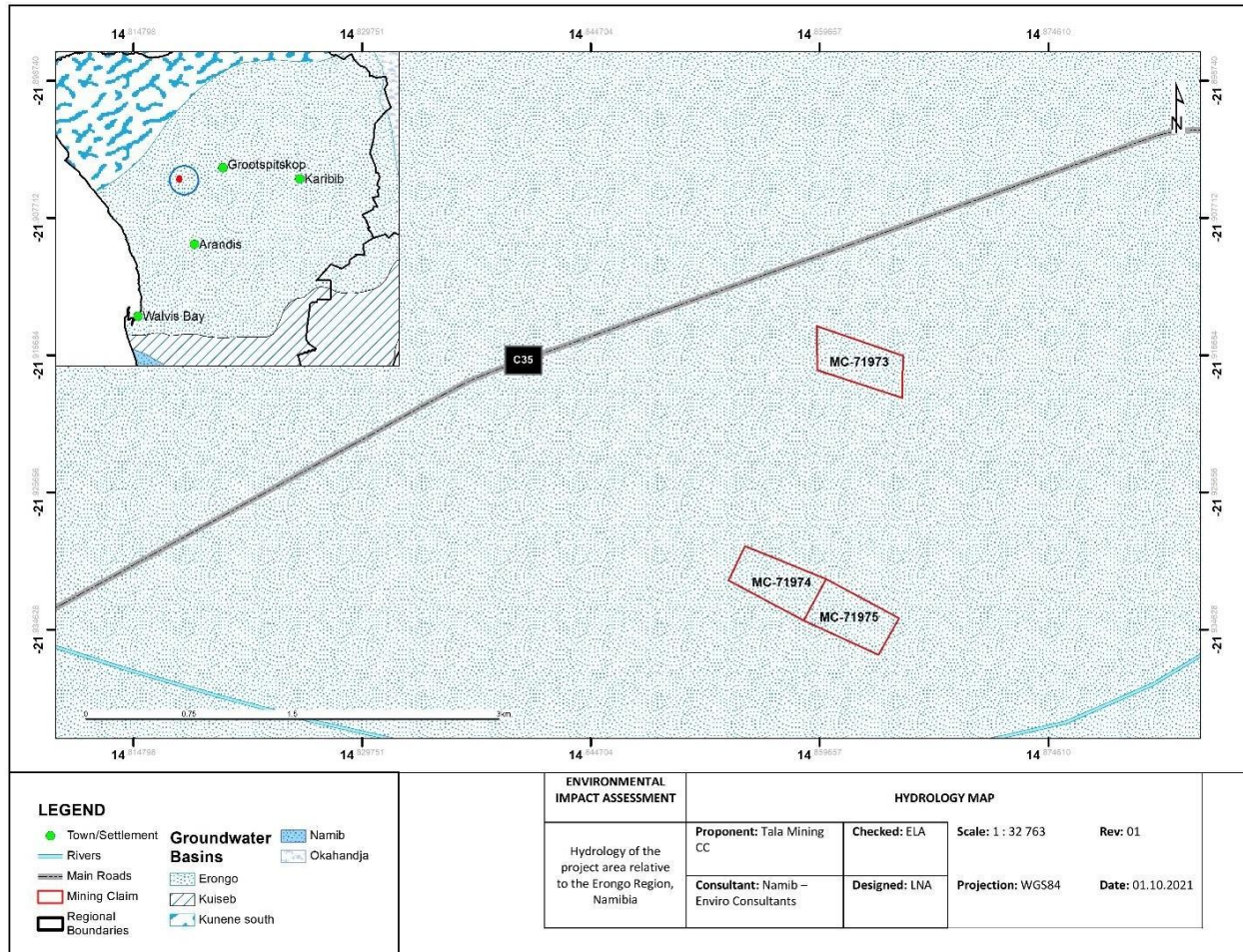


FIGURE 7: BASINS COVERING THE PROPOSED AREA OF MINING

5.6. Socio-economic Environment

The Mining Sector in the Erongo Region has been characterized by the establishment and expansion of a number of Uranium mines over the past decade due to an increased demand for this energy source. The Erongo Region also accommodates the mining of commodities such as gold, marble, granite, salt and semi-precious stones (Erongo Town Council, 2015).

According to presentation done in 2016, which was based on labor force, Erongo region has the highest employment rate of 21, 9%. Arandis is in Erongo region, which contains a fast-growing mining industry. The town is still developing with low infrastructure and a population of approximately 50100 people, who depend heavily on mining for employment. Given the current COVID-19 pandemic, several workers have been retrenched. The opening of one more mine in Arandis will reduce unemployment in the region and nationally.

5.7. COVID-19 and HIV/AIDS

The mining industry's response has been swift and aligned, and has been driven by two key priorities. Firstly, protecting the health and safety of employees and local communities; and secondly, laying the groundwork to support the longer-term economic recovery which includes supporting livelihoods, protecting severely disrupted supply chains, and helping to build long-term community resilience to any future crises.

The development will help to provide jobs for unskilled and unskilled; this will as well bring about improvement the livelihood of the community contributing to positive change in the infrastructure of the Arandis town. However, the migration of people from different town and regions contributes to high spread of HIV / AIDS and COVID-19, and it is the responsibility of the proponent to adhere to all COVID measure put in place.

5.8. Special study (Archeology and Heritage Sites)

5.9. Introduction

Tala CC has appointed Namib Enviro Consultants (NEC) to conduct an Environmental Scoping Assessment (ESA) and apply for the Environmental Clearance Certificate (ECC) to the Competent Authority in accordance with the Environmental Management Act (EMA) No. 7 of 2007 and its 2012 EIA Regulations. Namib Enviro Consults in turn requested archaeologists to conduct Cultural and Archaeological Impact Assessment (AIA) at mining claim 71973, in Arandis Constituency, Erongo Region. The mining licenses area located approximately 50km from Arandis town, in the Erongo Region and covering an area of approximately 18 thousand hectares respectively.

Due to the destructive tendency of such quarrying activities, which may include earth moving/ land alteration operations, it is a pre-requisite to conduct an Archaeological and/ or Heritage Impact Assessment (AIA) as obligated by the National Heritage Act, Act

No. 27 of 2004 and, in part, by the Environmental Management Act, Act No. 7 of 2007. The main thrust of the provisions of the aforementioned legislations is to protect and salvage cultural/ archaeological and environmental resources from potential destruction resulting from developmental or mining activities. It was against this background that an Archaeological Impact Assessment (AIA) was carried out on claims 71973, 71974 and 71975 to fulfill the following objectives:

- 5.9.1. To identify and document cultural/ archaeological materials and sites occurring in the area within and around the claims.**
- 5.9.2. To assess the nature and scale of archaeological impact of the proposed quarrying activities to heritage resources,**

To suggest some conservation strategies for the cultural heritage resources that might occur in the area proposed for mining resumption of mining which can be potentially destroyed in the course of mining

5.9.3 Scope of the Proposed Project

The property, which is the subject of this assessment, is registered under the name of Tala Mining cc. The proponent proposes to carry out quarrying activities on mining claims 71973, 71974 and 71975 for suitable small to medium scale quarrying of marble and slates for dimension stone production.

2.1.4 Project Plan

The main aim for mining/quarrying activities on the claims are for dimension stones, i.e., slate slabs and blocks and the production of final slate products.

The proponent intends to adopt a systematic prospecting approach starting with field evaluation and mapping or delineation of the targeted host rock, then drilling and possibly test quarrying in selected areas where rock quality meets requirements for high grade slate stone. Activities will then proceed to complete selective mining where outcomes are positive.

3.0 Legal Framework

In most cases where the aspect of mining is involved, cultural and archaeological evidence located within areas earmarked for development or mining usually face the danger of either complete erasure or total destruction. Such a risk is so high especially in areas that had not been built or mined before as the construction work will involve earth moving activities which will in turn destroy environmental resources as well as archaeological and/or cultural resources that might occur within the project area. In order to ensure that this unique heritage of our past is protected and well documented, the National Heritage Act 27 of 2004 and EIA Terms of Reference in relation to the assessment of impacts of the proposed development on the cultural and heritage resources associated with the receiving environment shall be used to guide the exploration exercise. The statutory mandate of heritage impact assessment studies is to encourage and facilitate the protection and conservation of archaeological and cultural heritage sites, in accordance with the provisions of the National Heritage Act, Act 27 of 2004 and Environmental Management Act (EMA) No. 7 of 2007 and its 2012 EIA Regulations.

The legislations require that when constructing or mining a linear development exceeding 300m in length or developing an area exceeding 5000 m² in extent, the

developer must notify the responsible heritage authority of the proposed development and they in turn must indicate within 14 days whether an impact assessment is required.

4.0 Methodology

Methodologically, primary data for the AIA was collected from the National Heritage Council of Namibia. A stratified systematic survey was conducted in areas which are accessible and with good archaeological visibility, where individuals were walking parallel to each other, and spaced by 5 meters. However, in areas with difficult terrains, a stratified random survey was conducted, where attention was given to areas with archaeological potential. Secondary data was obtained from relevant literary sources, both published and unpublished. Significant information (predominantly unpublished) was mainly obtained from National Heritage Council of Namibia (NHC) and the National Museum of Namibia, these included field reports, national database, marked topographical maps (1:50,000), data recorded on site index cards and graphic information. Reports from previous Heritage impact Assessment in Erongo region have been also used to obtain information.

5.0 Brief heritage setting of the Project Area

Stone Age archaeology is prevalent in the larger geographical area. The most likely traces of human occupation in the Namib Desert are stone artefacts and can easily be recognized as isolated finds and as surface scatters. Other less common archaeological traces might include ostrich egg shells and middens Kinahan (2012).

Natural rock shelters with evidence of human occupation associated with rock paintings or engravings, and stone features such as hut circles, hunting blinds and grave cairns are common heritage features in the larger geographical area but none are found in the area in question. Kinahan has carried out comparative research on rock painting shelters in Erongo region from 'Snake Rock' in Hung rob Gorge – Brandberg Mountain, 'Bushman Paradise' in Pondok Mountain – Spitzkoppe Mountain and at "Rainman Shelter" in

Upper Otjohorongo Granite Hill in 1998 (Nankela, 2020). About 150 sites

where recorded. The region is also endowed with Iron Age and contemporary heritage that has to be ascertained at a later date.

6.0 Fieldwork Findings and Observations

A reconnaissance survey was carried out over mining claims 71973, to locate and document their most important archaeological features. The terrain in both claim areas is rugged and there are few negotiable tracks. A detailed foot survey of the area surrounding the footprints of mining claims did not yield any archaeological evidence that might be negatively impacted by the proposed quarrying activities. Although, there several surface scattered stone tools artefacts that are out of their context.

7.0 Results of Desktop Research

Information from the NHC shows that the project area falls under the cultural landscape occurring in Erongo Region. The national monuments list has 7 national monuments recorded within Erongo Region. Table 1 shows details of the part of the national monuments occurring in the same region as the project and are recorded in the National Monuments Register.

Table 2. National Monuments in Erongo Region NHC National Database

Site Name	Information on Site Index Card
Ameib	`Phillipp's Cave' with rock art drawings.
Badges 158 Farm	Regimental badges laid out in stone of 2 Durban Light Infantry, dating from 1915
Brandberg.	Area of 450km ² of archaeological, ecological and geomorphological importance
Bushman Paradise Cave	Was `one of the finest collections of rock art in Namibia'. (Spitzkoppe
Cape Cross	Replica (1895) of original stone pillar left by Diogo Cão in 1484. First European contact with Namibia.
Erongo Farm	Rock paintings at six sites
Karibib	Rösemann building façade, erected in 1900
Karibib	Quartermasters Stores. Built in 1911
Karibib	Kubas Railway Station. Built in 1900
Karibib	Haus Woll. Built in 1900s
Karibib	Hotel Zum Grünen Kranze. Built in 1913
Karibib	Erf 46 and the Hälbich buildings. Built in 1900s
Karibib	Kaiserbrunnen (Imperial well) - well, water reservoir and drinking trough. Built in 1906

NB. These recorded sites occur on the same cultural landscape but different locale

8.0 Conclusions and Recommendations

8.1 Findings and Analysis

- a. It was noted during this assessment that initiated Archaeological and Cultural Impact Assessment as provided for by the Environmental Management Act (2007) and National Heritage Act 27 of 2004 and guidelines for developers.
- a. The assessment team also noted that project area does not have visible cultural and archaeological material that could be negatively impacted by the proposed quarrying activities.

8.2 Recommendations

The study did not find any high-risk heritage with a potential to be disturbed by the exploration development. The following recommendations are based on the results of the A/HIA research, cultural heritage background review, site inspection and assessment of significance.

Recommendation 1

Since no surface archaeological materials were found the Consultant is to ensure that all the existing archaeological reference guidelines (Chance Find Procedure Guideline by NHC (2017) is shared with the proponent for guidance. Against the background of the above, it is hereby **recommended that Tala Mining cc (The Proponent) can be granted permission to proceed with the proposed project at claims 71973, 71974 and 71975 located approximately 50 km from the town of Arandis.** It should also be noted that when such permission to proceed with mining is granted, the proponent will still be obliged to comply with the provisions of the National Heritage Act, act 27 of 2004 and if he encounters subsurface archaeological/ cultural materials in the course of prospecting. If such a thing happens, he is obliged by this

said Act for him to cease operations and make a report to National Heritage Council for the way forward.

Recommendation 2

The foot print impact of the claims should be kept to minimal to limit the possibility of encountering chance finds within servitude.

Recommendation 3

The Project Public Participation Process should ensure that any cultural heritage related matters for this project are given due attention whenever they arise and are communicated to NHC throughout the proposed project development. This form of extended community involvement would pre-empt any potential disruptions that may arise from previously unknown cultural heritage matter that may have escaped the attention of this study.

9. Conclusion

The literature review and field study confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements with long local history. Field survey established that the affected project area is degraded by environmental clearance. Although the area is degraded, there is a possibility that subsurface archaeological material can be discovered. This report concludes that the quarrying activities at mining claims 71973, may be approved by NHCN to proceed as planned subject to recommendations herein made and Chance Find Procedures are followed (also see Appendices). The measures are informed by the results of the HIA study and principles of heritage management enshrined in the NHA, Act 27 of 2004.

References

Kinahan, J. 2006. Archaeological assessment of water and power supply routes to the Trekopje licence area. Commissioned Turgis Consulting (Pvt) Ltd. On behalf of UraMin (Pty) Ltd. Namibia From the collection of the Sam Cohen Library, Swakopmund.

Nankela, A. 2020. Joint archaeological monitoring impact assessment study report Otjohorong Granite Hill and Gross Okandjou farm, Erongo Region.

Nankela, A (2019) Klein Spitzkoppe Mountains archaeological research (phase 1), May 2019 Unpublished report, National Heritage Council of Namibia.

Kinahan, J. 2020. Namib: the archaeology of an African desert. Windhoek, University of Namibia Press.

Mitchell, P. 2002. The archaeology of southern Africa. Cambridge: Cambridge University Press.

Appendix 1 Chance Find Procedure Guideline by NHC (2017)

Areas of proposed development activity are subject to heritage survey and assessment at the planning stage. These surveys are based on surface indications alone, and it is therefore possible that sites or items of heritage significance will be found in the course of development work. The procedure set out here covers the reporting and management of such finds.

Scope: The “chance finds” procedure covers the actions to be taken from the discovery of a heritage site or item, to its investigation and assessment by a trained archaeologist or other appropriately qualified person.

Compliance: The “chance finds” procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): “a person who discovers any archaeological ... object must as soon as practicable report the discovery to the Council”. The procedure of reporting set out below must be observed so that heritage remains reported to the NHC are correctly identified in the field.

Responsibility:

Operator To exercise due caution if archaeological remains are found

Foreman To secure site and advise management timeously

Superintendent To determine safe working boundary and request inspection

Archaeologist To inspect, identify, advise management, and recover remains

Procedure:

Action by person identifying archaeological or heritage material

- a) **If operating machinery or equipment stop work**
- b) **Identify the site with flag tape**
- c) **Determine GPS position if possible**
- d) **Report findings to foreman**

Action by foreman

a) Report findings, site location and actions taken to superintendent

b) Cease any works in immediate vicinity

Action by superintendent

a) Visit site and determine whether work can proceed without damage to findings

b) Determine and mark exclusion boundary

c) Site location and details to be added to project GIS for field confirmation by archaeologist

Action by archaeologist

a) Inspect site and confirm addition to project GIS

b) Advise NHC and request written permission to remove findings from work area

c) Recovery, packaging and labeling of findings for transfer to National Museum

In the event of discovering human remains

a) Actions as above

b) Field inspection by archaeologist to confirm that remains are human

c) Advise and liaise with NHC and Police

d) Recovery of remains and removal to National Museum or National Forensic Laboratory, as directed.

6. ASSESSMENT METHOD

The fieldwork was intensive and included several activities. A reconnaissance visit was made to the project area by the Environmental Assessment Practitioner (EAP). Literature review was also done. Environmental management and coordination Act (EMA) 2007 and other relevant statutes that have a direct significance to the proposed project were reviewed. Other reports and reference materials on physical and biological data on the study area were also studied and reviewed.

The general steps followed during the assessment were as follows:

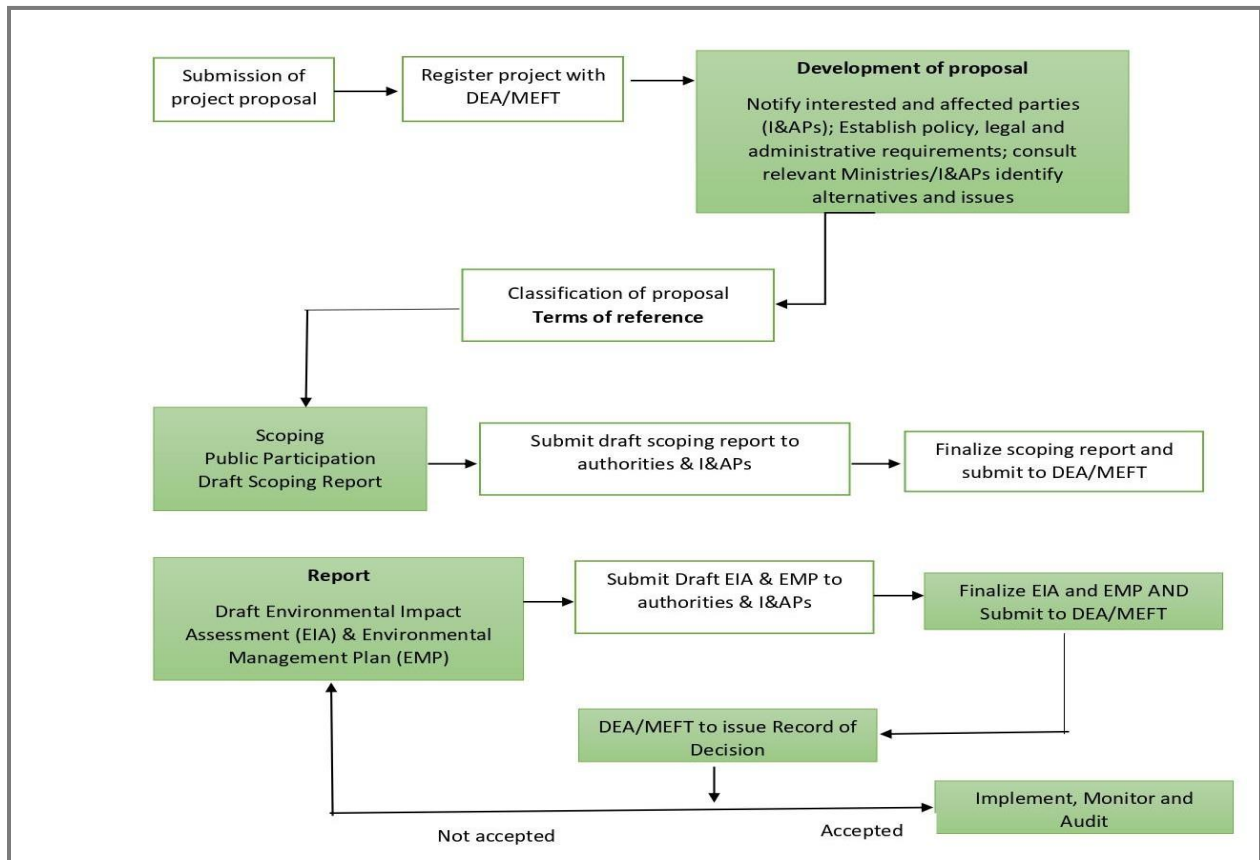


FIGURE 8 - EIA PROCESS

6.1. Baseline

A baseline study was conducted desktop review and a site visit was conducted.

6.2. Adverts

Advertising the application once a week for two consecutive weeks in at least two newspapers circulated widely in Namibia. The advert was in the Sun news paper and republikain on the 9th July 2021 and 16 July 2021 respectively. Refer to Appendix 1

6.3. Site Notices

Site notices were placed on local notice boards at appropriate locations. Refer to Appendix 2

6.4. Interested and affected parties

The I&APs for this project were identified, similarly, as mentioned above notices were placed in various newspapers inviting the public to register as interested and affected parties.

6.5. Feedback

No comments/objections for the proposed project activities have been received.

7. EVALUATION OF IMPACTS

The assessment considered the major components of the project & how they would impact upon the environment.

- **Environmental issues primarily include the following:**
- **Soil Conservation and Management**
- **Solid Waste Management**
- **Water Management**
- **Biodiversity and Ecosystems**
- **Energy Use**
- **Air Quality**

Event	Description of the risk that may lead to an impact.
Status (+ or -)	Positive - environment overall will benefit from the impact. Negative - environment overall will be adversely affected by the impact. Neutral - environment overall will not be affected
Extent	Site specific: Local - limited to within 15 km of the area. Regional - limited to ~100 km radius. National - limited to within the borders of Namibia. International - extending beyond Namibia's borders
Duration	Temporary (days, <3 days) Short (15 days - 1 month) Medium (months, 1 - 5 years) Long (years, 5 - 20 years) Permanent (>20 years)
Intensity	No lasting effect - No environmental functions and processes are affected. Minor effects - The environment functions, but in a modified manner Moderate effects - Environmental functions and processes are altered to such extent that they temporarily cease. Serious effects - where environmental functions and processes are altered such that they permanently cease and/or exceed legal standards/requirements
Probability	Refers to the probability that a specific impact will happen following a risk event. Improbable - low likelihood Probable - distinct possibility Highly probable - most likely Definite - impact will occur regardless of prevention measures
Mitigation	Description of possible mitigation measures

Event	Description of the risk that may lead to an impact.	
Significance (with mitigation)	None - A concern or potential impact that, upon evaluation, is found to have no significant impact at all.	
	Low - Any magnitude, impacts will be localized and temporary. Accordingly, the impact is not expected to require amendment to the project design.	
	Medium - Impacts of moderate magnitude locally to regionally in the short term. Accordingly, the impact is expected to require modification of the project design or alternative mitigation.	
	High - Impacts of high magnitude locally and in the long term and/or regionally and beyond. Accordingly, the impact could have a 'no go' implication for the project unless mitigation or re-design is practically achievable.	

ENVIRONMENTAL SCOPING REPORT AND IMPACT ASSESSMENT

TABLE 2 : SUMMARY OF ASSESSMENTS

ENVIRONMENTAL ASPECT	ACTIVITY	IMPACT DESCRIPTION	SIGNIFICANCE OF IMPACT					Significance of Impact after Mitigation
			NATURE	PROBABILITY	DURATION	EXTENT	INTENSITY	
Ground Water Quality	Contains hazards becomes very dangerous to the environment in the future. Oil and lubricants which pollutes underground water and sweeps into surface water.	Groundwater contamination	Negative Direct	Probable	Medium term	National	Moderate effects	
Ambient Air Quality	Dust will be generated by vehicles moving to and from site, front loaders, creating high lands this dust also covers the plants affecting them	Contamination of ambient air with dust	Negative Direct	Definite	Temporary	Local	Minor effects	
Soil Contamination	Physical and chemical degradation of soils may result from site preparation	Contamination of soil with hazardous waste (used oil)	Negative Direct	Probable	Medium term	Local	Minor effects	
Soil Erosion	Soil erosion may result from mining activities and inappropriate soil stability	Loss of soil fertility because of soil erosion by wind and or by water	Negative Direct	Probable	Permanent	Local	Moderate effects	
Noise	Mining activities and machinery use	Generation of Noise	Negative Direct	Definite	Medium term	Regional	Minor effects	

ENVIRONMENTAL SCOPING REPORT AND IMPACT ASSESSMENT

ENVIRONMENTAL ASPECT	ACTIVITY	IMPACT DESCRIPTION	SIGNIFICANCE OF IMPACT					
			NATURE	PROBABILITY	DURATION	EXTENT	INTENSITY	Significance of Impact after Mitigation
Biodiversity	Vegetation clearing through land preparation clearing	Loss of fauna	Negative Direct	Definite	Permanent	Regional	Minor effects	
Archaeology and cultural sites	Removal of archeological sites during land preparation and earthworks	Damage and removal of archeological sites	Negative Direct	Probable	Permanent	National	Moderate effects	
Public Safety	Machine operations and overall operation of the site	Danger to the community from farm equipment	Negative Direct	Probable	Medium Term	Regional	Minor effects	
Landscape and visual characteristics	Development of the project in a natural state environment	Change to landscape and visual characteristics	Negative Direct	Highly probable	Medium Term	Local	Minor effects	
Waste management	Solid waste from day to day activities	Pollution/nuisance	Negative Direct	Highly probable	Medium Term	Local	Minor effects	
Crime	Increased influx of people in area	Increased theft and robbery	Negative Indirect	Probable	Permanent – Duration of project	Local	Minor effects	
	Increased influx of people in the area	Poaching activities	Negative Indirect	Probable	Permanent – Duration of project	Local	Minor effects	

8. CONCLUSION AND RECOMMENDATIONS

The key potential impacts associated with the proposed mining programme and its associated activities were identified and assessed. It is found that most of the identified potential negative impacts are rated as medium significant. Therefore, in order to reduce the general significance of the project from medium to low, it is recommended that the Proponent effectively implements the mitigation measures, and continuously monitors their implementation, to maintain an overall low significance. These impacts can be reduced or minimised by implementing the mitigation measures given under the impact assessment section, as well as the management action and monitoring plan provided in the Draft EMP.

Namib consultancy cc in its professional capacity therefore recommends the granting of the ECC to the Proponent, and that the proponent adheres to all conditions attached to the ECC and EMP to ensure that that the proposed mining activity is carried out with the provided management measures and action plans effectively implemented and monitored.

REFERENCES

Bibliography

(n.d.). Retrieved from <https://www.worldweatheronline.com/arandis-weather/erongo/na.aspx>

(2019). Retrieved from World Weather online: <https://www.worldweatheronline.com/arandis-weather/erongo/na.aspx>

Brandt, R. (1985). *PRELIMINARY REPORT ON THE STRATIGRAPHY OF THE*. Communs Geol. Surv. S.W. Afr./Namibia.

Erongo Town Council. (2015). Retrieved from <http://www.erc.com.na/economy/mining/>

APPENDICES

1. site notices

2. news paper adverts

Public participation process

Site notice

