



COBUS DREYER

Pr. Archaeologist/Heritage Specialist

Tel: 051 - 444 1187
Fax: 051 - 401 2363
Cell: 083 - 357 7982

P.O. Box 12910
Brandhof
9324
dreyerc.HUM@mail.uovs.ac.za

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THE BORROW PITS AND QUARRY SITES AT COLESBERG

J. DREYER
Department of Anthropology
University of the Free State
BLOEMFONTEIN

J.C. LOOCK
Department of Geology
University of the Free State
BLOEMFONTEIN

1. INVESTIGATION

The area along the N1 road at Colesberg was investigated on 10 and 11 December 2001. Two proposed borrow pits were indicated to be inspected for future exploitation (Fig.1). No co-ordinates or specific references were given.



Fig.1 Map indicating proposed borrow pits.

The following knowledgeable people and old inmates of the town were interviewed:

Stanley Mitchley 051-753 0033/36
Ernest Hugo 051-753 0279
Archie Norval 051-753 1051
Belinda Gordon (Curator, Kemper Museum, Colesberg) 051-753 0678

2. HERITAGE RESOURCES

It was found that the whole area around Colesberg is very rich in terms of Anglo-Boer War camps, defence positions and battle sites (Fig.2) and should be considered as extremely sensitive. It was also found that the inhabitants of the town are fully aware of the ABW history of the town and are serious about the preservation of these relics from the past. The report will take the sites that could be affected into consideration.

The report will also concentrate on the locality and importance of archaeological sites.

3. COLESBERG AND THE ANGLO-BOER WAR

A very brief description of the course of the war in the Colesberg area is necessary and will serve as a background when referring to sites of military and historical importance.

At the end of November 1899, British forces advanced from the south towards Arundell Station where they were checked by a mixed force of Boer commandos. During December, January and February a frontline, soon to be pushed northwards, was gradually established. In March the British were in control of the area south of the Orange River. From that time onwards the British Army garrisoned the town of Colesberg and established a large camp, called Plateau Camp, suitably defended by outlying forts and outposts

4. SITES OF MILITARY IMPORTANCE

1. PLATEAU CAMP

The site is of considerable military and archaeological importance. This large site was placed on a flat surface of indurated Beaufort rocks resting on dolerite. An old photograph from near the top of the hill to the north-west shows neat rows of tents, two magazines and kraals for horses (Fig.3).

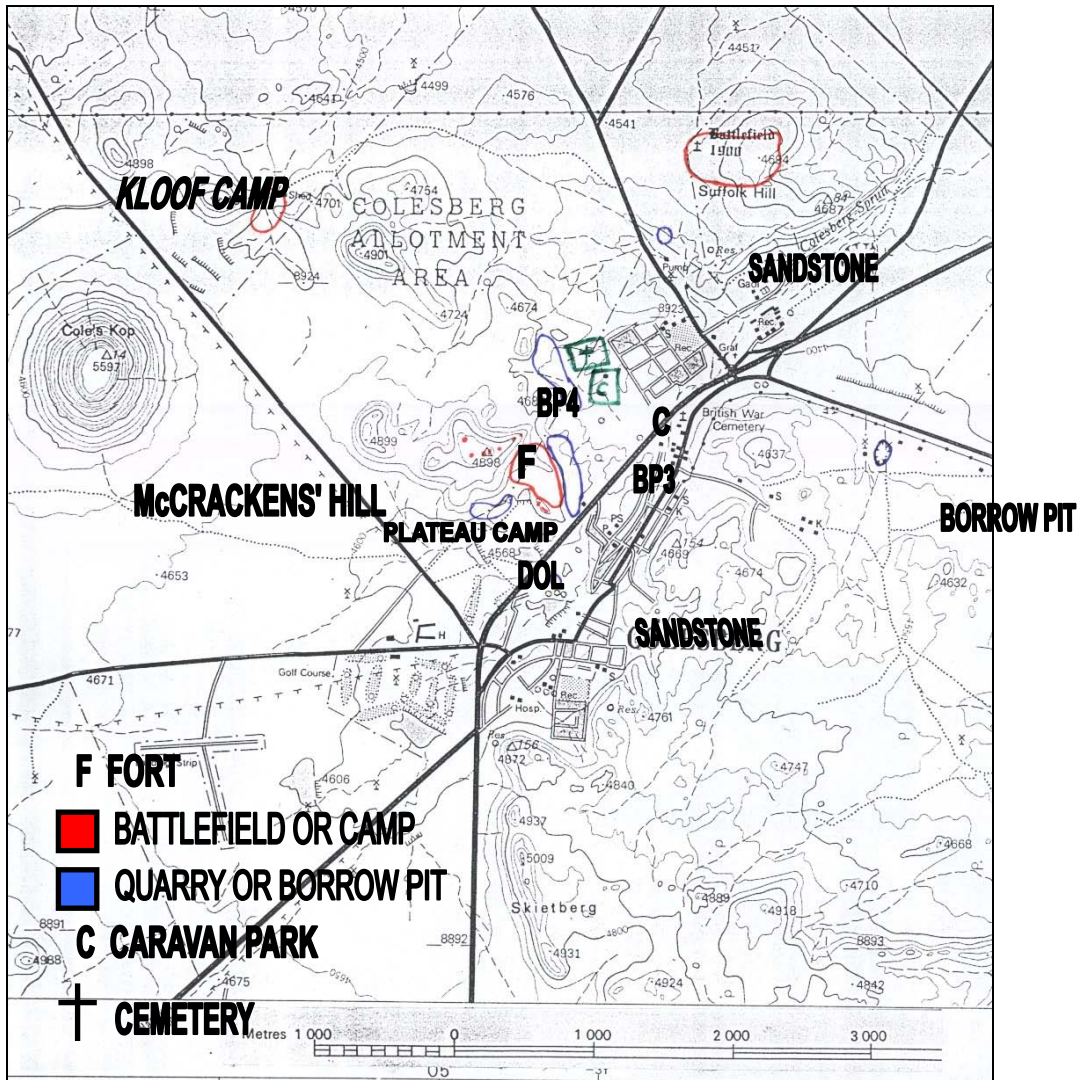


Fig.2 Locality of quarries, borrow pits and military sites at Colesberg.



Fig.3. Plateau Camp during the Anglo-Boer War, circa 1900. (Photo: Kemper Museum, Colesberg).

Compare the old photograph with one showing the corresponding scene taken from about the same spot (Fig.4). Remains of the magazines and stone-walled squares indicating the position of the tents are still clearly visible on the surface.



Fig.4. Plateau Camp site, December 2001.

Remains of food containers and other objects of British military origin scattered on the surface at Plateau Camp (Fig. 5).



Fig.5. Remains of food containers and other objects from Plateau Camp.

- 1-3. Soldered metal food containers.
- 4&9. Tin openers
5. Stone ware crockery
6. Carbon dioxide cylinders for preparation of soda water.
7. Unfired .303 cartridge.
8. Burst .303 cases. Cartridges were thrown into a fire.
10. Horse's shoe.

Researchers on the Anglo-Boer War in general, as well as other experts and the local public, place a high value on the Plateau Camp and the military artefacts scattered on its surface. The finds include tins, which contained meat, sardines, condensed milk, and small metal carbon dioxide cylinders used to produce soda water (Fig. 5). The recovery of a complete .303 cartridge and a few spent cartridge cases prove that these were indeed the Mark II type of ammunition dating from the Anglo-Boer War period.



Fig.6. A well preserved stone-paved floor and base wall of the officers' mess.

2. HILL NORTH-WEST OF PLATEAU CAMP

The hill overlooking the town and nearby campsite, formed part of the outer defences of the British military occupation of Colesberg. From north to south 7 small forts were placed along the crest line. Most of these structures are in a remarkably preserved condition, mostly still undisturbed (Fig. 7). A few sangars are also scattered in association with the forts.



Fig.7. A stone-walled fort on the hill overlooking Plateau Camp. Note the small sangar on the right.

3. HILL SOUTH OF PLATEAU CAMP

This hill (Fig.8) formed part of the southern defence line of Plateau Camp during the ABW. A few ruined walls and sangars are still to be seen (Fig. 7).

4. BOER CAMP NEAR KRAAIKOP (GIBRALTAR)

Some reports refer to a temporary Boer camp “at the base of Kraaikop”. This specific locality could not be found.



Fig.8. Hill south of Plateau Camp. The camp area is visible on the left.

5. SUFFOLK HILL

During the night of 6 January 1900 a British Force consisting of the 1st Suffolks set out from Kloof Camp to attack Grassy Hill, later to become known as Suffolk Hill. The Boers repulsed the attack with heavy losses to the British. The area of historical importance, ranges from the crest of the hill in a westerly direction, down the slope to where the British memorial was erected (Fig. 9). A few sangars on the upper part of Suffolk Hill were built by the Boers.



Fig.9. British Memorial at Suffolk Hill.

6. KLOOF CAMP

This site is situated some distance away from the area under investigation and was, therefore, not included in the study.

7. MILITARY CEMETERY

The cemetery is situated at the northern entrance to the town (Fig.).

A list of all the graves and fallen soldiers is available at the Kemper Museum, Colesberg.

5. ARCHAEOLOGICAL FINDS

All the inspected borrow pit sites contain a variety of Later Stone Age flakes, scrapers and artefacts, fabricated of indurated mudstone (Fig. 10).

The stone tools are classified as part of the Smithfield industrial complex of the Later Stone Age period dating from about 10 000 years ago. This Stone Age industry is unique in the sense that it occurs only in the Free State.

Sites of this kind are found in abundance as prehistoric man was clearly clever and skilful enough to manufacture the tools he required right on the spot where it was needed. Although the manufacturing of stone tools can be considered as a unique feature, tool making and use were in most cases part of the same exercise.



Fig.10. Stone artefacts from Plateau Camp.

6. GEOLOGY AND GEOMORPHOLOGY OF COLESBERG ENVIRONS

Mudstones, siltstones and sandstones of the Adelaide Formation, Beaufort Group were deposited in a continental environment during the Permian Period. During the Jurassic basaltic magma intruded the Karoo rocks and solidified to become Karoo Dolerite. Along the contacts of the intrusive sills and dykes the Karoo rocks are indurated to varying degrees.

Colesberg is situated in the valley of the Colesbergspruit, which was incised into a northwest-southeast dolerite sill, which inclines towards the north-east (Fig.11).

The hills in and around the town consist of hard, fresh dolerite while weathered dolerite, occupy valley floors. Gravel, sand silt and clay occur as a surface deposit along the banks of the Colesbergspruit and small tributaries.

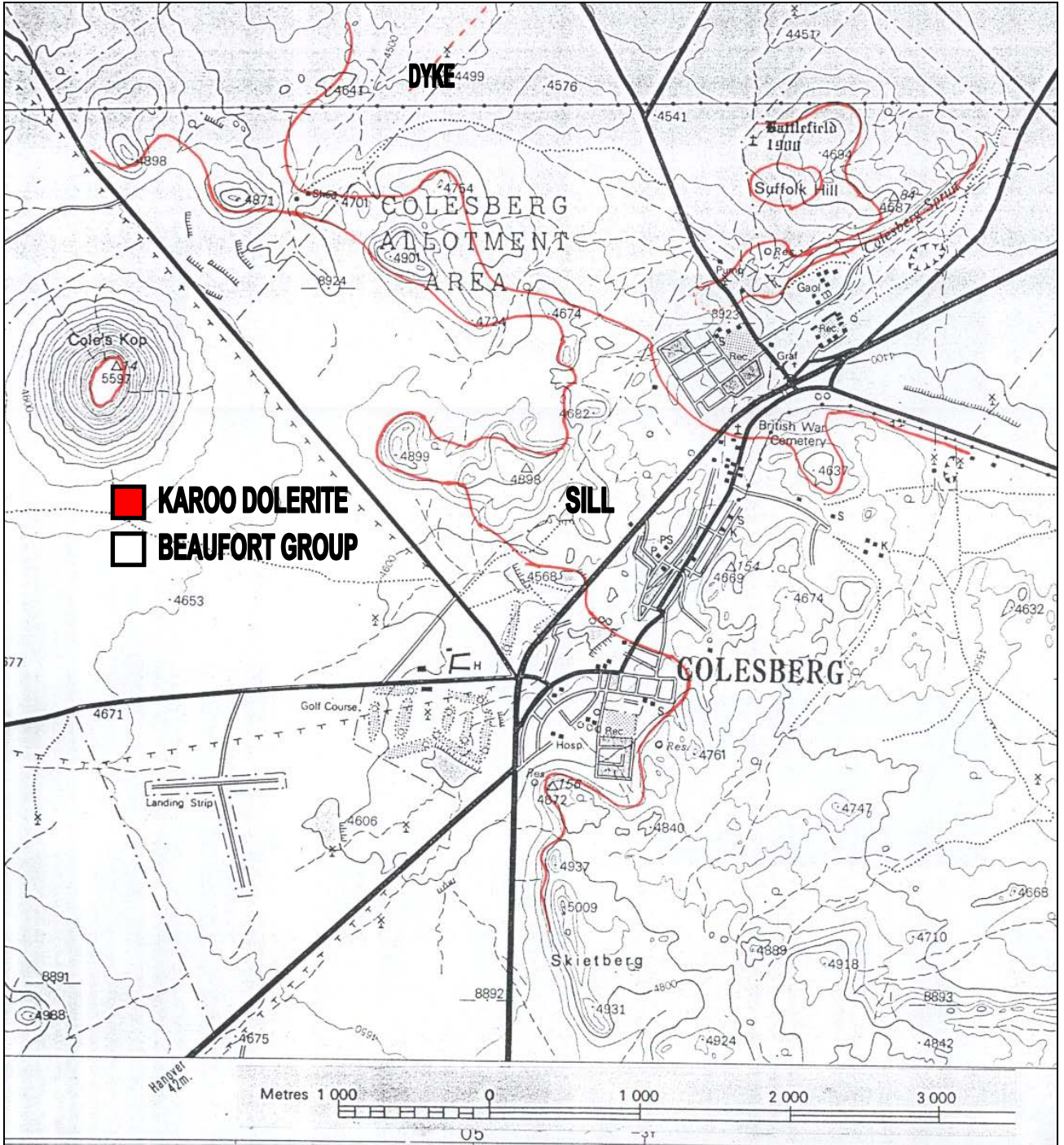


Fig.11 Geological map of Colesberg and environs.

7. QUARRIES AND BORROW PITS

1. DOLERITE QUARRY

This quarry yields fresh dolerite, lies 500m west of the N1 and 1km west of the town centre (Fig.2). Quarrying takes place at the western end of the pit (Fig.12).



Fig.12 Western end of the dolerite quarry.

Rock type:	Dolerite, unweathered
Mineral composition:	Pyroxene and feldspar
Texture:	Diameter of crystals 1-2mm
Sample number:	DOL 1

This quarry lies at the base of a dolerite hill. A flat plateau of indurated Beaufort rocks occur to the north-east. The British Forces occupied this flat area as the Plateau Camp during the Anglo-Boer War. Seven forts and a few sangars are to be seen on the crest of the hill north of the quarry. A stone wall and a few sangars occur on the dolerite ridge running eastwards towards the N1 (Fig. 2).

2. SANDSTONE QUARRY 1

This small and almost forgotten quarry was mined for building stone many years ago. The quarry lies west of the Dutch Reformed Church and east of the N1 (Fig.2).

Rock type: Feldspathic sandstone, siltstone and mudstone

3. SANDSTONE QUARRY 2

This quarry lies 1km from the N1 and north of the road to Philipstown (Fig.2). The locality can also be described as between the Philipstown Road and Suffolk Hill, a well-known Anglo-Boer War battlefield.

Rock type: Feldspathic sandstone, siltstone and mudstone.

This quarry was abandoned, but can be opened in future, if necessary.

4. BORROW PIT 3

This borrow pit was named by Ninham Shand (Fig.1). The pit of just over 500m in length strikes north-northwest (Fig.13). The southern extremity lies next to the N1 (Fig.2).



Fig.13 Borrow Pit 3 at the base of Plateau Camp. Borrow Pit 4 lies beyond the intervening ridge in the middle foreground. The hill called Sheba's Breasts by British soldiers is clearly visible on the left.

Rock type: Crumbling weathered dolerite varying from an almost hard rock to dolerite sand.
Exfoliation structures and onion-skin weathering seen in outcrop.

Texture: Grains, some composite, vary from very fine sand to flattened chips 10mm long.

Sample number: BP3

For almost its entire length this borrow pit runs parallel to the escarpment forming the northern boundary of the Plateau Camp (Fig.4).

This borrow pit is normally out of sight of motorists travelling along the N1. It lies lower than the level of the road and is, therefore, hidden between the dolerite hills. A glance to the west may indeed offer a quick glimpse of the borrow pit.

An elaborate deposit of weathered dolerite remains to be mined as the previous contractors operated selectively and wastefully by leaving large portions untouched. Admittedly some of these “islands” consist of hard material.

5. BORROW PIT 4

The number as used by Ninham Shand (Fig.1). This pit is just over 500m long and strikes roughly northwest-southeast. The southern end lies south-west of the caravan park (Fig.2). The northern extremity is at the eastern slope of Kraaikop (called Gibraltar by the British). The cemetery of the Lowryville Township lies close by to the east (Fig. 5).



Fig.14 The northern end of Borrow Pit 4 as seen from the edge of the cemetery. Kraaikop (Gibraltar) towers above the pit to the right. Coleskop is seen in the distance.

Rock type: Crumbling weathered dolerite of variable hardness.

Texture: The original fresh dolerite could have had a slightly larger crystal size. The weathered chips, of which many are pointed, vary in size.

As in Borrow Pit number 3, previous operations were rather selective and wasteful.

6. UNNAMED BORROW PIT

A borrow pit is located 2km north-east of the town centre, south of the road to Norvalspont. It is surrounded and in part covered by an informal township. The pit is shown on the map (Fig.2), but was not investigated.

7. DISCUSSION AND RECOMMENDATIONS

The dolerite quarry and Borrow Pits 3 and 4 will be discussed to evaluate the potential impact of mining activities on sites of archaeological and military significance.

1. DOLERITE QUARRY

- It is endorsed that the quarry should in future only be extended to the west and in a lesser degree to the north.
- On no account should mining be extended towards the north-east in the direction of the edge of the Plateau Camp.

2. BORROW PIT 3

- ◆ As previously described the western edge of the pit lies at the base of the escarpment, which forms the north-eastern boundary of the Plateau Camp.
- ◆ Mining may be continued, except as indicated below:
- ◆ The south-eastern edge of the pit should not be extended towards the N1.
- ◆ The escarpment on the west must under no circumstances be undermined.
- ◆ Labourers and artefact hunters should be physically prevented from entering the area of the Plateau Camp from the direction of the pit.

- ◆ The public should only be allowed access to the forts on the hill under the supervision of a guide appointed by the museum.
- ◆ The low hill on the southern boundary of the Plateau Camp should also be placed out of bounds.

3. BORROW PIT 4

- This pit is normally out of public sight, except from people visiting the caravan park or the cemetery.
- Mining could be allowed to proceed but not towards the edge of the caravan park.
- From a practical point of view it could be anticipated that a rather rapid extension of the cemetery could be expected in future.
- The pit operator will be wise to establish a western boundary for the cemetery.
- The town authorities and the local community should be consulted in this regard. This will possibly prevent future encroachment of the cemetery on the area of the borrow pit.

4. SANDSTONE QUARRY 2

- Future operations and even extensions of the quarry will not encroach on the important military area of Suffolk Hill.

5. RESOURCES WHICH SHOULD REMAIN UNAFFECTED BY MINING ACTIVITIES

THE FOLLOWING FOUR SITES SHOULD BE CONSIDERED:

- ❖ Plateau Camp
- ❖ Forts on the hill
- ❖ Sangars and wall on low hill south of Plateau Camp
- ❖ Suffolk Hill. The sensitive area lies from the east towards the west.

9. REFERENCES

AMERY, L.S. 1905. The Times History of the War in South Africa 1899-1902. Vol. III. London: Sampson Low, Marston & Co.

BREYTENBACH, J.H. 1977. Die geskiedenis van die Tweede Vryheidsoorlog in Suid-Afrika, 1899-1902. Pretoria: Staatsdrukker.

CLARK, J.D. 1959. The Prehistory of Southern Africa. London: Pelican Books.

CLARK, J.D. 1970. The Prehistory of Africa. London: Thames & Hudson.

GOLDMANN, C.S. 1902. With French and the cavalry in South Africa. London: MacMillan and Company.

GOODWIN, A.J.H. 1945. Method in Prehistory. Cape Town: South African Archaeological Society.

HUMPHREYS, A.J.B. 1986. Searching for the past. Cape Town: David Philip.

PISTORIUS, J.C.C. 1994. Eskom Archaeological Site Identification Guide. Johannesburg: Eskom.

INTERVIEWS

Stanley Mitchley 051-753 0033/36

Ernest Hugo 051-753 0279

Archie Norval 051-753 1051

Belinda Gordon, Curator, Kemper Museum, Colesberg
051-753 0678

MAPS

South Africa 1:50 000 Sheet 3025CA Colesberg 1971, Government Printer.

Geological Series 3024 Colesberg, 1:250 000 1997, Council for Geoscience.