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**FIRST PHASE ARCHAEOLOGICAL AND CULTURAL HERITAGE
ASSESSMENT OF THE PROPOSED NEW WASTE DISPOSAL
SITE AT SENEKAL, FREE STATE**

EXECUTIVE SUMMARY

There is a serious need for a waste disposal site at Senekal and new waste disposal facilities are planned.

A previous (2006) attempt to develop the same site was abandoned after numerous pieces of vitrified wood had been uncovered during the opening of waste burial trenches. Some of the fossils were removed from the site without permission and were traded off to motorists on the N5 road nearby. The site was then fenced off and the project placed on hold (2007). A significant distribution of chunks and smaller pieces of silicified wood is still scattered over the heaps of soil from the earlier excavations. The fence wire is in a poor condition and the gates are no longer secure. Cattle are grazing freely on the site. It is also obvious that the proposed locality has already been damaged beyond any restoration and preservation.

No archaeological or cultural remains could be found on the surface.

An application for a permit to collect fossils during the construction of the new waste disposal site at Senekal was recently submitted to SAHRA. The permit will place the responsibility for the collection and curation of the fossil material from Senekal on the Palaeontology Department of the National Museum, Bloemfontein. The task will require a substantial endeavour from the Museum in terms of manpower, transport and storage space.

The removal of the tree fossils to Bloemfontein will place a major burden on the National Museum and the arrangement is considered as unfeasible, impractical and merely unsatisfactory. Brief discussions with members of the White community at Senekal brought a possible solution for the preservation to the forward.

I recommend that the tree fossils (*Dadoxylon*) should be placed at the premises of the Dutch Reformed Church in the custody of the Senekal community.

It is also possible that fossils of the amphibian species of *Uranocentrodon senekalensis* that was previously discovered could occur in the sandstone deposits on the hill.

Part of the area to the west is described as a “Voortrekker uitspanning” or pioneer Afrikaner camping site. No further information about this claim could be found and no remains of their sojourn were visible on the surface.

The British invasion of Senekal during the Anglo-Boer War (1899-1902) took place on 25 May 1900. In the course of the action, a skirmish broke out between the British advance guard under Major H.S. Dalbiac of the 11th Imperial Yeomanry Division and a burgher patrol of Cmdt. J.I. Jacobz’s commando. Dalbiac and three other soldiers were killed and according to the records, this shoot-out took place on the western part of the koppie directly overlooking the town of Senekal. Dalbiac and his fallen troops were buried in the Senekal town cemetery.

I further recommend that the proposed developments and planning of the site may proceed, provided that the rest of the hill should not be disturbed to prevent any damage to the amphibian fossil species that could occur in the sandstone deposit. It should also be priority to avoid any remains at the possible “Voortrekker uitspanning” or pioneer Afrikaner camping site and the locality of the Anglo-Boer War (1899-1902) skirmish where the officer and men were killed.

INTRODUCTION & DESCRIPTION

Scope and Limitations

The archaeological investigation forms part of the Environmental Impact Assessment (EIA) is undertaken by Metsi Metseng Geological Services, Bethlehem on behalf of the Setsoto Local Municipality, the developer.

The investigation provided an opportunity to examine the site proposed for a solid waste disposal installation. The area consists of a short overgrazed grass cover without any shrubs or bushes. No limitations were experienced during site visit.

Methodology

Standard archaeological survey and recording methods were applied.

1. The proposed land was inspected on foot.
2. GPS points were taken and the surroundings and features were recorded on camera.

INVESTIGATION

The area for the proposed new landfill site near Senekal was visited on 18 June 2012. Dr Gideon Groenewald and Tom Hugo from Metsi Metseng Geological & Environmental Services, Bethlehem, gave directions to the site. Leon van der Merwe, Superintendent of Waste Management, Setsoto Local Municipality, could not join the site visit and Ntate Abia Mofokeng, an official of the local municipality, accompanied us.

The Iron Age archaeology of the Free State had been described by Maggs (1976) and was summarised by Dreyer (1996). Iron Age stone-walled sites are normally restricted to higher ground or hilly parts and are not found in the low-lying open areas around Free State towns.

Stone tools could well occur in these areas and is usually restricted to the Middle and Later Stone Age lithic material.

For many decades, people at Senekal were aware of the presence of “versteende hout” or silicified wood in the region. These specimens of the genus *Dadoxylon* of about 250 million years ago appear in abundance from small scattered pieces to large blocks and sometimes, long tree trunks. In most cases, the tree bark texture is recognisable.

In about 1929 the parson of the Dutch Reformed Church in Senekal, encouraged members of his congregation, to collect specimens of the rocks from their farms. These stones decorate the surrounding wall at the church in the centre of town. This feature has later been declared as a National Monument.

A previous effort to establish a new refuse dumping site was abandoned after numerous pieces of vitrified wood had been uncovered during the opening of waste burial trenches. The removal of some of these fossils from the site by residents from the informal township to trade them off to motorists on the N5 road nearby created a vital cause of concern. The case was reported to the Palaeontology Department of the National Museum in Bloemfontein, the site was fenced off, and the land fill project placed on hold (2007).

The area was examined for possible archaeological and historical material and to establish the potential impact on any cultural material that might be found. 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).

The study aims to locate and evaluate the significance of cultural heritage sites, archaeological material, manmade structures older than 60 years, and sites associated with oral histories and graves that might be affected by the proposed developments.

LOCALITY

The site is located to the east of Senekal (Map 1) along the John du Plessis Road to the local industrial area at a turn off from the N5 main road to Bethlehem (Surveyor-General 1973) (Maps 2&3).

The area consists of a short natural grass cover (Figs.2, 3 & 10), which had been extensively used as communal grazing land for many years (Fig.24).

There are natural outcrops of sandstone at some places with a very shallow soil cover (Fig.4).

The following GPS coordinates (Cape scale) were taken on the outskirts of the proposed site (2827BC) (Map 3):

- | | | |
|---|------------------------|------------------------------|
| A | 28°19'25"S 027°38'40"E | Altitude 1456m (Figs.5&6). |
| B | 28°19'21"S 027°38'41"E | Altitude 1458m (Figs.7&8). |
| C | 28°19'21"S 027°38'28"E | Altitude 1470m (Figs.9-11). |
| D | 28°19'07"S 027°38'33"E | Altitude 1475m (Figs.12&13). |

RESULTS

FINDS

An application for the development of the same site was made in 2006. The effort was abandoned after numerous pieces of vitrified wood of the genus *Dadoxylon* of about 250 million years ago, had been uncovered during the opening of waste interment trenches (Fig.25). The removal of some of these fossils from the site by residents from the informal township to trade them off to motorists on the N5 road nearby created a vital cause of concern. The site was fenced off and the project placed on hold (2007) (Figs.5,7,9,12).

A significant distribution of chunks and pieces of silicified wood is still scattered over the heaps of soil from the earlier excavations (Figs.11-13).

It is also possible that fossils of the amphibian species *Uranocentrodon senekalensis* discovered earlier could occur in the sandstone deposits at the hill.

Although the cadastral map (2827BC) indicates a Voortrekker Uitspanning or pioneer Afrikaner camping site to the west towards Senekal, no historical material was found in the region (Map 2).

No indication of any other archaeological or historical material was found in the proposed development area.

IMPACT ASSESSMENT

There is a serious need for an officially operated and controlled waste disposal site at Senekal. It is also obvious that the proposed locality has already been damaged beyond any restoration and preservation.

The fence wire is in a poor condition (Figs.9&12) and the gates are no longer secure anymore (Figs.14&15). Stock herdsman are grazing their cattle freely on the site (Fig.25).

An application for a permit to collect fossil material during the construction of the new waste disposal site at Senekal was recently submitted to SAHRA. The submission by Dr Gideon Groenewald from Metsi Metseng Geological Services, Bethlehem, on behalf of the developer, is supported by Prof Bruce Rubidge from the Bernard Price Institute for Palaeontological Research at the University of the Witwatersrand.

The permit will place the responsibility for the collection and curation of the fossil material from the Senekal site on the Palaeontology Department of the National Museum, Bloemfontein. The task will obviously require a substantial endeavour from the Museum in terms of manpower, transport and storage space.

Part of the area to the west is indicated as a Voortrekker camping site. No further information about this claim could be found and no remains of their sojourn were visible on the surface.

The British invasion of Senekal during the Anglo-Boer War (1899-1902) took place on 25 May 1900. In the course of this action, a skirmish broke out between the British advance guard under Major H.S. Dalbiac and a burgher patrol of Cmdt. J.I. Jacobz's commando. According to the records, this shoot-out where Dalbiac and three others were fatally wounded, took place on the western part of

the koppie directly overlooking the town of Senekal. Dalbiac and his fallen troops were buried in the Senekal town cemetery.

RECOMMENDATIONS

The removal of the tree fossils to Bloemfontein will place a major burden on the National Museum and the arrangement is unfeasible, impractical and merely unsatisfactory. Brief discussions with members of the White community at Senekal brought a possible solution for the preservation to the forward.

I recommend that the tree fossils (*Dadoxylon*) should be placed at the premises of the Dutch Reformed Church in the custody of the Senekal community.

I further recommend that the proposed developments and planning of the site may proceed, provided that the rest of the hill should not be disturbed to prevent any damage to the amphibian fossil species that could occur in the sandstone deposit. It should also be priority to avoid any remains at the possible "Voortrekker uitspanning" or pioneer Afrikaner camping site and the locality of the Anglo-Boer War (1899-1902) skirmish where the officer and men were killed.

MITIGATION

Brief discussions with members of the White community at Senekal brought forward a possible solution for the preservation of the fossil material.

I recommend that the excavated tree fossils should be placed in the custody of the of the local Senekal community for preservation and control

The following people act as the cultural leaders of the White community at Senekal.

Mr Mike Odendaal	083 411 6770
Mr Thinus Oosthuizen	083 453 9324
Mr Michael van Rensburg	083 269 9292
Mrs Rita Erasmus	083 259 6071
Mr Borrie Erasmus	083 277 9580

Most members of the White community and especially the cultural leaders are very concerned about the future of the history of the area. They are anxious about the preservation of the fossil trees from the waste site at Senekal. They feel strongly that the samples belong to the town and its inmates and should not be removed to the Museum in Bloemfontein.

The people of Senekal are prepared to apply for a permit from SAHRA to rescue the specimens and to take custody of the stones.

I recommend that Dr Jenifer Botha-Brink from the National Museum, Bloemfontein should be requested to instruct and direct the responsible people in Senekal on the proper handling and preservation the fossils.

ACKNOWLEDGEMENTS

I thank Dr Gideon Groenewald from Metsi Metseng Geological & Environmental Services, Bethlehem, for directing me to the site. I also owe gratitude to Rita and Borrie Erasmus for their positive attitude towards preservation and for their willingness to assist in this investigation.

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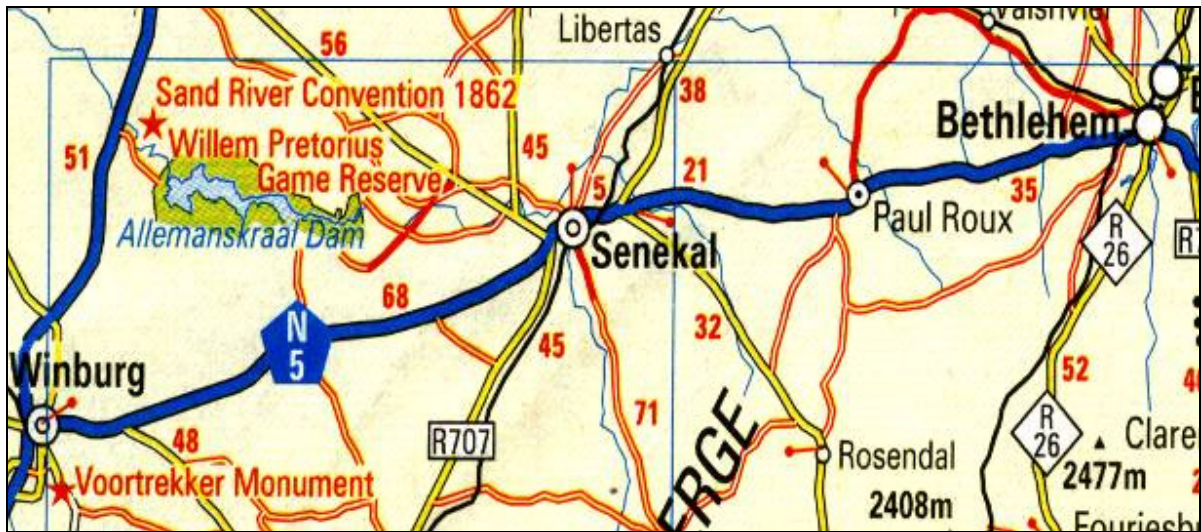
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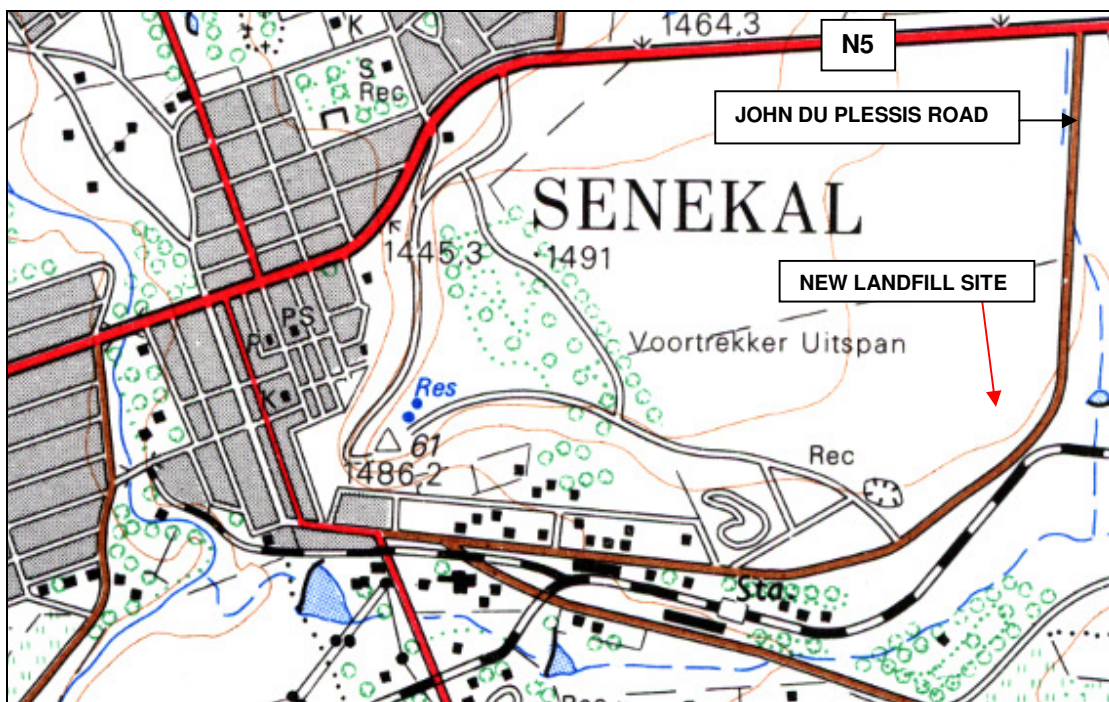
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LIST OF ILLUSTRATIONS



Map 1 Locality of Senekal in relation to Winburg, Rosendal and Bethlehem.



Map 2 Locality of the proposed new landfill site at Senekal (2827BC).



Map 3 Locality of the proposed landfill site and other relevant features at Senekal.



Fig.1 The site along the entrance road to the industrial area at Senekal.



Fig.2 The site at Senekal facing west.



Fig.3 The site at Senekal facing east. Guarriekop and Biddulphsberg in the centre.



Fig.4 Sandstone bedrock shows very shallow soil cover at places.



Fig.5 Point A solid waste site at Senekal.



Fig.6 Point A solid waste site at Senekal.



Fig.7 Point B solid waste site at Senekal.



Fig.8 Point B solid waste site at Senekal facing east. Biddulphsberg in the back.



Fig.9 Point C solid waste site at Senekal.



Fig.10 Point C at the solid waste site Senekal. Facing Guarriekop & Biddulphsberg.



Fig.11 Point C at the solid waste site, Senekal. Dumped soil heaps from the trenches.



Fig.12 Fence at Point D solid waste site at Senekal, facing Biddulphsberg.



Fig.13 Soil heaps at Point D solid waste site Senekal.



Fig.14 Entrance gate between Point A & C at the solid waste site Senekal.



Fig.15 Entrance gate between Point A & C at the solid waste site Senekal.



Fig.16 Petrified wood at the solid waste site, Senekal.



Fig.17 Petrified wood at the solid waste site, Senekal (Pocketknife = 84mm).



Fig.18 Petrified wood at the solid waste site, Senekal (Pocketknife = 84mm).



Fig.19 Petrified wood at the solid waste site, Senekal (Pocketknife = 84mm).



Fig.20 Petrified wood at the solid waste site, Senekal (Pocketknife = 84mm).



Fig.21 Petrified wood at the solid waste site, Senekal (Pocketknife = 84mm).



Fig.22 Petrified wood at the solid waste site, Senekal (Pocketknife = 84mm).



Fig.23 Agate and petrified wood LSA flakes and cores, solid waste site, Senekal. (Pocketknife = 84mm).



Fig.24 Flock of cattle from the township grazing near the waste dump site at Senekal.



Fig.25 Trenches prepared for the burial of refuse at the new landfill site, Senekal.