

**Archaeological Impact Assessment for Environmental Clearance, for the proposed Exploration Activities on EPL-10141, located between the transboundary of Windhoek and Okahandja Region.**

For

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## **1. Introduction**

The rationale of this Archaeological Impacts Assessment (AIA) is to provide archaeological advice and to prepare recommendations for mitigating any mapped promising heritage site within the proposed EPL-10141. At the same time, this assessment has been prepared to accompany an environmental clearance certificate (ECC) application and identifies the EPL's heritage context and provide an analysis of its current physical condition to inform an assessment of the whole EPL cultural environment. It also presents a brief description of the identified heritage items and performs an assessment of exploration activity likely impact on these resources. This transboundary property is farmland in character and much of the surface has been disturbed by anthropogenic activities. The area is largely undeveloped and has areas where sand is mined and part of farmland. The field survey shows that farmsteads and industrial development are a common scatter throughout this city region and prominent landmarks include fences, Nampower station, windpumps, and access roads all associated with farming activities in the EPL area. The EPL area is undulating with steep hills throughout on the eastern side of the A1 freeway. It is important to ensure that any exploration activity within the EPL area is carefully considered. The provisions outlined in this AIA will guide exploration activity to ensure that the EPL's existing heritage sites and objects are conserved. The EPL is also located within the Central Khomas highland, which is a potential cultural landscape, and it is not in close proximity to any national declared monuments. The most important settlement in the EPL is Osona village and in some cases, archival records were consulted to contextualize the heritage collection of the EPL. The EPL vegetation cover was quite dense, limiting archaeological visibility.

## **2. Terms of Reference**

The following are the terms of reference:

- To identify, record and describe the types and ranges of heritage resources which have been identified on EPL-10141.
- To establish and assess the significance of the heritage resources and the significance of any possible impacts on these heritage sites.
- To make recommendations regarding the mitigation (conservation) of heritage resources that may be affected by exploration activities.

## **3. Nature of the Proposed Activity or Development**

The proposed development includes the following:

The immediate focus of planned exploration focused on interpreting the pending rock and soil samples as well as the historical data. The company now proposes to undertake exploration bulk-sampling (as illustrated in Figure 2) on the broader EPL-10141 by way of implementing a detailed

exploration programme which will consist of Desktop Assessment of existing data, geological survey / sampling (aerial and on-ground, drill sampling and trenching), and laboratory analysis.

The proposed exploration activities mainly consist of the following prospecting activities:

- Geological mapping: this mainly entails a desktop review of geological area maps and ground observations. Lithology geochemical surveys: rock samples shall be collected and taken for trace element analysis. Also, trenches or pits may be dug (in a controlled environment e.g. fencing off and labelling activity sites) adopting manual or excavator to investigate the mineral potential. At all times, the landowner and other relevant stakeholder will be engaged to obtain authorisation where necessary.
- Geophysical surveys: entails data collection of the substrata, by air or ground, through sensors such as radar, magnetic and electromagnetic to detect any mineralization in the area.
- Drilling: Should analyses by an analytical laboratory be positive, holes are drilled and drill samples collected for further analysis. This will determine the depth of the potential mineralization. If necessary, new access tracks to the drill sites will be created and drill pads will be cleared in which to set the rig.

#### **4. Legal consideration**

The National Heritage Act (No. 27 of 2004) is a statutory tool designed to conserve national heritage sites/materials. It is used as a tool to regulate the impacts of exploration on national heritage sites. The act accepts a heritage site as ‘a place, building, work, relic, moveable object or precinct’. The site has to be listed on the National Heritage Register. The Environmental Management Act (No. 27 of 2007) regulations 2012 provides for environmental planning instruments to be made to guide the process of development and land use. The act also provides for the protection of heritage sites and conservation areas through incorporation in the Environmental Impacts Assessment which provide local stakeholders with the framework required to make management decisions.

#### **5. Definitions of key archaeological terms.**

**Periodization** Archaeologists divide the different cultural periods according to the dominant material found for the different periods. This periodization is usually region-specific, such that the same label can have different dates for different areas. This makes it important to clarify and declare the periodization of the area one is studying. These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap.

In the present study, relevant archaeological periods are given below.

- **Early Stone Age (~ 2.6 million to 250 000 years ago)**
- **Middle Stone Age (~ 250 000 to 40-25 000 years ago)**

- **Later Stone Age (~ 40-25 000, to recently, 100 years ago)**
- **Early Iron Age (~ AD 200 to 1000)**
- **Late Iron Age (~ AD1100-1840)**
- **Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)**

**Definitions** Just like periodization, it is also critical to define key terms employed in this study. Most of these terms derive from the National Heritage Act of 2004 and its ancillary laws, as well as international regulations and norms of best practice. The following aspects have a direct bearing on the investigation and the resulting report:

**Cultural (heritage)** resources are all non-physical and physical human-made occurrences, and natural features that are associated with human activity. These can be singular or in groups and include significant sites, structures, features, Eco facts and artefacts of importance associated with the history, architecture or archaeology of human development.

**Cultural significance** is determined by means of aesthetic, historic, scientific, social or spiritual values for past, present or future generations.

**Value** is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually exclusive, in some cases the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination or balance between the two.

**Isolated finds** are occurrences of artefacts or other remains that are not in-situ or are located apart from archaeological sites. Although these are noted and recorded, but do not usually constitute the core of an impact assessment, unless if they have intrinsic cultural significance and value.

**In-situ** refers to material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

**Archaeological site/materials** are remains or traces of human activity that are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures. According to the Namibia National Heritage Act (NNHA) (Act No. 27 of 2004), no archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorization from the National Heritage Council or a provincial heritage resources authority.

**Historic material** are remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

**Chance finds** mean archaeological artefacts, features, structures or historical remains accidentally found during development.

**A grave** is a place of interment (variably referred to as burial) and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery (contemporary) or burial ground (historic).

**A site** is a distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

**Heritage Impact Assessment (HIA)** refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, which requires authorization of permission by law and which may significantly affect the cultural and natural heritage resources. Accordingly, an HIA must include recommendations for appropriate mitigation measures for minimizing or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

**Impact** is the positive or negative effects on human well-being and / or on the environment.

**Mitigation** is the implementation of practical measures to reduce and circumvent adverse impacts or enhance beneficial impacts of an action.

**Mining heritage** sites refer to old, abandoned mining activities, underground or on the surface, which may date from the pre-historical, historical or the relatively recent past.

**Study area or 'project area'** refers to the area where the developer wants to focus its development activities (refer to plan).

**Phase I studies** refer to surveys using various sources of data and limited field walking in order to establish the presence of all possible types of heritage resources in any given area.

## **6. Methodology**

The methodology, assessment procedures, and recommendations of this report have been prepared in accordance with the National Heritage Act (No. 27 of 2004) and its guideline of 2021 for preparing assessing impact of development on the heritage sites/ resources.

### **6.1 Maps and Other Sources**

The EPL is a transboundary property between Okahandja and Windhoek along the A1 national highway. The 76 kilometers (47 mi) stretch of road between the two Local Government Area and is identified as a farming area. The EPL property bends effectively with Osona settlement, in close proximity to the Osona military base which is on the immediate outside of the EPL. The surrounding area is characterised by burial sites, industrial and farmstead development consisting of detached dwelling houses of mixed age.

Currently, sand is excavated from some farms while some engage in livestock farming. The result is that any surface heritage feature that might have occurred here in the past was in all probability destroyed. The EPL is localised on the 1:50 000 topographic map. The coordinates of the survey area are indicated on below.

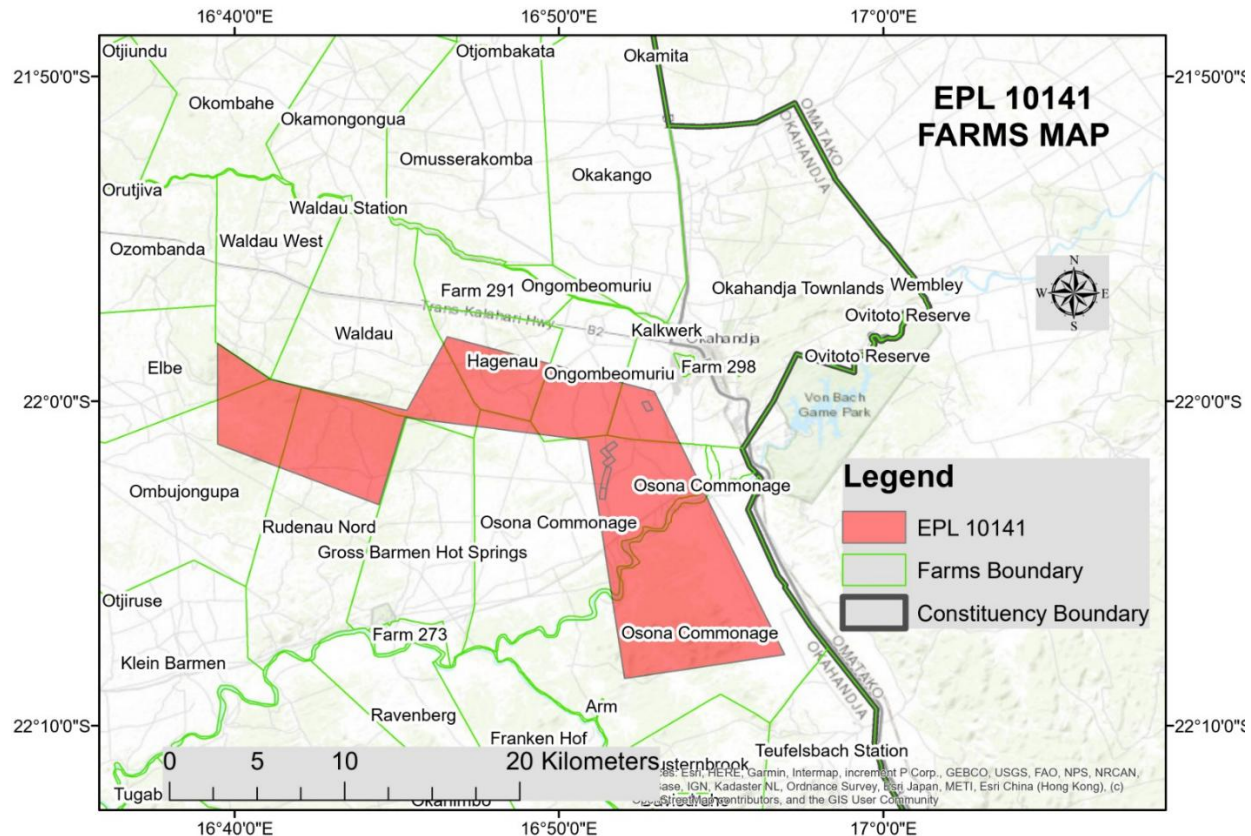
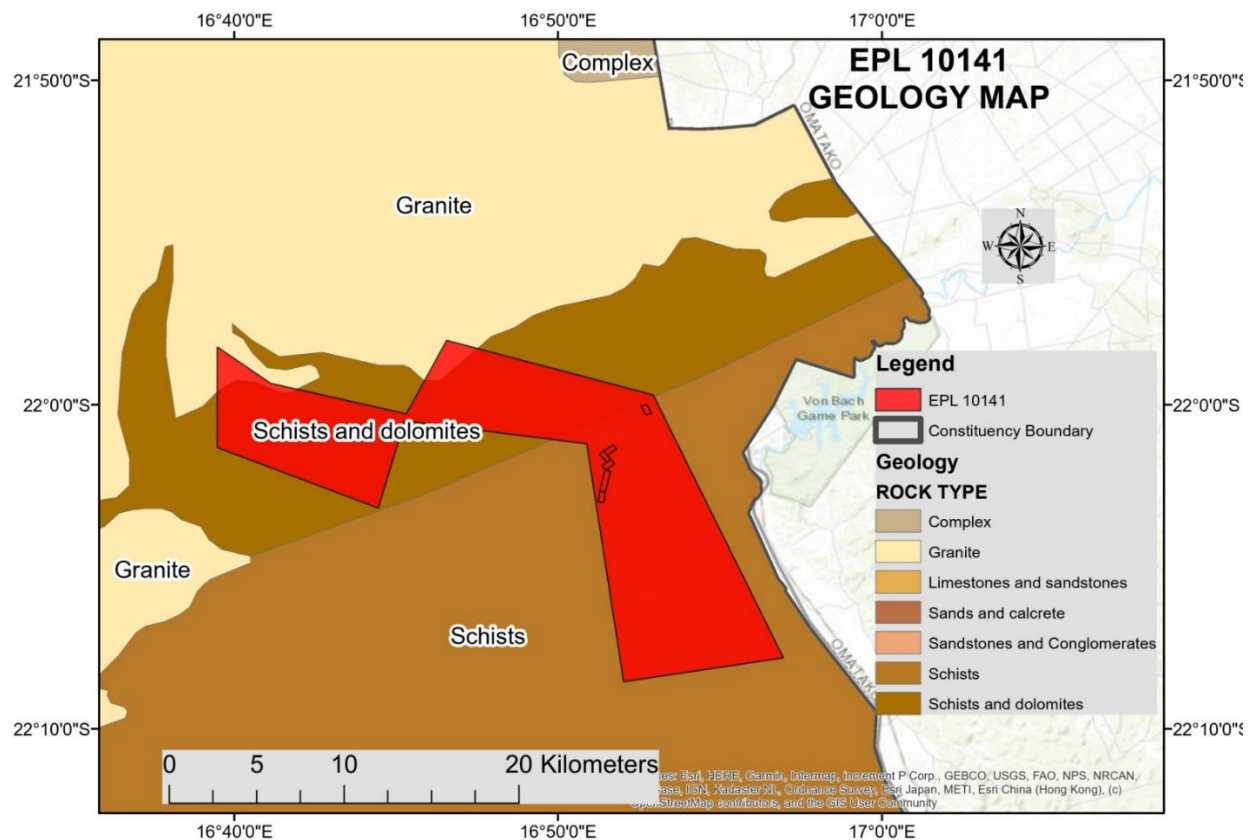


Figure 1: Locality map and area extent (: 18726.9208 Hectares (Ha)) of the proposed EPL-10141, Otjozondjupa Region (Source: Ludi Namibia Mining and Investments (Pty) Ltd, 2025).

**Table 1:** EPL's Centre coordinates of the proposed development site.

Order	Lat Deg	Lat Min	Lat Sec		Long Deg	Long Min	Long Sec	
1	- 22	08	32.12	S	16	52	1.57	E
2	- 22	01	12.00	S	16	50	53.00	E
3	- 22	00	30.00	S	16	45	16.00	E
4	- 22	03	11.00	S	16	44	27.00	E
5	- 22	01	19.00	S	16	39	29.00	E
6	- 21	58	13.00	S	16	39	29.00	E
7	- 21	59	20.00	S	16	41	7.00	E
8	- 22	00	17.00	S	16	45	19.00	E
9	- 21	58	0.93	S	16	46	34.04	E
10	- 21	59	41.65	S	16	52	55.95	E
11	- 22	07	48.04	S	16	56	57.58	E
1	- 22	00	18.79	S	16	52	42.59	E
2	- 22	00	15.77	S	16	52	53.64	E
3	- 21	59	59.80	S	16	52	44.57	E
4	- 22	00	2.75	S	16	52	33.63	E
1	- 22	03	1.17	S	16	51	24.97	E
2	- 22	02	41.85	S	16	51	27.68	E
3	- 22	02	22.17	S	16	51	32.32	E
4	- 22	02	3.07	S	16	51	36.98	E
5	- 22	02	0.68	S	16	51	26.75	E
6	- 22	02	19.99	S	16	51	22.10	E
7	- 22	02	39.56	S	16	51	17.49	E
8	- 22	02	41.85	S	16	51	27.68	E
9	- 22	02	40.22	S	16	51	17.34	E
10	- 22	02	59.77	S	16	51	14.41	E
1	- 22	02	0.99	S	16	51	28.16	E
2	- 22	01	48.89	S	16	51	44.40	E
3	- 22	01	40.91	S	16	51	37.60	E
4	- 22	01	25.96	S	16	51	24.83	E
5	- 22	01	33.62	S	16	51	31.39	E
6	- 22	01	21.23	S	16	51	48.19	E
7	- 22	01	13.80	S	16	51	41.38	E
8	- 22	01	25.96	S	16	51	24.83	E
9	- 22	01	31.98	S	16	51	16.49	E
10	- 22	01	47.24	S	16	51	29.32	E
11	- 22	01	40.91	S	16	51	37.60	E
12	- 22	01	53.28	S	16	51	21.43	E





**Figure 2:** Evidence of the proposed EPL geological resources (Ludi Namibia Mining and Investments (Pty) Ltd, 2025)

## 6.2 Fieldwork

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area that had to be investigated was identified by Enviro-Leap Consulting cc by means of maps and coordinates files indicating the boundary of the area. This was loaded onto a GPS and used during the field survey to access the areas. The site was visited on 25 and 27 March 2025. The EPL was accessed by farm tracks and by walking. All sites identified during the survey are documented according to the general minimum standards accepted by the NHC. A full public consultation was facilitated by the consultant and the community assisted in identifying potential heritage sites in the EPL and provided historical accounts associated with identified heritage items.

### **6.3. Archaeological literature review**

A literature search was conducted utilising data from published articles on the archaeology and history of the area. The aim of this is to extract data and information on the area in question, looking at archaeological sites, historical sites and graves of the area.

### **6.4. Google Earth and the National Heritage Register database.**

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where archaeological sites might be located. The National Heritage Register database was consulted to collect data on declared National monuments in the larger cluster of Okahandja and Windhoek to provide the most comprehensive account of the heritage of the area where possible.

#### **Okahandja declared National Monuments.**

##### **Herero Chiefs' Graves:**

This site commemorates prominent Herero leaders who played a vital role in resisting German colonization, including Chief Samuel Maharero.

##### **Herero Cemetery:**

This cemetery is a place of remembrance for the Herero people and their history.

##### **Moordkoppie:**

This small hill is a site where a historic battle took place in 1850, where Nama forces attacked and killed Herero people.

##### **Rhenish Mission Church and Cemetery:**

This church and cemetery are significant landmarks in Okahandja, reflecting the town's history and religious heritage.

#### **Windhoek declared National Monuments.**

##### **Windhoek Railway station (Mandume Ndemufayo Av.)**

The southern wing and central building were built in 1912. The northern wing was added in 1929, built in the same architectural style - difference is not noticeable.

##### **The Locomotive (the Illing) (in front of railway station)**

A narrow-gauge locomotive (gauge 600 mm) has been mounted on stand in front of the station after running between Swakopmund and Otavi from 1904 to 1939. The engine was built in Germany in 1903 and assembled in Swakopmund.

### **Owambo Campaign Memorial (near railway station)**

This memorial near the railway station was erected by members of the South African Army in memory of their comrades killed on the 6th of February, 1917 near Ehole (Oihole) in a battle against uprising of King Mandume Ndemufayo of Kwanjama. He was killed in action and his head was cut off.

### **Kudu Monument (Independence Avenue)**

Erected in early 60's. Commissioned and donated by Mr. Behnsen, businessman and owner of firm Metje and Ziegler, Ltd. Commemorates a period when a disease struck kudu population and nearly wiped them out.

### **Zoo Garden (Independence Avenue, opposite of Gathemann restaurant)**

Established in the beginning of the century. Changes were made in 1962 and the Garden was extended. The northwest corner of the garden with its open-air theater and pergola is of special interest, further the children's playground.

### **Altes Bezirksgericht (Goethe street)**

High Court building. Built in 1908. Remained in use till late 60's when the new High Court building was opened near Kudu Monument. Presently serves as a headquarters of Veterinary Division of the Ministry of Agriculture.

### **Alte Feste (Old Fort) (Robert Mugabe Avenue)**

The oldest building in Windhoek (1890). The foundation stone of the fort was laid by Curt von Francois on 18 October 1890. The building was expanded and had some 54 rooms in 1912. Alte Feste served as a headquarters of Schutztruppe and from 1915 as a headquarters of South African troops. From 1935 was used as a hostel for Windhoek High School and from 1962 it is a museum.

### **War Memorial (Zoo Garden, Independence Avenue.)**

The memorial bearing a golden eagle, which stands in the middle of the lawns, was erected by order of Governor Leutwein in 1897 in memory of those killed before 1897.

### **Springbuck Fountain (Zoo Garden)**

At the corner of Peter Muller Street and Independence Avenue, adjoining the southern end of the Zoo Garden. The Fountain was a donation of the Chamber of Commerce.

### **Christuskirche (Robert Mugabe Avenue**

The idea to build a church for the German Evangelical Lutheran congregation was voiced in 1900 but these plans had to be shelved during Nama and Herero uprisings. Construction was started in 1907.

### **Artillery and Kammer Gebaude (Hugel street.)**

These buildings are probably two of the earliest in Windhoek, apart from Alte Feste.

Built in mid 1890 for artillery division of Schutztruppe as an ammunition store and weapon repair shop.

### **Schmerenbeck-Haus (Independence Avenue**

Opposite the Municipality. Built in 1893, after 1900 it was enlarged and a gabled roof was added.

### **Reiterdenkmal (Equestrian statue) (used to be opposite of Christus Kirche)**

Erected at the suggestion of the commanding officer of the Schutztruppe, Col. Ludwig von Estorff. The memorial commemorated German soldiers and civilians killed in Nama and Herero uprisings (1903-1907 and 1908). It was unveiled on 27 January 1912, the birthday of Kaiser Wilhelm.

### **Elizabeth-Haus (Storch street.)**

Architect Gottlieb Redecker. Built in 1907 as a maternity home and named after Duchess Elizabeth zu Mecklenburg, wife of the President of German Colonial Company. Until the closure of the building as a maternity home in 1981, some 12 669 babies were born there.

### **Erkrath-Gathemann-Kronprinz Facades (Independence Avenue**

The oldest building is former Hotel Kronprinz (1901-02). Gathemann building was erected in 1913 and expanded in 1926/7 and Erkrath building (1910) is the last to the right. Architect Wilhelm Sander.

### **Felsenkeller Brauerei (Tal street**

At the beginning of the century there were four breweries in the country: Kronen Brewery in Swakopmund, Omaruru Brewery, Klein Windhoek Brewery and Felsenkeller Brewery in Tal valley in Windhoek. The demand for local beer was increasing rapidly and the brewery was expanded in 1912. After World War 1 a number of German citizens were deported back to Germany and smaller breweries had to close down. Omaruru and Klein Windhoek breweries were purchased by Herman Olthaver and Carl List. Hnasa Brewery joined the Consortium in 1968 when the South West Breweries were formed, renamed to Namibia Breweries after Independence.

### **"Old Location" or "Gammans" cemetery**

Located next to Hochland road and the oldest know cemetery in Windhoek. The first identifiable grave is of Zacharias Kukuri who was buried on 18 April 1905. Ehrenfield Nganjako was the last person buried there on 4 November 1926.

### **Gibeon Meteorites (Post Street Mall)**

Discovered by James Alexander in 1838.

### **Oudstryder an Bittereinder Memorial (Bismark street**

The memorial was erected to commemorate "Bittereinders" of the Second Anglo-Boer War (1899-1902). A number of Boers where forced to flee South Africa and they settled in South West Africa (Namibia).

### **State House (Robert Mugabe Avenue.)**

Previously served as the residence of the Governor. At present it is the residence of the President of Namibia.

### **John Ludwig's Graveyard**

Willemien Street, Ludwigsdorf

### **Old cemetery and war memorial (Robert Mugabe Avenue**

Located on the both sides of Robert Mugabe Av. The graveyard was closed in 1927. A "Cross of Sacrifice" was unveiled on 11 November 1981 as a memorial for the victims of WW 2.

### **Tintenpalast" and Gardens (Robert Mugabe Avenue**

The former German administrative building, "Tintenpalast" ("palace of ink") was built in 1913 at the cost of 414 888.84 Mark. In 1931 the Municipality of Windhoek undertook the laying out of the gardens in front of the building. During 1932 some 300 Olive trees were planted.

### **Three Castles of Windhoek**

#### **Schwerinsburg (Sperlingslust)**

The tower of this castle was built by Curt von Francois during the time of construction of Alte Feste. In 1904 the army sold the tower to Wilhelm Sander, well known architect, who converted the place to a beer garden. In 1913 was bought by Dr. Hans Bogislav Graf von Schwerin, who engaged W. Sander to convert the tower into a castle. Presently a residence of Italian Ambassador to Namibia.

#### **Heinitzburg**

The castle was built by Wilhelm Sander in 1914 and bought 1916 by the Countess von Schwerin (born Heynitz). Presently used as a hotel: Heinitzburg.

#### **Sanderburg**

Built by Wilhelm Sander in 1916 as a residence for himself. Presently a private house.

## 7. Description of EPL Area

The EPL is situated between Okahandja and Windhoek, which is 18726.9208 hectares in extent, with its boundaries extending across various commercial farms. The EPL is accessible directly via the A1 freeway on the East and via several district roads i.e. Teufelsbach, Osona linked to numerous farm roads from . Recorded potential heritage sites includes farmsteads and burial sites.

## 8. Archaeological Sequence

PERIOD	APPROXIMATE DATE
Early Stone	Age more than c. 2 million years ago - c. 250 000 years ago
Middle Stone Age	c. 250 000 years ago – c. 25 000 years ago
Later Stone Age (Includes San Rock Art)	c. 25 000 years ago - c. AD 200 (up to historic times in certain areas)
Early Iron Age	c. AD 400 - c. AD 1025
Late Iron Age (Stonewalled sites)	c. AD 1025 - c. AD 1830 (c. AD 1640 - c. AD 1830)
Historical Age	140 years ago,

## 9. Archaeological Context of the Receiving Environment.

The Early Stone Age in Okahandja and Windhoek is a period characterized by the development and use of early stone tools, roughly dating back to 2.6 million to 250,000 years ago (Kinahan, 2013). While there is no specific archaeological evidence of early Stone Age remains directly within Okahandja and Windhoek itself, the broader region of Namibia, including areas like the Huns Mountains and Otavi Mountains, have yielded evidence of early human presence and tool use during this period (Kinahan, 2021). While the exact details of MSA activity in Okahandja and Windhoek are not explicitly detailed in empirical research, the broader context of the MSA in Namibia suggests a period of technological advancement and cultural development that is represented by a variety of sites, including Apollo 11, Pockenbank, and Etimba 14. These sites showcase MSA industries like Early MSA, Still Bay and Howieson's Poort. Evidence from these locations includes lithic materials (quartzite, quartz, and crypto-crystalline silica), animal bones and teeth, burned seeds and wood, ostrich eggshells, pigments, and marine shells.

Zoo Park is the only known Quaternary archaeological site in Namibia in which elephant remains are the only faunal remains at a site, the exploitation of proboscideans by hominins at most archaeological sites including the Zoo Park remains unclear and the interaction between the Zoo Park LSA hunter-gatherers and elephants is especially unclear as a result of the unknown spatial distribution of the lithic artefacts and elephant bones, which is not well documented (Haitengi, 2023).

The EPL is located on the traditional soil of the Nama and Herero people. During pre-colonial time, there were an unknown number of local people living on this territory, as the estimated census provided remains controversial. However, the written accounts from settlers and the colonial administration suggest that the population of the locals in the region was small when settlers arrived. The colonial profoundly interrupted the local people's relationship with their land, erecting fences, building homes, and local. Many local people relocated to urban areas, which damaged the archaeological sites.

The Herero people were the primary inhabitants in the area between Windhoek and Okahandja, with the town of Okahandja serving as a major tribal center for them. Their presence in the region dates back to the 18th century, with their migration south from Kaokoland around 1750. The Ovaherero (Herero) nation began to settle in the areas around Okahandja during the 19th century. Okahandja's early development involved both Herero settlements and European influence, starting with missionary activity in the late 1820s and the establishment of a military post in 1894, which is officially recognized as the town's founding. The town served as a major Herero settlement center from around 1850, and a new protection treaty was signed there with Curt von Francois in 1890.

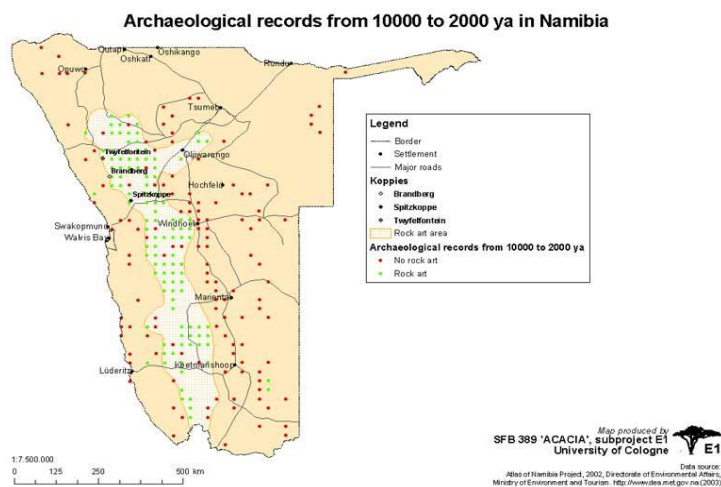


Figure 3: Overview of heritage sites in Namibia: (Credit: [Project E1 - Atlas of Namibia](#))

Between Windhoek and Okahandja, notable burial sites include those within that those sites that hold the remains of significant historical figures, particularly Herero and Nama chiefs, as well as some German colonizers who played a role in the region's past. Okahandja is known for being a place where two rivers merge, and it also holds the graves of leaders like Maharero, Jonker Afrikaner, Hosea Kutako, and Clemens Kapuuo and Heroes' Acre, the Old Windhoek Cemetery, the Old Location Cemetery, Gammams Cemetery, and Windhoek New Cemetery. Many buildings and burial sites from this era were erected in the larger region and many have been declared national treasures. Okahandja is connected to its rural area by roads and ecological tourism.

## 10. Description of Sites findings and observations.

According to the field survey, a large number of potential sites are known to exist in the EPL area. In most cases, the burial sites occur in close proximity to the farmsteads. However, only those that were within EPL area are presented here.

### List of identified sites inside the EPL during the field survey.

Heritage Resources	Coordinate GPS
Site 1: Major settlement between Windhoek and Okahandja, has it own water supply system, sewer reticulation system, sub power station towards the southern side of the houses, shopping and office spaces. A clear expansionary plan in place,	S -22.0731816° E 16.9402719°
Site 2: Contemporary poultry farm with three properly constructed sites.	S -22.047804 E 16.934455°
Site 3: Farmstead built in 1978, small agricultural activities, some buildings abandoned.	S -22.02'05.9 E 16.55'52.2''°
Site 4: Elim Training Centre built in 1985, Initially the farm was for the Portuguese farming family, three block. Used by the Ministry of Youth of Christ Namibia.	S -22.04'28.9° E 16.56'22.9''°
Site 5: Graceland farming, juice making and water among other soda drinks factory	S-22.02'13.3''° E 16.55'04.9''°
Site 6: Nursery with multiple contemporary buildings	S-22.0414296° E 16.9105272°
Site 7: A Farmstead, surrounded by other farmsteads.	S -22.44290.16° E 16.903594°
Site 8: Burial sites	S-22.0443471° E 16.8980895°
Site 9: Charcoal factory	S-22.9683377° E 16.8719155°
Site 10: Multiple farmsteads connected to the main farmstead.	S-21.9705724° E 16.8509027°



### **Site 1: Osona settlement**

**Site coordinates:** S -22.0731816° E 16.9402719°

**Description:** It is a new settlement between Okahandja and Windhoek, it contains about 300 houses. It is expected to expand.

**Significance rating:** 0

**Vulnerability rating:** 0 (Visual pollution).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive



Example of Osona settlement, comprises about 300 houses, shopping mall and sport ground.

### **Site 2: Contemporary industrial sites**

**Site coordinates:** S -22.047804 E 16.934455°

**Description:** Two industrial sites next to each other. They were both recently constructed.

**Significance rating:** 0

**Vulnerability rating:** 0 (Vegetation and shrubs threatens the longevity of the grave surface).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive



Example of contemporary industry, Kadila Poultry Farm





Example of another contemporary industry, in the same location as Kadila Poultry Farm

**Site 3: Farmstead, surrounded by other farmsteads and railway pathway**

**Site coordinates:** S -22.02'05.9 E 16.55'52.2''°

**Description:** Farmstead built in 1978, small agricultural activities, some buildings abandoned.

**Significance rating:** 3

**Vulnerability rating:** 0 (Visual pollution).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive



Example of the farmstead within the EPL footprint.





Example of the railway pathway.



Example of the ground railway pathway.





Example of agricultural storage facility



Example of the farmstead





Example of vehicle repair workshop

#### **Site 4: Elim Training Centre and related structures**

**Site coordinates:** S -22.04'28.9° E 16.56'22.9''°

**Description:** Elim Training Centre built in 1985, Initially the farm was for the Portuguese farming family, three block. Used by the Ministry of Youth of Christ Namibia.

Significance rating: 0

**Vulnerability rating:** 0 (Visual pollution).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive



Example of the Elim Training Centre.

**Site 5: Contemporary factory site**

**Site coordinates:** S-22.02'13.3''° E 16.55'04.9''°

**Description:** Site 5: Graceland farming, juice making and water among other soda drinks factory

**Significance rating:** 0

**Vulnerability rating:** 0 (Visual pollution).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive



Example of the factory site.

**Site 6: Contemporary nursery site.**

**Site coordinates:** S-22.0414296° E 16.9105272°

**Description:** Nursery with multiple contemporary buildings

**Significance rating:** 0

**Vulnerability rating:** 0 (Visual pollution).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive





Example of the nursery site

**Site 7: Farmstead, surrounded by farmstead.**

**Site coordinates:** S -22.44290.16° E 16.903594°

**Description:** A Farmstead, surrounded by other farmsteads and ruins marked by different age among them.

**Significance rating:** 0

**Vulnerability rating:** 0 (Visual pollution).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive



Example of the farmstead, surrounded by other farmsteads.

**Site 8: Community burial sites.**

**Site coordinates:** S-22.0443471° E 16.8980895°

**Description:** Two burial sites exist in one location; the current burial sites are well fenced off while the old opposite burial site is overgrown by vegetation. Many graves in the old cemetery is disappearing because of weathering forces.

**Significance rating:** 3

**Vulnerability rating:** 0 (Visual pollution).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive





Example of the community burial site.





Example of the community burial site close view.





Example of the community abandoned burial site opposite the current burial sites.





Example of the farmstead on the farm.

**Site 9: Charcoal factory.**

**Site coordinates:** S-22.9683377° E 16.8719155°

**Description:** The most economical active charcoal factory in Okahandja and employs many locals.

**Significance rating:** 0

**Vulnerability rating:** 0 (Visual pollution).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive



Example of the popular charcoal factory in Okahandja.

**Site 10: Farmsteads, surrounded by other farmsteads.**

**Site coordinates:** S-21.9705724° E 16.8509027°

**Description:** Concentration of farmstead in one location, a burial site is in the farmstead area but due to overgrown of vegetation, its coordinates were not referenced.

**Significance rating:** 3

**Vulnerability rating:** 0 (Visual pollution).

**Records:** Photographs and field notes

**Reversibility rating:** Irreversible

**Condition assessment:** Sensitive





Example of the farmstead, surrounded by multiple farmsteads.



Example of the farmstead eastern view.

## **11. Geology of the EPL.**

Before colonial rule, the area between Okahandja and Windhoek in Namibia was inhabited and used by San people. They were hunter-gatherers and their presence is evidenced by rock paintings and engravings in the area. The San primarily relied on the land for sustenance, gathering plants and hunting animals for food. They also used the area for traditional practices and ceremonies. The San likely utilized the region's permanent hot spring, which is now the location of Windhoek, for water and other resources. Nama and Herero later established settlements and developed trade connections in the area.

## **12. Assessment of findings.**

A QRN impact rating was developed whereby the criteria, were applied to the whole EPL identified site. All impacts identified during the assessment will be addressed in terms of their significance to the cultural environment.

**Table 6: Rating scales for the assessment of archaeological significance and vulnerability as developed by the QRN.**

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

All the recorded burial sites and Historical buildings within the EPL, are deemed to have high cultural significance at the local level for their social value. They should be isolated by fencing them off, leaving a buffer of at least 30m from the outer edge of the site. The exploration impacts will be limited

to the exploration site and its immediate surroundings. The wider cultural landscape is largely a natural landscape with aesthetic value and is rated as having medium cultural significance at the local level.

**Table 7: Assessment criteria for the evaluation of cumulative impacts on archaeological sites developed by the QRN.**

<b>CRITERIA</b>	<b>CATEGORY</b>	<b>DESCRIPTION</b>
<b>Extent of spatial influence of impact</b>	<b>National Regional Local</b>	Within Namibia Within the Region On site or within 200 m of the impact site impact
<b>Magnitude of impact (at the indicated spatial scale)</b>	<b>High Medium Low Very Low Zero</b>	Social and/or natural functions and/ or processes are severely altered Social and/or natural functions and/ or processes are notably altered Social and/or natural functions and/ or processes are slightly altered Social and/or natural functions and/ or processes are negligibly altered Social and/or natural functions and/ or processes remain unaltered
<b>Duration of impact</b>	<b>Short Term Medium Term Long Term</b>	Up to 3 years 4 to 10 years after construction More than 10 years after construction

Impacts on burial sites and historical resources are not assessed further as it was found that no impacts to these types of heritage will occur. Any negative impacts to sense of place are considered to be of very low significance and they will be mitigated.



**Table 8: Reversibility Rating Criteria**

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

The impact is going to happen and will be long-term in local; therefore, the impact risk class will be Medium. However, with the implementation of the recommended mitigation measures and management this risk class can be minimized to a low rating.

### **13. Conclusions and Recommendations**

In conclusion, land value between Okahandja and Windhoek is high, therefore exploration team should take this into consideration by reducing their exploration pits to strategic locations within the EPL footprint. The proposed exploration activity does not involve the destruction of important heritage elements. The war of national resistance which took place between 1904 to 1907s affected the area between Okahandja and Windhoek, whereby there was conflict between the local Herero, Nama and white settlers regarding the boundaries and ownership of lands. In addition, during the field survey it was indicated telephonically that farm Teufelsbach contains the main farmstead surrounded by other small degree farmsteads and burial sites, unfortunately the coordinates of these potential historical resources were not obtained as the manager was not around during the survey. Furthermore, an aerial archaeological survey was conducted in March 2025 by the consultant, which found no archaeological material in the EPL area, however, the local setting includes heritage sensitive areas that specifically relate to historical occupation of the EPL area and potential associated burial sites. The presence of stakeholders at all farms during the field survey enhanced the identification and mapping assessment of the EPL.

- Burial sites visitations should be opened to family members at all material times and attempts should be made to restore disappearing burial sites.
- Identified potential historical buildings, contemporary buildings and burial sites should be clearly marked in order that they can be avoided during exploration activities.
- Should any heritage artefacts be exposed during exploration activities, work on the area where the artefacts were discovered should cease immediately and the NHC shall be notified as soon as possible.

- Under no circumstances shall any built structures be removed, destroyed or interfered with by anyone on the site.
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of heritage objects.
- The sites should be isolated by fencing them off, leaving a buffer of at least 10m from the outer edge of the site.

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## Appendix A: Chance finds guidelines

The following management procedures (extracted from Kinahan, 2012) for Chance Finds are intended to illustrate how these issues can be handled in the exploration and mining environment but could be applied in the case of the construction of the proposed feedlots. These are not intended to be prescriptive in any way but merely to indicate a best practice approach, comprising specific actions and responsibilities that are consistent with the law.



## **MANAGEMENT OF CHANCE FINDS**

**INTRODUCTION:** Areas of proposed mining and related 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 personnel and contractor heritage induction process is intended to sensitize people so that they may recognize heritage “chance finds” in the course of their 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 by a trained archaeologist or other appropriately qualified person.

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

### **RESPONSIBILITIES:**

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

### **PROCEDURE:**

#### **1. Action by person identifying archaeological or heritage material:**

- If operating machinery or equipment, stop work
- Identify the site with flag tape
- Determine GPS position if possible
- Report findings to Foreman

2. Action by Foreman:

- Report findings, site locations and actions taken to Superintendent
- Cease any work in immediate vicinity
- Action by Superintendent:
  - Visit site and determine whether work can proceed without damage to findings
  - Determine and mark exclusion boundary
  - Add site location and details to AMP GIS for field confirmation by archaeologist

3. Action by Archaeologist:

- Inspect site and confirm addition to AMP GIS
- Advise NHC and request written permission to remove findings from work area
- Recover, package and label finds for transfer to National Museum

4. In the event of discovering human remains:

- Actions as above
- Field inspection by Archaeologist to confirm that remains are human
- Advise and liaise with NHC and Police
- Recover remains and remove to National Museum or National forensic Laboratory, as directed



