



an agency of the
Department of Arts and Culture

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South African Heritage Resources Agency | 111 Harrington Street | Cape Town
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CaseID: 11085

Date: Monday September 04, 2017
Page No: 1

Final Comment

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

Attention: Elmar Roberg
African Carbon Energy

Africary Holdings (Pty) Ltd: Underground Coal Gasification and Power Generation Project near Theunissen, Free State Province

The proposed project entails the establishment of an underground coal gasification (UCG) project with an electrical power plant on the farm Palmietkuil 548, situated approximately 26 km NNW of Theunissen, Free State Province. Services are proposed to cross the Farms Palmietkuil 548, Jordaansrust 59, Klein Palmietkuil 407, Youlon 368, DeKlerkskraal 231, Kleinbegin 134, Helpmekaar 47, Kalkoenrand 225 and Palmietkuil 328 in the Matjhabeng Local Municipality, Lejweleputswa District Municipality, with related infrastructure in the Free State Province. Associated infrastructure includes access road, power plant, gas cleaning plant, air separation unit, workshop, offices and ablution facilities, sewage, storm water drainage, pollution control dam, power lines (5 routes) and ESKOM yard (substation). Activities include the drilling of boreholes into and along a coal seam about 340 m below ground level to inject a mixture of heated air, steam and oxygen, which will cause the coal to smoulder and produce a mixture of combustible gases by chemical reactions between carbon, oxygen and water. The gas mixture will be piped to the surface. The ash will remain underground. A draft EIA, HIA and PIA were submitted with the application.

Pistorius, J.C.C. July 2013. A Phase I Heritage Impact Assessment (Hia) Study for Africary Holdings (Pty) Ltd's Underground Coal Gasification and Power Generation Project near Theunissen in the Free State Province.

The author identified structures older than 60 years of historical significance and graveyards (GY01 to the west of the proposed stand for the UCG Project's power generator; GY02 approximately 20m from the proposed electrical power line) within the study area. They are unlikely to be affected by the proposed project.

Should any of these resources be affected, the historical structures must be documented by a historical architect before they can be altered (demolished, renovated). A demolition permit must be acquired from SAHRA. If the graves are affected, a relocation permit must be acquired from the SAHRA Burial Grounds and Graves Unit.



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Fourie, H. August 2017. Palaeontological Impact Assessment: Phase 1 Field Study: African Carbon Energy Ltd. Underground Coal Gasification and Power Generation Project near Theunissen Matjhabeng Local Municipality, Lejweleputswa District Municipality, Free State Province.

The development area (plant and substation) is underlain by the Normandien Formation (Adelaide Subgroup, Karoo Supergroup) and the power lines by the Adelaide Subgroup and Quaternary deposits. The gas will be tapped from the Vryheid Formation. The palaeontological sensitivity is locally very high for the Adelaide Subgroup and Vryheid Formation and moderate for the Quaternary deposits. The proposed area is disturbed by previous agricultural activities. The author did not find fossils as the area is covered with lush vegetation. Once vegetation is cleared outcrops will be more visible.

Recommendations:

- A palaeontologist should be employed to visit the site once a month during construction of the plant and powerline. The EMPr must be updated to include the involvement of the palaeontologist during the digging and excavation phase of the development;
- The EAP as well as the ECO must be made aware of the fact that sediments of the Normandien Formation are well-known for the very high content of significant plant and vertebrate fossils;
- The overburden and inter-burden must always be surveyed by the ECO for fossils during construction;
- Special care must be taken during the digging, drilling, blasting and excavating of foundations, trenches, channels and footings and removal of overburden during construction not to intrude fossiliferous layers;
- Mitigation may be needed if a fossil is found, in this case, the area must be fenced off and a palaeontologist / archaeozoologist must be called to excavate.

Final comment

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit accepts the submitted HIA and PIA and has no objection against the proposed development. The recommendations in the HIA and PIA as well as the



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following conditions must be adhered to and must be incorporated into the Environmental Management Programme (EMPr) for implementation:

1. A palaeontologist must be employed to visit the site once a month during construction of the plant and powerline.
2. The graveyards must be enclosed by a fence with an access gate. A bufferzone of 30m must be adhered around them.
3. The Fossil Finds Procedure/Chance Finds Procedure must be incorporated in the EMPr and adhered to.
4. The grave site must be fenced off with access gate (families must be consulted).
5. A buffer-zone of at least 20 m must be maintained. Where this is not possible, a motivation must be submitted to the BGG Unit.
6. The site must be cleared of any vegetation that might occur on the surface.
7. The developer must draft a conservation management plan with clear roles and responsibilities. This must be submitted to SAHRA for authorisation.
8. The management plan must be drafted in consultation with the affected parties.
9. NHRA Section 36 (5) and Chapter XI of the NHRA regulations on how to conduct public consultation regarding burial grounds must be observed
10. Should any objects of archaeological or palaeontological remains be found during construction activities, work must immediately stop in that area and the Environmental Control Officer (ECO) must be informed.
11. The ECO must inform the South African Heritage Recourse Agency (SAHRA) and contact an archaeologist and/or palaeontologist, depending on the nature of the find, to assess the importance and rescue them if necessary (with the relevant SAHRA permit). No work may be resumed in this area without the permission from the ECO and SAHRA.
12. The final EIA and appendices must be submitted to SAHRA upon submission to DEA. Should the project be granted Environmental Authorisation, SAHRA must be notified and all relevant documents submitted to the

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case file.

Comments on built structures older than 60 years must be applied for at Heritage Free State (contact: loudine.philip@nasmus.co.za).

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
Heritage Officer
South African Heritage Resources Agency

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

ADMIN:

Direct URL to case: <http://www.sahra.org.za/node/398760>
(, Ref: FS30/5/1/2/2/10034MR)

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.