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Mr. T. Willment

Via email: [willsurv@telkomsa.net](mailto:willsurv@telkomsa.net)

Cc: Mr. D. Pietersen (Eskom)

24 August 2015

Dear Tony

**RE: BOTANICAL REVIEW OF THREE SECTIONS OF THE ARIADNE EROS  
2 400KV LINE**

The following comments and findings pertain to the proposed Ariadne Eros 2 400 kV line, specifically three sections in the hinterland of the KZN South Coast (Fig 1). SDP cc undertook an extensive site visit on the 13<sup>th</sup> of August 2015. Line routes were inspected by vehicle and on foot. Relevant points were marked using a hand held GPS. Kml files of the affected structures and line routes were provided.

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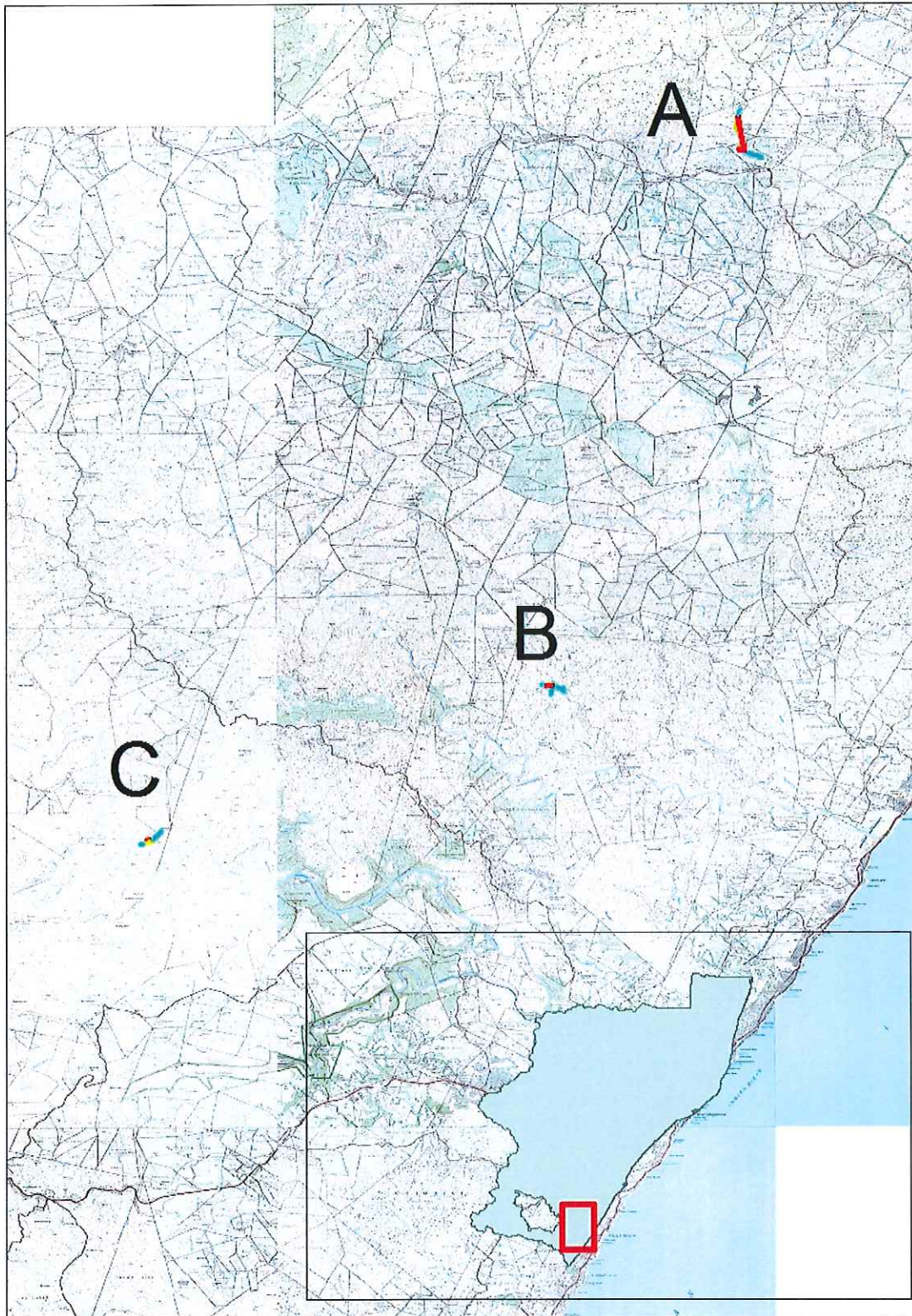


Fig 1. Location of the three sites in southern Kwazulu-Natal



## Findings

### A – T218 – 225

This area identified for bush clearing was situated off the R612, west of the Vernon Crookes Nature Reserve (GPS: 30°15'40.41"S 30°29'07.05"E). The section of line falls within the Ngongoni Veld (SVs 4) and Eastern Valley Bushveld (SVs 6) vegetation types (Mucina and Rutherford 2006).

Fig 2 below shows the new section of the line (red) and the affected areas of vegetation (thicker red line). The initial portion of the line passes through a sugar cane plantation which is of little concern. The intention is to then span a narrow but steep valley, pass over a ridge, close to the existing line and then continue to the right of the dirt road. The area of concern from a botanical perspective are the narrows valley and the area to the right of the dirt road. The former consists of dense woody vegetation consisting of *Trema orientalis*, *Ficus sur*, *Apodytes dimidiata*, *Celtis africana* and *Protorhus longifolia*. The area shows signs of disturbance, but is generally intact and representative of a natural forest community (Fig 3). Due to the steepness of the valley, the line will span the valley and it is possible that no bush clearing will be required. Stringing this section without extensive bush clearing would be preferable.

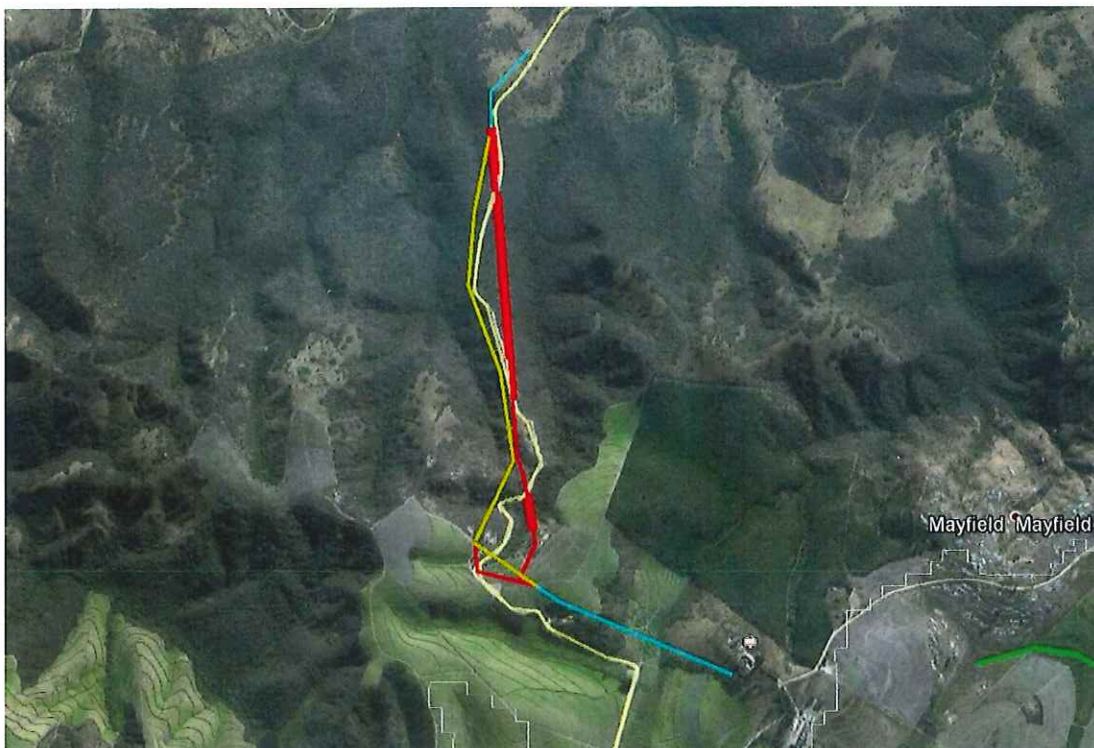


Fig 2. The two areas where bush clearing is likely are indicated in the thicker red line.

The latter consists mainly of dense Eastern Valley Bushveld vegetation, (Fig 4). The nature of the vegetation along this portion of the line route section was diverse and consisted of the following species:

*Acacia natalensis*

*Acacia. nilotica*

*A. robusta*

*Celtis africana*

*Clerodendrum glabrum*

*Commiphora woodii*

*Croton sylvaticus*

*Cussonia spicata*

*Dichrostachys cinerea*

*Euphorbia ingens*

*E. tirucalli*

*Ficus natalensis*

*Grewia occidentalis*

*Hippobromus pauciflorus*

*Protorhus longifolia*

*Schotia brachypetala*

*Searsia pentheri*

*Tecomaria capensis*

*Ziziphus mucronata*

It is expected that significant bush clearing will be required along this particular portion due to the dense nature of the vegetation. Due to the natural forest character of the vegetation in the narrow valley and dense nature of the vegetation within the bushveld component, it is recommended that a license for the disturbance of Natural Forest be applied for.





Fig 3. The narrow valley and forest vegetation



Fig 4. Dense bushveld vegetation to the right of the dirt road.

### B – T 111 to 112

This section, situated inland of Umzumbe (GPS: 30°31'47.27"S 30°23'13.34"E) is of least concern from a botanical perspective. The site falls within the Kwazulu-Natal Coastal Belt (Mucina and Rutherford 2006) but the site itself is degraded with human settlement,



agricultural activities and exotics plant species having transformed the surrounding landscape. The red line (Fig 5 below) indicates the proposed route. The vegetation present is dominated by *Eucalyptus grandis*, an exotic tree species (Fig 6). Clearing will be required, however no license is required due to the trees being exotic.



Fig 5. Position of the proposed line route through the *E. grandis* “plantation”.



Fig 6. View of the route from the valley up the slope towards the “plantation”.



This section of line is situated inland of Port Shepstone, north of the Umzimkulu River, near St Faiths (GPS: 30°36'23.64"S 30°11'10.11"E) (Fig 7). According to Mucina and Rutherford (2006) the site falls within the Kwazulu-Natal Coastal Belt vegetation type. The vegetation on site however resembles disturbed Eastern Valley Bushveld. *Acacia* species (*A. natalita*, *A. tortillis* and *A. robusta*) and *D. cinerea* were dominant and the vegetation was generally of low diversity (Fig 8 and 9). Invasion by *Lantana camara* was widespread. The vegetation was generally short (2 to 3 m) with no "canopy" evident. No protected tree species were noted on site. Significant bush clearing will be required, however no license is required.

The proposed route indicated in read below is favourable as it is situated closer to the road at the valley head and situated within the more invaded portion of the vegetation present.



Fig 7. The proposed route (red) situated closer to the road. The vegetation nearer the road is more invaded by *L. camara* and more disturbed relative the lower portions of the valley.



Fig 8. View along the existing power line route. The new power line will pass to the left of the dwelling visible in the middle of the photo.



Fig 9. View of the proposed route from the road. Apart from the odd *E. ingens* and *A. robusta*, note the low scrub like nature of the vegetation.

## Conclusion

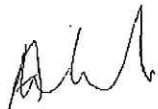
Of the three sections inspected, only Section A, as presented in this report, requires a license from the Department of Agriculture Forestry and Fisheries for the disturbance of Natural



Forest. Although clearing and construction work can proceed at the other two sites, bush clearing must be done in a responsible manner, by a specialist bush clearing contractor.

We trust that the above is in order.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Alex Whitehead', written in a cursive style.

Alex Whitehead