



Enquiries: Ragna Redelstorff, PhD

Tel: +27 (0)21 202 8651

Email: [rredelstorff@sahra.org.za](mailto:rredelstorff@sahra.org.za)

CaseID: 18067

Date: Wednesday April 13, 2022

Page No: 1

## Letter

### In terms of Section 32(19) of the National Heritage Resources Act (Act 25 of 1999)

Attention: Dr Shaw Badenhorst

University of the Witwatersrand - Evolutionary Studies Institute

Evolutionary Studies Institute

University of the Witwatersrand

The Cave of Hearths (CoH), located in the Makapan Valley in the Limpopo Province close to the modern town of Mokopane, has long been an influential site to trace the evolution of hominins in southern Africa (Mason 1969; 1988, McNabb and Sinclair 2009). Apart from some earlier investigations, excavations were initiated in the 1940s and continued into the 1950s (Mason 1969). The CoH yielded in situ Acheulian (Early Stone Age; ESA) occupation in Beds 1 to 3. The ESA beds have been dated to between 780 000 and 500 000 years ago using palaeo-magnetism dating (Herries and Latham 2009). The CoH also has an extensive Middle Stone Age (MSA) occupation, found in Beds 4 to 9. Mason (1969, 1988) divided the MSA beds at the CoH, based on lithics, as follows: Bed 4 – Early Pietersburg Culture, Bed 5 – Middle Pietersburg Culture, and Beds 6-9 – Later Pietersburg Culture. The presence of lithics from the Pietersburg Industry places the MSA at the CoH in the MSA I and II, dating to between 128 000 and 75 000 (Wurz 2013). The site also has Later Stone Age (LSA) and recent Iron Age/historical occupations, in Beds 10 and 11 respectively (Mason 1969, 1988). Few archaeological sites in South Africa have such an extensive and successive occupations by hominins over millennia. The earlier radiocarbon dates (Mason 1988) vastly underestimated the time depth of the occupations, and these dates are no longer accepted (Wadley 2015). Both the ESA and MSA occupations of the CoH fall outside the reach of radiocarbon dating, as they postdate 50 000 years ago. Obtaining dates especially for the CoH beds are challenging. Mason (1969, 1988) excavated a considerable portion of the in situ deposits, limiting the possibility of OSL dating. ESR dating remains a possibility, but this requires both fossils and breccia, and the latter are not available for the MSA at the CoH. Apart from the inferred dates for the ESA and MSA at the CoH, no dates are available for the LSA and Iron Age occupations. The imprecise dating of the CoH remains a serious constraint. Despite the site's importance in earlier discussions on the evolution of hominins in South Africa, it has largely been excluded from archaeological debates on the ESA and MSA in particular due to the imprecise dating (Wadley 2015).

Dear Dr Shaw Badenhorst,

Our Ref:



an agency of the  
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: [info@sahra.org.za](mailto:info@sahra.org.za)  
South African Heritage Resources Agency | 111 Harrington Street | Cape Town  
P.O. Box 4637 | Cape Town | 8001  
[www.sahra.org.za](http://www.sahra.org.za)

Enquiries: Ragna Redelstorff, PhD

Tel: +27 (0)21 202 8651

Email: [rredelstorff@sahra.org.za](mailto:rredelstorff@sahra.org.za)

CaseID: 18067

Date: Wednesday April 13, 2022

Page No: 2

Thank you for your application to temporarily export 38 fossil equid teeth from Cave of Hearths, Limpopo Province for destructive analysis and dating at Department of Chemistry, University of York, UK.

SAHRA has reviewed the application and has decided to approve it.

We wish you every success with this project.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

---

Ragna Redelstorff, PhD  
Heritage Officer  
South African Heritage Resources Agency

---

Phillip Hine  
Manager: Archaeology, Palaeontology and Meteorites Unit  
South African Heritage Resources Agency

## ADMIN:

Direct URL to case: <https://sahris.sahra.org.za/node/593500>

[Terms & Conditions:](#)

Our Ref:



an agency of the  
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: [info@sahra.org.za](mailto:info@sahra.org.za)  
South African Heritage Resources Agency | 111 Harrington Street | Cape Town  
P.O. Box 4637 | Cape Town | 8001  
[www.sahra.org.za](http://www.sahra.org.za)

Enquiries: Ragna Redelstorff, PhD

Tel: +27 (0)21 202 8651

Email: [rredelstorff@sahra.org.za](mailto:rredelstorff@sahra.org.za)

CaseID: 18067

Date: Wednesday April 13, 2022

Page No: 3

1. This approval does not exonerate the applicant from obtaining local authority approval or any other necessary approval for proposed work.
2. If any heritage resources, including graves or human remains, are encountered they must be reported to SAHRA immediately.
3. SAHRA reserves the right to request additional information as required.