



TITLE: A HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED PROSPECTING RIGHTS ON FARM DOORNFONTEIN NO.12 PRA, WARRENTON DISTRICT, NORTHERN CAPE,SOUTH AFRICA

VERSION: Final HIA

DATE: 2015/09/01

ACKNOWLEDGEMENT

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DECLARATION OF INDEPENDENCE

This report has been compiled by Nkosinathi Tomose (Principal Heritage Consultant) for NGT Projects and Heritage Consultants. The views expressed in this report are entirely those of the authors and no other interest we redisplayed during the decision making process for the project.

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EXECUTIVE SUMMARY

NGT Projects and Heritage Consultants (Division: NGT Heritage Solutions) was appointed by NEEMA Consolidated Investments to conduct a Phase 1 Heritage Impact Assessment (HIA) for the proposed Prospecting Rights on Farm Doornfontein No.12 (i.e. on Portions: 9, 12, 15, 21, & 22) near Warrenton, within Magareng Local Municipality, Frances Baard District, Northern Cape Province. This report forms part of specialist input studies required as part of the environmental management process. A Phase 1 HIA required to fulfil the prospecting rights application and the environmental management plan (EMP). The prospecting rights application is in terms of the provisions of Section 29 (a) and in terms of section 39 (5) of the Mineral and Petroleum Resources Development Act, No. 28 of 2002. The heritage specialist assessment is in terms of Section 38 (1) of the National Heritage Resources Act, No. 25 of 1999.

Nkosinathi Tomose, principal archaeologist and heritage consultant from NGT Projects & Heritage Consultants conducted the study. This study assesses a range of all manmade or human influenced/alterd resources within the proposed prospecting rights application area (*Figure 1*).

The appointment of NGT Projects & Heritage Consultants (herewith referred to as NGT) is in terms of the National Heritage Resources Act (NHRA), No. 25 of 1999 and the National Environmental Management Act (NEMA), No.107 of 1998 (as amended in 2014 & the applicable 2014 Regulations) as well as other applicable legislations. The standard NGT HIA includes:

- Conducting a detailed background information search of the affected environment;
- Conducting a physical survey of the project footprint to identify, record/document and map out any heritage resources within and immediately around the development footprint;
- Field grading of the identified resources;
- Assessing impacts of the proposed development on the identified resources and making recommendations on how such impacts can be managed or mitigated.

The Background information search yielded information about the existence of heritage resources in and around Warrenton (e.g. Rossouw, 2008). The identified heritage resources varied from archaeological, to historic built environment and landscape features, rock art and burial grounds and graves (*Annexure 2*).

The survey, conducted on the 27 July 2015, revealed a 1961 South Africa 1^c coin and a turquoise green bead. Historic built environment and landscape features were identified north

of the prospecting rights area. These included kraals, terrace walls along the river banks, and farm houses; however, these features are located outside the study area (*Annexure 1*).

Based on the desktop research, the physical survey and the assessment of the potential impact of the proposed project on Farm Doornfontein No.12 (i.e. on Portions: 9, 12, 15, 21, & 22) cultural environment - the following conclusions and recommendations are made:

Conclusions:

- It is concluded that the proposed project (prospecting rights application for diamonds) will not impact negatively on the cultural landscape of the affected area.
- The historic built environment identified will not be directly impacted by the proposed project. Secondary impacts to these resources are predicated in the near future should the mining activities extend towards the Vaal River banks.
- There were no significant archaeological and other heritage resources identified within the development footprint.
- The geological map does not show evidence of fossil bearing rocks with the project footprint. Such rocks occur further south of the development area.
- Based on the assessment of the proposed activities on site, it is concluded that there will be no adverse impact to heritage resources on site.

Recommendations:

- It is recommended that the PHRA-NC and SAHRA grants the application a Positive Review Comment and allow for prospecting to proceed as planned.
- Should the developer incorporate pieces of lands with historic built environment as listed in *Annexure 1*- the developer will need to conduct a Phase 2 Mitigation of the affected resources:
 - This process should involve full documentation, recording and mapping of the affected cultural resources.
 - A historic archaeological investigation of each homestead will be required as part of the Phase 2 study
 - This process should also involve setting up archaeological trenches around each of the homesteads and kraals.

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ABREVIATIONS

ACRONYMS	DESCRIPTION
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
ARCH	Archaeological
BEL	Built Environment & Landscape
BGG	Burial Grounds & Graves
CRM	Cultural Resource Management
DEA	Department of Environmental Affairs
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Early Stone Age
GIS	Geographic Information System
GPS	Global Positioning System
HIA	Heritage Impact Assessment
Kya	Thousand years ago
LSA	Late Stone Age

LIA	Late Iron Age
MSA	Middle Stone Age
MIA	Middle Iron Age
NHRA	National Heritage Resources Act
NEMA	National Environmental Management Act
PHRA-NC	Provincial Heritage Resources Authority Northern Cape
SAHRA	South African Heritage Resources Agency
WOM	Without Mitigation
WM	With Mitigation

TERMS AND DEFINITIONS

Archaeological resources

These include:

- Material remains resulting from human activities which 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;
- Rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
- Wrecks, being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;
- Features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

Cultural significance

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

Development

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in the change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

- Construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- Carrying out any works on or over or under a place;
- Subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- Constructing or putting up for display signs or boards; any change to the natural or existing condition or topography of land;
- And any removal or destruction of trees, or removal of vegetation or topsoil.

Heritage resources

This means any place or object of cultural significance.

1. PROJECT BACKGROUND

NEEMA Consolidated Investments is applying for diamond (precious stones) prospecting rights on Farm Doornfontein No.12 (i.e. on Portions: 9, 12, 15, 21, & 22) near Warrenton, within the Magareng Local Municipality, Frances Baard District, Northern Cape Province. It is undertaking the process of behalf of its client Motjoli Resources.

The earmarked area has been identified as the ideal or feasible site for the proposed prospecting activities owing to the type of geological formation on site and the surrounding areas. The study area covers a total area of more than 5000m² (102,439 Hectares) (and triggers a Heritage Impact Assessment study in terms of Section 38 (1) of the NHRA, No. 25 of 1999 and Section 24 of the NEMA, No. 107 of 1998 (as Amended in 2014) and read together with the applicable 2014 EIA regulations.

This study is a Phase 1 HIA of the proposed development and it involved a desktop scan and the physical survey of the affected area (*Figure 1*). The aim of the physical survey is to identify, document and map all cultural resources within the proposed development area; to assess and evaluate their heritage significance and the impact of the proposed project on them.

2. DESCRIPTION OF THE AFFECTED ENVIRONMENT

2.1. Access to Site:

- The site is located 5km south-west of Warrenton, 6km Ikhutseng Community and 70km from Kimberley (Tshabuse, 2015).
- It located west of the N12 from Kimberley and south of N18 (*Figure 1 & 2*).
- The site is situated south of the Lower Vaal River (*Figure 2*)

2.2. Site Conditions

- The prospecting rights area can be described as fairly flat landscapes defined acacia trees, grasses (*Figure 3*).
- Recent buildings in form of farm houses and a filling station are found within the project footprint
- North and north-west of the project historic buildings, ruins, kraals, and terraced stone wall are found (*Annexure 1*).

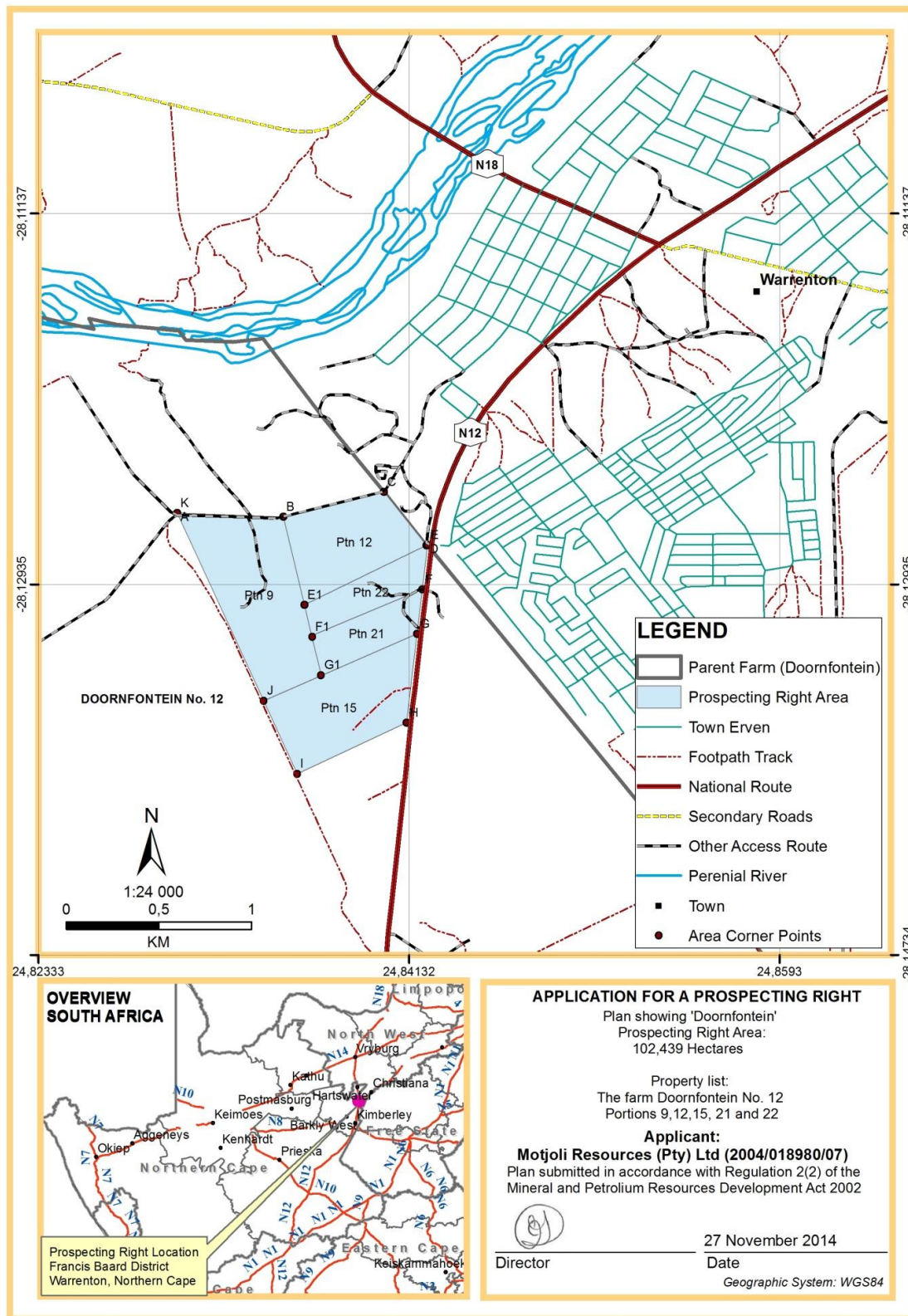


Figure 1- A map showing a regional overview of the site in Francis Baard District, the development footprint along/west of the N12 and south of the Lower Vaal River. Note the affected portions of the Farm Doornfontein.



Figure 2- Location of the Farm Doornfontein and the affected area. The red arrow shows the location of the Vaal River. Note the N12 from Kimberley and the N18.



Figure 3- General site images - note the flat terrain, trees and grasses

2.3. Geological Setting

The study area falls outside an area known to contain rocks that contain palaeontological fossils such as the red and grey sands, the alluvium scree and the Karoo sequence (*Figure 4*). It is characterised by conglomerates and quartzite, andasitic lavas (*Figure 4*).

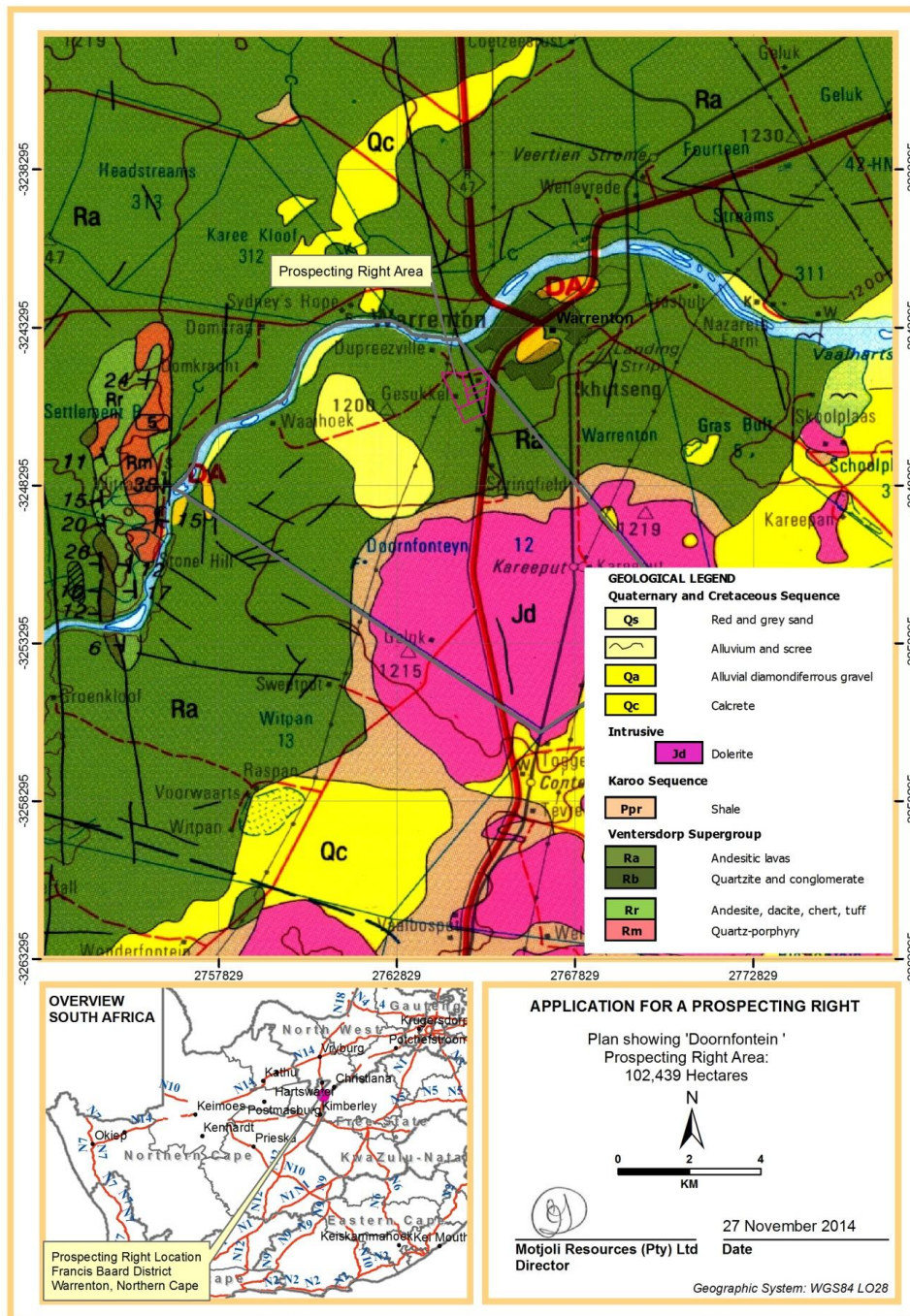


Figure 4- A geological map of Francis Baard District and the affected footprint. Note the site is located outside the dolomite.

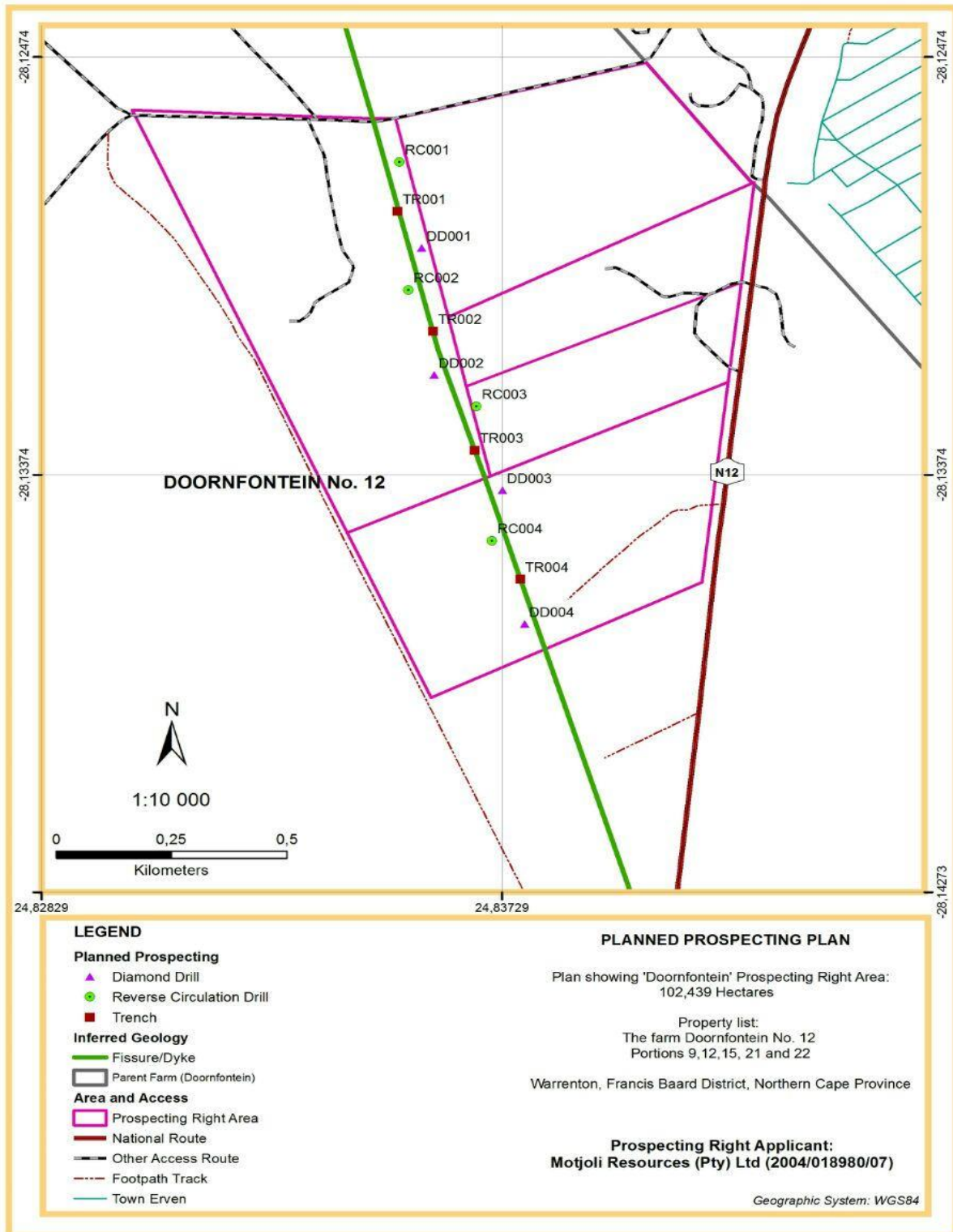


Figure 5- Map showing places that will be excavated during the prospecting process.

3. METHOD FOLLOWED

The study for the proposed prospecting rights involved the following steps:

- A background information search of the proposed development footprint and the surrounding environment
- Assessment of SAHRIS (SAHRA digital database) for Heritage Impact Assessment and Palaeontological studies conducted in and around Warrenton.
- A Google Earth Spotting/Scan of Potential Yield Area (areas with potential to yield heritage resources)
- A survey of the prospecting area to map out any heritage resources within and in the immediate surroundings the development footprint (i.e. 27 July 2015).
- Google Earth mapping of the development footprint (*Figure 2*)
- ArcGIS maps were produced by the client (*Figure 1, 4 & 5*)
- Report writing – the current HIA.

4. BACKGROUND INFORMATION:

4.1. History of Warrenton

The town of Warrenton directly developed as the consequence of the discovery of diamonds in Kimberley in 1867. Such a discovery created a population explosion with speculators and prospectors all trying their luck in the flourishing diamond industry and acquire new wealth. Kimberley's population created a demand for fresh produce on land that was suited only for livestock which itself could not be fully supported. Aware of the potential to grow vegetables on land near the Orange, the Vaal and Harts Rivers; a syndicate of 18 enterprising individuals bought the Western part of the farm Grasbult on the Vaal River north of the Big Hole and started a profitable fresh produce business (Leigh, 1987). The result of this was the establishment of a town on part of the property in 1884. The town was named after Sir Charles Warren, the military surveyor who had arbitrated in the border dispute between the Free State and the Griqualand West in 1876 (ibid). Diamonds were mined in the area until the town and the surrounding countryside reverted exclusively to agriculture (ibid). Along the river banks the main agricultural activities included groundnuts, lucerne, maize and potatoes with cattle and sheep farms predominate away from the rivers. As far back as 1880s the area was known as Veertien Strone, in reference to its waterfalls (Rossouw, 2008). Among some of the historical and regional events is the January 1884 Zuid Afrikaansche Republiek (Z.A.R) President Paul Kruger meeting with Cecil John Rhodes (the British Colony) at Veertien Strome. The meeting was to discuss the deteriorating relationship between Britain and the Transvaal (ibid).

4.2. An Archaeological and Palaeontological Background

The lower Vaal River Basin is known to contain and produce a wealth of archaeological resources from its fluvial Pleistocene river gravels (Rossouw, 2008). Early Stone Age industries such as the Archeulian handaxes, cleavers and core-axes primarily made from quartzite, have been discovered along the Vaal River (e.g. Rossouw, 2008). Fauresmith blades have also been reported (ibid). Furthermore, Rossouw did not identify any fossil bearing rocks in her 2008 study. The current geological and palaeontological assessment did not yield any fossil bearing rocks within the development footprint which would have required a detailed palaeontological assessment. Rossouw identified several archaeological and cultural heritage resources and sites (2008). Among the resources she identified are Early Stone Age stone tools, rock engravings depicting human figures, animals, therianthropes and geometric motifs (ibid). Built environment and landscape features such as historic buildings and canals as well as burial grounds and graves in the form of an active cemetery and a cemetery that is no longer used (*Annexure 2*).

4.2 SAHRA Database: Previous HIA studies and their results

- Rossouw, L., 2008. Phase 1 Archaeological Impact Assessment of farm Fourteen Streams, Warrenton District, Northern Cape Province. Report prepared for Dera Environmental Consultants yielded 16 heritage sites near Warrenton (*Annexure 2*).

4.3. Cadastral Search:

- The cadastral search was limited to the maps used above and Google Earth Spotting which assisted with planning of the survey. It yielded farmsteads that were confirmed during the survey as shown in *Annexure 1* below.

5. PHYSICAL SURVEY

The physical survey of the proposed development area took place on the 27th July 2015 by Mr Nkosinathi Tomose (NGT) and Mr Abraham Tshabuse (NEEMA Consolidated Investments). The survey did not produce any archaeological sites within the prospecting area. Historic kraals and farm houses older than 60 years were identified north of the site and they fall outside the development footprint (*Annexure 1*). A 1961 South African coin was discovered on site and a blue bead in its close proximity (*Figures 6 and 7*). Also found were ruins of farm labourer house (*Figure 8*).



Figure 6- 1961 South Africa 1c coin



Figure 7- Turquoise green plastic bead



Figure 8- Ruins of farm labour house

During the survey an informal heritage social consultative process took place with some of the farmers – one of the farmers showed the team a 1959 bicycle license plate that he had discovered along the Vaal River banks (*Figure 9*).



Figure 9- 1959 bicycle license plate

6. DISCUSSION

The background information search of the broader study area yielded information about known archaeological and cultural heritage resources (e.g. *Annexure 2*). These were some the sites that were expected to occur within the development footprint for the proposed prospecting rights. Only a 1961 1^c South African coin and a turquoise green bead were discovered on Portion 15 of the Farm Doornfontein No.12 (*Figure 6 and 7*). In terms of relative dating the mintage year of the coin- the coin is dated to be 54 years old. The bead is plastic and relatively recent in terms of age. The historic farmsteads all fall outside the development footprint (*Annexure 1*). This means that there are no issues in terms of the cultural heritage environment. Therefore there no objections to the project – equally important is the fact that the rock formation that characterises the study area is not known to contain any palaeontological or vertebrae fossils (*Figure 4*). Therefore there is no need to conduct a detailed palaeontological assessment of the development area.

7. CONCLUSIONS:

Based on the desktop research, the physical survey and the assessment of the potential impact of the proposed project on Farm Doornfontein No.12 (i.e. on Portions: 9, 12, 15, 21, & 22) cultural environment - the following conclusions.

- It is concluded that the proposed project (prospecting rights application for diamonds) will not impact negatively on the cultural landscape of the affected area.
- The historic built environment identified will not be directly impacted by the proposed project. Secondary impacts to these resources are predicated in the near future should the mining activities extend towards the Vaal River banks.
- There were no significant archaeological and other heritage resources identified within the development footprint.
- The geological map does not show evidence of fossil bearing rocks with the project footprint. Such rocks occur further south of the development area.
- Based on the assessment of the proposed activities on site, it is concluded that there will be no adverse impact to heritage resources on site.

8. RECOMMENDATIONS:

- It is recommended that the PHRA-NC and SAHRA grants the application a Positive Review Comment and allow for prospecting to proceed as planned.
- Should the developer incorporate pieces of lands with historic built environment as listed in *Annexure 1*- the developer will need to conduct a Phase 2 Mitigation of the affected resources:
 - This process should involve full documentation, recording and mapping of the affected cultural resources.
 - A historic archaeological investigation of each homestead will be required as part of the Phase 2 study
 - This process should also involve setting up archaeological trenches around each of the homesteads and kraals.

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ANNEXURE 1: HISTORICAL BUILT ENVIRONMENT AND LANDSCAPE FEATURES IDENTIFIED NORTH OF THE SITE.

A-Site names, coordinates ad sensitivity status

Sites	Features	Coordinates	Sensitive
Warranton 1	Farmstead with old farm ruins, kraals and terrace wall along the Vaal River banks	S28° 7'8.59" E24°49'45.25"	Medium
Warrenton 2	Farmhouse ruins	S28° 7'9.66" E24°49'41.39"	Medium
Warrenton 3	Farmstead with kraals and barn, reservoirs, and surrounding farm stone wall	S28° 7'6.03" E24°49'28.48	Medium

B-Sites location in relation to project footprint



C-Photographic images of Warrenton 1, 2 and 3



Figure 10- old farmstead ruins (Warrington 1)



Figure 11- Stone wall kraal (Warrington 1)



Figure 12- Stone wall terrace along the river banks (Warrington 1)



Figure 13- Historic farm house ruins (Warrington 2)



Figure 14- Historic farmstead /stone walled (Warrington 3)



Figure 15- Stone wall surrounding the farmstead in Figure 5 (Warrington 3)

ANNEXURE 2: TABLE 1. HISTORICAL AND ARCHAEOLOGICAL FEATURES RECORDED DURING ROSSOUW 2008 SURVEY.

	Features	Coordinates	Sensitive
1	Nazareth Farmstead & Graveyard	S28 06.647 E24 54.618	Low
2	Tower * Wall ruins	S28 06.710 E24 54.846	Medium
3	LSA Stone tools	S28 06.636 E24 55.064	Low
4	Historical Ruins	S28 05.894 E24 54.050	Medium
5	Graveyard	S28 05.804 E24 54.065	High
6	Historical Ruins	S28 05.828 E24.54.005	Medium
7	LSA Stone tools	S28 04.871 E24 55.103	Low
8	LSA Stone tools	S28 04.782 E24 54.673	Low
9	LSA Stone tools	S28 03.456 E24 54.645	Low
10	Graveyard	S28 04.831 E24 52.905	High
11	Old Bridge	S28 05.333 E24 52.703	Low
12	Historical Ruins	S28 05.378 E24 52.699	Medium
13	LSA Stone tools	S28 05.403 E24 53.502	Low
14	Rock engravings	S28 06.496 E24 55.082	High
15	Historical Ruins	S28 05.364 E24 53.050	Medium
16	Graveyard	S28 05.317 E24 53.303	High