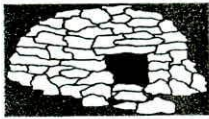


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29 MAY 2006

**ARCHAEOLOGICAL AND CULTURAL HERITAGE
INVESTIGATION OF THE PROPOSED ESKOM HYDRA-PERSEUS
& BETA-PERSEUS TRANSMISSION LINE AT THE FARM
JACKALSKUIL 21, PETRUSVILLE, NORTHERN CAPE**

EXECUTIVE SUMMARY

Four alternative corridors had been suggested for the ESKOM transmission line from Dealesville, Free State to De Aar in the Northern Cape. At least three of the proposed routes will have a serious impact on the cultural and historical heritage resources and visual impact on the farm Jackalskuil 21, Petrusville, Northern Cape.

Archaeological material occur in the form of an elaborate collection of stone flakes and scrapers from the Later Stone Age (Smithfield), a unique assemblage of bored stones, a variety of single and multi-grooved lower grinding stones, upper grinders and many rock engravings. A stone-wall of over 5km in length dating from the 1870s and a farm house that was built after 1920 will also be affected. The land is presently managed as a game farm where hunters from overseas are received and entertained. The proposed power line will likewise cause an important disturbance and will have a visual impact on the hunting business, which could harm the tourism potential of the farm.

To accommodate the landowner's interests as well as the requirements of Eskom Transmission, I recommend that alternative four (4) of the proposed corridor routes should be investigated for possible implementation.

Judging from the abundance of Stone Age lithic material at Jackalskuil, there is a strong possibility that more finds of cultural and historical importance could be discovered on other farms in the vicinity. In this regard, I propose that the final planning of the route should proceed in close association with an archaeologist, and to clarify the exact positions where the pylons will be erected.

*Send letter to Cobus to ask that he has to send his
reports to the the Gertze Museum as well if he
works in the province.*

INTRODUCTION AND DESCRIPTION

INVESTIGATION

The farm Jackalskuil 21 near Petrusville, Northern Cape was visited on 27 May 2006 on invitation of the landowner, Mr J.W. de Villiers.

The proposed Eskom power line from Dealesville in the Free State to De Aar in the Northern Cape is planned to cross the farm. The aim of the visit was to evaluate the possible influence of the installation of the power line on the cultural or archaeological heritage and historical remnants on the farm and to establish the possible effects and potential impact on these finds.

The Heritage Impact Assessment (HIA) is done in terms of the National Heritage Resources Act (NHRA), (25 of 1999) and under the Environmental Conservation Act, (73 of 1989).

LOCALITY

The farm Jackalskuil 21 is located about 23km west of Petrusville on the old gravel road to the village of Kraankuil (Map 1).

Vegetation of the area consists mainly of Karoo bush and short grass.

The following GPS coordinates (Cape scale) were taken (3024AB):

| | |
|--------------------------------------|--|
| Stone scrapers & flakes | 30°03'45"S 024°25'30"E Altitude 1209m (Fig.12). |
| Scrapers & flakes | 30°08'15"S 024°22'07"E Altitude 1208m. |
| Bored stones, lower & upper grinders | 30°04'46"S 024°25'04"E Altitude 1210m (Figs.4-10). |
| Stone flakes | 30°03'45"S 024°25'30"E Altitude 1209m (Fig.3). |
| Engravings | 30°03'49"S 024°24'40"E Altitude 1204m (Figs.17-30). |
| Circular stone structure | 30°03'41"S 024°24'31"E Altitude 1208m (Figs.14-16). |
| Stone-wall 1870s | 30°05'46"S 024°25'20"E Altitude 1222m (Fig.33). 30°06'32"S 024°25'40"E Altitude 1227m (Fig.34). |

RESULTS

Archaeological material occurs in the form of a large distribution of Later Stone Age (Smithfield) flakes and scrapers, an elaborate assemblage of bored stones, a variety of single and multi-grooved lower grinding stones, upper grinders and a large number of rock engravings on boulders.

The lithic material is found on bare patches on the soil surface and seems to be undisturbed. The landowner is well aware of the importance of the archaeological material on the farm and it is his unofficial policy to protect and preserve the finds. Except for a number of cases in the past where material had been collected without documentation and recording of the origin, he discourages any disturbance or collecting of artefacts.

A stone-wall of over 5km in length originates from the 1870s and is very well preserved.

An old farmhouse, which was built shortly after 1920 is well maintained and is still occupied by the owner and his family.

FINDS

1. SINGLE AND MULTI-GROOVED LOWER GRINDING STONES

Single (Fig.4) and multi-grooved lower grinding stones (Fig.5) are scattered over a large areas (Fig.3). The stones are in association with single and multi faceted upper grinders, stone flakes and pieces of broken bored stones.

2. UPPER GRINDERS

Single facet (Fig.6) and multi faceted upper grinders (Fig.7) occur in association with scatters of lower grinders, LSA flakes and scrapers and broken bored stones.

3. BORED STONES

A great number of broken bored stones (Figs.8&9,11) are found in association with upper and lower grinders and LSA flakes and scrapers. The occurrence of so many bored stones must be a unique feature and should be preserved for further documentation and study. Bored stone are also found in different stages of manufacture (Fig.10).

4. PUNCH OR HAMMER STONES

Long stones with damage on either one and or both ends could have been used as a punch or a hammer stone (Fig.9). These stones are found in association with LSA flakes and scrapers and broken bored stones.

5. STONE FLAKES AND SCRAPERS

Stone flakes and scrapers (Figs.12&13) which date from the Later Stone Age (Smithfield) lithic industries are found in abundance at the site. These artefacts occur in association with hammer stones, core material and broken bored stones.

6. ROCK ENGRAVINGS

A large number of stone engravings occur on boulders on a low hill. According to the heavy patination on some of the items the individual pictures clearly date from different times (cf. Fig.27) and were produced by using different techniques, which vary from engraving (Fig.23), rubbing or scouring (Fig.26) and line pecking (Fig.18&30).

The present report is not an inventory of the total number of engravings. It is clear that not all the etchings have been found yet and an effort to record all the sketches could become a time consuming activity. I suggest that the Rock Art Department at the National Museum in Bloemfontein should be invited to track and document as many of the pictures as possible.

A significant variety of animals is depicted. These include ostrich, eland, warthog, baboon, elephant, rhino, mountain quagga, tortoise and horse or zebra. A number of geometrical designs are found on the hill, particularly located to the west in the direction of the border fence (Figs.28&29).

7. STONE-WALLED STOCK ENCLOSURE

A rectangular stone-walled stock enclosure measuring about 20m x 34m is located on the hill among the archaeological material and rock engravings (Fig.31). The walls are well built and in a good state of preservation. The landowner relates that his ancestors were sheep farmers for more than a century. Because of the danger of predators, heard men were tending the flocks during the day and would pen them for protection in the kraal at night. A little stone-walled hide is found on the hill overlooking the kraal (Fig.32).

It is possible that interested heard men could have had an influence on the distribution of lithic material in the area by collecting funny stones from the immediate vicinity of the stock kraal (Figs.14-16).

8. STONE CIRCLE

A circular stone structure of about 2m diameter and of unknown origin and purpose occur on the hill between the engraved boulders (Figs.14&15). A collection of stone artefacts, which consists of broken bored stones and small multi faceted upper grinders, is found inside the stone circle (Figs.11 &16).

The purpose of this collection is unknown, but I speculate that sheepherders, who were watching over their flocks in this vicinity for decades, could have gathered the broken bored stones and grinders inside the stone circle.

9. STONE-WALL

A stone-wall (Fig.33&34) more than 5km long (Map 4) was made by the great grandfather of the present owner. The wall was built by special stonemasons during the years between 1870 and 1880. The purpose of the wall was to control the movement of free roaming wild ostriches. The half-circle of the wall was completed by a wooden fence made out of branches of thorn bushes brought up from the river. The wall and the thorn bush hedge would then lead the ostriches into the stock enclosure where the feathers were plucked and the birds released afterwards. The family claims that this could be the first case where feathers of wild ostriches were harvested without having to kill the birds.

10. COLLECTION OF STONE IMPLEMENTS

The present owner's father, who took great interest in his environment, made small and undocumented collections of Stone Age material on the farm. As a keen collector, he kept the material on display in a glass paned cabinet.

The collection include stone artefacts as well as ostrich eggshell beads (Fig.35), clay pottery (Fig.36), an LSA Wilton arrow head (Fig.37) and a variety of bored stones (Fig.38).

11. 1920 FARM STEAD

There are two farmhouses on the property. The first house was built shortly after 1920. The building is in a very good condition, and is still occupied by the landowner and his family. This structure, which is older than 60 years, is therefore protected by the Act.

The second house is situated near the first and was erected in about 1964.

ASSESSMENT OF IMPACT

The abundance of archaeological lithic material, engravings and historical finds speaks for itself. The planned power line will unquestionably result in a significant impact on the cultural and historical heritage of the farm Jackalskuil. Judging from the abundance of Later Stone Age artefacts on the farm Jackalskuil, the possibility of a wider distribution of archaeological material in the region should surely be investigated.

The effect of alternative corridors 1, 2 and 3 on Jackalskuil is illustrated by Map 5. Route 1 will cross over the historical wall, alternative 2 will pass near the farmhouse and alternative three will traverse the most important archaeological sites and rock engravings.

The visual impact of the power line on the game hunting and tourism potential of the farm should also be investigated, before a final decision can be made.

RECOMMENDATIONS

Alternative corridor 4 seems to be the only possible route to be investigated for implementation. If this alternative is acceptable, the archaeological and historical remains will be avoided and will provide an unobstructed horizon for hunters and visitors to the farm.

I recommend that alternative corridor 4 should be investigated for the installation of the proposed power line on Jackalskuil 21, Petrusville.

I also recommend that the planning should be adapted to take the proposed developments away from the archaeological and historical sites. The necessary arrangements to preserve and protect the stone tool and rock art sites as a heritage resource should also be made.

I strongly recommend that an archaeologist should be involved to clarify the exact positions where the pylons will be placed.

Planners and developers should take notice that construction work must avoid the archaeological material and that the Stone Age artefacts and engravings should not be damaged, neither during the planning nor during the construction stages.

The random collecting of stones at the site for construction or any other purpose should strongly be prohibited.

MITIGATION

Concerning the planned routes for the installation of the proposed power line, mitigation measures will be required in the case of the stone tool and rock engravings and historical sites on the farm.

Serious reconsideration should be given to the corridors identified for the installation of the power line. Work should be delayed until this matter is properly cleared out.

ACKNOWLEDGEMENTS

I thank Mr Kobus de Villiers of Jakkalskuil, Petrusville, for inviting me to do the survey.

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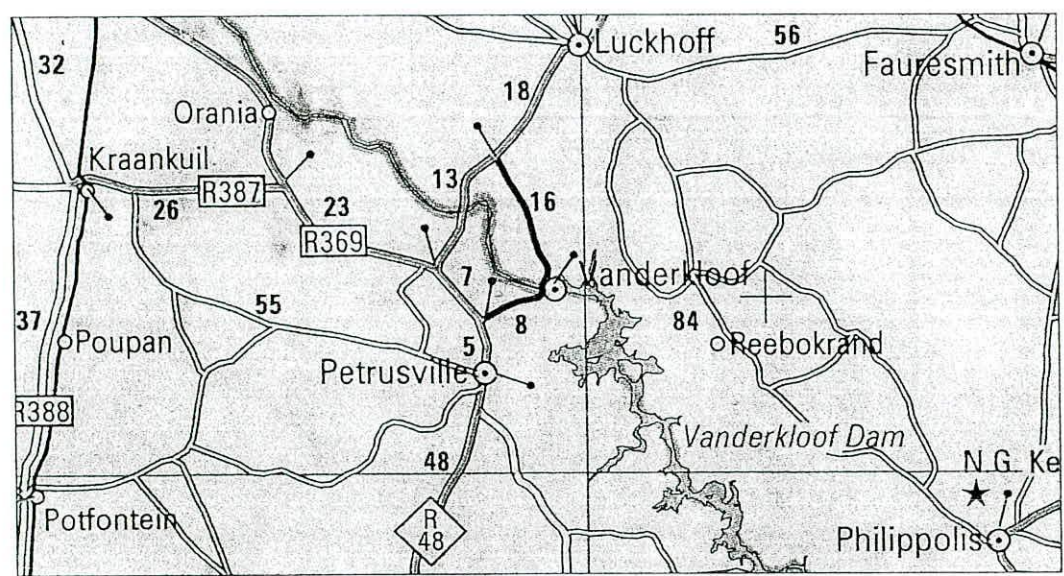
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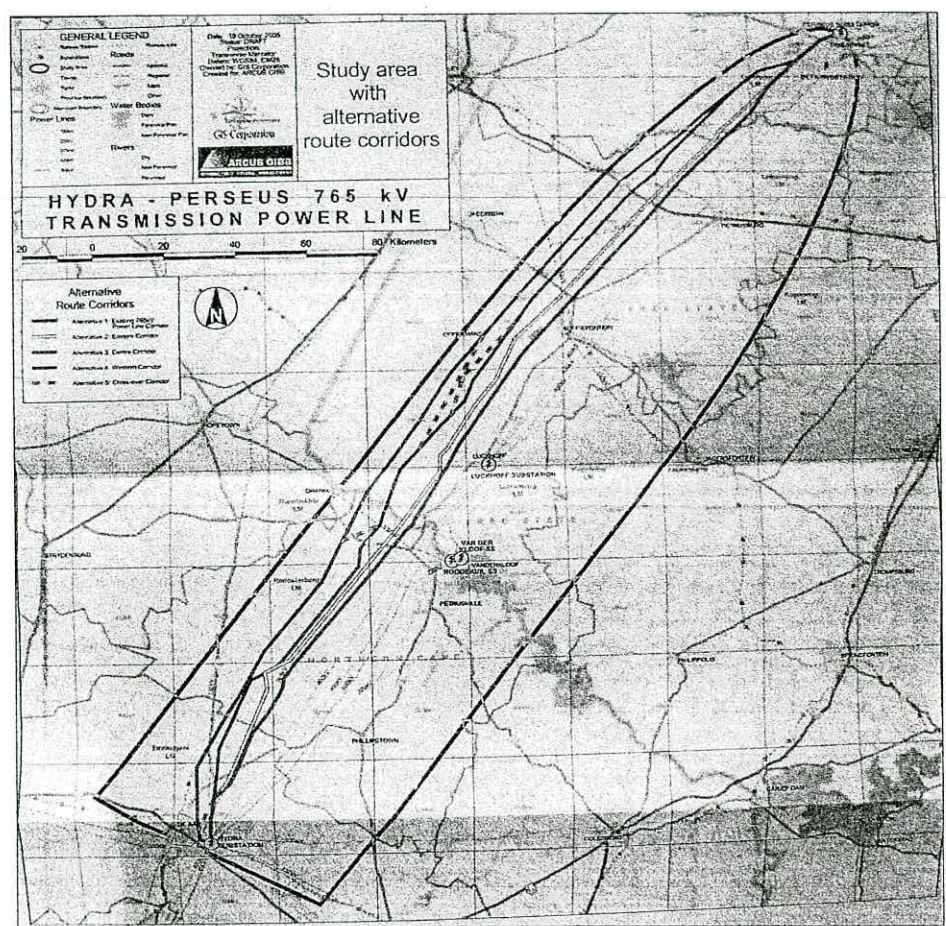
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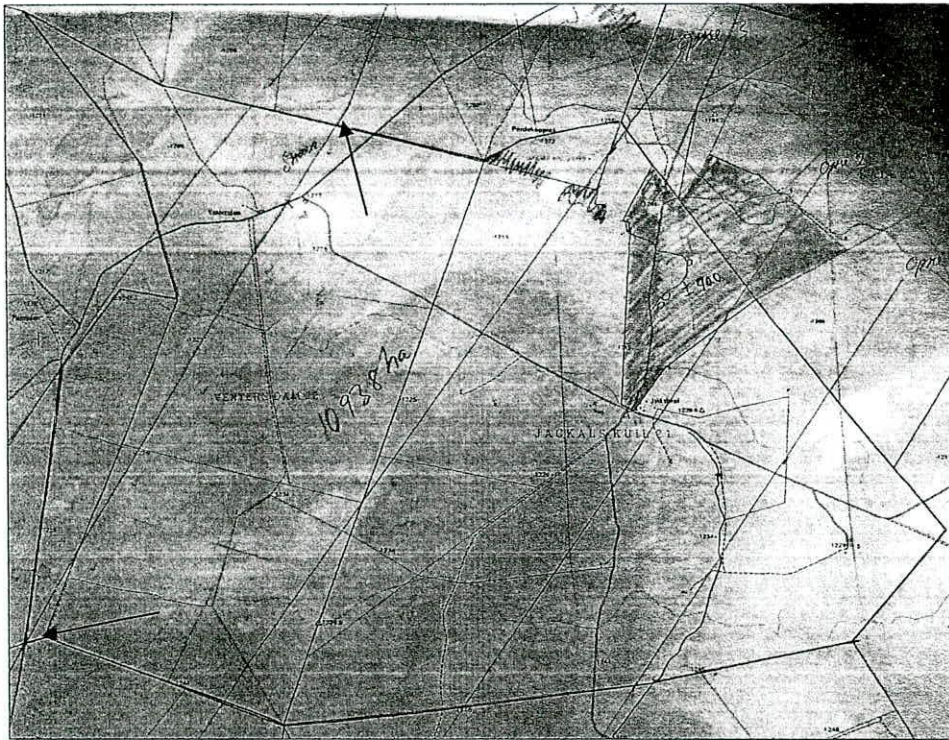
LIST OF ILLUSTRATIONS:



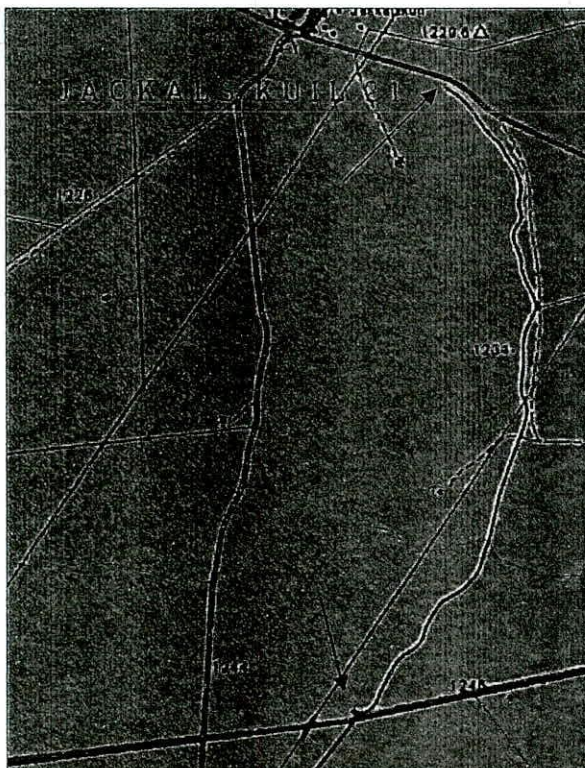
Map 1 Locality of Petrusville and Kraankuil in relation to other town in the area.



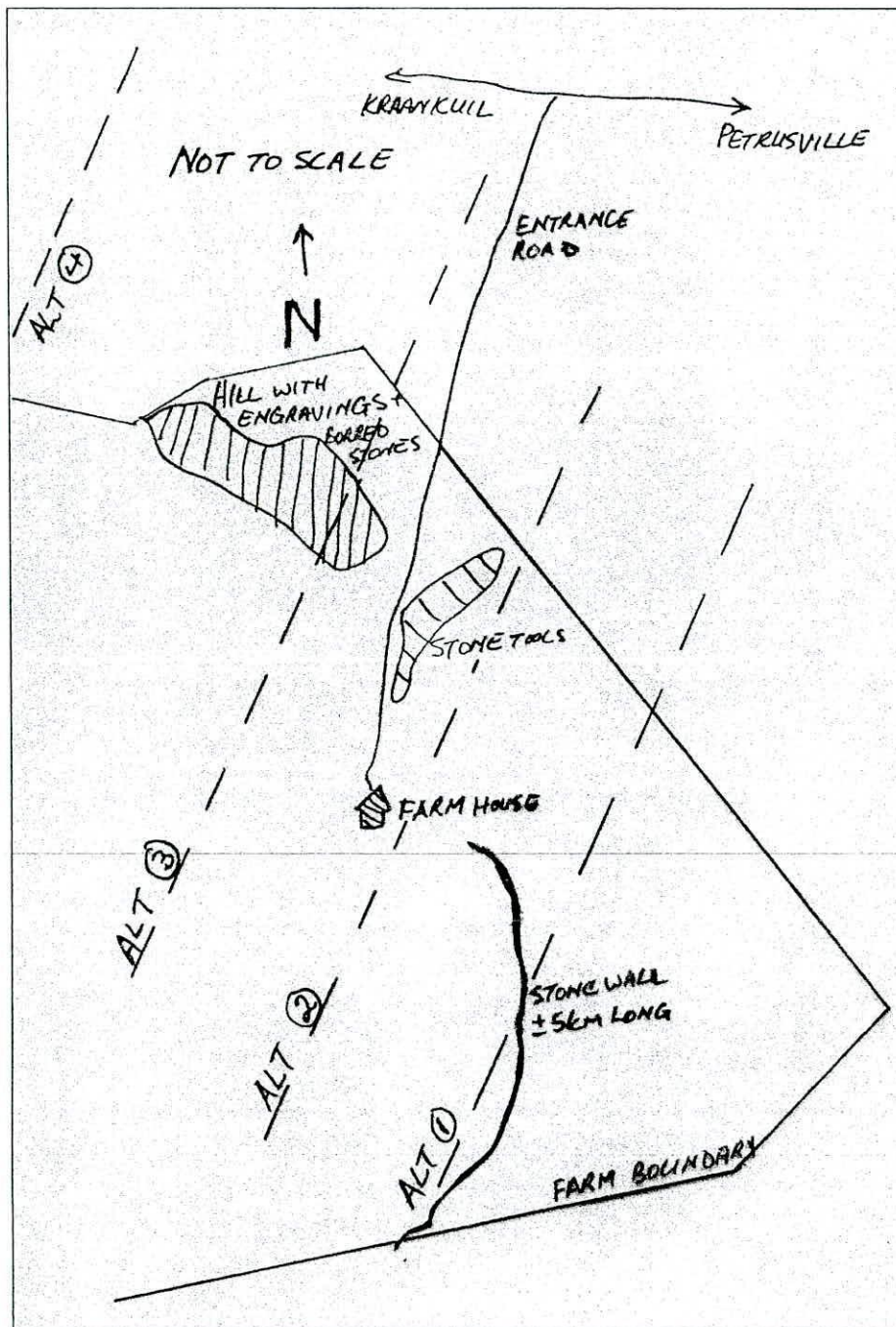
Map 2 Four alternative corridors for the Eskom Hydra-Perseus & Beta-Perseus Transmission Line from Dealesville to De Aar.



Map 3 The farms Jackalskuil 21 & Ventersdam 22, Petrusville (3024AB).
Position of alternative corridor 4 indicated by red arrows.



Map 4 Red arrows indicate the position of the 1870s stone-wall near the farm house.



Map 5 Sketch to illustrate the impact of the alternative corridors proposed for the power line.

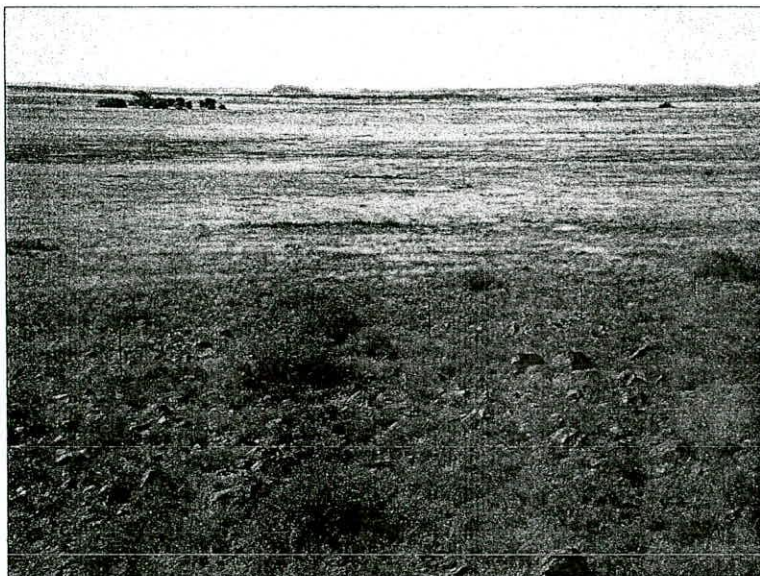


Fig.1 View from the boulder hill facing north. The farmstead at the neighbouring farm Leeu Fontein 8, is indicated by trees in the upper left of picture.



Fig.2 View across the hill containing the engraved boulders.

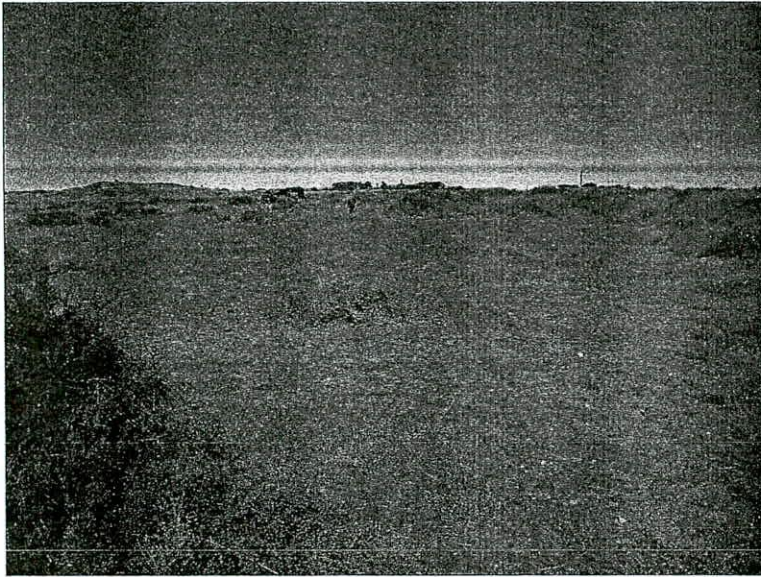


Fig.3 Bare patches containing the scatters of LSA tools, stone flakes and grinders.



Fig.4 A single grooved lower grinder.

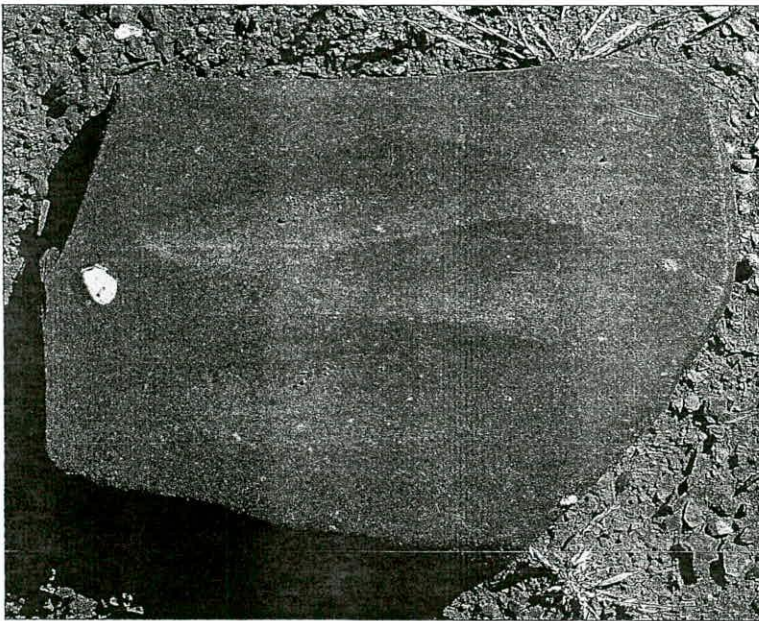


Fig.5 A multi grooved lower grinder.



Fig.6 A single facet upper grinder from the farm Jackalskuil, Petrusville.

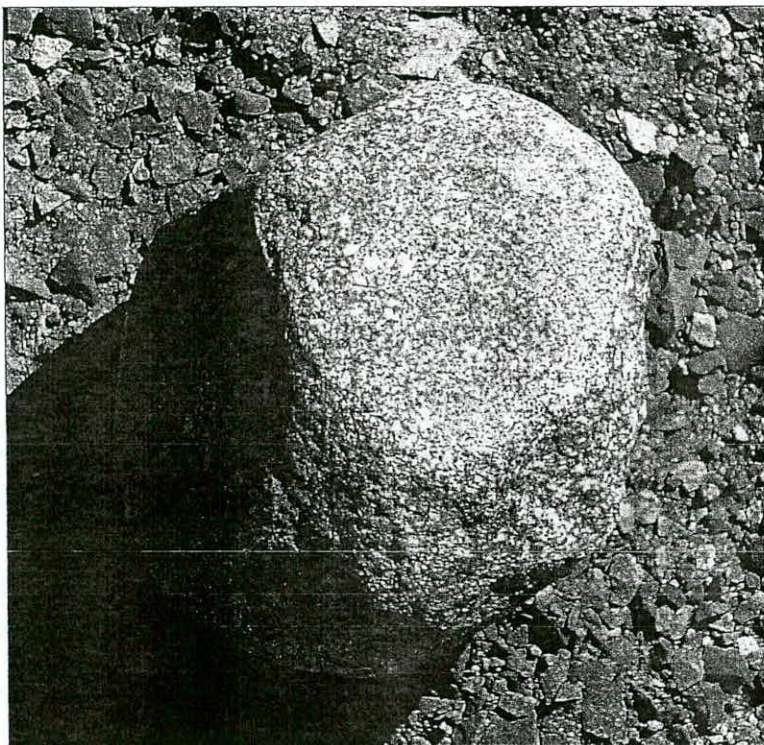


Fig.7 A multi facetted upper grinder from the site at Jackalskuil.

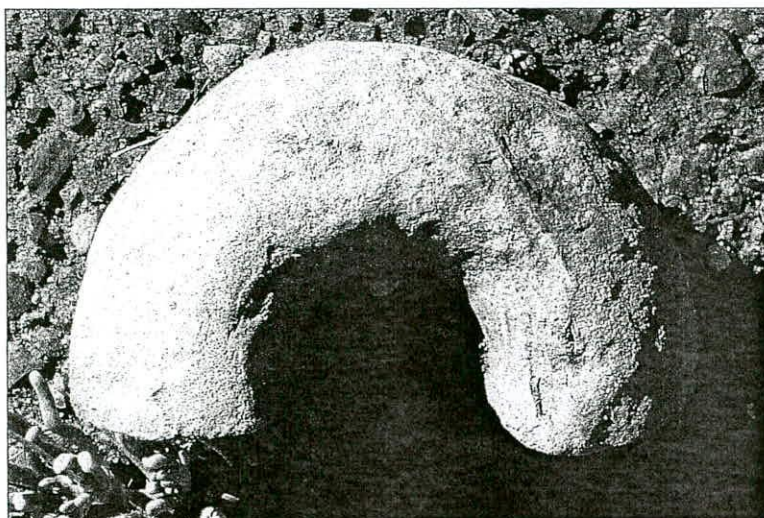


Fig.8 One of many broken bored stones at Jakkalskuil.



Fig.9 Broken bored stones and hammer stone.

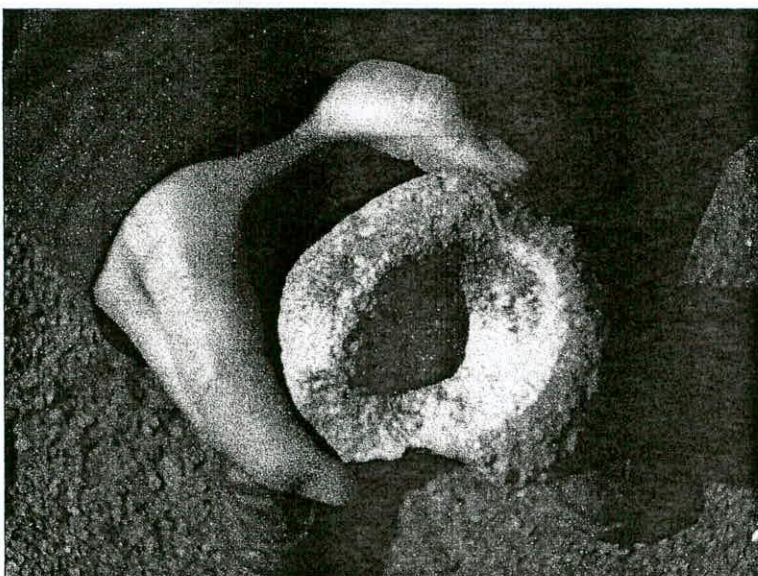


Fig.10 An incomplete bored stone.

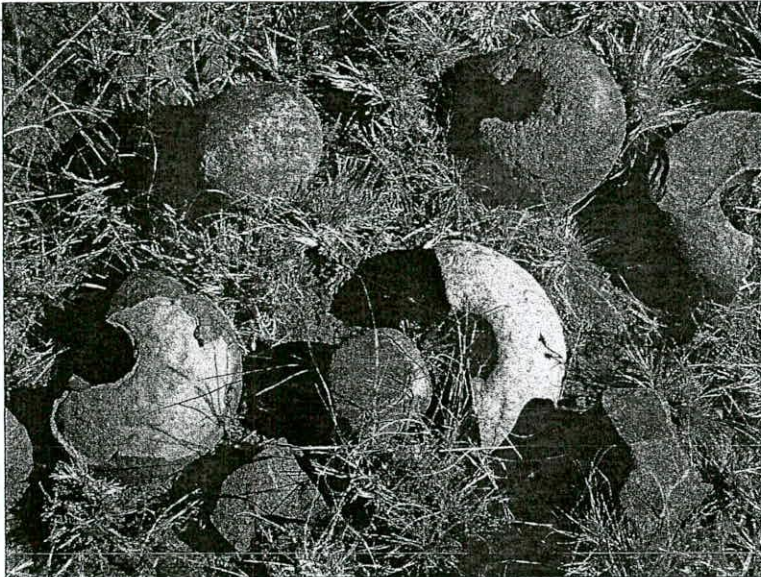


Fig.11 A collection of broken bored stones and upper grinders found on the hill.



Fig.12 A collection of LSA flakes and circular scrapers. Pocket knife = 83mm



Fig.13 An LSA duckbill scraper.

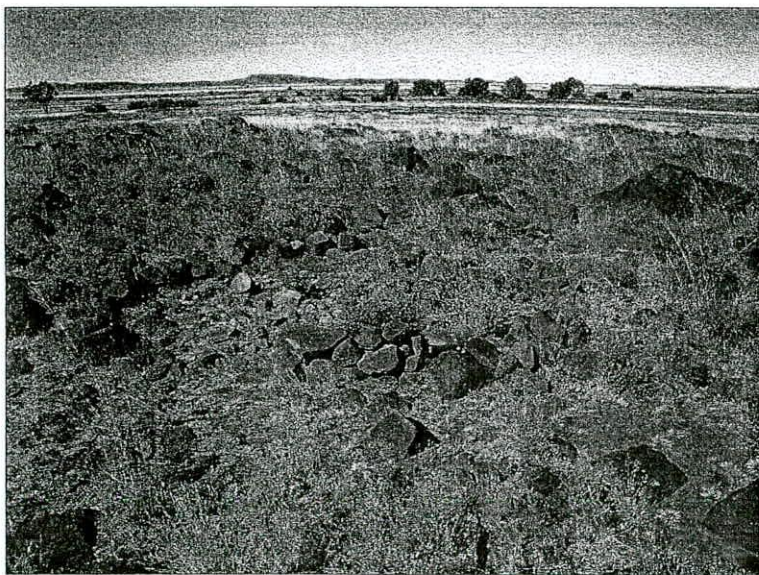


Fig.14 A stone circle containing a collection of stone artefacts was found among the engraved boulders.



Fig.15 A collection of stone artefacts occur inside a stone circle.



Fig.16 Stone artefacts in the collection inside the circular wall.

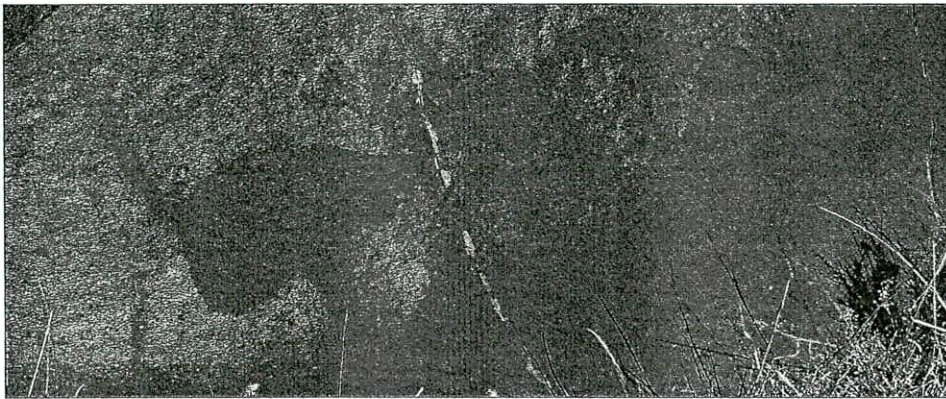


Fig.17 A highly patinated engraving depicting several ostrich figures and an eland.

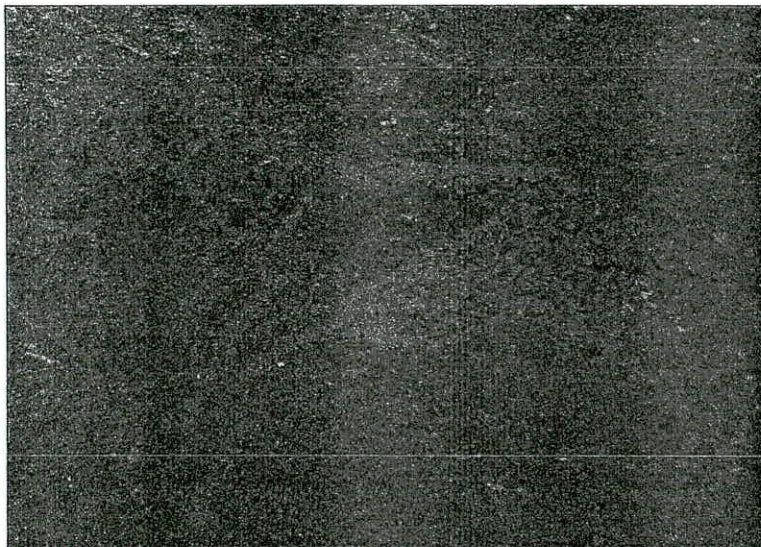


Fig.18 This could be a depiction of the extinct Mountain Quagga.

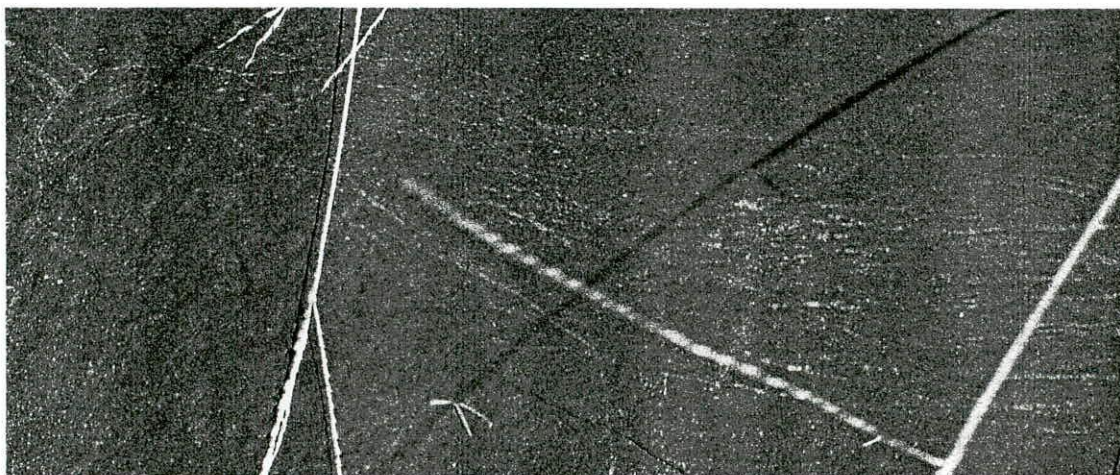


Fig.19 A scratched engraving possibly from more recent times.

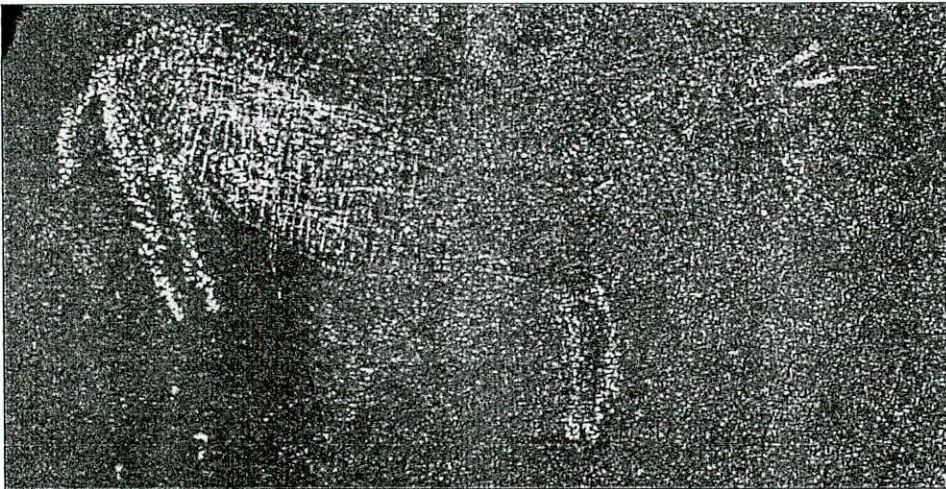


Fig.20 A horse from more recent times.

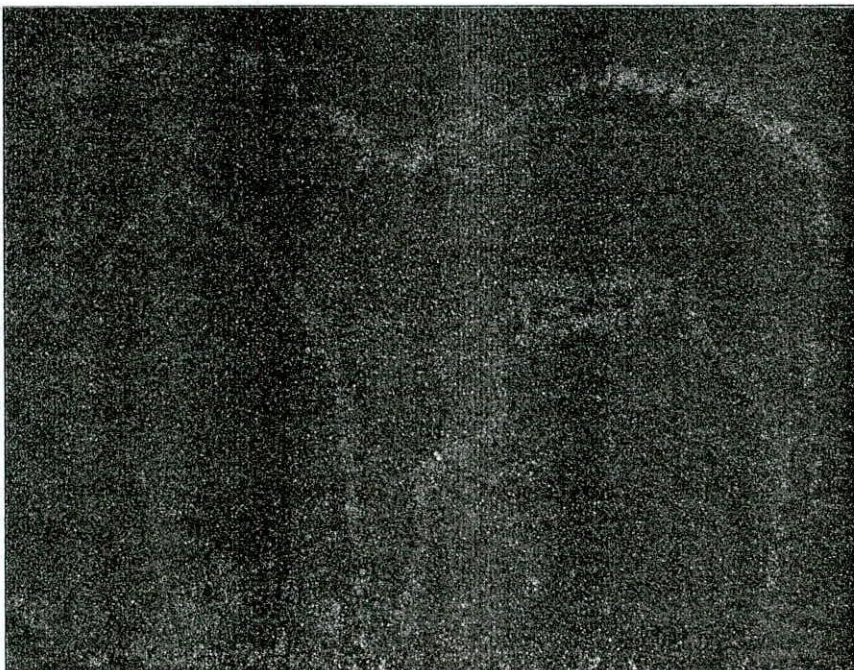


Fig.21 A realistic depiction of a Zebra or Quagga.



Fig.22 Engraving of an Eland.



Fig.23 A worthy effort to depict a Gemsbok.

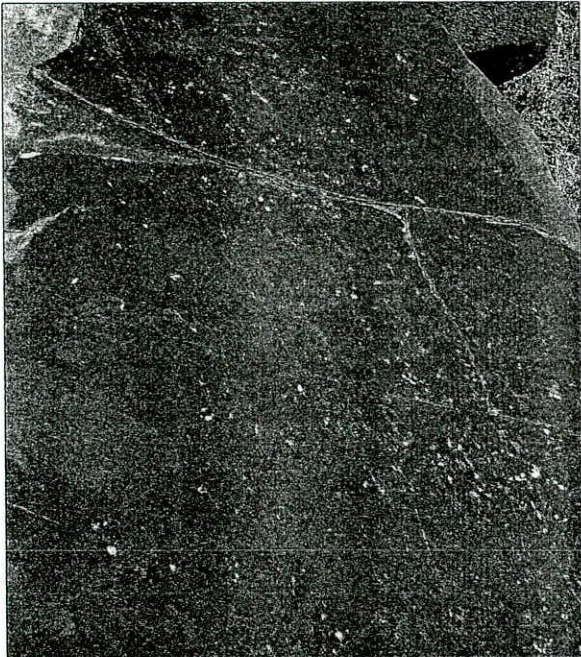


Fig.24 A depiction of several Eland.

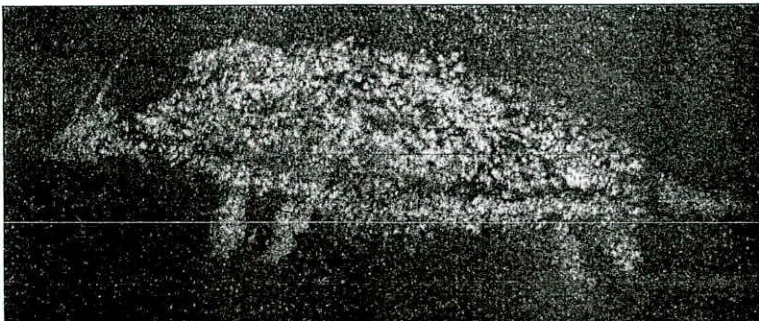


Fig.25 Possibly a tortoise with horns?

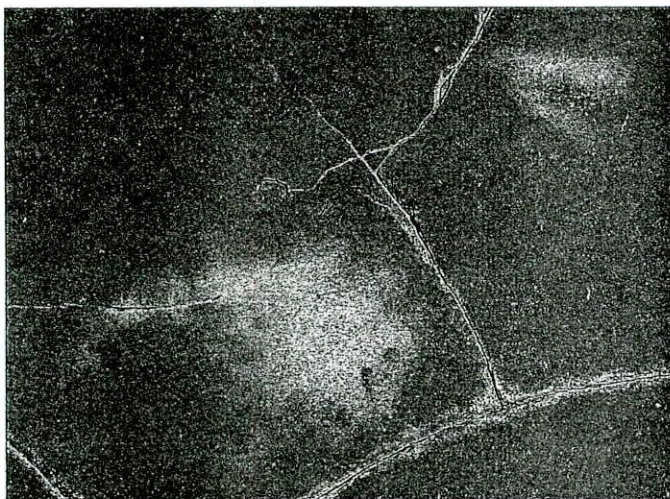


Fig.26 Rubbings.

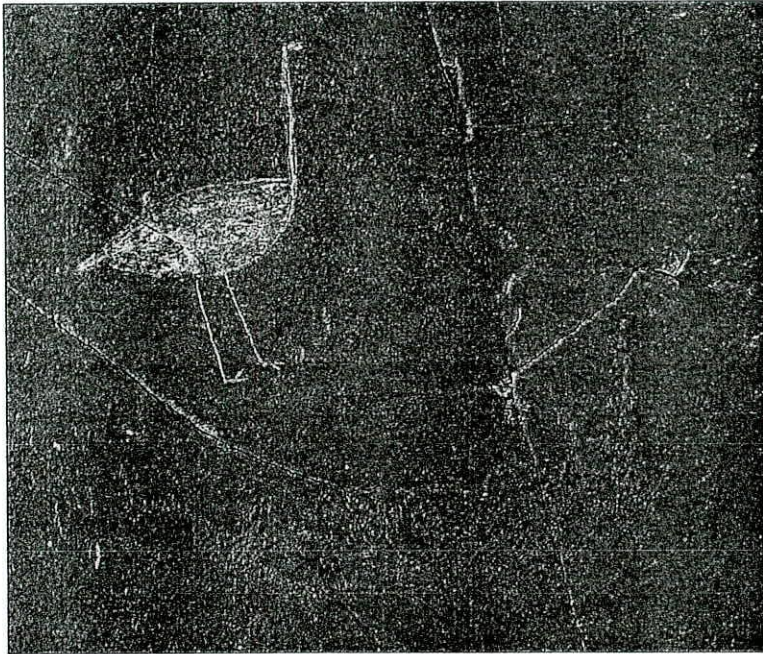


Fig.27 An older and younger illustration.



Fig.28 Geometrical figure.

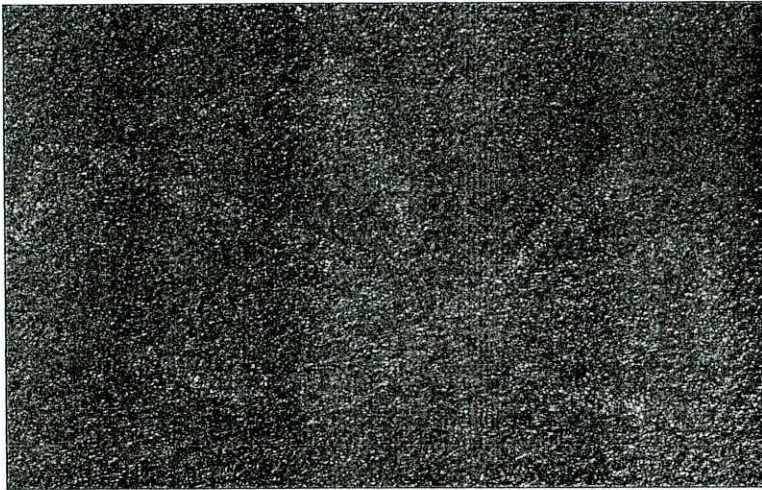


Fig.29 Geometrical figure.

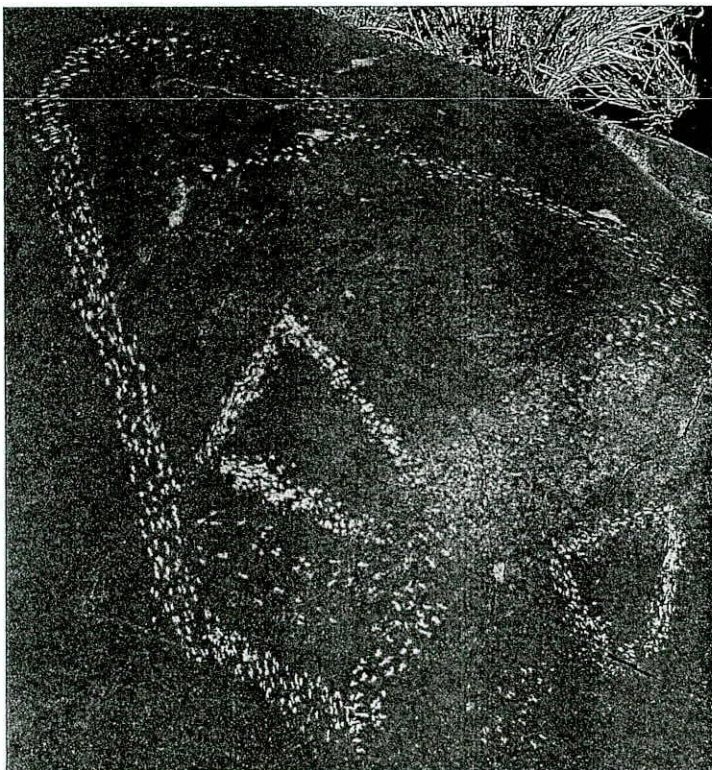


Fig.30 Line pecking.

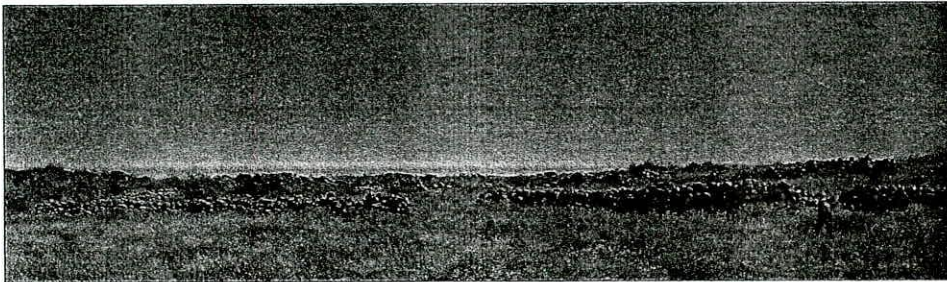


Fig.31 Rectangular stone-walled stock enclosure measuring about 20mx34m.



Fig.32 A little hide is found on the hill near the stock enclosure in the background.



Fig.33 A stone-wall of more than 5km built between 1870-80 was used to control the movement of wild ostriches.



Fig.34 Another part of the 5km long stone-wall on the farm Jackalskuil 21, Petrusville.



Fig.35 Ostrich eggshell beads in the private collection.

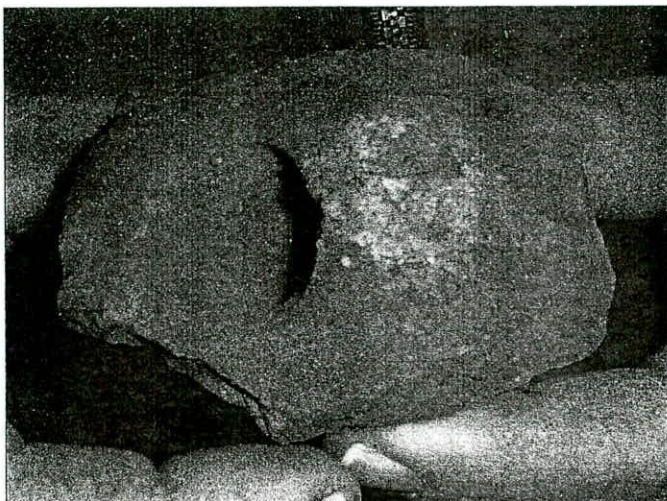


Fig.36 Clay pottery ware.

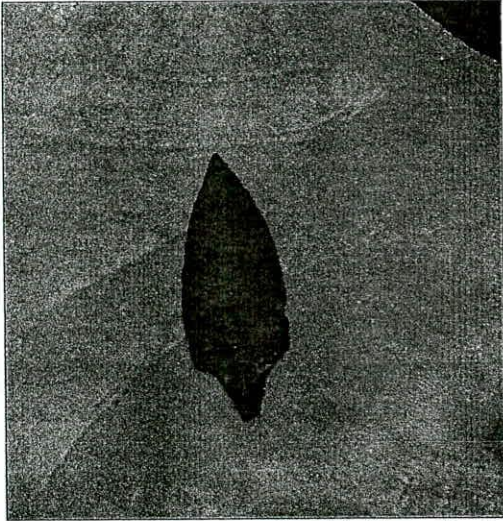


Fig.37 A Wilton arrow head in the collection.

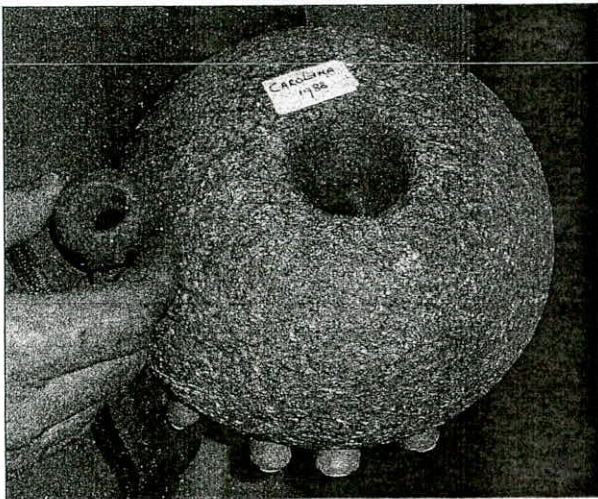
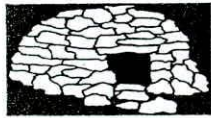


Fig.38 Bored stones in the collection made on the farm.



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- BA 1970 (Pretoria), BA(Hons) Anthropology 1973 (Pretoria) and BA (Hons) Archaeology 1975 (Pretoria). MA in Archaeology (Witwatersrand 1990).
- Worked for 25 years as archaeologist at the National Museum, Bloemfontein, mainly concentrating on the prehistory of the early inhabitants of the Free State, Qwaqwa and Lesotho.
- Lecture in Anthropology, University of the Free State, Bloemfontein, 2000-2005
- Involved in various research and development projects.

Published extensively on the archaeology, cultural history and Anglo-Boer War history of the Free State.

- Contributed 3 chapters in books
- Published more than 20 academic articles in accredited journals,
- Produced over 30 popular, non-academic and general publications.
- Submitted 5 editorial notes in museums journal.
- Lecture on a regular basis to the public, school groups and teachers on various subjects concerning archaeology, early history and heritage preservation.

- Is a member of several scientific societies.
- Member of the Association of Southern African Professional Archaeologists (ASAPA).
- Accepted as professional archaeologist for the SADC region.
- Member of the Free State Provincial Heritage Council (FSPHRA) (2004-6).
- Member of the Free State Geographical Place Names Commission (2004-6).

- Excavated in Israel with J.F. Strange, University of South Florida, Tampa (1975), and with Yigal Shiloh, Hebrew University of Jerusalem (1978).

- Planned and directed archaeological excavations at:
 - * Doornpoort, Winburg (1983-84),
 - * Maphororong, Ventersburg (1986-90),
 - * Leeukop, Smithfield (1987),
 - * Qwaqwa Cultural Village (1991-93).
- Introduced and directed an elaborate project on the Late Iron Age prehistory and preservation of cultural heritage at the Willem Pretorius Game Reserve,

Ventersburg, Free State (1994-95).

- Participated in pre-historical archaeological excavations in various parts of South Africa, including the Limpopo Valley (1970-74), Kruger National Park (1974) and at Middelburg, Cape (1990).
- Chief Technical Adviser to UNESCO Thaba-Bosiu Project, Lesotho, (1995).- Director of excavations and restoration work at Moshoeshe's village.
- Historical archaeological excavation at Middelburg, Cape Province, South Africa, with C. Garth Sampson, Southern Methodist University, Dallas, Texas (1990).
- Directed several archaeological research projects in the Free State, Qwaqwa and also for UNDP in Lesotho (1995).
- Member of a forensic science group investigating crime scenes and lectures to police officers on the application of archaeological methods in crime investigation.
- Investigated graves for SAPD at Fauresmith (1999), Clocolan (2000), Van der Kloof Dam (2001), Bethulie (2001).
- Member of a multi-disciplinary Free State Advisory Forum on Environmental Management initiated by ESKOM.
- Investigated Anglo-Boer War historical site near Smithfield (1987) and at the Brandfort Refugee Camp for South African Heritage Resources Agency (SAHRA) (1999), Krugersdorp (2003), Winburg (2003).
- **Environmental Impact Assessments (EIA):**
- Environmental Impact Assessment (EIA) and Cultural Resource Management (CRM) report on archaeological and historical heritage sites for SASOL along proposed crude oil pipeline route from Van Reenen to Vrede, Free State, (1998).
- EIA investigations for Cebo Environmental Consultants, Bloemfontein, along N10 route De Aar – Britstown (2001), Blouputs near Augrabies (2001), Wildealskloof, Bloemfontein (2002), Kathu (2002), Komaggas near Springbok & Van Zylsrust, Northern Cape (2002), proposed casino site at Bloemfontein (2003), Calvinia, Northern Cape (2003), Padlang, Bloemfontein (2004), Hillandale, Bloemfontein (2004), Woodlands, Bloemfontein (2004), Lilyvale, Bloemfontein (2004), Tredenham, Bloemfontein (2004), Clarens Golf Estate (2004), Fouriesburg (2004) Ventersburg (2004), Hoopstad (2004) Vosburg, Carnavon and Frazerburg (2004), Musket, Bloemfontein (2004), Maria, Rosendal (2004), Boven Tempe, Bloemfontein (2004), Loch Athlone, Bethlehem (2004), Erf 2559, Bethlehem (2004), Eskom Power Line, Clarens (2004), Kaalspruit Bridge, Petrusburg (2004), Senekal – Paul Roux Road (2005), Delft, Ladybrand (2005).
- EIA for Mills & Otten Environmental Consultants, Johannesburg, at Rosendal, Free State (2001)
- EIA for Ninham Shand Environmental Section, Cape Town at Colesberg (2001).
- EIA for Gaia Earth Science Environmental Consultants, Pietersburg at

- Hanover, Cape (2002).
- EIA and cultural heritage and historical investigations for Enviroworks Environmental Consultants, Bloemfontein, in the Golden Gate Highlands National Park (2003), Umtata, Eastern Cape (2003), the Vredefort Dome (2003), Steelpoort, Mpumalanga (2003), Buffelskloof in the Vredefort Dome Concerancy (2004), Knysna (2004), Golf Estate, Plettenberg Bay (2004), Harrismith (2004), Zastron (2004), Qwaqwa Cultural Village (2005).
 - EIA for Ninham Shand Environmental Section, Centurion, Harrismith (2003).
 - EIA for Spatial Solutions Incorporated, Bloemfontein, at Krantzkraal, Bloemfontein (2003), Lilyvale, Bloemfontein (2004), Maselspoort, Bloemfontein (2004).
 - EIA for Lokisa Environmental Consulting, Pretoria, of MTN development on Deelpan, Dewetsdorp (2003).
 - EIA for Geo Pollution Technologies, Bloemfontein at Lilyvale, Bloemfontein (2003), Petrusburg (2003), Colesberg, (2004), Grasslands, Bloemfontein (2004), Boshof (2004).
 - Recording of Monuments and Memorials in the Central Business District of Bloemfontein for South African Heritage Resources Agency (SAHRA) (2003).
 - EIA for Laubscher, Slabbert & Brink, Welkom at Thabong, Welkom (2004).
 - EIA for ESKOM of powerline route at Askam & Van Zylsrust (2003), Phakisa, Welkom (2004), Rhodes (2005).
 - EIA for ACER (Africa), Mtunzini of the R30 Toll Plaza, Brandfort (2004).
 - EIA for Environmental Management & Communications Consultancy, Johannesburg at Kao Diamond Mine, Lesotho (2004).
 - EIA for Mangaung Local Municipality at Bultfontein, Thaba Nchu, (2004), Smithfield (2005) Rouxville (2005), Marquard (2005), Ficksburg (2005).
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- Rated as Principal Investigator by Cultural Resource Management (CRM) section of the Southern African Association of Archaeologists (SA3) & ASAPA, for Iron Age archaeology and Colonial history.
 - Based in Bloemfontein. Available for archaeological consulting services, including environmental impact assessments (EIA) and major investigations, cultural resource management (CRM) surveys, specialising in the prehistoric, traditional and colonial heritage of the Free State and adjacent areas.
 - Works mainly as a heritage specialist as part of an environmental team.
 - Offer forensic archaeological assistance to law enforcement and criminal investigation agencies.
 - Elaborate experience and knowledge on Anglo-Boer War history.