Export permit for 2019 sediment and bone samples from Lovedale and Damvlei

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
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
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Enquiries: Ragna Redelstorff
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Email: rredelstorff@sahra.org.za
CaseID: 14170

Date: Thursday September 05, 2019

Letter

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

Attention: Dr Michael Toffolo
CNRS-Univerité Bordeaux Montaigne

Sediment, shells and bone/teeth samples were collected to perform a number of analyses. More specifically, sediments will be analyzed using infrared spectroscopy and micromorphology. In addition, plant phytoliths will be extracted from sediments, as well as organics. The latter will be used for radiocarbon dating. Bones will be analyzed with infrared spectroscopy and will be dated using radiocarbon. Teeth will be analyzed with infrared spectroscopy and dated using electron spin resonance (ESR). Shells will be analyzed with infrared spectroscopy. The aim of these analyses is to obtain accurate age determinations, reconstruct site formation processes, past vegetation, and the degree of preservation of faunal material. Infrared spectroscopy provides a chemical characterization of sediments, bones and teeth that allows understanding their composition and state of preservation. Micromorphology allows the reconstruction of site formation processes based on the identification of microscopic sedimentary structures in thin sections of sediment. Phytolith analysis provides insights into past vegetation and climate shifts by looking at diagnostic mineral remains produced by plants. Radiocarbon and ESR dating provide accurate age determinations based on the decay of radiocarbon in organic materials and the accumulation of electrons in hydroxyapatite minerals, respectively.

Dear Drs M. Toffolo and L. Rossouw,

Thank you for your application to permanently export 10 bone fragments, 2 tooth fragments and 36 sediment samples from Lovedale, the latter of which four contain a tooth, and one contains shells, as well as thirteen sediment samples and one bone fragment from Damvlei, Free State Province for analysis at the Institute for Archaeological Sciences, University of Tübingen, Germany; IRAMAT-CRP2A, Bordeaux Montaigne University, France; and D-REAMS Radiocarbon Dating Laboratory, Weizmann Institute of Science, Israel.

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

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above in the case header.

Yours faithfully

Ragna Redelstorff
Heritage Officer
South African Heritage Resources Agency

ADMIN:
Direct URL to case: http://www.sahra.org.za/node/527051

Terms & Conditions:

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.