



## **Final Comment**

### **In terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999)**

Attention: Kumba Iron Ore Thabazimbi Mine  
Private Bag X 534  
Thabazimbi  
0380

### **Heritage Impact Assessment for the Mosters Tunnel Cave (MTC) project**

*Cairncross, B., The Thabazimbi Mine Cave, Limpopo Province, South Africa: Assessment of the Cave and its Speleothems*

*Fourie, W., August 2012. Kumba Iron Ore Thabazimbi Mine Mostert Tunnel Level Cave (Mtc) Wachteenbietjesdraai 350 KQ And Kwaggashoek 345 KQ Heritage Impact Report On Proposed Mining Activities Of Project Phoenix*

*Bamford, M., Palaeontological Impact Assessment of the cave above Mostert Adit, Thabazimbi Mountain*

Kumba Iron Ore is planning to expand the mining of banded iron stone formations at the Thabazimbi Mine, in the Thabazimbi Municipality. The mining will be located on Farms Wachteenbjesdraai 350 KQ and Kwaggashoek 345 KQ and is proposed in close proximity (about 200m away) from the Mostert Tunnel Cave (MTC) which includes significant geological formations. The cave was discovered accidentally by miners in the 1950s and explored by speleologists only in the mid Eighties. The cave is formed within the dolomite of the Transvaal basin Supergroup. Because of its closed environment, no archaeological and palaeontological material was identified, however aragonite and calcite formations of unique rare character, such as frostworks, popcorn coralloids, trays and multiaggregates, are well developed within the cave along with speleothemes. Aragonite frosts and trays are particularly rare in the geological heritage of the country.

Because of its significance the cave is considered part of the South African national estate, which, according to s.3(2)(e) of the National Heritage Resources Act, n. 25 of 1999, includes geological sites of scientific or cultural importance.

The cave is accessible only through an adit, the Mostert Tunnel, which is currently protected by a metal gate. In the recent past, until 2010, a few guided tours were allowed within the cave and these are possibly responsible for some of the organic growths which have visibly developed within the cave. It is expected that tunnel collapses and opening on bedding planes may occur during ground blasting activities at the mine because of the proximity of the MTC cave to the final mining pit shell.

In the heritage impact assessment both the archaeologist and the palaeontologist confirmed that no archaeological or palaeontological material is present within the cave. However, the palaeontologist, Prof. Bamford, also states that the cave should be preserved and protected for its geological heritage and damage





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to the cave should be avoided as much as possible.

Prof. Cairncross, who undertook the geological assessment of the cave, is also of the opinion that preservation of the cave should be a priority, however, since the proposed mining activities are most likely going to impact on the stability of the geological formations, he drew a mitigation programme which would allow the aragonitic and calcitic formations to be removed and saved for future studies and research.

After assessing the heritage impact assessment report SAHRA recommends that:

- any damage to the cave would be a damage to South African heritage and as such it must be avoided. Kumba Iron Ore Thabazimbi mine should, through consultation with geologists and engineers, explore solutions which would avoid any indirect impact on the MTC. This may require the expansion of the pit outline to be limited in the section closest to the MTC. A proposal must be submitted to SAHRA for further comments.
- the option of sampling proposed by Prof. Cairncross should only be undertaken as last resort. If the mine cannot identify any other solutions which will contribute to the preservation of the cave and of its fragile equilibrium for future generations, then they will need to engage with SAHRA to explore satisfactory mitigation measures.

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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Mariagrazia Galimberti  
Heritage Officer: Archaeology  
South African Heritage Resources Agency

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Colette Scheermeyer  
SAHRA Head Archaeologist  
South African Heritage Resources Agency

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# Kumba Thabazimbi - Mostert Tunnel Cave

Our Ref: 9/2/274/0002

Enquiries: Mariagrazia Galimberti  
Tel: 021 462 4502  
Email: mgalimberti@sahra.org.za  
CaseID: 548

Date: Tuesday January 15, 2013

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## ADMIN:

(DMR, Ref: LP30/5/1/3/2/1(45) and (47) EM)

### 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.



The South African Heritage Resources Agency

Street Address: 111 Harrington Street, Cape Town 8000 \* Postal Address: PO Box 4637, Cape Town 8000  
\* Tel: +27 21 462 4502 \* Fax: +27 21 462 4509 \* Web: <http://www.sahra.org.za>