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SPECIALIST REVIEW OF  
**'THE ARCHAEOLOGICAL EXCAVATIONS AT  
BRAAMHOEK SHELTER 2'**  
BRAAMHOEK PUMPED STORAGE SCHEME,  
FREE STATE PROVINCE, SOUTH AFRICA



Report by



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For

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## Introduction

Len van Schalkwyk and Beth Wahl, both archaeologists and heritage managers, completed a review of the report - Archaeological excavations at Braamhoek Shelter 2, submitted to Eskom Holdings Limited by Umlando Archaeological Tourism and Resource Management on 16 January 2006.

We visited the shelter on 11 April 2006, where we spoke to the excavators who were working there at the time. We also asked Marlize Lombard, senior curator and Stone Age research specialist at the Natal Museum, to comment on the report.

Our terms of reference, detailed in an email from Tyrone Singleton on 23 February 2006, were to assess the report regarding:

- Its accuracy
- Whether sufficient detail had been gained from the site or whether additional digging is essential for the application of a destruction permit
- Methodology
- Significance of the site.

Our comments are confined to these issues, with no attempt to alter spelling or grammatical mistakes, which are numerous.

## Comments

- Report accuracy

The reference to the South African Heritage Act of 2002 is incorrect; it should be the South African Heritage Resources Management Act No 25 of 1999.

- Methodology

It is very difficult to review methodology thoroughly on the basis of a report. The excavators appear to have followed standard procedure for excavation of a site of this nature and are accredited as being competent to do so by the cultural resource management section of the Association of South African Professional Archaeologists.

We suggest that the excavators liaise with Professor Lyn Wadley of the University of the Witwatersrand concerning replication experiments with ochre and the interpretation of so-called ochre 'pencils' and worked ochre in general. Also, we suggest that the presence of ochre at the site could well relate to its cosmetic use, rather than just as a pigment for rock paintings.

If most charcoal is present in pieces smaller than 10mm, it could have little value for tree species identification and palaeoenvironmental reconstruction. Ten millimeters is the lowest size limit required for isotope research, although this does depend on fracture planes (Hall pers comm.).

The authors state that 'Glass beads only arrive in this geographical area in the last ~300 years' (page 26). However, they go on to date the uppermost layers, where beads occur, to between 500 and 1000 years ago (page 27). This is an obvious contradiction. Furthermore, we question whether the authors should be quite so categorical concerning their relative dating method – the high formal stone tool densities suggest that BS2 is an anomaly compared to other sites excavated and published in the region. Accordingly, the use of formal tool frequencies such as backed pieces, scrapers and adzes, in comparison with those sites, to generate a relative sequence of dates, may be erroneous. This could explain the 'unexpected' occurrence of backed scrapers in Unit 3. Direct dating of selected excavation units is a priority; we assume that the authors made provision for this in their budget.

The authors state on page 29 that 'A high percentage of adzes are related to soil physiology: there is a strong correlation between digging sticks, adzes and soil types'. This is debatable and is a statement that should be referenced. Adzes are used for working wood; accordingly, more adzes could mean that more bows, arrows

and spears were being manufactured. It certainly implies an increase in general food procurement by both hunters and gatherers and leads to speculation about increased population numbers, the start of trade between hunter-gatherers and farmers, the relative roles of men and women, and so forth.

- Significance of the site

Clear parameters for the assessment of site significance should be included in an appendix, such as those formulated by the South African Heritage Resources Agency (see the appendix attached to this report).

The authors state on page 20 that 'The stone tools from this site are significant in that there is a very high density of tools in such a small excavation'. We query this, based on the number of stone artefacts (38 397) for the stated volume of deposit excavated (24 839.48 litres, equalling 24.84m<sup>3</sup>). This amounts to 1 546 stone artefacts per cubic metre, which is on the lower end of the scale of Later Stone Age sites excavated in central and northern KwaZulu-Natal (all excavated by Aron Mazel), as the following table shows:

Site name	Location	Stone artefact density (n/m <sup>3</sup> )
Mgede	Biggarsberg	1 042
Diamond Shelter	Northern uKhahlamba	1 409
iNkolimahashi	Central uThukela basin	1 543
<b>BS2</b>		<b>1 546</b>
Clarke's Shelter	Northern uKhahlamba	2 160
Collingham Shelter	Spioenkop	12 184
Mbabane	Central uThukela basin	13 472
eSinhlonhlweni	Central uThukela basin	15 403
Gehle	Upper uThukela basin	18 592
Mhlwazini	Central uKhahlamba	19 410
KwaThwaleyakhe	Central uThukela basin	36 747

Accordingly, the significance of BS2 rests on the fact that it has a very high proportion of formal tools in its stone artefact assemblage, not on its overall stone artefact density.

It is a grave error to compare the BS2 stone assemblage with that of the entire Umhlatuzana Shelter, near Durban. The latter is primarily a Middle Stone Age assemblage dating (by radio carbon) to between 28 000 and an infinite date of 45 000 years ago (Kaplan 1990). The lower levels contain Howiesons Poort and pre-Howiesons Poort industries that are probably older than 60 000 years if we consider them of similar age as the only well-dated Middle Stone Age Sibudu Cave in KwaZulu-Natal (Wadley and Jacobs 2004).

Only layers 1 to 3 date to within the same time period as BS2, as hypothesized by the authors on page 27 of their report. These layers at Umhlatuzana produced 18 918 stone artefacts from 3.01m<sup>3</sup> of deposit, amounting to a density of 6 285 artefacts per cubic metre. The average percentage of formal tools for these layers was 0.65. The authors' argument, that BS2 is significant due to its high formal stone tool density, stands, but erroneous comparisons between non-comparable assemblages create the impression of a lack of methodological and interpretive rigour.

The authors state on page 27 that 'A site becomes significant if a spatial component exists'. This is only partially true, since it depends on the research hypothesis, i.e. the questions that the researcher would like the site to answer. For example, the Middle Stone Age site of Sibudu Shelter on the KwaZulu-Natal north coast does not display have a well-defined spatial component in the currently excavated squares. However, it has a well-defined temporal component (change is evident through time), and is able to answer very significant questions about palaeoenvironments, subsistence behaviour, and changes in stone artefact use, including hunting and hafting strategies, that inform on recent human evolution and the process of human cognitive modernisation (Lombard pers. comm.).

The value of site interpretation based on the interpretation of artefact frequencies and spatial information has been questioned for at least a decade (see Jerardino 1995, for example). Researchers have known for a long time that artefacts are concentrated around hearths in rock shelters, where most activity occurs, while bedding

occurs in the warmer and drier rear parts of shelters. There is little value in reiterating this information ad infinitum.

Instead, the authors need to address the following questions that are of current interest in Stone Age research locally and internationally:

- Can the site possibly contribute to the very intricate 'interaction' time period, where hunter-gatherers, herders and farmers occupied the same cultural landscape?
- Can the site contribute to the better understanding of under-represented Stone Age industries / periods in South Africa such as Albany, Oakhurst or Robberg?

If the answer on either of these questions is affirmative, then the site may be considered crucial from a research point of view. Since the authors do not even mention these issues in their report, they fail to recognise and discuss what are really important issues in current Stone Age heritage research and representation.

- General

The report contains no reference to the permit under which the site was excavated. What is its number, and did the South African Heritage Resources Authority stipulate any procedures or regulations that should be followed? This information should be included in an appendix, so that readers can judge whether these aims were met. Otherwise, the only parameters for methodology, report writing, etc. are those formulated by Umlando.

The lack of a map of the shelter, or a reference to the total number of excavatable squares, means that it is impossible to judge what percentage of the deposit has been excavated to date. The authors state on page 36 that 'The norm would be to salvage **at least half** of the site if it will be destroyed'. This is misleading – the ideal would be to salvage the entire site, since it is going to be destroyed soon. The norm for a single researcher or group of researchers is to remove only half of the deposit of a site as part of a given project. This allows future researchers to continue excavations to answer different research questions, possibly using new and improved technology or theories.

The authors should have excavated at least two squares down to bedrock at the beginning of their work at the shelter, to determine the entire sequence and subsequent excavation strategy. Shoring of deposits is neither difficult nor time-consuming and should have been undertaken when required.

When we visited the shelter the deposits were saturated and no stratigraphy was visible (see the photograph on the cover of this report). We recommend strongly that the excavators do not excavate wet deposits where they have to rely on often misleading textural changes in stratigraphy. Particularly if the deposit is as complex and significant as they claim.

## Conclusion

The authors should excavate two squares that have already been excavated to a depth of more than 1.5 metres, to bedrock. If these deposits date to the Later Stone Age / Middle Stone Age transition, or to the Middle Stone Age, the authors should excavate a maximum of four more squares (again, those that have already been opened, rather than starting excavations from the surface). This will provide ample research material (Lombard pers. comm.).

If the authors believe that the upper layers of the shelter indicate interaction between hunter-gatherers, herders and/or farmers, there is no need to continue excavations, since ample material has been recovered already.

**In summary, unless the authors can demonstrate the presence of deposits dating to the Later Stone Age / Middle Stone Age transition, or to the Middle Stone Age, they should discontinue excavations. The developer should then apply to the South African Heritage Resources Agency for a destruction permit.**

We have no objection to distributing this report to colleagues, including Umlando Archaeological Tourism and Resource Management, in its entirety. This review should be read in conjunction with any comments on the report provided by the South African Heritage Resources Agency.

## References

Jerardino, A. 1995. The problem with density values in archaeological analysis: a case study from Tortoise Cave, Western Cape, South Africa. *South African Archaeological Bulletin* 50: 21-27.

Kaplan, J. 1990. The Umhlatuzana Rock Shelter sequence: 100 000 years of Stone Age history. *Natal Museum Journal of Humanities* 2: 1-94.

Wadley, L. and Jacobs, Z. 2004. Sibudu Cave, KwaZulu-Natal: background to the excavations of Middle Stone Age and Iron Age occupations. *South African Journal of Science* 100: 145-151.

## APPENDIX

### SIGNIFICANCE AND VALUE OF HERITAGE RESOURCE SITES

The following guidelines for determining site significance were developed by the South African Heritage Resources Agency in 2003. We use them in conjunction with tables of our own formulation (see that for the Southern African Iron Age, below) when considering intrinsic site significance and significance relative to development activities, as well as when recommending mitigatory action.

Type of Resource  
Place  
Structure  
Archaeological Site  
Palaeontological Site  
Geological Feature  
Grave

Type of Significance  
1. Historical Value

It is important in the community, or pattern of history

- Importance in the evolution of cultural landscapes and settlement patterns
- Importance in exhibiting density, richness or diversity of cultural features illustrating the human occupation and evolution of the nation, Province, region or locality.
- Importance for association with events, developments or cultural phases that have had a significant role in the human occupation and evolution of the nation, Province, region or community.
- Importance as an example for technical, creative, design or artistic excellence, innovation or achievement in a particular period

It has strong or special association with the life or work of a person, group or organisation of importance in history

- Importance for close associations with individuals, groups or organisations whose life, works or activities have been significant within the history of the nation, Province, region or community.

It has significance relating to the history of slavery

- Importance for a direct link to the history of slavery in South Africa.

2. Aesthetic Value

It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group

- Importance to a community for aesthetic characteristics held in high esteem or otherwise valued by the community.
- Importance for its creative, design or artistic excellence, innovation or achievement.
- Importance for its contribution to the aesthetic values of the setting demonstrated by a landmark quality or having impact on important vistas or otherwise contributing to the identified aesthetic qualities of the cultural environs or the natural landscape within which it is located.
- In the case of an historic precinct, importance for the aesthetic character created by the individual components which collectively form a significant streetscape, townscape or cultural environment.

3. Scientific Value

It has potential to yield information that will contribute to an understanding of natural or cultural heritage

- Importance for information contributing to a wider understanding of natural or cultural history by virtue of its use as a research site, teaching site, type locality, reference or benchmark site.
- Importance for information contributing to a wider understanding of the origin of the universe or of the development of the earth.
- Importance for information contributing to a wider understanding of the origin of life; the development of plant or animal species, or the biological or cultural development of hominid or human species.
- Importance for its potential to yield information contributing to a wider understanding of the history of human occupation of the nation, Province, region or locality.

It is important in demonstrating a high degree of creative or technical achievement at a particular period

- Importance for its technical innovation or achievement.

4. Social Value

It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons

- Importance as a place highly valued by a community or cultural group for reasons of social, cultural, religious, spiritual, symbolic, aesthetic or educational associations.
- Importance in contributing to a community's sense of place.

Degrees of Significance

Rarity

It possesses uncommon, rare or endangered aspects of natural or cultural heritage

- Importance for rare, endangered or uncommon structures, landscapes or phenomena.

Representivity

It is important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects

Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class.

Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, Province, region or locality.

Sphere of Significance	High	Medium	Low	
International	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
National	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Provincial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Regional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Local	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Specific Community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-----

What other similar sites may be compared to this site?

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Southern African Iron Age

	Significance		
	- low	- medium	- high
Unique or type site			Yes
Formal protection			Yes
Spatial patterning	?Yes	?Yes	?Yes
Degree of disturbance	75 – 100%	25 – 74%	0 – 24%
Organic remains (list types)	0 – 5 / m <sup>2</sup>	6 – 10 / m <sup>2</sup>	11 + / m <sup>2</sup>
Inorganic remains (list types)	0 – 5 / m <sup>2</sup>	6 – 10 / m <sup>2</sup>	11 + / m <sup>2</sup>
Ancestral graves			Present
Horizontal extent of site	< 100m <sup>2</sup>	101 – 1000m <sup>2</sup>	1000 + m <sup>2</sup>
Depth of deposit	< 20cm	21 – 50cm	51 + cm
Spiritual association			Yes
Oral history association			Yes
➤ Research potential			High
➤ Educational potential			High

Please note that this table is a tool to be used by qualified cultural heritage managers who are also experienced site assessors.