

**Phase 1 Archaeological Impact Assessment for a mining  
permit application on the Remainder of the Farm  
Dutoitspan 119 (now Rooifontein 1722), Boshof District,  
FS Province.**

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## **Executive Summary**

As part of a mining permit application, a Phase 1 Archaeological Impact Assessment was carried out over a 6 ha area on Remainder of the Farm Dutoitspan 119 (now Rooifontein 1722), near Kimberley, Boshof District, FS Province. The study area consists of flat open, terrain with no indication of rock engravings, prehistoric structures or historical buildings older than 60 years. Several uncapped and weathered stone tool flakes were recorded during the pedestrian survey, but no evidence was found of *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. Although the study area itself is not regarded as archaeologically sensitive, it is located within a historically significant landscape central to the Kimberley Diamond Rush of the 1870's. The proposed development will likely have an adverse effect on the integrity of Kimberley's historical landscape. Further mining at Rooifontein 1722 is not advised.

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## **Introduction**

As part of a mining permit application, a Phase 1 Archaeological Impact Assessment was carried out over a 6 ha area on Remainder of the Farm Dutoitspan 119 (now Rooifontein 1722), near Kimberley, Boshof District, FS Province. (**Fig. 1**).

The study is required in terms of Section 38 of the National Heritage Resources Act 25 of 1999 as a prerequisite for any development which will change the character of a site exceeding 5 000 m<sup>2</sup> in extent. The task involved identification and mapping of possible archaeological heritage within the proposed project area, an assessment of their significance, related impact by the proposed development and recommendations for mitigation where relevant.

### **Terms of Reference**

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

### **Methodology**

The archaeological 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 archaeological information, aerial photographs and site records were consulted and integrated with data acquired during the on-site inspection.

## **Description of the Affected Area**

### **Locality data**

1 : 50 000 scale topographic map 2824DD Beaconsfield

Coordinates of area surveyed (**Fig. 2**):

- A) 28°47'49.42"S 24°51'5.58"E
- B) 28°47'49.28"S 24°51'15.49"E
- C) 28°47'56.48"S 24°51'15.82"E
- D) 28°47'56.74"S 24°51'5.79"E

The study area is located on 6ha of flat, open veld about 1.5 km east of the Wesselton Mine (**Fig. 2 & 3**).

## **Background**

The heritage footprint in the region is primarily represented by Stone Age sites and assemblages, either capped or occurring as surface occurrences, rock engraving sites, glacial pavements and structural remnants dating back to the Kimberley Diamond Rush of the 1870's and the Anglo Boer War. The early exploitation of the Vaal River Gravels by diamond diggers and the resulting development of infrastructure in the region exposed a wealth of archaeological sites that contributed to the development of prehistoric archaeology in southern Africa (Sohnge *et al.* 1937; Helgren 1979; Beaumont and Morris 1990; Forssman *et al.* 2010). As a result, Stone Age archaeological sites in the region are generally associated with, and mostly restricted to a variety of lacustrine contexts as well as the alluvial gravel terraces of the Vaal River. Some important sites located within 40 km of study area include

- an abundance of Fauresmith and Acheulian artifact assemblages found in an andesite cobble and worn exotics matrix capped by a thick layer of red sand at Nooitgedacht near The Bend on the Vaal;
- an abundance of Acheulian artifact assemblages found in thick calcrete deposits at Doornlaagte (a declared national monument), some 20 km east of Schmidtsdrif.
- the famous Nooitgedacht Glacial Pavements situated near the banks of the Vaal River consisting of multiple striations on amygdaloidal Ventersdorp andesite that was produced by an ice age that commenced in early Carboniferous times. In addition to the glacial striations the site is also known for its rock engravings (**Fig. 4**).
- ESA and MSA stone tools uncovered during mining operations between 1930 and 1955 at Pniel (Powers Site) near Nooitgedacht (**Fig. 5**).

- Canteen Koppie, which is the location of the first alluvial diamond diggings in South Africa that continued up until the 1920's. Proclaimed a National Monument in 1948, the alluvial gravels capping the underlying bedrock at the site has yielded a wealth of ESA stone tools while MSA lithics have been recovered from within the layer of red sands overlying the terrain.
- A large number of *Fauresmith* bifaces occur *in situ* within Quaternary-age surface deposits at Kromrand (Lebensraum) 22 km southwest of Boshof (**Fig. 6**).

The development footprint is located within a private nature reserve and historically significant area that also forms part of Kimberley's historical Diamond Route as related to the Kimberley Diamond Rush of the 1870's (Van Zyl 1986). Diamonds were discovered on the farms Dorstfontein and Dutoitspan in 1870 and at Bultfontein and Vooruitzicht in 1871. The first diamond mines on Vooruitzicht became known as Old De Beers. Later that year miners from the Old De Beers Mine discovered what would become the richest diamond mine in the world, namely the Kimberley Mine, known initially as New Rush or Colesberg Kopje. Another rich diamond deposit was discovered on the farm Benaauwdheidsfontein in 1890, later to become known as the Wesselton Mine. All these mines lie within a radius of 5km and northwest of the study area (**Fig. 7**). The study area is located to the east of the Wesselton Mine and about 1.7 km northwest of a historical open mine pit known as the Olifantsfontein mine ((**Fig. 8 no. 1**). It is also located about 1.5 km west of a large dolerite outcrop with potential engraving sites, as well as sangars and trenches associated with the Anglo Boer War (**Fig. 8 no. 2**). The remnants of a tram line as well as 19th century and early 20th century refuse middens are also found in the area (**Fig. 8 no. 3 &4; Fig. 9**).

## Field Assessment

The study area consists of flat open, terrain with no indication of rock engravings, prehistoric structures or historical buildings older than 60 years. Several uncapped and weathered stone tool flakes were recorded during the pedestrian survey, but no evidence was found of *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape (**Fig. 10**).

## **Impact Statement**

In accordance with the types and ranges of heritage resources as outlined in the National Heritage Resources Act (No 25 of 1999), there is no above-ground evidence of residential building structures or material of cultural and archaeological significance or intact archaeological sites within the demarcated area. Although the study area itself is not regarded as archaeologically sensitive, it is located within a historically significant landscape that forms part of the Kimberley Diamond Route.

## **Recommendation**

The proposed development footprint is located within an area considered to be of high historical (and historical archaeological) significance. The proposed development will likely have an adverse effect on the integrity of Kimberley's historical landscape.

Further mining at Rooifontein 1722 is not advised.

## **References**

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- Forssman, T.R. and Kuman, K., Leader, G.M. and Gibbon, R.J. 2010. A later Stone Age assemblage from Canteen Kopje, Northern Cape. *South African Archaeological Bulletin* 65(192): 204 – 214.
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- Sohnge, P.G. *et al.* 1937. *The geology and archaeology of the Vaal River Basin*. Memoir no. 35. Department of Mines, Geological Survey.
- Van Zyl, D. 1986. *The Discovery of Wealth*. Don Nelson. Cape Town.

# Figures

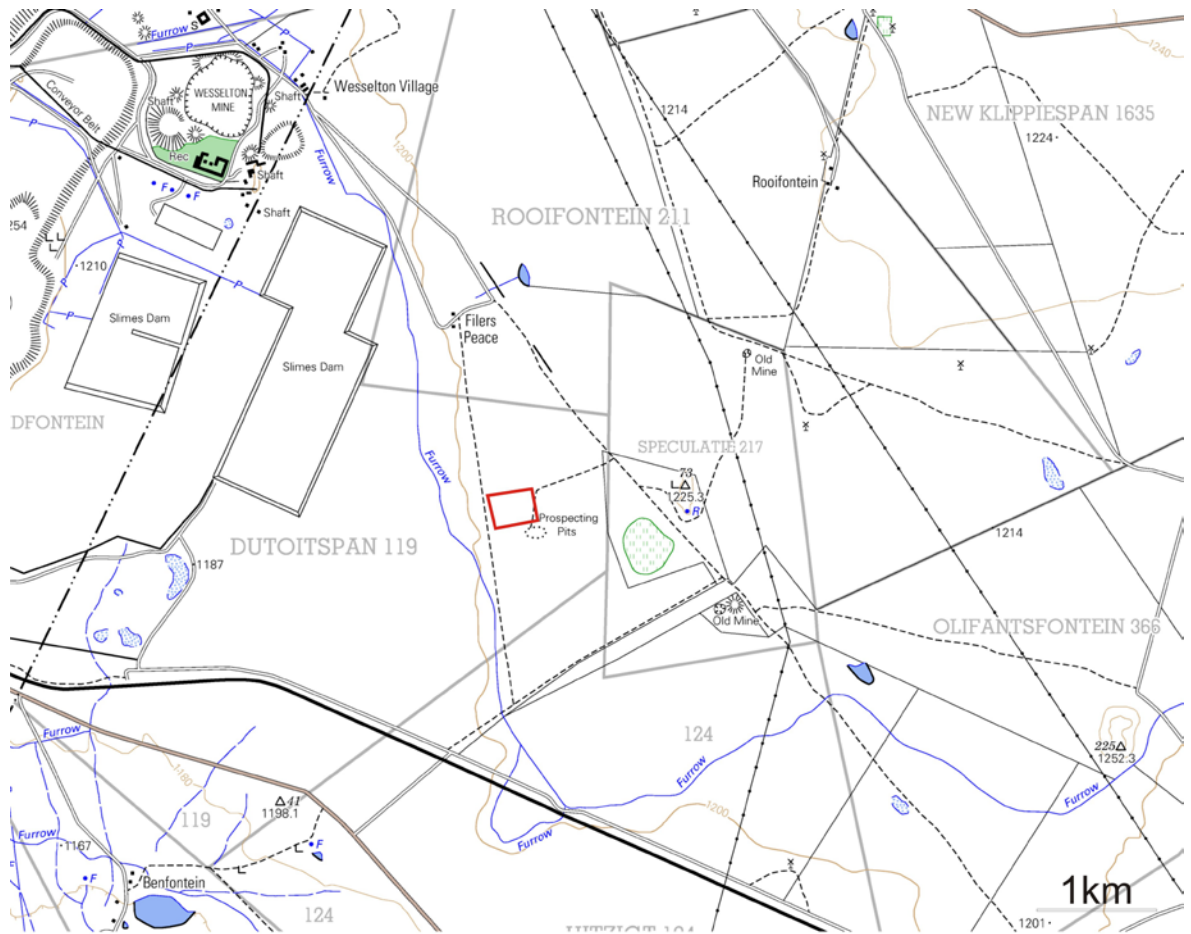


Figure 1. Map of the proposed development area (Portion of 1:50 000 scale topographical map 2824DD Beaconsfield).



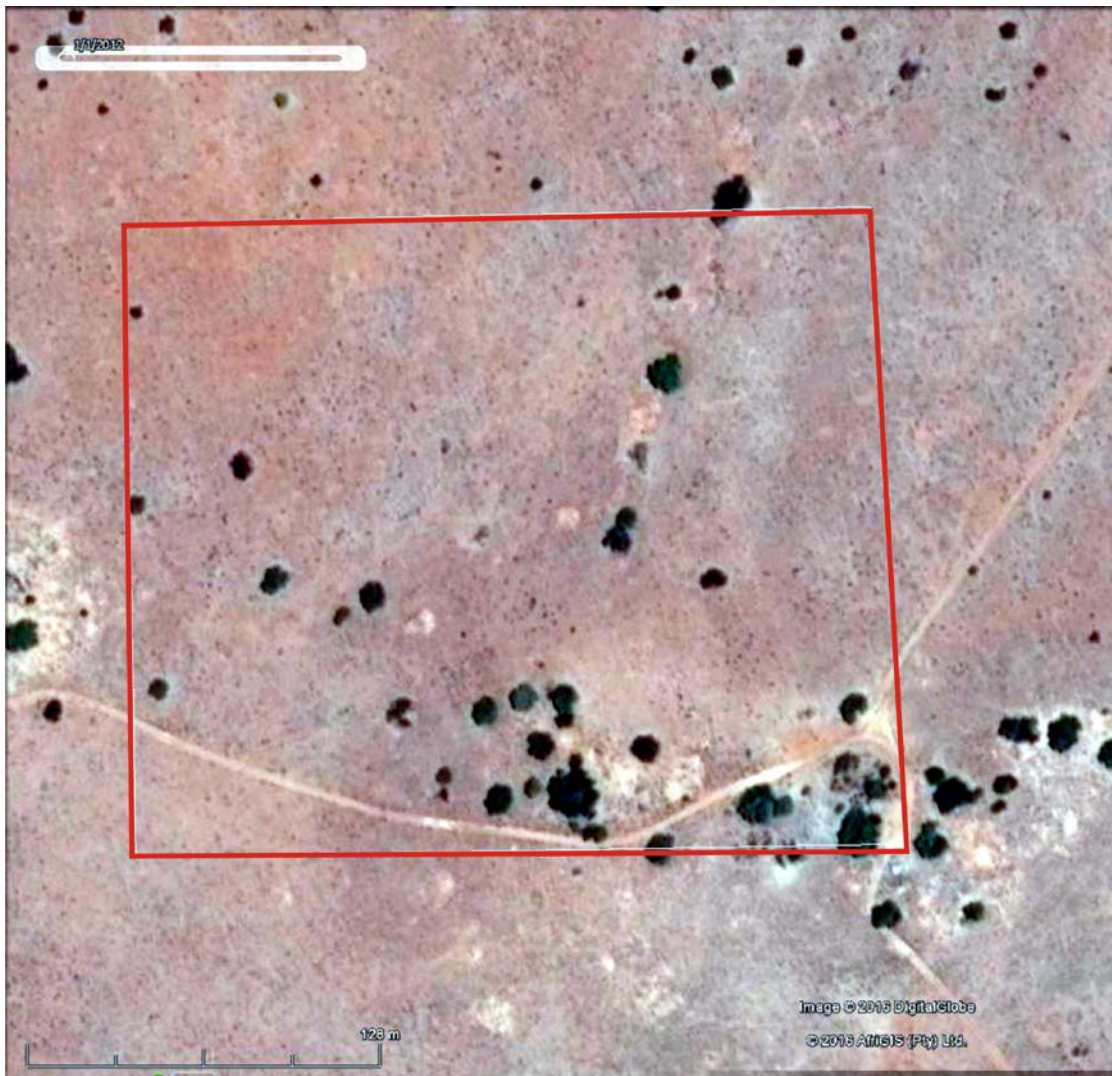


Figure 2. Aerial view of the study area.

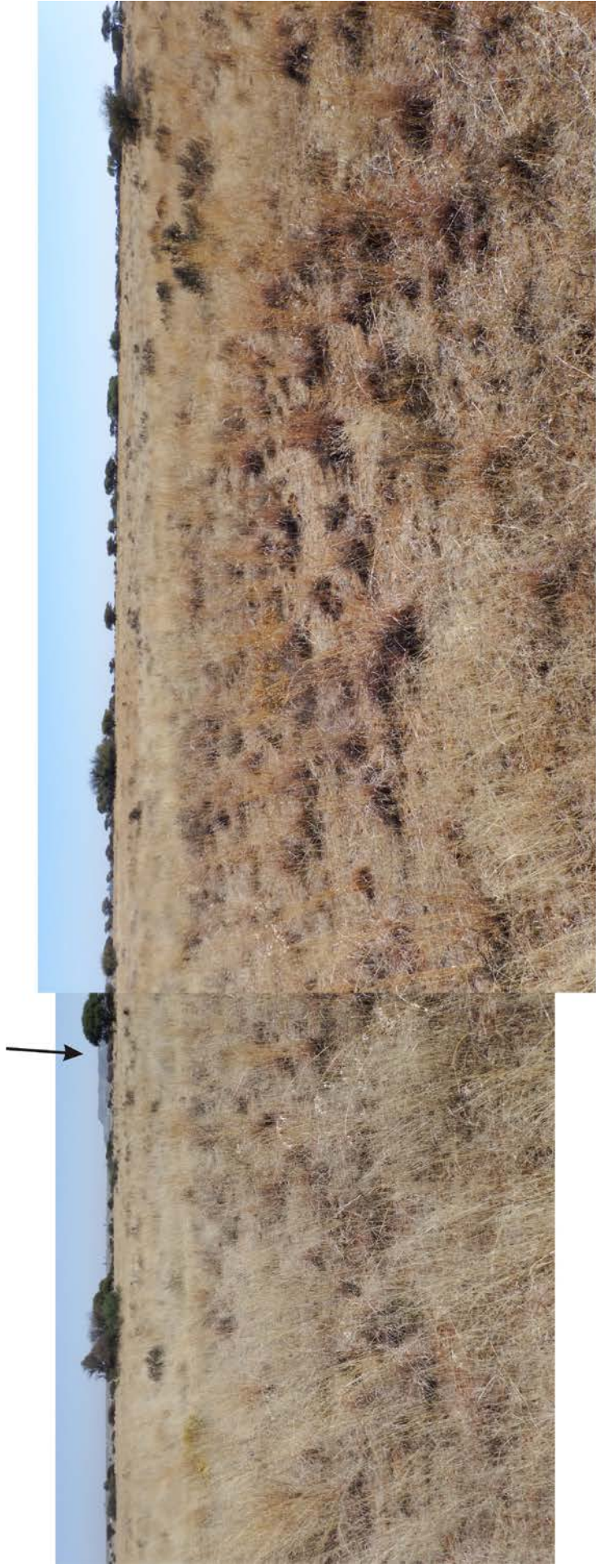


Figure 3. General view of the study area, looking west towards the Wesselton Mine.

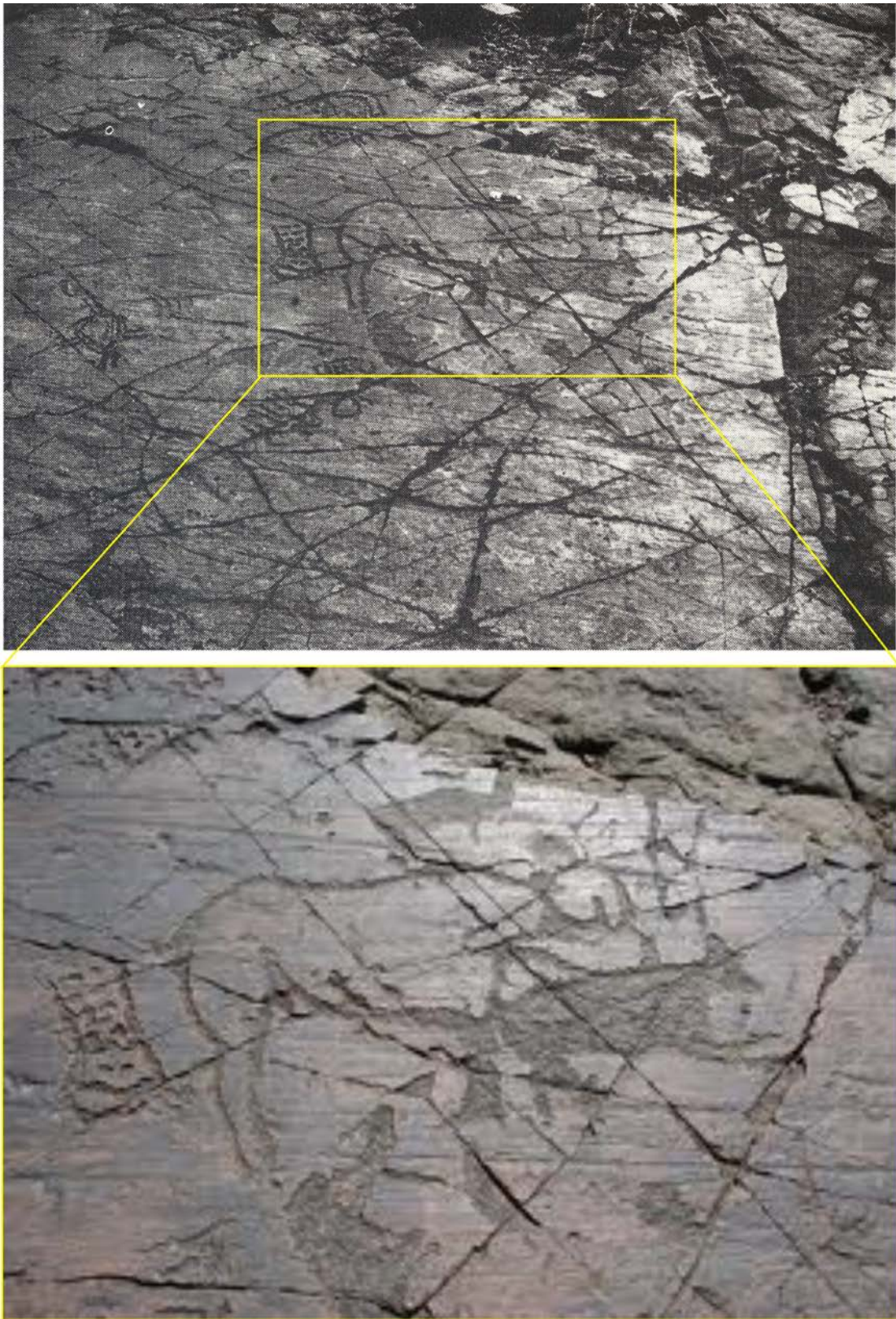


Figure 4. Example of rock engravings found on the glacial pavements at Nooitgedacht.

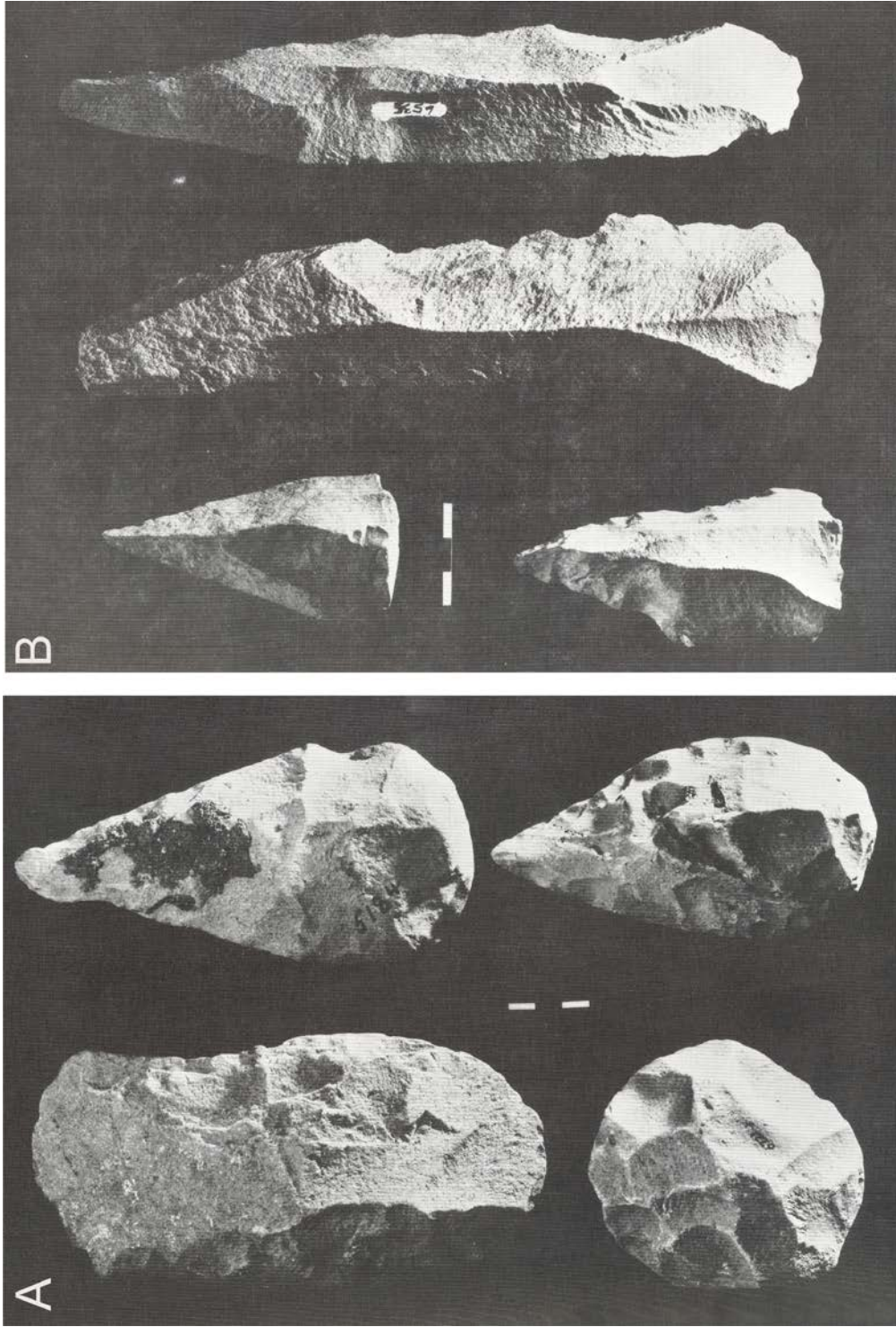


Figure 5. (A) Clockwise from left: a cleaver, 2 x handaxes and a prepared core; (B) Upper and lower left: convergent point; middle and right: parallel and convergent long blades. Raw material = andesite (after Beaumont & Morris 1990).



Figure 6. Surface scatters (left) and *in situ* ESA bifaces (right) at Kromrand, southwest of Boshof.

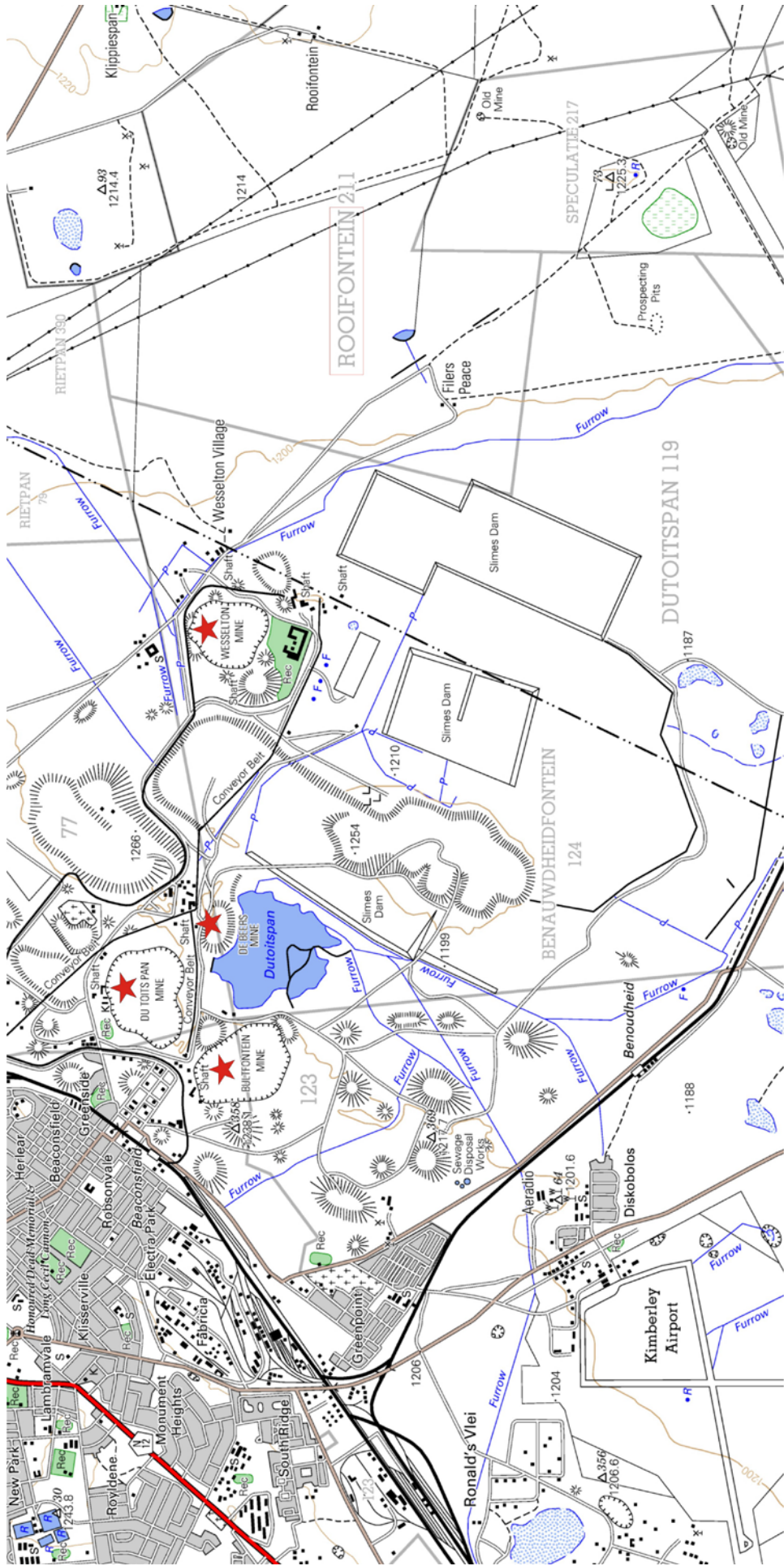


Figure 7. Position of the original major mines in relation to Rooifontein.



Figure 8. Areas of historical and archaeological significance in the vicinity of the study area (rectangle).



Figure 9. Artifacts from 19th century and early 20th century refuse middens located about 800 m west-southwest of the study area.





Figure 10. Isolated uncapped and weathered stone tool flakes.  
Scale 1 = 10 cm.