

## Final Decision

### In terms of Section 35(4) of the National Heritage Resources Act (Act 25 of 1999)

Attention: Dr John E Almond  
Natura Viva CC  
Edit view PO Box 12410  
Mill Street  
Cape Town  
8010

**Application for a permit to sample loose material of Middle Permian fossil bivalves and trace fossils (preserved in sandstone blocks of the Lower Beaufort or Ecca Group) from the margins of an existing quarry south of Kroonstad, Free State. This forms part of a scientific study by J. Almond and C. Penn-Clarke of this important, undescribed fossil assemblage as well as contributing to mitigation relating to a proposed new dolerite quarry just to the west.**

The Kroonstad quarry bivalve fossil site has been known since at least the 1970s but never scientifically studied and its stratigraphic context (Lower Beaufort Group or upper Ecca Group) remains ambiguous. A recent proposal for upgrading the nearby N1 trunk road involves the opening of a new high-quality dolerite quarry just to the west of the bivalve fossil site.

The APM HOB Permit Committee has agreed to issue the permit for a joint research and mitigation site visit by Almond and Penn-Clarke. This is in order to sample the loose fossil material on site as well as to more closely define the fossils' sedimentary context, taphonomy and distribution so that an appropriate buffer zone between the new quarry and the fossil site can be proposed for consideration by SAHRA. Key aims of the proposed site visit include:

- Sample loose blocks of fossil material at surface, particularly from the more vulnerable SW side of the old quarry;
- Confirm and, if possible, improve detailed mapping of surface occurrences of fossil material;
- Identify the SW margin of the fossil-bearing sandstone capping the dolerite in the area of the old quarry;
- Delineate a realistic buffer zone to ensure the in situ fossils and their sedimentary context are adequately protected once mining commences;
- Make a preliminary search in the broader study region for comparable fossil sites to assess the uniqueness of the Q42.5 quarry fossil site;
- Collect field data on sediments and in situ fossils to (1) identify and describe the trace fossil and shelly fossil material; (2) analyse the assemblage in palaeobiological and taphonomic terms; (3) investigate the stratigraphic context (currently ambiguous – Ecca Group or Beaufort Group) and sedimentology of the host sandstones;
- Report back to SAHRA with new data and recommendations for any future mitigation or protection measures. Please note that only loose surface material and not in situ fossil specimens will be sampled. The BPI has expressed a willingness to curate the fossil material in their collections.

## Permit application for Kroonstad Quarry

Our Ref: 9/2/234/0004

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CaseID: 5789

Date: Monday June 09, 2014

Page No: 2



an agency of the  
Department of Arts and Culture

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SAHRA looks forward to receiving the necessary permit report which may then inform a way forward.

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

Yours faithfully

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Jenna Lavin  
Heritage Officer  
South African Heritage Resources Agency

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### ADMIN:

Direct URL to case: <http://www.sahra.org.za/node/165620>



The South African Heritage Resources Agency

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