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23 August 2018

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Dear Werner

DEVELOPMENT OF A HAZARDOUS WASTE DISPOSAL SITE ON TWEE PAD 176, NEAR KLEINZEE, NORTHERN CAPE – HERITAGE INPUT

Thank you for your request to provide input to the Scoping and Environmental Impact Assessment process being undertaken for the proposed development of a hazardous waste site on the farm Twee Pad 176, located to the north of Kleinzee. The proposed site lies 22 km north of Kleinzee and 29 km southeast of Port Nolloth. A centre point for the study area is S29° 28' 37" E17° 02' 30" (Figure 1).

I do not believe that impacts to heritage resources are of any concern for this project and the purpose of this letter is to provide heritage information to accompany the initial notification to the South African Heritage Resources Authority (SAHRA) so as to allow them to make an informed decision on whether any further assessments should be requested.

Project description

It is proposed to develop a hazardous waste disposal site for the disposal of asbestos. De Beers Namaqualand Mines are in the process demolishing redundant infrastructure. All infrastructure that does not have an alternative use or future purpose needs to be demolished and the sites rehabilitated. The asbestos to be disposed of consists of sheeting from buildings as well as water pipes. The estimated amount of asbestos to be disposed of amounts to approximately 1000 tons with an expected volume of about 3000 m³.

The area was screened for potential sites, with consideration given to various mined out areas that had yet to be backfilled. The proposed sites were selected based on proximity to the waste source, accessibility and the proximity to potential future mining activities. Three such sites were identified (Figure 2). All have existing mine access roads which may need minor upgrades to accommodate larger vehicles. No virgin land would be disturbed.

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Figure 1: Map (2916) showing the location of the site. **Inset:** Google Earth aerial view with the three alternatives indicated by red polygons.

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Figure 2: Aerial view of the study area showing the three alternative sites (red polygons).

Palaeontology

The Namaqualand coastline is well known as an area that contains fossil material. Pether (2008) has conducted a detailed study of palaeontological heritage in the area. Tertiary-aged fluvial palaeo-channel fill deposits occur and include plant fossils in a clay matrix. Warm water Neogene-aged marine formations occur all along this coastline and are referred to as the 90 m, 50 m and 30 m packages, while the last has been transgressed by younger cold water marine assemblages dating to the Quaternary. Pether (2008:4) notes that “this Quaternary, cold-water group comprizes the 8 - 12 m Package (~400 ka BP?), the 4 - 6 m Package (Last Interglacial (LIG) ~125 ka BP) and the 2 - 3 m Package (mid-Holocene 6-4 ka BP).” Fossils recovered from mining areas have helped in creating detailed understanding of the geological history of the region.

Archaeology

Many archaeological surveys have been done in this area in advance of mining but these have been patchy, based on where mining was anticipated to occur. Aside from one survey conducted by Halkett and Hart (1998), pre-disturbance surveys only occurred regularly from 2001 onwards, although one very extensive

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survey before this time aimed to document archaeological sites throughout the area wherever they could be found (Halkett & Hart 1997). The body of literature will not be reviewed here suffice to note that the vast majority of archaeological sites found on the coastal plain around the study area are small scatters of marine shell accompanied by stone artefacts and dating to the Later Stone Age (LSA). On the hill to the east one also finds scatters of stone artefacts dating to the Early (ESA) and Middle Stone Ages (MSA). By way of examples, details of those sites within 1 km of the study area are provided here. Their locations are mapped relative to the proposed development on Figure 3.

Site	Location	Description	Reference
TP2005/001	S29 28 30.9 E17 01 53.3 (west of study area)	Shell scatter with artefacts	Halkett & Orton 2005
TP2005/002	S29 29 02.1 E17 02 34.1 (south of study area)	Shell scatter with artefacts	Halkett & Orton 2005
TP2005/003	S29 29 03.1 E17 02 35.6 (south of study area)	Shell scatter with artefacts, including pottery	Halkett & Orton 2005
KV2001/001	S29 28 28.6 E17 03 01.8 (east of study area)	Shell scatter with artefacts, including lower grindstone fragments (surface collection carried out)	Halkett 2002
KV2001/002	S29 28 27.6 E17 03 02.9 (east of study area)	Scatter of stone artefacts, ostrich eggshell and bone fragments, the latter two appearing mineralised and suggesting MSA (surface collection carried out)	Halkett 2002
KV2001/004A	S29 28 39.2 E17 03 24.5	Shell scatter with artefacts (surface collection carried out)	Halkett 2002
KV2001/004B	S29 28 38.1 E17 03 23.2	Scatter of stone artefacts, MSA and/or ESA (surface collection carried out)	Halkett 2002

It is notable that the land immediately south of Alternative 1 appears to have never been mined and has its surface intact. It is not known whether this area has ever been surveyed in the past.

Other aspects of heritage

The landscape around the study area is heavily transformed by mining activities and has no cultural significance. There are no public roads anywhere nearby and the site is not visible from either Kleinsee or Port Nolloth. There are no structures in the immediate area with the nearest being a small substation 1.5 km to the north and the Tweepad Mine Plant 2.5 km to the northwest.

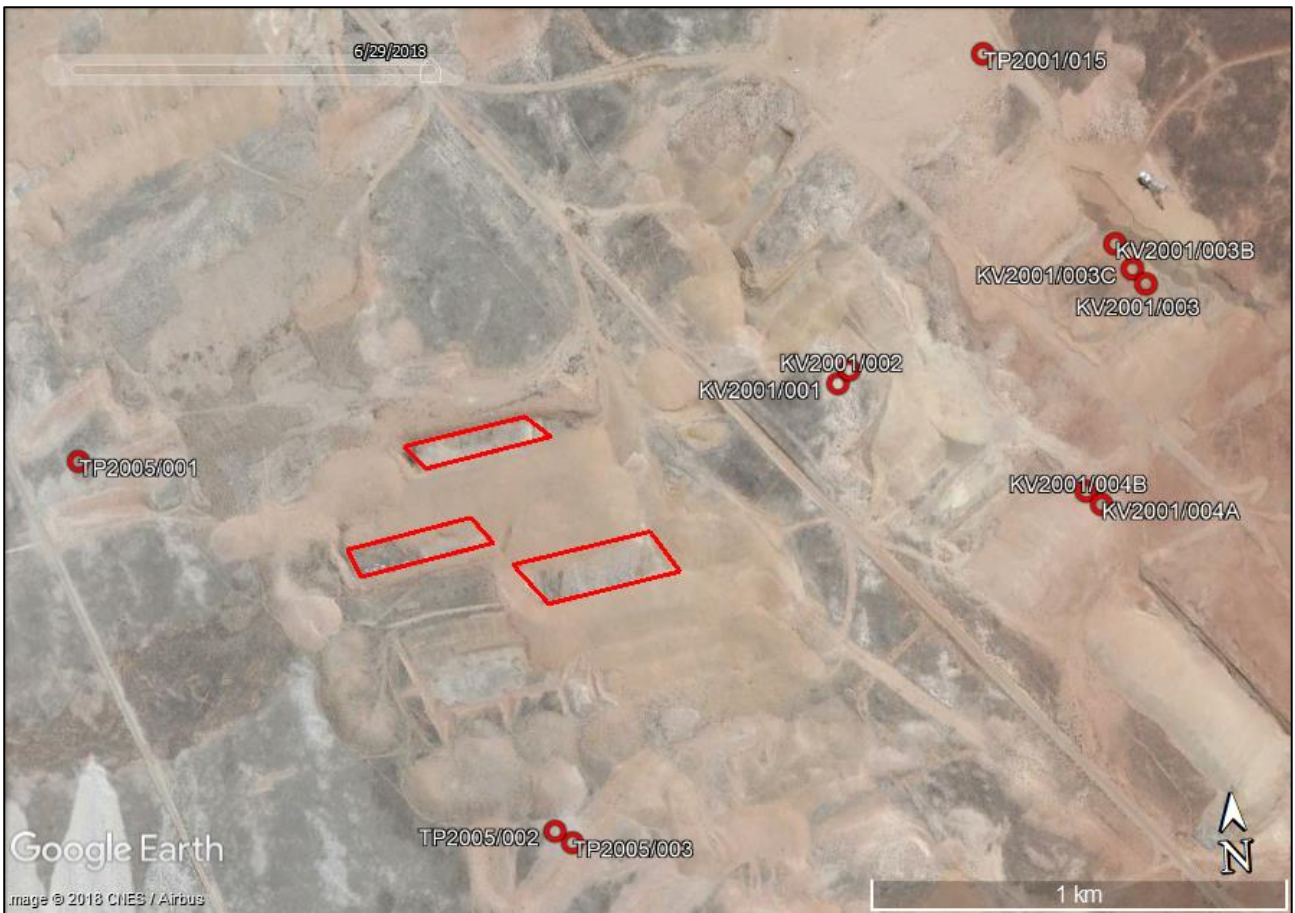


Figure 3: Aerial view of the study area and surrounds showing the locations of known archaeological sites (red circles).

Consideration of impacts

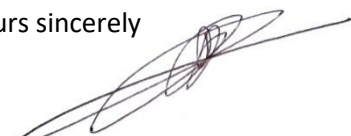
Because the mine pits are mined out to bedrock, there will be no heritage impacts in relation to the waste disposal site for any of the three alternatives. Because existing mine roads would be used for access, no impacts are envisaged in the surrounding areas.

I thus believe that there will be zero impacts to heritage resources. This applies equally to construction, operation and closure of the waste disposal site.

Recommendation

It is recommended that development of the proposed waste disposal site proceed without the need for further heritage input.

Yours sincerely



Jayson Orton

References

- Halkett, D. 2002. Phase 1 archaeological survey: assessment of mining blocks in the BMC and KN areas, Namaqualand. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.
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