



A. Speiser Environmental Consultant CC
Reg. No.: CC 2003/0606

Alexandra Speiser
MSc MPhil

P.O. Box 40386 Windhoek Namibia Tel:+264 61 244 782 Cell: 081 124 5655 e-mail:amspeiser@yahoo.com

**ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR HOPE NAMIBIA MINERAL
EXPLORATION (PTY) LTD'S EXPLORATION ACTIVITIES ON EPL 6605, LOCATED EAST
OF THE NAMIB NAUKLUFT NATIONAL PARK – OVERLAPPING THE ERONGO AND
KHOMAS REGIONS**

OCTOBER 2021

Compiled for:

Hope Namibia Mineral Exploration (Pty) Ltd. (subsidiary of Bezant Resources PLC)
Private Bag 12012, Ausspannplatz
Windhoek
Namibia

Compiled by:

A. Speiser Environmental Consultants cc
PO Box 40386
Windhoek
Namibia

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ACRONYMS

ASEC	A. Speiser Environmental Consultants
BID	Background Information Document
CV	Curriculum Vitae
DD	Diamond drilling
GPS	Global Positioning System
EAP	Environmental Assessment Practitioner
EAPAN	Environmental Assessment Professionals Association of Namibia
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EM	Electromagnetic and magnetic geophysical survey
EMP	Environmental Management Plan
EPL	Exploration and Prospecting Licence
IAPS	Interested and Affected Parties
IUCN	International Union for Conservation of Nature
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
NNNP	Namib Naukluft National Park
RC	Reversed circulation drilling



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1 INTRODUCTION

Hope Namibia Mineral Exploration (Pty) Ltd holds Exclusive Prospecting Licence (EPL) 6605 which is owned 80% by Hepburn Resources Pty Ltd (a 100% owned subsidiary of Virgo Resources Limited) and 20% by Lovisa Mwandingi Haufiku, a Namibian Citizen. In June 2020, Bezant Resources PLC (Bezant) announced they had acquired 100% of Virgo Resources Limited.

Bezant has commissioned A. Speiser Environmental Consultants cc (ASEC) to undertake the Environmental Impact Assessment (EIA) process and to compile an Environmental Scoping (including impact assessment) Report and Environmental Management Plan (EMP) for their proposed exploration activities on EPL 6605. The EPL lies east of the Namib Naukluft National Park (NNNP), overlapping the Erongo and Khomas Regions (see **Figure 1**).

The EPL from the Ministry of Mines and Energy (MME) is attached in **Appendix A**. The EPL was granted for three years and will expiry on 25 September 2021. Bezant submitted the renewal to MME on 21 June 2021.

The EPL 6605 lies east of the Namib Naukluft National Park (NNNP), approximately 150 km east of Walvis Bay and 100 km south-west of Windhoek, overlapping the Erongo and Khomas Regions (see Figure 1). The EPL covers an area of ~ 578.5 hectares (ha). The EPL is granted to explore for base and rare metals, dimension stone, industrial minerals and precious metals. This project has the potential to contribute to Namibia's economy and **Table 1** lists the direct and indirect benefits that will arise should the exploration activities be given environmental clearance and commence shortly thereafter.

Table 1: Direct and indirect benefits arising from the exploration project.

Project Phase	Direct Benefits	Indirect Benefits
Exploration Project	<ul style="list-style-type: none">• Continued employment opportunities• Direct capital investment in order to determine and define mineral resources in Namibia• Stimulation of economic development (e.g. ongoing supply of materials and services to the exploration and drilling industry)• Continuing skills development	<ul style="list-style-type: none">• Expansion of exploration and drilling industry in the region and country• Inducement of additional investments• Maintenance of new long-term employment opportunities in sectors relying on exploration and drilling activities

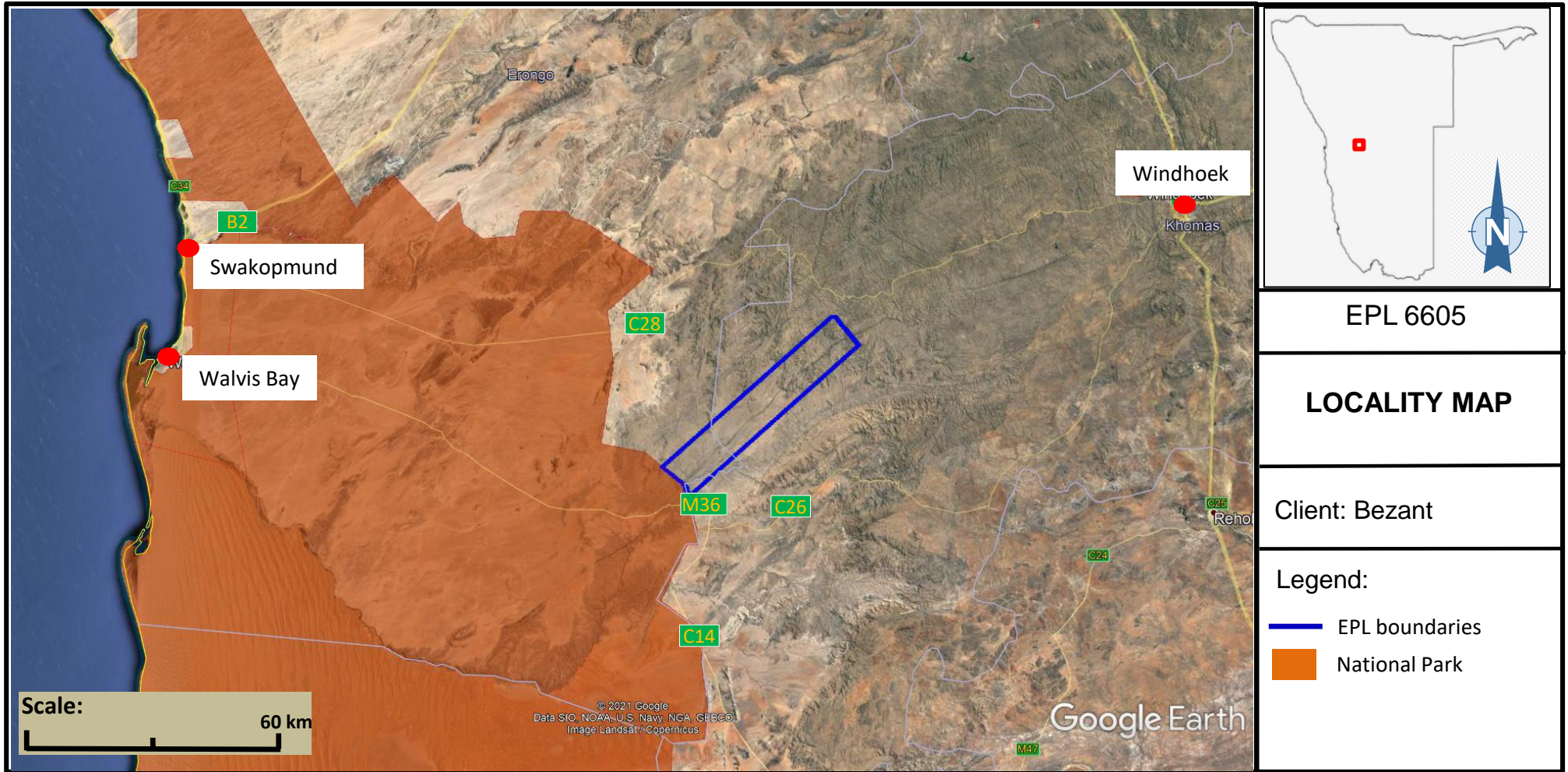


Figure 1: Location of the EPL 6605 (blue).

2 INTRODUCTION TO THE ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED EXPLORATION ACTIVITIES

Environmental Impact Assessments (EIAs) are regulated by the Ministry of Environment, Forestry and Tourism (MEFT) in terms of the Environmental Management Act, 7 of 2007. This Act was gazetted on 27 December 2007 (Government Gazette No. 3966). The List of Activities that may not be undertaken without an Environmental Clearance Certificate and the Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Government Gazette No. 4878) were promulgated on 18 January 2012.

Below is a summary of the activities as listed in the Environmental Regulations from 2012, which are relevant to the proposed exploration activities:

Mining and Quarrying Activities

3.1 The construction of facilities for any process or activities which requires a licence, right or other form of authorisation, and the renewal of a licence, right or other form of authorisation, in terms of the Minerals (Prospecting and Mining Act), 1992.

3.2 Other forms of mining or extraction of any natural resources whether regulated by law or not.

3.3 Resource extraction, manipulation, conservation and related activities.

2.1 EIA process for the proposed exploration activities on EPL 6605

The main purpose of this report is to provide information relating to Bezant's proposed exploration activities and to list the environmental aspects and impacts that are identified during the scoping process; to assess them; and to provide relevant management and mitigation measures to avoid or minimize the potential impacts (included in the Environmental Management Plan). A flora specialist desktop study was conducted by Ms Coleen Mannheimer. Dr. John Kinahan carried out the archaeology specialist study, which included a 5-day field investigation.

The EIA Scoping process and corresponding activities are outlined in **Table 2** below.

Table 2: EIA Scoping process.

Objectives	Corresponding activities
Scoping phase (including assessment of impacts) (July – November 2021)	
<ul style="list-style-type: none"> Identify interested and/or affected parties (IAPs) and involve them in the EIA (scoping) process through information sharing. List environmental issues associated with the project. Provide a description of the affected environment. 	<ul style="list-style-type: none"> Submission of Application Form No. 1 to MME and MEFT. Identify government authorities and IAPs and notify them of the project and EIA process. Email a Background Information Document (BID). IAP registration and initial comments

Objectives	Corresponding activities
<ul style="list-style-type: none"> Assessment of potential environmental impacts associated with the proposed project. Compile an EMP with mitigation measures. 	<p>period.</p> <ul style="list-style-type: none"> One to one meetings / telephone discussions with farm owners before, during and after the field visit by Mr. W. Petrick. Compilation of Scoping Report and EMP. Distribute Scoping Report and EMP to relevant authorities and IAPs for review. Forward finalised Scoping Report and EMP with IAPs comments to MME and MEFT for decision making.

2.3 Environmental Assessment Practitioner Team

ASEC is the independent firm of consultants appointed by Bazant to undertake the EIA process. Alexandra Speiser, the project manager, has more than 20 years of relevant experience in environmental management, conducting/managing EIAs, compiling EMPs and implementing EMPs and Environmental Management Systems. Alexandra has a Master Degree in Geology/Palaeontology and a Post-Master degree in Environmental Management. Alexandra is certified as a lead environmental practitioner and reviewer with the Environmental Assessment Professionals Association of Namibia (EAPAN). She is also member of the Chamber of Mines of Namibia and Chamber of Environment of Namibia.

Werner Petrick has more than twenty-two years of relevant experience in conducting/managing EIAs, compiling EMPs and implementing EMPs and Environmental Management Systems. Werner has a B. Eng (Civil) degree and a Master's degree in environmental management is certified as lead environmental practitioner and reviewer under the EAPAN.

The relevant curriculum vitae documentation is attached in **Appendix B**.

The environmental project team is outlined in **Table 3**.

Table 3: Environmental Project Team.

Team	Name	Designation	Tasks and roles	Company
Bezant	Quinton Hills Edward Slowey	Exploration Manager / Project proponent	Responsible for the interface between Bezant and the environmental team, and for ensuring implementation of the EIA / EMP outcomes.	Bezant

Team	Name	Designation	Tasks and roles	Company
Project management	Alexandra Speiser	Project Manager	Management of the process, team members and other stakeholders. Report compilation. Review	ASEC
	Werner Petrick	Project Management Assistant	Management of the process, team members and other stakeholders. Report review	Namisun
Specialist investigations	John Kinahan	Archaeologist	Conduct archaeological study	QRS
	Coleen Mannheimer	Botanist	Conduct desktop botanical study	Independent consultant

3 EIA PROCESS METHODOLOGY

3.1 Information collection

Various sources to identify the environmental issues associated with the exploration activities were used. The main sources of information for the preparation of this Scoping Report include:

- Project information and exploration activities were provided by Bezant
- Site visit of W. Petrick on 05 August 2021
- Site visit by Dr. J. Kinahan (archaeologist) between 14 – 17 September 2021
- Desktop study by C. Mannheimer
- Consultation with Interested and Affected Parties (IAPs) via email, one to one meetings
- Literature research

3.2 Scoping Report

The main purpose of this Scoping Report is to state which environmental aspects relating to the exploration activities might have an impact on the environment, to assess them and to set out management and mitigation measures to avoid or reduce these impacts. **Table 4** outlines the Scoping Report requirements contained in Section 8 of the Environmental Impact Assessment Regulations promulgated in February 2012 under the Environmental Management Act, 7 of 2007. The table includes reference to the relevant sections in the report.

Table 4: Scoping report requirements stipulated in the EIA regulation.

Requirements for a Scoping Report in terms of the February 2012 regulations	Reference in report
(a) the curriculum vitae of the EAP who prepared the report;	Appendix B
(b) a description of the exploration activity;	Section 7

Requirements for a Scoping Report in terms of the February 2012 regulations	Reference in report
(c) a description of the site on which the activity is undertaken and the location of the activity on the site	Section 1 & Section 7 Appendix A
(d) a description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed listed activity;	Sections 8
(e) an identification of laws and guidelines that have been considered in the preparation of the Scoping Report;	Section 5
(f) details of the public consultation process conducted in terms of regulation 7(1) in connection with the application, including - (i) the steps that were taken to notify potentially interested and affected parties of the proposed application; (ii) proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the proposed application have been displayed, placed or given; (iii) a list of all persons, organisations and organs of state that were registered in terms of regulation 22 as interested and affected parties in relation to the application; and (iv) a summary of the issues raised by interested and affected parties, the date of receipt of and the response of the EAP to those issues;	Section 4, Appendices C, D & E
(g) a description of the need and desirability of the proposed listed activity and any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives have on the environment and on the community that may be affected by the activity;	Sections 1 & 6
(h) a description and assessment of the significance of any significant effects, including cumulative effects, that may occur as a result of the undertaking of the activity or identified alternatives or as a result of any construction, erection or decommissioning associated with the undertaking of the proposed listed activity;	Section 9
(i) terms of reference for the detailed assessment; and	
(j) a draft management plan, which includes - (i) information on any proposed management, mitigation, protection or remedial measures to be undertaken to address the effects on the environment that have been identified including objectives in respect of the rehabilitation of the environment and closure; (ii) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of the activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and (iii) a description of the manner in which the applicant intends to modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation remedy the cause of pollution or degradation and migration of pollutants.	Appendix H

4 PUBLIC PARTICIPATION PROCESS

The public participation process for the exploration activities aimed to ensure that all Interested and Affected Parties (IAPs) and/or organisations that might be affected by the proposed exploration activities were informed of the project and could register their views and concerns. By consulting with

IAPs the range of environmental issues to be considered in the Scoping Report (including the assessment of impacts) has been given specific context and focus.

Included below is a summary of the people consulted, the process that was followed, and the issues that were identified.

4.1 Stakeholders

Table 5 provides a list of stakeholders to whom the Background Information Document (BID) has been directly emailed. Other individuals contacted the EIA team to register as an IAP after the newspaper adverts had been placed on 23 and 30 July 2021 (see **Table 5**). The detailed list of IAPs can be found in **Appendix E**.

Table 5: Stakeholder list

Organisation
Erongo Regional Council
Ministry of Mines & Energy
MEFT
The Chamber of Mines of Namibia
Namibian Chamber of Environment
Affected landowners
IAP
NBRI
Dip. Entrepreneurship and New Venture Management Co-Founder & Managing Director of Open Innovation Investment CC Chairperson of Open Foundation of Hope of the People (OFHP)

4.2 Steps in the consultation process

Table 6 sets out the steps in the consultation process that were conducted during the EIA Scoping process:

Table 6: Consultation process with IAPs.

TASK	DESCRIPTION	DATE
Notification - regulatory authorities and IAPs		
IAP identification	See Table 5 and a full list in Appendix XX	July 2021
Newspaper Advertisements	Block advertisements were placed as follows: <ul style="list-style-type: none"> • Allgemeine Zeitung • Republikein • Namibian Sun 	23 & 30 July 2021

TASK	DESCRIPTION	DATE
	Copies of the advertisements are attached in Appendix C .	
Distribution of background information document (BID)	<p>BIDs were emailed to I&APs listed in Table 5 on 23 July 2021. Hard copies of the BID were also provided to Farm Owners which the Environmental Team met with.</p> <p>The purpose of the BID was to inform IAPs about the exploration activities, the EIA (Scoping) process being followed, environmental impacts and means of providing input to the EIA (Scoping) process. Attached to the BID was a registration and response form, which provided IAPs with an opportunity to submit their names, contact details and comments on the project.</p> <p>A copy of the BID is attached in Appendix D.</p>	04 February 2019
Site notices	A site notice was prepared and printed. However, during the site visit the Environmental Team could not find a suitable location to place the Notice that would add any value to the process. Rather, the Environmental Team ensured that the relevant landowners were informed through alternative means as further described in this table	-
Focus Group Meetings	Various one to one meetings (informal) and telephone discussions with farmers were held during and after the EIA registration period. Reference was made to the BID during these discussions / meetings. A summary of the (informal) meetings and discussions held by the Environmental Team is presented in Appendix E .	July - August 2021
Comments		
Comments and Responses	See Table 7	July – August 2021
Review of draft Scoping Report		
IAPs and authorities (excluding MEFT) review of Scoping Report and EMP	<p>The Scoping Report has been distributed to all IAPs that are registered on the IAP database via e-mail.</p> <p>Authorities and IAPs have 21 working days to review the Scoping Report and submit comments in writing to A. Speiser. The closing date for comments is 29 October 2021.</p>	October 2021

TASK	DESCRIPTION	DATE
MEFT review of Scoping Report and EMP	A copy of the final Scoping Report, including authority and IAP review comments, will be delivered to MME and MEFT on completion of the public review process, for their review and decision.	November 2021

4.3 Summary of issues raised

Table 7 and Error! Reference source not found. below summaries the comments received (though e-mail) and the responses. As only a few comments were received no separate Issue and Response document has been compiled. The original emails can be obtained from ASEC. A summary of the farmers contacted and the issues raised are included in **Appendix E**.

Table 7: Issues and comments received after the newspaper advertisements.

Issues / Comments	Raised by	Responses
<p>The process should be sustainable to ensure that our natural beauty of Namibia, specifically in the Namib Naukluft park, be preserved for the future of our generations.</p> <p>Ensure that local people in the area surrounding should understand the process and future benefit it will bring to the region.</p> <p>If there is any unskilled work please make use of the local community from the region.</p>	Kennedy V. Kandjii:	<p>The EIA process has addressed this.</p> <p>EIA process explained in the EIA report.</p> <p>Will be addressed in the EMP.</p>
<p>What exactly is planned for the exploration activities?</p>	Ms Tromp	<p>Please refer to section 7 for a description of the proposed exploration activities.</p>
<p>Received information about historic exploration activities (not specific to EPL 6605) that were not conducted very well and the exploration company made a mess and did not properly rehabilitate.</p>		<p>Comment noted.</p> <p>However, an EIA process needs to be undertaken for the proposed exploration programme by (this EIA process / report) and the potential impacts assessed. An EMP is prepared on the basis of the assessment and Bezant must adhere to these commitments (see Appendix H).</p>
<p>Very limited groundwater is available. it is unlikely that Groundwater will be available for the proposed exploration activities.</p>	Various landowners (Farms on	<p>This has been noted and the client needs to discuss access to water for drilling with the</p>

Issues / Comments	Raised by	Responses
<p>Concerned about access to the farm and the exploration team that would move around on the farm. There could be security issues and there is game that could be poached.</p>	<p>which the target areas are located – refer to Figure 2):</p>	<p>respective farm owners.</p> <p>Exploration team members IDs need to be provided to the farm owners. Working hours will be from sunrise to sunset, if not otherwise agreed with the farm owner.</p> <p>Accommodation needs to be discussed with the farm owner.</p>
<p>Animals (i.e .Oryx) move though the farm and specifically near the target area. Where will the exploration Team stay? If there are people moving in this area during the night time, it might spook the oryx away.</p>	<p>Mr. W Kessler (Farm Aros)</p>	<p>Accommodation needs to be discussed with the farm owner. Working hours will be from sunrise to sunset, if not otherwise agreed with the farm owner.</p>
<p>The BID states that the main access to the target areas will be via the M36 and C26 Roads. This cannot be. The target areas can only be access via the D1982 road.</p>		<p>Thank you for this comment. This is corrected in the Scoping Report (see section 7.6).</p>
<p>Once the start mining in this area, what will the benefits be to us as the land owners?</p>	<p>Ms J Groenewald</p>	<p>This EIA process and Scoping Report relates to the proposed exploration activities only. Therefore, no mining activities are yet proposed. Depending the exploration results and further feasibilities studies, Bezant might apply for a mining licence in future. However, this entails another EIA process where all the potential mining related activities need to be identified and assessed.</p>

5 LEGAL AND POLICY REQUIREMENTS

The Republic of Namibia has five tiers of law and a number of policies relevant to environmental assessment and protection, which includes:

- The Constitution.
- Statutory law.
- Common law.
- Customary law.
- International law.

Key policies currently in force include:

- The EIA Policy (1995).
- Namibia's Environmental Assessment Policy for Sustainable Development and Environmental Conservation (1994).

As the main source of legislation, the Constitution of the Republic of Namibia (1990) makes provision for the creation and enforcement of applicable legislation. In this context and in accordance with its constitution, Namibia has passed numerous laws intended to protect the natural environment and mitigate against adverse environmental impacts.

The management and regulation of mining activities falls within the jurisdiction of the MME (Directorate of Mines). The environmental regulations are guided and implemented by the DEA within the MEFT.

5.1 Applicable laws and policies

In the context of the proposed exploration activities, there are several laws and policies currently applicable. They are reflected in Error! Reference source not found..

Table 8: List of laws applicable to the EIA.

YEAR	NAME	Natural Resource Use (energy & water)	Emissions to air (fumes, dust & odours)	Emissions to land (non-hazardous & hazardous)	Emissions to water / sea	Noise	Visual	Traffic	Impact on Land use	Impact on biodiversity	Impact on Archaeology	Socio-economic	3 rd Party Safety & Health	Other
1956	Water Act, 1956 (No. 54 of 1956), as amended	X										X		
1969	National Monuments Act 28 of 1969										X			
1969	Soil Conservation Act	X			X				X					
1974	Hazardous Substance Ordinance, No. 14 of 1974													X
1975	Nature Conservation Ordinance 14 of 1975	X			X					X	X			
1976	Atmospheric Pollution Prevention Ordinance 11 of 1976		X											
1990	The Constitution of the Republic of Namibia of 1990	X	X	X	X	X	X	X	X	X	X	X	X	
1990	Petroleum Products and Energy Act, No. 13 of 1990		X	X	X					X			X	X
1990	Nature Conservation General Amendment Act 1990	X			X					X	X			

YEAR	NAME	Natural Resource Use (energy & water)	Emissions to air (fumes, dust & odours)	Emissions to land (non-hazardous & hazardous)	Emissions to water / sea	Noise	Visual	Traffic	Impact on Land use	Impact on biodiversity	Impact on Archaeology	Socio-economic	3 rd Party Safety & Health	Other
1992	The Minerals (Prospecting and Mining) Act 33 of 1992	X	X	X	X					X				
1996	Nature Conservation Amendment Act 5;	X			X					X	X			
2001	The Forestry Act 12 of 2001	X							X	X				
2001	The Wildlife and Protected Areas Management Bill									X				
2003	Pollution Control and Waste Management Bill (3rd Draft September 2003)		X	X	X	X								
2004	National Heritage Act 27 of 2004										X		X	
2007	Labour Act, 2007 (No. 11 of 2007)											X		
2007	Environmental Management, Act 7 of 2007	X	X	X	X	X	X	X	X	X	X	X	X	
2012	Regulations promulgated in terms of the Environmental	X	X	X	X	X	X	X	X	X	X	X	X	X

YEAR	NAME	Natural Resource Use (energy & water)	Emissions to air (fumes, dust & odours)	Emissions to land (non-hazardous & hazardous)	Emissions to water / sea	Noise	Visual	Traffic	Impact on Land use	Impact on biodiversity	Impact on Archaeology	Socio-economic	3 rd Party Safety & Health	Other
	Management, Act 7 of 2007													
2017	Nature Conservation Amendment Act 3	X			X					X	X			

5.2 International treaties and protocols

The following International treaties and protocols have been ratified by the Namibian Government:

- Convention on International Trade and Endangered Species of Wild Fauna and Flora (CITES) (1973)
- Vienna Convention for the Protection of the Ozone Layer (1985)
- Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
- Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal (1989)
- Convention on Biological Diversity (1992)
- United Nations Framework Convention on Climate Change (1992)
- Kyoto Protocol on the Framework Convention on Climate Change (1998)
- World Heritage Convention (1972)
- Convention to Combat Desertification (1994)
- Stockholm Convention on Persistent Organic Pollutants (2001)

5.3 Permits and other requirements

As stipulated in the Environmental Impact Assessment Regulations, No.30 of 2012, the Environmental Clearance Certificate (ECC) needs to be obtained from the Ministry of Environment, Forestry and Tourism (MEFT) before the commencement of the Project.

Additionally Bezant needs to obtain the following permits:

- Water abstraction permit, should any existing or new borehole be utilised for water during diamond drilling.
- Bezant needs to put landowner compensation agreements in place before accessing any areas of the EPL.

6 DESIRABILITY AND ALTERNATIVES

The current land use of the EPL 6605 area is largely farming with wildlife. Additionally some of the farms are catering for tourism accommodation and activities, e.g. hiking, game drives, stargazing, etc. Hunting of certain game species is also conducted on some of the farms in the EPL.

The no-go option entails that no further activities are undertaken on the EPL and upon expiry it will revert back to the Ministry of Mines and Energy. Should this happen, the economic and social growth associated with the potential resource will not reach fruition, and Namibian economy will fail to benefit from a potential mineral resource. The advantage of this option would be that no exploration activities would take place on public land and will not negatively impact on the environment and other land users.

Two different drilling options exist (see **section 7.1.2**). With diamond core drilling greater depths can be achieved. This is a form of 'wet drilling' where core samples are delivered to the surface, which provides an idea of the rock conditions that can be expected below ground. This may be a more difficult form of drilling to achieve due to the fact that water is required, which will have to be abstracted from the ground and likely transported to site. As mentioned by most of the farm owners during the consultation, groundwater is scarce in the area. This might prove it difficult for Bezant to source water during any diamond drilling programmes.

Percussion drilling is a relatively cheaper and faster option, compared to the above mentioned. However, it is considered to be less accurate, as rock samples are returned to the surface as powder or small cuttings and the below ground rock condition cannot be ascertained. This type of drilling can however also provide an indication of the mineralisation (within specific limits/range).

7 PROPOSED EXPLORATION ACTIVITIES

7.1 Proposed exploration activities on EPL 6605

The EPL is granted to explore for base and rare metals, dimension stone, industrial minerals and precious metals. Bezant plans to concentrate on exploration for 'volcanogenic massive sulfide' (VMS) style copper-gold-silver mineralisation deposits. Currently, there are no known deposits in this EPL area, only prospects.

The target areas for exploration are historic copper prospects. The two north-easternmost areas are part of the 'Aros Prospect area'; and the two south-westernmost areas are part of the 'Niedersachsen Prospect area'. The four target areas cover the following approximate areas, respectively (refer to **Figure 2**):

- Target area 1 – ~ 385 ha.
- Target area 2 – ~ 101 ha.
- Target area 3 – ~ 134 ha.
- Target area 4 – ~ 258 ha.

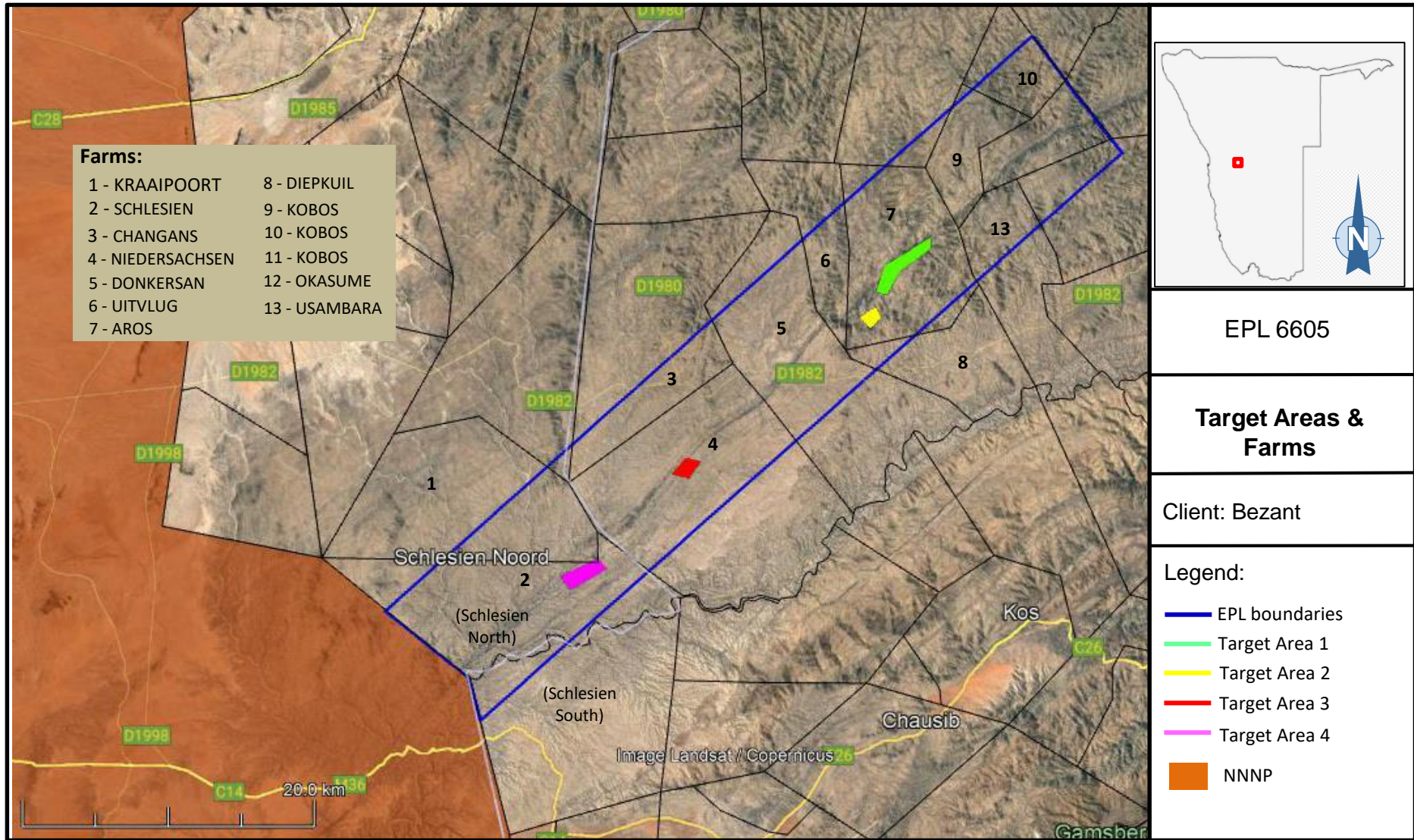


Figure 2: Main prospect areas of EPL 6605.

7.1.1 Non-invasive exploration phase

Bezant proposes the following non-invasive exploration activities.

Mapping

Review geological maps of the area and onsite ground traverses and observations will be conducted. Mapping will be conducted on foot and only existing tracks will be used (as far as possible) to access the different target areas within the EPL.

Sampling of rock chips

Small samples of rock chips will be collected for further analysis.

Ground magnetic and electromagnetic geophysical surveys

Ground geophysical surveys would be carried out using sensors mounted on vehicles or carried by staff.

7.1.2 Invasive exploration phase: drilling, sampling and analysis phase

Depending on the results from the non-invasive exploration phase drilling will commence on defined target areas.

The most commonly used drilling techniques are Reverse Circulation Drilling (RC) or Diamond Drilling. The RC drilling is described below:

Reverse Circulation (RC) Drilling

The drilling mechanism is a pneumatic reciprocating piston known as a "hammer" driving a tungsten-steel drill bit. RC drilling ideally produces dry rock chips, as large air compressors dry the rock out ahead of the advancing drill bit. The drilling rigs, compressor and generators used for RC drilling are mounted on trucks suitable for most terrains. Drill pads are kept to a minimum size and the working area is clearly demarcated. Where necessary, sumps are dug into the ground to hold the water which might be encountered during drilling, as RC drilling does not need water. Fuel to power the drill rigs is brought to the site in drums or in a small truck. The percussion chip samples are funneled through a cyclone into 1m x 1m plastic bags. Smaller geological samples are taken from these bags for analysis. It is also less costly than diamond coring.

Diamond-core Drilling

Diamond core drilling uses an annular diamond-impregnated drill bit attached to the end of hollow drill rods to cut a cylindrical core of solid rock. Holes within the bit allow water to be delivered to the cutting face. This provides three essential functions — lubrication, cooling, and removal of drill cuttings from the hole. Diamond drilling is much slower than reverse circulation (RC) drilling due to the hardness of the ground being drilled. Drilling of 100 to 1000 metres is common and at these depths, ground is mainly hard rock.

A typical drilling pad/area will consist of a drill-rig, an area where the drill core and geological samples can be stored and a storage area for drill equipment, fuel and lubricants. This area is cordoned off and off-limits to those not part of the exploration team. The drilling pad/area is usually cleared and levelled and is approximately 12 m x 12 m. This will not be the case in the Namib

environment where no clearing is required. Locations for drilling should be relocated if a sensitive habitats, e.g. big washes or rocky outcrops are encountered. This is specified in the EMP.

7.2 Infrastructure, workforce and accommodation

Staff and consultants (geophysicists, technicians, etc.) will be either accommodated on one of the guest farms in the area or a camp will be set up after consultation (and agreement) with the respective farmer. Existing gravel access roads will be used as far as possible. Solid waste will be removed off site and taken to the Walvis Bay or Windhoek approved landfill sites. Chemical toilets will be used at the drill sites. Diesel power generation will be used. Temporary storage areas for drilling materials, machines etc. may be necessary close to the drill rig. Security might be supplied on a 24 hour basis while drilling progresses.

Clearing of vegetation at the planned drill sites may be necessary but attempts to avoid this will be made. Where possible, stockpiling of top soil for rehabilitation at a later stage will be undertaken. Necessary landscaping of exploration areas will be undertaken upon completion of each phase of exploration.

7.2.1 Non-invasive exploration phase

Vehicles:

2 4x4 vehicles.

Workforce:

- 1 geologist to supervise mapping and rockchip sampling.
- 1 experienced Geophysicist or Geophysical Technician/Project Manager to supervise the survey operations performs quality control of the data and to assist in arranging the survey logistics and field operations.
- 1 Geophysical Operator to maintain and operate the geophysical instruments.
- 2 – 4 semi-skilled / unskilled workers to help with rockchip sampling and the geophysical survey setup

Accommodation:

All people on site will either accommodated at one of the nearby guest farms or will establish a camp after consultation with the farm owner.

7.2.2 Invasive phase

Vehicles:

Max. 3 4x4 vehicle, 1 drill rig, 1 support truck, 1 water truck

Workforce:

- 1 geologist to supervise the drilling
- 4 Geo-technicians

- 2 – 4 semi-skilled / unskilled workers
- Max. 8 people operating the drill rig.

Accommodation:

The drill crew and one geologist will be either accommodated at one of the nearby guest farms or will establish a camp after consultation with the farm owner.

7.3 Fuel supply and storage

Diesel will be the main consumable and will be required for the generators as well as the vehicles used during the exploration activities. Diesel to power the drill rig will be brought to the site in drums or in a small truck.

7.4 Water

The supply of water for the diamond drilling is crucial. As this drilling method needs as much as 10-15m³ per day, two options for water sourcing are to be considered:

- Use an existing borehole and install a submersible pump to access the saline water known to be present in this area; or
- Drilling of a new water borehole for the drilling purpose.

These options need to be discussed with affected farmer.

7.5 Waste manage and rehabilitation

All waste generated during the exploration activities will be contained and removed from site on a weekly basis. Drip trays will be placed under all stationery vehicles and machinery, including the drilling equipment. Any oil spill will be scooped into bags and taken to a permitted disposal site.

Once a drilling site has been established, a portable toilet will be placed onsite to ensure that sewage is contained and disposed of appropriately.

The affected areas will be rehabilitated on an on-going basis and rehabilitation aspects will be clearly divided between the drilling company and Bezant. This will be set out in the EMP. The aim will be to avoid as much as possible any disturbance of the environment as rehabilitation of areas to its natural environment is always difficult.

7.6 Access routes

Existing access routes and roads will be used during the exploration activities, as far as possible. The main access to the target areas will be via the D1982 Road (see **Figure 2**). In liaison with landowners, local two-track roads will be used to access more specific target areas.

During the archaeological survey it became obvious that the four exploration target areas while relatively small in extent are difficult of access having only rough farm tracks leading into their near vicinity.

8 DESCRIPTION OF THE CURRENT ENVIRONMENT

This chapter provides a general overview of the current baseline conditions associated with the proposed EPL area, focusing specifically on the proposed target areas for future exploration by Bezant (refer to **section 7.1**).

The information presented in the section below was derived from the following sources:

- Visual observations during a site visit of the general area on the EPL by Werner Petrick on 05 August 2021.
- Atlas of Namibia (Mendelsohn *et al*, 2002).
- Weather Atlas (www.weather-atlas.com).
- Wikipedia.
- Google Earth.
- Environmental specialist reports:
 - Specialist Vegetation study for the proposed exploration activities on EPL 6605 (Bezant Project) (Mannheimer, July 2021) – see **Appendix F**.
 - Archaeology Specialist Study including a site visit (Dr. John Kinahan, September 2021) – see **Appendix G**.
- Consultation with farm owners.

8.1 Landscape

The EPL lies in the western reaches of the Khomas Hochland, which forms part of the Namibian section of the Great Escarpment of southern Africa. It largely falls into the Semi-desert and Savanna Transition zone (Escarpment) of Giess (1998), impinging slightly on his Highland Savanna zone in the north-east of the EPL. The most recent vegetation survey of the Khomas Hochland (Strohbach 2021), designates the area as the Pre-Namib and Escarpment Zone, which is dissected by several ephemeral watercourses, such as the Kuiseb River, with well-developed riparian zones that are, to a considerable extent, formed by protected trees, such as *Acacia erioloba*, *Ziziphus mucronata*, *Faidherbia albida* and *Euclea pseudebenus*.

These zones correlate largely with the Western-Central Escarpment and Inselbergs and Western Highlands of Mendelsohn *et al* (2002), who regard grazing availability there as low to medium, plant diversity as medium and plant endemism as medium.

8.2 Climate

8.2.1 Temperature

Two farms on which EPL 6605 is located are part of the weather atlas (www.weather-atlas.com) – Schlesien Noord, which is located in the western part of the EPL and Kobos, which is situated in the eastern part of the EPL (see **Figure 3**). The average temperature rises from the west to the east over the EPL area. The warmest month on Farm Schlesien Noord is March (23.5°C) and on Farm Kobos is December (29.4°C). The coldest months on Farm Schlesien Noord are August/September (14.0°C), while temperatures can get as cold as 6.0°C on Farm Kobos in July.

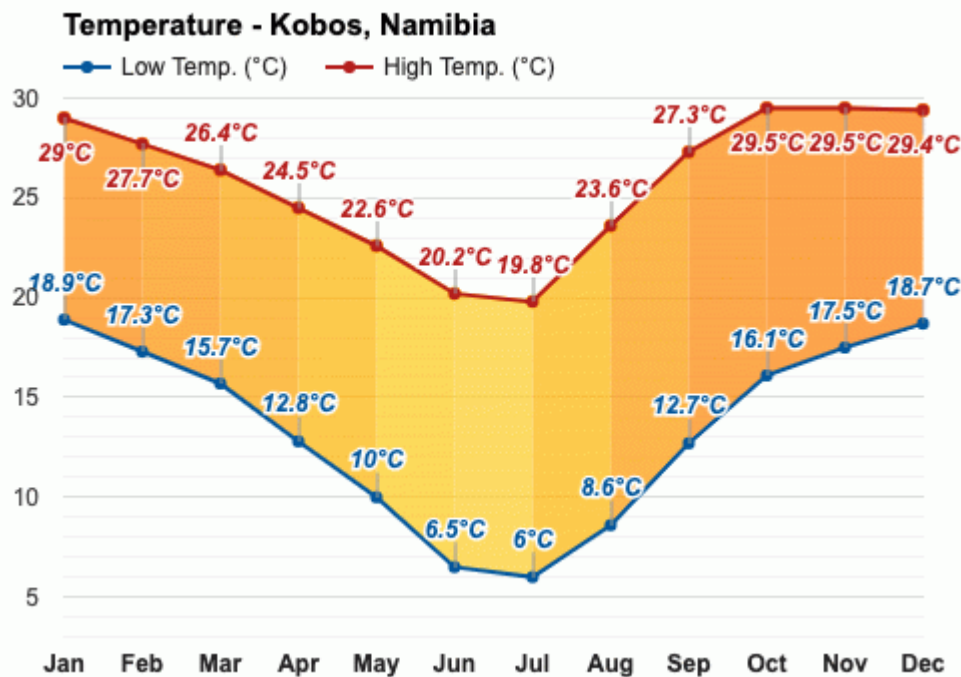
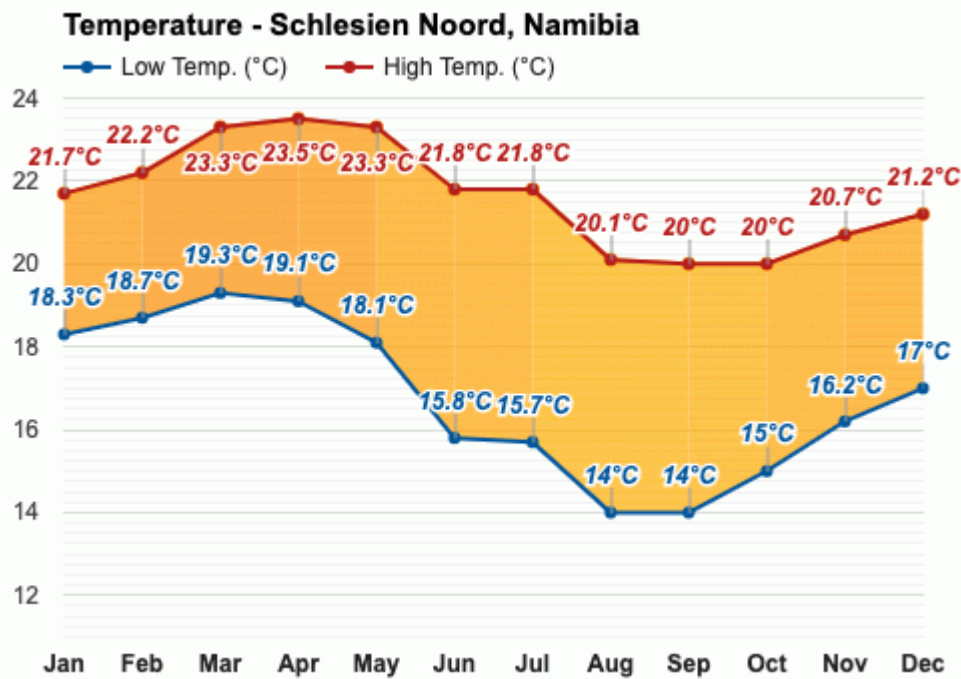


Figure 3: Average Temperatures at Farms Schlesien Noord and Kobos (www.weather-atlas.com).

According to Mendelsohn et al. 2002, average daily temperatures vary between a minimum of 10 to 6° C in the coldest month and a maximum of 32° C in the warmest month in the area.

8.2.2 Rainfall

Rainfall in the area varies between 150mm to 250mm (Mendelsohn et al. 2002).

Monthly averages at Farm Schlesien Noord and Kobos, according to the Weather Atlas (www.weather-atlas.com), are presented in **Figure 4**. The rainfall increases to the east and the annual rainfall on farm Schlesien Noord lies around 43mm, while the annual rainfall at Farm kobos lies at 300mm. Evaporation is high, between 1900 to 2300 mm/annum on average.

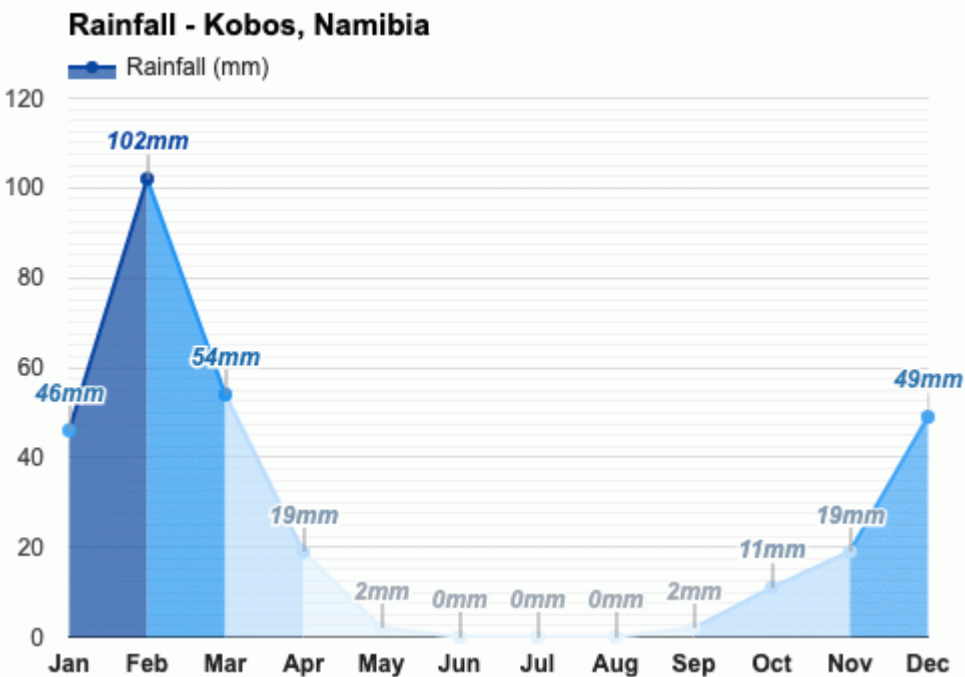
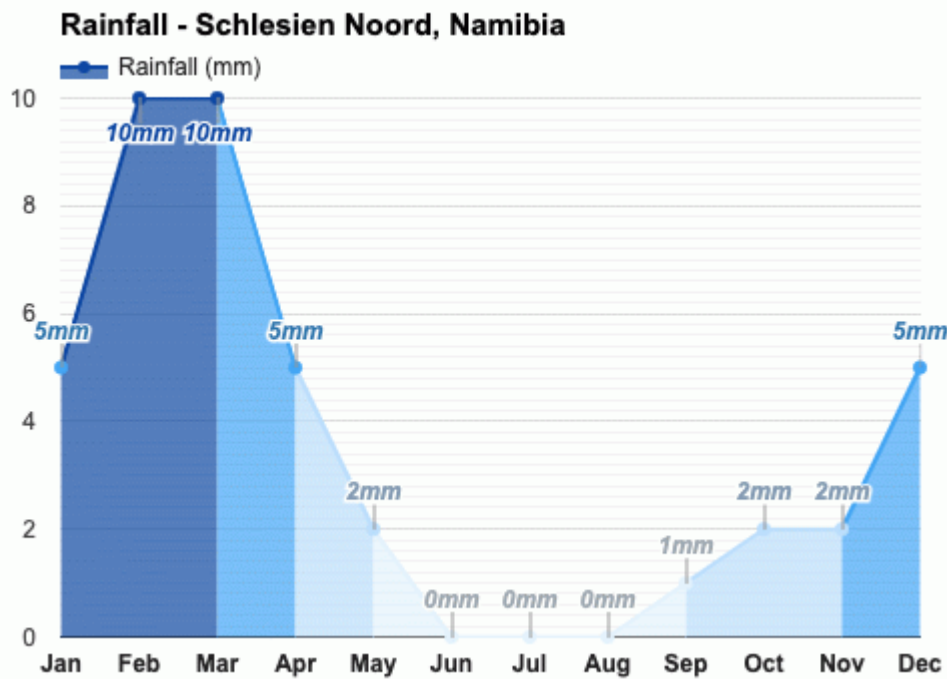


Figure 4: Average Rain data at Farms Schlesien Noord and Kobos (www.weather-atlas.com).

8.2.3 Wind

Southerly, westerly and south-westerly winds are prevalent, and are usually strongest between late afternoon and early evening (Mendelsohn *et al.* 2002).

8.3 Soils

The area covered by EPL 6605 is characterised by surficial quaternary sand and gravel overlying the Swakop Group of the Damara Supergroup. The area is dominated by massive mica schists of the Kuiseb Formation of the Pan-African Damara Orogen.

8.4 Biodiversity

8.4.1 Habitats in the project area

Based on literature, the Google Earth satellite image (Imagery 21.20.2014) and personal observations from Ms C. Mannheimer, the following three general habitats can be distinguished in the study area:

Large and small drainage lines

The area as a whole drains towards the Kuiseb River. The drainage lines vary in size, with several very substantial ones present, particularly in Target area 1. Of particular concern in these are the riparian fringes, which carry numerous protected trees.

Sensitivity:

Small drainage lines: Low

Medium and large drainage lines: Low to medium

Providing that collateral damage is strictly controlled the species in the ephemeral drainage lines will likely be little affected by the exploration program.

Low gravelly and rocky foothills (including Target Areas 3 and 4 - Niedersachsen and Schlesien prospect area)

More than half of the EPL consists of relatively low-lying and sparsely vegetated hill that form an undulating terrain. No species of high concern occurs in this habitat. Although endemic and/or protected species, including *Aloe hereroensis*, *Commiphora saxicola*, *C. virgata* and several endemic and near-endemic herbs and grasses are highly likely to occur here, most of them are relatively widespread and/or common, and providing care is taken to restrict collateral damage the project is unlikely to result in the loss of sufficient individuals so as to affect the conservation status of any species.

Sensitivity: Low to medium

Higher altitude hills and rocky koppies (including Target Areas 1 and 2 – Aros prospect area)

The north-eastern part of the EPL is higher-lying, with far steeper koppies, ridges and slopes, with varying aspects, and is deeply incised and drained by ephemeral water courses. Due to niche diversity the number of species that occurs here is likely to be far higher than in the foothills, and is likely to include many of the endemic, near-endemic and/or protected species that have been listed in Table 1, as well as a proportion of other such species not yet recorded for the area. However, because the exploration area is only a small proportion of the EPL, and most of the species concerned are relatively widespread and/or common, providing care is taken to restrict collateral damage (especially tracks) the project is unlikely to result in the loss of sufficient individuals so as to affect the conservation status of any species.

Sensitivity: Low to Medium

8.4.2 Vegetation - Species diversity

Despite almost 1000 Namibian indigenous plant species being known to occur in the Khomas Hochland, recorded indigenous plant diversity in the general vicinity of the study is not very high, at 257 (**Appendix A of Appendix F**). This is likely due to a lower habitat and niche diversity as a result of the absence of the high-lying plains and very high mountain slopes and peaks that are found further east. Niche diversity is credited for the high number of endemic flora and fauna in the Khomas Hochland as a whole (Irish in Mannheimer 2012).

Endemics and protected species

Twenty-six endemic, 17 near-endemic and 20 protected species (of which 15 are trees and 5 are succulents) have been recorded in the general vicinity of the study area. **Table 1 of Appendix F** provides an annotated list of these species. Notable is the absence of extremely range-restricted highland endemics, such as *Aloe viridiflora*, *Dicoma dinteri*, *Ebracteola montis-moltkei*, *Haemanthus avasmontanus*, *Hibiscus discophorus* and *Namacodon schinzianum*. These species, several of which are rare and protected, occur mainly at altitudes over 1700m, but this does not preclude the possibility of them occurring in the higher reaches of the EPL. However, the four target areas lie under 1400m, so they are unlikely to occur there. Several other endemics that have not previously been recorded here, including slightly less rare or range-restricted taxa, such as (*inter alia*) *Crotalaria aurea*, *Lapeirousia avasmontana*, *Jamesbrittenia hereroensis*, *Senecio windhoekensis*, *Lotononis pallidirosea*, *Lithops pseudotruncatella* subsp. *pseudotruncatella* *Jamesbrittenia fleckii* and *J. tenella* may very well still be found within the EPL, as well as other non-endemic protected species, such as *Orbea lutea* subsp. *vaga*, *Ruschia axthelmiana*, *Aloe* spp. and others. However, given the very small extent of the exploration areas any impact on those species is likely to be low, and unlikely to affect their present conservation status.

8.4.3 Fauna

The information below was taken from the Atlas of Namibia (Mendelsohn et. al., 2002).

Species diversity increases for birds, mammals, reptiles and amphibians from the west to the east. The bird diversity lies between 141 – 170 species, mammals between 61 – 75, reptiles between 51 – 70 and amphibians between 4 – 7. Of the four taxa considered, it is unlikely that any species or population will be significantly affected by the proposed exploration activities, mainly because the habitat types are wide-spread in the EPL area and the proposed activities have a relatively small footprint.

The abundance of larger herbivorous mammals is medium and comprises kudu, springbok, Mountain Zebra, Hartebeest, giraffe and gemsbok. Large carnivores are leopard, cheetah and brown hyena. Other mammals include Ostrich, Klipspringer, Steenbock, Aardwolf, Caracal, African Wild Cat and Jackals.

There abundance is generally low.

8.5 Land Use and nearby receptors

The EPL area stretches over ~13 privately owned farms, however, the target areas are located on three farms, i.e. Schlesien North, Niedersachsen and Aros (see **Figure 2**, Chapter 7). With reference to section 7.6, the target areas is accessible only from the D1982 Road, which means Target Areas 1, 2 and 4 on farms Schlesien North and Aros can only be reached through other farms from the

D1982 Road. In this regard, access to Target areas 1 and 2 would be through farms Donkersan / Uitvlug / Diepkuil, while Target Area 4 would be accessed through Farm Kraaipoot. Target Area 3 can be accessed directly from the D-road.

With reference to section 6, the current land use in the general area is largely 'farming' with wildlife, which (to a certain extent) roams between the farms. Additionally some of the farms are catering for tourism accommodation and activities, e.g. hiking, game drives, stargazing, etc.

Farm Niedersachsen is Guestfarm, offering various activities (as described above). It also offers the "Sheltering Desert Tour", which allows for a visit to a shelter of Henno Martin and Hermann Korn on the farm (<https://niedersachsen-guestfarm.com/activities/>) (see further details in section 8.9).

Hunting of certain game species is also conducted on some of the farms in the EPL.

The four target areas are not located in very close proximity to the homesteads on the respective farms.

8.6 Surface Water and Groundwater

There are no permanent surface water bodies in the EPL area. The area is dissected by several ephemeral watercourses, such as the Kuiseb River, with well-developed riparian zones.

Groundwater is relatively deep and most farms have limited access to water. Mendelsohn et al. (2002) describes the area as having little or no groundwater.

During rain events, water flows in the ephemeral watercourses feeding into the Kuiseb River. These washes vary in size, with several relatively substantial ones present, crossing through the EPL area. In addition there are deep, incised washes draining the rocky amphibolite areas in the south and east of the EPL.

These washes only run or have water in them after heavy rainfalls for a short time (i.e. flash floods).

8.7 Air Quality

The D1982 road is a secondary gravel road, crossing the EPL area, which links with the C26 (east of the EPL) and the C14 (west of the EPL). This gravel road links Windhoek with the coast but is infrequently used (i.e. limited traffic). This road is part of the popular "Dessert Dash" cycle event (from Windhoek to Swakopmund). During this event, which is a 24 hour cycle event, a large number of support vehicles use the road and causes significant dust.

Access to the target areas is on small farm tracks.

Therefore, the D1982 gravel road have generally limited traffic, creating minor dust impacts locally, with very little traffic elsewhere on the EPL. The air quality in general is very good.

No dust monitoring is currently taking place on the EPL area and no such data is available.

8.8 Noise

The entire area is farmland, with no major sources of noise.

8.9 Archaeology

8.9.1 Archaeological Setting

The Khomas Region of Namibia including the central highlands of the country is an important archaeological landscape, although evidence of human occupation is mainly limited to the last few millennia (Mitchell, P. 2002). The reason for this truncated archaeological record lies in the generally high gradients of the central highlands which are subjects to both active incision of drainage and extensive sheet erosion, the latter mainly due to thin vegetation cover over most of the area. During the last 2 000 years, hunter-gatherer communities in this region acquired domestic sheep and pottery, establishing a highly productive semi-nomadic pastoral mode of subsistence which retained key hunter-gatherer adaptations. In the last one thousand years the circulation of iron and copper items became more common and by the 12th century AD communities living in the upper !Khuiseb catchment had begun small-scale copper production based on ores from the Matchless Mine gossan (Adamson, R.G. and Teichmann, R. F.H. 1986).

Pre-colonial copper production formed part of a diverse economic base which included hunting and gathering as well as livestock production and copper artefacts, mainly beads, acquired a value equivalence to livestock (Kinahan, J. 1980), such that livestock in excess of the owner's manpower capacity in herding could be converted into copper items which were redeemable in the event that livestock numbers declined. The beads were traded throughout the region during the last one thousand years and metallurgical studies have shown that copper beads circulating within the region reflected a diversity of sources (Miller, D.E. & Kinahan, J. 1992). Namib Desert communities on the western fringes of the Khomas Region developed a highly specialized use of wild food plants including grass seed obtained from the underground storage caches of harvester ants. The use of these plants enabled desert communities to achieve a measure of food security which seems to have resulted in improved infant survival and a growth in human population during the last two thousand years.

Indigenous copper production and trade declined rapidly from the end of the 18th century, following the establishment of trading contacts with European and north American ships calling at Walvis Bay. In exchange for livestock used to provision their ships, European traders introduced a range of exotic commodities. Important among these were glass trade beads which were absorbed into the indigenous value system, along with European ceramics and metal goods (Kinahan, J.H.A. 2000). The quantity of introduced commodities, combined with the fact that they had no link with local subsistence economies, introduced an inflationary spiral leading to the collapse of indigenous metal production. In the mid-19th century the Matchless orebody, along with a number of other copper occurrences related to the amphibolite belt, were worked on a small scale by European mining entrepreneurs, among them Charles John Andersson (Lau, B. 1987).

Detailed archaeological surveys were carried out in the Matchless area during the 1970's. The dating of the sites was confirmed through radiocarbon analyses and range between 320 ± 45 to 130 ± 50 yrs BP (Kinahan, J. and Vogel, J. 1982) (see Table 1 in Appendix G) and experimental smelting was carried out in an attempt to reconstruct and understand the degree of local metallurgical knowledge, based on the archaeological evidence (Elflo, L. & Kettis, E. 1994). Archaeological and historical evidence of copper-working at Matchless Mine was extensively damaged during an attempt to rehabilitate the mine in the early 2000's (Kinahan, J. 2005), so that currently there is little remaining evidence of this important precolonial economic development. It is for this reason that an archaeological assessment of the exploration targets on EPL 6605 was considered important.

8.9.2 Observations

Figure 5 shows the location of EPL 6605 in relation to the Matchless amphibolite belt and the known distribution of archaeological sites, including those linked to precolonial copper production in the vicinity of Matchless Mine. Also shown in the diagram are copper occurrences that were worked historically and may have as yet undetected evidence of earlier indigenous use. EPL 6605 which lies on the edge of the escarpment is in a somewhat more arid setting than Matchless. The archaeological site distribution shows that the area surrounding the lease is not well surveyed archaeologically. The lower diagram in **Figure 5** shows the location of the four exploration targets which formed the focus of the present study. Target A is located on the farm Schlesien Nord, target B on the farm Niedersachsen, and targets C and D on the farm Aros.

The four exploration target areas while relatively small in extent were difficult of access having only rough farm tracks leading into their near vicinity. The four target areas are characterized by rugged, rocky terrain with high angle slopes which have been for the most part subject to extensive sheet and gully erosion. Soil erosion in this terrain effectively removes almost all archaeological traces with the exception of built stone features such as described below, and surface finds located in small pockets of soil that are fortuitously protected from erosion.

Sites QRS 307/728 to 731 are located on the farm Schlesien, at high elevation on a ridge above the Nausogomab River, a major tributary to the upper !Khuseb drainage. The sites comprise a discrete group of harvester ant seed diggings in association with a number of small rock shelters containing evidence of seed processing and grinding. No other evidence was found on these sites. Usually, seed digging sites are located within about 5km of a basecamp site with water. Evidence of two such basecamp sites was found on the farm Niedersachsen, sites which included at least ten hut circles, plus storage cairns. Site QRS 307/734 included a large, possibly elite status burial mound.

In the same general area as the sites on Niedersachsen are the well preserved remains of one of the refuges used by the German geologists Henno Martin and Martin Korn when they hid in the Namib Desert to evade internment at the outbreak of World War 2 (Martin, H. 1956). Although the site has no official heritage status it is an important relic of one of Namibia's iconic survival stories and is widely known throughout the world. The site is well looked after although should be considered highly vulnerable in the event that vehicle access to the area is opened in the course of exploration on EPL 6605.

The survey of the EPL 6605 exploration targets found no evidence of precolonial copper-working. Instead, the precolonial archaeology of the area indicated close affinities with the settlement pattern and subsistence practices of mixed hunter-gatherer and nomadic pastoralist communities on the eastern fringes of the Namib Desert during the last one thousand years.

Figure 6 shows the distribution of archaeological and historical sites (yellow squares) in relation to the four exploration target areas and the Matchless amphibolite belt. The sites are listed with their coordinate positions in **Table 2** of **Appendix G**. **Figure 7** plotted the position of **Table 2** onto the final target areas and none of the archaeological sites identified by Dr. J. Kinahan fall within the current areas of interest.

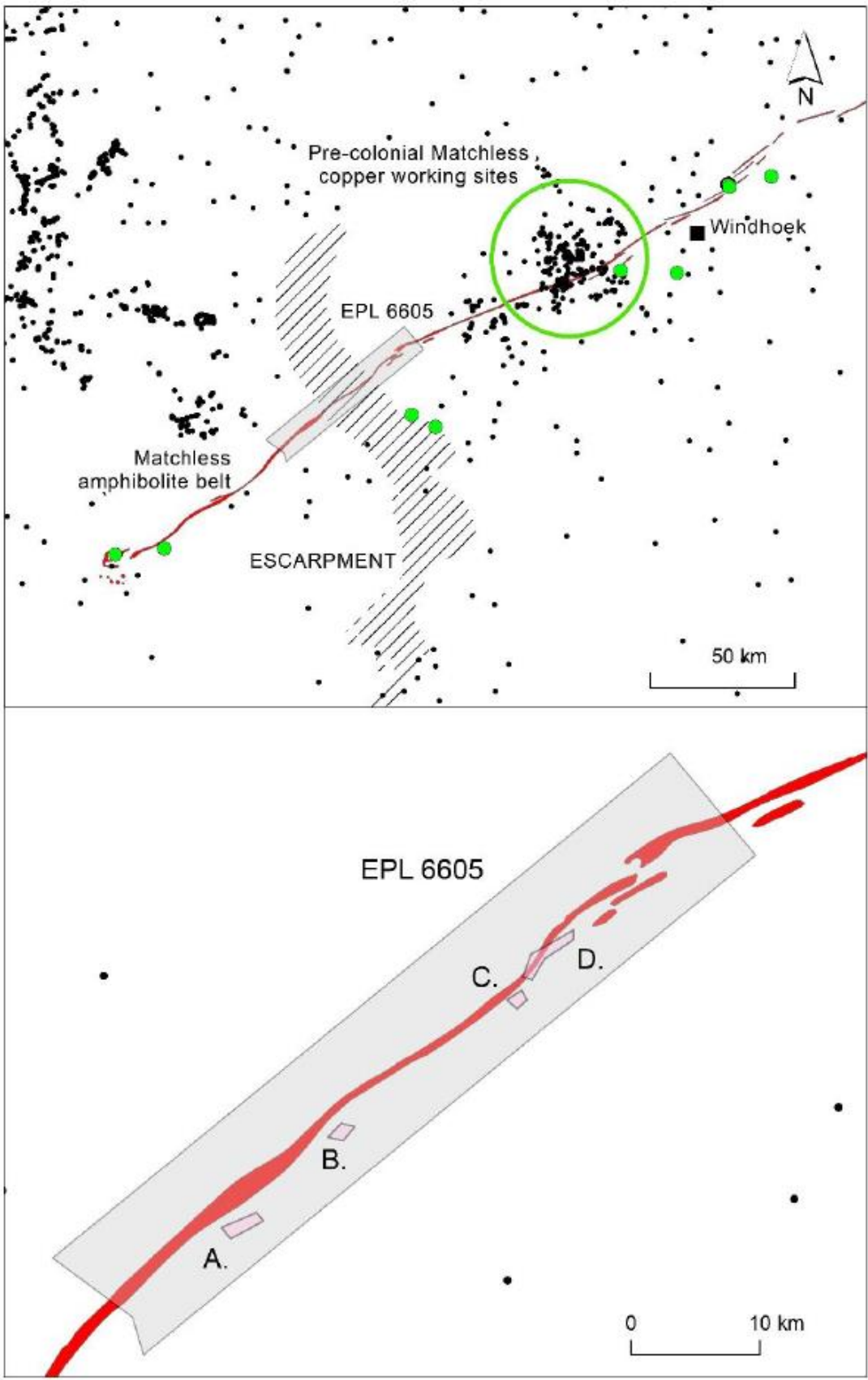


Figure 5: The geological and archaeological setting of EPL 6605 (above) and the location of the four exploration targets on EPL 6605, viz Target A located on the farm Schlesien Nord, target B on the farm Niedersachsen, and targets C and D on the farm Aros.

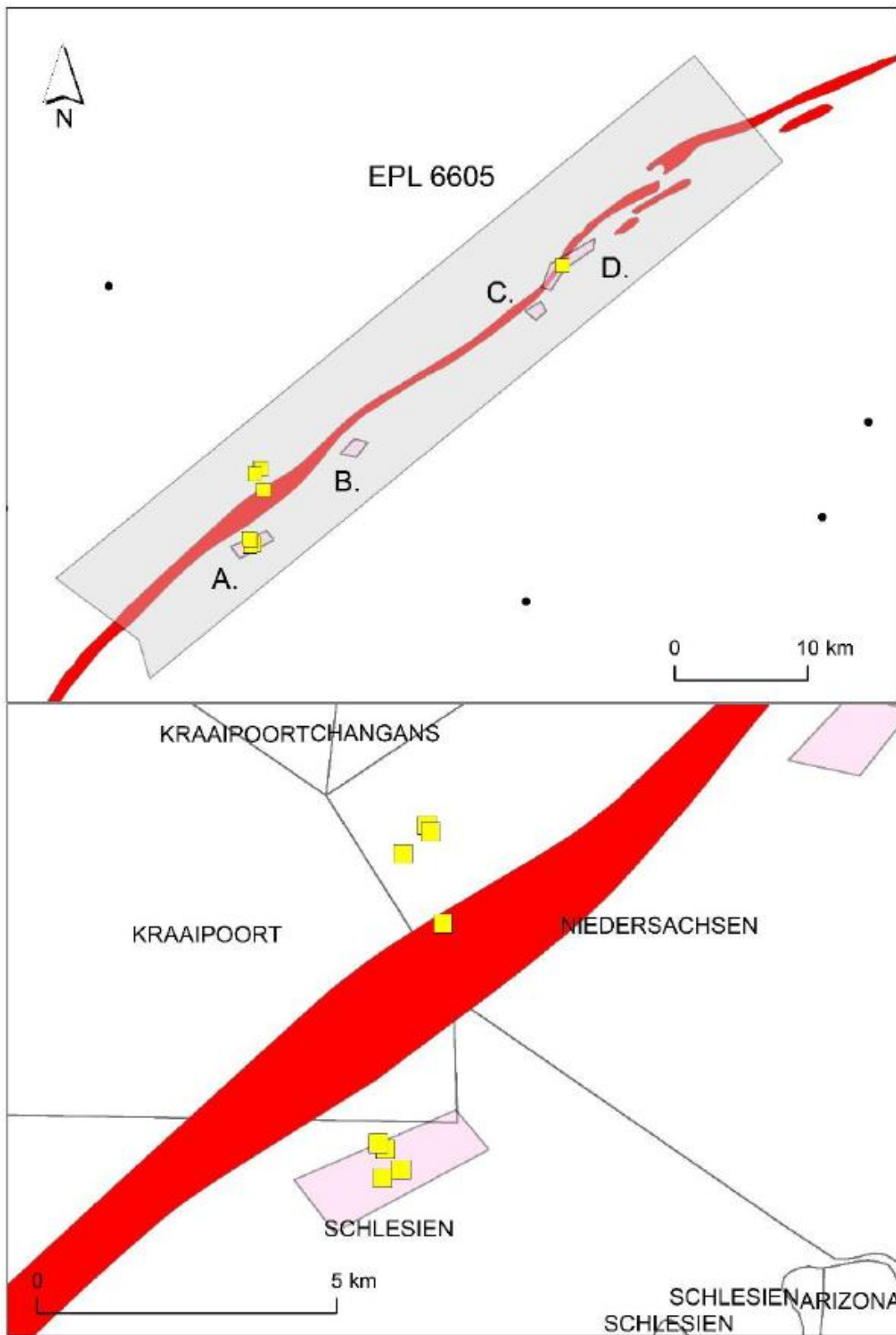


Figure 6: The distribution of archaeological and historical sites (yellow squares) in relation to the four exploration target areas and the Matchless amphibolite belt.

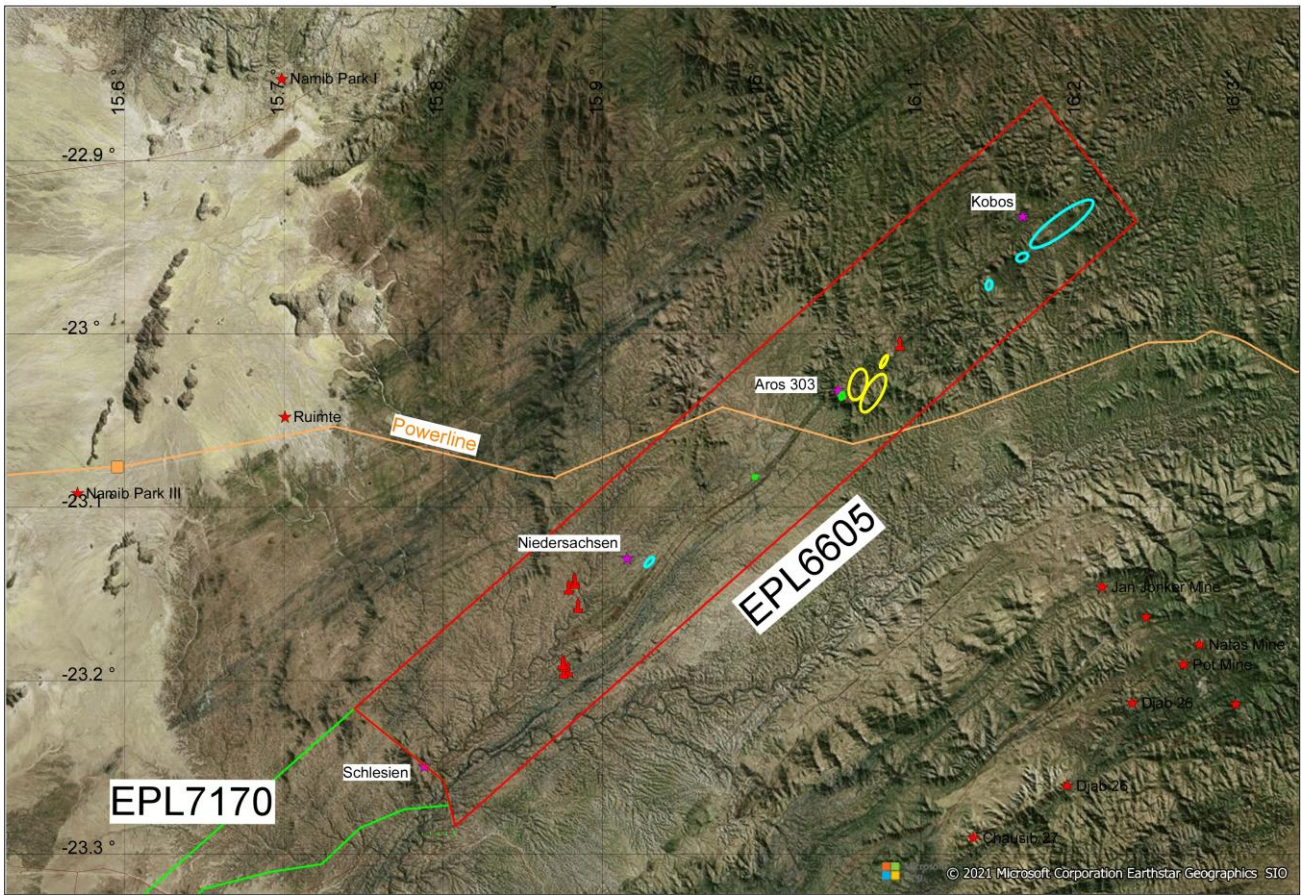


Figure 7: Identified archaeological sites in relation to current target areas identified by the client. (Red heads = archaeological sites, yellow, green and blue circles = identifies target areas, purple stars farm houses)

9 ASSESSMENT – ENVIRONMENTAL IMPACTS OF EXPLORATION

Exploration activities have the potential to impact negatively on the environment. Environmental aspects and potential impacts relating to the proposed exploration activities (see **section 7**) have been identified as part of the EIA Scoping process and presented in this section, taking the current environment (see **section 8**) into consideration. Given the relatively small scale of the proposed project activities and taking the existing environment into consideration, the potential impacts were also qualitatively assessed (before and after mitigation) in Error! Reference source not found.. **Table 9** shows the methodology used to conduct the qualitative assessment.

Appendix H provides the Environmental Management Plan, which sets out the commitments, mitigation and rehabilitation measures to ensure potential impacts are as far as possible avoided or minimised.

Table 9: Criteria for assessing potential impacts.

IMPACT assessment criteria	
SIGNIFICANCE determination	Significance = consequence x probability
CONSEQUENCE	Consequence is a function of: <ul style="list-style-type: none"> • Nature and Intensity of the potential impact • Geographical extent should the impact occur • Duration of the impact

Ranking the NATURE and INTENSITY of the potential impact	
Negative impacts	
Low (L)	The impact has no / minor effect/deterioration on natural, cultural and social functions and processes. No measurable change. Recommended standard / level will not be violated. (Limited nuisance related complaints).
Moderate (M)	Natural, cultural and social functions and processes can continue, but in a modified way. Moderate discomfort that can be measured. Recommended standard / level will occasionally be violated. Various third party complaints expected.
High (H)	Natural, cultural or social functions and processes are altered in such a way that they temporarily or permanently cease. Substantial deterioration of the impacted environment. Widespread third party complaints expected.
Very high (VH)	Substantial deterioration (death, illness or injury). Recommended standard / level will often be violated. Vigorous action expected by third parties.
Positive impacts	
Low (L) +	Slight positive effect on natural, cultural and social functions and processes Minor improvement. No measurable change.
Moderate (M) +	Natural, cultural and social functions and processes continue but in a noticeably enhanced way. Moderate improvement. Little positive reaction from third parties.

High (H) +	Natural, cultural or social functions and processes are altered in such a way that the impacted environment is considerably enhanced /improved. Widespread, noticeable positive reaction from third parties.
Very high (VH) +	Substantial improvement. Will be within or better than the recommended level. Favourable publicity from third parties.

Ranking the EXTENT	
Low (L)	Local: confined to within the project concession area and its nearby surroundings
Moderate (M)	Regional: confined to the region, e.g. coast, basin, catchment, municipal region, district, etc.
High (H)	National; extends beyond district or regional boundaries with national implications
Very high (VH)	International: Impact extends beyond the national scale or may be transboundary

Ranking the DURATION	
Low (L)	Temporary/short term. Quickly reversible. (Less than the life of the project).
Moderate (M)	Medium Term. Impact can be reversed over time. (Life of the project).
High (H)	Long Term. Impact will only cease after the life of the project.
Very high (VH)	Permanent

Ranking the PROBABILITY	
Low (L)	Unlikely
Moderate (M)	Possibly
High (H)	Most likely
Very high (VH)	Definitely

These criteria are used to determine the CONSEQUENCE of the impact, which is a function of severity, spatial extent and duration.

		EXTENT			
		Local (L)	Regional (M)	National (H)	International (VH)
INTENSITY	DURATION				
	LOW	Permanent	Moderate	Moderate	High
Long-term		Moderate	Moderate	Moderate	Moderate
Medium-term		Low	Low	Low	Moderate
Short-term		Low	Low	Low	Moderate

INTENSITY	DURATION	EXTENT			
		Local (L)	Regional (M)	National (H)	International (VH)
MODERATE	Permanent	Moderate	High	High	High
	Long-term	Moderate	Moderate	High	High
	Medium-term	Moderate	Moderate	Moderate	Moderate
	Short-term	Low	Moderate	Moderate	Moderate

INTENSITY	DURATION	EXTENT			
		Local (L)	Regional (M)	National (H)	International (VH)
HIGH	Permanent	High	High	Very High	Very high
	Long-term	High	High	High	Very High
	Medium-term	Moderate	Moderate	High	High
	Short-term	Moderate	Moderate	High	High

INTENSITY	DURATION	EXTENT			
		Local (L)	Regional (M)	National (H)	International (VH)
VERY HIGH	Permanent	Very high	Very High	Very High	Very high
	Long-term	High	High	Very High	Very high
	Medium-term	High	High	High	Very High
	Short-term	Moderate	High	High	Very High

The SIGNIFICANCE of an impact is then determined by multiplying the consequence of the impact by the probability of the impact occurring, with interpretation of the impact significance outlined below.

PROBABILITY		CONSEQUENCE			
		L	M	H	VH
Definite	VH	Moderate	High	High	Very high
Most Likely	H	Moderate	Moderate	High	Very high
Possibly	M	Low	Moderate	High	High
Unlikely	L	Low	Low	Moderate	High

SIGNIFICANCE Description		
	Positive	Negative
Low (L)	Supports the implementation of the project	No influence on the decision.
Moderate (M)	Supports the implementation of the project	It should have an influence on the decision and the impact will not be avoided unless it is mitigated.
High (H)	Supports the implementation of the project	It should influence the decision to not proceed with the project or require significant modification(s) of the project design/location, etc. (where relevant).
Very high (VH)	Supports the implementation of the project	It would influence the decision to not proceed with the project.

Table 10: Environmental aspects and potential impacts associated with the exploration activities.

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	SIGNIFICANCE DISCUSSION / MANAGEMENT	MITIGATION (NO & YES)	INTENSITY	DURATION	EXTENT	CONSEQUENCE	PROBABILITY	SIGNIFICANCE	CONFIDENCE	REFERENCE
Airborne geophysical surveys												
Helicopter-borne EM geophysical survey	Noise and visual impacts from the helicopter	Noise generated by the low flying airplanes could disturb fauna.	Animals, such as kudu, gemsbok, hyena, etc. and farm animals, goats (where relevant) are frightened and expend energy and moisture in running away. Birds, especially vultures and raptors could fly into the helicopter or instruments.	No	M	L	L	L	M	L	H	1
				yes	M	L	L	L	L	L	H	
			Disturbance to farm owners and quests.	No	M	L	L	L	M	L	H	2
				Yes	M	L	L	L	L	L	H	
Field mapping and soil & rock sampling												
Field mapping and ground surveys and collecting rock samples by hand	Direct destruction of plants of conservation concern and/or their habitats, which occurs as a result of movement of vehicles over previously undamaged, drill sites and staff	<ul style="list-style-type: none"> Widening or modification of the existing areas of damage due to uncontrolled collateral damage such as widening of roads or new track creation to avoid uneven terrain, resulting in additional plants being damaged or destroyed Loss of woody vegetation due to illegal harvesting of wood for fuel. Illegal collection of plants 	<p>Due to the small proportion the exploration area forms of the vegetation zone, the presence of some existing roads and tracks, comparatively low species diversity, and the likely absence of Khomas Hochland species of high conservation concern, given mitigation the potential impact is of minor concern.</p> <p>It is expected that the exploration staff will be accommodated on a guest farm close by, so harvesting of wood should be minimal unless staff are allowed to take wood for sale elsewhere.</p> <p>The exploration team will however be relatively small</p>	No	L	M	L	M	M	M	H	3
				Yes	L	M	L	L	L	L	L	

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	SIGNIFICANCE DISCUSSION / MANAGEMENT	MITIGATION	INTENSITY	DURATION	EXTENT	CONSEQUENCE	PROBABILITY	SIGNIFICANCE	CONFIDENCE	REFERENCE
				(NO & YES)								
	accommodation areas.	or plant parts is a problem in Namibia. Geophytes and succulents, <i>inter alia</i> <i>Cyphostemma</i> , <i>Aloe</i> and <i>Lithops</i> species, are at particular risk of being harvested for sale or horticultural purposes. Collection of plants or plant material of any kind, including seeds, may only be done under the auspices of a permit from the Ministry of Environment, Forestry and Tourism.	and few vehicles and machinery will be used, specifically during the initial phase (i.e. field mapping and sampling), making it easier to train staff and manage the activities and avoid impacts. In the mitigated scenario, these impacts can be therefore be avoided / minimised.									
	General disturbance / destruction of Fauna (organisms and habitat)	<ul style="list-style-type: none"> • Death of slow-moving animals and dormant invertebrates • Burrows of animals may be driven over, collapsing the burrow. • Bird nest sites are destroyed • Poaching by unscrupulous 	The disturbed area will be small, e.g. target areas. Mainly existing farm tracks should be utilized. If new tracks to be created these need to be discussed with the landowner.	No	M	M	L	L	M	M	H	4
Yes				L	M	L	L	L	L	H		

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	SIGNIFICANCE DISCUSSION / MANAGEMENT	MITIGATION (NO & YES)	INTENSITY	DURATION	EXTENT	CONSEQUENCE	PROBABILITY	SIGNIFICANCE	CONFIDENCE	REFERENCE
		staff.										
	Air quality (dust and exhaust emissions) from vehicles used by the exploration team	Increase in dust levels (nuisance & health impacts) and other gaseous emissions (i.e. exhaust fumes) from vehicles impacting third parties (i.e. nuisance).	Air pollution through vehicle emissions (i.e. exhaust fumes and dust) is negligible due to the small scale of the project. Furthermore, farm houses are not in very close proximity to the target areas.	No	L	L	L	L	L	L	H	5
Yes				L	L	L	L	L	L	H		
	Noise from vehicles	Disturbance to Fauna	Noise from vehicles is considered minor due to the small scale of the project and the number of vehicles to be used, specifically during the initial phase (i.e. field mapping and sampling). However, there will be a daily commute between the accommodation and the exploration area.	No	M	L	M	M	L - M	L - M	H	6
Yes				L	L	L	L	L	L	H		
		Impact third parties (i.e. nuisance).	There are no sensitive receptors staying in very close proximity to the proposed target areas. Tourism activities and access by the exploration team needs to be discussed with the farm owners to ensure minimal disturbance.	No	M	L	M	M	M	M	H	7
Yes				L	L	L	L	L	L	H		
	Archaeology / Heritage	Activities could result in possible damage to/destruction of identified archeological / heritage resources.	As set out in the archaeological specialist studies, identified sites are listed and a 1km 'no-go' area around them should be marked.	No	H	H	M	H	M	H	H	8
Yes				L	H	L	M	L	L	H		

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	SIGNIFICANCE DISCUSSION / MANAGEMENT	MITIGATION (NO & YES)	INTENSITY	DURATION	EXTENT	CONSEQUENCE	PROBABILITY	SIGNIFICANCE	CONFIDENCE	REFERENCE
Drilling												
Establish drill sites: <ul style="list-style-type: none"> • Access the drill site using existing and new access tracks • Set-up drilling machine with drip trays and groundsheets • Establish temporary safety fencing around the drill site • Set-up chemical toilets 	Groundwater abstraction	Water abstraction might negatively impact on the landowner	<p>Groundwater abstraction needs to be discussed with the respective landowner.</p> <p>With reference to section 7.4, relatively small volumes of water (i.e. 10 – 15 m³ per day) will be required during the exploration programme, when diamond core drilling is performed.</p> <p>The reduction in the availability of groundwater could impact groundwater users further downstream, as well as the land use in the area (i.e. farming, tourism accommodation). Furthermore, with reference to section 4.3, various land owners indicated that limited groundwater is available and it is unlikely that Groundwater will be available for the proposed exploration activities.</p> <p>Should groundwater be available, it is unlikely that the quantities required will impact groundwater levels.</p> <p>Nevertheless, impacts on groundwater in an arid area such as this could have a moderate severity.</p> <p>Bezant will have to liaise with the respective landowners regarding the water availability from existing sources. Another option would be to transport the water from another close by water borehole.</p>	With out	M	M	L	M	M	M	H	9
	With	M	M	L	L	M	M	H				
	Noise from	Noise generated by the	None of the activities are close to any residence.	No	M	M	L	M	H	M	H	1

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	SIGNIFICANCE DISCUSSION / MANAGEMENT	MITIGATION (NO & YES)	INTENSITY	DURATION	EXTENT	CONSEQUENCE	PROBABILITY	SIGNIFICANCE	CONFIDENCE	REFERENCE
<ul style="list-style-type: none"> Set-up fuel and lubricants storage area at the drill rig Drilling	vehicles and other associated activities	establishment of access tracks and site clearing/ establishment activities, impact third parties (i.e. nuisance).	<p>See Impact reference 7.</p> <p>Tourism activities and access by the exploration team needs to be discussed with the farm owners to ensure minimal disturbance.</p>	Yes	L	L	L	L	M	L	H	0
	General disturbance / destruction of Flora	<ul style="list-style-type: none"> Lack of control of collateral damage, resulting in direct destruction of habitat. Loss of woody vegetation due to illegal harvesting of wood for fuel. Illegal collection of plants or plant parts. Hydrocarbon spillage, impacting plants. Poorly planned future exploration drilling at Hope. 	<p>See impact reference 3.</p> <p>Due to the small proportion the exploration area forms of the vegetation zone, the presence of some existing roads and tracks, comparatively low species diversity, and the likely absence of Khomas Hochland species of high conservation concern, given mitigation the potential impact is of minor concern.</p> <p>It is expected that the exploration staff will be accommodated on a guest farm close by.</p> <p>The exploration team will however be relatively small and few vehicles and machinery will be used, specifically during the initial phase (i.e. field mapping and sampling), making it easier to train staff and manage the activities and avoid impacts.</p> <p>In the mitigated scenario, these impacts can be therefore be avoided / minimised.</p>	No	L	H	L	M	H	M	H	1 1
				Yes	L	M	L	L	M	L	H	
General	<ul style="list-style-type: none"> Death of slow-moving 	See impact reference 4.	No	M	M	L	L	M	M	H	1	

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	SIGNIFICANCE DISCUSSION / MANAGEMENT	MITIGATION (NO & YES)	INTENSITY	DURATION	EXTENT	CONSEQUENCE	PROBABILITY	SIGNIFICANCE	CONFIDENCE	REFERENCE
	disturbance / destruction of Fauna (organisms and habitat)	<p>animals and dormant invertebrates</p> <ul style="list-style-type: none"> Animals fall into drill holes Burrows of animals may be driven over, collapsing the burrow. Bird nest sites are destroyed Poaching by unscrupulous staff. 	The disturbed area will be small, e.g. target areas. Mainly existing farm tracks should be utilized. If new tracks to be created these need to be discussed with the landowner.	Yes	L	M	L	L	L	M	H	2
	Archaeology / Heritage	Exploration activities could result in possible damage to/destruction of heritage resources.	See impact reference: 8	No	H	H	M	H	M	H	H	1 3
	Spillages of hydrocarbons, lubricants, or possible spills from ablution facilities	Soil pollution	Soil loss and contamination could have an impact on local fauna and flora. However, the area to be disturbed is very localised and on a small-scale, and impacts can be easily mitigated.	No	M	M	L	M	M	M	H	1 4
Yes				L	L	L	L	L	L	H		
No		M	L	M	M	M	L-M	H	1 5	L	H	
												Yes

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	SIGNIFICANCE DISCUSSION / MANAGEMENT	MITIGATION (NO & YES)	INTENSITY	DURATION	EXTENT	CONSEQUENCE	PROBABILITY	SIGNIFICANCE	CONFIDENCE	REFERENCE
			Additional management and mitigation measures are listed in the EMP in Appendix H .									
		Groundwater could become polluted due to pollutants entering aquifers via surface water infiltration.	Given the small scale of activities and the unlikely possibility for large volumes of pollutants (i.e. hydrocarbons) to be released into the environment, reaching the groundwater and water users, this impact is likely to be insignificant.	No	L	L	L	L	L	L		1 6
				Yes	L	L	L	L	L	L	L	
	Dust generation through using the access track. Air pollution from exhaust fumes. Dust generation through drilling activities	Air quality deterioration. Increase in dust levels (nuisance & health impacts)	Dust generation through the establishment of access tracks. Air pollution through vehicle entrainment is expected to be negligible due to the small scale of the project. Air pollution through vehicle emissions (i.e. exhaust fumes) is negligible due to the small scale of the project. Impact reference 5.	No	L	L	L	L	L	L	H	1 7
				Yes	L	L	L	L	L	L	H	
	Noise generation	Noise generated by the drill could disturb nearby residences (nuisance) and fauna.	Noise generated by the machinery would create a noise disturbance for local fauna. However, the limited and isolated nature of the activities reduces the impact significance. There are no sensitive receptors staying in very close proximity to the proposed activities. Tourism activities and access by the exploration team needs to be discussed with the farm owners to ensure minimal disturbance.	No								1 8
				Yes								

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	SIGNIFICANCE DISCUSSION / MANAGEMENT	MITIGATION (NO & YES)	INTENSITY	DURATION	EXTENT	CONSEQUENCE	PROBABILITY	SIGNIFICANCE	CONFIDENCE	REFERENCE
			Impact reference: 7									
Relevant to all activities												
All exploration activities	Waste Management	The dumping of general waste within the exploration area and drilling sites could prove hazardous to wildlife. This could also lead to general environmental degradation in would be against the park rules (i.e. legal risk).	Waste generation is likely to be limited on site and will primarily be domestic waste. This material will be removed from site and disposed of properly off-site. Through the effective implementation of the management and mitigation measures in the EMP the potential impacts relating to waste management can therefore be avoided/mitigated and even improved.	No	M	L	M	M	M	M	H	19
				Yes	L	L	L	L	L	L	H	
	Social – provision of toilet facilities	Health & safety issues	If suitable toilet facilities are not provided for the exploration team, they will relieve themselves in the environment which could lead to potential health issues.	No	L	L	M	L	M	M		20
				Yes	L	L	L	L	L	L		
	Land use: • Expelled soil, rocks and material form unsightly heaps • Humans leave rubbish	Third party safety.	Third parties getting into contact with exploration actives (i.e. machinery) could get injured.	No	H	H	L	H	M	H		21
				Yes	L	L	L	L	L	L		

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	SIGNIFICANCE DISCUSSION / MANAGEMENT	MITIGATION (NO & YES)	INTENSITY	DURATION	EXTENT	CONSEQUENCE	PROBABILITY	SIGNIFICANCE	CONFIDENCE	REFERENCE
	<ul style="list-style-type: none"> Vehicle tracks from the road to the drill pad Land is levelled for drill pads, leaving bare areas and soil heaps 											
Closure and rehabilitation of drill site												
Remove all waste and equipment from site. Rip compacted areas (including access roads and paths).	Biodiversity and land use	Non adherence to the EMP	The impacted sites will be rehabilitated in accordance with the additional management and mitigation measures to the existing EMP requirements. Rehabilitation of historic impacted areas (to a certain extend) would improve the baseline condition.	witho	N/A						2	3
				ut	M	H	L	M	H	M		
				with	+					+		

10 CONCLUSION

Exploration activities are likely to have a negative effect on the environment. Fortunately, potential negative impacts arising from exploration activities can be avoided or minimised through careful planning and mitigated successfully if a disciplined and dedicated team takes responsibility for implementing the EMP. The underlying philosophy of environmental management is to treat the environment gently and with respect so that long-term disturbances will not occur.

The environmental aspects associated with the exploration activities have been successfully identified and assessed as part of this EIA Scoping process. Relevant mitigation measures have been provided and are included in the EMP that accompanies this Scoping Report.

Bezant is aware of its legal and policy requirements in relation to exploration.

ASEC believes that a thorough assessment of the proposed project has been achieved and that an environmental clearance certificate could be issued on condition that the management and mitigation measure in the EMP be adhered to.

A. Speiser Environmental Consultants cc

12 REFERENCES

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Wikipedia

Appendix A: EPL Licence



REPUBLIC OF NAMIBIA
MINISTRY OF MINES AND ENERGY

Exclusive Prospecting Licence

(Issued in terms of Section 70 of the Minerals (Prospecting and Mining) Act, 1992)

Exclusive Prospecting Licence No **6605** Office Reference No **14/2/4/1/6605**

Subject to the provisions of the Minerals (Prospecting and Mining) Act, 1992, this exclusive prospecting licence is hereby issued to

Full Name of Licence Holder **Lovisa Mwangingi Haufiku**

Identity/Passport or Company Registration No **85120410464**

Address (natural person) or Registered Address (company)
P. O. Box 635, Helao Nafidi, Ohangwena
Namibia

Full Name of Accredited Agent (if applicable)
Address of Accredited Agent (if applicable)

for the period of **3 Years** from **26 September 2018** To **25 September 2021**
(date of issue) (date of expiry)

unless abandoned or cancelled on any prior date, or extended to such later date as may be endorsed on this licence in the event that this licence is renewed.

This exclusive prospecting licence is issued in respect of

Name of Mineral(s)/Group(s) of Minerals **Base and Rare Metals, Dimension Stone, Industrial Minerals and Precious Metals**

over a certain portion of land situate in Region(s) **Erongo, Khomas**

Registration Division(s) **G, H, K, M** Magisterial District(s) **Karibib, Swakopmund, Windhoek**

as more fully depicted in the attached diagram No **6605** signed by the Commissioner

and is further subject to the terms and conditions contained in the notice of the Minister's intention to grant the

licence dated **13 September 2018** and agreed to in writing by the applicant on **26 September 2018**

as appended hereto.

Signed at WINDHOEK this **27th** day of **October 2018**

MINISTER





REPUBLIC OF NAMIBIA

MINISTRY OF MINES AND ENERGY

Tel: +264 61 284-8111
Fax: +264 61 238643 / 220386
E-mail: info@mme.gov.na
Website: www.mme.gov.na

1 Aviation Road
Private Bag 13297
WINDHOEK

Enquiries: Mr. K. Siseho

Reference No: 14/2/4/1/6605

Lovisa Mwandangi Haufiku
P.O. Box 635
Helao Nafidi
Namibia

NOTICE TO APPLICANT OF PREPAREDNESS TO GRANT APPLICATION FOR EXCLUSIVE PROSPECTING LICENCE No. 6605.

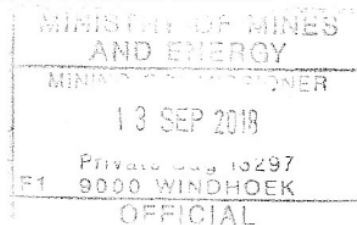
In terms of Section 48(4) of the Minerals (Prospecting and Mining) Act, No. 33 of 1992, notice is hereby given that the Minister is prepared to grant your new application, lodged on **13 February 2017**, for an exclusive prospecting licence in respect of **Base and Rare Metals, Dimension Stone, Industrial Minerals and Precious Metals** Groups of Minerals over an area of land as shown in the attached diagrams, subject to the terms and conditions contained in the attached schedule, which terms and conditions supplement the terms, conditions and provisions of the said Act.

Your attention is drawn to the provisions of Section 48(5) of the said Act, which require that within one (1) month from the date of this notice, written acceptance of such terms and conditions must be received by the Commissioner, failing which the application will be deemed to have lapsed.

Kindly acknowledge your acceptance of such terms and conditions by-

- (a) completing the section at the bottom of this notice;
- (b) initialing each page of the schedule and the diagrams; and
- (c) returning such signed and initialed documents to the Commissioner.

 13.09.2018
MR. E. I. SHIVOLO
MINING COMMISSIONER

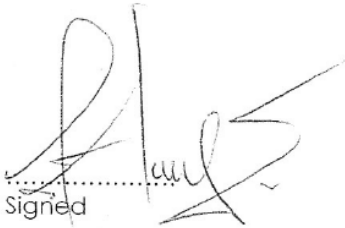


All official correspondence must be addressed to the Permanent Secretary

CH

TO THE MINING COMMISSIONER
MINISTRY OF MINES AND ENERGY

I, LOUISA M. HAUFIKU (name of person) in my capacity as applicant/duly authorized officer/approved accredited agent (please delete titles not relevant), hereby accept the supplementary terms and conditions referred to in this notice and contained in the attached schedule which are to be imposed on the grant of the application for exclusive prospecting licence herein referred to.

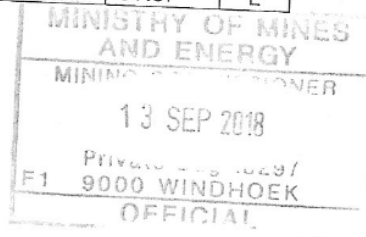

Signed

26/09/2018
Date

Capacity APPLICANT
(Applicant /authorized officer of applicant if a company/approved accredited agent of a non-resident applicant who is a natural person/authorized officer of such accredited agent).



Order	Lat Deg	Lat Min	Lat Sec		Long Deg	Long Min	Long Sec	
1	- 22	56	5.23	S	16	14	5.82	E
2	- 23	17	2.26	S	15	48	27.56	E
3	- 23	15	27.47	S	15	48	0.34	E
4	- 23	12	58.44	S	15	44	39.62	E
5	- 22	51	47.87	S	16	10	31.57	E



Certified by: *[Signature]* Official Stamp Date:
 Mining Commissioner

7
 1-4

MINISTRY OF MINES AND ENERGY
ENDORSEMENT (ALIENATION)

With the approval of the Minister of Mines and Energy, this licence ~~on interest in this licence~~ has been alienated by transfer ~~(grant/cession/assignment)~~ to, or the holder as a joint

holder of HOPE NAMIBIA MINERAL

EXPLORATION (PTY) LTD

with effect from 16 July 2019

30.07.2019 [Signature]
Date Commissioner

Appendix B: Curriculum Vitae

SHORTENED CURRICULUM VITAE

Ms ALEXANDRA SPEISER



A. PROFESSIONAL INFORMATION

First Names: Marie Alexandra Angelika
Surname: Speiser
Nationality: German (Permanent Residence in Namibia 1999)
Date of Birth: 19 October 1968
Language: German and English (fluent), Afrikaans (fair),
Profession: Environmental Scientists (MPhil), Geologist (MSc)

B. EDUCATION

2000 Master of Philosophy in Environmental Science, University of Cape Town, RSA
Group Thesis Title: *Environmental Situation Analysis of the Orange and Fish River Catchments*
Individual Paper Title: *Small Scale Mining in Namibia*
1994 Master of Science in Geology and Paleontology, Georg-August University Göttingen/Germany.

C. PROFESSIONAL ACTIVITIES

Professional Institutes & Membership:

- Approved Inspection Authority with the Ministry of Labour and Social Welfare (A.I.A. 08/12)
- Institute of Environmental Management & Assessment, UK (Associated Member, AIEMA, October 2010)
- Environmental Assessment Professionals of Namibia (Lead Practitioner).
- Chamber of Mines of Namibia (member)
- Geological Society of Namibia (Executive Committee)

D. RELEVANT COURSES

November 2004

Environmental Auditor Trainings Course, Institute of Environmental Impact Assessment (IEMA) approved, Crystal Clear Consulting & Merchants (Pty) Ltd, RSA

E. EMPLOYMENT HISTORY

2012 – 2016 Associated Environmental Consultant to SLR Namibia

2003 - to date A. Speiser – Environmental Consultants cc, Director

Main work conducted and ongoing:

- **Environmental Consultant** to Kerry McNamara Architects Inc: Combined Scoping & EIA Report & EMP for the proposed Edelweiss Development (part of Okahandja Extension 7) in Okahandja
- **Environmental Consultant** to Bannerman Resources (Namibia) (Pty) Ltd: EIA/EMP for the proposed Pilot Plant on Bannerman Resources (Namibia) (Pty) Ltd EPL 3345
- **Environmental Consultant** to RPZC (Glencore): EIA/EMP for the proposed expansion of water and power infrastructure for RPZC Mine
- **Environmental Consultant** to RPZC (Glencore): EIA/EMP for the proposed zinc concentrate Storage shed at Lüderitz harbour
- **Environmental Consultant** to Metals Namibia. EO and EMP for exploration activities
- **Environmental Consultant** for the bulk chemical store of Crest Chemical Pty Ltd at Walvis Bay harbour
- **Environmental Coordinator** for the Kassinga (Angola) North and South Iron Ore Project – Area 1 (SMP / AEMR). JV between ASEC and Environmental Resource Management
- **Environmental Coordinator** for the exploration phase at Lofdal, Namibian Rare Earth (Pty) Limited
- **Environmental Consultant** to conduct bi-annual environmental audit reports for Glencore, Bannerman Resources (Namibia) Pty Ltd, Okorusu Fluorspar Pty Ltd, Namibia Rare Earth Pty Ltd, Swakop Uranium,
- **ESIA Coordinator** (amendments to the approved ESIA & ESMP) for the proposed U-mine at Etango (Bannerman Mining Resources Namibia (Pty) Ltd)
- **External Environmental Consultant** to Rössing Uranium (Rio Tinto) – SEMP: exploration drilling in the ML area within the Namib Naukluft Park
- **Reviewer** of Swakop Uranium SEIA conducted by Metago
- **ESIA Coordinator** (scoping phase) for the proposed Cu mine at Omitiomire (Craton Mining & Exploration (Pty) Ltd)
- **Mine Closure Plan** for Okorusu Fluorspar (Okorusu Fluorspar Pty Ltd)
- **Preliminary Environmental Overview** for Omitiomire Cu-deposit (Craton Mining & Exploration (Pty) Ltd)
- **ESIA Coordinator** for the proposed U-mine at Etango (Bannerman Mining Resources Namibia (Pty) Ltd) (Scoping & final ESIA approved by Government)
- **ESIA Coordinator** for the proposed Au-mine at Otjikoto, Central Namibia (Teal Exploration & Mining Inc.)
- **Environmental Consultant** to Walvis Bay Bulk Terminal (Pty) Ltd (EIA to construct a bulk sulphur loading & storage facility at WB harbour)
- **Environmental Consultant** providing input to set up ISO 14001 & OSHAS 18000 at Rosh Pinah Mine, Rosh Pinah Zinc Corporation (Pty) Ltd
- **EIA Coordinator** for the proposed change to bulk sulphur at Skorpion Zinc, Chemical Initiatives (Pty) Ltd
- **September 2005 – June 2006, Environmental Coordinator** for the construction phase of Langer Heinrich Uranium (Pty) Ltd
- **EIA and EMP Coordinator** for proposed exploration activities for dimension stones, relevant document to grant licence by the Ministry of Mines and Energy, Olea Investment Number One (Pty) Ltd.
- **Standard Environmental Guidelines** for exploration activities, Helio Resource Corp., Canada
- **Coordinator** to compile the **Initial EMP for construction and operation** of the Langer Heinrich Uranium Mine, Paladin Resources Ltd
- **EIA & EMP (Phase 1 & 2) Coordinator** for exploration activities in the NW Namib Naukluft Park, West Africa Gold Exploration (Namibia) Pty. Ltd
- **EMP Coordinator** for Sarusas Mine, Skeleton Coast Park, Namibia, Igneous Mining Projects (Pty) Ltd
- **EIA & EMP Coordinator** for current & proposed mariculture projects of Alexkor, Alexander Bay, RSA
- **Environmental Consultant** – updating the EA & EMS for infrastructure changes at Navachab Mine, Anglogold Namibia (Pty) Ltd.
- **Team Leader**, Environmental and social assessment for World Bank/GEF Project 'Integrated ecosystem management in Namibia through the national conservancy network'
- **Bi-annual monitoring reports** auditing environmental performance of exploration activities (RPZC, B2Gold, Swakop Uranium, Okorusu Fluorspar, Namibia Rare Earth) - **ongoing**

2000 - 2003 Environmental Scientist at eco.plan (Pty) Ltd.

During this period I conducted environmental assessments and developed environmental management plans for exploration and infrastructure projects. I further was involved in the project management, public participation processes and office administration.

1999 – 2000 University of Cape Town studying Environmental Science (MPhil degree)

1997 – 1999 Self employed, Contract Geologist Scientist

- RC drilling supervision – Apatite Project / Monapo, Mozambique, subcontracted by GeoAfrica Prospecting Services (Pty.) Ltd.
- Mapping and evaluation of possible talc deposits in Central Namibia, subcontracted by Dr. T. Smaley.
- Involvement in the preliminary fact finding phase to conduct an EIA to upgrade the Cement Factory in Otjiwarongo, Namibia.
- Several Desk Studies for Anglovaal Namibia (Pty) Ltd.
- Various investigations of diamondiferous gravels of the northern bank of the Orange River.
- Drilling Supervision in the Okavango Area for InterConsult Namibia (Pty) Ltd.
- Organization of the Public Meeting for the 'Proposed Klein Windhoek River Bridge and Upgrading of Mission Road.'

1995 to 1996 Project Assistant / Geologist at the German Technical Cooperation (GTZ)

- Participation in a six-week training course at the (GTZ) Headquarter in Eschborn/Frankfurt. Focus of the training course was on project management, rural public participation appraisal and social development workshops.
- Project Assistant to the GTZ-Adviser in the Ministry of Environment & Tourism. In cooperation with the Desert Research Foundation of Namibia (DRFN) the *Chemical Residue Analysis – Kavango Region* Project was conducted. The project assessed the environmental impacts of irrigation schemes along the Okavango River, special attention was given to the use of fertilisers and pesticides.
- Project Assistant/Geologist in the *Mineral Prospecting Promotion Project*. This project was set up in cooperation with the Geological Survey of Namibia (GSN) and the Federal Institute for Geo-science and Natural Resources (BGR). The work comprised geophysical interpretation and detailed geological/geophysical ground follow-ups.

1994 – 1995 Contract Geologist

- Supervision of construction sites and conduction of soil surveys to establish possible hydrocarbon-contamination (Germany).

Appendix C: Adverts in the Republikein, Sun and Allgemeine Zeitung

The Gateway to Endless Opportunities

City of Windhoek

Vision: To be a SMART and Caring City by 2022

PUBLIC NOTICE

Procurement Management Unit (PMU)

PO Box 69 – 80 Independence Avenue, Windhoek, NAMIBIA
Tel: (+264) 61 290 2270 / 2614 • Fax: (+264) 61 290 2331
E-mail: msj@windhoekcc.org.na
Procurement Management Unit Portal / Website: www.windhoekcc.org.na

Invitation for Bids (IFB)

BID NO: NCS/ONB/COW-114/2021	
Description:	REPAIR, SERVICE AND OVERHAUL OF LIGHT VEHICLES, HEAVY EQUIPMENT AND PLANT FOR THE CITY OF WINDHOEK FOR A PERIOD OF THREE (3) YEARS
Bid Documents:	The bid documents will be available as from Friday, 23 July 2021, from 10H00 of the Customer Care Centre, Counter No. 3 of the Municipal Council of Windhoek Head Office, No. 80 Independence Avenue.
Bid Briefing:	Due to the Current Covid-19 Restrictions, written enquiries shall serve as pre-bid briefing and will be conducted from 26 July 2021 to 09 August 2021 - 07h30 - 16h30. The written responses will be communicated by Friday, 13 August 2021.
Closing Date:	Tuesday, 31 August 2021 at 10H00 (NAMIBIAN TIME)
Levy:	N\$ 300.00 (Non-refundable)
Technical Enquiries:	Mr. Vitalis Nepembe Tel: +264 (61) 290 2531 E-mail: Vitalis.Nepembe@windhoekcc.org.na

****Clarification closing date on Tuesday, 17 August 2021 at 10H00**

BID NO: NCS/ONB/COW-115/2021	
Description:	THE MECHANICAL LABOUR IN RESPECT OF MACHINING AND REPAIR OF DIESEL AND PETROL ENGINE COMPONENTS FOR A PERIOD OF THREE (3) YEARS
Bid Documents:	The bid documents will be available as from Friday, 23 July 2021, from 10H00 of the Customer Care Centre, Counter No. 3 of the Municipal Council of Windhoek Head Office, No. 80 Independence Avenue.
Bid Briefing:	Due to the Current Covid-19 Restrictions, written enquiries shall serve as pre-bid briefing and will be conducted from 26 July 2021 to 09 August 2021 - 07h30 - 16h30. The written responses will be communicated by Friday, 13 August 2021.
Closing Date:	Tuesday, 7 September 2021 at 10H00 (NAMIBIAN TIME)
Levy:	N\$ 300.00 (Non-refundable)
Technical Enquiries:	Mr. Vitalis Nepembe Tel: +264 (61) 290 2531 E-mail: Vitalis.Nepembe@windhoekcc.org.na

****Clarification closing date on Tuesday, 24 August 2021 at 10H00**

BIDS WILL BE OPENED AT 10:15am ON THE ABOVE STATED CLOSING DATES VIA ONLINE MICROSOFT TEAMS PLATFORM. (THE LINK TO THE VIRTUAL SESSION WILL BE PROVIDED, UNLESS STATED OTHERWISE)

PMU Enquiries: **Shelupe Mutlifa** Tel: +264 - (0)61 - 290 2270 E-mail: shelupe.mutlifa@windhoekcc.org.na
Heleni Amutenya Tel: +264 - (0)61 - 290 2604 E-mail: Heleni.Amutenya@windhoekcc.org.na

Delivery address: City of Windhoek head office, 80 Independence Avenue, Windhoek, Namibia, at the Customer Care Centre - in the bid box. For bid information, visit our PMU portal at www.windhoekcc.org.na.

Notice No.: 16/2021

BIDS TO BE DEPOSITED IN THE MARKED BID BOX

Issued by: Office of the Chief Executive Officer
Corporate Communications, Marketing and Public Participation
E-mail: cwcommunication@windhoekcc.org.na

Covid hampers informal trade

Border posts' revenue in Zambezi falls

Revenue collection in the region decreased by N\$23 million in 2020 compared to the previous year.

Border posts in Zambezi recorded a 26% decrease in revenue during the 2020/21 financial year, regional governor Lawrence Sampofu has said. Delivering his State of the Region Address this week, Sampofu said the global impact on trade caused by the Covid-19 pandemic had a visible impact on operations at the two main borders in the region. "The border posts experienced a 26% decrease in revenue collection due to the movement restrictions on informal cross-border trade emanating from the Covid-19 pandemic. The agency collected revenue of N\$65 million compared to N\$88

million, indicating a significant reduction," he said.

Import and export declarations, however, increased to 15 889 and 16 010 respectively compared to 13 321 imports and 14 375 exports recorded in the previous financial year. Sampofu further said joint law enforcement teams conducted 34 operations, roadblocks, and border and river patrols to curb illegal activities and to ensure regulatory compliance.

During the operations, penalties to the value of N\$225 000 were collected.

Furthermore, 59 detentions worth N\$330 000 and 73 seizures worth an approximate value of N\$48 000 were recorded.

CHALLENGES

The governor also noted some challenges experienced in the region during the period under review,

saying in most cases, the Covid-19 pandemic hindered progress.

Challenges experienced included resistance from community members in settlements to make way for development, particularly at Chinchimane, Sibbinda, Luseke and Sangwali.

"Flood impact in the Kabbe North, South and Katima Mulilo rural constituencies slowed the implementation of projects," Sampofu said.

He also noted that the porousness of the borderline remains a major contributing factor to revenue leakage and the importing of illicit goods.

"Even while the Covid-19 regulations were in force, both Namibian and foreign nationals continued to smuggle goods across the local rivers, leading to numerous arrests and seizures of goods," Sampofu stated.

- Nampa



ASEC



ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR BEZANT RESOURCES' EXPLORATION ACTIVITIES ON EPL 6605, LOCATED EAST OF THE NAMIB NAUKLUFT NATIONAL PARK

Hope Namibia Mineral Exploration (Pty) Ltd (HNME) holds Exclusive Prospecting Licence (EPL) 6605. HNME is a subsidiary of Bezzant Resources PLC.

Bezzant Resources PLC has commissioned A. Speiser Environmental Consultants cc (ASEC) to undertake the Environmental Impact Assessment (EIA) process and to compile an Environmental Scoping (including impact assessment) Report and Environmental Management Plan for their proposed exploration activities on EPL 6605.



The EPL lies east of the Namib Naukluft National Park, approximately 150 km east of Walvis Bay and 100 km southwest of Windhoek, overlapping the Erongo and Khomas Regions.

An application for an Environmental Clearance Certificate (ECC) will be submitted to the Ministry of Mines and Energy (MME) as the competent authority who will review and forward the application to the Ministry of Environment, Forestry and Tourism (Environmental Commissioner) in terms of the Environmental Management Act, 7 of 2007 and Regulation 6 of the EIA Regulations (January 2012) for the activities associated on the EPL.

Bezzant plans to concentrate on exploration for 'volcanogenic massive sulfide' style copper-gold-silver mineralization deposits in specific target areas on the EPL. The following activities are planned: Mapping; Sampling of rock chips; Ground magnetic and electromagnetic geophysical surveys; and Drilling and collecting of samples.

Name of consultant to contact for further information

A. Speiser Environmental Consultants cc (ASEC)
Contact person: Ms Alexandra Speiser or Mr. W. Petrick
Tel: 081 124 5655 or 081 739 4591
E-mail: amspeiser@yahoo.com or wpetrick@namisun.com

Registration of IAPs and availability of a background information document

To ensure that you are identified as an interested and/or affected party (IAP), please submit your name, contact details and interest in the project to the ASEC address given above. More detail regarding the proposed project is available in a background information document (BID). A copy of the BID will be made available on request to ASEC.

Submission of comments

To ensure that your issues and/or comments are included in the EIA Scoping Report, these should be provided to ASEC in writing to the address provided above by 6 August 2021.



Together we can stop Covid-19

COVID-19 dramatically changed our lives and as Namibians have witnessed the devastating effects of the pandemic first-hand. I got vaccinated as an act of love and patriotism. Let's put this virus behind us.

Ronelle Rademeyer, Republikein News Editor
Namibia Media Holdings

NAMIBIA MEDIA HOLDINGS
We want you to be safe



People queue to buy food at a supermarket in South Africa. PHOTO NAMPA/REUTERS



ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR BEZANT RESOURCES' EXPLORATION ACTIVITIES ON EPL 6605, LOCATED EAST OF THE NAMIB NAUKLUFT NATIONAL PARK

Hope Namibia Mineral Exploration (Pty) Ltd (HNME) holds Exclusive Prospecting Licence (EPL) 6605. HNME is a subsidiary of Bezzant Resources PLC.

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An application for an Environmental Clearance Certificate (ECC) will be submitted to the Ministry of Mines and Energy (MME) as the competent authority who will review and forward the application to the Ministry of Environment, Forestry and Tourism (Environmental Commissioner) in terms of the Environmental Management Act, 7 of 2007 and Regulation 9 of the EIA Regulations (January 2012) for the activities associated on the EPL. Bezzant plans to concentrate on exploration for 'volcanogenic massive sulfide' style copper-gold-silver mineralization deposits in specific target areas on the EPL. The following activities are planned: Mapping; Sampling of rock chips; Ground magnetic and electromagnetic geophysical surveys; and Drilling and collecting of samples.

Name of consultant to contact for further information
A. Speiser Environmental Consultants cc (ASEC)
Contact person: Ms Alexandra Speiser or Mr. W. Petrick
Tel: 081 124 5655 or 081 739 4591
E-mail: amspeiser@yahoo.com or wpetrick@namisun.com

Registration of IAPs and availability of a background information document
To ensure that you are identified as an interested and/or affected party (IAP), please submit your name, contact details and interest in the project to the ASEC address given above. More detail regarding the proposed project is available in a background information document (BID). A copy of the BID will be made available on request to ASEC.

Submission of comments
To ensure that your issues and/or comments are included in the EIA Scoping Report, these should be provided to ASEC in writing to the address provided above by **6 August 2021**.

'Ripple effects of graft'

The largest component of the relief package is the reinstatement of a R350 -a-month social relief grant until the end of March 2022.

ALEXANDER WINNING AND WENDELL ROELF

South Africa plans about R36 billion of relief measures to support businesses and individuals affected by unrest this month and by Covid-19 restrictions, the finance ministry said on Wednesday.

The interventions would be funded by better government revenues and by shifting around some spending, senior officials told a news conference, expanding on measures announced by President Cyril Ramaphosa on Sunday.

The government tightened lockdown restrictions at the end of June as coronavirus cases spiked, but they have since been eased. An economic recovery drive was dealt a big blow by arson and looting triggered by the jailing of former President Jacob Zuma this month.

"We are funding this package within available resources currently. We are not going to be going for borrowing," National Treasury Director-General Dondo Mogajane said.

Edgar Sishi, acting head of the budget office, said increased revenue linked to higher commodity prices meant R36.2 billion of new spending could be accommodated "so long

as those measures are temporary". The largest component of the relief package is the reinstatement of a R350 -a-month social relief grant until the end of March 2022, which will cost R26.7 billion, an annexure released later by the National Treasury showed.

Claims

State insurer Sasria will get R3.9 billion to help pay out claims related to the unrest, R2.3 billion will be spent on helping businesses not covered for civil unrest, and a tax incentive will be expanded by R5 billion to encourage employers to hire and retain staff. More than R2.6 billion of spending will be reprioritised.

Finance Minister Tito Mboweni said one estimate of the damage during the riots was R50 billion. He said an extra R250 million would be allocated to the police and R700 million to the military, and that Sasria which covers against risks including civil unrest would start paying out claims immediately.

The Unemployment Insurance Fund has set aside R5.3 billion in new support, he added. Mogajane said he had reassured investors that the country's economic fundamentals were intact and reforms were happening. Sporadic protests erupted in Zuma's home province after his imprisonment for contempt of court and then escalated, with violence fuelled by the poverty and inequality that persist almost three decades after the end of apartheid.

-Nampa/Routers

EROS

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Appendix D: Background Information Document



BACKGROUND INFORMATION DOCUMENT

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR HOPE NAMIBIA MINERAL EXPLORATION (PTY) LTD'S EXPLORATION ACTIVITIES ON EPL 6605, LOCATED EAST OF THE NAMIB NAUKLUFT NATIONAL PARK – OVERLAPPING THE ERONGO AND KHOMAS REGIONS

INTRODUCTION

Hope Namibia Mineral Exploration (Pty) Ltd holds Exclusive Prospecting Licence (EPL) 6605 which is owned 80% by Hepburn Resources Pty Ltd (a 100% owned subsidiary of Virgo Resources Limited) and 20% by Lovisa Mwandangi Haufiku, a Namibian Citizen. In June 2020, Bezant Resources PLC (i.e. Bezant) announced they had acquired 100% of Virgo Resources Limited.

Bezant has commissioned A. Speiser Environmental Consultants cc (ASEC) to undertake the Environmental Impact Assessment (EIA) process and to compile an Environmental Scoping (including impact assessment) Report and Environmental Management Plan (EMP) for their proposed exploration activities on EPL 6605. The EPL lies east of the Namib Naukluft National Park (NNNP), overlapping the Erongo and Khomas Regions (see Figure 1).

ENVIRONMENTAL APPROVAL

In terms of the Environmental Management Act, 7 of 2007 and EIA Regulations, a project of this nature requires an application for Environmental Clearance from the Ministry of Environment, Forestry and Tourism (MEFT) (Department of Environmental Affairs (DEA)) and an associated EIA (Scoping) process.

Prior to the commencement of the proposed exploration activities over EPL 6605, an application will therefore be submitted by Hope Namibia Mineral Exploration (Pty) Ltd, to the Ministry of Mines and Energy (MME), as the Competent Authority, who will forward the application with their recommendations to the MEFT for their final review and decision whether an Environmental Clearance Certificate (ECC) can be issued.

PURPOSE OF THIS DOCUMENT

This document has been prepared to inform you:

- * About the proposed exploration activities.
- * About the EIA process to be followed.
- * Of possible environmental impacts.
- * How you can have input into the EIA process.

YOUR ROLE

Public involvement is an essential part of the EIA process.

You have been identified as an interested and / or affected party (IAP) who may want to know about the exploration activities and also have input into the EIA process.

All comments will be recorded and addressed in the EIA process.

HOW TO RESPOND

Responses to this document can be submitted by means of the comment sheet or through communication with the contact person(s) listed below.

If you would like your comments to be addressed in the EIA report please submit them by

6 August 2021

WHO TO CONTACT

Alexandra Speiser

Email: amspeiser@yahoo.com

Telephone: 081 739 4591

Werner Petrick

or wpetrick@namisun.com

LOCATION OF EPL 6605

With reference to the above, EPL 6605 lies east of the Namib Naukluft National Park (NNNP), approximately 150 km east of Walvis Bay and 100 km south-west of Windhoek, overlapping the Erongo and Khomas Regions (Refer to Figure 1). The EPL covers an area of ~ 578.5 hectares (ha).

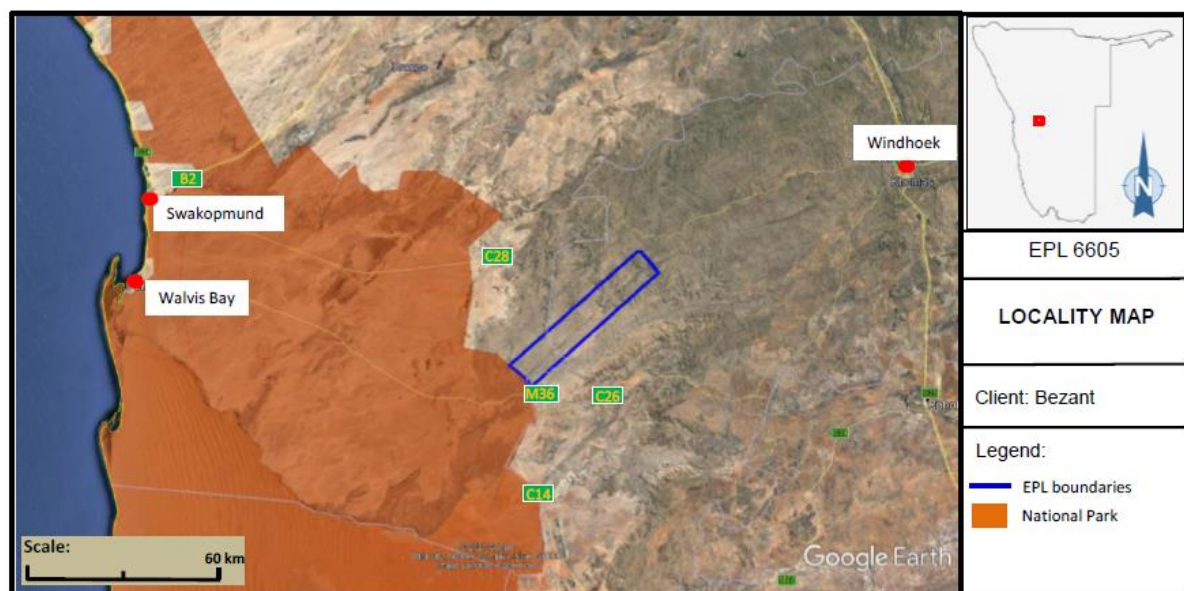


FIGURE 1: EPL 6605 LOCALITY MAP (REFERENCE: GOOGLE EARTH)

DESCRIPTION OF THE PROPOSED ACTIVITIES

The EPL is granted to explore the following commodities: Base and Rare Metals; Dimension Stones; Industrial Minerals; and Precious Metals. Bezant plans to concentrate on exploration for 'volcanogenic massive sulfide' (VMS) style copper-gold-silver mineralisation deposits. Currently, there are no known deposits in this EPL area, only prospects.

The target areas for exploration are historic copper prospects. The two north-easternmost areas are part of the 'Aros Prospect area'; and the two south-westernmost areas are part of the 'Niedersachsen Prospect area'. The four target areas cover the following approximate areas, respectively (refer to Figure 2):

- Target area 1 – ~ 385 ha.
- Target area 2 – ~ 101 ha.
- Target area 3 – ~ 134 ha.
- Target area 4 – ~ 258 ha.

Bezant proposes the following on-ground exploration activities in the above-mentioned target areas:

Mapping; Sampling of rock chips; Ground magnetic and electromagnetic geophysical surveys; and Drilling and collecting of samples.

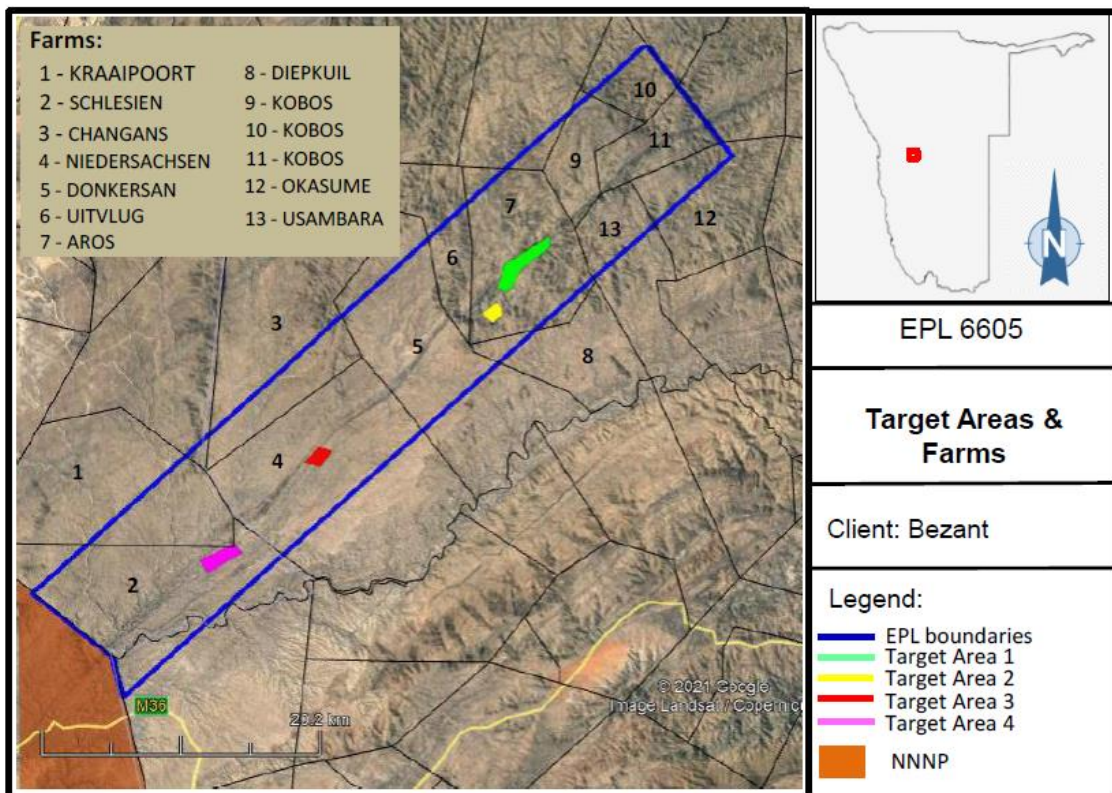


FIGURE 2: TARGET AREAS AND FARMS ON EPL 6605

Mapping

Bezant will review geological maps of the area and onsite ground traverses and observations will be conducted. Mapping will be conducted on foot and only existing tracks will be used (as far as possible) to access the different target areas within the EPL.

Sampling of rock chips

Small samples of rock chips will be collected for further analysis.

Ground magnetic and electromagnetic geophysical surveys

Ground geophysical surveys would be carried out using sensors mounted on vehicles or carried by staff.

Drilling and collecting of samples

Bezant also intends to undertake the drilling of boreholes in the relevant target areas.

Geological targets will be drilled using diamond drilling methods. The drilling rigs used for drilling are mounted on trucks suitable for most terrains. Water for diamond drilling will be transported to site or a water borehole will be drilled at the start of the drilling programme. The necessary water abstraction permits will be obtained from the Department of Water Affairs. Drill pads are kept to a minimum size and the working area will be clearly demarcated.

Where necessary, sumps will be dug into the ground or water containers will be used to hold the water and biodegradable drilling aids are added. All sumps will be lined to avoid seepage of contaminated fluids, e.g. lubricants. Fuel to power the drill rigs is brought to the site in drums or in a small truck.

Diamond drilling will produce continuous solid cores. The core is stored in core trays, logged and stored off-site. After expiry of the EPL licence and the decision not to proceed, the cores will be available to the Geological Survey of Namibia.

Other Machinery / vehicles

Other than the drill rigs, the following machinery / vehicles will be utilized in the drilling program per target area:

- 3 x pick-up trucks (bakkies)
- 1 x diamond drill rig
- 1 x support truck

Employment

It is anticipated that the following personnel will be employed by Bezant to carry out the exploration activities:

- 1 x geologists
- 4 x field assistants
- 6 x drilling operators

The personnel / contractors will be accommodated at Gästefarm Niedersachsen.

Fuel supply and storage

Diesel will be the main consumable and will be required for the generators as well as the vehicles used during the exploration activities. Diesel to power the drill rig will be brought to the site in drums or in a small truck.

Waste manage and rehabilitation

All waste generated during the exploration activities will be contained and removed from site on a weekly basis. Drip trays will be placed under all stationery vehicles and machinery, including the drilling equipment. Any oil spill will be scooped into bags and taken to a permitted disposal site.

Once a drilling site has been established, a portable toilet will be placed onsite to ensure that sewage is contained and disposed of appropriately.

The affected areas will be rehabilitated on an on-going basis and rehabilitation aspects will be clearly divided between the drilling company and Bezant. This will be set out in the EMP. The aim will be to avoid as much as possible any disturbance of the environment as rehabilitation of areas to its natural environment is always difficult.

Access routes

Existing access routes and roads will be used during the exploration activities, as far as possible. The main access to the target areas will be via the M36 and C26 Roads. In liaison with landowners, local two-track roads will be used to access more specific target areas. No new roads will be constructed.

DESCRIPTION OF THE ENVIRONMENT

The EPL area falls within the western-central Escarpment and Inselberg area and the western highlands. The soils are predominantly lithic leptosols. These soils are very thin or shallow and typically form in actively eroding landscapes. As the soils are very shallow water run-off is high. Water runs off into small drainage channels within the EPL area towards the Kuiseb River. During summer temperatures can reach into the higher 30's degrees and during winter months temperature can be as low as 6 degrees. Average rainfall lies between 100 – 200 mm. Evaporation is high, around 2200 mm/annum.

Vegetation is sparse. With some small shrubs and grass after good rains have been received. Bigger trees, such as acacias occur within the river beds.

The area covered by EPL 6605 is characterised by surficial quaternary sand and gravel overlying the Swakop Group of the Damara Supergroup. The area is dominated by massive mica schists of the Kuiseb Formation of the Pan-African Damara Orogen.

The south-western boundary of the EPL borders the NNNP. The EPL fall over 13 privately owned farms (refer to Figure 2).

POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROPOSED EXPLORATION ACTIVITIES SON EPL 6605

Potential environmental and social impacts that can arise from the proposed exploration activities in the target areas in EPL 6605 include but are not limited to:

- Loss of biodiversity and/or general disturbance.
- Impact on archaeological and cultural features.
- Impacts on ground and surface water quality.
- Localised dust pollution.
- Localised noise impacts.
- Minimal visual impacts.
- Potential employment opportunities (temporary).
- Stimulation of local economy through service supply to exploration program.

These aspects will be considered in the EIA process and relevant management & mitigation measures put into the EMP.

PLANNED TIMING OF THE PROPOSED ACTIVITIES

An approved EIA/EMP report and associated ECC is required from MEFT before Bezant can continue with further exploration activities in the target areas. The exploration programme is expected to take ~ 2 months to complete.

HOPE NAMIBIA MINERAL EXPLORATION (PTY) LTD
ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR HOPE NAMIBIA MINERAL EXPLORATION (PTY) LTD'S EXPLORATION ACTIVITIES ON EPL 6605, LOCATED EAST OF THE NAMIB NAUKLUFT NATIONAL PARK – OVERLAPPING THE ERONGO AND KHOMAS REGIONS
REGISTRATION AND RESPONSE FORM FOR INTERESTED AND AFFECTED PARTIES

DATE		TIME	
PARTICULARS OF THE INTERESTED AND AFFECTED PARTY			
NAME			
POSTAL ADDRESS			
		POSTAL CODE	
STREET ADDRESS			
		POSTAL CODE	
WORK/ DAY TELEPHONE NUMBER		WORK/ DAY FAX NUMBER	
CELL PHONE NUMBER		E-MAIL ADDRESS	

PLEASE IDENTIFY YOUR INTEREST IN THE PROPOSED PROJECT
PLEASE WRITE YOUR COMMENTS AND QUESTIONS HERE

Appendix E: IAPs and farmers contacted

Organisation	Name
Erongo Regional Council	S. //Hoebes
	Maria Shilongo
Ministry of Mines & Energy	Erasmus Shivolo
	Anna Gideon
	Frieda Flavianu
MEFT	Damian Nchindo
	Saima Angula
The Chamber of Mines of Namibia	Veston Malango
Namibian Chamber of Environment	Chris Brown
Affected landowners:	
Farm Niedersachsen	Hugo Coetzee (renting the farm) K. Ahlert (owner)
Farm Aros	Mr and Ms Kessler
Schlesien North	Ms Groenwald
Schlesien South	Ms Tromp (managing farm trust)
Kraaifontein	Mr W Bakker (farm Manager) Farm worker (Sakkie)
Donkersan	Mr. M Huber
Diepkuil	Mr and Ms H Huber
Farmers Union	Mr Davids (Boesman)
IAP registration after newspaper adverts	
IAP	Alexander Shapumba
NBRI	Vanessa Stein
Dip. Entrepreneurship and New Venture Management Co-Founder & Managing Director of Open Innovation Investment CC Chairperson of Open Foundation of Hope of the	Kennedy V. Kandjii

SUMMARY OF THE MEETINGS AND DISCUSSIONS HELD

Various one to one meetings (informal) and telephone discussions with relevant land owners on EPL 6605 were held during the EIA Scoping process. Reference was made to the BID during these discussions / meetings. A summary of the (informal) meetings and discussions held by the Environmental Team is presented in the Table below.

SUMMARY OF THE MEETINGS AND DISCUSSIONS HELD BY THE ENVIRONMENTAL TEAM DURING THE SCOPING PROCESS

Farm name & owner	Date of correspondence	Method / place of meeting
Farm Niedersachsen <ul style="list-style-type: none"> • Hugo Coetzee (renting the farm) • K Ahlert (Owner) 	A few time during July and August 2021.	Various telephone calls and follow up emails.
Farm Aros <ul style="list-style-type: none"> • Mr and Ms Kessler 	August 2021	Meeting in Swakopmund and various and follow up telephone calls.
Schlesien North <ul style="list-style-type: none"> • Ms Groenwald 	August 2021	Telephone call and follow up email.
Schlesien South <ul style="list-style-type: none"> • Ms Tromp (managing farm trust) 	August 2021	Various telephone calls and Meeting on farm Telephone call and follow up email.
Kraaifontein <ul style="list-style-type: none"> • Mr W Bakker (farm Manager) • Farm worker (Sakkie) 	August 2021	Visited the farm and met with farm workers. Called Mr Bakker telephonically.
Donkersan <ul style="list-style-type: none"> • Mr. M Huber 	July & August 2021	Various telephone calls.
Diepkuil <ul style="list-style-type: none"> • Mr and Ms H Huber 	July & August 2021	Met with M Huber in Swakopmund. Various telephone calls thereafter with Mr Huber.

Farmers Union <ul style="list-style-type: none"> • Mr Davids (Boesman) 	July 2021	Telephone call.
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The following list of key issues, questions & comments were raised during the above meetings:

- What exactly is planned for the exploration activities?
- Received information about historic exploration activities (not specific to EPL 6605) that were not conducted very well and the exploration company made a mess and did not properly rehabilitate.
- Very limited groundwater is available. It is unlikely that Groundwater will be available for the proposed exploration activities.
- Concerned about access to the farm and the exploration team that would move around on the farm. There could be security issues and there is game that could be poached
- Animals (i.e .Oryx) move though the farm and specifically near the target area. Where will the exploration Team stay? If there are people moving in this are during the night time, it might spook the oryx away
- The BID states that the main access to the target areas will be via the M36 and C26 Roads. This cannot be. The target areas can only be access via the D1982 road.
- Once the start mining in this area, what will the benefits be to us as the land owners?

Refer to section 4.3 of the EIA Scoping Report for responses to these issues, questions, comments.

Furthermore, some of the farmers did not allow access (art first) to the Environmental Team onto their farms for a site visit.

Appendix F: Specialist Vegetation study for the proposed exploration activities on EPL 6605 (Bezant Project), July 2021, by C. Mannheimer.

Specialist Vegetation study for the proposed exploration activities on EPL 6605 (Bezant Project)

July 2021



Prepared for: ASEC

Prepared by: Coleen Mannheimer (manfam@iafrica.com.na)

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EXECUTIVE SUMMARY

A specialist desktop vegetation scoping study was done to identify potential impacts on the Namibian flora of a proposed exploration drilling program in Khomas Hochland escarpment area east of the Namib-Naukluft National park.

The escarpment harbours numerous endemic and near endemic plant species, including some of restricted distribution or habitat. This makes them extremely vulnerable to disturbance. Recovery in this arid zone is slow, so unnecessary damage must be avoided.

Recorded plant diversity is quite low compared to the Khomas Hochland as a whole. The size of the envisaged exploration target area is small in relation to the EPL, and very small in relation to the vegetation zone within which it is situated and, although endemic and protected plants are present, there appear to be none of extremely high concern. However, for the purpose of mining in future a more detailed field assessment would be necessary.

If mitigation measures are followed, then the impact of this project on vegetation is likely to be minor to negligible, with only minor losses of species of concern. However, in the respect of a future mining license application, given the far larger areas that would be impacted, a field study during the rainy season is recommended.

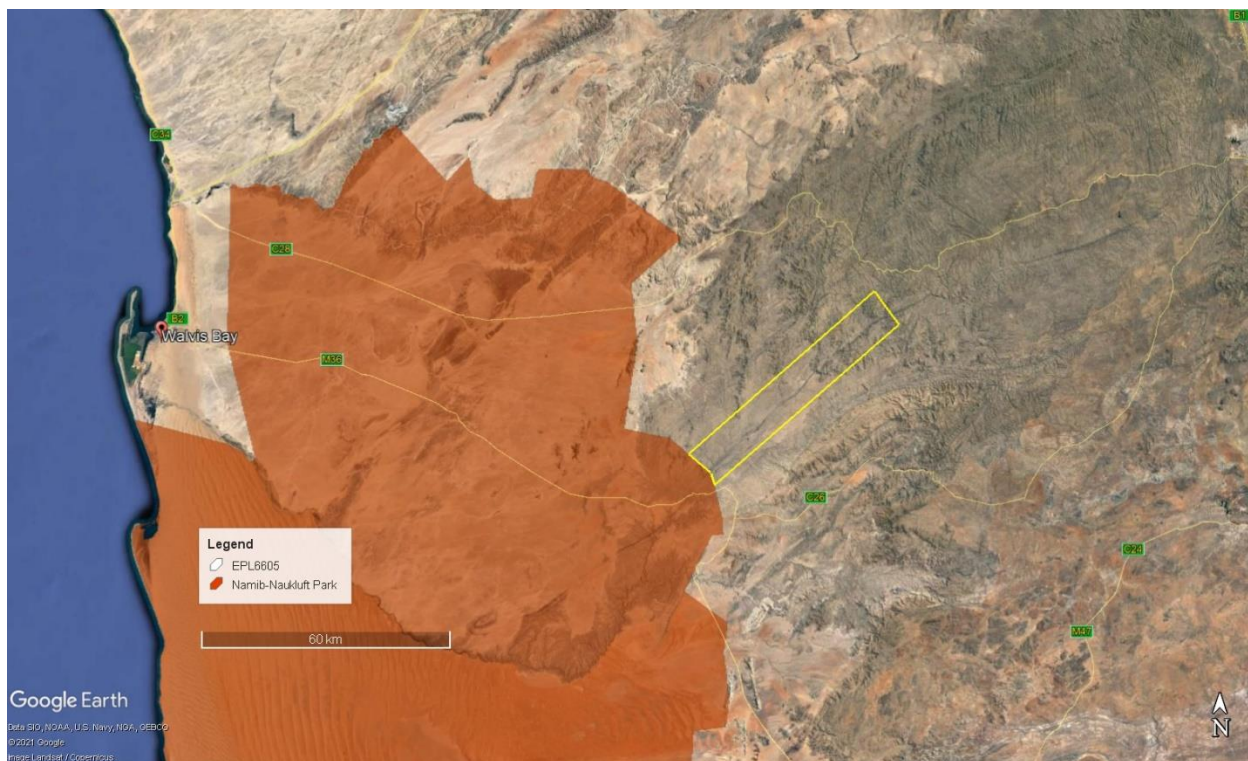
1. INTRODUCTION

1.1 Proposed exploration activities on EPL 6605

A licence has been granted to explore for Base and Rare Metals, Dimension Stones, Industrial Minerals and Precious Metals on EPL 6605, which covers approximately 56500 hectares and lies in the Erongo and Khomas regions of Namibia. The target areas for exploration are historic copper prospects. Bezant plans to concentrate on exploration for 'volcanogenic massive sulfide' (VMS) style copper-gold-silver mineralisation deposits. Both non-invasive and invasive exploration processes are planned, including mapping, sampling of rock chips, ground magnetic and electromagnetic geophysical surveys and drilling and collecting of samples.

The two north-easternmost areas are part of the 'Aros Prospect area'; and the two south-westernmost areas are part of the 'Niedersachsen Prospect area'.

Figure 1: Locality of EPL 6605.

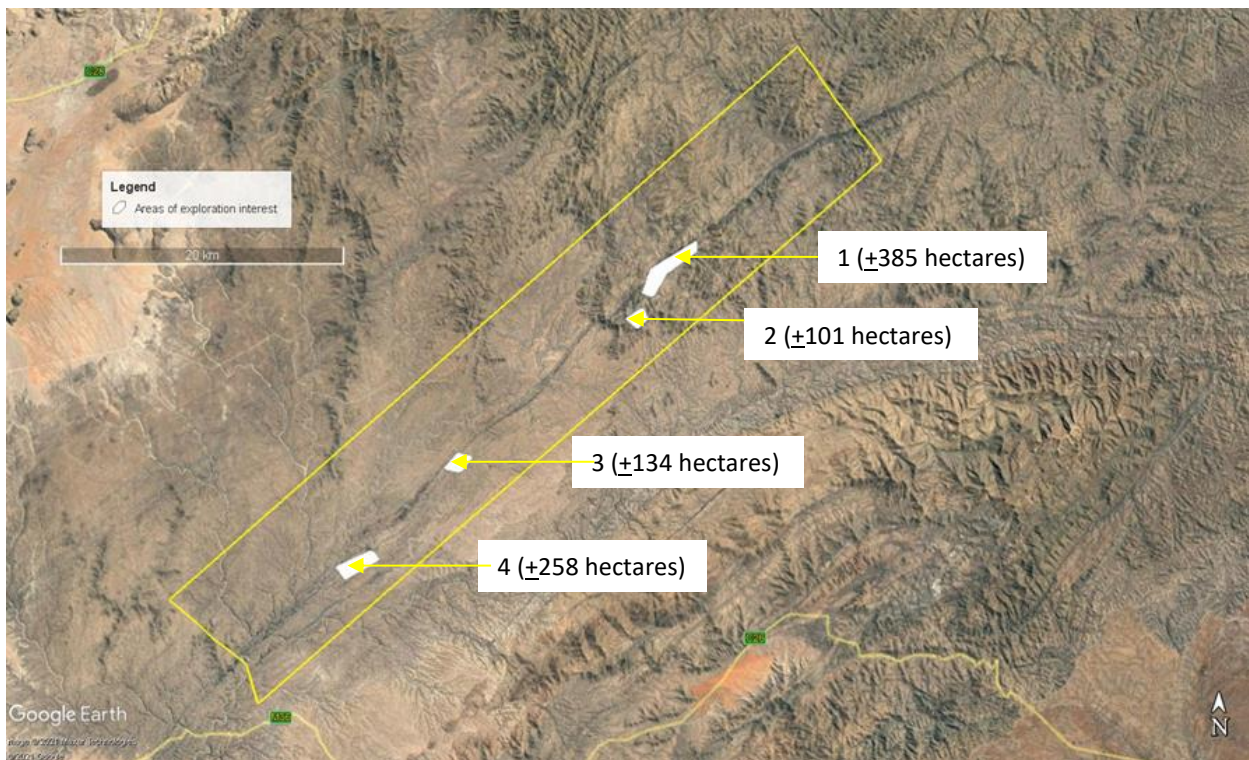


1.2 Terms of Reference and study approach

Geographical scope: The broader study area was EPL 6605 (as indicated in Figure 1). There are four areas where drilling exploration activities are planned. Two of these lie on the lower foothills of the escarpment and two lie in the higher ridges further north-east (Figure 2). The four target areas cover the following approximate areas, respectively, a total of around 878 hectares (1.55% of the EPL area):

- Target area 1 – ~ 385 ha.
- Target area 2 – ~ 101 ha.
- Target area 3 – ~ 134 ha.
- Target area 4 – ~ 258 ha.

Figure 2: Four exploration areas totalling 878 hectares, or 1.55% of the EPL, are targeted for exploration.



Bottom line outcome: Determine whether there are any plant taxa of high conservation concern that would be at risk during exploration activities.

Taxonomic scope: Terrestrial plants.

The objectives of the specialist vegetation study are to:

- By means of a review of relevant information, identify the plant species that occur or are thought to occur in the general project area, with emphasis on those that are valuable from a biodiversity and/or ecological point of view.
- Identify areas with sensitive vegetation (species that are endemic, protected, or otherwise of high conservation value) and explain the value of each site.
- Identify relevant national and international guidelines, protocols, legal and permit requirements (if any) to ensure compliance with such.
- Identify and assess the potential impacts (including cumulative impacts) on the flora resulting from the proposed project activities, including cumulative impacts.
- Provide mitigation measures to avoid/reduce negative impacts or enhance benefits during all phases of the project.

1.3 Methodology

Review of literature sources and known plant species distribution according to the National Herbarium Database (BRAHMS) and the Namibian Tree Atlas Project (TAP) database as well as species and area conservation status. Four quarter degree squares, 2315 AD, BC, CA and CB were queried.

Preparation of report.

Nomenclature largely follows Klaassen & Kwembeya (eds) 2013. No specimens were collected.

1.4 Assumptions and limitations

Due to the very limited extent of the four areas of Interest, a detailed desktop was deemed to be sufficient for the purpose of exploration. However, according to records at the National Herbarium, collecting intensity has not been very high, so the species list from the herbarium database is likely somewhat limited. It has been augmented by records from the Tree Atlas Project, and known endemic species of concern that do not appear on the list have also been considered. However, in the respect of a future mining license application, given the far larger areas that would be impacted, a field study during the rainy season is recommended.

2. LEGAL AND POLICY REQUIREMENTS

2.1 Acts and ordinances

Namibia's Constitution provides for the protection of the environment in Article 95(1), which says: "The State is obliged to ensure maintenance of ecosystems, essential ecological processes and biological diversity and utilisation of living natural resources on a sustainable basis for the benefit of Namibians both present and future".

Plant species are protected by various mechanisms in Namibia, including Nature Conservation Ordinance No. 4 of 1975, including amendments, and Forest Act 12 of 2001 as amended in 2005 and the regulations promulgated in 2012, which aims to conserve soil and water resources and maintain biological diversity, and which also includes the list of protected species (Government Gazette No. 5801). This act also requires any removal of any living tree, bush or shrub growing within 100 metres of a river, stream or watercourse to be done under to auspices of a permit issued by an appropriate official from the Directorate of Forestry.

The Environmental Management Act 7 of 2007 fixes principles for decision-making on issues affecting the environment.

2.2 Namibian commitment to international standards and/or guidelines

Namibia is a signatory to the Convention on Biodiversity, committing it to the preservation of species, particularly rare and endemic species, within its boundaries. As a signatory also to the Convention to Combat Desertification it is also bound to prevent excessive land degradation that may threaten livelihoods.

2.3 National policies and guidelines

The project does not impinge on any national protected areas.

3. AFFECTED ENVIRONMENT

3.1 Location

The project area (Figure 1) is situated on commercial farmland directly adjacent to the Namib-Naukluft National Park, approximately 150 km due east of the coastal town of Walvis Bay.

3.2 Climate

3.2.1 Temperature

According to Mendelsohn et al. 2002, average daily temperatures vary between a minimum of approximately 7° C in the coldest month, with about 5 to 10 days of frost, and a maximum of 32° C in the warmest month in the area.

3.2.2 Wind

Winds are likely locally variable given the nature of the terrain.

3.2.3 Moisture

Rainfall is likely highly variable, patchy in the study area, where it varies from 150 to approximately 250 mm p.a. (Mendelsohn et al. 2002), increasing from west to east.

3.3 General

The EPL lies in the western reaches of the Khomas Hochand, which forms part of the Namibian section of the Great Escarpment of southern Africa, a zone that, as a whole, is regarded as an under-researched and under-collected zone of faunal and botanical diversity and endemism (e.g. Craven & Vorster 2006, Clark *et al* 2011). It largely falls into the Semi-desert and Savanna Transition zone (Escarpment) of Giess (1998), impinging slightly on his Highland Savanna zone in the north-east of the EPL. The most recent vegetation survey of the Khomas Hochland (Strohbach 2021), designates the area as the Pre-Namib and Escarpment Zone, which is dissected by several ephemeral watercourses, such as the Kuiseb River, with well-developed riparian zones that are, to a considerable extent, formed by protected trees, such as *Acacia erioloba*, *Ziziphus mucronata*, *Faidherbia albida* and *Euclea pseuebenus*.

These zones correlate largely with the Western-Central Escarpment and Inselbergs and Western Highlands of Mendelsohn *et al* (2002), who regard grazing availability there as low to medium, plant diversity as medium and plant endemism as medium.

4. RESULTS AND DISCUSSION

4.1 Species diversity

Despite almost 1000 Namibian indigenous plant species being known to occur in the Khomas Hochland, recorded indigenous plant diversity in the general vicinity of the study is not very high, at 257 (Appendix A). This is likely due to a lower habitat and niche diversity as a result of the absence of the high-lying plains and very high mountain slopes and peaks that are found further east. Niche diversity is credited for the high number of endemic flora and fauna in the Khomas Hochland as a whole (Irish in Mannheimer 2012).

4.1.1 Endemics and protected species.

Twenty-six endemic, 17 near-endemic and 20 protected species (of which 15 are trees and 5 are succulents) have been recorded in the general vicinity of the study area. Table 1 provides an annotated list of these species. Notable is the absence of extremely range-restricted highland endemics, such as *Aloe viridiflora*, *Dicoma dinteri*, *Ebracteola montis-moltkei*, *Haemanthus avasmontanus*, *Hibiscus discophorus* and *Namacodon schinzianum*. These species, several of which are rare and protected, occur mainly at altitudes over 1700m, but this does not preclude the possibility of them occurring in the higher reaches of the EPL. However, the four target areas lie under 1400m, so they are unlikely to occur there. Given detailed fieldwork, several other endemics that have not previously been recorded here, including slightly less rare or range-restricted taxa, such as (*inter alia*) *Crotalaria aurea*, *Lapeirousia avasmontana*, *Jamesbrittenia hereroensis*, *Senecio windhoekensis*, *Lotononis pallidirosea*, *Lithops pseudotruncatella* subsp. *pseudotruncatella* *Jamesbrittenia fleckii* and *J. tenella* may very well still be found within the EPL, as well as other non-endemic protected species, such as *Orbea lutea* subsp. *vaga*, *Ruschia axthelmiana*, *Aloe* spp. and others. However, given the very small extent of the exploration areas any impact on those species is likely to be low, and unlikely to affect their present conservation status.

Table 1: Annotated list of endemic, near-endemic and protected species previously recorded in the general area of EPL6605. Protected species indicated in red.

2215DD, 2216CC, 2315BB and 2316AA	Protected by Forest Act 12 of 2001, as amended in 2005 and the 2015 regulations (Government Gazette No. 5801) or Conservation Ordinance No. 4 of 1975, including amendments	IUCN/Red Data Status, if of concern; DD = Data Deficient; R = Rare	CITES II	Notes
Endemic				
Near endemic				
<i>Acacia erioloba</i> E.Mey.	1			Widespread
<i>Adenium boehmianum</i> Schinz	1			Reasonably widespread
<i>Aizoanthemum dinteri</i> (Schinz) Friedrich				Reasonably widespread
<i>Albizia anthelmintica</i> (A. Rich.) Brongn.	1			Widespread
<i>Aloe dichotoma</i> Masson	1	VU	1	Reasonably widespread
<i>Aloe hereroensis</i> Engl. var. <i>hereroensis</i>	1		1	Reasonably widespread
<i>Aloe littoralis</i> Baker	1		1	Reasonably widespread
<i>Amphiasma divaricatum</i> (Engl.) Bremek.				Reasonably widespread
<i>Aptosimum arenarium</i> Engl.				Reasonably widespread
<i>Aspilia eenii</i> S.Moore				Reasonably widespread
<i>Boscia albitrunca</i> (Burch.) Gilg & Gilg-Ben.	1			Widely distributed
<i>Bulbostylis mucronata</i> C.B.Clarke				Widespread
<i>Calostephane marlothiana</i> O.Hoffm.				Reasonably widespread
<i>Centropodia mossamedensis</i> (Rendle) Cope				Reasonably widespread
<i>Citrullus rehmi</i> De Winter				Reasonably widespread
<i>Cleome suffruticosa</i> Schinz				Widespread. Common
<i>Commiphora glaucescens</i> Engl.				Reasonably widespread
<i>Commiphora saxicola</i> Engl.	1			Reasonably widespread, subject to illegal harvesting
<i>Commiphora virgata</i> Engl.	1			Reasonably widespread, subject to illegal harvesting
<i>Crinum giessii</i> Lehmillier		R		Geophyte, unlikely to be affected, sandy plains

Crotalaria aurea Dinter ex Baker f.		DD		Somewhat restricted distribution but common where it occurs
Cyphostemma bainesii (Hook.f.) Desc.	1			Reasonably widespread, but never common; subject to illegal harvesting
Cyphostemma currorii (Hook.f.) Desc.	1			Reasonably widespread, but never common; subject to illegal harvesting
Danthoniopsis ramosa (Stapf) Clayton				Reasonably widespread
Dombeya rotundifolia (Hochst.) Planch. var. velutina I.Verd.				Widespread
Euclea pseudebenus E.Mey. ex A.DC.	1			Reasonably widespread
Euphorbia damarana L.C.Leach				Reasonably widespread
Faidherbia albida (Delile) A.Chev.	1			Reasonably widespread
Felicia smaragdina (S.Moore) Merxm.				Widespread
Ficus cordata Thunb. subsp. cordata	1			Reasonably widespread
Geigeria rigida O.Hoffm.				Somewhat limited distribution
Harpagophytum procumbens (Burch.) DC. ex Meisn. subsp. procumbens	1			Widespread, plains species
Hermannia elliottiana (Harv.) K.Schum.				Somewhat limited distribution
Hibiscus fleckii Guerke				Widespread
Indigofera rautanenii Baker f.				Reasonably widespread
Jamesbrittenia pallida (Pilg.) Hilliard				Somewhat limited distribution
Kohautia azurea (Dinter & K.Krause) Bremek.				Reasonably widespread
Maerua schinzii Pax	1			Widespread. Common
Manulea dubia (Skan) Overkott ex Roessler				Reasonably widespread
Manuleopsis dinteri Thell.				Limited distribution
Merremia bipinnatipartita (Engl.) Hallier f.				Reasonably widespread
Monsonia umbellata Harv.				Widespread, common
Moringa ovalifolia Dinter & A.Berger	1			Reasonably widespread and common
Nolletia tenuifolia Mattf.				Restricted distribution. Reasonably common in its range
Obetia carruthersiana (Hiern) Rendle				Reasonably widespread and common

Orbea maculata (N.E.Br.) L.C.Leach subsp. rangeana (Dinter & A.Berger) Bruyns (N.E.Br.) L.C.Leach subsp. maculata	1			Reasonably widespread, but uncommon
Panicum arbusculum Mez				Reasonably widespread and common
Pavonia rehmannii Szyszyl.				Reasonably widespread
Pentatrachia petrosa Klatt				Reasonably widespread
Petalidium setosum C.B.Clarke ex Schinz				Reasonably widespread
Rogeria bigibbosa Engl.				Restricted distribution
Senecio windhoekensis Merxm.				Restricted distribution
Sterculia africana (Lour.) Fiori var. africana	1			Reasonably widespread, seldom common
Tephrosia dregeana E.Mey. var. dregeana				Widespread, common
Ziziphus mucronata Willd. subsp. mucronata	1			Widespread, common
Zygophyllum cylindrifolium Schinz				Reasonably widespread, common

4.2 Habitats

Based on literature, the Google Earth satellite image (Imagery 21.20.2014) and personal observations, the following three general habitats can be distinguished in the study area:

4.2.1 Large and small drainage lines

The area as a whole drains towards the Kuiseb River. The drainage lines vary in size, with several very substantial ones present, particularly in Target area 1. Of particular concern in these are the riparian fringes, which carry numerous protected trees.

Sensitivity:

Small drainage lines: Low

Medium and large drainage lines: Low to medium

Providing that collateral damage is strictly controlled the species in the ephemeral drainage lines will likely be little affected by the exploration program.

4.2.2 Low gravelly and rocky foothills (including Target Areas 3 and 4 - Niedersachsen prospect area)

More than half of the EPL consists of relatively low-lying and sparsely vegetated hill that form and undulating terrain. No species of high concern occurs in this habitat. Although endemic and/or protected species, including *Aloe hereroensis*, *Commiphora saxicola*, *C. virgata* and several endemic and near-endemic herbs and grasses are highly likely to occur here, most of them are relatively widespread and/or common, and providing care is taken to restrict collateral damage the project is unlikely to result in the loss of sufficient individuals so as to affect the conservation status of any species.

Sensitivity: Low to medium

4.2.3 Higher altitude hills and rocky koppies (including Target Areas 1 and 2 - Aros prospect area)

The north-western part of the EPL is higher-lying, with far steeper koppies, ridges and slopes, with varying aspects, and is deeply incised and drained by ephemeral water courses. Due to niche diversity the number of species that occurs here is likely to be far higher than in the foothills, and is likely to include many of the endemic, near-endemic and/or protected species that have been listed in Table 1, as well as a proportion of other such species not yet recorded for the area. However, because the exploration area is only a small proportion of the EPL, and most of the species concerned are relatively widespread and/or common, providing care is taken to restrict collateral damage (especially tracks) the project is unlikely to result in the loss of sufficient individuals so as to affect the conservation status of any species.

Sensitivity: Low to Medium

5. CONCLUSIONS

This desktop study has found no plant species of high conservation concern that would be substantially affected by the proposed exploration drilling, providing that unnecessary collateral damage is mitigated and avoided.

6. POTENTIAL IMPACTS

Potential impacts include loss of plants of conservation concern and others due to:

- Direct destruction of plants of conservation concern and/or their habitats.
- Loss of woody vegetation due to illegal harvesting of wood for fuel.
- Illegal collection of plants or plant parts.

7. IMPACT ASSESSMENT

7.1 Impact assessment

7.1.1 Direct destruction

Description of Impact

Direct destruction of plants of conservation concern and/or their habitats, which occurs as a result of movement of vehicles over previously undamaged, drill sites and staff accommodation areas.

Sensitive Receptors

Restricted range endemic and/or protected plant species and their habitats.

Assessment

Due to the small proportion the exploration area forms of the vegetation zone, the presence of some existing roads and tracks, comparatively low species diversity, and the likely absence of Khomas Hochland species of high conservation concern, given mitigation the potential impact is of minor concern.

Mitigation

Only unavoidable damage should be done. Unnecessary collateral damage, such as multiple tracks to any location and widening of tracks due to corrugations, must be avoided. Damage to large woody and succulent species must be avoided.

<i>Direct destruction of plants of conservation concern and/or their habitats</i>		
	Without Mitigation	Assuming Mitigation
Intensity	Low	Low
Duration	Long-term	Medium-term
Extent	Local: limited to within the project concession	Local
Consequence	Moderate	Low
Probability	Most likely	Possibly
Significance	Moderate	Low
Status	Negative	Negative

Confidence	High	High
Nature of Cumulative impact	Insignificant	
Degree to which impact can be reversed	Low due to the rocky terrain and shallow soils	
Degree to which impact can be mitigated	Control of unnecessary damage can very effectively mitigate the potential damage, constraining it to a very limited total area. Avoidance of protected species as indicated in Appendix B will reduce the impact even further.	

7.1.2 Illegal wood harvesting

Description of Impact

Loss of woody vegetation due to illegal harvesting of wood for fuel.

Sensitive Receptors

Protected trees.

Assessment

It is expected that the exploration staff will be accommodated on a guest farm close by, so harvesting of wood should be minimal unless staff are allowed to take wood for sale elsewhere.

Mitigation

Collection of wood must be disallowed.

<i>Illegal wood harvesting</i>		
	Without Mitigation	Assuming Mitigation
Intensity	Low	Low
Duration	Long-term	Short-term
Extent	Local: limited to within the project concession	Local
Consequence	Moderate	Low

Probability	Possibly	Unlikely
Significance	Moderate	Low
Status	Negative	Negative
Confidence	High	High
Nature of Cumulative impact		
	Insignificant	
Degree to which impact can be reversed	If any appreciable wood harvesting occurs it will be difficult to reverse due to slow growth rates of woody species in this arid zone	
Degree to which impact can be mitigated	The impact can be prevented to a very large extent	

7.1.3 Illegal plant collection

Description of Impact

Illegal collection of plants or plant parts is a problem in Namibia. Geophytes and succulents, *inter alia* *Cyphostemma*, *Aloe* and *Lithops* species, are at particular risk of being harvested for sale or horticultural purposes. Collection of plants or plant material of any kind, including seeds, may only be done under the auspices of a permit from the Ministry of Environment, Forestry and Tourism.

Sensitive Receptors

Protected and/or endemic plant species.

Assessment

This impact is one that may easily occur, and is often seen in mining areas.

Mitigation

Collection of plants and plant parts must be disallowed.

<i>Illegal plant collection</i>		
	Without Mitigation	Assuming Mitigation
Intensity	Moderate	Low

Duration	Long-term	Short-term
Extent	Local: limited to within the project concession	Local
Consequence	Moderate	Low
Probability	Possibly	Unlikely
Significance	Moderate	Low
Status	Negative	Negative
Confidence	High	High
Nature of Cumulative impact	Theft of protected plants, especially those valued in the horticultural trade is becoming a serious issue throughout Namibia, so cumulative impacts are of increasing concern	
Degree to which impact can be reversed	This impact will be virtually impossible to reverse	
Degree to which impact can be mitigated	The impact can be prevented to a very large extent if the issue is taken seriously.	

7.2 Mitigation and Management summary

- Tracks must be kept to a minimum and must be adhered to.
- Efforts should be made to avoid damage to, or destruction of pachycaul species (i.e. species with swollen, moisture-storing trunks and stems), such as *Adenium boehmianum*, *Commiphora saxicola*, *Commiphora virgata*, and *Cyphostemma* spp., as well as *Aloe* spp. If any are found at drill sites, then they should be clearly marked and the sites should be adjusted to avoid them. See Appendix B below for images to assist identification of these species.
- Collection of wood for fuel must be disallowed.
- No collection of any plant or parts of a plant should be allowed.

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- Tree Atlas of Namibia (TAP) Database.

9. ACKNOWLEDGEMENTS

The National Herbarium of Namibia is thanked for the use of information from the specimen database: Botanical Research and Herbarium Management System (BRAHMS), National Botanical Research Institute.

Appendix A: Bezant Species List (excluding aliens)				
Quarter degree squares queried: 2215DD, 2216CC, 2315BB and 2316AA	Protected by Forest Act 12 of 2001, as amended in 2005 and the 2015 regulations (Government Gazette No. 5801) or Conservation Ordinance No. 4 of 1975, including	IUCN/Red Data Status if of concern; DD = Data Deficient; R = Rare	CITES II	Notes
Endemic				
Near endemic				
Abutilon pycnodon Hochr.				
<i>Acacia erioloba</i> E.Mey.	1			
<i>Acacia hebeclada</i> DC. subsp. hebeclada				
<i>Acacia hereroensis</i> Engl.				
<i>Acacia karroo</i> Hayne				
<i>Acacia mellifera</i> (Vahl) Benth. subsp. detinens (Burch.) Brenan				
<i>Acacia reficiens</i> Wawra subsp. reficiens				
<i>Acacia senegal</i> (L.) Willd. var. <i>rostrata</i> Brenan				
<i>Adenium boehmianum</i> Schinz	1			Reasonably widespread
<i>Adenolobus garipensis</i> (E.Mey.) Torre & Hillc.				
<i>Adenolobus pechuelii</i> (Kuntze) Torre & Hillc.				
<i>Aerva leucura</i> Moq.				
<i>Aizoanthemum dinteri</i> (Schinz) Friedrich				
<i>Albizia anthelmintica</i> (A. Rich.) Brongn.	1			Widespread
<i>Aloe dichotoma</i> Masson	1	VU	1	Reasonably widespread
<i>Aloe hereroensis</i> Engl. var. <i>hereroensis</i>	1		1	Reasonably widespread
<i>Aloe littoralis</i> Baker	1		1	Reasonably widespread
<i>Amphiasma divaricatum</i> (Engl.) Bremek.				Reasonably widespread
<i>Anthehora ramosa</i> Gooss.				
<i>Aptosimum arenarium</i> Engl.				Reasonably widespread
<i>Aptosimum lineare</i> Marloth & Engl. var. <i>lineare</i>				
<i>Aristida adscensionis</i> L.				
<i>Aspilia eenii</i> S.Moore				Reasonably widespread
<i>Asplenium cordatum</i> (Thunb.) Sw.				
<i>Berkheya spinosissima</i> (Thunb.) Willd. subsp. <i>namaensis</i> Roessler var. <i>argentifolia</i> Roessler				
<i>Blepharis obmitrata</i> C.B.Clarke				

<i>Boscia albitrunca</i> (Burch.) Gilg & Gilg-Ben.	1			Widely distributed
<i>Boscia foetida</i> Schinz subsp. <i>foetida</i>				
<i>Brachiaria deflexa</i> (Schumach.) C.E.Hubb. ex Robyns				
<i>Brachiaria grossa</i> Stapf				
<i>Bulbostylis hispidula</i> (Vahl) R.W.Haines				
<i>Bulbostylis mucronata</i> C.B.Clarke				
<i>Bulbostylis pusilla</i> (A.Rich.) C.B.Clarke				
<i>Calicorema capitata</i> (Moq.) Hook.f.				
<i>Calostephane marlothiana</i> O.Hoffm.				Reasonably widespread
<i>Cardiospermum pechuelii</i> Kuntze				
<i>Catophractes alexandri</i> D.Don				
<i>Centropodia glauca</i> (Nees) Cope				
<i>Centropodia mossamedensis</i> (Rendle) Cope				Reasonably widespread
<i>Chascanum garipense</i> E.Mey.				
<i>Cheilanthes dinteri</i> Brause				
<i>Cheilanthes marlothii</i> (Hieron.) Schelpe				
<i>Cheilanthes parviloba</i> (Sw.) Sw.				
<i>Citrullus rehmanii</i> De Winter				Reasonably widespread
<i>Cleome oxyphylla</i> Burch. var. <i>oxyphylla</i>				
<i>Cleome suffruticosa</i> Schinz				Widespread. Common
<i>Coccinia rehmannii</i> Cogn.				
<i>Codon schenckii</i> Schinz				
<i>Combretum apiculatum</i> Sond. subsp. <i>apiculatum</i>				
<i>Commelina benghalensis</i> L.				
<i>Commicarpus fallacissimus</i> (Heimerl) Heimerl ex Oberm., Schweick. & I.Verd.				
<i>Commicarpus squarrosus</i> (Heimerl) Standl.				
<i>Commiphora glandulosa</i> Schinz				
<i>Commiphora glaucescens</i> Engl.				Reasonably widespread
<i>Commiphora pyracanthoides</i> Engl.				
<i>Commiphora saxicola</i> Engl.	1			Reasonably widespread, subject to illegal harvesting
<i>Commiphora tenuipetiolata</i> Engl.				
<i>Commiphora virgata</i> Engl.	1			Reasonably widespread, subject to illegal harvesting
<i>Corallocarpus dissectus</i> Cogn.				
<i>Corallocarpus schinzii</i> Cogn.				
<i>Corbichonia decumbens</i> (Forssk.) Exell				
<i>Cordia sinensis</i> Lam.				

Crinum giessii Lehmillier		R		
Crinum lugardiae N.E.Br.				
Crotalaria argyrea Welw. ex Baker				
Crotalaria aurea Dinter ex Baker f.		DD		Restricted distribution
Crotalaria heidmannii Schinz				
Crotalaria podocarpa DC.				
Croton gratissimus Burch.				
Cryptolepis decidua (Planch. ex Hook.f. & Benth.) N.E.Br.				
Cucumella cinerea (Cogn.) C.Jeffrey				
Cucumis africanus L.f.				
Cucumis anguria L. var. longaculeatus J.H.Kirkbr.				
Cucumis sagittatus Peyr.				
Cuscuta hyalina Roth				
Cyamopsis serrata Schinz				
Cyperus bellus Kunth				
Cyperus schinzii Boeck.				
Cyperus squarrosus L.				
<i>Cyphostemma bainesii</i> (Hook.f.) Desc.	1			Reasonably widespread, but never common; subject to illegal harvesting
<i>Cyphostemma congestum</i> (Baker) Desc. ex Wild & R.B.Drumm.				
<i>Cyphostemma currorii</i> (Hook.f.) Desc.	1			Reasonably widespread, but never common; subject to illegal harvesting
<i>Dactyliandra welwitschii</i> Hook.f.				
<i>Danthoniopsis ramosa</i> (Stapf) Clayton				Reasonably widespread
<i>Dichrostachys cinerea</i> (L.) Wight & Arn.				
<i>Dipcadi bakerianum</i> Bolus				
<i>Dipcadi gracillimum</i> Baker				
<i>Dipcadi longifolium</i> (Lindl.) Baker				
<i>Dombeya rotundifolia</i> (Hochst.) Planch. var. <i>velutina</i> I.Verd.				Widespread
<i>Ehretia alba</i> Retief & A.E.van Wyk (Thunb.) Druce subsp. <i>rigida</i>				
<i>Elephantorrhiza suffruticosa</i> Schinz				
<i>Emilia marlothiana</i> (O.Hoffm.) C.Jeffrey				
<i>Enneapogon desvauxii</i> P.Beauv.				
<i>Enneapogon scoparius</i> Stapf				
<i>Eragrostis annulata</i> Rendle ex Scott-Elliot				

Eragrostis nindensis Ficalho & Hiern				
Eragrostis porosa Nees				
Eragrostis trichophora Coss. & Durieu				
Eriocephalus luederitzianus O.Hoffm.				
Eriospermum rautanenii Schinz				
Eriospermum roseum Schinz				
<i>Euclea pseudebenus</i> E.Mey. ex A.DC.	1			Reasonably widespread
<i>Euclea undulata</i> Thunb.				
<i>Euphorbia damarana</i> L.C.Leach				Reasonably widespread
<i>Euphorbia glanduligera</i> Pax				
<i>Euphorbia guerichiana</i> Pax				
<i>Euphorbia monteiri</i> Hook.f. subsp. monteiri				
<i>Euphorbia virosa</i> Willd. subsp. virosa				
<i>Fagonia isotricha</i> Murb. var. isotricha				
<i>Faidherbia albida</i> (Delile) A.Chev.	1			Reasonably widespread
<i>Felicia anthemidodes</i> (Hiern) Mendonça				
<i>Felicia smaragdina</i> (S.Moore) Merxm.				Widespread
<i>Ferraria glutinosa</i> (Baker) Rendle				
<i>Ficus cordata</i> Thunb. subsp. cordata	1			Reasonably widespread
<i>Ficus ilicina</i> (Sond.) Miq.				
<i>Forsskaolea candida</i> L.f.				
<i>Forsskaolea viridis</i> Ehrenb. ex Webb				
<i>Geigeria acaulis</i> (Sch.Bip.) Benth. & Hook.f. ex Oliv. & Hiern				
<i>Geigeria rigida</i> O.Hoffm.				Somewhat limited distribution
<i>Gisekia africana</i> (Lour.) Kuntze var. africana				
<i>Gladiolus saccatus</i> (Klatt) Goldblatt & M.P.de Vos				
<i>Gomphocarpus fruticosus</i> (L.) W.T.Aiton subsp. fruticosus				
<i>Gomphocarpus tomentosus</i> Burch. subsp. tomentosus				
<i>Gossypium anomalum</i> Wawra ex Wawra & Peyr. subsp. anomalum				
<i>Grewia bicolor</i> Juss. var. bicolor				
<i>Grewia flava</i> DC.				
<i>Grewia flavescens</i> Juss.				
<i>Grewia tenax</i> (Forssk.) Fiori var. tenax				
<i>Grielum sinuatum</i> Licht. ex Burch.				
<i>Gymnosporia senegalensis</i> (Lam.) Loes.				
<i>Harpagophytum procumbens</i> (Burch.) DC. ex Meisn. subsp. procumbens	1			

<i>Heliotropium ciliatum</i> Kaplan				
<i>Hermannia abrotanoides</i> Schrad.				
<i>Hermannia eliottiana</i> (Harv.) K.Schum.				Somewhat limited distribution
<i>Hermannia helianthemum</i> K.Schum.				
<i>Hermannia modesta</i> (Ehrenb.) Mast.				
<i>Hermbstaedtia argenteiformis</i> Schinz				
<i>Hibiscus eliottiae</i> Harv.				
<i>Hibiscus fleckii</i> Guerke				Widespread
<i>Hirpicium gazanioides</i> (Harv.) Roessler				
<i>Indigastrum parviflorum</i> (B. Heyne ex Wight & Arn.) Schrire subsp. <i>parviflorum</i> var. <i>parviflorum</i>				
<i>Indigofera auricoma</i> E.Mey.				
<i>Indigofera heterotricha</i> DC.				
<i>Indigofera pechuelii</i> Kuntze				
<i>Indigofera rautanenii</i> Baker f.				Reasonably widespread
<i>Ipomoea holubii</i> Baker				
<i>Jamesbrittenia canescens</i> (Benth.) Hilliard var. <i>seineri</i> (Pilg.) Hilliard				
<i>Jamesbrittenia pallida</i> (Pilg.) Hilliard				Somewhat limited distribution
<i>Jamesbrittenia tenella</i> (Hiern) Hilliard				
<i>Kissenia capensis</i> Endl.				
<i>Kohautia azurea</i> (Dinter & K.Krause) Bremek.				Reasonably widespread
<i>Kohautia caespitosa</i> Schnizl. subsp. <i>brachyloba</i> (Sond.) D.Mantell				
<i>Kohautia cynanchica</i> DC.				
<i>Lantana dinteri</i> Moldenke				
<i>Lapeirousia coerulea</i> Schinz				
<i>Launaea intybacea</i> (Jacq.) P.Beauv.				
<i>Lemna aequinoctialis</i> Welw.				
<i>Limeum aethiopicum</i> Burm. subsp. <i>namaense</i> Friedrich var. <i>namaense</i>				
<i>Limeum argute-carinatum</i> Wawra ex Wawra & Peyr. var. <i>argute-carinatum</i>				
<i>Limeum myosotis</i> H.Walter var. <i>myosotis</i>				
<i>Lotononis platycarpa</i> (Viv.) Pic.Serm.				
<i>Lycium bosciifolium</i> Schinz				
<i>Lycium eenii</i> S.Moore				
<i>Maerua parvifolia</i> Pax				
<i>Maerua schinzii</i> Pax	1			Widespread. Common
<i>Manulea dubia</i> (Skan) Overkott ex Roessler				Reasonably widespread
<i>Manuleopsis dinteri</i> Thell.				Limited distribution
<i>Merremia bipinnatipartita</i> (Engl.) Hallier f.				Reasonably widespread
<i>Mollugo cerviana</i> (L.) Ser. ex DC. var. <i>cerviana</i>				
<i>Momordica humilis</i> (Cogn.) C.Jeffrey				

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Monandrus squarrosus (L.) Vorster subsp. squarrosus ms.				
Monechma divaricatum (Nees) C.B.Clarke				
Monsonia glauca R.Knuth				
Monsonia senegalensis Guill. & Perr.				
Monsonia umbellata Harv.				Widespread, common
Montinia caryophyllacea Thunb.				
Moringa ovalifolia Dinter & A.Berger	1			Reasonably widespread and common
Mundulea sericea (Willd.) A.Chev.				
Nemesia fruticans (Thunb.) Benth.				
Nolletia arenosa O.Hoffm.				
Nolletia gariepina (DC.) Mattf.				
Nolletia tenuifolia Mattf.				Restricted distribution. Reasonably common in its range
Obetia carruthersiana (Hiern) Rendle				Reasonably widespread and common
Ocimum americanum L. var. americanum				
Oldenlandia herbacea (L.) Roxb. var. herbacea				
Oncocalyx welwitschii (Engl.) Polhill & Wiens				
Orbea maculata (N.E.Br.) L.C.Leach subsp. rangeana (Dinter & A.Berger) Bruyns (N.E.Br.) L.C.Leach subsp. maculata	1			Reasonably widespread, but uncommon
Ornithoglossum vulgare B.Nord.				
Oropetium capense Stapf				
Orthanthera albida Schinz				
Otoptera burchellii DC.				
Oxalis purpurascens T.M.Salter				
Ozoroa crassinervia (Engl.) R.Fern. & A.Fern.				
Panicum arbusculum Mez				Reasonably widespread and common
Parkinsonia africana Sond.				
Pavonia rehmannii Szyszyl.				Reasonably widespread
Pechuel-Loeschea leubnitziae (Kuntze) O.Hoffm.				
Pegolettia senegalensis Cass.				
Pelargonium otaviense R.Knuth				
Pentatrichia petrosa Klatt				Reasonably widespread
Pergularia daemia (Forssk.) Chiov. var. daemia				
Pergularia daemia (Forssk.) Chiov. var. leiocarpa (K.Schum.) H.Huber				
Petalidium setosum C.B.Clarke ex Schinz				Reasonably widespread
Petalidium variabile (Engl.) C.B.Clarke var. spectabile Mildbr.				
Phaeoptilum spinosum Radlk.				
Pogonarthria fleckii (Hack.) Hack.				

Polygala guerichiana Engl.				
Portulaca wightiana Wall. ex Wall. & Arn.				
Rhigozum trichotomum Burch.				
Rhynchosia candida (Welw. ex Hiern) Torre				
Rogeria bigibbosa Engl.				Restricted distribution
Rothea myricoides (Hochst.) Steane & Mabb.				
Schmidtia kalahariensis Stent				
Salvadora persica L.				
Searsia lancea (L.f.) F.A.Barkley				
Searsia marlothii (Engl.) Moffett				
Searsia undulata (Jacq.) T.S.Yi, A.J.Mill. & J.Wen				
Senecio consanguineus DC.				
Senecio eenii (S.Moore) Merxm.				
Senecio windhoekensis Merxm.				Restricted distribution
Sesamum capense Burm.f.				
Sesamum schenckii Asch.				
Sesamum schinzianum Asch.				
Sesamum triphyllum Welw. ex Asch. var. grandiflorum (Schinz) Merxm.				
Sesuvium sesuvioides (Fenzl) Verdc. var. angustifolium (Schinz) GonÅ†.				
Setaria appendiculata (Hack.) Stapf				
Sporobolus nervosus Hochst.				
Steganotaenia araliacea Hochst. var. araliacea				
Sterculia africana (Lour.) Fiori var. africana	1			Reasonably widespread, seldom common
Stipagrostis hirtigluma (Steud. ex Trin. & Rupr.) De Winter subsp. pearsonii (Henrard) De Winter				
Stipagrostis hochstetteriana (Beck ex Hack.) De Winter var. secalina (Henrard) De Winter				
Stipagrostis obtusa (Delile) Nees				
Stipagrostis uniplumis (Licht.) De Winter var. uniplumis				
Sutherlandia frutescens (L.) R.Br.				
Tamarix usneoides E.Mey. ex Bunge				
Tapinanthus oleifolius (J.C.Wendl.) Danser				
Tarchonanthus camphoratus L.				
Tephrosia dregeana E.Mey. var. dregeana				Widespread, common
Tetradenia riparia (Hochst.) Codd				
Thamnosma africana Engl.				
Tribulocarpus dimorphanthus (Pax) S.Moore				
Tribulus excrucians Wawra				
Tribulus terrestris L.				
Tribulus zeyheri Sond. subsp. zeyheri				
Tricholaena monachne (Trin.) Stapf & C.E.Hubb.				

Trichoneura eleusinoides (Rendle) Ekman				
Trochomeria macrocarpa (Sond.) Hook.f. subsp. vitifolia (Hook.f.) R.& A.Fern.				
Ursinia nana DC. subsp. nana				
Xerophyta viscosa Baker				
Ziziphus mucronata Willd. subsp. mucronata	1			Widespread, common
Zygophyllum cylindrifolium Schinz				Reasonably widespread, common
Zygophyllum microcarpum Licht. ex Cham. & Schltldl.				
Zygophyllum simplex L.				

Appendix BB: Protected pachycaul and succulent species to be avoided.



Aloe hereroensis



Aloe dichotoma



Cyphostemma bainesii



Cyphostemma currorii



Commiphora saxicola



Commiphora virgata



Adenium boehmianum

**Appendix G: Archaeological Assessment of Exploration Targets on EPL 6605,
Khomas Region, Namibia (Dr. John Kinahan, September 2021)**

J. Kinahan, Archaeologist

P.O. Box 22407

Windhoek

Namibia

21 September 2021

For attention: Alexandra Speiser, ASEcc, P.O. Box 40386, Windhoek, Namibia

and Werner Petrick, NamiSun Environmental Projects & Development, Namibia

**ARCHAEOLOGICAL ASSESSMENT OF EXPLORATION TARGETS ON EPL 6605, KHOMAS REGION,
NAMIBIA**

DECLARATION

I hereby declare that I do:

- (a) have knowledge of and experience in conducting assessments, including knowledge of Namibian legislation, specifically the National Heritage Act (27 of 2004), as well as regulations and guidelines that have relevance to the proposed activity;
- (b) perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- (c) comply with the aforementioned Act, relevant regulations, guidelines and other applicable laws.

I also declare that I have no interests or involvement in:

- (i) the financial or other affairs of either the applicant or his consultant
- (ii) the decision-making structures of the National Heritage Council of Namibia.

Note: The purpose of this report is to assist the client in gaining consent from the National Heritage Council of Namibia to proceed with mineral exploration and related activities at specific locations as defined herein. The report must always be quoted in full, and not in part, summary or précis form. The report may not be distributed or used for any other purpose by the client, the National Heritage Council of Namibia or any other party and remains the copyright of the author.



John Kinahan, Archaeologist

EXECUTIVE SUMMARY

An archaeological field survey and assessment was carried out on EPL 6605 located in the western parts of the Khomas Region of Namibia, focussing on four exploration targets defined by the lease holder, Bezant Resources. The areas covered by the field survey contain archaeological evidence of late pre-colonial settlement, consisting of well-preserved stone dwellings and related features. The area also contains the historically important refuge of Messrs Henno Martin and Martin Korn, two German geologists who retreated into the Namib Desert in order to evade internment during the Second World War. Most of the area covered by the four exploration targets is without significant archaeological or historical remains. It is recommended that the location of the few sensitive sites documented here should be excluded from exploration activities by means of an appropriate buffer zone. It is also recommended that the project should adopt an archaeological Chance Finds Procedure to cater for unexpected discoveries of archaeological remains in the course of future site development.

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1. Introduction
2. Legal requirements
3. Archaeological setting
4. Observations
5. Assessment
6. Conclusions & recommendations
7. Site photographs

Appendix 1 Chance finds procedure

1. INTRODUCTION

1.1 Background

Bezant Resources is investigating the mineral potential of EPL 6605 in the Khomas Region of Namibia, and has identified four target areas for detailed evaluation. Mining and exploration are listed in the Environmental Management Act (2007) as requiring environmental assessment and the issuance of an Environmental Clearance Certificate. Bezant has appointed ASEC and NamiSun to carry out the environmental assessment. Archaeological remains in Namibia are protected under the National Heritage Act (27 of 2004) and National Heritage Regulations (Government Notice 106 of 2005), and ASEC and NamiSun have appointed the undersigned, J. Kinahan, archaeologist, to carry out an assessment of the EPL 6605 exploration targets. A field visit and survey of the exploration targets was carried out between 14th and 17th September 2021. The following report sets out the results of the survey, and an assessment of the archaeological significance of the exploration targets with recommendations for the conservation of sites protected under the National Heritage Act (27 of 2004).

1.2 Terms of Reference

The primary task of the archaeological assessment reported here was to identify sensitive archaeological sites that could be affected by the proposed exploration and mining activities. The archaeological assessment forms the basis of recommended management actions to avoid or reduce negative impacts, as part of the overall environmental assessment. The study is intended to satisfy the requirements of the relevant legislation and regulations, in which the process of review and clearance may require further, or different mitigation measures to be adopted.

Specifically, the archaeological assessment addresses the following primary elements:

1. The identification and assessment of potential impacts on archaeological resources, including historical sites arising from the proposed exploration and mining activities.
2. The identification and demarcation of highly sensitive archaeological sites requiring special mitigation measures to eliminate, avoid or compensate for possible destructive impacts.
3. Formulation and motivation of specific mitigation measures for the project to be considered by the authorities for the issuance of clearance certificates.
4. Identify permit requirements as related to the removal and/or destruction of heritage resources.

1.3 Assumptions & Limitations

Archaeological assessment relies on the indicative value of surface finds recorded in the course of field survey. Field survey results are augmented wherever possible by inference from the results of surveys and excavations carried out in the course of previous work in the same general area as the proposed project, as well as other sources such as historical documentation. Based on these data, it is possible to predict the likely occurrence of further archaeological sites with some accuracy, and to present a general statement (see Archaeological setting,

below) of the local archaeological site distribution and its sensitivity. However, since the assessment is limited to surface observations and existing survey data, it is necessary to caution the proponent that hidden, or buried archaeological or palaeontological remains might be exposed as the project proceeds.

2. LEGAL REQUIREMENTS

The principal instrument of legal protection for archaeological/heritage resources in Namibia is the National Heritage Act (27 of 2004). Part V Section 46 of the Act prohibits removal, damage, alteration or excavation of heritage Sites or remains. Section 48 *ff* 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. 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 notify the National Heritage Council. Heritage Sites or remains are defined in Part 1, Definitions 1, as “any remains of human habitation or occupation that are 50 or more years old found on or beneath the surface”.

It is important to be aware that no specific regulations or operating guidelines have been formulated for the implementation of the National Heritage Act in respect of archaeological assessment. However, archaeological impact assessment of mineral exploration and mining projects has become accepted practice in Namibia during the last 25 years, especially where project proponents need also to consider international guidelines. A document entitled *Archaeological Guidelines for Exploration and Mining in the Namib Desert*¹ has been compiled and widely circulated in the mining community (see Appendix 2). In cases where international guidelines are applicable, those of the World Bank OP/ BP 4.11 in respect of “Physical Cultural Resources” (R2006-0049, revised April 2013) are most appropriate. Of these guidelines, those relating to project screening, baseline survey and mitigation are the most relevant.

Archaeological impact assessment in Namibia may also take place under the rubric of the Environmental Management Act (7 of 2007) which specifically includes anthropogenic elements in its definition of environment. The list of activities that may not be undertaken without Environmental Clearance Certificate: Environmental Management Act, 2007 (Govt Notice 29 of 2012), and the Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Govt Notice 30 of 2012) both apply to the management of impacts on archaeological sites and remains whether these are considered in detail by the environmental assessment or not.

3. ARCHAEOLOGICAL SETTING

The Khomas Region of Namibia including the central highlands of the country is an important archaeological landscape, although evidence of human occupation is mainly limited to the last few millennia.² The reason for

¹ Kinahan, J. (2012)

² Mitchell, P. 2002. *The archaeology of southern Africa*. Cambridge: Cambridge University Press.

this truncated archaeological record lies in the generally high gradients of the central highlands which are subjects to both active incision of drainage and extensive sheet erosion, the latter mainly due to thin vegetation cover over most of the area. During the last 2 000 years, hunter-gatherer communities in this region acquired domestic sheep and pottery, establishing a highly productive semi-nomadic pastoral mode of subsistence which retained key hunter-gatherer adaptations. In the last one thousand years the circulation of iron and copper items became more common and by the 12th century AD communities living in the upper !Khuseb catchment had begun small-scale copper production based on ores from the Matchless Mine gossan³.

Pre-colonial copper production formed part of a diverse economic base which included hunting and gathering as well as livestock production and copper artefacts, mainly beads, acquired a value equivalence to livestock⁴, such that livestock in excess of the owner's manpower capacity in herding could be converted into copper items which were redeemable in the event that livestock numbers declined. The beads were traded throughout the region during the last one thousand years and metallurgical studies have shown that copper beads circulating within the region reflected a diversity of sources⁵. Namib Desert communities on the western fringes of the Khomas Region developed a highly specialized use of wild food plants including grass seed obtained from the underground storage caches of harvester ants. The use of these plants enabled desert communities to achieve a measure of food security which seems to have resulted in improved infant survival and a growth in human population during the last two thousand years.

Indigenous copper production and trade declined rapidly from the end of the 18th century, following the establishment of trading contacts with European and north American ships calling at Walvis Bay. In exchange for livestock used to provision their ships, European traders introduced a range of exotic commodities. Important among these were glass trade beads which were absorbed into the indigenous value system, along with European ceramics and metal goods⁶. The quantity of introduced commodities, combined with the fact that they had no link with local subsistence economies, introduced an inflationary spiral leading to the collapse of indigenous metal production. In the mid-19th century the Matchless orebody, along with a number of other

³ Adamson, R.G. and Teichmann, R. F.H. 1986. The Matchless Cupreous Pyrite Deposit, South West Africa/Namibia. In Anhaeusser, C.R. and Maske, S. eds *Mineral Deposits of Southern Africa*. Johannesburg, Geological Society of South Africa.

⁴ Kinahan, J. 1980. Eighteenth century coppersmiths in central Namibia: Comments on some sources and syntheses. *Namibiana* 2: 17–22.

⁵ Miller, D.E. & Kinahan, J. 1992. The metallurgical analysis of copper beads and ore from archaeological sites in central Namibia. *Communications of the Geological Survey of Namibia* 8: 67–79.

⁶ Kinahan, J.H.A. 2000. *Cattle for Beads: The archaeology of historical contact and trade on the Namib coast*. Uppsala University: Studies in African Archaeology 17.

copper occurrences related to the amphibolite belt, were worked on a small scale by European mining entrepreneurs, among them Charles John Andersson⁷.

Detailed archaeological surveys were carried out in the Matchless area during the 1970's. The dating of the sites was confirmed through radiocarbon analyses⁸ (see Table 1) and experimental smelting was carried out in an attempt to reconstruct and understand the degree of local metallurgical knowledge, based on the archaeological evidence⁹. Archaeological and historical evidence of copper-working at Matchless Mine was extensively damaged during an attempt to rehabilitate the mine in the early 2000's¹⁰, so that currently there is little remaining evidence of this important precolonial economic development. It is for this reason that an archaeological assessment of the exploration targets on EPL 6605 was considered important.

Table 1: Radiocarbon dates for precolonial copper production in the vicinity of Matchless Mine

Lab. Number	Locality	14C age (yrs BP)
Pta-2564	Otjompau 1	130±50 BP
Pta-2559	Otjompau 2	275±40 BP
Pta-3428	Matchless Mine	190±45 BP
Pta-3429	Stanco	230±40 BP
Pta-3433	Apies	130±45 BP
Pta-3436	Baumgartsbrunn	320±45 BP

⁷ Lau, B. 1987. *Namibia in Jonker Afrikaner's time*. Windhoek: National Archives of Namibia, *Archeia* 8; Lau, B. 1987. *The Matchless Copper Mine in 1857: correspondence of manager C. J. Andersson*. Charles John Andersson Papers, Vol. 1., Windhoek, *Archeia* No. 7 pp. 113.

⁸ Kinahan, J. and Vogel, J. 1982. Recent copper-working sites in the !Khuiseb drainage, Namibia. *South African Archaeological Bulletin* 37: 44-45.

⁹ Elflo, L. & Kettis, E. 1994. Experimental production of metallic copper based on archaeological investigations at the Matchless orebody. Unpublished report National Museum of Namibia.

¹⁰ Kinahan, J. 2005. An archaeological assessment of Matchless Mine. Report prepared for Synergistics and Ongopolo Mining.

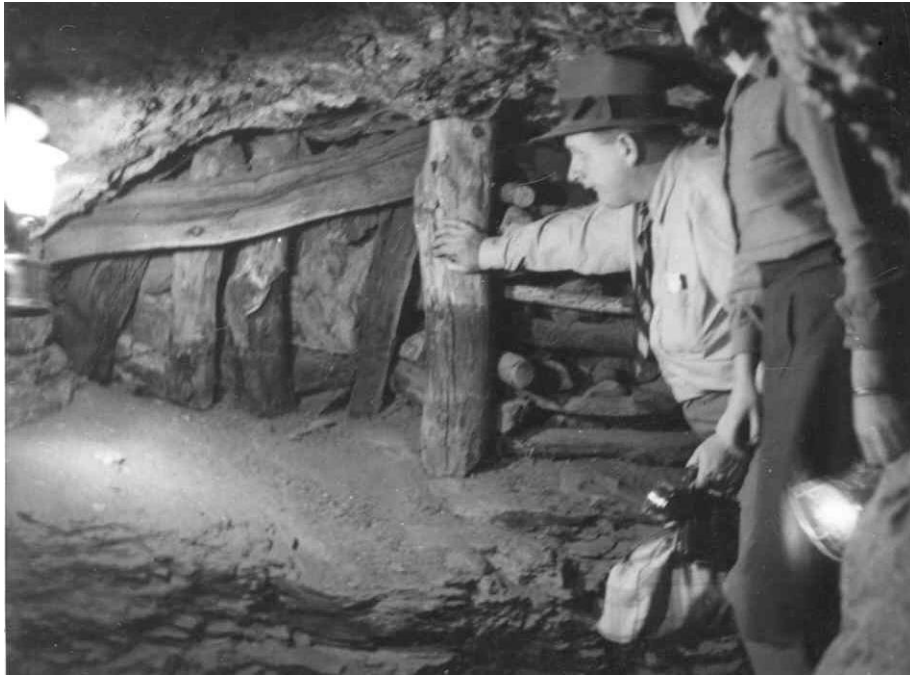


Figure 1: Timberwork in 19th century underground workings at Matchless, courtesy of National Archives of Namibia (HMK 19/1/1). Photograph by Annelise Scherz, ca 1950.

MATCHLESS MINE (Historical Section)

Survey: B.C.R.A. Grade 5. J. Irish, E. Marais: 31.X. & 14.XI.1986.

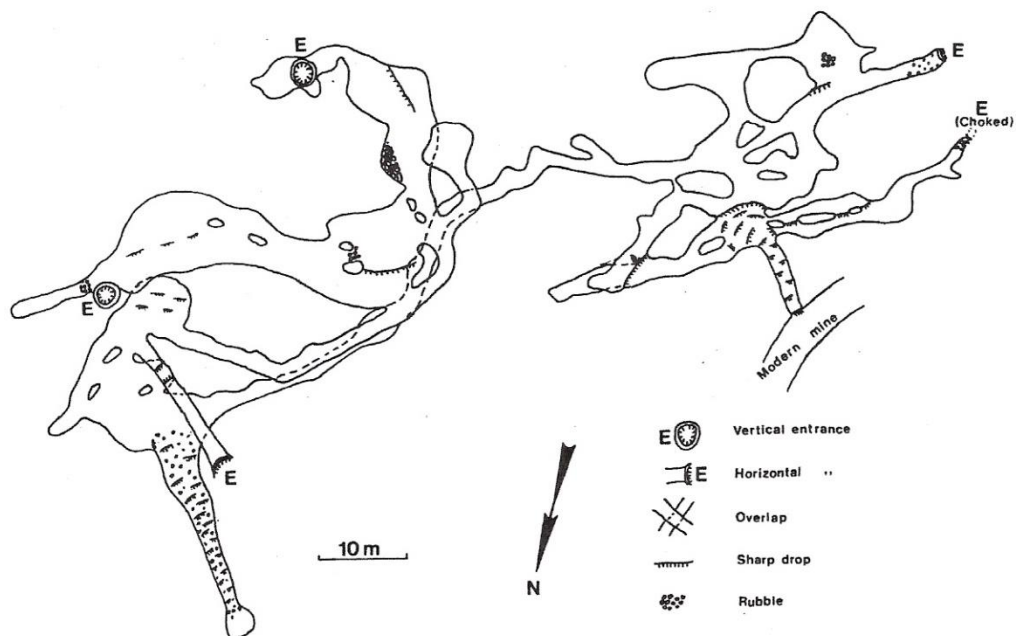


Figure 2: Plan of 19th century underground workings at Matchless in 1986, courtesy of J. Irish and E. Marais.



Figure 3: Mid-19th century porcelain from Matchless Mine. Top left probably a chamber pot rim fragment; lower left rim sherd from coarse porcelain ginger jar (ex-SE Asia); other transfer-printed earthenware (ex-British Staffordshire potteries); note regularly spaced perforations of top centre pieces, probably a formal tableware draining plate.

4. OBSERVATIONS

Figure 4 shows the location of EPL 6605 in relation to the Matchless amphibolite belt and the known distribution of archaeological sites, including those linked to precolonial copper production in the vicinity of Matchless Mine. Also shown in the diagram are copper occurrences that were worked historically and may have as yet undetected evidence of earlier indigenous use. EPL 6605 which lies on the edge of the escarpment is in a somewhat more arid setting than Matchless. The archaeological site distribution shows that the area surrounding the lease is not well surveyed archaeologically. The lower diagram in Figure 4 shows the location of the four exploration targets which formed the focus of the present study. Target A is located on the farm Schlesien Nord, target B on the farm Niedersachsen, and targets C and D on the farm Aros.

The four exploration target areas while relatively small in extent were difficult of access having only rough farm tracks leading into their near vicinity. The four target areas are characterized by rugged, rocky terrain with high angle slopes which have been for the most part subject to extensive sheet and gully erosion. Soil erosion in this terrain effectively removes almost all archaeological traces with the exception of built stone features such as described below, and surface finds located in small pockets of soil that are fortuitously protected from erosion.

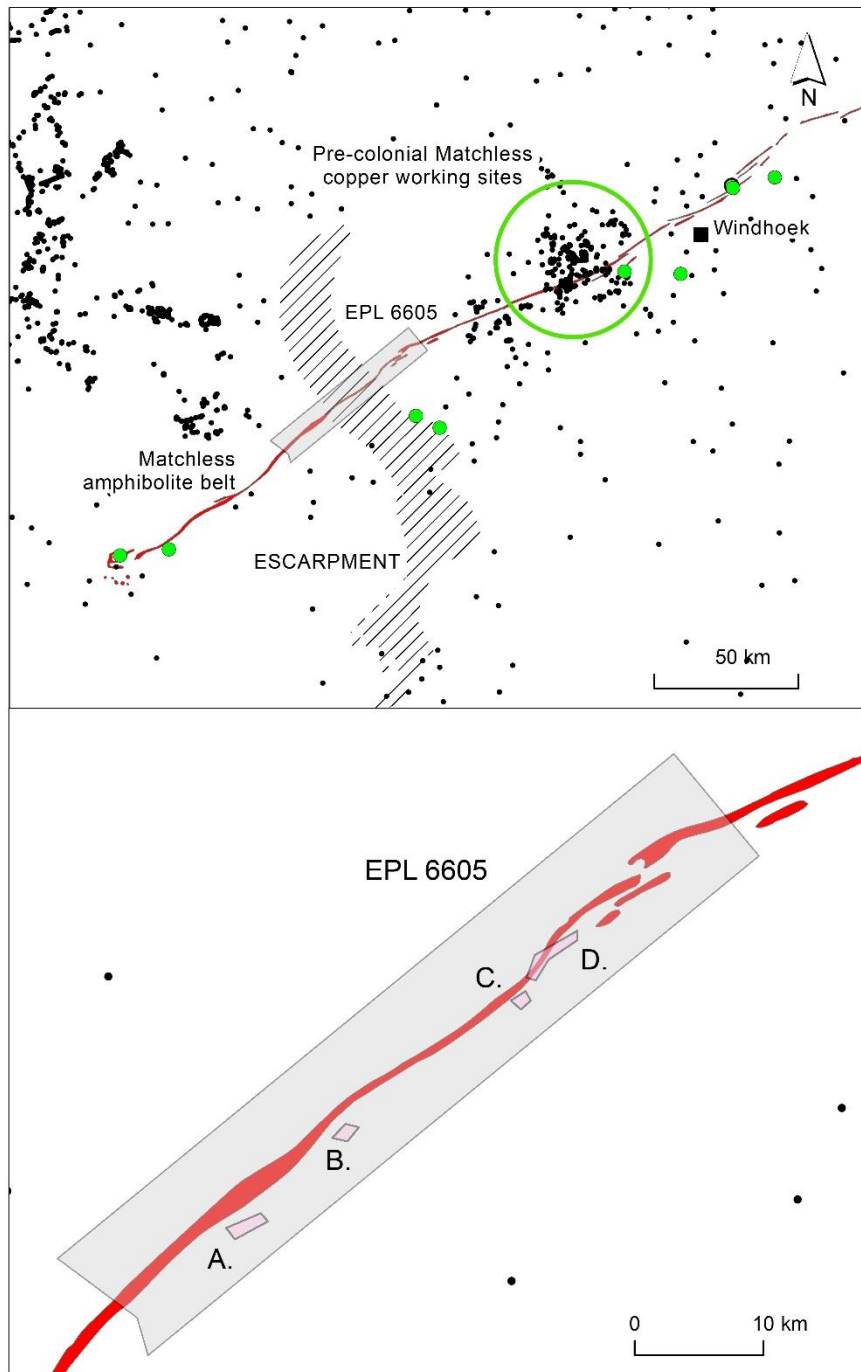


Figure 4: The geological and archaeological setting of EPL 6605 (above) and the location of the four exploration targets on EPL 6605, viz Target A located on the farm Schlesien Nord, target B on the farm Niedersachsen, and targets C and D on the farm Aros.

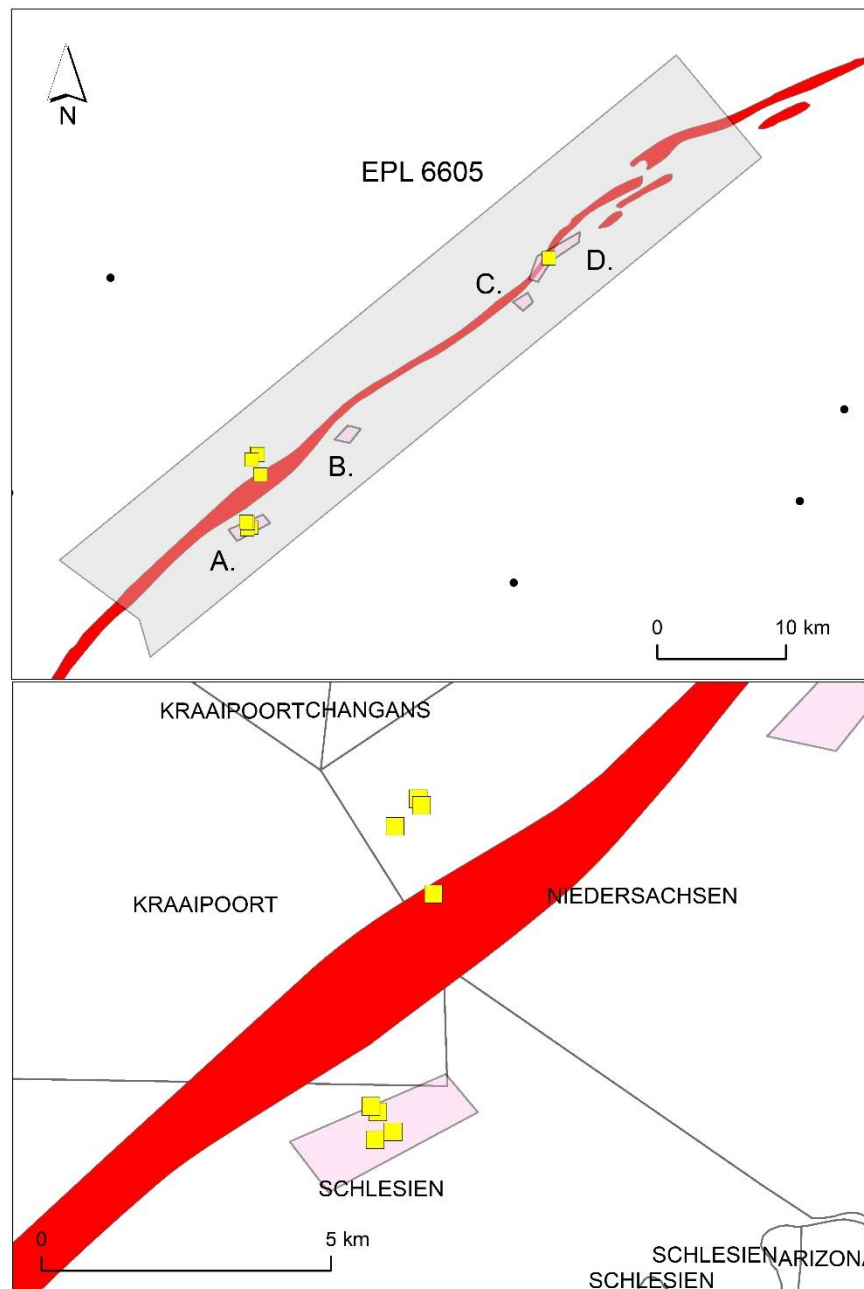


Figure 5: The distribution of archaeological and historical sites (yellow squares) in relation to the four exploration target areas and the Matchless amphibolite belt. The sites are listed with their coordinate positions in Table 2, below.

Sites QRS 307/728 to 731 are located on the farm Schlesien, at high elevation on a ridge above the Nausogomab River, a major tributary to the upper !Khuseb drainage. The sites comprise a discrete group of harvester ant seed diggings in association with a number of small rock shelters containing evidence of seed processing and grinding. No other evidence was found on these sites. Usually, seed digging sites are located within about 5km of a basecamp site with water. Evidence of two such basecamp sites was found on the farm Niedersachsen, sites which included at least ten hut circles, plus storage cairns. Site QRS 307/734 included a large, possibly elite status burial mound (see Table 2 and Figure 5).

In the same general area as the sites on Niedersachsen are the well preserved remains of one of the refuges used by the German geologists Henno Martin and Martin Korn when they hid in the Namib Desert to evade internment at the outbreak of World War 2¹¹. Although the site has no official heritage status it is an important relic of one of Namibia's iconic survival stories and is widely known throughout the world. The site is well looked after although should be considered highly vulnerable in the event that vehicle access to the area is opened in the course of exploration on EPL 6605 (see Table 2 and Figure 5).

The survey of the EPL 6605 exploration targets found no evidence of precolonial copper-working. Instead, the precolonial archaeology of the area indicated close affinities with the settlement pattern and subsistence practices of mixed hunter-gatherer and nomadic pastoralist communities on the eastern fringes of the Namib Desert during the last one thousand years.

Table 2: The location of archaeological and historical sites on EPL 6605. For explanation of Significance and Vulnerability ranking see Table 3.

Site	Target area	Latitude S	Longitude E	Significance	Vulnerability
QRS 307/728	A	-23,193393	15,878378	2	2
QRS 307/729	A	-23,194651	15,875567	3	3
QRS 307/730	A	-23,190291	15,875988	2	2
QRS 307/731	A	-23,189451	15,874914	3	3
QRS 307/732	D	-23,005278	16,086452	5	4
QRS 307/733		-23,141665	15,882287	5	4
QRS 307/734		-23,142689	15,8827915	5	5
QRS 307/735		-23,14599	15,878649	3	3
QRS 307/736		-23,156498	15,884668	5	4

¹¹ Martin, H. 1956. *The Sheltering Desert*. Current edition 2002, Two Books publishers.

5. ASSESSMENT

The archaeological and historical sites on EPL 6605 are of varying significance and vulnerability. The sites on the farm Schlesien in all likelihood form part of a discrete local distribution including the sites on Niedersachsen and centred on a reliable source of water in the Nausogomab River. Taken together, therefore, these sites form an archaeological landscape and would have a Significance ranking of 4 – 5. In the case of the historical refuge site on Niedersachsen, the iconic value of the site would give it a similarly high Significance ranking.

It is not possible to definitively determine the Vulnerability of the sites because no details are yet available for the intended exploration programme. However, if this requires the building of access tracks for drilling equipment it would place the sites in a highly vulnerable ranking. It is also important to bear in mind that the two suspected burial sites QRS 307 /732 and 734 must be considered as highly vulnerable and sensitive, as would be the Martin and Korn refuge site on Niedersachsen..

Table 3: Significance and Vulnerability ranking for archaeological sites in Namibia

SIGNIFICANCE RANKING

0	no significance
1	disturbed or secondary context
2	isolated minor find
3	archaeological site
4	multi-component site
5	major archaeological site

VULNERABILITY RANKING

0	not vulnerable
1	no threat posed
2	low or indirect threat
3	probable threat
4	high likelihood of disturbance
5	direct and certain threat

6. CONCLUSIONS & RECOMMENDATIONS

The exploration targets on EPL 6605 do not contain a high density of archaeological and historical sites, but the sites found there include several that require a high level of site conservation. These sites also have a high potential for further research, while the refuge site of Martin and Korn on Niedersachsen also has a high local

value as a tourism asset. The site may be considered the “anchor attraction” of the area and should therefore be assiduously protected.

To reduce potential for site disturbance it is recommended that the main group of sites on Schlesien and Niedersachsen should be considered as sensitive and avoided as far as possible in the course of any exploration activities. The group of sites should be given the status of a “No-Go” area and protected by a buffer zone of 1km. A second recommendation is that the mine project should adopt the Chance Finds Procedure set out in Appendix 1 as part of the project environmental management plan. This would help to ensure orderly handling of any buried archaeological material such as human remains that might be exposed in the course of development work. Any recovery of archaeological material found in the course of site development will require a permit from the National Heritage Council.

7. SITE PHOTOGRAPHS



Figure 6: The refuge of Henno Martin and Martin Korn (QRS 307/733) on farm Niedersachsen



Figure 7: Suspected elite burial site (QRS 307/734) on farm Niedersachsen.



Figure 8: Large basecamp site (QRS 307/736) on farm Niedersachsen.

Appendix 1: Chance Finds procedure

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

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

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

Responsibility:

Operator	To exercise due caution if archaeological remains are found
Foreman	To secure site and advise management timeously
Superintendent	To determine safe working boundary and request inspection
Archaeologist	To inspect, identify, advise management, and recover remains

Procedure:

Action by person identifying archaeological or heritage material

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

Action by foreman

- a) Report findings, site location and actions taken to superintendent
- b) Cease any works in immediate vicinity

Action by superintendent

- a) Visit Site and determine whether work can proceed without damage to findings
- b) Determine and mark exclusion boundary
- c) Site location and details to be added to project GIS for field confirmation by archaeologist

Action by archaeologist

- a) Inspect site and confirm addition to project GIS
- b) Advise NHC and request written permission to remove findings from work area

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

In the event of discovering human remains

- a) Actions as above
- b) Field inspection by archaeologist to confirm that remains are human
- c) Advise and liaise with NHC and Police
- d) Recovery of remains and removal to National Museum or National Forensic Laboratory, as directed.

Appendix H: Environmental Management Plan for EPL 6605



A. Speiser Environmental Consultant CC
Reg. No.: CC 2003/0606

Alexandra Speiser
MSc MPhil

P.O. Box 40386 Windhoek Namibia Tel:+264 61 244 782 Cell: 081 124 5655 e-mail:amspeiser@yahoo.com

**ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR HOPE NAMIBIA MINERAL
EXPLORATION (PTY) LTD'S EXPLORATION ACTIVITIES ON EPL 6605, LOCATED EAST
OF THE NAMIB NAUKLUFT NATIONAL PARK – OVERLAPPING THE ERONGO AND
KHOMAS REGIONS**

ENVIRONMENTAL MANAGEMENT PLAN

October 2021

Compiled for:

Hope Namibia Mineral Exploration (Pty) Ltd. (subsidiary of Bezant Resources PLC)
Private Bag 12012, Ausspannplatz
Windhoek
Namibia

Compiled by:

A. Speiser Environmental Consultants cc
PO Box 40386
Windhoek
Namibia

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APPENDICES

Appendix 1: “Archaeological Guidelines for Exploration & Mining in the Namib Desert” by Dr. John Kinahan.



A. Speiser Environmental Consultant CC
Reg. No.: CC 2003/0606

Alexandra Speiser
MSc MPhil

P.O. Box 40386 Windhoek Namibia Tel:+264 61 244 782 Cell: 081 124 5655 e-mail:amspeiser@yahoo.com

October 2021

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR HOPE NAMIBIA MINERAL EXPLORATION (PTY) LTD'S EXPLORATION ACTIVITIES ON EPL 6605, LOCATED EAST OF THE NAMIB NAUKLUFT NATIONAL PARK – OVERLAPPING THE ERONGO AND KHOMAS REGIONS

EMP

1 INTRODUCTION AND BACKGROUND

Hope Namibia Mineral Exploration (Pty) Ltd holds Exclusive Prospecting Licence (EPL) 6605 which is owned 80% by Hepburn Resources Pty Ltd (a 100% owned subsidiary of Bezant Resources Limited) and 20% by Lovisa Mwandingi Haufiku, a Namibian Citizen. The supervision of the drilling activities on EPL 6605 will be carried out by Bezant. A. Speiser Environmental Consultants cc (ASEC) was appointed by BEZANT to compile an Environmental Management Plan (EMP) for the proposed exploration activities and to audit the implementation and environmental performance of the project.

2 PURPOSE OF THE ENVIRONMENTAL MANAGEMENT PLAN (EMP)

The scope and objectives of the EMP were discussed with BEZANT. The purpose of the EMP is:

- To summarise the project activities that have the potential for adverse environmental impacts.
- To identify and outline the aspects of the environment which require management.
- To compile Project Environmental Specifications for inclusion in contract documents and enforcement on site.
- To set out the roles and responsibilities of all role-players with regard to environmental management.
- To specify rehabilitation requirements.
- To establish monitoring requirements to ensure that all workers on site comply with the Environmental Specifications. The senior geologist on site will be designated by BEZANT to perform this function on a day-to-day basis.

3 ROLES AND RESPONSIBILITIES

The roles and responsibilities between BEZANT, geologists, field technicians, geophysicists, geophysical contractors and the drilling company shall clearly be defined.

Open communication between all parties is important to establish a strong Environmental Awareness Protocol from the beginning of the programme. Only with open communication can a proactive approach be achieved. This approach should ensure that environmental impacts are anticipated and prevented, or minimised, rather than adopting a negative “policing” approach after negative impacts have already occurred.

3.1 BEZANT

BEZANT will allocate a Senior Geologist who will have the following duties and responsibilities:

- Ensure that drill contractors are aware of the EMP.
- Maintain a photographic record of areas before and during exploration activities and after rehabilitation.
- Communication with the landowners (farmers) and adjacent farmers if access via their land is required. The Senior Geologist will inform BEZANT immediately about any disputes/problems to ensure that these can be addressed with the landowner(s).
- Ensure that landowner agreements are in place prior to commencement of any work.
- The Senior Geologist is responsible to record any non-compliance with the EMP, and rectifying actions are to be discussed with BEZANT and ASEC.

3.2 EO and A. Speiser Environmental Consultants (ASEC)

The duties of the Environmental Officer (EO) and ASEC are to conduct the duties of, which includes the following:

- Advise the Senior Geologist regarding implementation and management aspects of the EMP.
- Inspect the drill sites after complaints that the mitigation measures of the EMP are not obeyed or any non-compliance occurred.
- Provide input into access roads to the drill sites, if necessary.
- Inspect the rehabilitation areas after completion of rehabilitation activities. Advise the contractors during rehabilitation.
- Maintain a photographic record of activities relevant to environmental management. This will be carried out on a day-to-day basis by the Senior Geologist.
- Conduct bi-annual audits and compile Bi-annual Environmental Reports, which needs to be submitted to MME and MEFT.

3.3 Drilling Contractor

The duties of the drilling contractor are as follows, should drilling take place:

- Be familiar with the contents of the EMP.
- Ensure that **all** staff and sub-contractors have the EMP explained to him / her to avoid any misunderstandings, e.g. induction session.
- Comply with the EMP.
- Activities not covered in the EMP which may lead to negative environmental impacts shall be discussed with the Senior Geologist prior to commencement.

3.4 Monitoring

The Senior Geologist shall be responsible for monitoring and enforcement of the EMP on a day-to-day basis. Any violation of the EMP shall be recorded and the agreed on measurements are taken, e.g. penalties. The violations are reported to BEZANT and ASEC.

Contractor's queries to avoid / mitigate negative environmental impacts not covered in the EMP will be addressed by ASEC without unreasonable delay.

Bi-annual environmental audit reports to be submitted to MME and MEFT.

4 ENVIRONMENTAL MANAGEMENT PLAN FOR EXPLORATION ACTIVITIES

The **Table** below sets out a summary of the project activities, that have the potential for adverse environmental impacts and the general aspects linked to these activities, which should be addressed prior to any drilling activities to ensure that all exploration team members are aware of the aims set out in the EMP.

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	AFFECTED ENVIRONMENT	MITIGATION MEASURE/RECOMMENDATIONS/EXPLANATION
Exploration activities	Initiation of exploration programme	General behaviour of exploration team in the EPL area.	General area EPL	<ul style="list-style-type: none"> - Establish a strong Environmental Awareness Protocol from the beginning of the programme in order to ensure the least possible damage to the environment. - Provision in the budget is made for Environmental Awareness and training and for internal and external Environmental Monitoring/Auditing costs as well as for rehabilitation costs. - Responsibilities as set out in Chapter 3 are explained and adhered to. - The EMP should be included in all Tender Documents.
Exploration activities	Implementation of the EMP	General behaviour of exploration team and contractors in the EPL area. Destruction of flora, archaeological sites and disturbance of wildlife.	General area EPL	<ul style="list-style-type: none"> - Implement environmental management that is preventative and proactive. Establish the resources, skills, etc. required for effective environmental management. - Senior exploration staff and all senior contractors are aware of, and implementing, EMP requirements. All persons shall therefore be expected to know and understand the objectives of the EMP and will, by example, encourage suitable environmentally encourage suitable environmentally sustainable behaviour to be adopted on all sites.

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	AFFECTED ENVIRONMENT	MITIGATION MEASURE/RECOMMENDATIONS/EXPLANATION
				<ul style="list-style-type: none"> - Immediate recognition should be given to appropriate environmentally acceptable / sustainable behaviour. Any inappropriate behaviour should be immediately corrected. An explanation as to why the behaviour is unacceptable must be given, and, if necessary, the person could be disciplined, e.g. fees set out, for different non-environmental compliance or not allowed to work on the project anymore.
Exploration activities	Environmental awareness briefing / training	Environmental degradation Disturbance to land owners	Affect landowners	<ul style="list-style-type: none"> - Maintain sound relationships with the landowners and communities impacted by the work. - All required permits are in place, e.g. water abstraction from boreholes. - No littering occurs. - Communicate any environmental incidences/accidents) (i.e. injury or death of animals) with landowners. - Ongoing liaison with the landowners to keep them informed of the planned activities, to ensure there is no interference with their activities. Notify them in advance of planned exploration activities. - Staff will be provided with visible identification and proof that they are working on the Exploration Team.
Exploration activities	Accommodation	Environmental degradation Disturbance to land owners	Affect landowners and environment	<ul style="list-style-type: none"> - Accommodation is discussed and agreed upon with the respective landowner.

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	AFFECTED ENVIRONMENT	MITIGATION MEASURE/RECOMMENDATIONS/EXPLANATION
Appointment of semi-skilled / unskilled workers and skills development	To create jobs for locals and develop their skills	Provide short term job opportunities to the local community	Positive impact on local community	<ul style="list-style-type: none"> - Use locals for the semi-skilled / unskilled work. - Provide opportunities during the drilling programme for the semi-skilled / unskilled workers to develop skills, i.e. drilling, etc., without compromising their safety.
Waste management	Maintain a clean and tidy site / area.	Fauna, general environment, visual impact	Disturbance to fauna. Visual impact (i.e. impacting landowners and tourists)	<p><u>The following waste management procedures shall be implemented:</u></p> <ul style="list-style-type: none"> - Contractors and contractors will be shown the importance of correct waste disposal and minimization through appropriate training; - Minimisation of waste production; - Where possible, compact waste to reduce its bulk; - What is taken in has to be taken out and disposed of at an official waste site; - Hazardous waste (including hydrocarbon contaminated material/soil) is disposed of at a licenced hazardous waste disposal facility (i.e. Walvis Bay or Windhoek hazardous waste site). - Waste containers with suitable lids are provided on site; - Illegal dumping and littering are not to be tolerated. - Any recyclable waste is kept separate and disposed of in Windhoek or Walvis Bay.
Development of Access Roads and Tracks	Avoid and manage disturbance of the general environment	Disturbance of flora Visual impact	General environment	<ul style="list-style-type: none"> - Drill sites and other exploration activities should be sited / conducted on existing or previously established tracks as far as possible. Survey and demarcate roads and tracks that will be needed for activities. - All newly created tracks shall be rehabilitated, if not otherwise agreed with the landowner, after the drill

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	AFFECTED ENVIRONMENT	MITIGATION MEASURE/RECOMMENDATIONS/EXPLANATION
				<p>hole has been finalized, e.g. raking the middle 'berm', loosen the compacted ground by manual raking and sweeping.</p> <ul style="list-style-type: none"> - No off-road driving by any vehicle.
Management of drill sites	<p>General disturbance / destruction of Flora</p> <p>General disturbance / destruction of Fauna (organisms and habitat)</p>	<p>Loss of indigenous vegetation</p> <p>Disturbance of fauna</p>	<p>Disturbance of natural environment</p> <p>Farm owner</p>	<ul style="list-style-type: none"> - Impervious rubber / plastic sheeting or oil absorbent mats are to be used to prevent pollution by diesel, oil and other related sources of pollution. - All litter is placed in a container with a lid that is secured against wind. The rubbish is taken to an official waste site. - Soil contaminated by oil or diesel is removed and dumped on an approved dumpsite and the area treated to neutralize hydrocarbon contamination. - The drill sites are clearly demarcated to minimise the disturbed areas around boreholes. - Holes / site are rehabilitated before moving to the next site to minimise vehicle movement to the area. This includes capping of the borehole and ensure that no gaps between the collar and the substrate left behind. - Open water should be fenced off and preferably covered during night to avoid attraction of bees, livestock and wildlife. - Sumps are lined. It is preferred that portable water reservoirs are used and no sumps are dug. - If sumps are used, these need to be fenced in while drying out before rehabilitation. - Smoking (when handling samples or core only after washing hands) may be permitted. An ashtray, e.g. bucket filled with sand at drill sites or small water

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	AFFECTED ENVIRONMENT	MITIGATION MEASURE/RECOMMENDATIONS/EXPLANATION
				bottles with some water should be provided to all smokers.
Management of hazardous substances	Spillages of hydrocarbons, lubricants, or possible spills from ablution facilities	Risk of soil pollution by hazardous substances. Risk of hazardous substances affecting the health of all individuals and plant and animal life.	General environment	<ul style="list-style-type: none"> - The Senior Geologist and Contractor have identified all activities that involve the handling of potentially hazardous substances and protocols for the handling of these substances have been put in place and their implementation is supervised. Hazardous substances are handled in accordance with the manufacturer's specifications and existing legal requirements. - The Senior Geologist will encourage the use of the least polluting, most rapidly biodegradable cleaning product, solvent, drill lubricants, etc. - In all areas where there is storage of hazardous substances (i.e. hydrocarbons), there will be containment of possible spillages on impermeable floors and bunded trays that can contain 110% of the volume of the hazardous substances. - All refueling and any maintenance of vehicles will take place with protective measures to ensure no contamination of the surface. - Pollution will be prevented through basic infrastructure design and through maintenance of equipment. - Spill kits will be readily available on site. Employees and/or contractors will be shown to use the spill kits to enable containment and remediation of pollution incidents. - The Senior Geologist and Contractor will ensure that all individuals, who could be exposed to hazardous substances, are adequately protected (PPE) and

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	AFFECTED ENVIRONMENT	MITIGATION MEASURE/RECOMMENDATIONS/EXPLANATION
				<p>educated about the safe and proper Methods for handling of these substances.</p> <ul style="list-style-type: none"> - Procedures for the containment and clean-up of accidental hazardous accidents are developed by the Senior Geologist in accordance to the manufacturer's specifications. - The Senior Geologist or Contractor should immediately implement actions to stop or reduce and contain any spills. - The Senior Geologist arrange and supervise the implementation of the necessary clean-up procedures and proper disposal of contaminated soil, water and other materials at an approved facility. - Clean-up, and dispose of contaminated soil at an official hazardous waste site (i.e. Walvis Bay / Windhoek Hazardous waste site). <p>Any hydrocarbon spills involving 200l and more are reported to the Ministry of Mines and Energy (stipulated in the Petroleum Product Regulations, 2000, Section 49(1)(4)).</p>
Surface & groundwater management	<p>Conservation of water.</p> <p>Avoidance of pollution of any water and presentation of polluted water from entering</p>	Visual Groundwater / stream pollution	General environment	<ul style="list-style-type: none"> - Working areas, where hazardous substances are handled or stored, are designed to collect and contain hazardous substances. Impervious materials are provided, e.g. drip trays, or sumps to collect and contain liquid pollutants. (see "management of hazardous substances") - Provide appropriate toilet facilities (long drop with chloride or lime) for the drilling team on the site. - Water use licenses in terms of the Water Resource Management Act (Act No. 11 of 2013) will be obtained

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	stream channels or underground aquifers.			<ul style="list-style-type: none"> for any new boreholes. - Discuss water availability with farm owners. If not, water needs to be trucked to site. - A compensation agreement will be in place with the landowners. - Groundwater levels will be measured prior to abstraction, during abstraction (daily) and after completion. Levels will be in the Bi-annual Report to MME and MEFT.
Exploration activities	Noise impacts from vehicles, drilling equipment.	Noise disturbance	Land owners and tourists Fauna	<ul style="list-style-type: none"> - Use well maintained drilling equipment. - Discuss tourism activities and access by the exploration team with the farm owners to ensure minimal disturbance.
Exploration activities	Dust generation through using the access track. Air pollution from exhaust fumes. Dust generation through drilling activities	Air quality deterioration. Increase in dust levels (nuisance & health impacts)	Land owners and tourists	<ul style="list-style-type: none"> - Ensure speed limit on gravel roads.
Land use	Disturbance to land owners and tourists by exploration activities	Loss of sense of place to farm owners and tourists (if tourist farm)	Land owners and tourists	<ul style="list-style-type: none"> - Refer to "Site Rehabilitation" - Refer to "Waste Management" - Refer to "Noise"

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Site rehabilitation	To rehabilitate the drill sites and trenches to as close an approximation of the pristine state as is technically, financially and reasonably possible.	Visual impact Tourism activities on farms	General environment	<ul style="list-style-type: none"> - The following rehabilitation actions are to be carried out: - All litter from the site i.e. bottles, tins, piping, etc. are taken to an appropriate disposal site. - All debris, scrap Metal, etc. is removed before moving to a new drill site. - All sumps have been dried and be filled in, if not portable water reservoirs are used. - Tracks must be restored by fine raking and sweeping when exploration activities are complete. It is important that each tyre track be individually swept. If the entire area over the double track is swept it increases the area of impact. - Ensure that no heaps of soil, rocks and material remain – sweep and rake manually before moving to the next drill pad so that the site looks as close to 'pre-operation 'as possible. - Re-cover levelled land with the soil that has been removed. - Clean previous drill sites, trenches, pits from old waste, such as wire, plastic tags, etc. - Target - 5 years after rehabilitation the drill and trench sites are not visible from 500m.
Management of the natural habitat, fauna and flora	To avoid, or reduce, the potential negative impact on the bio-physical environment,	Loss of habitat General disturbance / destruction of Fauna and Flora	General environment	<ul style="list-style-type: none"> - Disturbed areas are kept to a minimum. - No incidents of poaching or illegal plant, bird eggs or reptile collection are reported. (No collection of any plant or parts of a plant are allowed). Offenders will be handed over to the authorities. Employees and contractors will be shown the value of biodiversity and the need to conserve the species and systems that

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	AFFECTED ENVIRONMENT	MITIGATION MEASURE/RECOMMENDATIONS/EXPLANATION
	including the scenic value thereof.			<p>occur within the project area.</p> <ul style="list-style-type: none"> - Domestic or other animals are not brought onto the farms, except if allowed by the landowners. - Efforts should be made to avoid damage to, or destruction of pachycaul species (i.e. species with swollen, moisture-storing trunks and stems), such as <i>Adenium boehmianum</i>, <i>Commiphora saxicola</i>, <i>Commiphora virgata</i>, and <i>Cyphostemma</i> spp., as well as <i>Aloe</i> spp. If any are found at drill sites, then they should be clearly marked and the sites should be adjusted to avoid them. See Appendix B below for images to assist identification of these species. - Collection of wood for fuel must be disallowed. - No collection of any plant or parts of a plant should be allowed. - Any person who causes wilful or malicious damage to the environment will be held responsible for repairing the damage immediately and handed over to the authorities. - No excavations will be left open overnight unless fenced off. - Identify bird nest sites, demarcate them and avoid them.
Exploration activities	Conserving and managing of natural heritage sites & artifacts	Activities could result in possible damage to/destruction of identified	General area EPL	<ul style="list-style-type: none"> - To reduce potential for site disturbance it is recommended that the main group of sites on Schlesien and Niedersachsen should be considered as sensitive and avoided as far as possible in the course of any exploration activities. The group of sites

ACTIVITY	ASPECT	POTENTIAL ENVIRONMENTAL IMPACT	AFFECTED ENVIRONMENT	MITIGATION MEASURE/RECOMMENDATIONS/EXPLANATION
		archaeological / heritage resources.		<p>should be given the status of a “No-Go” area and protected by a buffer zone of 1km.</p> <ul style="list-style-type: none"> - The exploration project needs to adopt the “Chance Finds Procedure” set out in Appendix 1. This would help to ensure orderly handling of any buried archaeological material such as human remains that might be exposed in the course of development work. Any recovery of archaeological material found in the course of site development will require a permit from the National Heritage Council.

Appendix 1: “Archaeological Guidelines for Exploration & Mining in the Namib Desert” by Dr. John Kinahan.

Appendix 1: Chance Finds procedure

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

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

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

Responsibility:

Operator	To exercise due caution if archaeological remains are found
Foreman	To secure Site and advise management timeously
Superintendent	To determine safe working boundary and request inspection
Archaeologist	To inspect, identify, advise management, and recover remains

Procedure:

Action by person identifying archaeological or heritage material

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

Action by foreman

- a) Report findings, Site location and actions taken to superintendent
- b) Cease any works in immediate vicinity

Action by superintendent

- a) Visit Site and determine whether work can proceed without damage to findings
- b) Determine and mark exclusion boundary
- c) Site location and details to be added to project GIS for field confirmation by archaeologist

Action by archaeologist

- a) Inspect Site and confirm addition to project GIS
- b) Advise NHC and request written permission to remove findings from work area

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

In the event of discovering human remains

a) Actions as above

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

c) Advise and liaise with NHC and Police

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