

Archaeological Impact Assessment

Proposed Sand Mine on a portion of Bovenlange Valley 189, Sedgefield, District George, Western Cape Province

prepared for

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by



Centre for Heritage and Archaeological Resource Management cc

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Executive Summary

An Archaeological Impact Assessment was conducted on 2 and 15 September 2009. Due to former cultivation, grazing and extensive mole activity, the bulk of the property was open to archaeological assessment. Numerous test holes associated with the mining proposal enabled inspection of sub surface deposits.

No archaeological or heritage related resources were identified during the study.

The following is recommended:

- Substantial disturbance of dune sands will be caused by mining activities and since the presence of subsurface archaeological remains cannot be ruled out, it is recommended that archaeological monitoring be conducted on a part time basis by a suitably qualified professional.*
- If archaeological materials are exposed during vegetation clearing and/or earth moving activities, then they must be dealt with in accordance with the National Heritage Resources Act (No. 25 of 1999) and at the expense of the developer.*
- In the event of exposing human remains during mining, the matter will fall into the domain of Heritage Western Cape (Mr. Nick Wiltshire) or the South African Heritage Resources Agency (Ms Mary Leslie) and will require a professional archaeologist to undertake mitigation if needed.*

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1. Introduction

1.1 Background

As a result of proposed sand mining on a portion of Bovenlange Valley 189, Sedgfield, Western Cape Province (Figures 1, 2 & 3), Mr. Alan Cave of Cave Klapwijk Associates, appointed CHARM to conduct an Archaeological Impact Assessment (AIA) of the affected property. Background and locality information were provided by Mr. Cave. Additionally, relevant sections of the Heritage Western Cape NID form were completed by the author.

Proposed mining activities that may affect archaeological and heritage related resources include:

- substantial earth moving activities in an area of approximately 4.5 ha (See Figure 3 and Table 1)
- conveyance road

1.2. Purpose and Scope of the Study

Objectives of the Archaeological Impact Assessment are:

- To assess the study area for traces of archaeological and heritage related resources;
- To identify options for archaeological mitigation in order to minimize potential negative impacts; and
- To make recommendations for archaeological mitigation

Terms of Reference (ToR):

- a) Locate boundaries of the study area.
- b) Conduct a foot survey of the study area to identify and record archaeological and heritage related resources.
- c) Assess the impact of the proposed activities on above-named resources.
- d) Recommend mitigation measures where necessary.
- e) Prepare and submit a report to Mr. Cave of Cave Klapwijk Associates that meets standards required by Heritage Western Cape in terms of the National Heritage Resources Act, No. 25 of 1999.

1.3 Study Area

Situated some 15 km east of Wilderness, the property lies immediately north of the N2 (Figures 1, 2 & 3). The proposed sand mine will be situated on the northern slope of an ancient dune in the northern portion of the study area (Figure 3). The boundary points of the proposed mine are indicated by red flags in Figure 3 and coordinate data are given below in Table 1.

The study area was accessed by vehicle via the N2 from Wilderness and by turning left to Eagles Nest (see Figures 1 & 2). The studied area is around 14 ha in extent and the bulk is sparsely vegetated with grass, flowers and succulents while the northern extent contains indigenous bush and thicket (Plates 1 & 2).

The topography of the study area consists of a gently undulating dune that is east-west oriented. The dune slopes down to the N2 in the South and Rondevlei to the Northeast. Geological sediments visible at the surface, in prospecting holes and trenches associated with the proposed mining and in mole heaps comprise aeolian dune sands (Plates 1 & 2). No hard geological sediments were observed.

1.4 Approach to the Study

No prior archaeological work was conducted on or in the immediate vicinity of the study area. On 2 and 15 September 2009, the study area was accessed by vehicle and due to sparse vegetation cover, a comprehensive foot survey was carried out. Around 60% of the ground surface was visible for archaeological inspection. Recent disturbances to surface and near surface sediments include cultivation, grazing, animal burrowing and prospecting holes and trenches associated with the proposed sand mine. These activities allowed numerous opportunities to identify archaeological and heritage related resources.

Survey tracks – all on foot - were fixed with a hand held Garmin Camo GPS to record areas covered during the survey (Figure 3, gpx tracking file available from author). Observations, photo localities and potential archaeological occurrences were also fixed by GPS. Notes and a high quality, comprehensive digital photographic record were made (full data set available from author).

2. Results

In a day of foot survey, a distance of just over 10 km was walked, covering an area of some 10 ha. No trace of archaeological or heritage related resources were observed.

Table 1. Coordinate data for boundary points of proposed mining area (see Figure 3).

Name	Description	Grid: South African		Lat/lon decimal degrees	
		Datum: WGS 84		Datum: WGS 84	
A	Mine Boundary	23 Y0027827	X3763599	S33.99906	E22.69880
B	Mine Boundary	23 Y0027657	X3763604	S33.99912	E22.70064
C	Mine Boundary	23 Y0027541	X3763608	S33.99916	E22.70189
D	Mine Boundary	23 Y0027415	X3763656	S33.99959	E22.70325
E	Mine Boundary	23 Y0027520	X3763708	S34.00006	E22.70212
F	Mine Boundary	23 Y0027633	X3763822	S34.00108	E22.70089
G	Mine Boundary	23 Y0027718	X3763738	S34.00032	E22.69997

3. Sources of Risk, Impact Identification and Assessment

- The proposed sand mining and conveyance road will potentially have a permanent negative impact on archaeological resources.
- Mining activities will penetrate sediments unaffected by previous disturbances. It cannot be ruled out that archaeological materials occur in undisturbed sands. Archaeological monitoring of earthmoving activities associated with the proposed project will avoid and/or minimize negative impacts.

Table 2 summarizes the potential impact of the proposed project on archaeological resources with and without mitigation.

Table 2. Potential Impact on and Loss of Archaeological Resources

	With Mitigation	Without Mitigation
Extent	Local	Local
Duration	Permanent	Permanent
Intensity	Low	Unknown
Probability	Low	Unknown
Significance	Unknown	Unknown
Status	Unknown	Unknown
Confidence	High	High

Provided that mitigatory measures - approved by Heritage Western Cape - are implemented, it is recommended that the proposed project be authorized.

4. Required and Recommended Mitigation Measures

The following measures are required in terms of the NHRA of 1999:

- In the event that earthmoving activities expose archaeological, palaeontological or heritage related materials, such activities must stop and Heritage Western Cape must be notified immediately.
- If archaeological materials are exposed through earthmoving activities, then they must be dealt with in accordance with the National Heritage Resources Act (No. 25 of 1999) and at the expense of the developer(s) and/or property owner(s).
- Unmarked human burials may occur anywhere in the landscape and are often exposed during earthmoving activities. Human remains are protected by law and are dealt with by Heritage Western Cape (Mr. Nick Wiltshire 021 483 9685) or the State Archaeologist at the South African Heritage Resources Agency (Mrs. Mary Leslie who can be reached at 021 462 4502).

It is recommended that:

- Part time archaeological monitoring of earthmoving activities should be conducted by a suitably qualified professional. This measure will ensure that potential negative impact on archaeological materials is avoided or minimized

Figures and Plates (on following pages)

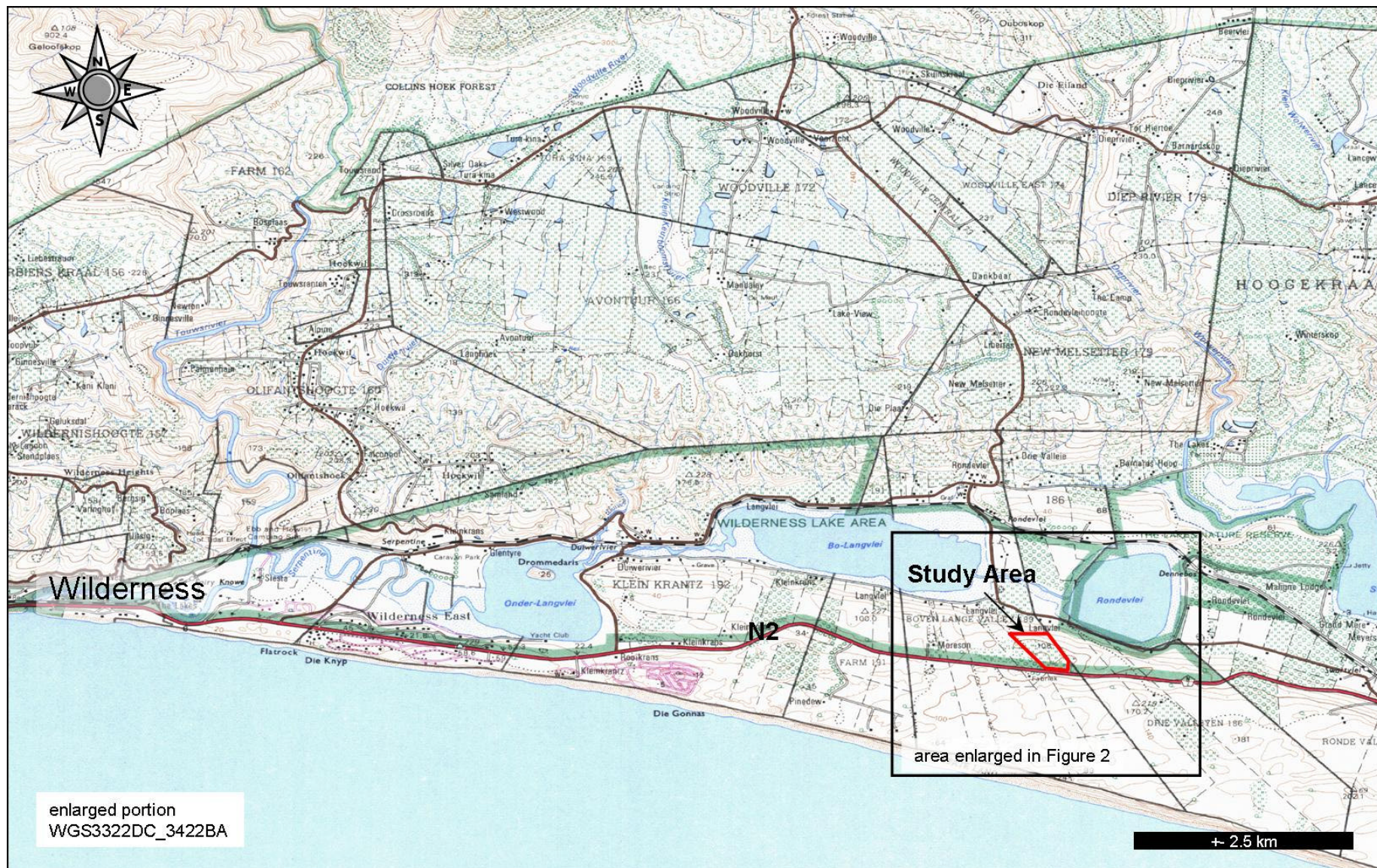


Figure 1. General location of study area relative to Wilderness on the Cape South Coast.

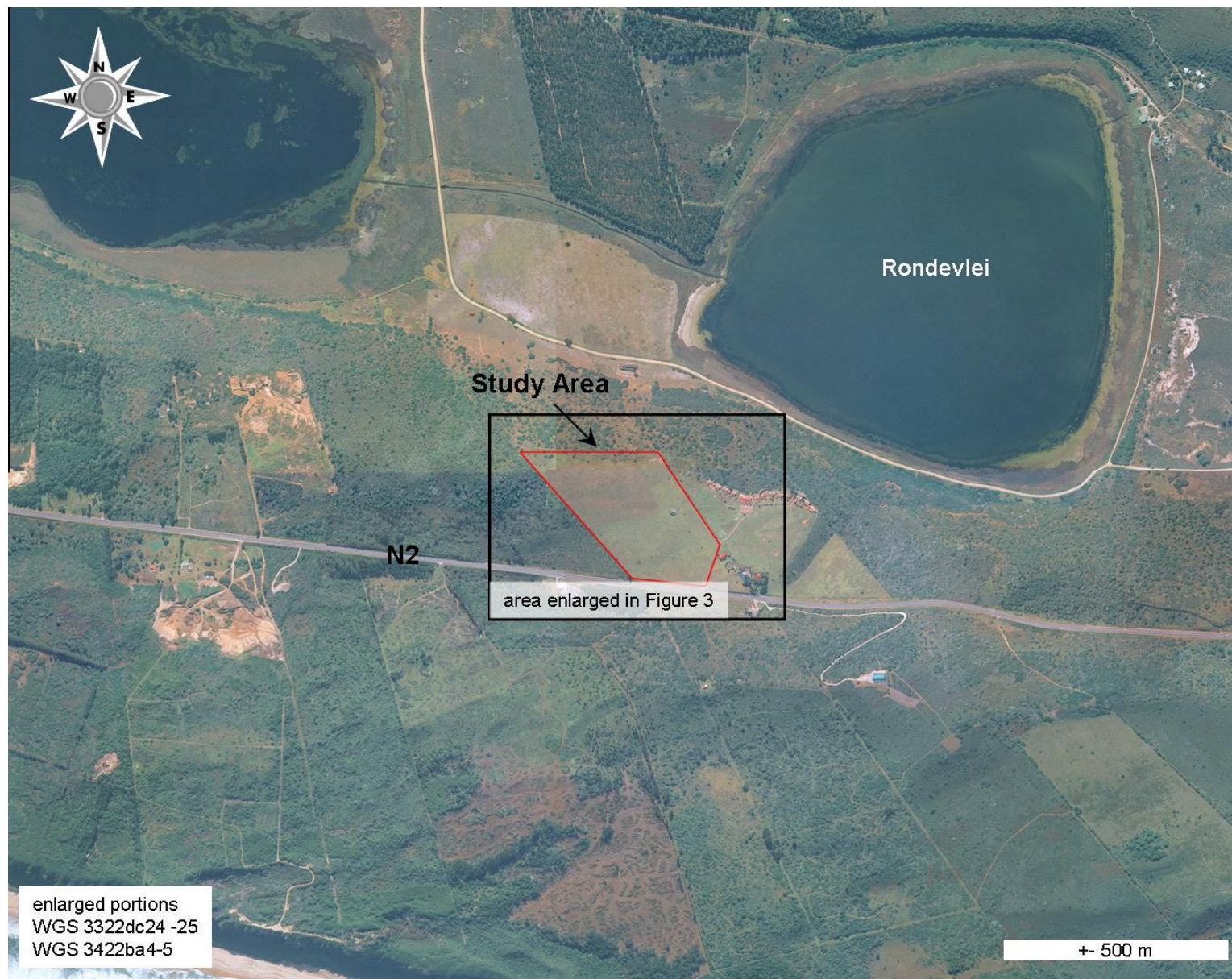


Figure 2. Enlarged area as indicated by black frame in Figure 1

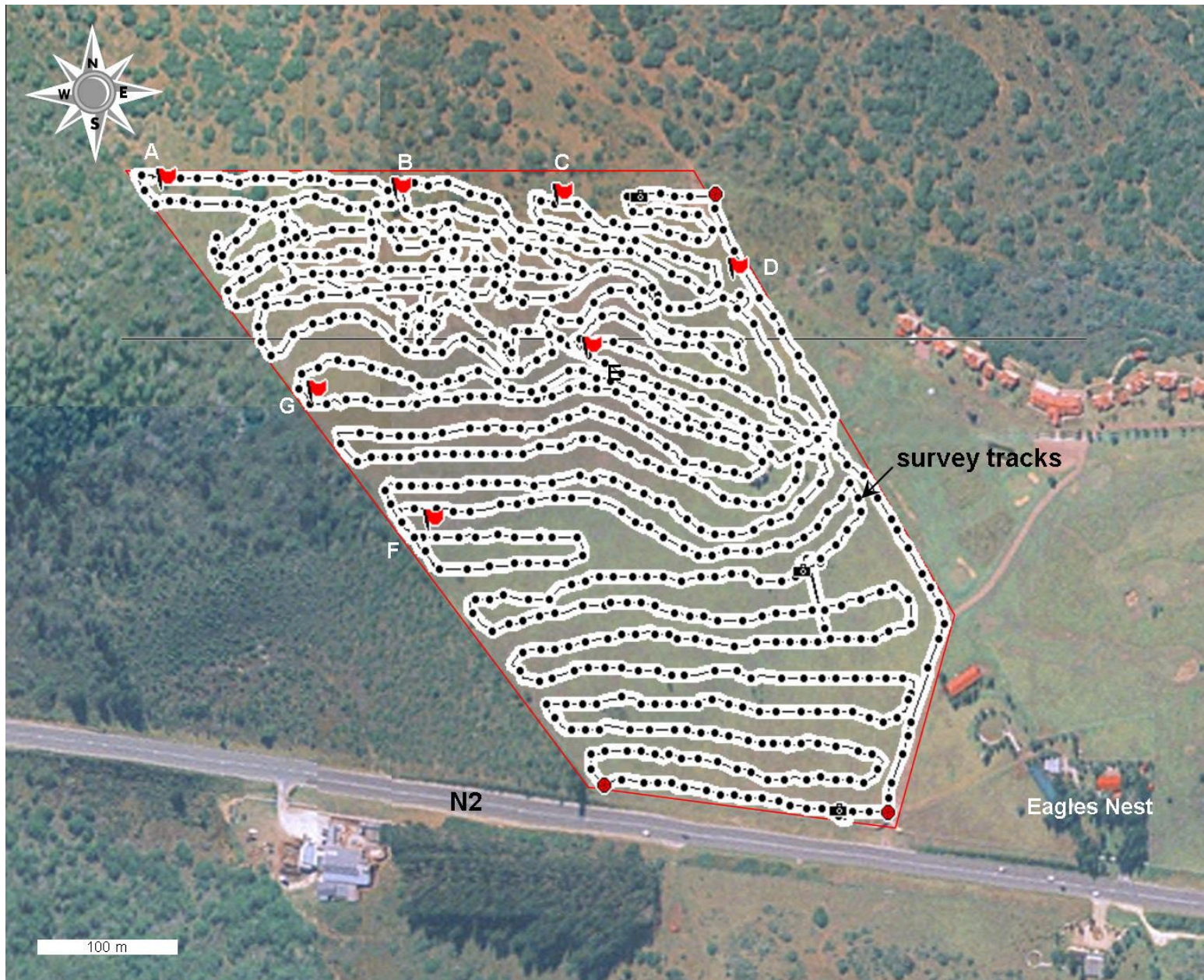


Figure 3. Enlarged area - as indicated by black frame in Figure 2 – showing mine boundary and survey walk tracks.



Plate 1. From top to bottom, the above images show panoramas from W through E, NE through S and W through E. The top view is from the North portion of the study area toward the Northern boundary, the middle view is from roughly the middle of the property toward the N2 in the South and the bottom view is from the South boundary looking north. Note topography, vegetation cover, mole heaps and visibility of ground surface.

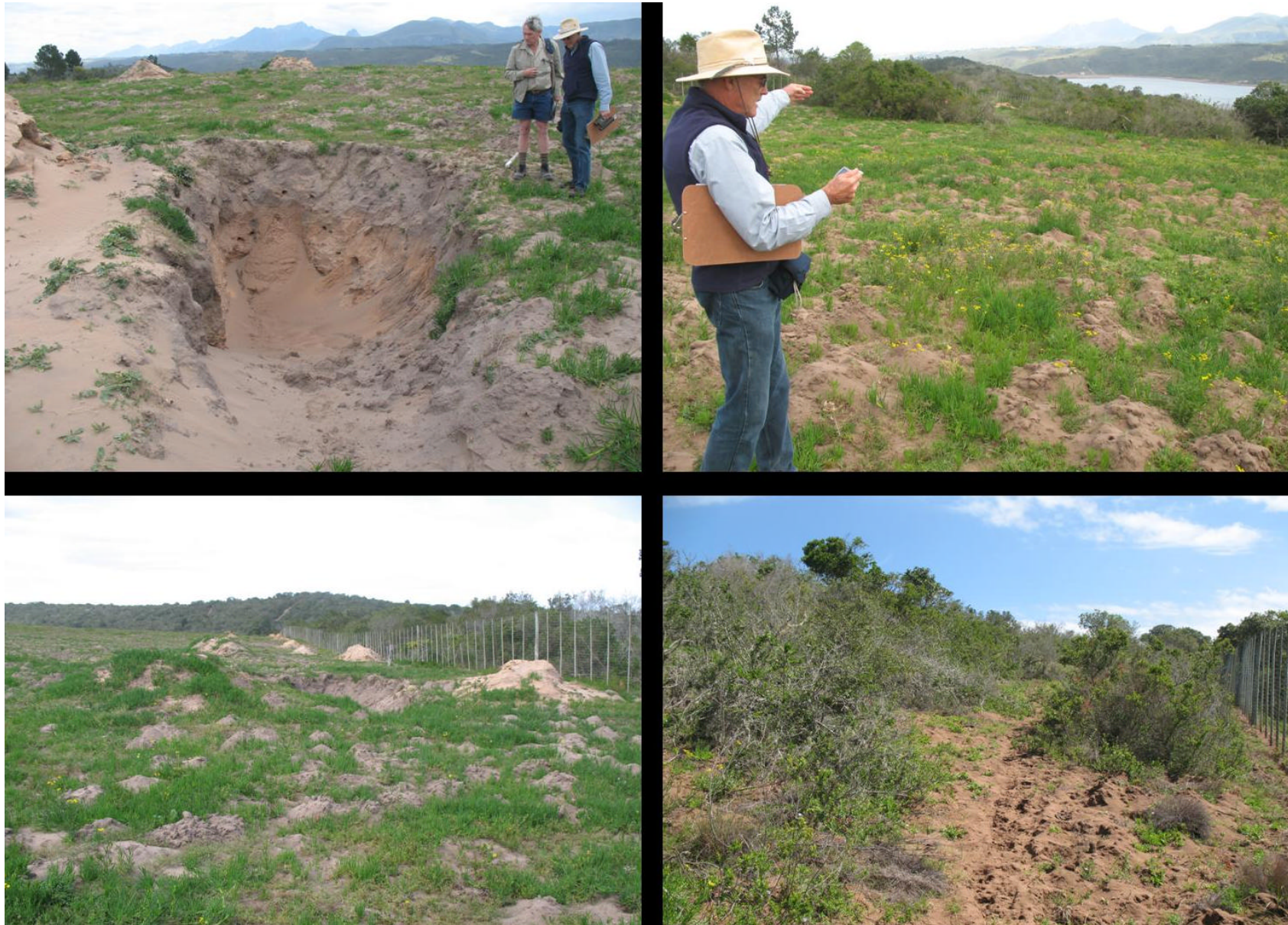


Plate 2. Images show vegetation cover, mole heaps, test holes and trenches. Note indigenous bush and thicket in the northern, relatively undisturbed strip of the study area (bottom right).