

Zulu Kingdom archaeometallurgy study

PermitID: 4106 REF: SAH23/20917 & 23/019

Issued under section 40(4), 40(8) of the KwaZulu Natal Amafa and Research Institute Act (Act 05 of 2018)

Permit Holder: Dr Kent Fowler
Department of Anthropology
University of Manitoba
432 Fletcher Argue Building,
15 Chancellor Circle
Winnipeg
MB R3T 2N2
Canada

Approval is hereby given to Dr Kent Fowler of Department of Anthropology in accordance with the application received on 15/03/2023, for Analysis, Export (Temporary) on the site/s: Ndondondwane, Wosi, Mamba Confluence 83/4, kwaDukuza emaKhosini, ezinGwegweni.

This study examines the geographic and geological origin of ores used to make metal objects found at sites dating to the Zulu Kingdom period and the impact of smelting on the geochemical composition of iron objects.

This permit is issued subject to the following conditions: -

1. That the permit is issued strictly for the purpose/s as set out in the application.
2. That in the event of any contemplated deviation, the prior written approval of KwaZulu-Natal Amafa and Research Institute must be obtained.
3. In such an event, a written motivation in support of such deviation must be submitted to KwaZulu-Natal Amafa and Research Institute for consideration and
4. No deviation will be permitted without the prior written approval of KwaZulu-Natal Amafa and Research Institute
5. Where applicable, KwaZulu-Natal Amafa and Research Institute shall have the right to inspect the site at any time.
6. Monthly reports are to be submitted to KwaZulu-Natal Amafa and Research Institute on the work being conducted and the findings.
7. Monthly reports are to be accompanied by the relevant National Site Record forms.
8. A final report on the work conducted and the findings must be submitted to KwaZulu-Natal Amafa and

Zulu Kingdom archaeometallurgy study

Research Institute not later than thirty-three (33) days from the date of expiration of this permit, extensions are negotiable.

9. Copies of any papers compiled or published due to the work conducted or the findings made must be provided to KwaZulu-Natal Amafa and Research Institute.
10. The KwaZulu-Natal Amafa and Research Institute shall not be liable for any loss, damage or injuries to any person/s or property caused by any of the activities conducted by the applicant.
11. Where artefacts located at the site are, in terms of this permit, exported for research or other purposes, same must be returned immediately upon completion of the research or other activity to KwaZulu-Natal Amafa and Research Institute.
12. All archaeological and paleontological material becomes, on the discovery, the property of the Province of KwaZulu-Natal and must be lodged at the repository of KwaZulu-Natal Amafa and Research Institute.
13. It is the responsibility of the Applicant to ensure that artefacts are preserved in their original state while in his/her possession.
14. The Applicant shall be liable for any damage or destruction caused at any site or to any artefact.
15. **FAILURE TO COMPLY WITH THESE CONDITIONS WILL RENDER ANY ACTIVITY CONDUCTED UNLAWFULLY, AND THE KWAZULU-NATAL AMAFA AND RESEARCH INSTITUTE RESERVE THE RIGHT TO CANCEL THIS PERMIT AND INSTITUTE CRIMINAL AND/OR CIVIL ACTION AGAINST THE PERSON(S) RESPONSIBLE.**
16. The issuing of this permit does not exempt the Applicant from compliance with any other law, where applicable.

This permit is valid from **28/06/2023 to 04/07/2026 AND IS NOT TRANSFERABLE.**



Nokubonga Dlamini
Heritage Officer
KwaZulu-Natal Amafa and Research Institute



Mxolisi Dlamuka
Head of Secretariat and Administration

Zulu Kingdom archaeometallurgy study

KwaZulu-Natal Amafa and Research Institute

Additional Info:

The HOC received and reviewed the application to study sample material out of the province for the study outlined below:

- The study examines the geographic and geological origin of ores used to make metal objects found at sites dating to the Zulu Kingdom period and the impact of smelting on the geochemical composition of iron objects.
- The objective of this study is to geochemically analyze **iron ore, slag, bloom** and **iron artifacts** from the province of KwaZulu-Natal to (1) determine the impact of the smelting process on the geochemical composition of the artifacts, and (2) determine if it is possible to link the iron artefacts to iron ore sources. Using this sample, we can investigate whether the objects can be associated with potential local and distant ore sources from three different geological terrane (Pietermaritzburg Formation, Mozaan Formation, and the Wosi Formation) known through oral history, archaeological investigations, and geological prospecting. The samples will be characterized using a scanning electron microscope (SEM) and electron microprobe (EMPA). Trace element geochemical analysis will be done using laser-ablation inductively coupled mass spectrometry (LA-ICP-MS) and iron isotopes will be analysed using secondary ion mass spectrometry (SIMS).

Please note that this permit may be suspended should an appeal against the decisions be received by the KwaZulu Natal Amafa and Research Institute within 14 days from the date of the permit. The KwaZulu Natal Amafa and Research Institute may not be held responsible for any costs or losses incurred in the event of the suspension or retraction of this permit.

ADMIN: Direct URL to case: <https://sahris.sahra.org.za/node/615298>