

Survey for Archaeological Occurrences along Proposed New Eskom 66kv Line Between Bredasdorp and Struisbaai

Executive Summary

Drs G Avery and D.M. Avery of Iziko: South African Museum conducted a foot survey along the proposed line for SHE Cape Environmental (cc).

The survey revealed three areas along the proposed line in which archaeological material was visible. In each case these were stone artefacts and, with the possible exception of the occurrence just south of the Heuningnes River, were ephemeral (very few and/or isolated artefacts) and their localities have been recorded. These localities do not warrant mitigation.

The erection process results in minimal intervention and disturbance, which will not significantly, if at all, affect the scatter south of the Heuningnes River, which has already been disturbed.

The possibility that fossil bones or human burials will come to light during the drilling or digging of postholes is small, but must be recognised. Such occurrences are strictly governed under the National Heritage Resources Act and action by a competent archaeologist and a permit from the appropriate Heritage Agency would be required. The Environmental Management Plan (EMP) must, therefore, include a process to be followed in the event of fossil bones or a burial, being encountered. Funds should be available to cover costs should fossil bones or a burial(s) be encountered.

The section from where the proposed line diverts from the Bredasdorp-Denel line to the Bredasdorp-Struisbaai Road should be surveyed as soon as the line is marked or the track cleared.

In conclusion there is, however, no predictable archaeological reason why the line should not be aligned as proposed.

Survey for Archaeological Occurrences along Proposed New Eskom 66kv Line Between Bredasdorp and Struisbaai

This survey was conducted on behalf of SHE Cape Environmental (cc).

Method of Survey

The survey was conducted on foot, following a 25 m wide strip from the existing sub-station at Bredasdorp on the western side of the Bredasdorp-Denel section, using existing poles as guides, and the same on the east and later west sides of the Bredasdorp-Struisbaai section. The section between the diversion from the Bredasdorp-Denel line, to the Bredasdorp-Struisbaai Road, was not surveyed, since the precise line, through farmland and exotic bush, could not be determined at this stage.

The 25 m strips were scanned for surface archaeological material by following a zigzag track, which enabled good observation. Mounds left by Cape dune mole rats and by Cape gerbils, were examined for material that might have been brought to the surface. Plough lines were also checked.

Localities were plotted with a Garmin 12 GPS (WGS 84) and related where possible to the nearest numbered poles of the existing line.

Results

The survey area falls within 1:50 000 topographical map 3420CA&CC Bredasdorp.

Most of the area surveyed, with the exception of the limestone ridges and immediate surrounds, has been disturbed by agricultural activities. No archaeological material was recorded in undisturbed areas.

Bredasdorp-Denel Section (west of existing line) (Table 1)

The line south from the sub-station south crossed ploughed fields to the Bredasdorp-Swellendam road and then crossed disturbed areas of the limestone mine, before traversing undisturbed limestone ridges (Bredasdorp Group of Miocene age) comprising limestone and rare quartzite cobbles and limestone surfaces with virtually no soil cover. The northern section of the limestone ridges was covered by relatively thick bush making visibility difficult, while the southern portion had been burnt, making observation easy. Worn quartzite cobbles on the limestone are not artefactual and appear to originate from within the limestone. Similarly, bones of stock and small wild animals (tortoises, mole rats, duiker and steenbok/grysbok) on the burnt surfaces are not archaeological.

No archaeological material was observed on these areas. Apart from the possible occurrence of human burials, which require reporting and special treatment in terms of the National Heritage Resources Act (No 29 of 1999: Government Gazette, 28 April 1999, Vol.406 No.19974, Notice No.506) and Regulations Government Gazette, 31 March 2000, Vol.417 No.2105, Notice No. R. 18, 2000, (Minister's regulations) and Government Gazette, 2 June 2000, Vol.420 No.21239, Notice No.548, (SAHRA regulations)), the location of or damage to archaeological material is unlikely. Regulations of the Western Cape Provincial Heritage Resources Agency also apply. Permits are required to disturb, damage or remove archaeological material.

At the foot of the limestone ridge the surface became sandy with patches of decomposed limestone. Four Middle Stone Age like stone artefacts (Table 1) occurred over about 100 m on this surface, part of which had been ploughed. The artefacts appeared worn through abrasion or chemical action and in all probability had been lowered from their original positions by deflation. Although the artefacts fell outside of the proposed line, they provide an indication of what might be found at the foot of the limestone ridges.

These artefacts did not fall within the proposed line. Such occurrences, with rare or isolated artefacts, are ephemeral. Chemical and physical erosion has probably removed material. The locations of the artefacts have been recorded and have no further archaeological value.

Table 1. Bredasdorp-Denel Section (west of existing line): Points plotted during the archaeological survey (localities within 5 m of reading)

Pole No	Coordinates	Details
ARBR2	34° 20.409'S; 20° 02.310'E	First pylon infield across road from Bredasdorp Sub-station.
ARBR 26	34° 30.319'S 20° 04.320'E	Bredasdorp-Denel line changes direction. Between Swellendam Road and mine.
ARBR 35	34°31.625S 20° 04.657'E	Bredasdorp-Denel line changes direction – point of departure to Bredasdorp-Struisbaai line. Limestone ridge.
	34° 31.922'S 20° 05.349'E	*Burnt/unburnt boundary. Limestone ridge.
	34°32.322'S 20° 06.309'E	*1 quartz flake. Sandy area.
	34° 32.355'S 20° 06.384'E	*2 worn quartzite flakes. Sandy area.
	34°32.435'S; 20° 06.591'E	*1 worn quartzite flake. Sandy area.
I ARBR 62	34° 32.552'S; 20° 06.876'E	*Fallow fields.

* *Not on proposed line*

Bredasdorp-Denel line to Bredasdorp-Struisbaai line (large eucalyptus tree)

This section was not examined, since it was not possible to accurately determine the line. Ploughed areas would have been disturbed and the thick exotic vegetation would have made visibility difficult if not impossible.

Apart from the possible occurrence of burials, which require reporting and special treatment in terms of the National Heritage Resources Act (No 29 of 1999: Government Gazette, 28 April 1999, Vol.406 No.19974, Notice No.506) and Regulations Government Gazette, 31 March 2000, Vol.417 No.2105, Notice No. R. 18, 2000, (Minister's regulations) and Government Gazette, 2 June 2000, Vol.420 No.21239, Notice No.548, (SAHRA regulations)), the location of or damage to archaeological material is unlikely. Regulations of the Western Cape Provincial Heritage Resources Agency also apply. Permits are required to disturb, damage or remove archaeological material.

Bredasdorp-Struisbaai Section (East to Andrews Field entrance, then along west side of road to proposed Struisbaai sub-station) (Table 2).

Although a section north of this was also examined, the entry point from the line from the Bredasdorp-Denel diversion to the Bredasdorp-Struisbaai road was at a very large Eucalyptus tree in a ploughed field on the east side of the road.

The surface of the ploughed field comprises many quartzite cobbles, a few of which have been flaked and probably of Early Stone Age. The occurrence of artefactual material became very sparse by the next field. Most of the area between this point and the Heuningnes River is ploughed or fallow fields.

South of the Heuningnes River, a sparse scatter of stone artefacts of Later Stone Age type was found on gerbil mounds and plough lines.

This scatter indicates the location of an encampment, remnants of which are scattered over some 100 m. Given that there has been previous agricultural disturbance and that archaeological material is sparse, there is no reason why the proposed line should not pass across this area.

Further on just north of the Andrew's Field boundary, only one other artefact, a quartz chunk, was seen.

The location has been recorded and has no further archaeological value.

At the Andrew's Field airstrip, the line crosses the road and the survey continued on the west side of the road to the proposed Struisbaai substation.

No visible archaeological material.

Table 2. Bredasdorp-Struisbaai Section: Points plotted during the archaeological survey (localities within 5 m of reading)

Pole No	Coordinates	Details
	34° 34.755' S; 20° 03.106' E	Large Eucalyptus tree.

	34° 35.172'S; 20° 03.199'E	Dam on east side of road. Marshy areas north and south.
	34° 37.505'S; 20° 03.483'E	Line changes direction at milestone 12 km (John's Airfield).
	34° 41.335'S; 20° 02.009'E	Riverside, Heuningnes River.
AB118 229	34° 41.510'S; 20° 01.954'E	Near silcrete and other artefacts.
	34° 41.526'S; 20° 01.963'E	Silcrete flake, quartz chips.
AB118 233	34° 41.720'S; 20° 01.934'E	Silcrete flake blade.
AB118 235	34° 41.832'S; 20° 01.934'E	Just past – quartz chunk and miscellaneous retouched quartz chunk, broken quartzite flake in plough line.
AB118 311	34° 45.819'S; 20° 01.797'E	Andrew's Field airstrip
BDD-SB	34° 47.173'S; 20° 02.045'E	Proposed site of Struisbaai sub-station - central point on approx. 60x60 m area

Comments

With the exception of the limestone ridges, much of the area has been previously disturbed by agriculture, which would have affected the integrity of surface or near surface archaeological occurrences.

Human burials, which would only become apparent during digging of postholes for poles, may be encountered.

The footprint left by Eskom's activities is minimal and will comprise a track for vehicular access between poles and holes, usually <0.6 m diameter, for the poles themselves. The potential to expose burials or to cause significant damage to any archaeological occurrence is thus further minimized.

Recommendations

1. The area that was not examined should be checked as soon as the line is marked or cleared.
2. During the course of clearing and post holing, any sub-surface bone that is exposed should be subjected to scrutiny by an archaeologist who is familiar with fossils of the last 20 million years and human remains. Such material is to

be retained along with details of its location and deposited in the collections of Iziko: South African Museum.

3. The Environmental Management Plan (EMP) must include a process to be followed in the event of bones or a burial, being encountered and include the following:

Work on that area must cease immediately and the find must be reported telephonically to Mr. S Van Wyk of SHE Cape Environmental (cc).

Should Mr van Wyk not be available, advice on steps to be taken to obtain a permit before work may proceed must be sought from one of the following:

Dr G. Avery of Iziko: South African Museum (082 441 0028);

South African Heritage Resources Agency (021 462 4502) or representative M. Leslie (082 733 2611).

Western Cape Provincial Heritage Resources Agency (021 424 0410) or representative A. Jerardino (082 534 2467).

4. Funds should be available to cover costs should fossil bones or a burial(s) be encountered.

Acknowledgements

Simon van Wyk of SHE Cape Environmental (cc) assisted in the identification of the proposed line. Bernie Coetsee and local Eskom staff assisted in locating start points and other aspects, which facilitated our work.

Points noted on the map during the botanical survey (localities within 3-4 m of reading).

M	34° 39.429'S;	Near Zoetendalsvlei turn off
N	34° 40.605'S; 20° 02.231E	
O	34° 41.291'S; 20° 01.996E	River side
P	34° 41.357'S; 20° 01.973E	Vissers Drift
Q	34° 42.965'S; 20° 01.803E	Vissers Drift
R	34° 43.455'S; 20° 01.759E	Klipfontein
S	34° 44.239'S; 20° 01.605E	Zoetendals Vallei
T	34° 45.305'S; 20° 01.725E	Start field (to end field at Andrews Field entrance)
U	34° 45.582'S; 20° 01.755E	Andrews Field entrance
V	34° 46.475'S; 20° 01.851E	Wetland