

AFRICAN HERITAGE CONSULTANTS CC

2001/077745/23

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0150

A. PHASE I CULTURAL HERITAGE RESOURCES IMPACT ASSESSMENT

(a) PHASE I CULTURAL HERITAGE RESOURCES IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF PORTION 1 OF THE RHENOSTERSPRUIT FARM 908 JQ WITHIN THE JURISDICTION OF THE MOSES KOTANE LOCAL MUNICIPALITY WITHIN THE BOJANALA DISTRICT MUNICIPALITY IN THE NORTH WEST PROVINCE.

(b) REPORT COMPILED BY

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(c) DEVELOPER AND CONSULTANT INFORMATION

Developer:

Akha Maduna Property Developers (Pty) Ltd

Contact Person: Mr. N. Kubeka

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Tel: 053 927 3569; Cell: 072 666 2166

E-mail: kubekan5@gmail.com

Owner:

Moses Kotane Local Municipality, Private Bag X 1011 Mogwase, 0314

Tel: 014 555 1300, Fax: 014 555 6368

Consultant:

Lesekha Consulting

Contact Person: Lesego Senna, Address: No. 25 Caroline Close, Rowlands Estate, Mafikeng, 2745 - Tel: 018 011 0002; Cell: 083 763 7854, E-mail: Lesego@lesekha.co.za

Date of report: 27 August 2018

B. EXECUTIVE SUMMARY

The site is typical Bushveld with mostly very dense vegetation. Towards the north and west a township has been developed – Mogwase and Mabele a Podi as well as the Mankwe Campus ORBIT TVET College.

The site was investigated on foot and by vehicle. Especially towards the south the vegetation is very dense, this made the inspection of the site very difficult. The other section of the site has mainly grassland and thorn trees. Some illegal dumping takes place here.

At S25° 18' 00.0" & E27° 12' 55.4" is a very large new cemetery which falls just outside the development area. In the northern section are a number of modern farming facilities as well as remains of a brick making. At S25° 17' 35.5" & E27° 12' 09.7" is a large dam which originally was a quarry for road building or brick making. South of this area is a large facility of Correctional Services and a Prison at S25° 18' 12.99" and E 27° 12' 06.24. South of this facility is a dry river. The rest of the area is very dense bushveld vegetation with very bad visibility. At large areas walking is extremely difficult. In the far southern corner is a dirt road and a large quarry.

Though a number of sites were found on the proposed development area none of them are older than sixty years. There are also no Stone Age or Iron Age sites on the development area. The recorded new cemetery also falls outside the proposed development area.

There is no objection to the proposed development from a Cultural Heritage Resources point of view.

If during construction any cultural heritage resources or graves are unearthed all work has to be stopped until the site has been inspected and mitigated by a cultural heritage practitioner.

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D. BACKGROUND INFORMATION ON PROJECT

(a) Whether the report is part of a scoping report EIA/HIA or not

Report required as part of EIA.

(b) Type of Development (e.g. low cost housing project, mining etc.)

Upgrading and formalisation of the Mabele A Podi Settlement

(c) Whether re-zoning and/or subdivision of land is involved

No

(d) Developer and consultants and owner contact details

Developer:

Akha Maduna Property Developers (Pty) Ltd

Contact Person: Mr. N. Kubeka

Address: 103 Livingstone Street, Vryburg, 8601

Tel: 053 927 3569; Cell: 072 666 2166

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Owner:

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(e) Terms and Reference

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of paleontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

(f) Legislative requirements of Act 25 of 1999.

Protected sites in terms of the National Heritage Resources Act, Act No. 25 of 1999

The following are the most important sites and objects protected by the National Heritage Act:

- Structures or parts of structures older than 60 years.
- Archaeological sites and objects.
- Paleontological sites.
- Meteorites.
- Ship wrecks.
- Burial grounds.
- Graves of victims of conflict.
- Public monuments and memorials.
- Structures, places and objects protected through the publication of notices in the Gazette and Provincial Gazette.
- Any other places or objects, which are considered to be of interest or of historical or cultural significance.
- Geological sites of scientific or cultural importance.
- Sites of significance relating to the history of slavery in South Africa.
- Objects to which oral traditions are attached.
- Sites of cultural significance or other value to a community or pattern of South African history

E. BACKGROUND TO THE ARCHAEOLOGICAL AND HISTORY OF THE AREA

The study area was densely settled by mostly the Sotho-Tswana and somewhat later, Nguni groups who later became sothoised. Mason (1968) and Seddon (1968) recorded more than a thousand stone-walled settlements in the drainage area of the Marico, Hex, Crocodile and Elands Rivers in the former Western Transvaal. It is generally accepted that there are countless more stone-walled settlements on the western Bankenveld (Breutz 1953, 1989; Mason 1986; Boeyens 1990, 2000, 2003, 2012; Mitchell 2002; Huffman 2007; Boeyens & Hall 2009). Whereas Sotho-Tswana groups dominate the prehistorical and historical African farmer settlements in the Rustenburg-Pilanesberg region, other ethnic groupings were also present. Importantly, the more recent histories of the Tlokwa, Kgatla, Fokeng, Kwena, Po, and also the Tlhako, have been documented through ethnographic reports and oral histories (Boeyens & Hall 2009).

One of the major early nineteenth-century Tswana capitals, Marothodi as the precolonial capital of the Tlokwa in the present-day Pilanesberg-Rustenburg region, was situated on Vlakfontein and adjacent farms in the greater area of the study region (Ellenberger 1939; Breutz 1989, Hall et al 2008; Anderson 2011; Boeyens 2012).

Marothodi and settlements from this region and period are also important for the intensive iron and copper smelting and trade in manufactured items (Anderson 2005, 2011; Hall et al 2006; Boeyens & Hall 2009). Iron workings and copper smelting furnaces have been excavated at Marothodi and the settlement is associated with a copper mine on the borders of Vlakfontein 207 JP and Palmietfontein 208 JP (Boeyens 2012).

Molokwane, the capital of the Modimosana Mmatau Kwena on the farm Selonskraal 317 JQ to the west of Rustenburg, is another of these large mega-settlements (Pistorius 1992). Succession disputes, internal strife and wars resulted in small-scale movements, larger migrations across borders and numerous relocations so that the settlement chronology and demographics of the many groups that frequented this region are extremely complex (Boeyens & Hall 2009). Also refer to Breutz 1989; Mason 1968, 1986; Boeyens 1990, 2000, 2003, 2012; Berg 1999; Huffman 2007; Boeyens & Hall 2009; Anderson 2011; Pistorius 2011 for a synthesis on African farmer occupation during the prehistoric and historical periods. Whereas ethnographies, oral geography and oral testimonies as well as archaeological investigations established a reasonably well-documented overview of the past history, many of the settlements sites have not been investigated at all.

In the following section a selection of heritage studies are briefly summarised to demonstrate the importance of the region in general. So many studies and archaeological investigations have been conducted that it serves no purpose to discuss all of them and in any particular detail. Several of the reports and research projects (e.g. Boeyens & Hall 2009; Anderson 2011; Pistorius 2011; Boeyens 2012; Coetzee 2012) deal with the settlement, movements and relocations as well as the role of the various Sotho-Tswana groups in particular, and demonstrate the complexity of the precolonial and colonial history of the region.

However, some areas seem to be devoid of heritage resources. Nzumbululo Heritage Solutions (2007) recorded no archaeological remains in a HIA for the Sedibelo substation in the Bojanala District area of the Moses Kotane Local Municipality. Roodt (2007) in his survey for a water pipeline within the same municipality recorded stone-walled enclosures (S25° 04.175' E26° 59.616') that were ascribed to either the Tlokwa or Fokeng. He also found a more recent historical stone-walled settlement at at Ga Ramosidi (S25° 00.735 E26° 09.588). Coetzee (2008) recorded no visible heritage resources in a cultural heritage survey for of the proposed upgrade of road D52 from Maubane to Brakkuil within the Bojanala Platinum District of the Moses Kotane Local Municipality.

Vhufa Hashu Heritage Consultants (2012) in an AIA for a power line northeast of the Bakubung Platinum mine on the farm Styldrift 90-JQ in the Moses Kotane Local Municipality recorded no heritage resources. Coetzee (2012) in his survey on the farm Stylsdrift 90 JQ, where a new ventilation shaft Phase 3 was proposed for the

Bafokeng Rasimone Platinum Mine, also found no visible archaeological or heritage remains.

Pistorius (2006a, 2006b, 2006c, 2010a) in several surveys for platinum mining developments recorded a number and different categories of heritage resources. These included stone-walled sites on the farms Ruighoek 169JP, Witkleifontein 136JP and Tuschenkomst 135JP; informal and formal burial sites from the historical period as well as formal graveyards in current use at most of the rural villages surrounding the mining areas; historical structures at Ngweding, Ntsana-le-Metsing and Motlhabe; an extensive homestead on Witkleifontein 136JP; the remains of prospecting activities and mining at Witkleifontein 136JP and Rooderand 46JQ; and also isolated lithics. Pistorius (2010b) assigned medium to high significance to a Late Iron Age (LIA) site without stone walls (Site LIA01) as the relationship between this site on the plains and the very numerous stone-walled sites near mountains in the region should be investigated. He accordingly recommended Phase 2 mitigation for this locality on Magazynskraal 3JQ near the Pilanesberg.

Pistorius (2011) in his Phase 1 AIA at Marothodi recommended that the main areas should be avoided in view of the importance of this megasite and that an emergency protocol should be established for archaeological remains that may be encountered during any of the proposed infrastructural developments. In his report an overview of the prehistory and history of the region is provided. In another survey Pistorius (2012) recorded several LIA stone-wall localities and a formal cemetery.

Strategic Environmental Focus (2013) in a HIA for the Mareetsane Batho-Batho Solar photo voltaic (PV) Facility and associated power line recorded several burial sites.

It is clear from the above discussion that large and smaller stone-walled sites from the LIA and more recent historic period dominate the archaeology and heritage resources of the Rustenburg-Pilanesberg region.

The Pokeng people had no land when they returned to the area after they had fled to Botswana because of Mzilikazi raids in the Tswana. When they returned to their original settlement area the area had been divided into Boer farms. Black people were not allowed to own land in the Zuid-Afrikaansche Republic. Missionary Christoph Penzhorn helped the Pokeng to purchase land which he registered in his own name. After the Anglo Boer War when Black people were allowed to own land Christoph Penzhorn's son Ernst registered the land in the name of the Phokeng.

In 1925 Hans Merensky discovered Platinum in the Rustenburg area also on the land of the Phokeng. Impala Platinum now mines Platinum on their land which has made the Bafokeng one of the richest tribes in Africa. (Penzhorn W 2017 pp340; Küsel U 2017 pp 353)

The proposed development site lies in the centre of Rustenburg where no archaeological sites have been recorded in the past (Database National Cultural Heritage Museum).

One of the first Europeans who visited the area was the London Mission Society missionary Robert Moffat. He saw the devastation which the Ndebele of Mzilikazi

had brought about. Most Tswana settlements were in ruins. In the western section of the Magalies Mountains he came across a gigantic tree inhabitant by several BaKwena families. The families had built conical houses in the tree on platforms to protect their children against Lion attacks. The tree is still in existence today (Curruthers, V. 1990: 249).



Old fig tree north of Rustenburg 1835



The above fig tree today

The town of Rustenburg was founded in 1851. Rustenburg is also the birth place of the "Gereformeerde Kerk" which was established under a large Seringa Tree in the town on 10 & 11 February 1859 (Oberholster 1972:313 & 314). One of the best known National Monuments in the area is the house of President Paul Kruger on the farm Boekenhoutfontein (Oberholster 1972: 315 & 316 and Wikipedia - Colonial history of Rustenburg).

The proposed development area lies just east of the Pilanesberg National Park. Althoughgeographically located within the Witwatersrand range, the mountain is geologically part of a feature known as the *Pilanesberg Alkaline Ring Complex*. It is a

fast ring dike of very ancient extinct volcano that last erupted some 1,200 million years ago.

The Pilanesberg is one of the largest volcanic complexes of its type, there are few similar alkaline volcanic structures in the world. Different types of Syenites, including a number of rare minerals, occur in the crater area.

The formation of the Pilanesberg occurred 2,000 million years ago. As its zenith, the volcano towered to 7,000 metres in height. Over the time, a series of volcano eruptions occurred. There were further outpourings of lava, craters collapsed, ring fracturing took place around the volcano and magma was squeezed into these fractures. The end result is several "onion rings" of rocks of different ages. Erosion over millions of years has stripped away the mountain and the highest peak. What we see today is not so much a volcanic crater, but a cross section through the magma pipes that were located at great depth below the mountain's summit.

The development site is just east of the Pilanesberg National Park. On the northern side of the development side is the Mogwase Township and on the western side Mabele A Pudi Township.

F. DESCRIPTION OF THE PROPERTY OF AFFECTED ENVIRONMENT

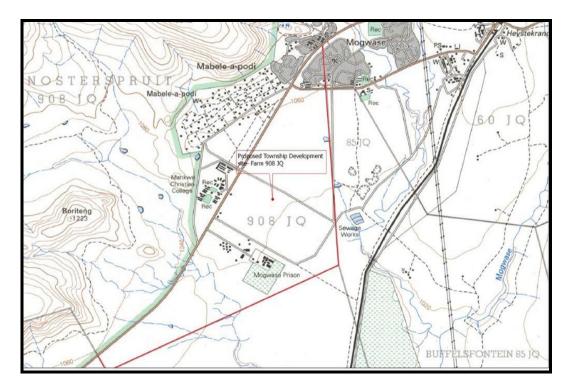
(a) Detail of area surveyed:

• Full location Data for Province, Magisterial District/Local Authority and property (e.g. Farm erf) name and number etc.;

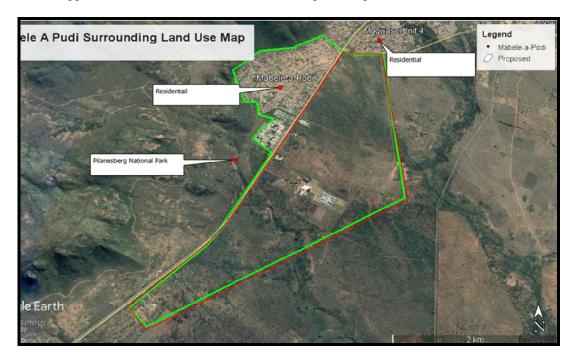
Portion 1 of Rhenosterspruit Farm No. 908 JQ within the jurisdiction of the Moses Kotane Local Municipality within the Bojanala District Municipality North West Province

Location map(s)/orthophotos of the general area. These must include the map name and number (e.g. 3313 DC Bellville). Maps must include at least a 1:50 000 and (if) available also a 1:10 000 (i.e. most detail possible). Large scale colour satellite photos make a useful addition. Maps should be preferable at least A4 size.

1/50 000 Map: Sun City 2527 AC - See Map



• Either the Location Map or the Site Map must have the polygon of the area surveyed marked on it and full geographical co-ordinates for all relevant points and where applicable, indication of the area to be developed (footprint).



Google Map of investigated area

Co-ordinates:

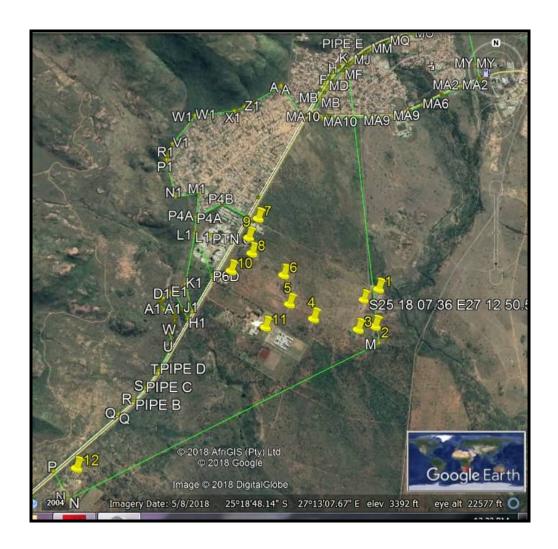
No. 1: A large cemetery E25° 18' 07.36" & E 27° 12' 50.53"

- No. 2: Farming facilities E25° 18' 19.32" & E27° 12' 55.43"
- No. 3: Farming facilities E25° 18' 18.88" & E27° 12' 48.92"
- No. 4; 5; & 6: Cattle and goat farming
- No. 7: Large dam E25° 18' 18.88" & E27° 12' 48.92"
- No. 8: Remains of old brick making facility S25° 17' 57.6" & E27° 12' 09.3"
- No. 9: Modern Brick making facility S25° 17' 43.7" & E27° 12' 04.5"
- No.10: Modern brick making facility not in use any more S25° 17' 57.33" & E27° 11' 53.06"
- No.11: Correctional Services Mogwase S25° 18' 12.99" and E 27° 12' 06.24.
- No.12: Large quarry for gravel S25° 19' 06.97" & E23° 10' 57.89"

(b) Description of the Methodology

The site was visited and inspected on foot and by vehicle. The site is typical Bushveld vegetation. Visibility on the northern side was gratifying but very bad on the south because of dense vegetation.

G. DESCRIPTION OF SITES MAPPED



Numbers on map:

- No. 1: A large cemetery E25° 18' 07.36" & E 27° 12' 50.53"
- No. 2: Farming facilities E25° 18' 19.32" & E27° 12' 55.43"
- No. 3: Farming facilities E25° 18' 18.88" & E27° 12' 48.92"
- No. 4; 5; & 6: Cattle and goat farming
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- No.11: Correctional Services Mogwase S25° 18' 12.99" and E 27° 12' 06.24.
- No.12: Large quarry for gravel S25° 19' 06.97" & E23° 10' 57.89"

Detail description of sites

The northern section of the proposed development area is mainly grass, shrubs and thorn trees. This area was used in earlier years as fields for maize and sorghum planting which would have destroyed any heritage sites – see photograph.





Just outside the northern and western side of the development area are the towns of Mabele-a-Podi who also houses the Mankwe Campus ORBIT TVET College and Mogwase Township – see photographs.







On the eastern side is a new tar road leading to a large cemetery just outside the development area at E25 $^{\circ}$ 18' 07.36" & E 27 $^{\circ}$ 12' 50.53" – see photograph and No. 1 on map.



In the southern section near the Correctional Services facility are a number of recent farming facilities. Of these the following two are the largest.

(i) $E25^{\circ} 18' 19.32'' \& E27^{\circ} 12' 55.43'' - See photograph and No: 2 on map.$



(ii) E25° 18' 18.88" & E27° 12' 48.92" – See photograph and No: 3 on map



Three other cattle and goat farming facilities were also found – No: 4, 5, & 6 on map.

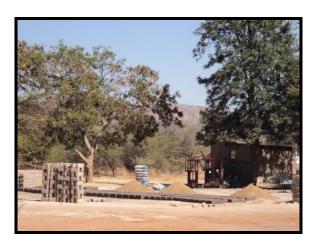
Near the western section is a large dam. This dam was most probably created by excavations for road building and clay for brick making at $S25^{\circ}$ 13' 35.5" & $E27^{\circ}$ 12' 09.3" - See No: 7 on map and photograph.



At S25 $^{\circ}$ 17' 57.6" & E27 $^{\circ}$ 12' 09.3" a large area is scattered with the remains of broken bricks and brick kilns – see photographs as well as No: 8 on map.



At $S25^{\circ}$ 17' 43.7" & $E27^{\circ}$ 12' 04.5" are the remains of a modern brick making facility and buildings as well as the remains of a building. No: 9 on map





There is also a brick making facility not in use any more S25° 17' 57.33" & E27° 11' 53.06". No: 10 on map – see photograph.



In the centre of the development area is a large security area for the Correctional Services Mogwase – see photographs. No: 11 on map at $S25^{\circ}$ 18' 12.99" and E 27° 12' 06.24.



The southern section is very dense vegetation, which was very difficult to survey. The only place recorded in this area is a very large quarry area for gravel to be used for road building. No: 12 on map $S25^{\circ}$ 19' 06.97'' & $E23^{\circ}$ 10' 57.89'' – see photographs.







H. DESCRIPTION OF THE ARTEFACTS, FAUNA, BOTANICAL OR OTHER FINDS AND FEATURES

None

I. CLEAR DESCRIPTION OF BURIAL GROUNDS AND GRAVES

There is a modern cemetery at E25° 18' 07.36" & E 27° 12' 50.53" but the cemetery falls outside the investigated area.

J. EVALUATION AND RATING (FIELD RATING)

Not applicable

K. STATEMENT OF SIGNIFICANCE (heritage value)

Not applicable

L. RECOMMENDATIONS AND CONCLUSIONS

Though a number of sites were found on the proposed development area none of them are older than sixty years. There are also no Stone Age or Iron Age sites on the development area. The recorded new cemetery also falls outside the proposed development area.

There is no objection to the proposed development from a Cultural Heritage Resources point of view.

If during construction any cultural heritage resources or graves are unearthed all work has to be stopped until the site has been inspected and mitigated by a cultural heritage practitioner.

M. BIBLIOGRAPHY

Anderson, M. 2005. Excavations at Marothodi Vlakfontein 207 JP - North West Province An interim report presented to SAHRA.

Anderson, M. 2011. *Marothodi: the historical archaeology of an African capital*. Northamptonshire: Atikkam Media.

Bergh, JS. 1999. Geskiedenisatlas van Suid-Afrika: die vier noordelike provinsies. Pretoria: JL van Schaik.

Boeyens, JCA. 1998. Die Latere Ystertydperk in suidoos- en sentraal-Marico. Unpublished D. Phil. thesis, University of Pretoria

Boeyens, JCA. 2000. In search of Kaditshwene. South African Archaeological Bulletin 55: 3-17.

Boeyens, JCA. 2003. The Late Iron Age Sequence in the Marico and Early Tswana History. *South African Archaeological Bulletin* 58(178): 63-78.

Boeyens, JCA. 2012. The intersection of archaeology, oral tradition and history in the South African interior. *New Contree* 64: 1-30.

Boeyens, J & Hall, S. 2009. Tlokwa oral traditions and the interface between history and archaeology at Marothodi - *South African Historical Journal* 61(3): 457-481, DOI: 10.1080/02582470903189717.

Breutz, P.L. 1953. *The tribes of Rustenburg and the Pilanesberg districts* Pretoria: Government Printer.

Breutz, P.-L. 1989. A history of the Batswana and origin of Bophuthatswana. Ramsgate: The Author.

Coetzee, FP. 2008. Cultural Heritage Survey of the Proposed Upgrade of Road D52, from Maubane to Brakkuil, Moses Kotane Local Municipality, North West Province. For Exigent Environmental.

Coetzee, FP. 2012. Cultural Heritage survey of the proposed new ventilation shaft phase 3 project, Bafokeng Rasimone Platinum Mine, North West Province. For SKR Consulting (Pty) Ltd.

Ellenberger, V. 1939 - History of the Batlokwa of Gaberones (Bechuanaland Protectorate) *Bantu Studies* XIII:165-198.

Hall, S., Anderson, M, Boeyens, JCA & Coetzee, FP. 2008. Towards an outline of the oral geography, historical identity and political economy of the late precolonial Tswana in the Rustenburg region. In: N. Swanepoel, A Esterhuysen & P Bonner, eds, *Five hundred years rediscovered: southern African precedents and prospects*. Johannesburg: Wits University Press, pp. 55-85.

Hall, S, Miller, D, Anderson, M & Boeyens, JCA 2006 - An exploratory study of copper and iron production at Marothodi, an early 19th century Tswana town, Rustenburg district, South Africa. *Journal of African Archaeology* 4 (1):3-35.

Huffman, TN. 2007. Handbook to the Iron Age: The archaeology of pre-Colonial farming societies in southern Africa. Scotsville: University of KwaZulu-Natal Press.

Küsel U.S. 2017 How Missionary Penzhorn helped the Bafokeng to obtain land – In Küsel U.S. 2017 Africa Calling.

Machens E.W. 2009 - Platinum Gold and Diamonds

Mason, RJ. 1968. Transvaal and Natal Iron Age Settlement revealed by aerial photography and excavation. *African Studies* 27(4): 167-180.

Mason, RJ. 1986. Origins of black people of Johannesburg and the southern western central Transvaal, AD 350–1880. Johannesburg: Wits University Press.

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

Nzumbululo Heritage Solutions 2007 - Phase 1 cultural and archaeological heritage assessment specialist study for the proposed construction of Sedibelo substation at Moses Kotane Local Municipality of Bojanala District Area Of Northwest Province. Limpopo Water Initiatives

Penzhorn W. 2017 Three generations in South Africa – Penzhorn in Küsel U.S. – 2017 – Africa Calling.

Pistorius, JCC. 1992. Molokwane, an Iron Age Bakwena Village. Johannesburg: Perskor.

Pistorius, JCC. 2006a. A Phase I Heritage Impact Assessment (HIA) study for Boynton Platinum's new proposed mining areas near the Pilanesberg in the North-West Province of South Africa. Unpublished report for Boynton Platinum Mine and Metago Environmental Engineers

Pistorius, JCC. 2006b. An extended Phase I Heritage Impact Assessment (HIA) study for the Pilanesberg Platinum Mine's new proposed mining areas near the Pilanesberg in the North West Province of South Africa. Unpublished report for Pilanesberg Platinum Mine and Metago Environmental Engineers

Pistorius, JCC. 2006c. A Phase 2 Heritage Impact Assessment (HIA) study for the Impala Platinum Shaft 17 Complex on the farm Vlakfontein 276JQ near Rustenburg in the North-West Province of South Africa. Unpublished report for SAHRA and for Impala Platinum

Pistorius, JCC. 2010a. Report on a preliminary Heritage Survey for Impala Platinum's proposed new Shaft 18 complex on Toulon 111JQ and Roodekraalspruit 113JQ in the Rustenburg District of the North-West Province of South Africa. Unpublished report prepared for Impala Platinum Mine.

Pistorius, JCC. 2010b. A Phase I Heritage Impact Assessment for the Farm Magazynskraal 3JQ near the Pilanesberg in the North-West Province of South Africa. Prepared for Metago Environmental Engineers

Pistorius, JCC. 2011. Phase 1 Heritage Impact Assessment (HIA) study for Lonmin Platinum's proposed exploration activities on Vlakfontein 207 JP and Diamand 206 JP near the Pilanesberg in the North-West Province. For Lonmin

Pistorius, JCC. 2012. A Phase I Heritage Impact Assessment (HIA) study for chrome mining ctivities on various portions of the farms Groenfontein 138JP, Vlakfontein 163JP and Vogelstruisnek 174JP west of the Pilanesberg in the North-West Province of South Africa. Prepared for Golder Associates Africa (Pty) Ltd

Roodt, F. 2007. Phase 1 Heritage Resources Scoping Report - Proposed Development of a water pipeline to Moses Kotane Municipality and the Barrick and Boynton Mines: Limpopo and North West Provinces. Synergistics Environmental Services (Pty) Ltd

Seddon, JD. 1968. An aerial survey of settlement and living patterns in the Transvaal Iron Age: preliminary report. *African Studies* 27: 189-194.

Strategic Environmental Focus (Pty) Ltd 2013 - Mareetsane Batho-Batho Solar PV facility. Phase I Cultural Heritage Impact Assessment.

Vhufa Hashu Heritage Consultants 2012 Phase 1 AIA investigations for the proposed establishment of 132kV power line turn off to Styldrift substation within the jurisdiction of Moses Kotane Local Municipality, Bojanala Platinum District, North West Province. Compiled For Enviro Xcellence Environmental Consultants

N. APPENDICES

• Google Map page: Page 22

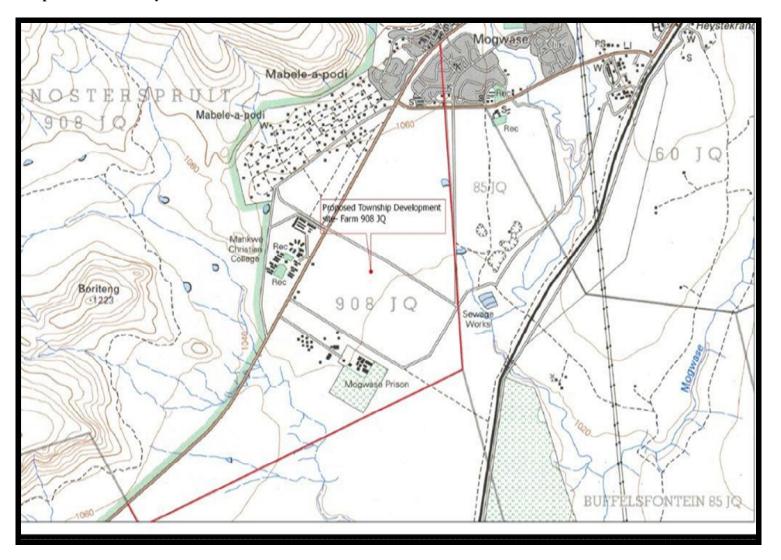
• 1/50 000 Map: Sun City 2527 AC: page 23

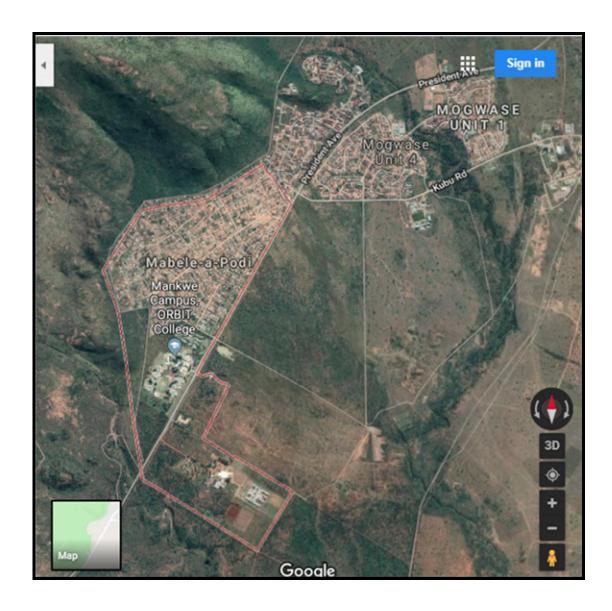
• Google Maps of area page: 24 & 25

Google map of the entire site - Co-ordinates are in the text



Map: 1/50 000 Sun City 2527 AC





Google map showing the adjacent townships Mogwase and Mabele-a-Podi

See also Mankwe Campus ORBIT College

