

**Phase 1 Archaeological Impact Assessment of two
borrow pit areas on Farm 506IN near Vryburg,
Northwest Province.**

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Executive Summary

A Phase 1 Archaeological Impact Assessment was carried out for two borrow pit sites on Farm 506IN near Vryburg, Northwest Province. The proposed Sand Quarry A and B locality (designated Site 1) and the proposed new borrow pit area (designated Site 2) are located on municipal land, currently used for off-road activities and cattle farming. Site 1 is entirely capped by a thick mantle of culturally sterile, red-brown Quaternary wind-blown sand that has partly been excavated in the past. A foot survey of the study area show no aboveground evidence of historically significant structures, Iron Age sites, graves or *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. **Site 1 is considered to be of low archaeological significance and is assigned a site rating of Generally Protected C.** The existing borrow pit / dumping area (Biesiesvlakte Quarry) at Site 2 is extensively degraded by previous excavation activities, while the rest of the study area show no aboveground evidence of historically significant structures, Iron Age sites, graves or *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. **Site 2 is considered to be of low archaeological significance and is assigned a site rating of Generally Protected C.**

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Introduction

A Phase 1 Archaeological Impact Assessment was carried out for two borrow pit areas on municipal land on Farm 506IN near Vryburg, Northwest Province (**Fig.1**). The assessment is required as a prerequisite for new development in terms of the National Environmental Management Act and is also called for in terms of the National Heritage Resources Act (NHRA) 25 of 1999. The region's unique and non-renewable archaeological heritage sites are 'Generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority. As many such heritage sites are threatened daily by development, both the environmental and heritage legislation require impact assessment reports that identify all heritage resources in the area to be developed, and that make recommendations for protection or mitigation of the impact of such sites.

The NHRA identifies what is defined as a heritage resource, the criteria for establishing its significance and lists specific activities for which a heritage specialist study may be required. In this regard, categories relevant to the proposed development are listed in Section 34 (1), Section 35 (4), Section 36 (3) and Section 38 (1) of the NHR Act and are as follows:

34. (1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

35 (4) No person may, without a permit issued by the responsible heritage resources authority—

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- *b*) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;

36 (3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

38 (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—

- The construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- The construction of a bridge or similar structure exceeding 50m in length;
- Any development or other activity which will change the character of the site
 - a) exceeding 5000 m² in extent; or
 - b) involving three or more existing erven or subdivisions thereof; or
 - c) involving three or more subdivisions thereof which have been consolidated within the past five years;
- The rezoning of a site exceeding 10 000 m²; or
- Any other category of development provided for in regulations by the South African Heritage Resources Agency (SAHRA).

Terms of Reference

The task involved the following:

- Identify and map possible heritage sites and occurrences using available resources.
- Determine and assess the potential impacts of the proposed development on potential heritage resources;
- Recommend mitigation measures to minimize potential impacts associated with the proposed development.

Methodology

The heritage significance of the affected area was evaluated through a desktop study and carried out on the basis of existing field data, database information and published literature. This was followed by a field assessment by means of a pedestrian survey. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera were used for recording purposes. Relevant publications, aerial photographs (incl. Google Earth) and site records were consulted and integrated with data acquired during the on-site inspection. A site visit and subsequent assessment took place during July and August 2016.

Field Rating

Site significance classification standards prescribed by SAHRA (2005) were used to indicate overall significance and mitigation procedures where relevant (**Table 1**).

Locality data

1 : 50 000 scale topographic map: 2624DC Vryburg

The proposed sand quarry (designated Site 1 in **Fig. 2**) and borrow pit area (designated Site 2 in **Fig. 2**) are located on flat-lying municipal land on Farm 506 IN. Site 1 is demarcated Sand Quarry A and Sand Quarry B and covers approximately 35 ha of a largely degraded terrain (old excavations), situated east of the R378 provincial road, about 5.5 km north of Vryburg (**Fig 3**). The site is currently used for off-road activities and cattle grazing (**Fig. 4**).

Presently divided into 5 camps, Site 2 covers about 360 ha and is situated adjacent to the Leon Taljaard Nature Reserve next to the N14 national road between Vryburg and Kuruman. A portion of the site is currently used as a borrow pit and dumping area (Biesiesvlakte Quarry) while the rest of the study area is used for cattle farming (**Fig. 3 & 5**).

Site coordinates for Site 1(Sand Quarries A & B)

- A) 26°53'54.13"S 24°41'55.28"E
- B) 26°53'50.56"S 24°42'1.90"E
- C) 26°54'34.57"S 24°42'9.03"E
- D) 26°54'39.66"S 24°41'58.99"E

Site coordinates for Site 2 (Borrow Pit Area)

- A) 26°56'58.86"S 24°40'28.05"E
- B) 26°58'41.11"S 24°41'32.31"E
- C) 26°58'4.67"S 24°42'36.43"E

Background

The Kathu-Kuruman-Taung region is generally rich in Early, Middle and Later Stone Age open sites / surface scatters (Helgren 1978; Humphreys 1978; Kuman 2001; Beaumont & Vogel 2006). Intact palaeontological and Stone Age archaeological sites are frequent and widespread in the region and include important localities like Taung, Kathu Pan, and Wonderwerk Cave (Beaumont & Morris 1990) (**Fig. 6**). Archaeological investigations at Wonderwerk Cave show evidence of *in situ*, ESA, Fauresmith and Middle Stone Age, as well as Later Stone Age deposits, including rock art (Thackeray *et al.* 1981; Chazan *et al.* 2012). It is unique since few sites have yielded such a long sequence of *in situ* ESA horizons which also cover the ESA/MSA transition, while none of the other ESA sites in Southern Africa have yielded such abundant and well preserved *in situ* micro and macro-faunal and botanical remains. Specularite mining sites at Doornfontein and Beeshok near Postmasburg, provide evidence of LSA mining practices and the introduction in the region by 1200 BP, of domesticated ovicaprids and possibly cattle as well as pottery. Dolomite terraces and exposed valley floors along the Kuruman River valley are at places decorated with rock engravings that reflect colonial and LSA/Iron Age frontier interactions (Fock & Fock 1984). Sites found northwest of Kuruman, include Gamohaam, Maropeng, Batlharos and Mahakane as well as Kinderdam, situated halfway between Vryburg and Madibogo.

The archaeological footprint around Dithakong is primarily represented by stone wall remnants of the early 19th century BaTlaping capital Dithakong, located near the modern village of Dithakong. At the time of the 1801-1803 Borchers and Somerville expedition, Dithakong was an important BaTlhaping (BaTswana) capital. It was calculated that the number of huts there were at least not less than 1 500 and the number of occupants at somewhere between 8 000 and 25 000 (Maingard, 1933; Beaumont 1983; Morris 1990). Extensive stone wall enclosures are found on the adjacent hills and archaeological investigations during the 1980's have revealed that

the ruins were built during the 15th century A.D. and possibly by sedentary Khoi groups. The area consists of primary and secondary enclosures and cover a total area of about 1 km² comprising hundreds of circles of varying size (**Fig. 7**).

Vryburg was established as the capital of the independent Boer Republic of Stellaland in 1882, hence the name of the town (**Fig. 8**). Stellaland was incorporated as a British protectorate into British Bechuanaland in 1884, which in turn became part of the Cape Colony in 1895. A concentration camp was build here by the British during the Anglo-Boer War to house Boer women and children. Historical sites located in the vicinity, but well outside the proposed impact areas include an Anglo-Boer War concentration camp cemetery (GPS 26°56'38.99"S 24°42'48.64"E) and a Voortrekker Monument that was erected in 1935 to commemorate the Great Trek (GPS coordinates 26°58'27.48"S 24°42'11.45"E).

Field Assessment

Site 1 is entirely capped by a thick mantle of culturally sterile, red-brown Quaternary wind-blown sand that has partly been excavated in the past. A foot survey of the study area show no aboveground evidence of historically significant structures, Iron Age sites, graves or *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape.

The existing borrow pit / dumping area (Biesiesvlakte Quarry) at Site 2 is extensively degraded by previous excavation activities (**Fig. 9**). A foot survey of the area show no evidence of historically significant structures, Iron Age sites, graves or *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. The rest of the site, which is divided into South Area, West Area 1, West Area 2 and the Apex Area, consists of typically flat terrain that is covered by well-trampled gravelly soils (**Fig. 10**). Investigation of these areas show no aboveground evidence of historically significant structures, Iron Age sites, graves or *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape.

Impact Statement and Recommendations

Site 1

The Sand Quarry A and Sand Quarry B study areas are considered to be of low archaeological significance and are both assigned a site rating of Generally Protected C (**Table 1**).

Site 2

All five areas are considered to be of low archaeological significance and are assigned a site rating of Generally Protected C (**Table 1**).

References

- Beaumont, P.B., 1983. *Dithakong*. South African Soc. Newsletter 6 (2).
- Beaumont, P.B., 1990. Kathu Pan. In: Beaumont P.B., Morris D. (Eds.). *Guide to the Archaeological Sites in the Northern Cape*, McGregor Museum, Kimberley, pp. 101-134.
- Beaumont P.B., Morris D. (Eds.). *Guide to the Archaeological Sites in the Northern Cape*, McGregor Museum, Kimberley.
- Beaumont, P.B., Vogel, J.C., 2006. On a timescale for the past million years of human history in central South Africa. *South African Journal of Science* 102, 217-228.
- Chazan, M., *et al.* 2012. The Oldowan horizon in Wonderwerk Cave (South Africa): archaeological, geological, paleontological and paleoclimatic evidence. *Journal of Human Evolution* 63(6):859-66.
- Fock, G.J. and Fock, D.M.L. 1984. *Felsbilder in Sudafrika: Kinderdam und Kalahari*. Köln. Böhlau Verlag.
- Helgren, D.M. 1978. Acheulian settlement along the lower Vaal River, SA. *Journal of Archaeological Science* 5: 39 – 60.
- Humphreys, A.J.B. 1978. The re-excavation of Powerhouse Cave and an assessment of Frank Peabody's work on Holocene Deposits in the Taung area. *Ann. of the Cape Prov. Museums (nat. Hist)* 2 (12): 217 – 244.

- Kuman, K. 2001. An Acheulean factory site with prepared core technology near Taung, SA. *South African Archaeological Bulletin* 56(173&174): 8 – 22.
- Maingard, L.F. 1933. The Brikwa and the ethnic origins of the BaTlaping. *South African Journal of Science* 30, 597 – 602.
- Morris, D. 1990 Dithakong. In: Beaumont P.B., Morris D. (Eds.). *Guide to the Archaeological Sites in the Northern Cape*, McGregor Museum, Kimberley.
- Thackeray, A.I., Thackeray, J.F., Beaumont, P.B., Vogel, J.C., 1981. Dated rock engravings from Wonderwerk Cave, South Africa. *Science* 214, 64-67.

Tables and Figures

Table 1. Field rating categories for heritage sites as prescribed by SAHRA.

Field Rating	Grade	Significance	Mitigation
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

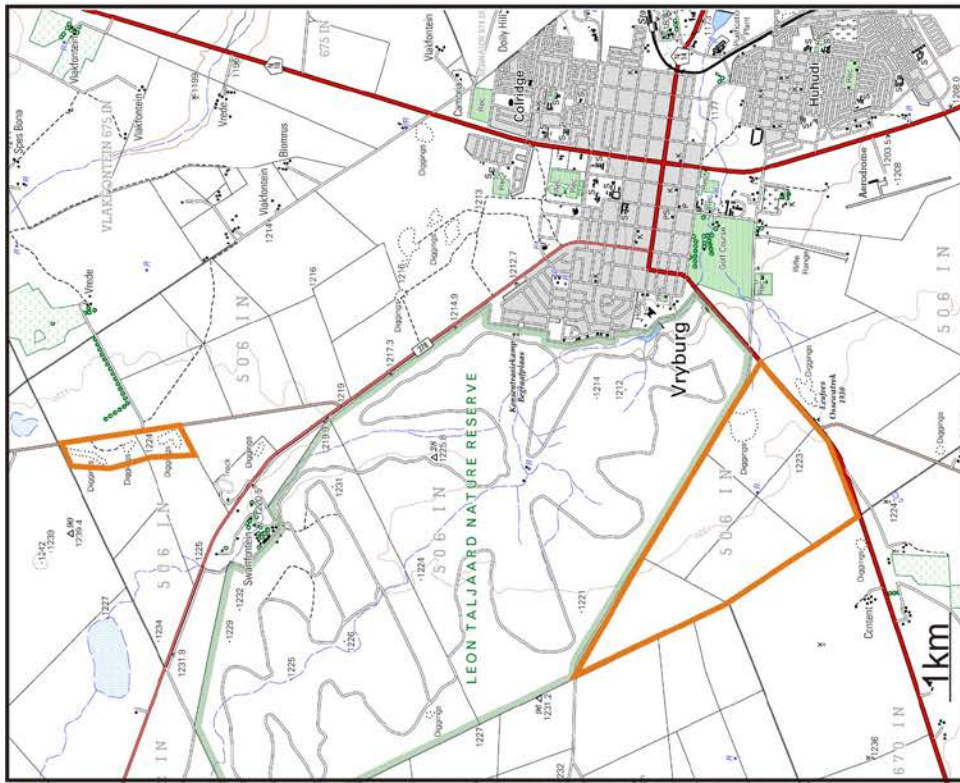


Figure 1. Portion of 1:50 000 topographic map 2624DC Vryburg (left) and aerial photograph (Google Earth, right) showing the location of the proposed development footprints near Vryburg.

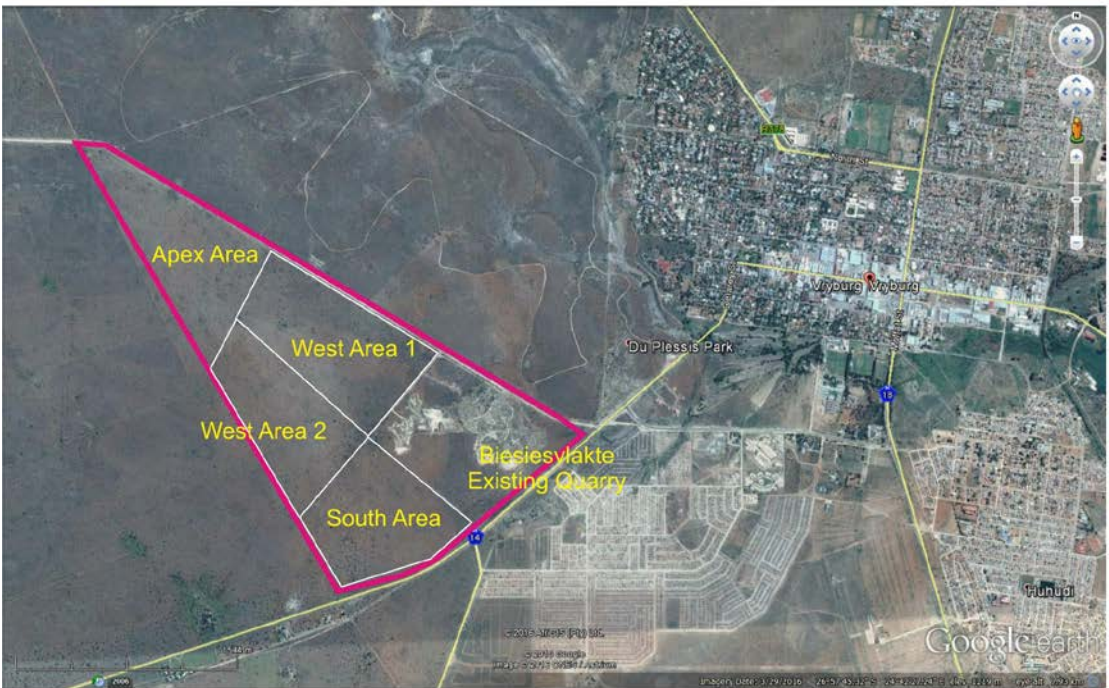
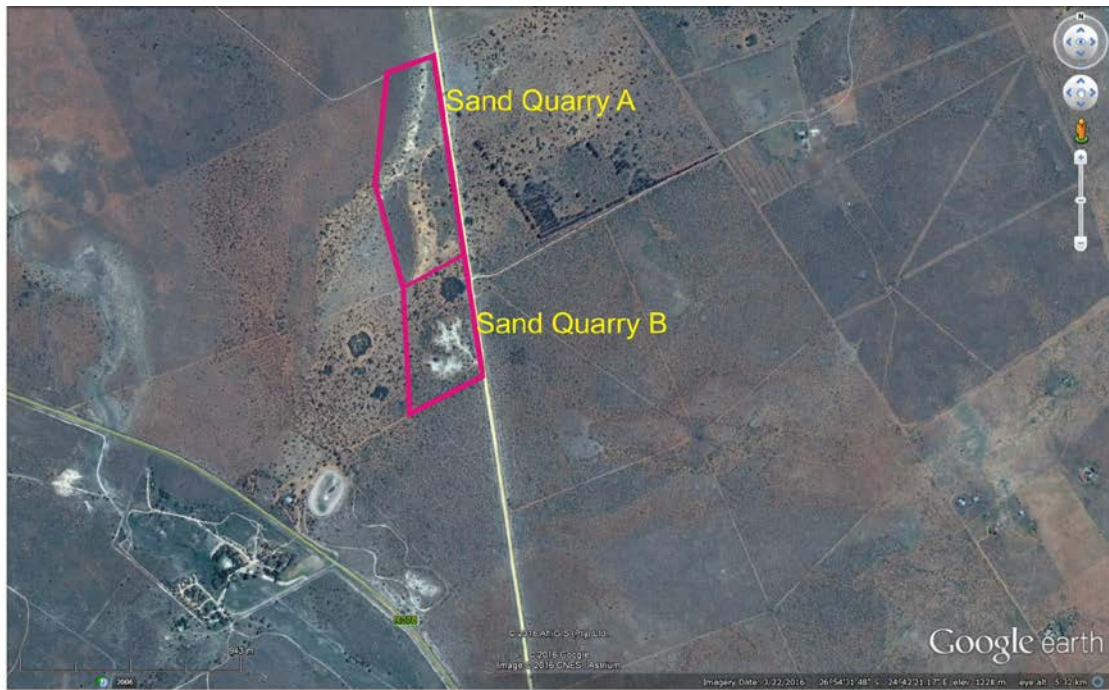


Figure 2. Layout of the proposed development areas designated Site 1 (top) and Site 2 (bottom).

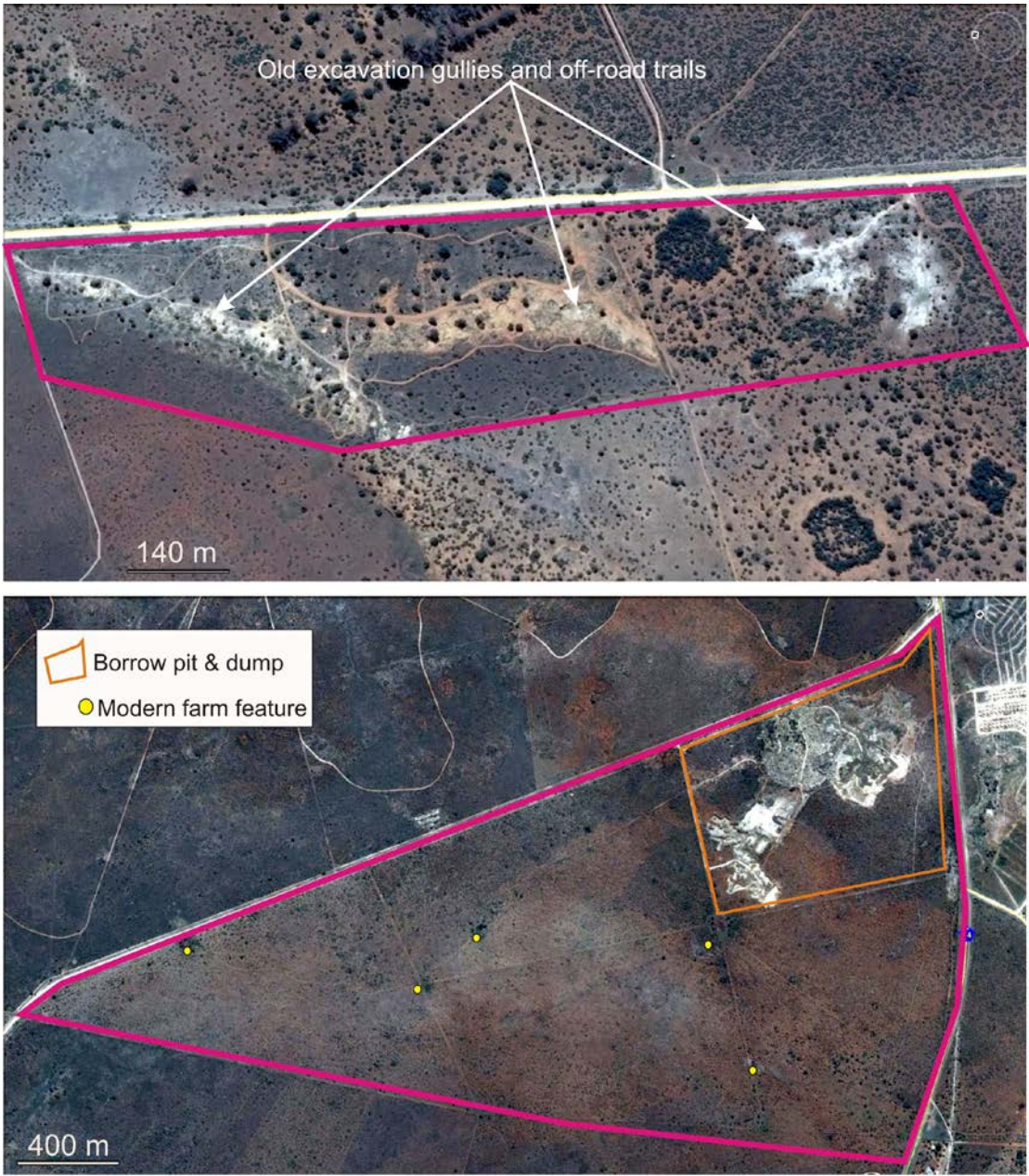


Figure 3. Aerial view of Site 1 (top) and Site 2 (below).

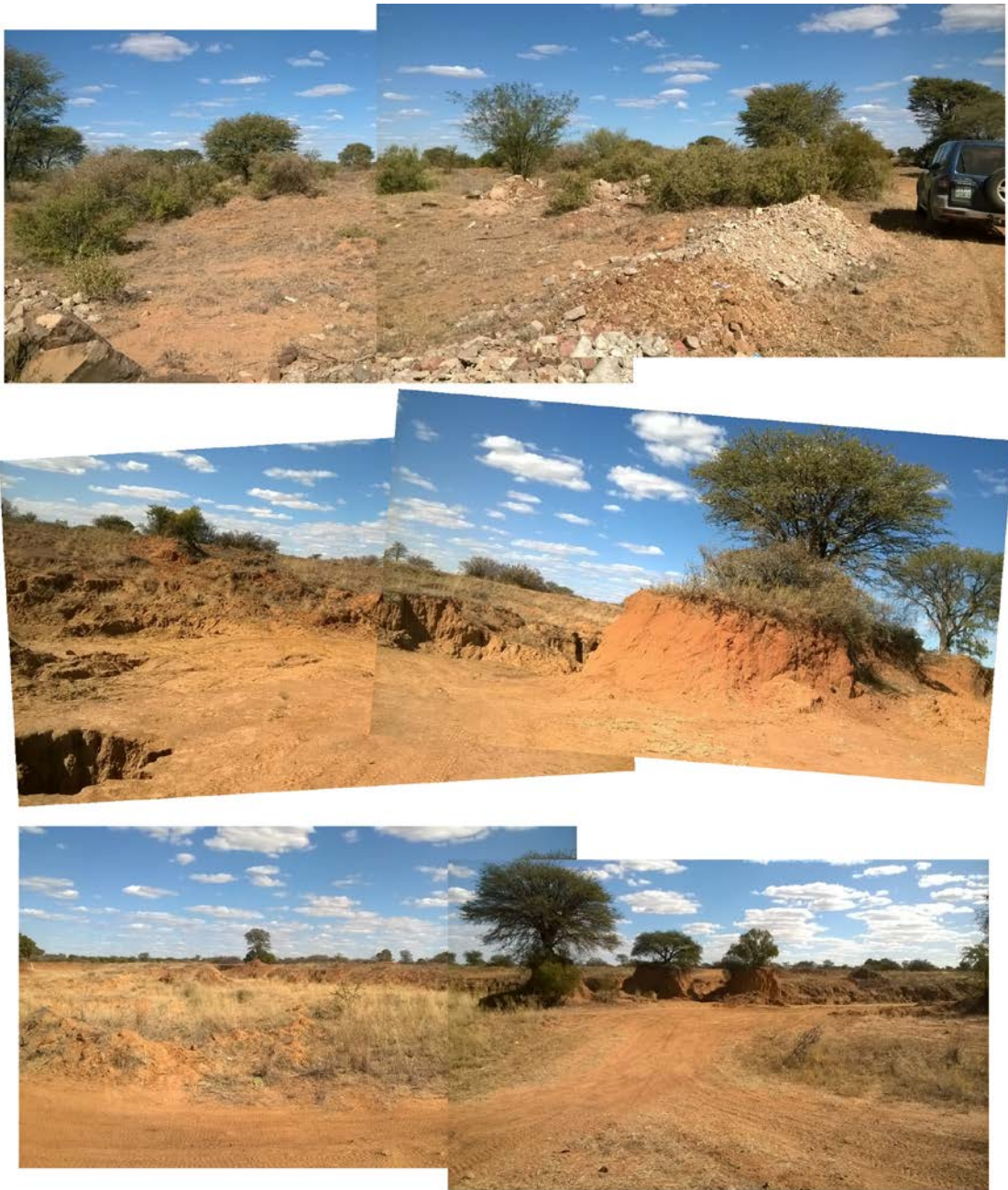


Figure 4. General view of Site 1, Sand Quarries A & B, looking south (top), southwest (middle) and west (bottom).



Figure 5. The Biesiesvlakte Quarry portion at Site 2 is currently used as a borrow pit and dump (top) while the rest of the site is used for cattle farming (below left & right).

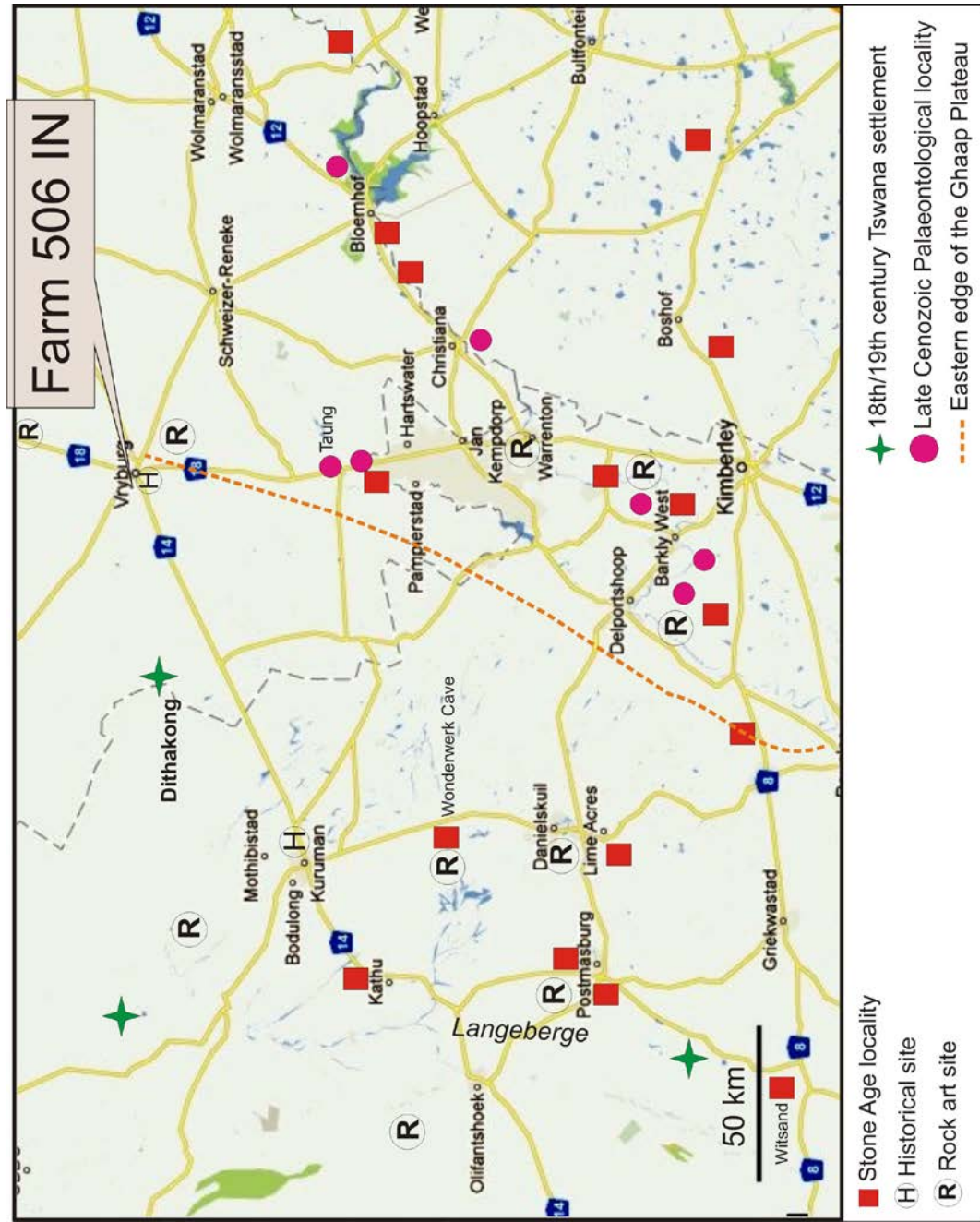


Figure 6. Map showing important archaeological and historical localities in the region.



Figure 7. Extensive stone wall enclosures are found near Dithakong. Archaeological investigations conducted during the 1980's have revealed that the ruins were built during the 15th century A.D.

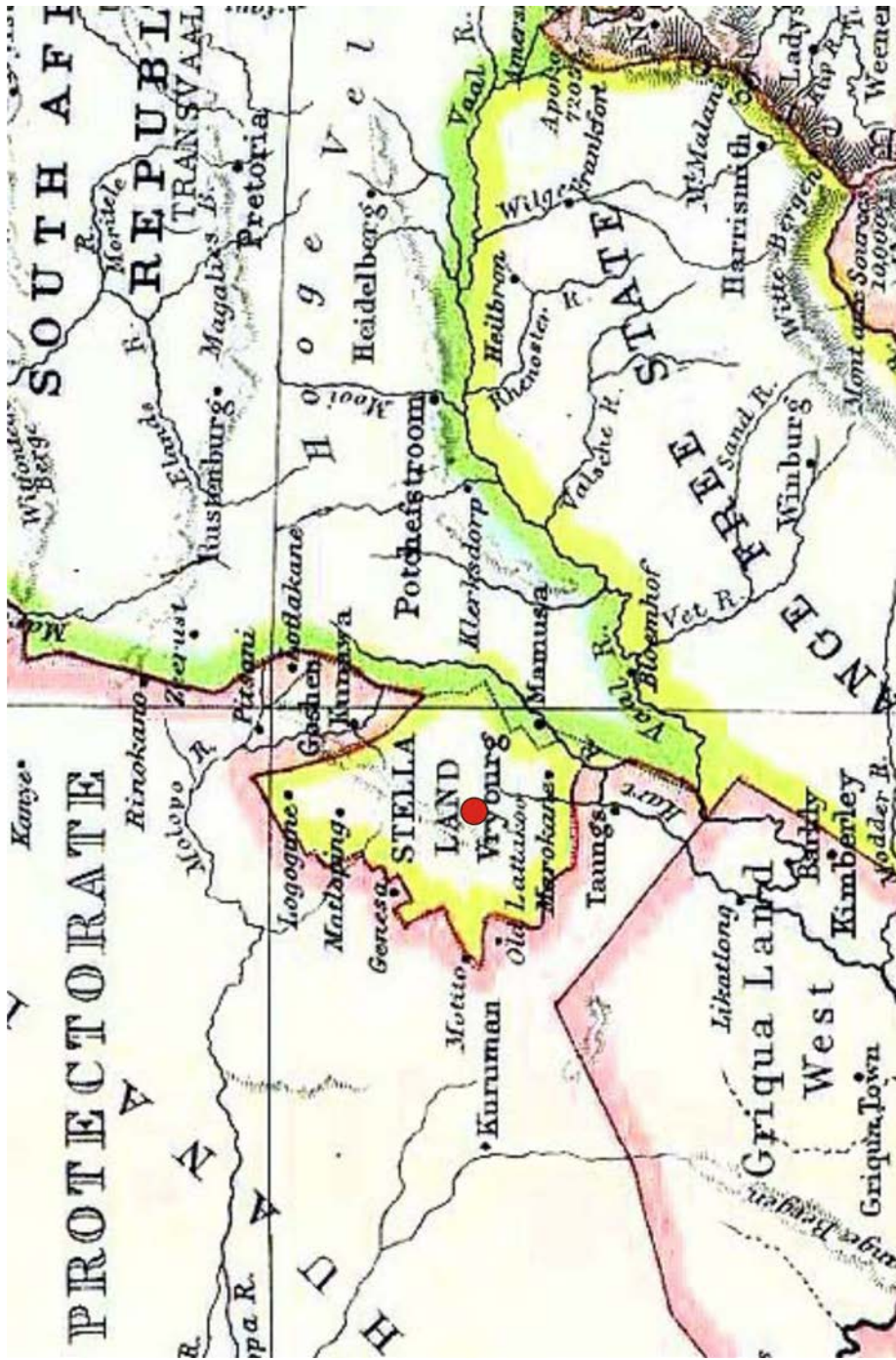


Figure 8. Contemporary map of Stellaland prior to its incorporation as a British protectorate in 1884.



Figure 9. General view of the degraded landscape at the existing Biesiesvlakte Quarry, looking southeast.

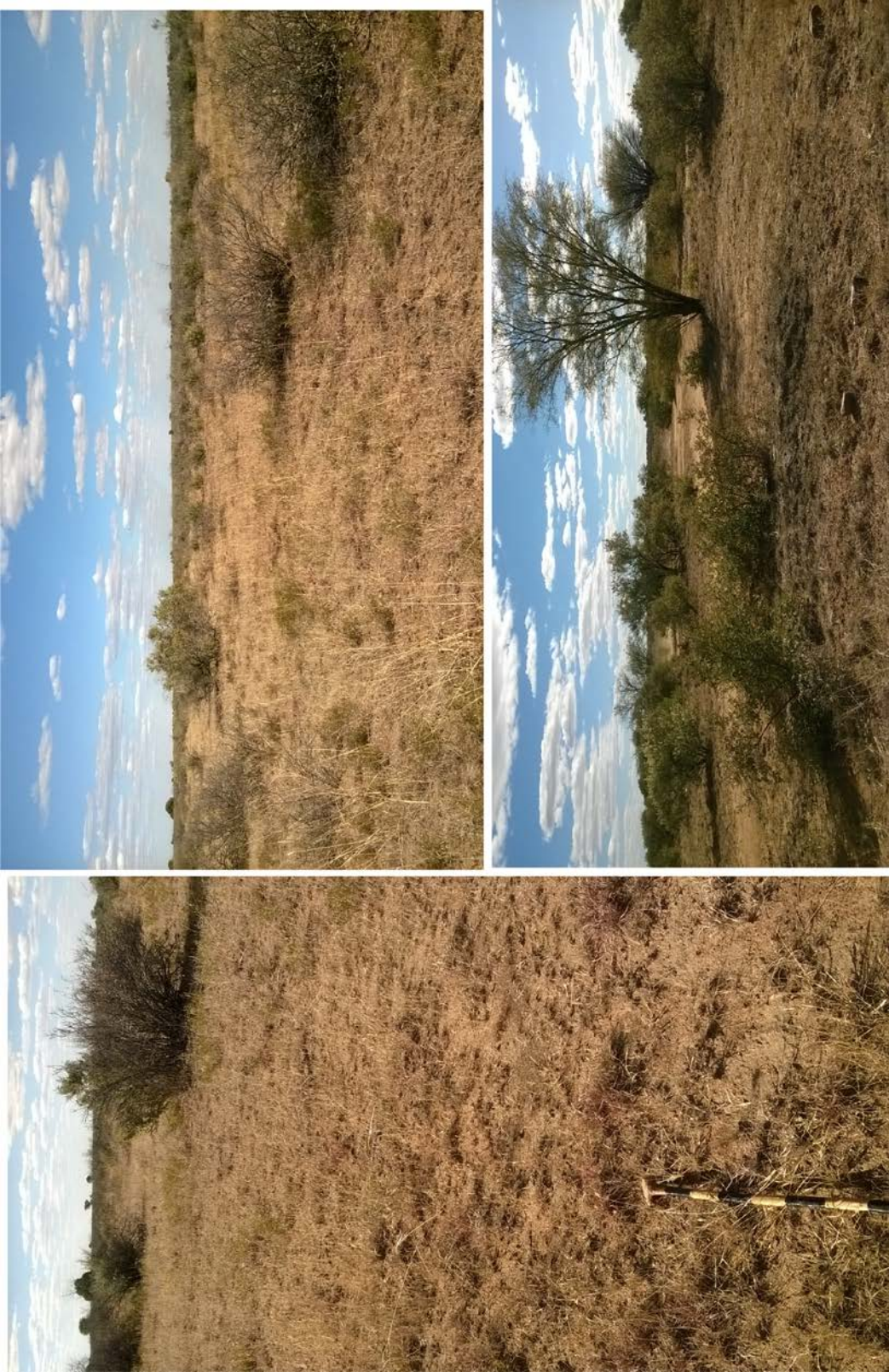


Figure 10. Typically flat terrain at Site 2, covered by well-trampled, gravelly soils.