



SOUTH AFRICAN HERITAGE RESOURCES AGENCY

111 HARRINGTON STREET, CAPE TOWN, 8001
PO BOX 4637, CAPE TOWN, 8000
TEL: 021 462 4502 FAX: 021 462 4509

FOR ATTENTION:

PHRA Northern Cape (Mr Joas Sinthumule)
Department of Environmental Affairs

FOR OFFICIAL USE ONLY:

SAHRA File No: **9/2/049/0001**
Date Received: **30 March 2012**
Date of Comment: **7 May 2012**
Sent to Peer Review:
Date to Peer Review:
SAHRA Contact Person: **Ms Kathryn Smuts**
DEA Ref. no: **12/12/20/2252/2**
NEAS Ref. no: **DEA/EIA/0000622/2011**

REVIEW COMMENT ON ARCHAEOLOGICAL AND PALAEOLOGICAL IMPACT ASSESSMENTS

BY ARCHAEOLOGY, PALAEOLOGY AND METEORITES UNIT OF THE SOUTH AFRICAN HERITAGE RESOURCES AGENCY

South Africa has a unique and non-renewable archaeological and palaeontological heritage. Archaeological and palaeontological sites are protected in terms of the National Heritage Resources Act (Act No 25 of 1999) and may not be disturbed without a permit. Archaeological Impact Assessments (AIAs) and Palaeontological Impact Assessments (PIAs) identify and assess the significance of the sites, assess the potential impact of developments upon such sites, and make recommendations concerning mitigation and management of these sites. On the basis of satisfactory specialist reports SAHRA or the relevant heritage resources agency can assess whether or not it has objection to a development and indicate the conditions upon which such development might proceed and assess whether or not to issue permission to destroy such sites.

AIAs and PIAs often form part of the heritage component of an Environmental Impact Assessment or Environmental Management Plan. They may also form part of a Heritage Impact Assessment called for in terms of section 38 of the National Heritage Resources Act, Act No. 25, 1999. They may have other origins. In any event they should comply with basic minimum standards of reporting as indicated in SAHRA Regulations and Guidelines.

This form provides review comment from the Archaeologist of the relevant heritage resources authority for use by Heritage Managers, for example, when informing authorities that have applied to SAHRA for comment and for inclusion in documentation sent to environmental authorities. It may be used in conjunction with Form B, which provides relevant peer review comment.

- A. PROVINCIAL HERITAGE RESOURCES AUTHORITY: **Northern Cape**
- B. AUTHORS OF THE REPORT: **Ms K van Ryneveld**
- C. ARCHAEOLOGY CONTRACT GROUP: **ArchaeoMaps Archaeological Consultancy**
- D. CONTACT DETAILS: **Postnet Suite 239, Private Bag X3, Beacon Bay 5205**
- E. DATE OF REPORT: **March 2012**
- F. TITLE OF REPORT: **Phase 1 Archaeological Impact Assessment Metsimatala Solar Project, Groenwater 453. Siyanda District Municipality, Northern Cape, South Africa**
- G. AUTHORS OF THE REPORT: **Ms E. Becker**
- H. ARCHAEOLOGY CONTRACT GROUP: **Environmental Assurance (Pty) Ltd**
- I. CONTACT DETAILS: **394 Tram Street, New Muckleneuk 0181, Pretoria**
- J. DATE OF REPORT: **December 2011**
- K. TITLE OF REPORT: **Archaeological Impact Assessment – Technical Report Prepared for Metsimatala**

- L. AUTHORS OF THE REPORT: **Dr John Almond**
- M. PALAEOLOGY CONTRACT GROUP: **Natura Viva cc**
- N. CONTACT DETAILS: **Po Box 12410 Mill St, Cape Town 8010; email: naturaviva@universe.co.za**
- O. DATE OF REPORT: **March 2012**
- P. TITLE OF REPORT: **Palaeontological Assessment: Desktop Study - Proposed Metsimatala Photovoltaic and Concentrated Solar Power Facilities on Farm Groenwater, Siyanda District Municipality near Postmasburg, Northern Cape**

- Q. AUTHORS OF THE REPORT: **Dr John Almond**
- R. PALAEOLOGY CONTRACT GROUP: **Natura Viva cc**
- S. CONTACT DETAILS: **Po Box 12410 Mill St, Cape Town 8010; email: naturaviva@universe.co.za**
- T. DATE OF REPORT: **April 2012**
- U. TITLE OF REPORT: **Palaeontological Assessment: Combined Desktop Study and Field Assessment - Proposed Metsimatala Photovoltaic and Concentrated Solar Power Facilities on Farm Groenwater, Siyanda District Municipality near Postmasburg, Northern Cape**

- V. Please circle as relevant: Heritage component of **EIA / EMP / HIA / CMP/ Other** (Specify)
- W. REPORT COMMISSIONED BY (**CONSULTANT OR DEVELOPER**): **EnviroWorks**
- X. CONTACT DETAILS: **Suite 116, Private Bag X 01, BRANDHOF 9324**
- Y. COMMENTS:

REVIEW COMMENT ON ARCHAEOLOGICAL AND PALAEOLOGICAL IMPACT ASSESSMENTS

Ms Karen van Ryneveld
Dated: 12 March 2012
Received: 30 March 2012

Phase 1 Archaeological Impact Assessment Metsimatala Solar Project, Groenwater 453. Siyanda District Municipality, Northern Cape, South Africa

Ms. Elize Becker
Dated: December 2011
Received: December 2011

Archaeological Impact Assessment – Technical Report Prepared for Metsimatala

Dr John Almond
Dated: March 2012

Received: 30 March 2012

Palaeontological Assessment: Desktop Study - Proposed Metsimatala Photovoltaic and Concentrated Solar Power Facilities on Farm Groenwater, Siyanda District Municipality near Postmasburg, Northern Cape

Dr John Almond

Dated: April 2012

Received: 3 May 2012

Palaeontological Assessment: Combined Desktop Study and Field Assessment - Proposed Metsimatala Photovoltaic and Concentrated Solar Power Facilities on Farm Groenwater, Siyanda District Municipality near Postmasburg, Northern Cape

INTRODUCTION

Afri-Devo Energy is proposing the establishment of a 50 MW Photovoltaic (PV) and a 50 MW Compact Linear Fresnel Reflector (CLFR) energy facility on Farm Groenwater 453 in the Northern Cape. The projected footprint of the development will be 330 Ha.

The infrastructure required for the development includes a permanent laydown yard, offices, a workshop, a substation, a powerline linking the development to Eskom, connecting wiring and internal access roads; the area will be fenced for security purposes.

DISCUSSION

During the scoping phase of the environmental impact assessment process, two specialists were contacted to undertake an archaeological assessment and one to conduct palaeontological assessment of the area.

Dr Almond, the palaeontologist, considered the project outline, the scientific literature in the area and conducted a field survey to establish the likelihood of this project affecting sensitive palaeontological resources. The geology, in the northern half of the property, is dominated by the Precambrian Asbestos Hills Subgroup which was laid down before the onset of well-oxygenated atmosphere and seas and forms the upper part of the Ghaap Group. The Kuruman Formation of this Subgroup is not well exposed on the site and was not examined. The overlying Daniëlskuil Formation is evident as banded iron-rich deposits in cliff exposures on the site. Both of these Formations are known to contain scientifically interesting microfossils.

The southern half of the study area is underlain by the Postmasburg Group, which in turn overlies the Ghaap Group. The Postmasburg Group consists of two rock types here. The Makganyene Formation, represented by basal diamictites, is of significance to palaeoclimatic and palaeobiological studies, but the stromatolite reefs, the focus of these studies, do not appear to have formed at Groenwater. The basaltic and andesitic lavas of the Ongeluk Formation contain no fossils. The central part of the study area is mantled by unconsolidated Quaternary Gordonia Formation aeolian sands of indeterminate thickness, as well as colluvial and downwasted surface gravels and calcretes. The overlying Quaternary sand deposits are likely to be devoid of fossil material and none was encountered during the assessment.

With regard to the archaeology, the alignment of the powerline will directly impact Stone Age resources and runs close to a concentration of Iron Age artefacts and a Colonial Period farmstead. The extensive nature of the Stone Age scatters reduces the impact of the localised development, while both the Iron Age and Colonial Period sites are beyond the limit of the proposed development. The PV Solar Field will impact on both Stone Age and Iron Age sites. In terms of the Stone Age material, the most significant lenses were located on hill slopes, reducing the impact of the development, which is located on the

flatter terrain, avoiding the hilly areas Only one site, comprising a high density of Middle Stone Age and Later Stone Age artefacts, is recommended for monitoring and potential mitigation (PVSA4). The Iron Age sites are components of the plots surrounding Old Metsimatata Village and consist of remnant hut floors, stone walling and livestock enclosures as well as possible associated metal artefacts which reflect the remains of occupation and farming activities. Low density Stone Age artefacts were encountered within the area demarcated for the CSP Solar Field; these were determined to be of low significance. The Old Metsimatata Village itself, as well as the Colonial Period remains of the railway station will not be impacted. Several Iron Age cemeteries, all of which fall outside the development areas, will not be impacted, but are all protected and need to be conserved.

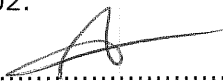
SAHRA RECOMMENDATIONS

SAHRA supports the recommendations of the authors and requires that:

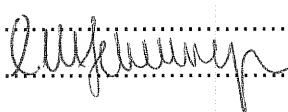
- According to the Palaeontological Impact Assessment, the proposed development is unlikely to impact significantly on local palaeontological heritage resources. If construction activities do expose any substantial fossils, however, these should be preserved, *in situ*, until SAHRA has been notified and a palaeontologist can be appointed to undertake a field survey and submit a report to SAHRA for further comments. Mitigation or monitoring may then be required.
- Archaeological monitoring of the development of the PV Solar Field and powerline alignment is required. Any significant or *in situ* deposits should be recorded by a professional archaeologist and reported on for further comment by SAHRA; further mitigation may be required. A destruction permit must be obtained from SAHRA for construction to proceed for the CSP Solar Field. The Iron Age cemeteries should be permanently sign-posted and fenced (with access gates) where practical. These conservation methods should be implemented with community consultation.

CONCLUSION

The proposed development of the Metsimetala Solar Plant should be allowed to proceed. In light of the presence of Stone Age and Iron Age artefacts along the powerline alignment and within the PV Solar Field, a professional archaeologist should be appointed to monitor this development impact. A report based on this monitoring should be submitted to SAHRA for comment. Furthermore, a destruction permit, obtainable from SAHRA, will be necessary for construction of the CSP Solar Field to commence. Conservation measures need to be implemented, with prior engagement with the local community, to ensure the conservation of the Iron Age cemeteries within the site. If any substantial palaeontological fossils are found during development or construction, SAHRA and a professional palaeontologist must be alerted immediately. For SAHRA, please contact Katie Smuts/Colette Scheermeyer, Tel: 021 462 4502.

SIGNATURE OF ARCHAEOLOGIST PROCESSING REPORT: 

EMAIL: ksmuts@sahra.org.za

SIGNATURE OF SAHRA HEAD ARCHAEOLOGIST: 

EMAIL: cscheermeyer@sahra.org.za

NAME OF HERITAGE RESOURCES AGENCY: SAHRA.....

PLEASE NOTE THAT THE COMMENT (ABOVE OR APPENDED) CONSTITUTES THE COMMENT OF THE HERITAGE RESOURCES AGENCY ARCHAEOLOGIST AND THAT ANY DEVELOPMENT THAT INVOLVES DESTRUCTION OF ANY ARCHAEOLOGICAL/PALAEONTOLOGICAL SITE IS STILL SUBJECT TO A PERMIT/PERMISSION FOR DESTRUCTION OF SUCH SITE GIVEN TO THE DEVELOPER BY THE RELEVANT HERITAGE RESOURCES AGENCY ARCHAEOLOGICAL AND PALAEONTOLOGICAL PERMIT COMMITTEE (THIS WILL BE SUBJECT TO APPROVAL OF THE PHASE 2 OR ARCHAEOLOGICAL/ PALAEONTOLOGICAL MITIGATION AS NECESSARY). THIS REPORT MAY BE TAKEN ONLY AS APPROVAL IN TERMS OF SECTION 35 OF THE NATIONAL HERITAGE RESOURCES ACT. THE PROVINCIAL MANAGER OF THE HERITAGE RESOURCES AUTHORITY MUST ADVISE AS TO APPROVAL IN TERMS OF HERITAGE ISSUES ENCOMPASSED BY OTHER ASPECTS OF THE LEGISLATION, SUCH AS ISSUES OF THE BUILT ENVIRONMENT (STRUCTURES (E.G. FARM HOUSES), OVER 60 YEARS), INDIGENOUS KNOWLEDGE SYSTEMS OR OF CULTURAL LANDSCAPES AS THIS IS NOT WITHIN THE SCOPE OF THE ARCHAEOLOGIST.

PLEASE NOTE THAT SAHRA IS NOW RESPONSIBLE FOR GRADE I HERITAGE RESOURCES (AND EXPORT) AND THE PROVINCIAL HERITAGE RESOURCES ARE RESPONSIBLE FOR GRADE II AND GRADE III HERITAGE RESOURCES, EXCEPT WHERE THERE IS AN AGENCY ARRANGEMENT WITH THE PROVINCIAL HERITAGE RESOURCES AUTHORITY.