



## Final Comment

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

Attention: Cornelia Steyn  
Aurecon South Africa  
PO Box 494  
Cape Town  
8000

### Proposed Wind and Solar (Photovoltaic) Energy Facilities on Kangnas Farm near Springbok in the Northern Cape

Orton, J. and Webley, L. December 2012. *Heritage Impact Assessment for the Proposed Kangnas Wind and Solar Energy Facilities, Namakwa Magisterial District, Northern Cape*

Almond, J. August 2012. *Palaeontological Specialist Study: Desktop Assessment: Proposed Wind and Solar (Photovoltaic) Energy Facilities on Kangnas Farm near Springbok in the Northern Cape*

South African Mainstream Renewable Power Developments (Pty) Ltd (Mainstream) has proposed the construction of a 560 MW wind energy facility and a 225 MW Photovoltaic (PV) solar energy facility on farms 48kms east of Springbok in the Northern Cape. These farms are Portion 3 and the Remainder of Kangnas Farm 77, Portion 1 of Koeris Farm 78, Portion 0 of Areb Farm 75 and Portion 0 and Remainder of Smorgen Schaduwe Farm 127.

The wind energy facility will consist of 180 wind turbines, each capable of generating 4 MW. Each turbine will be built on a 3m deep foundation approximately 20 m x 20 m, accompanied by a construction area of 20 m x 40 m and a 6 – 10 m wide access road. The proposed 225 MW solar energy facility will consist of either Photovoltaic (PV) and/or Concentrated PV (CPV) technology, possibly including tracking systems, and would have an approximate footprint of 793 ha. One main substation will link the proposed facilities and the existing 220kV Eskom line, while up to four new substations will link sectors of the facility to the main substation. The receiving environment is predominantly low-lying and flat Bushmanland Arid Grassland with granite inselbergs in the northwest. The developer has proposed siting the facility where the impact on various environmental and heritage factors will be the slightest. The archaeological background research showed that little prior work has been done in the area, although ESA and MSA material, and manufacturing sites are known from the wider vicinity. Most material is LSA in age and rock art is found in the region. Historical development of the area is mainly linked to the mining industry.

The site survey noted that most sites were clustered around six landscape foci. These were recorded as Orange Hill, SMS Hill, Gobees se Pan, Springbokvlei, KNG2012/007 and Kromneus. Four caves were found within the survey area, two with rock art, one with only a scattering of artefacts and one with evidence for occupation in the form of burnt bone, ostrich eggshell, pottery and stone tools, including a lower grindstone on the talus slope. In addition to the two shelters containing rock art, similar motifs, painted in the style of Khoekhoen herders, with finger painted circles and grids, were found at an additional two sites, Kromneus





being the best known of these. Further rock art, this in the form of small hollows or "cupules", chipped and ground into the rock surface, was identified at eight locations on Smorgen Schaduwe, particularly near Orange Hill. This is an unusual style of art to be found outside of areas of Iron Age occupation. The nature of artefacts associated with these sites varied from large scatters of Stone Age material to European ceramic and glass and are particularly clustered near SMS Hill. In addition to these sites, scatters of stone artefacts, predominantly on quartz, cryptocrystalline silica, some quartzite and other materials, were found, particularly clustered near the base of a hill to the west of the study area (e.g. SMS2012/034). Many deflated areas also contained ephemeral, background scatters of artefacts, although some of these, where they contained denser concentrations of scatters, could represent camp sites (e.g. KNG2012/002). Many scatters were clustered around the few large pans on the site, where more than 70 occurrences identified near the largest Gobees se Pan and more found near Springbokvlei and KNG2012/007. Many sites contained sherds of indigenous pottery of the type associated with San groups. Grindstones were occasionally encountered, as were areas where exposed bedrock had been used as a lower grindstone, identifiable by worn grooves in the rock. European artefacts were also identified, with at least one sherd of glass appearing to show reshaping, presumably by indigenous people.

Several informal structures on the farm were identified by the farm owners, as relating to the South African War, although these were not obviously fortifications (SMS2012/002; 004 and 005). Several other piled stone structures were identified as related to livestock herding and probably served as kraals, dating to the late 19<sup>th</sup> to early 20<sup>th</sup> Centuries. These ranged from large, fairly formal circular structures (e.g. SMS2012/026) to low stone alignments (e.g. SMS2012/045). One large, well built kraal (ARB2012/007) was probably in use until fairly recently, and seems associated with a small enclosure that was possibly a shepherd's shelter. Crude stone walling at ARB2012/002 formed some kind of shelter between boulders and was associated with various historical artefacts, including Chinese porcelain and late 19<sup>th</sup> Century European ceramics, while historical graffiti occurred on Kromneus. Several hand dug "putse", stone-lined wells, were identified within the study area, some located in pans to maximise their yield. Some are now covered by windmills, while an older water pump exists on Koeris (KOE2012/005). With regard to the built environment, most farm houses in the area date to the 1930s to 1960s, with the oldest dating to 1912/1913. Some flat roofed buildings on Smorgen Schaduwe appear older, built in the Karoo vernacular style and probably dating to the late 19<sup>th</sup> century. The only farm graveyard investigated was at Areb, although each farm probably has a graveyard. A few isolated, potential grave sites were also identified, consisting of small mounds of stones. Site ARB2012/007 is however almost certainly a burial.

A desktop palaeontological assessment noted that the proposed development areas are mainly underlain by ancient Precambrian metamorphic and igneous basement rocks of the Namaqua-Natal Metamorphic Province that crop out as low inselberge and are unfossiliferous. In the intervening, flatter areas, these older rocks are extensively mantled with younger superficial deposits that have low palaeontological sensitivity. However, significant older fossiliferous sediments are known from within the Kangnas study area and have yielded scientifically important vertebrate and plant fossil material. These known fossil sites are unlikely to be impacted by the proposed development unless bulk earthworks and excavations exceed 3m in depth. No mitigation is therefore required in terms of palaeontological heritage.





## Case Decision:

SAHRA supports the recommendations of the authors and requests that:

- All buffer zones recommended in the specialist environmental reports be respected; the archaeology, which is largely clustered around hills and pans, will be protected by these buffers.
- The locations identified as sensitive should also be protected by buffers. These should be 1.5km in diameter for Orange Hill, 1.5 km east/west and 1.9 km north/south for SMS Hill, 1.2 km east/west and 1.3 km north/south for Gobees se Pan, 0.9 km east/west and 1.0 km north/south for Springbokvlei and 1.0 km in radius from the Kromneus rock art site. KNG2012/007 does not require a buffer.
- The potential graves and grave ARB2012/007 should be protected and conserved. SAHRA recommends that during the construction phase a temporary fence be built around them. The fence must be placed 2 meters away from the perimeter of the graves. No development is allowed within 20 meters from the fence line surrounding the burials. These graves must be indicated on all construction maps to ensure their continued protection. Alternatively, if the area where the potential burials are located falls within the development footprint, test excavation must be undertaken. The archaeologist will require a permit from SAHRA in terms of s. 35(4) of the National Heritage Resources Act (Act No. 25 of 1999). If the outcome of the test excavation is positive, then provisions stipulated in s. 36 of the National Heritage Resources Act (Act No. 25 of 1999) are applicable, and relocation of these might proceed, following a public consultation process is followed (see <http://www.sahra.org.za/sites/default/files/website/articledocs/SahraReg...>). Farm graveyards should not be impacted upon.
- The final layout of the turbines should respect these recommendations and must be submitted to the ACO to ensure that all identified heritage resources have been taken into consideration and cared for.

The Environmental Control Officer (ECO) should be trained in order to be able to identify fossil remains in sedimentary bedrock and should monitor all substantial excavations into this bedrock for fossil remains and, if any fossils are found during construction, SAHRA should be immediately notified.

If the above recommendations are adhered to, the SAHRA Archaeology, Palaeontology and Meteorites Unit has no objection to the development (in terms of the archaeological and palaeontological components of the heritage resources). If any new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found during construction, SAHRA (Katie Smuts, Tel: 021 462 4502) and a professional archaeologist and/or palaeontologist, depending on the nature of the finds, must be alerted immediately.

Decisions on Built Environment (e.g. structures over 60 years) and associated Living Heritage (e.g. sacred sites) must be made by the Provincial Heritage Resources Authority of the Northern Cape, (Mr. Andrew Timothy, email: [ratha.timothy@gmail.com](mailto:ratha.timothy@gmail.com)) to whom this Archaeological Review Comment will be copied.

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





Yours faithfully

---

Kathryn Smuts  
Heritage Officer: Archaeology  
South African Heritage Resources Agency

---

Colette Scheermeyer  
SAHRA Head Archaeologist  
South African Heritage Resources Agency

**ADMIN:**

(DEA, Ref: 14/12/16/3/3/2/342) (DEA, Ref: 14/12/16/3/3/2/346)

**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.

