National Heritage Council of Namibia
52 Robert Mugabe Avenue • P/Bag 12043 • Ausspannplatz • Windhoek • Namibia
Tel: (061) 244 375 • Fax: (061) 246 872 • E-mail: johanna@nhc-nam.org

Secretariat

Receipt No. 5896

CASH RECEIPT

Customer

Date 24/11/2022

Name SUH CASA INVESTMENT CC
Address BOX 1162
City SWAKOPMUND
Phone +264 811623997, Email: marievw31@gmail.com

Quantity	Description	Unit Price	TOTAL
1X	APPLICATION FEES FOR CONSENT LETTER, FOR EPL. NO: 8092, USAKOS, ERONGO.		N$ 150-00
			N$ 150-00

Amount in Words: ONE FIFTY ZERO N$ ONLY

Receipt Issued by:

National Heritage Council of Namibia
HEAD: FINANCE, HR & ADMIN
2022 -11- 24
Private Bag, 12043
Ausspannplatz
Windhoek, Namibia

studio print 22253

1. Name and address of applicant

Suh Casa Investment CC
P.O, Box 1162, Swakopmund
Namibia
Telephone: +264 (0) 811623997
Email: marievw31@gmail.com

2. Full name and designation of the person in charge of undertaking the works or activities:

National Heritage Council of Namibia
HEAD: FINANCE, HR & ADMIN
2022 -11- 24
Private Bag, 12043
Ausspannplatz
Windhoek, Namibia

National Heritage Council of Namibia
7173 Lazarette House • Private Bag 12043, Ausspannplatz • Windhoek, Namibia
(061) 244 375 • Fax: (061) 246 872 • E-mail: erica@nhc-nam.org

OFFICE OF THE DIRECTOR

APPLICATION FOR CONSENT

(Sections 53(7) and 55(8) of the National Heritage Act, 2004 (Act No.27 of 2004))

CONDITIONS AND INSTRUCTIONS

1. The receipt issued serves as a reference when making enquiries.

2. Works and activities applied for under section C, of this application, is subject to an environmental impact assessment at the applicant's expense.

3. Instructions for completion:

Applicants must complete the relevant parts of this application.

A. APPLICANT'S DETAILS

1. Name and address of applicant

Suh Casa Investment CC

P.O, Box 1162, Swakopmund

Namibia

Telephone: +264 (0) 811623997

Email: marievw31@gmail.com

2. Full name and designation of the person in charge of undertaking the works or activities:

National Heritage Council of Namibia
HEAD: FINANCE, HR & ADMIN
2022 -11- 24
Private Bag, 12043
Ausspannplatz
Windhoek, Namibia

ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENT REPORT

FOR THE PROPOSED MINERAL EXPLORATION ON EXCLUSIVE PROSPECTIVE LICENCE (EPL) No. 8092 LOCATED NORTH-WEST OF USAKOS IN ERONGO REGION, NAMIBIA

Compiled by:

Roland Mushi (*Archaeologist & Heritage Specialist*)

Prepared for:

Suh Casa Investment CC.

As required under Section 53 (7) and Section 54 (7) of the National Heritage Act (No. 27 of 2004).

Document Information/Project Details

Item	Description
Report Title	Archaeological and Heritage Impact Assessment Report for the EPL No. 8092 located North-west of Usakos in Erongo Region, Namibia.
Project Location & Site name	The EPL No. 8092 is located about 20 km North-west of Usakos in the Erongo Region
Target Commodities	Base & Rare, Metals Dimension Stones, Industrial Minerals, Precious Metals, Precious Stones and Semi-Precious Stones
Granted Date	Pending an Environmental Clearance Certificate (ECC).
Expiry Date	Pending an Environmental Clearance Certificate (ECC).
Central Coordinates	S 21.98677° E 15.47607°
Corners Coordinates	*Refer to Table 1*
Purpose of the assessment	The purpose of study is to identify, record and recommend measures for mitigation in areas of the archaeological and cultural heritage significance, this include rock art sites, artifacts, graves or burial grounds features, paleontological, structures, buildings, landscape etc. that might be impacted by the proposed project.
Project Proponent/Developer	Proponent: Suh Casa Investment CC Contact person: Mr. Marie Van der Westhuizen Telephone: +264 811 623997 Postal Address: P.O. 1162, Swakopmund Email: marievdw31@gmail.com
Size of application areas	10 886.1132 (ha)
Author Identification (Site-survey and Report writing)	Roland Mushi (*Archaeologist*) Cell: +264 85 3332373 Telephone**:** +264 61 259530
Reviewer(s)	
Report Date	21/11/2022
Project #	

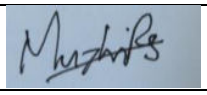
Copyright & Disclaimer

Authorship: This Archaeological and Heritage Impact Assessment Report has been prepared by Excel Dynamic Solutions (Pty) Ltd. This report is for the review of the National Heritage Council of Namibia in accordance with the National Heritage Act No. 27 of 2004.

Disclaimer: The Author(s) is/are not responsible for omissions and inconsistencies that may result from information that may not be available at the time this report was prepared. This report may contain information of a specialized and/or highly technical nature and the client is advised to seek clarification on any elements which may be indistinct. Information and recommendations in this document should only be relied upon in the context of this document; any documents referenced explicitly herein should only be used within the context of the appointment.

The Archaeological and Heritage Impact Assessment was carried out within the context of tangible and intangible cultural heritage resources as defined by the National Heritage Council, Regulations and Guidelines as to the authorization of exploration prospective for Suh Casa Investment CC.

Declaration of Independence

Specialist Name/Archaeologist	Roland Mushi Contacts: +264 85 3332373 Telephone: +264 61 259530
Declaration of Independence	I, Roland Mushi, as an employee of Excel Dynamic Solutions (Pty) Ltd hereby confirm my independence as a Archaeologist/Heritage specialist and declare that I/we have no interest in the business of our client, other than fair remuneration for work performed on this project/contract as well as the execution of archaeological sound fieldwork and the submission of a professional report to our client and Body of Authority (National Heritage Council).
Signature	
Date	21/11/2022

Expertise of the Specialist

Roland Mushi has several years of experience of working in the desert environments more specifically in Namib Naukluft National Park as a Researcher, and most recent he has been working as a full-time archaeologist since 2021. Academically, he obtained an **MSc in Natural Resources Assessment and Management**, and **B.A** (***Hons***) in **History** and **Archaeology** with special focus and interest on Lithic and Fauna Analysis in Archaeology, both degrees were obtained from the University of Dar Es Salaam. Roland is an accredited member of the following.

- **ASAPA** - Association of Southern African Professional Archaeologists # 480
- **SAfA** - Society of Africanist Archaeologists
- **SAMA** - South African Museums Association # NCM 008
- **MAN** - Museums Association of Namibia
- **EAPAN** - Environmental Assessment Professionals Association of Namibia # 179

Executive summary

This report has assessed the archaeological and heritage implications of the proposed EPL No. 8092 Located 20 km North-West of Usakos in Erongo Region, Namibia. This study was conducted as part of the specialist input for the Environmental Application process i.e. Environmental Clearance Certificate (ECC) and thus, which will serve to inform the Environmental Scoping Assessment Report (ESA) and Environmental Management Plan (EMP) for the proposed prospecting and exploration of Base and Rare Metals, Dimension Stones, Industrial Minerals, Precious Metals, Precious Stones and Semi-Precious Stones.

The site visit was conducted on the 17th of November 2022 by the EDS. Therefore, through data analysis and a site investigation, the following issues were identified and recorded from an archaeological and heritage perspectives**.**

Grave sites: The site survey and surface investigation did not record or observe any visible grave within the farms. However, graves and burial grounds can occur anywhere, the possibility of encountering unmarked graves or unearthed such sites is likely, and thus proper measures including adoption of *Chance Find Procedure* has been recommended in the event of such chance find.

Archaeological sites: Sites of archaeological significance were not observed as the area of interest was previously used as farms or mining activities and thus, disturbance and destruction of the any archaeological materials/remains or sites might have happened. Although the possibility of archaeological or significant sites associated with the greater study area is high, however, from a contextual studies perspective, no medium to high significance archaeological, heritage landmark or monument was recorded within the proposed project site.

Historical buildings and Heritage sites: All known and recognized historical buildings are situated in Usakos town, no historical sites that was close to the proposed site neither within it. Except for the non-designated landmarks that can be found within the EPL footprint such as homestead within the farms.

Generally, it is the author's considered opinion that, the overall impact of the proposed project on archaeology and heritage resources is expected to be low. The report sets

out, and recommends appropriate steps and mitigation measures that are designed to minimize and curb the potential impacts where appropriate. The report makes the recommendations according to what was observed. The conclusion of the AHIA is that the impacts of the proposed project on the archaeological and cultural environmental values are expected to be low and not likely to be significant. And thus, it is recommended that the proposed development should comply and adhere to the conditions that the recommended mitigation measures put forth herein (*Section 17.2*), and strictly *Chance Find Procedures* are to be implemented as part of the EMP, and based on approval from the Authority. The recommended mitigations contained herein are for Archaeological and Heritage Impact Assessment only, nonetheless authorization applies and the proposed development project may only proceed based on the review and ultimately the approval from National Heritage Council of Namibia.

Document information

The contents of this Heritage Assessment Report are according to the compliance with National Heritage Act, No. 27 of 2004 and the Guidelines for Heritage Impact Assessment in Namibia.

This Specialist Report prepared in terms of the NHC Guidelines, and contains the followings;	**Addressed in the Specialist Report**
A. Title Page: - Title of the report, Subheading: Property name and portion (where applicable), Area, Region. - Type of development. - Author of the HIA; - - Name of Proponent, - Consultant and Date of the HIA. **Details of-** - the specialist who prepared the report; and - the expertise of that specialist to compile a specialist report including a curriculum vitae and relevant documents	Page i & ii (Preliminary Section of this report) Page iv (Preliminary Section of this report) Appendix 5
B. Executive Summary: - The purpose of the study. - A brief development project description. - Brief methodology including desktop study - Identification and/or outline of consultations with interested and affected parties relating specifically to heritage resources; - - Findings: Brief description of heritage resources, Significance of the resources and potential impacts and Recommendations and reasoned opinions made by the heritage consultant.	Page v (Preliminary Section of this report)
C. Declaration of Independence and CV: - Heritage consultants must provide a very brief summary of their experience, - Qualifications, - Membership affiliations and membership numbers, and accreditation level if relevant, - A detailed CV and certified copies of degree certificates and ID must be attached in the Appendix); - - Heritage consultants must declare (and sign) their independence from the developer.	Page iv (Preliminary Section of this report) Appendix 4 & 5

D. Contents Page: - List of acronyms used in the report and glossary.	Page xiii & xiv (Preliminary Section of this report)
E. Introduction and Background Information: - Introduction to the development project and background information. - Detailed terms of reference as provided to the heritage consultant from the commissioning body	Section 1 & 1.1 Section 1.2
F. Project Description: - General project area and the specifics of the development i.e. Size of farm and portions, Magisterial District, location, aerial or geographic map and co-ordinates of the project development;	Section 2
G. Legislation Requirement − A summary of which legislation (including the relevant NHA sections) and other local by-laws which are relevant to the proposed project, and those identified must be subsequently outlined and quoted;	Section 3
- An indication of the scope of, and the purpose for which, the report was prepared;	Section 4
- A description of any assumptions, limitation made and any gaps in knowledge;	Section 5
H. Methodology - A description of the methodology used in undertaking a field survey including site investigation, and preparation of the report	Section 6 (including photographs, weather condition of the study area during the site visit)
I. Consultation and Stakeholder Engagement - A description of the result of consultation undertaken during the site visit (Relevant to heritage resources only) - Any abridged copies received	Section 8.1 N/A
Literature reviews - Brief summary of reports used **-** Description of the Study Area/topography - Geology of the project area	Section 9, 9.1.1 & 9.1.2 Table 10
J. Detailed Assessments - Site investigation details	Section 7, Table 5
K. Site Description	Section 9.1, Section11
L. Site Significance Rating	Section 8, Section 12.1, Table 14
(i) Background and general Heritage Context of the area - Desktop Study	Section 10, 10.1

(ii) Physical and Environmental Context of the area - Vegetation and Landscape - Site context	Section 11 & 11.1
(iii) Findings of the Heritage/Historical sites - Lists of built environments recorded	Section 12 & 12.1, Table 13
(iv) Potential Impacts on Cultural Heritage resources - Archaeological, historical, built environment and cultural	Section 13, 13.1,13.2, 13.2, 13.3, 13.4 % 13.5
(v) Tabulated summary of the Impact evaluation of the proposed project	Section 13.6, Table 15
(vi) Tabulated summary of heritage resources and vulnerability description	Table 18
(**vii) An identification of any areas to be avoided, sensitive areas with archaeological resources.** **-** Maps showing area with archaeological resources which are close to the EPL;	Section 13.5, Figure 21 & 22
Summary of the expected Impacts	Section 14
Identification of Key Impacts	Section 15
Cumulative Impacts	Section 16
(viii) Identification of alternatives	Section 16.1
(ix) Anticipated Impacts on Heritage Resources	Section 16.2
M. Management Plan and Mitigation measures **-** Any mitigation measures for inclusion in the proposed project EMP - Conclusion and Recommendation **Statement and reasoned opinion of the specialist** - whether the proposed project should be authorized or not;	Section 17 Section 17.1, 17.2 Section 17.3
N. References	Section 18
M. Appendices **-** Any archaeological and heritage monitoring requirements for inclusion in the EMP or Environmental Authorisation. - Any archaeological and heritage management plan - Built environment and structures with historical significance - Site notices and Participants	Appendix 1 Appendix 2 Appendix 3 Appendix 4

Table of Contents

List of Figures

List of Tables

Glossary list used in this report

Abbreviation	Description
AHIA	Archaeological and Heritage Impact Assessment
AMP	Archaeological Management Plan
AD	Anno Domini
ASAPA	Association of Southern African Professional Archaeologist

CFP	Chance Find Procedure
EAPAN	Environmental Assessment Professionals Association of Namibia
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment*
EIA	Early Iron Age*
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
ESA	Early Stone Age
GIS	Geographical Information System
NHC	National Heritage Council
MAN	Museum Association of Namibia
MSA	Middle Stone Age
LSA	Late Stone Age
PM	Project Manager
SM/I	Site Manager/Inspector
SAfA	Society of Africanist Archaeologists
SAMA	South African Museums Association

Definitions of Key Concepts and Terms Used in this Report

Archaeological	In relation to a place or an object, means (a) any remains of human habitation or occupation that are 50 or more years old found on or beneath the surface on land or in the sea; (b) rock art, being any form of painting, engraving or other representation on a fixed rock surface or loose rock or stone which is 50 or more years old;
Archaeological Site	Means an area in which archaeological objects are situated. Archaeological remains can be defined as any features or objects resulting from human activities, which have been deposited on or in the ground, reflecting past ways of life and are either 50 years old or older than that.
An artifact or artefact	A general term for an item made or given shape by human culture, such as a tool or a work of art, especially an object of archaeological interest
Isolated finds	Occurrences of artefacts or other remains that are not *in-situ* or are located apart from archaeological sites. Although these are noted and recorded, but do not usually constitute the core of an impact assessment, unless if they have intrinsic cultural significance and value

In-situ	Refers to material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.
Built environment	The built environment includes an array of historic buildings, structures and objects, from missions, forts and rock walls to entire town sites and settlements.
Monuments	Architectural works, works of monumental sculpture and paintings, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
Heritage significance	Means aesthetic, archaeological, architectural, cultural, historical, scientific or social significance;
A grave:	A place of interment (variably referred to as burial) and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery (contemporary) or burial ground (historic).
Historic building	Refers to structure or building which is over 50 years or more.
Chance Finds	Means archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities.
Study area or 'proposed project area'	Refers to the area where the Proponent/developer wants to focus its development activities.
Periodization	Archaeologists divide the different cultural epochs according to the dominant material finds for the different time periods. This periodization is usually region specific, such that the same label can have different dates for different areas. This makes it important to clarify and declare the periodization of the area one is studying. These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap.
ESA	>2 600 000 years ago – 250 000/200 000 years ago

MSA	250 000/200 000 years ago – 40/25 000 years ago
LSA	25 000 years ago – AD 200 (up to historic times in certain areas)
Iron Age Periods	AD 200 – AD 1840
Historic Period	AD 1840- 1950

1. Introduction

1.1. Background Information

Excel Dynamic Solutions (Pty) Ltd (*herein referred to as Independent Consultant*) was appointed by Suh Casa Investment CC (*hereinafter referred to as The Proponent*) to conduct an assessment of the potential impacts to archaeological and heritage resources that might occur through the proposed project within the Exclusive Prospecting License (EPL) 8092 which is located about 20 km North-west of Usakos in the Erongo Region ***(Figure 1)***. The EPL has potential for commodities such as Base & Rare Metals, Dimension Stones, Industrial Minerals, Precious Metals, Precious Stones and Semi-Precious Stones.

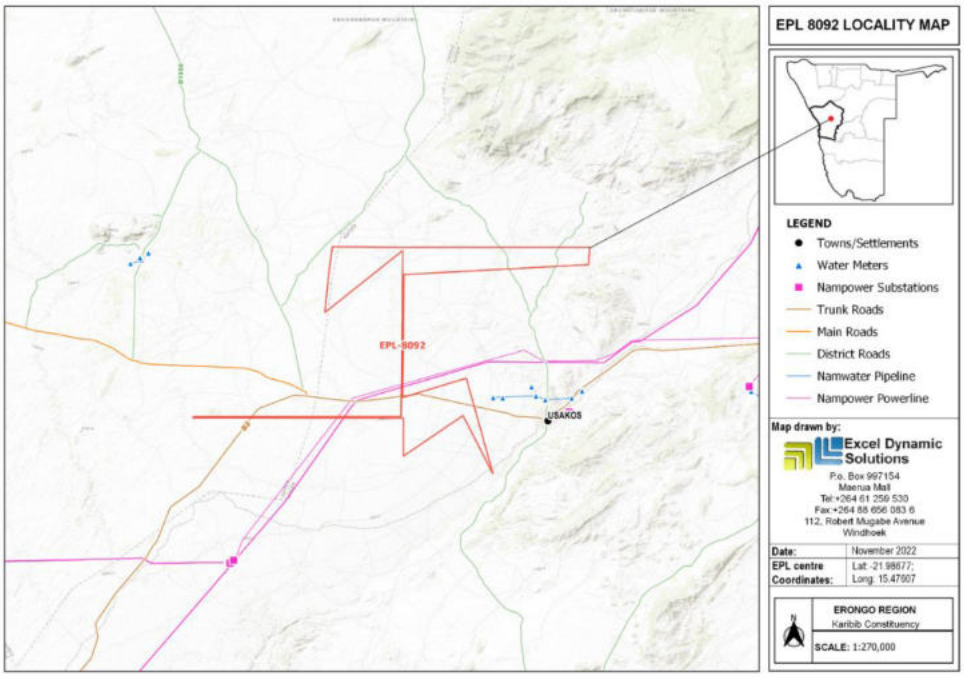


Figure 1: Locality map of the EPL 8092.

The archaeological and heritage focus of this study is basing on the coverage and extent of the EPL. The EPL overlies the following farms Gross Aukas No. 68, Klein Aukas No.66, Usakos West No.65, Eureka No.99, GoabebNo.63 and Ameib No.60. The approximate coordinates of EPLs 8092 are provided in ***Table 1***. In nutshell, this archaeological and heritage impact assessment is not limited to the identification of archaeological

artefacts, historical buildings and graves only. It is far more encompassing and includes intangible and invisible resources such as places, oral traditions and rituals.

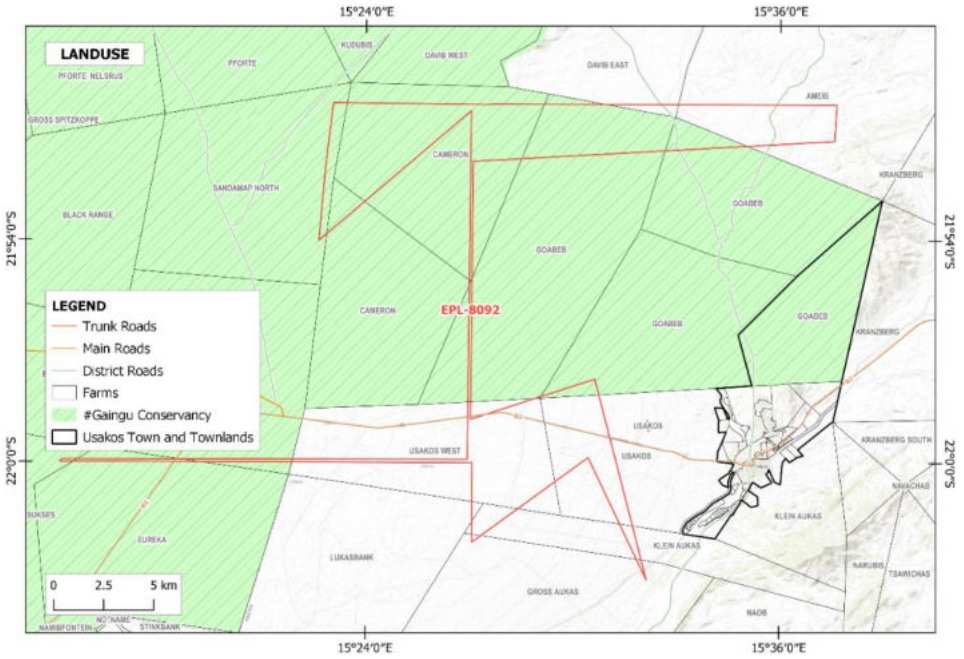


Figure 2: Land use within the EPL 8092.

1.1.1. The Proposed Project boundaries are located at the following GPS Coordinates

Table 1: Approximate GPS coordinates Corners/boundaries of the EPL 8092

Points	Geographical Position Systems	
1.	21° 50' 17''	15° 22' 59''
2.	21° 50' 17''	15° 37' 37''
3.	21° 51' 16''	15° 37' 32''
4.	21° 51' 55''	15° 27' 09''
5.	21° 58' 44''	15° 27' 04''
6.	21° 57' 44''	15° 30' 36''
7.	22° 02' 56''	15° 32' 03''
8.	22° 59' 55''	15° 30' 24''
9.	22°2'08''	15°27'01''

10.	22°0'04''	15°26'56''
11.	21°59'55''	15°15'04''
12.	21°50'33''	15°26'54''
13.	21°53'55''	15°22'39''

The Proponent intends to adopt a systematic prospecting and detailed exploration approach for the **Base & Rare Metals**, **Dimension Stones, Industrial Minerals, Precious Metals, Precious Stones and Semi-Precious Stones** this will include non-invasive, and this will include geological field mapping and ground truthing-based surveys, reviewing of existing geological maps and historical drilling data as well as field evaluation and sampling, and for the Phase II the activities will involve the use of detailed exploration. The preferred extraction technique for this exploration programme is the drilling technique. It is against this background that a detailed field investigation is carried out.

Therefore, the principal aim of the study is to survey the area of study, to identify archaeological, cultural and heritage sites, document them, and assess their importance within local, regional and national context. It serves to assess the impact of the proposed project on non-renewable heritage resources, and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the Project Proponent in managing the discovered heritage resources in a responsible manner. It is also conducted to protect, preserve, and develop such resources within the framework provided by the National Heritage Act of 2004 (Act No. 27 of 2004). This report outlines the approach and methodology used before and during the survey, which includes Phase 1, review of relevant literature; Phase 2, consultation and the physical surveying of the area on foot and by vehicle; Phase 3, reporting the outcome of the study.

In accordance to the existing Namibian relevant Acts, this report has therefore been compiled to complement the Environmental Scoping Assessment (ESA) Report and to be submitted to the National Heritage Council of Namibia as requirement and condition of the issuance of a Consent Letter. The Consent Letter will need to be submitted to the

Environmental Commissioner to make an informed decision on the issuance of the Environmental Clearance Certificate (ECC) for the proposed project.

1.2. Terms of Reference

Excel Dynamic Solutions (Pty) Ltd was contracted by Suh Casa Investment CC (*herein reffered to as The Proponents*), to undertake Archaeological & Heritage Impact Assessment (AHIA) for the proposed mineral exploration project. The primary task of the archaeological assessment reported here is to (a) locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest, (b) record coordinate points (GPS) of identified areas as significant, (c) determine the levels of significance of the various types of heritage resources that might be affected by the proposed project, and (d) suggest appropriate management and mitigation measures for the archaeological and cultural heritage resources that might occur in the area proposed for exploration works which can be potentially destroyed in the course of prospecting and detailed exploration.

2. Project Description

Suh Casa Investment CC (*hereinafter referred to as The Proponent*), intends to conduct mineral exploration activities on Exclusive Prospecting License (EPLs) No. 8092 for the exploration of Base and Rare Metals. Therefore, Archaeological Impact Assessment is to be conducted by Excel Dynamic Solutions (Pty) Ltd to identify the possible impacts on the archaeological or heritage resources on the site. Project components and the location is outlined under ***Table 2*** and ***3*** below.

Table 2: Project Area

Project Area	The EPL is located about 20 km North-west of Usakos in the Erongo Region
Magisterial District/Location	Karibib Constituency
Central co-ordinate of the development	Refer to table 1 above
Topographic Map Number	N/A

Table 3: Infrastructure and project activities

Types of Development	Exploration Permit for Prospecting and Exploration of the minerals
Size of the EPL	10 886.1132 (ha)
Project Components	The proposed activities will entail the detailed exploration activities and delineating the mineral deposits to determine whether the deposits for targeted commodities are economically feasible. The detailed exploration methods (techniques) will be presented in the ESA Report.
Proposed Development	Construction of on-site accommodation structures (include *tented camps*), and access roads within the EPLs.
Site Clearance	Small land parcels will be cleared for the establishment of base or field camps and staging areas. Field camps are for the safe keeping of exploration equipment and vehicles before use.
Area occupied by construction compound and lay down area:	The exploration team will undertake initial site visits to identify appropriate sites and possible locations for the establishment of compound construction and field camps upon reaching an agreement and a consent is signed between the Proponent and the respective custodian (authority). However, the exploration team will be accommodated within Usakos.
Phases of Construction	It should be noted that, this project is about prospecting and exploration of Base & Rare Metals Dimension Stones, Industrial Minerals, Precious Metals, Precious Stones and Semi-Precious Stones, therefore construction will involve activities such as land clearance, making access roads, bringing in machineries for exploration works, setting up accommodation structures for workers etc.
Construction camps	Construction of camps will largely depend on the outcome initial site visits to identify appropriate places. The workforce will include skilled, semi and unskilled workers, as necessary to complete the works. Around ten (5-10) people will be employed on site during the exploration phase. The workforce will include both skilled, semi and unskilled people, as necessary to complete the work. The exploration workforce will be accommodated in Kombat, upon reaching an agreement and consent is signed between the Proponent and the respective landowner or custodian (authority) prior to setting up accommodation structures (camps).
Site Access	The EPL is accessible via B2 road. Therefore, project related vehicles will be using these existing roads to access the EPL. It is also anticipated that, if necessary, onsite new tracks to the different targeted exploration sites within the EPL will be created. The Proponent may need to do some upgrade on the site access road to ensure that it is fit to accommodate project related vehicles, such as heavy trucks.
Temporary roads	The Proponent may need to do some upgrade on the site access road to ensure that it is fit to accommodate project related vehicles, such as heavy trucks

Expected impacts	+ ve impacts include • Employment opportunities, boosting local economy, infrastructural related development, investment opportunities, skills transfer, Improved geological understanding of the area, increased support for local business. • Temporary and permanent employment will be created. -ve impacts include • Physical land and soil disturbance, destruction of archaeological/cultural materials through unintentional uncovering of the unknown archaeological materials and objects, environmental pollution, disturbance on local habitat (flora ad fauna), potential social nuisance i.e. conflict between farmers/landowners and Proponent due to lack of communication etc.

3. Legislative context

This chapter outlines the regulatory framework applicable to the proposed project. **Table 4** provides a brief list of applicable legislation and relevance to the project.

This HIA report is a component of a broader Environmental Impact Assessment (EIA) / Scoping Assessment (ESA) study and addresses the requirements of the NHA Act 27 of 2004 and National Heritage Regulations (Government Notice 106 of 2005, in line with EIA Terms of Reference, and with reference to the assessment of impacts of the proposed development on the archaeological, cultural and heritage resources associated with the receiving environment.

In principle, the National Heritage Act, 2004 (Act No. 27 of 2004) provides for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. Special provision is given for protection and management of certain heritage resources in Namibia, these are listed in **Part VI from paragraph (53-58)** including listed buildings which are 50 years old or more than that, archaeological object or paleontological interest in existence which is 50 years or more years old, meteorite, historic shipwrecks and shipwreck objects (Underwater heritage) this include the remains of all ships that have been situated on the coast or in the territorial

waters or the contiguous zone of Namibia for 35 years or more are historic shipwrecks for the purposes of this section.; and other heritage resources.

Part I, Section1 paragraph (a) and (b) defines "archaeological" in relation to a place or an object, means (a) any remains of human habitation or occupation that are 50 or more years old found on or beneath the surface on land or in the sea; and (b) rock art, being any form of painting, engraving or other representation on a fixed rock surface or loose rock or stone which is 50 or more years old. While **Part V Section 46** of the Act prohibits removal, damage, alteration or excavation of heritage Sites or remains. **Section 48** sets out the procedure for application and granting of permits such as might be required in the event of damage to a protected site occurring as an inevitable result of development.

Furthermore, **Section 51 (3)** sets out the requirements for impact assessment. **Part VI Section 55 Paragraphs (3) and (4)** require that any person who discovers an archaeological site should immediately notify the National Heritage Council.

Table 4: Brief summary of the relevant Act(s) and Ordinance

National Regulatory	Summary	Applicability to the Project
National Heritage Act, No. 27 of 2004.	The Act makes provision for the protection and conservation of places and objects with heritage significance **Section 55** compels exploration companies to report any archaeological findings to the National Heritage Council after which a permit needs to be issued before the find can be disturbed.	There is potential for heritage objects to be found during the exploration activities and operations, therefore the Stipulations in the Act have been taken into consideration and are incorporated into this A/HIA report and the overall project EMP. The project shall be compliant with section 55.
National Monuments Act of Namibia (No. 28 of 1969) as amended until 1979	No person shall destroy, damage, excavate, alter, remove from its original site or export from Namibia: Meteorites, fossils, petroglyphs,	The proposed site of development is not within any known monument sites, both movable and immovable as specified in the Act, however in finding any materials

	ornamental infrastructure graves, caves, rock shelters, middens, shells that came into existence before the year 1900 AD: or Any other archaeological or paleontological finds.	specified in the Act, contractors and exploration crews on-site will take the required and necessary route and notify the relevant Authority.
Burial Place Ordinance, Act No. 27 of 1966.	To prohibit the desecration or disturbance of graves in burial places and to regulate matters relating to the removal or disposal of dead bodies. The Municipal Ordinance 13 of 1963 has been replaced by the Local Authorities Act 23 of 1992. (3) No person shall, except with the permission of the Administrator, in any way disturb, damage, remove or destroy a grave, monument, gravestone, cross, inscription, rail, enclosure, chain or erection of any kind whatever, or part thereof in any burial place.	Since graves can occur anywhere the Act is likely to be used in the event of an encounter of unknown graves if there is within the EPL.
Environmental Management Act (7 of 2007) Government Notice 232 27th December 2007	**PART I:** The definition of the environment employed by the Environmental Management Act (7 of 2007) specifically includes "anthropogenic factors" such as archaeological remains or any other evidence of human activity. **PART II:** Environmental impact assessment (EIA) in Namibia is governed by this legislation and usually includes a specialist archaeological survey and	Archaeological materials, heritage resources, historical, cultural landscape or topographical settings is part of the environment in its context, hence this Act is very relevant to the proposed project and the Proponent is henceforth mandated to take into consideration all the necessary steps so as not to affect or destroy the environment where archaeological or heritage resources can be found.

	assessment, following the stated Principles of Environmental Management which requires that Namibia's cultural…heritage…must be protected and respected for the benefit of present and future generations.	
Environmental Assessment Policy of Namibia 1995	The policy seeks to ensure that environmental consequences of development projects and policies are considered, understood and incorporated into planning process, and the term environment is broadly interpreted to include biophysical, political, economic, social aspects, traditional norms, cultural and historical components.	This Archaeological and Heritage Assessment study considers the term environment to be part and parcel of archaeological and cultural heritage in its contexts.

4. Scope of the Study and Objective of the Report

This Archaeological & Heritage Impact Assessment (AHIA) aims at identifying any significant heritage resources before any development begins so that these can be managed in such a way as to allow the development to proceed without undue impacts to the heritage resources of a particular area. Also, this report aims to fulfil the requirements of the Heritage Authorities of Namibia who will review the AHIA and grant or refuse authorisation. Similarly, the report will inform the EIA in the development of a comprehensive EMP to assist the project applicant/Proponent in responsibly managing the identified heritage resources in order to protect, preserve, and develop them within the framework provided by the National Heritage Council Act (Act No 27 of 2004). And thus, the AHIA report will outline any management and mitigation requirements that will need to be complied with from a heritage point of view and that should be included in the conditions of authorisation should this be granted.

5. Assumptions, Limitations and knowledge gaps

The archaeological and heritage study reported herein was carried out at the surface levels only and hence any completely buried archaeological sites could not be readily

located. Similarly, it is not always possible to determine the depth of archaeological material visible at the surface. Based on this assumption, the possibility of discovery or unearthed of heritage resources during the clearing of vegetation, exploration or construction phase cannot be excluded. However, this limitation can be successfully mitigated with the implementation of a chance find procedure as recommended throughout the report. As with mitigation measures recommended in this report, (*See **Appendix 1** & **2** below for Chance Finds Procedure (CFP) in accordance with the National Heritage Council*) are outlined by the National Heritage Council. In addition to that, the Author of this report has prepared an Archaeological Heritage Monitoring Plan.

6. Approach and Methodology

6.1. Literature Review

A brief survey of available literatures was conducted to extract data and information on the area in question to provide general heritage context into which the development would be set. This literature search included published material, unpublished reports including EIA reports and online material from various websites.

6.2. GIS Spatial analysis

Google Earth and topographic maps of the area were utilised to identify geologic, topographic, elevation of the area, and possible places where sites of heritage significance might be located. The GIS spatial database was utilised to collect any useful information on any the above mentioned in the area, as well as for georeferencing purposes.

6.3. Public Consultation and Advertisements

Public notice of the project was advertised in two local newspapers for two consecutive weeks **(*Table 5*)**. The public and all stakeholders were invited to register as I/APs, to comment and raise their concerns about the project (for the purposes of this AHIA report only archaeological and heritage related issues will be included, (*see Appendix 4 for newspaper adverts and site notice*).

Table 5: Placement of Newspaper adverts

Newspaper	Date of placement
New Era	09/11/2022
The Namibian	09/11/2022
New Era	16/11/2022
The Namibian	16/11/2022

6.4. Site Investigation

The aim of the site visit was to; (a) survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest (*if any*); (b) record GPS points of sites/areas identified as significant areas; (c) determine the levels of significance, grading of the various types of heritage resources recorded in the project area. ***Table 6*** below highlights the situation during the site-survey on the study area EPL 8092.

7. Detailed Assessment

Table 6: Site Investigation Details

General Site Investigation	
Date	The sites visit was undertaken on the 17th of November 2022 by the EDS team.
Season/Weather condition and site visibility	Cloudy (overcast): However the general ground visibility was good despite the fact that there is/was a dense bushman grass cover within the farms surveyed (***Figure 3***). The findings and descriptions of the archaeological materials are presented in ***Table 13.***
Direction of the EPL/Site	The EPL was accessible via B2 road from Karibib to Arandis which connects to the roads that go into the farms which were surveyed.
Details of equipment used in the survey (GPS)	All readings and site positions were determined in the field by hand-held Garmin *etrex 30x* GPS (Accuracy levels is ± 3 meters)
Details of equipment used in the survey (Camera)	Photographs were taken using a smart phone-iPhone 7 plus

Figure 3: The different views on landscapes which EPL 8092 falls.

8. Site Significance Rating:

The presence and distribution of historical, cultural or heritage resources define a 'heritage or cultural landscape' of an area. In this particular landscape, every site is relevant, and because heritage resources are non-renewable, heritage surveys needed to investigate the proposed project area, or a representative sample, depending on the nature of the project. In the case of the proposed project the local extent of its impact necessitates a representative sample and only the footprint of the areas demarcated for development were surveyed. In all the initial investigations and surface survey, however, the undersigned (Archaeologist/specialist) is responsible only for the identification of resources visible on the surface. The grading and level of significance of the identified archaeological materials and heritage resources on EPL 8092 are given in the following pages on ***section 17.2, Table 13.***

Table 7: Grading of Heritage Significance and Field Rating

Level of significance	Grading	Description
Exceptional/upper higher	5	• Major national heritage resources • A rare and outstanding example • Containing unique evidence of high regional and national significances

Considerably high	4	• Very important to the heritage of the region • A high degree of integrity/ authenticity • Multi-component site and objects • High research potential
Moderate	3	• Contributes to the heritage of the locality and region • Have some altered or modified elements, not necessarily detracting from the overall significance of the place • Forming part of an identifiable local distribution or group • Research potential
Low	2	• Isolated minor find in undisturbed primary context, with diagnostic materials • Makes some contribution to the heritage of the locality, usually in combination with similar places or objects
Little	1	• Makes a little contribution to the heritage resources of the locality • Heritage resources in a disturbed or secondary context, without diagnostic or associated heritage
Zero/ no significance	0	• Absence of heritage resources • Highly disturbed or secondary context, without diagnostic or associated heritage

Impact Assessment Methodology as developed by QRS Namibia

This Archaeological and Heritage Impact Assessment followed a two-based process of assessment, desktop and field-based assessments. The criteria below are used to establish the impact rating on sites based on the findings. These are recognized by the International Council on Monuments and Sites (ICOMOS), as well as those formulated by the Quaternary Research Services (QRS) in Namibia by Kinahan (2012). The

methodologies were adopted in line with the standards for environmental assessment and the protocol developed for archaeological heritage assessment in Namibia that reflect Namibian conditions and are accepted as a basis of evaluation by the National Heritage Council. In order to establish the heritage significance of the resources, and their vulnerability to possible disturbance in the course of prospecting and exploration (now and in the future), the assessment criteria below developed by QRS (Kinahan, 2012) established parallel 0-5 scales, as summarized in **(*Tables 8-10*)** below.

Table 8: Archaeological Significance and Vulnerability Rankings (Kinahan, 2012)

Scale	Significance Ranking	Scale	Vulnerability Ranking
0	no significance	0	Not vulnerable
1	Disturbed or secondary context, without diagnostic material	1	No threat posed by current or proposed development activities
2	Isolated minor find in undisturbed primary context, with diagnostic material	2	low or indirect threat from possible consequences of development (e.g. soil erosion)
3	Archaeological site (s) forming part of an identifiable local distribution or group	3	Probable threat from inadvertent disturbance due to proximity of development
4	Multi-component site (s), or central site (s) with high research potential	4	High likelihood of partial disturbance or destruction due to close proximity of development
5	Major archaeological site (s) containing unique evidence of high regional significances	5	Direct and certain threat of major disturbance or destruction

Table 9: Assessment criteria for the evaluation of cumulative impacts on archaeological sites devised by the QRN.

Criteria	Category	Description
Extent or spatial influence of impact	National Regional Local	Within Namibia Within the Region On site or within 200 m of the impact site impact
Magnitude of impact (at the indicated spatial scale)	High Medium Low Very Low	Social and/or natural functions and/ or processes are severely altered

Criteria	Category	Description
	Zero	Social and/or natural functions and/ or processes are notably altered Social and/or natural functions and/ or processes are slightly altered Social and/or natural functions and/ or processes are negligibly altered Social and/or natural functions and/ or processes remain unaltered
Duration of impact	Short Term Medium Term Long Term	Up to 3 years 4 to 10 years after construction More than 10 years after construction

Table 10: Reversibility Ratings Criteria

Reversibility Ratings	Criteria
Irreversible	The activity will lead to an impact that is permanent.
Reversible	The impact is reversible, within a period of 10 years

8.1. Results of Public Consultation and Stakeholder Engagement

The meeting was held within farm Goabeb (on site meeting), the archaeological information obtained was more on Erongo mountains which included presence of rock art, engravings and graves there however the Erongo Mountains range are outside the EPL boundaries.

9. Literature survey/ Background Study

A survey of available literatures was carried out to assess the archaeological and heritage context into which the proposed project would be set. Maps of the area were used to identify the geologic, topographic, landscape and elevation of the proposed project area. Archaeological, historical and heritage sites are identified by the use of

Garmin GPS and photographs taken during the surface survey. The site recorded consist mostly of general features on landscape.

9.1. Description of the Study Area

9.1.1. Geology and Topography of the Project area

Topographically the EPL mainly lies in the central-western landscape which is characterized by dissection and erosional cutbacks. The EPL lies at an elevation that ranges from 1100 – 1150 m. *(figure 4)* shows the topography map for the project area.

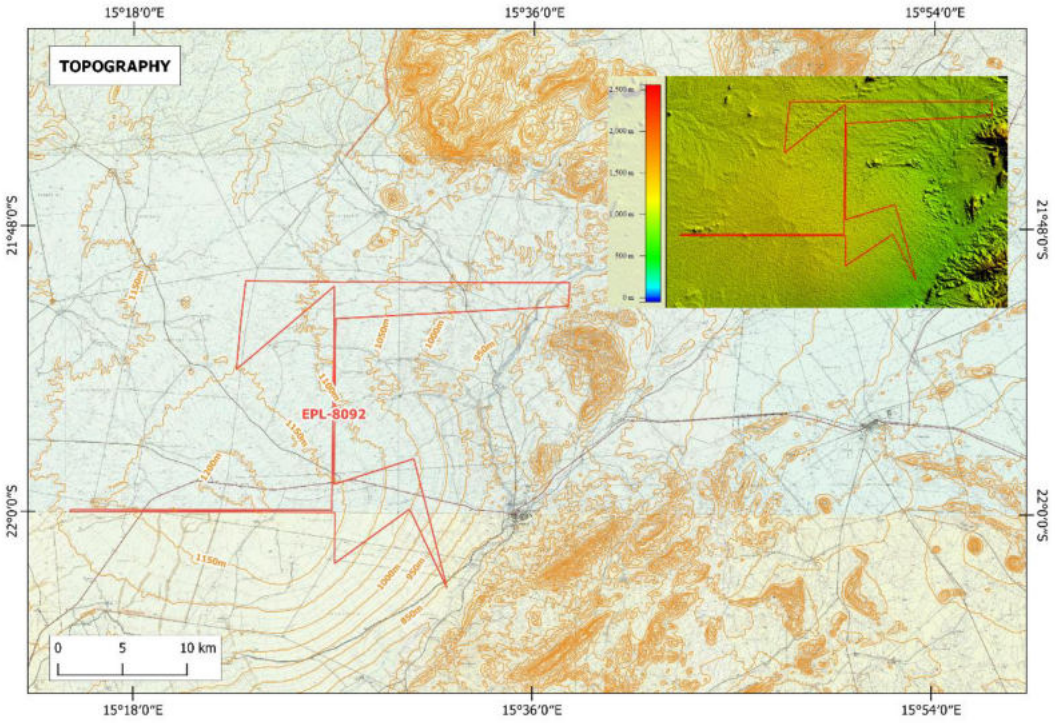


Figure 4: Topographical map of the location of EPL 8092.

Geologically, the EPL is located within the Southern Central Zone of the Neoproterozoic Damaran Supergroup, which is largely comprised of marbles and siltstones, which grade northwards into trubidite clastic sequences representing a continental shelf and basin margin. *(figure 5)* shows the geology map of the EPL.

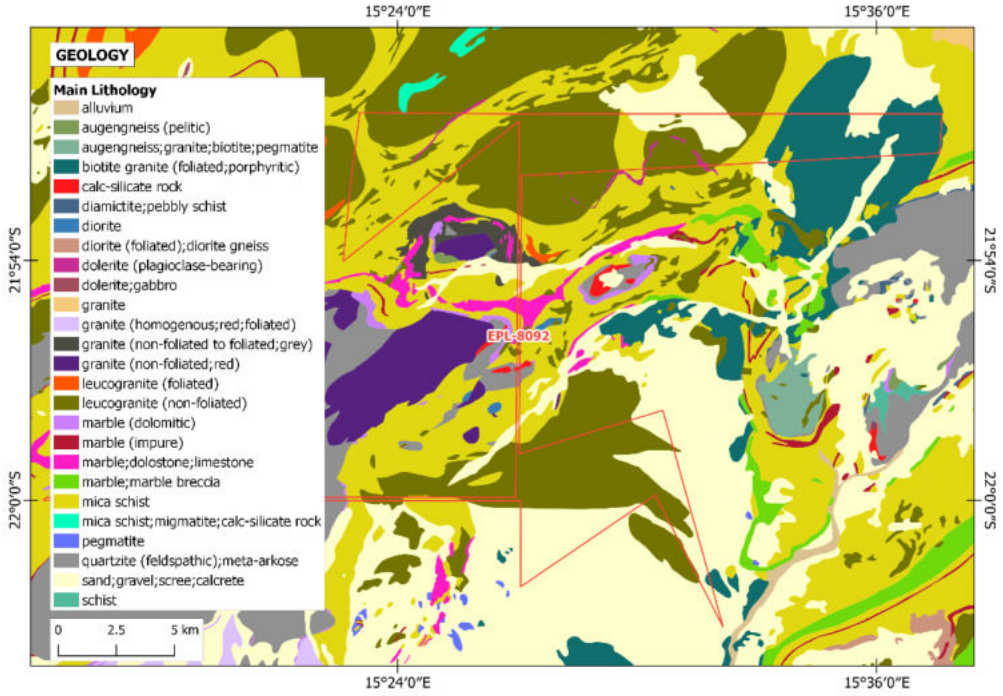


Figure 5: A Geological map of the location of the EPL 8092.

10. Background and general Heritage Context of the area

10.1. Regional Archaeological and Heritage Context

According to Kinahan, (2012) the bulk of archaeological sites dating to the last 5 000 years in this area reflect the initial re-occupation of the Namib Desert following the mid-Holocene Climatic Optimum, when hunter-gatherer groups began to develop increasingly specialized modes of subsistence. Evidence of earlier occupation is scarce, and while this must reflect the differential preservation of earlier evidence, there are indications that the Namib was subject to brief spells of occupation, interspersed by long periods of relative inactivity.

Holocene occupation evidence is relatively diverse, and includes local concentrations of stone features representing the remains of windbreaks and hunting blinds, small surface scatters of stone artefact debris and suchlike. The Holocene sites clearly show the use of the landscape as a resource base, as a strategic terrain for ambush hunting, and as a complex set of communication routes. In contrast, the earlier, Pleistocene, evidence appears to indicate heavy concentration of effort on prime resources, especially high

quality chert, used in the manufacture of stone artefacts. While the climatic conditions of Holocene settlement were much as we know them today, Pleistocene occupation probably occurred under far wetter conditions.

Historical Background of the Subject Land

The name 'Usakos' is derived from the Damara word !Ūsa!khōs meaning to "Grab the heel" and Otjiherero name "Okanduu" the town's name came into existence, in the very early days the inhabitants let the animals drink water from the fountain and when an animal slipped and fell into the fountain the people would shout out !Ūsa!khōs, telling the kids to grab the animal by the heel to stop it from falling into the fountain.

The settlement was founded in 1900 as a watering station for locomotives when railway construction workers from Otavi Minen- und Eisenbahngesellschaft (Otavi Mining and Railway Company) (OMEG) arrived here on their way from Swakopmund to Tsumeb. Surrounded by mountains, Usakos is quite picturesque. Certain spots around the town show the longest uninterrupted horizon in the world. It is the closest town to the Spitzkoppe, often referred to as the "Matterhorn of Namibia". Herero Chief Samuel Maharero sold the land to Europeans who resold it in 1903 to OMEG (Otavi Minen- und EisenbahnGesellschaft). The EPL lies close to the Erongo Mountain, which has some National Heritage sites declared. The proximity of the EPL 8092 to the Erongo Mountain mighty yield some archaeological resources scatter within its footprint area[1].

The available archaeological records indicate that evidence of early humans in Namibia dates back from the Early Stone Age period, more than one million years ago as evidenced by hominin fossils records (Kinahan, 2017). The geospatial data on the distribution of archaeological sites shows that sites are concentrated mainly in the central highlands, escarpment and Namib Desert. Furthermore, there about 150 sites are recorded in the Erongo Region alone, and the Region is also endowed with Iron Age artefacts and contemporary heritage resources. According to the National Heritage Council of Namibia (Declared Sites/Lists of National Heritage), Erongo Region has about

[1] *https://www.namibweb.com/usakos.htm*

37 heritage sites which are listed as national monuments[2]. The map (*Figure 7*) below show the distribution of archaeological sites in Namibia.

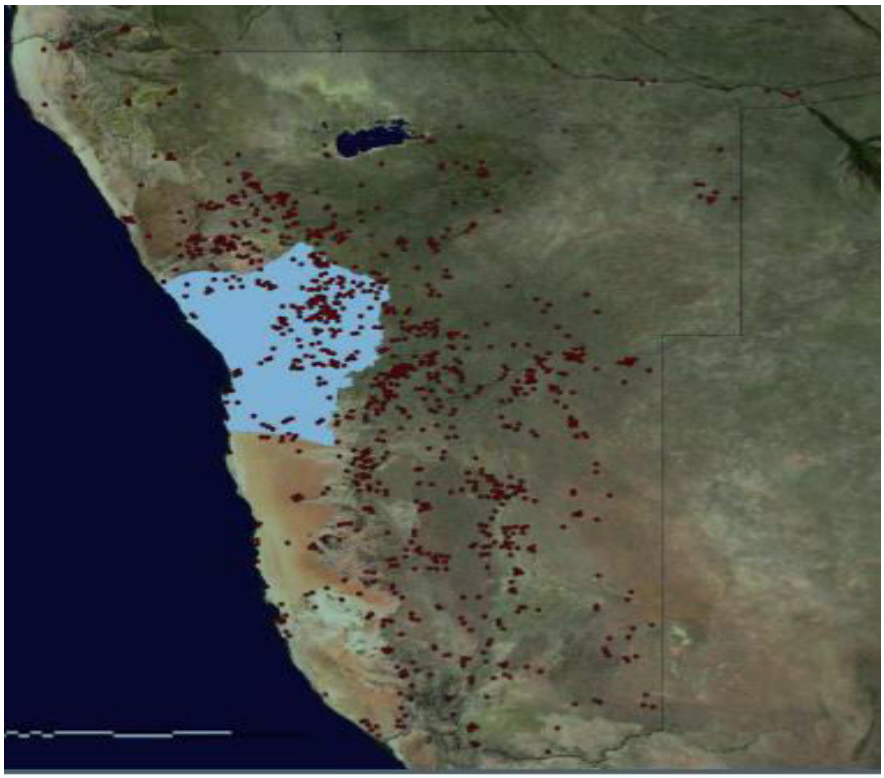


Figure 6: Distribution of the archaeological sites in Namibia with focus on Erongo Region. Source: (Kinahan, J. 2012).

According to the National Heritage Council of Namibia (Declared Sites/Lists of National Heritage), there are about 37 sites are recorded in the Erongo Region which are listed as national monuments[3]. The map *(figure 6)* shows the distribution of archaeological sites in Namibia.

[2] *https://second.wiki/wiki/liste_des_nationalen_erbes_namibias#Erongo*

[3] *https://second.wiki/wiki/liste_des_nationalen_erbes_namibias#Erongo*

10.2. The General Archaeological Environment Sequences of the Southern Africa.

The Southern African archaeological environment is divided into the Stone Age, the Iron Age and the Historical Period. ***Table 11*** below summaries different period in relation to the technological advancement and cognitive evolution.

Table 11: The Archaeological context: Sequence, Period and definitions

Period	Approximate Dates
Early Stone Age	> 2 600 000 years ago – 250 000/200 000 years ago
Middle Stone Age	250 000/200 000 years ago – 40/25 000 years ago
Later Stone Age	25 000 years ago – AD 200 (up to historic times in certain areas)
Early Iron Age	AD 200 – AD 900/1000
Middle Iron Age	AD 900/1000 – AD 1300
Late Iron Age	AD 1300 – AD 1850

Source: (Sampson, 1974).

10.3. Archaeological Sequence in Namibia

In order to put Namibian heritage and archaeological contexts into perspective, the following information is crucial to the general understanding of the occurrence and the associated period in different timeframes that would represent the known human occupation sequence in Namibia and Southern Africa in general. This helps in building knowledge about past adaptations and cultural dynamics. According to Nankela (2017), the archaeological sequences of Namibia can be summarized as follow **(*Table 12*)**:

Table 12: Archaeological sequences in Namibia

Period	Year	Area/Location	Evidence	Description
Pleistocene	400 000- 100 000	Namib Plains, Namib Desert & Lower Kuiseb	Bone fragments of extinct elephant and stone tools	
Holocene	10 000 - 1 000	Around Namibia	Scattered artefacts, rock art sites, potsherds, beads, grave cairns, hut circles, human remains, axes,	Sites are fragile, inaccessible and due to inadequate archaeological investigations in some sites.

Period	Year	Area/Location	Evidence	Description
			pointed flakes, cleavers and blades.	
Historic Period	500	Around Namibia	Cemeteries, old mine workings, waste rock walling, architectural heritage and WWI military engagements.	Namibia has an indication of intensive settlements between indigenous people and Europeans.

11. Physical and Environmental Context of the area

11.1. Site description and Environmental Setting of the EPL 8092

The landscape of the subject land is mainly comprised of flat lands and surrounded by hills, and mountainous. The vegetation cover is mainly consisting of dense bushman grasses, acacia trees and other shrub-land type of vegetation (*figures 7 & 8*). The site was easily accessible because of the various existing trunk roads within the farms.

Figure 7: The view of the vegetation cover within the EPL 8092.

Figure 8: the view of vegetation type toward eastern direction of the EPL.

Figure 9: The view of landscape and vegetation type within EPL 8092.

Figure 10: Surrounding landscape within the EPL.

12. On-site Findings of the Archaeological and Heritage sites within the EPL

This section presents and describes the archaeological, heritage and historical findings within the landscape of which EPL 8092 falls. The Khan River is passing through the EPL which makes it a significant feature across the entire landscape (*figure* xx).

Figure 11: The Khan River that flows across EPL 8092.

Figure 12: Isolated hills as recorded at waypoint

Figure 13: Lithic scatter as recorded within the subject land.

Figure 14: Surface scatter as recorded within EPL 8092.

Figure 15: A pile of boulders of sandstones recorded within EPL 8092.

Figure 16: Lithic artefact recorded with EPL 8092.

Figure 17: An artifact recorded within EPL 8092.

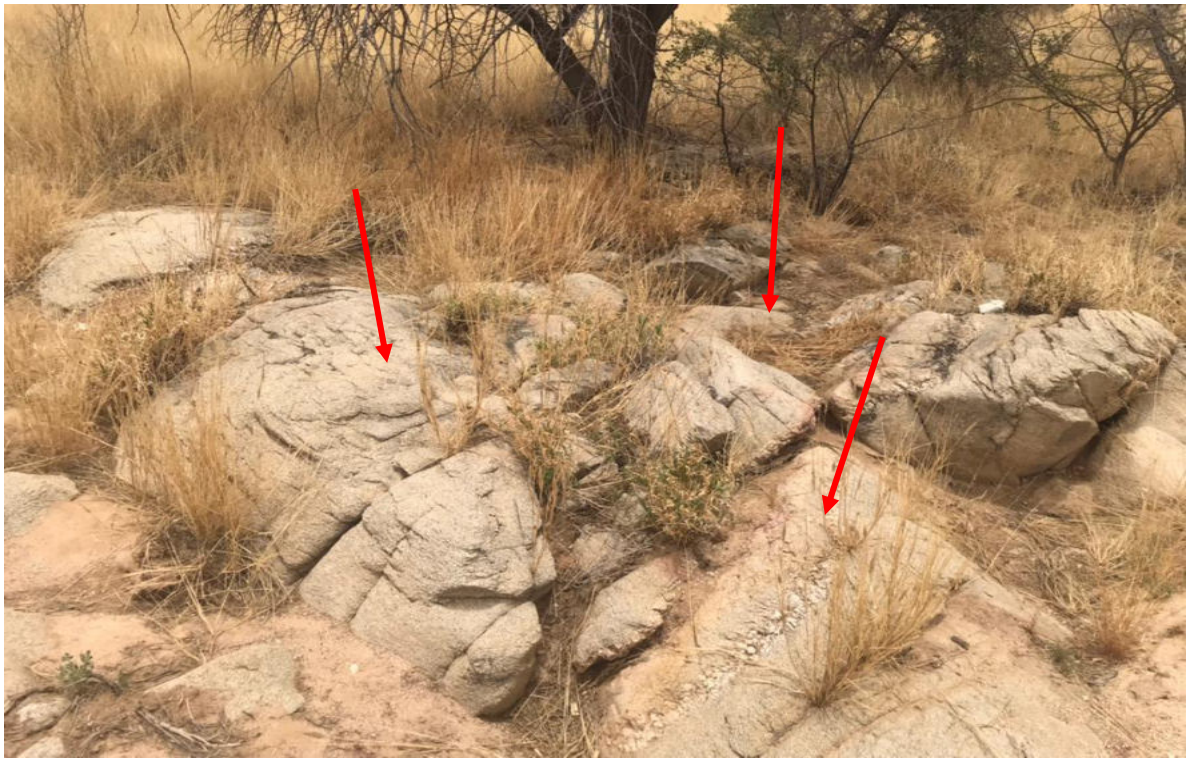


Figure 18: Exposed rock outcrop recorded within EPL 8092.

12.1. Existing Infrastructures within the boundaries of EPL 8092

The suryved farms has some infrastructures and structures that are noteworthy for this report, this included residential houses, water reserves, trunk roads and solar panels.

Figure 19: Solar panels recorded within EPL 8092.

Figure 20: The homestead at Goabeb farm within EPL 8092.

Figure 21: A trunk road recorded within EPL 8092.

Table 13 below lists and briefly describes all the archaeological and heritage resources located during the survey and they are mapped in accordingly.

List of Archaeological & Heritage Resources recorded during the field-survey

Table 13: Assessment on Significance and Grading of Archaeological and Heritage Resources on EPL 8092

Waypoint	Location	Elevation	Description of the findings	Heritage Significance	Grading
Findings at the EPL 8092					
EDS 111	S 21° 50' 50.2'' E 15° 32' 29.5''	1004 m	**A pile of rocks:** This pile of rocks was recorded on farm Goabeb. This is very interesting setting of rocks on top of each other, however the owners of the farm had been engaged and were asked of any known graves on the farm and they informed the archaeologist that they were no known graves within the farm.	Low	2
EDS 114	S 21° 54'0.24'' E 15°34'18.47''	920 m	**Lithic artefact:** Presence of debris scatter was recorded in the subject land. The proximity of the EPL to the Erongo Mountains where there declared sites such as Philips Cave and occurrence of rock art sites might be associated with scattering of debris within the landscape of which EPL 8092 is situated.	Low	2
EDS 117	S 21° 00' 46'' E 15° 31' 03''	1010 m	**stone artifact**	Low	2

The following map below show the archaeological sites in the vicinity of the EPL as extracted through GIS Spatial data from the Atlas of Namibia database. The declared site is far from the area of interest as shown on *figure 21*.

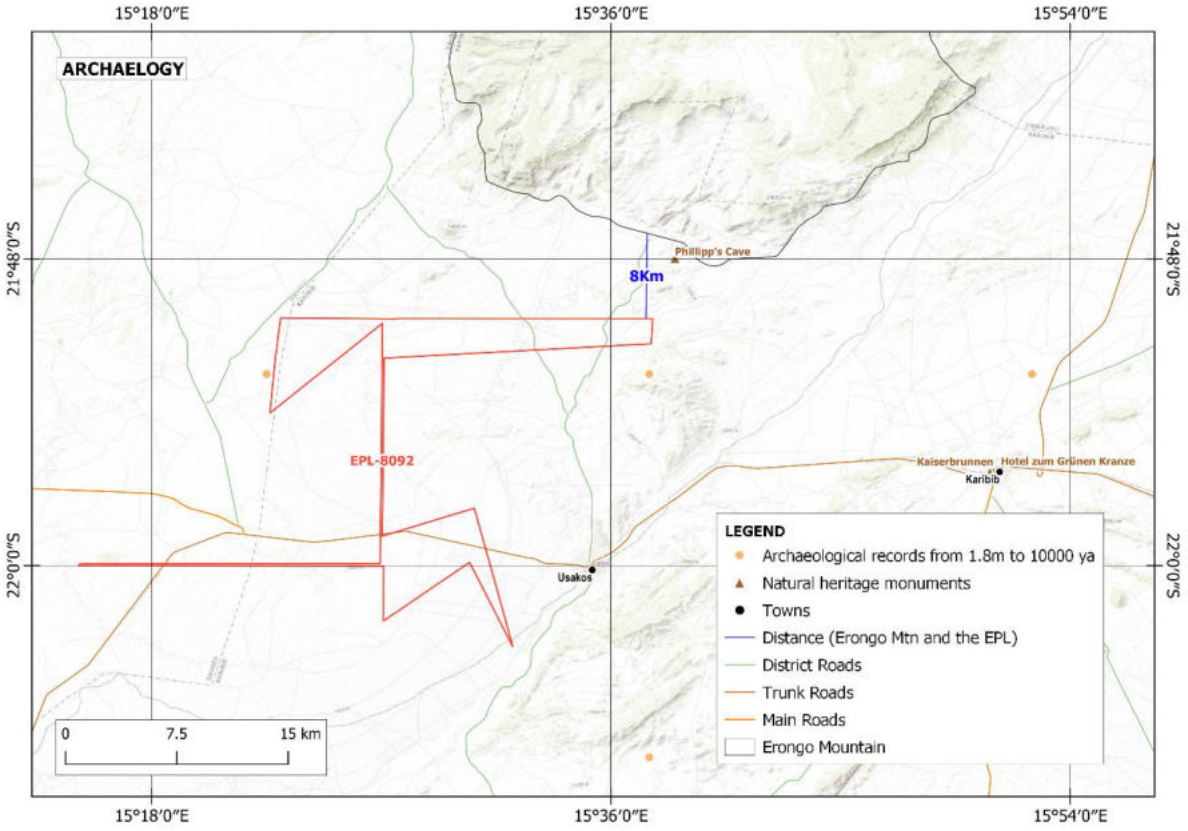


Figure 22: An archaeological map of EPL 8092

13. Potential Impacts on Archaeological, Historical and Cultural Heritage sites

This section describes the potential impacts that may emanated from the proposed project especially during the pre-construction, construction and operational phases as far as prospecting and exploration activities are concerned. However, for the record it should be noted that this study is meant for the archaeological and heritage assessment of the proposed prospecting and exploration activities only, and not actual mining.

On archaeological contexts, the proposed project is likely to involve the removal of large amounts of topsoil during site preparation as well as the excavation or preparation of access roads (*if need be*), service and drainage trenches. The greatest impact is likely to be caused by earthworks in the form of cutting and filling to produce level sites suitable for development. Although there are no recorded archaeological monuments of national significance within the proposed subject lands, it is possible that hitherto

unknown sites will be uncovered during groundworks associated with prospection and exploration.

13.1. Potential Impact on Archaeological sites

The direct archaeological impact on its sites can occur during land clearance or construction of infrastructures in the area such as access road, setting up of camp site or sitting of equipment's for prospecting and exploration works. To mitigate this, proper caution should be considered when deciding on where to construct or set up of infrastructures so as to avoid a proliferation of land disturbance in the area. As a matter of facts, the subject lands for this EPL is partly within the settlements and large parts is within the farms as shown in *figure 2*.

Archaeologically, the author of this report finds the observations of the natural landscape to be of importance to add to the knowledge base of the general understanding of the archaeology in the region. Therefore, as for mitigation measures, proper way of handling and protecting is recommended in the *Section 17.2,* and this will in turn bring the impact to LOW and to an acceptable level.

13.2. Potential impacts on Rock shelters and Caves

No rock shelter or cave was recorded within the surveyed lands, therefore the potential impact is expected to be low/zero.

13.3. Potential Impact on Historical sites

The site survey that was undertaken for EPL 8092 did not record any historical site within subject footprint area. In the likely event of an encounter to a previously unknown historical site, however the report has put together appropriate measures to be taken upon such finds, and thus with the recommended mitigations the impact is expected to be LOW.

13.4. Potential Impact on Built Environment resources

On EPL 8092, there is a number of structures that were recorded, mainly homesteads within the farms and associated structures such as animal kraals, storage areas, water points and other infrastructure such as boundary fences and trunk roads. Potentially, no impact is expected on these infrastructures since no development will take place within these, and therefore low impact is expected.

13.5. Potential Impact on Graves/Cultural site

The site survey done on EPL 8092 did not record any visible graves within the subject land. However, since graves can occur anywhere, mitigation is possible and will entail a pre-construction survey to locate any more of visible graves that might still be present within the footprint. Prospecting and exploration works should be effected to try avoid graves if possible but any that cannot be avoided will require exhumation and possibly reburial but for this to happen a necessary permit is required from National Heritage Council of Namibia. Project Proponent is cautioned that '***Chance find'*** is mandatory and should be complied throughout the operational phase of the project. Therefore, if the status quo remains unchanged there will be unlikely or zero impact to the graves since there are none.

Table 14: Summary of the findings at the site of Interest (EPL 8092)

Archaeological and Heritage Resources	**Findings**
Buildings, structures, places of cultural significance	Existence of built structures was noted such as homesteads, and other significant infrastructures such as boundary and trunk roads (***refer to table 13)***.
Areas to which or are associated with cultural heritage.	None
Archaeological, historical or heritage sites.	The terrain and landscape of the subject land should be considered as an important and significant part that is associated with the archaeological landscape of the Erongo Region, including the subject areas where the proposed project will take place. (***Refer to table 13)***.
Graves and burial grounds,	None were recorded within subject land however, burial grounds and gravesites are accorded the highest social significance. They have both historical and social significance and are considered sacred. Wherever they exist or not, they may not be tampered with or interfered with during any development otherwise the deemed consequence will be HIGH
Movable objects	None

Overall comment	The study areas of which this particular EPL is situated within a conservancy, and this makes the land somehow sensitive therefore the proponent is to be made aware of this so that a cautious approach together with the compliance to the recommendations made herein, adoption of Chance Find and monitoring procedures should be of compulsory.

13.6. Tabulated summary of the Impact evaluation of the proposed project on heritage resources within the curtilage of the site and the surrounding area for the EPL 8092

Table 15: Built Environment of the Subject Area

Activity: During the prospecting and exploration phase activities resulting in disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position archaeological, historical, heritage and cultural material or objects.		
	With Mitigation	**Without Mitigation**
Extent	Local	Local
Duration	Short-term	Long-term
Magnitude	Low	Low to Medium
Significance	2	3
Vulnerability	2	3
Reversibility	Not reversible	Not reversible
Can impacts be mitigated?	Yes	
Mitigation:	The built environment within the EPL are mainly in the homesteads within the EPL. These are structures such as houses, places and roads these structured are to be protected from any work to be done	
Cumulative impacts:	n/a	
Residual Impacts:	With implementation of mitigation measures mentioned herein, the significance level of the impacts identified will be reduced to either low or negligible.	

This site survey involved direct observation (site surface or field walking), with archaeological and cultural significant areas positions determined in the field by hand-held Garmin *etrex* 30x GPS, and the coordinates plotted on topographic map to create a buffer-zone. The sites themselves are documented according to conventional criteria of type, physical setting and spatial extent. In the field, all identified archaeological, cultural and historical sites are assessed as to their significance, grading them accordingly and vulnerability, using two independent parallel scales devised for archaeological assessment in Namibia (*Tables 8 - 10*). The archaeological and heritage resources within EPL 8092 can be assumed to be of cultural significance at a local level, and thus vulnerability rating can be classified as having probable threat from in-advertent disturbance due to proximity of development as outlined in *Table 18 below*. The criteria used here for vulnerability is just to show how the extent of vulnerability can be recorded but it should be noted that the threats are going to be minimized/reduced or eliminated with the mitigation measures that are recommended in this report (*refer to section 17.2*).

Table 16: Heritage Resources and Vulnerability Description

Archaeological, Cultural and Heritage Resource	Scale	Vulnerability Description
grave site(s)	1	No threat posed by current or proposed development activities. However graves can occur anywhere and thus adoption of *Chance find* is recommended.
archaeological site(s)	1	No threat posed by current or proposed development activities. However archaeological sites can occur anywhere and thus adoption of *Chance find* is recommended.
Existing buildings and structures (still standing and in-use)	3	Probable threat from inadvertent disturbance due to proximity of development. However all place recorded is the 'No-Go-Zone' for this particular project.

Stone artefacts	3	Probable threat from inadvertent disturbance due to proximity of development

14. Summary of the expected Impacts

Direct impacts or risks of impact on archaeological sites located near the proposed project can be reduced to acceptable levels by the adoption of appropriate recommended mitigation measures including integration of the archaeological heritage record and Chance Finds procedure in the project EMP (see *Appendix 1, & recommended mitigations*). Special effort should be made to reduce and avoid impacts on any discovered site or artefacts.

15. Identification of Key Impacts

The key impacts of the proposed project on the archaeological and heritage resources (*if any*) will be the physical disturbance or destruction of sites or remains within or close to the designated footprint of the proposed development and its associated surface works, and disruption of the landscape setting or physical context of the archaeological sites or remains. Such impacts will be both local, in the sense of the specific site, and at the landscape level.

16. Residual Cumulative Environmental Impacts

Although some archaeological materials such as stone artifacts and consequently sites are likely to be destroyed or lost during the clearance of land and construction of other facilities necessary for prospecting and exploration activities. Similarly, the focus of mitigation measures in this report is to recommend the layout of the project to avoid any possibilities of encountering significant heritage or archaeological sites and will thus make a negligible contribution to cumulative impacts. The cumulative impacts are deemed to be of **low** significance in this case but with project specific mitigation as listed in ***section 17.2*** this would drop to **very low** after mitigation.

16.1. Identification of alternatives

There are no located site alternatives for the proposed project at the moment, however the layout will be designed accordingly to avoid any damage to the already known and

located archaeological/heritage sites. This is to indicate that if the site is located already, the project has to find an alternative location to either avoid the site completely, mitigate it or rescue it before any damage could be done, and to do this a permit from NHC will be required.

16.2. Anticipated Impacts on Visual/Landscape

All known significant archaeological and heritage resources will be/should be avoided by the proposed project (aside from the landscape where the proposed project will take place) i.e. the landscapes cannot be mitigated in the conventional archaeological sense, and impacts to them are contextual (visual impact affecting the sense of a place) mitigation usually involves avoidance, careful placement of the proposed project infrastructures and other development, or the creation of appropriate buffer zones and screens to minimize visual intrusion.

17. Management Plan and Mitigation measures

Detailed mitigation measures are given herein in form of recommendations (refer to the bulleted list in ***section 17.2*** below under conclusion and recommendation section). These mitigation measures will be included and implemented along with the general EMP of the project, as well as the implementation of ***Chance Find Procedures*** and ***Heritage Monitoring Plan*** for the proposed project as set out in ***Appendix 1*** below.

17.1. Conclusion and Recommendation

Generally, the area of interest might undergo some new changes as far as the proposed project is concerned, the possibilities of new access roads, establishing of camping sites, sitting of equipment's, laying down of infrastructures that may obliterate surface indicators of heritage resources if any ever occurred in the study area. All the identified archaeological and the sensitive areas are to be preserved *in-situ* and protected from any exploration activities. However, with mitigation recommended in this report, and *Chance Find Procedure* the overall impact is expected to be low. Therefore, this project can commence but subject to the condition that the following recommendations (*Section 17.2*) are implemented as part of the EMP and based on approval from National Heritage Council of Namibia

17.2. Recommended Mitigations

It is extreme important for the Project Proponent, and all those involved in the project to fully understand that all archaeological and palaeontological objects and meteorites are the property of the State, except such an archaeological or palaeontological object the private possession and ownership of which (a) was acquired not in contravention of ***section 12*** of the National Monuments Act, 1969 (Act No. 28 of 1969) or a law repealed by that Act; and thus, as part of mitigation measures it should be noted that, according to National Heritage Act No. 27 of 2004 that all activities that will involve digging or excavating the ground will require a permit from National Heritage Council of Namibia. Therefore, In order to prevent accidental damage to the archaeological landscape, including any potential sub-surface archaeological finds or features, the following mitigation strategies are proposed and recommended;

- If any archaeological material or human burials are uncovered during prospecting or exploration activities, then work in the immediate area should be halted, the find would need to be reported to the heritage authorities and may require inspection by an archaeologist.
- Buffer zones should be maintained around known significant archaeological, historical or cultural heritage sites as far as possible. Graves and areas with cultural significance are excluded from any development.
- A "No-Go-Area" should be put in place where there is evidence of sub-surface archaeological materials, archaeological site, historical, rock paintings, cave/rock shelter or past human dwellings. It can be a demarcation by fencing off or avoiding the site completely by not working closely or near the known site. The 'No-Go Option' might have a NEUTRAL impact significance.
- On-site personnel (s) and contractor crews must be sensitized to exercise and recognize "chance finds heritage" in the course of their work.
- During the prospecting and exploration works, it is important to take note and recognize any significant material being unearthed and making the correct judgment on which actions should be taken (*refer to CFP Appendix 1 below*).
- If there is a possibility of encountering or unearthing of archaeological materials, then it is better to change the layout design so as to avoid the destruction that can occur.

- Direct damage to archaeological or heritage sites should be avoided as far as possible and, where some damage to significant sites is unavoidable, scientific/historical data should be rescued.
- All ground works should be monitored and where any stratigraphic profiles in context with archaeological material are exposed, these should be recorded, photographed and coordinates taken.
- The footprint impact of the proposed prospecting and exploration activities should be kept to minimal to limit the possibility of encountering chance finds within the EPL boundaries.
- A landscape approach of the site management must consider culture and heritage features in the overall planning of exploration infrastructures within and beyond the licenses' / EPL boundaries.
- Subject to the recommendations herein made and the implementation of the mitigation measures, adoption of the project HMP/EMP should be complied.
- An archaeologist, Heritage specialist or a trained Site manager should be on-site to monitor all significant earth moving activities that may be implemented as part of the proposed project activities.
- When there is removal of topsoil and subsoil on the site for exploration purposes, the site should be monitored for subsurface archaeological materials by a qualified Archaeologist or Site manager.
- Show overall commitment and compliance by adapting "minimalistic or zero damage approach" throughout the exploration activities.
- In addition to these recommendations above, there should be a controlled movement of the people i.e. a contractor, exploration crews, equipment's, setting up of camps and everyone else involved in the prospecting and exploration activities. This is recommended to limit the proliferation of informal pathways, gully erosion and disturbance to surface and sub-surface artifacts such as stone tools and other buried materials, etc.
- There should be a controlled movements of heavy loads such as abnormal vehicles and kinds of heavy-duty machineries within the EPL. This means avoiding chances of crossing paths that may lead to the destruction of on and sub-surface archaeological materials

- It is essential that cognizance be taken of the larger historical landscape of the area to avoid the destruction of previously undetected heritage sites. Should any previously undetected heritage or archaeological resources be exposed or uncovered during exploration phases of the proposed project, these should immediately be reported to the heritage specialist or heritage authority (National Heritage Council of Namibia).
- The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in event significant heritage and culture features are discovered in the course of exploration works.
- Whoever is going to be in charge of mitigation and monitoring measures should have the authority to stop any exploration or construction activities that is in contravention with the National Heritage Act of 2004 and National Heritage Guidelines as well as the overall project EMP.

It should be taken into consideration that, according to **Part VI sub-section (1), (2)** or **(3)** A person who contravenes these provision commits an offence and is liable to a fine not exceeding N$100 000 or to imprisonment for a period not exceeding 5 years, or to both such fine and such imprisonment. A Project Proponent should heed to these recommendations and comply to the existing legislation and Act as reflected in this report.

17.3. Statement and reasoned opinion of the specialist

The overall impact of the proposed project is expected to be low and residual impacts can be managed to an acceptable level through the implementation of the recommended mitigations made in this report. This has to be in-conjunction with deliberately actions and informed decisions on Proponent's awareness and compliance to the proper procedures on how to protect and preserve the located archaeological and heritage resources as laid out in this report by the Author, and as required by the National Heritage Act, No 27 of 2004.

18. References

Environmental Management Act (7 of 2007) Government Notice 232 27th December 2007

Namibia's Environmental Assessment Policy (1995) for Sustainable Development and Environmental Conservation

Burial Place Ordinance 27 of 1966

Deane, J.G. (1995), The Structural Evolution of the Kombat deposits, Otavi Mountainland, *Communs geol. Surv*. Windhoek, Namibia, 10 (1995), 99-107

https://www.namibweb.com/usakos.

http://usakosheritageday.weebly.com/usakos-history.html

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

Kinahan, J. & Vogel, J.C. 1982. Recent copper working sites in the Khuiseb drainage, Namibia. South African Archaeological Bulletin 37:4415.

Kinahan, J. (2012) Archaeological Guidelines for Exploration & Mining in the Namib Desert

National Heritage Act 27 of 2004. 2004.Government Gazette.

Sampson, C. G. 1974. The Stone Age Archaeology of Southern Africa. New York & London: Academic Press Inc.

Appendix 1: Archaeological "Chance Finds Procedure"

This survey is based on surface indications alone, and it is therefore possible that sites or items of significance will be found by chance in the course of development work. Therefore, the intent of this Chance Find Procedure is to provide the construction and exploration crews with general guidelines for the appropriate response to the discovery of known, unknown or suspected archaeological materials, including human remains, during Project activities. While Chance Find Procedures are valuable, they are not a substitute for prior assessment and evaluation of archaeological resources. The objectives of these guidelines are to promote the preservation and proper management of heritage resources that are unexpectedly encountered during Project activities and to minimize disruption to construction activities and scheduling.

A step-by-step Chance Find Procedure is provided below for archaeological sites and accidental findings. Contacts information are as well provided in ***Appendix 1*** and the general Archaeological and Heritage Management Plan is set on ***Appendix 2***.

Scope:

The "chance finds" procedure covers the actions to be taken from the discovery of an archaeological site or item to its investigation and assessment by a trained archaeologist or other appropriately qualified person. This procedure is intended to ensure compliance with the 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 archaeological remains reported to the NHC are correctly identified in the field.

Project Manager or ECO/Site Manager/Supervisor must report the finding to the following competent authorities:

- **National Heritage Council of Namibia (061 244 375)**
- **National Museum (+264 61 276800),**
- **National Forensic Laboratory (+264 61 240461).**

Heritage Monitoring and Management Requirements

Throughout the prospecting and exploration phases of the proposed project, monitoring is necessary to ensure compliance with measures agreed upon in the recommended

mitigation as well as to assess how effective the mitigation measures are in protecting the values and significance of the heritage resources. This can be achieved through regular monitoring of the project site or random visits the compliance with measures outlined in the recommendation section are monitored, recorded, and reported. However, in principle, heritage monitoring and management should be conducted and implemented by an archaeologist/heritage specialist or trained personnel while other activities especially day to day monitoring can be done by Environmental Control Officer (ECO) or in some cases a trained Site manager can be responsible for this.

Site monitoring: As most heritage resources occur below surface, all earth-moving activities need to be routinely monitored in case of accidental discoveries. The greatest potential impacts are the initial soil removal and subsequent earthworks during prospecting/exploration or construction. The ECO should monitor all such activities daily. If any heritage resources are found, the chance finds procedure must be followed as outlined in **Appendix 1** and **2**.

Monitoring is generally only considered appropriate where changes are probable or likely, and where these changes could be significant and would require remedial or specific management measures. This process can be done in all stages of prospecting and exploration, and during the actual mining where more impact on archaeological and heritage resources are probable.

Appendix 1: Archaeological and Heritage Monitoring Measures

Table 17: Chance Find and Heritage Monitoring Measures

Area/Site	Archaeological/Heritage Aspect	Potential Impact	Mitigation Measures	Responsible Party	Method Statement required
Chance Find (Chance Archaeological and Heritage sites (Accidental discoveries)	General area where the proposed project is taking place (i.e. exploration or construction etc.) which may yield archaeological, cultural materials or human remains. This means that there are possibilities of encountering unknown archaeological sites during subsurface construction work which may disturb previously	Possible damage to previously unidentified Archaeological and heritage sites during exploration/construction phase. Unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant Archaeological sites. Loss of historic cultural landscape;	In situations where unpredicted impacts occur exploration/construction activities must be stopped and the heritage authority should be notified immediately. Where remedial action is warranted, minimize disruption in exploration or construction scheduling while recovering archaeological data. Where necessary,	Project Proponent-Contractor/ Exploration crews, Project Manager (PM) / Environmental Control Officer (ECO) or Site Manager, On-site / standby Archaeologist	Monitoring measures should be issued as instruction within the Project EMP. PM / ECO / Site Manager / Archaeologist Should monitor exploration work on sites where such development projects commences

Area/Site	Archaeological/Heritage Aspect	Potential Impact	Mitigation Measures	Responsible Party	Method Statement required
	unidentified chance finds.	Destruction of burial sites and associated graves (if any) Loss of aesthetic value due to construction work Loss of sense of place Loss of intangible heritage value due to change inland use.	Implement emergency measures to mitigate. Where burial sites are accidentally disturbed during construction, the affected area should be demarcated as 'no-go zone' by use of fencing during construction, and access there to by the construction team must be denied. Accidentally discovered burials in development context should be salvaged and rescued to safe sites as may be		within the project site.

Area/Site	Archaeological/Heritage Aspect	Potential Impact	Mitigation Measures	Responsible Party	Method Statement required
			directed by relevant heritage authority. The heritage officer responsible should secure relevant heritage and health authorities permits for possible relocation of affected graves accidentally encountered during construction work.		
Compliance Review	A review of archaeological and cultural heritage incidents, their impacts, mitigation used and success of mitigation should be conducted at a certain stage of the project. The review should be looking at mitigation measures in place, and ways of improvement if needed. This exercise can be done after every 6 months or whenever the Project Proponent see fit. The overall objective is to ensure a full compliance with relevant legislation especially Under Section 5 (4) of the National Heritage Act No. 27 of 2004, Chance Find Procedure, and the recommendations made by the Heritage Specialist.				

Appendix 2: Archaeological and Heritage Management Plan

Table 18: Management Plan

Area	Mitigation	Phase	Timeframe	Responsible party for implementation	Target	Performance Indicators (monitoring tool)
General project area more specifically the targeted areas and surrounding vicinity	Implement chance find procedures in case possible archaeological or heritage finds are uncovered or expected	Preconstruction and construction	Throughout the project (prospecting and exploration) and if the project will go to the next stage of mining then this management plan can still be used during the actual mining phase	Project Proponent, Contractors and Exploration crews on site	Ensure compliance with relevant legislation and recommendations from Author of this report, and National Heritage Act that aims to provide for the protection and conservation of places and objects of heritage significance	ECO Checklist/Report

Appendix 3: CV of a Specialist

Personal Information:

Name: Roland Mushi
Address: P.O. Box 19730, Omuthiya - Namibia
Mobile phones: (+264) 813332373 (+264) 853332373
Email: rolandmushi@gmail.com/ rolandm@edsnamibia.com
Nationality: Tanzanian
Residence Status: Namibian Domiciled
Sex: Male
Marital Status: Married
Driver's license: Valid (Category B and D)

Educational Qualifications:

- Graduated from the Institute of Resource Assessment-University of Dar-Es-Salaam in **Masters of Science** in **Natural Resources Assessment and Managemen**t, September 2007-November 2009

- Graduated from the University of Dar-Es-Salaam in **Bachelor of Arts (*Hons*) (History and Archaeology)** September 2004-June 2007

Key Qualification:

Area of expertise: Archaeology and Cultural Heritage Management, Historical studies, Anthropology and Ethnographic studies, Natural Resource Management, Environmental Assessments, Socio-Economic Livelihoods and Baseline Studies. Previously, he has worked full-time as a Research Technician at Gobabeb Research and Training Centre in the Central Namib Desert within Namib Naukluft Park, as well as Part-time Researcher for Namib Ecological Restoration and Monitoring Unit (NERMU) along Kuiseb, Khan and Swakop Rivers for Swakop Uranium Project. He is currently working as a full-time Archaeologist and Heritage Specialist, based in Windhoek, Namibia.

Field work and Project Experience

Roland has extensive fieldwork experience as both Researcher and Field Coordinator throughout the Central Namib parts, as well as north-western and southern parts of the country.

Short-course attended

- Geoheritage in Africa Online Short Course 20-24 September 2021, IGCP outreach and capacity building for African geoscientists: Linking geoheritage, artisanal mining and indigenous knowledge systems. This Course was conducted by University of the Witwatersrand, South Africa.

Employment records/Work Experience:

Excel Dynamic Solutions (Pty) Ltd from August, 2021 ***(Full-time)***
Position: Archaeologist and Heritage Specialist

Namibia Development Trust: Consultant, February – March 2021

- Assist with the development of minimum five (5) project proposals in line with the call for Proposals by the NILALEG Project for the Ruacana Landscape (Kunene and Omusati regions).

February, 2020 – March, and June, 2020 – July, 2020: Field Research Coordinator for Namib Ecological Restoration and Monitoring Unit (NERMU) at Gobabeb Research and Training Centre

September, 2019 - December 2019: Field Research Coordinator for Namib Ecological Restoration and Monitoring Unit (NERMU) at Gobabeb Research and Training Centre

July, 2019 – Research Assistant for Namib Ecological Restoration and Monitoring Unit (NERMU) at Gobabeb Research and Training Centre

March 2019 – May, 2019 Research Assistant for Namib Ecological Restoration and Monitoring Unit (NERMU) at Gobabeb Research and Training Centre.

From October 2018- December 2018 (Research Assistant) Namib Ecological Restoration and Monitoring Unit (NERMU) at Gobabeb Research and Training Centre.

From 2016 - 2018 (*Full-time employee*)
Research Technician and Social Scientist at Gobabeb Research and Training Centre (Namib Desert-Namibia)

From February 2012 to June, 2014: Research Consultant
Employer: Ideal Consulting Group Tanzania Ltd, Dar Es Salaam, Tanzania

From 2009 to December 2011: Researcher (Social Scientist)
Employer: East Africa Resource Group (EARG), Dar-Es-Salaam, Tanzania

Papers and Publications (Main and Co-Authorship)

- Frey M.M, Hase F., Blumenstock T., Dubravica D., Groß J., Göttsche F., Handjaba M., Amadhila P., **Mushi R.,** Morino I., Shiomi K., Sha M. K., Martine de Mazière, and Pollard D.F. (2021). Long-term column-averaged greenhouse gas observations using a COCCON spectrometer at the high surface albedo site Gobabeb, Namibia (*Published*)

- Rossingol, S., Napolitano, D., Giorio, C., **Mushi, R**., Maggs-Kolling, G., D'Anna, B., Coulomb, B., Buodenne, J., Piketh,S., Namwoonde, A., Forment, P., Herckes, P., Monod, A. (2017), Fog water chemical composition during the AEROCLO-sA campaign. (*Published*)

- Kaseke, K. F., Wang, L., Tian, C., Seely, M., Vogt, R., Wassenaar, T., **Mushi, R** (2017), Fog spatial distributions over the Central Namib Desert-An Isotope Approach. Department of Earth Sciences, Indiana University-Purdue University Indianapolis, Indianapolis. Published by Aerosol and Air Quality Research (ID AAQR-17-01-FOG-0062.R2)

- **Mushi, R. S.** (2011), Climate change and the Coastal Environment-Implications on Coastal Tourism in Bagamoyo District, Tanzania**,** LAMBERT Academic Publishing, Germany (Published).

- **Mushi, R. S.,** Kauzeni, A.S., Kangalawe, R.YM. (2009), Climate Change and Impacts on Coastal Tourism: A Case of Bagamoyo District. The paper was show cased, displayed and published in the book titled 'People's Perceptions and Community Responses to Climate Change and Variability. Selected Cases from Tanzania' in UNFCCC COP15 in Copenhagen, Denmark (7th -18th December, 2009).

- Mongi, H. J., Majule, A. E.**, Mushi, R. S.,** Andrew, B.**,** Ndesanjo, R. (2008), *Addressing Land Degradation in Tanzania: Contemporary issues related to policy and Strategies (published)*.

Some conferences and Workshop attended

- Attended the Past, Present and Future of Namibian Heritage Conference from 28th- 31st August 2018 Windhoek, Namibia.

- Attended a conference on Environmental Education under the theme "Innovative Strategies to develop peaceful co-existence with the endangered wildlife" held at B2Gold Otjikoto Nature Reserve from 3rd to 6th May 2018. The conference was convened by NEEN.

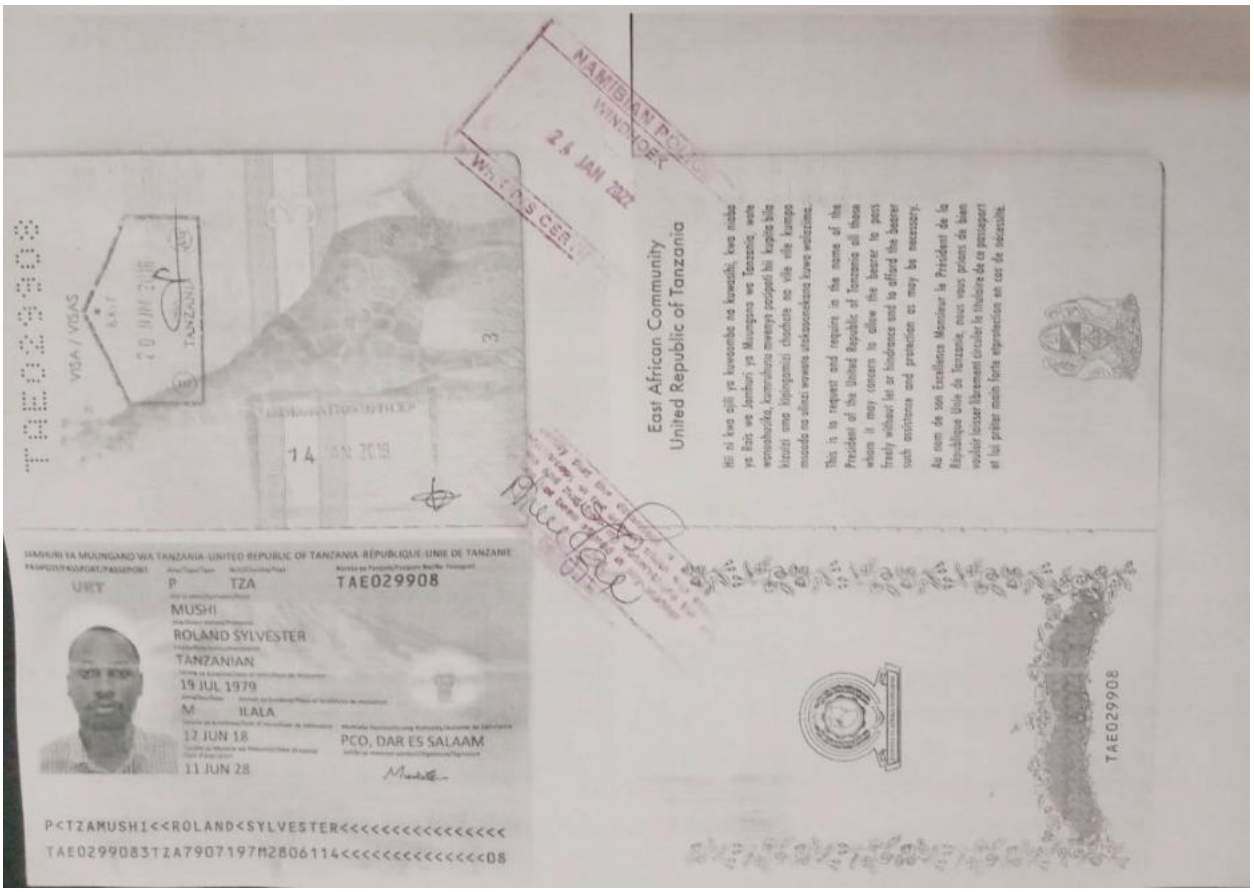
Language Skills

- Swahili (*mother tongue*)
- English (*fluent*)
- Oshiwambo (*beginner level*)
- German language (*little command*)

Membership in Professional Bodies

- Environmental Assessment Professionals of Namibia (EAPAN)-Registered as Lead Practitioner, Practitioner and Environmental Manager-Membership No. 179
- Museum Association of Namibia (MAN)
- South African Museums Association (SAMA)-Membership No. NCM 008
- Association of Southern African Professional Archaeologists (ASAPA)- Membership No. 480
- Namibian Environmental Education Network (NEEN)

Appendix 5: Certificates and Relevant Documents including ID and Certificate of Identity


TAE029908
VISA / VISAS
20 JUN 2018
TANZANIA
14 JAN 2019
NAMIBIAN POLICE
WINDHOEK
24 JAN 2022
WORCESTER
East African Community
United Republic of Tanzania
JAMHURI YA MUUNGANO WA TANZANIA · UNITED REPUBLIC OF TANZANIA · RÉPUBLIQUE-UNIE DE TANZANIE
UNT
P
TZA
TAE029908
MUSHI
ROLAND SYLVESTER
TANZANIAN
19 JUL 1979
M
ILALA
12 JUN 18
11 JUN 28
PCO, DAR ES SALAAM
P<TZAMUSHI<<ROLAND<SYLVESTER<<<<<<<<<<<<<<<<
TAE029908 3TZA7907197M2806114<<<<<<<<<<<<<<08
TAE029908

UNIVERSITY OF DAR ES SALAAM

This is to certify

that

Roland Sylvester Mushi

having satisfied the requirements for the award of the

MASTER OF SCIENCE IN NATURAL RESOURCES ASSESSMENT AND MANAGEMENT

was admitted to the degree at a congregation held in DAR ES SALAAM, on the *Twenty Eighth day of November, in the year Two thousand and nine*

NAMIBIAN POLICE
Omuthiv
07 FEB 2022

Vice Chancellor

Deputy Vice Chancellor
(Academic, Research and Consultancy)

MSC(NARAM)000043

UNIVERSITY OF DAR ES SALAAM

This is to certify

that

Roland Sylvester Mushi

having satisfied the requirements for the award of the

DEGREE OF
BACHELOR OF ARTS
(HISTORY AND ARCHAEOLOGY)

WITH HONOURS,

Second Class, Upper Division

was admitted to the degree at a congregation
held in DAR ES SALAAM, on the
Twenty Fourth day of November,
in the year Two thousand and seven

Vice Chancellor

Deputy Vice Chancellor
(Academic, Research and Consultancy)

BA(HA)000050

MINN0390-21001/01/0007

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Certificate of Attendance

Faculty of Engineering and the Built Environment

School of Mining Engineering

This is to certify that

Mushi Roland

from 20 September 2021 to 24 September 2021
has met the minimum requirements for attendance in

Linking geoheritage, artisanal mining and indigenous knowledge systems
(details overleaf)

Head, School of Mining Engineering

Dean, Faculty of Engineering and the Built Environment

Date of Issue: 10 June 2022