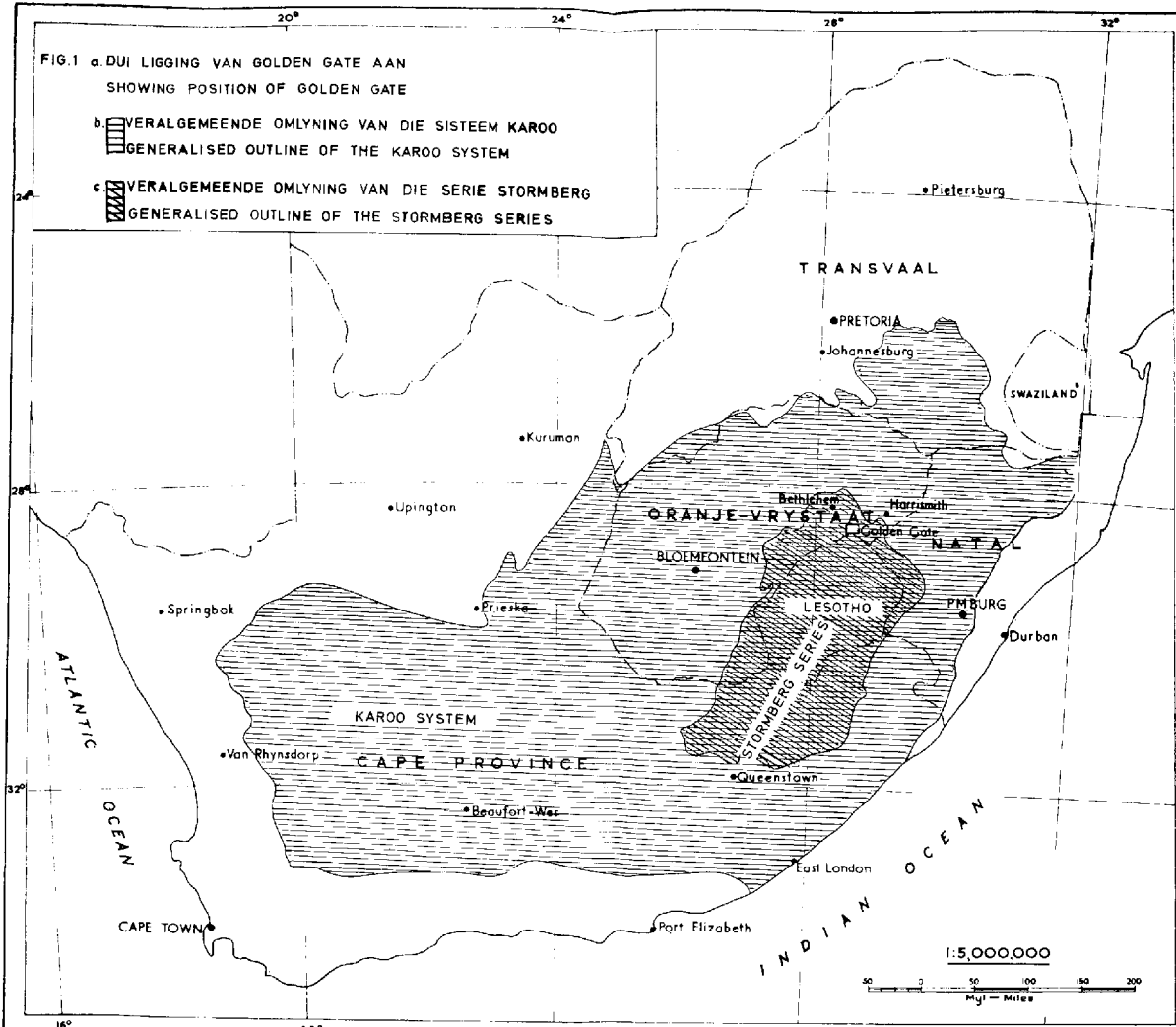
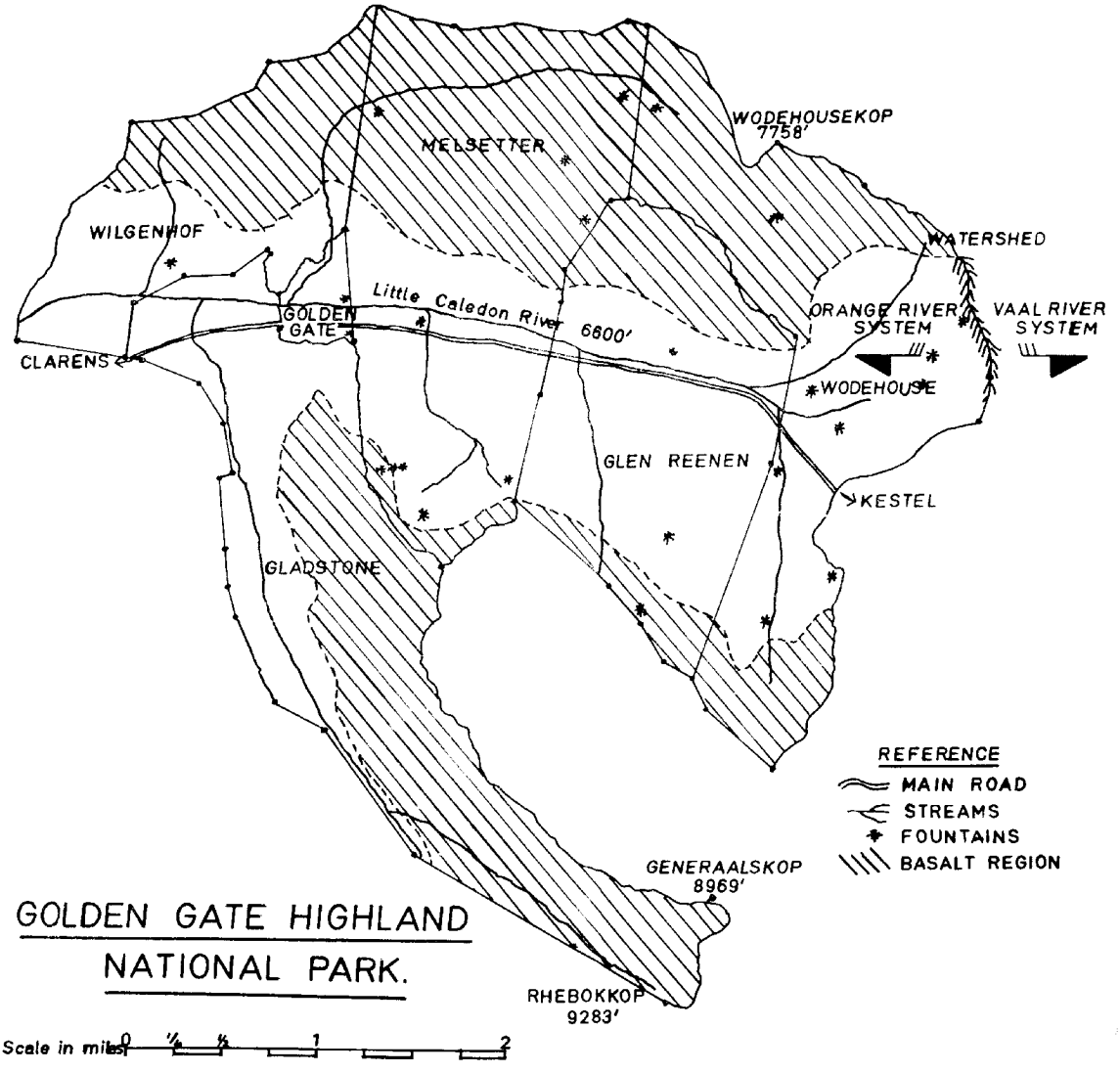


FIG.1 a. DUI LIGGING VAN GOLDEN GATE AAN
SHOWING POSITION OF GOLDEN GATE
b. VERALGEMEENDE OMLYNING VAN DIE SISTEEM KAROO
GENERALISED OUTLINE OF THE KAROO SYSTEM
c. VERALGEMEENDE OMLYNING VAN DIE SERIE STORMBERG
GENERALISED OUTLINE OF THE STORMBERG SERIES
20°
24°
28°
32°
24°
28°
Pietersburg
TRANSVAAL
PRETORIA
Johannesburg
SWAZILAND
Kuruman
Upington
Bethlehem
Harrismith
ORANJE-VRYSTAAT
Golden Gate
NATAL
BLOEMFONTEIN
LESOTHO
PMBURG
Durban
Springbok
Prieska
ATLANTIC
OCEAN
KAROO SYSTEM
Van Rhynsdorp
CAPE PROVINCE
Queenstown
Beaufort-West
East London
INDIAN
OCEAN
CAPE TOWN
Port Elizabeth
1:5,000,000
50 0 50 100 150 200
Myl — Miles
16°
20°
24°
28°
32°


WODEHOUSEKOP
7758'
MELSETTER
WILGENHOF
WATERSHED
Little Caledon River
GOLDEN GATE
6800'
ORANGE RIVER SYSTEM
VAAL RIVER SYSTEM
CLARENS
WODEHOUSE
GLEN REENEN
KESTEL
GLADSTONE
GENERAALSKOP
8969'
RHEBOKKOP
9283'
REFERENCE
MAIN ROAD
STREAMS
FOUNTAINS
BASALT REGION
GOLDEN GATE HIGHLAND
NATIONAL PARK.
Scale in miles
0
½
1
2

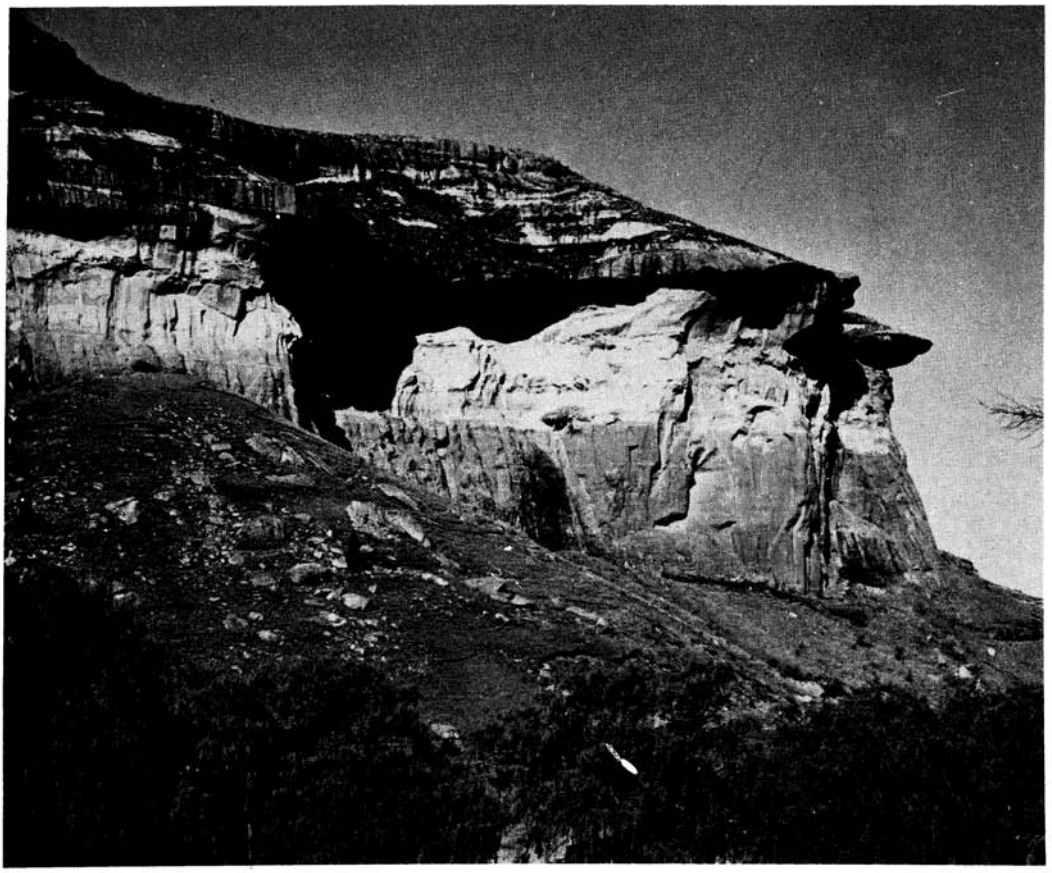


Fig. 2. Holkranssandsteen op Glen Reenen 1361, naby die kafeteria. Ongelyke verwering van sagte en harde (verkieselde) lae veroorsaak die afdakvormige holtes. Onderste gedeelte van krans is rooi van kleur en vertoon donker. Sierlike helling van rotspuin op die voorgrond links. Uitsig oosnoordooswaarts. (Foto: Parkeraad)

Cave sandstone on Glen Reenen 1361, near the cafeteria. 'The veranda-like cavities are caused by the differential weathering of soft and hard (silicified) layers. The lower part of the cliff is red in colour and appears dark. Graceful slope of scree in the left foreground. View east-northeastward. (Photo: Parks Board.)

Fig. 3. Die Brandwag, 'n uitstaande knoets van Holkranssandsteen. Skuins doleriet-plaat regs. Let op ongelyke verwering van die sandsteen. Uitsig noordooswaarts. (Foto: Parkeraad)

The Sentinel, a bulging knob of Cave sandstone. Inclined sill of dolerite on the right. Note differential weathering of the sandstone. View north-eastward. (Photo: Parks Board)

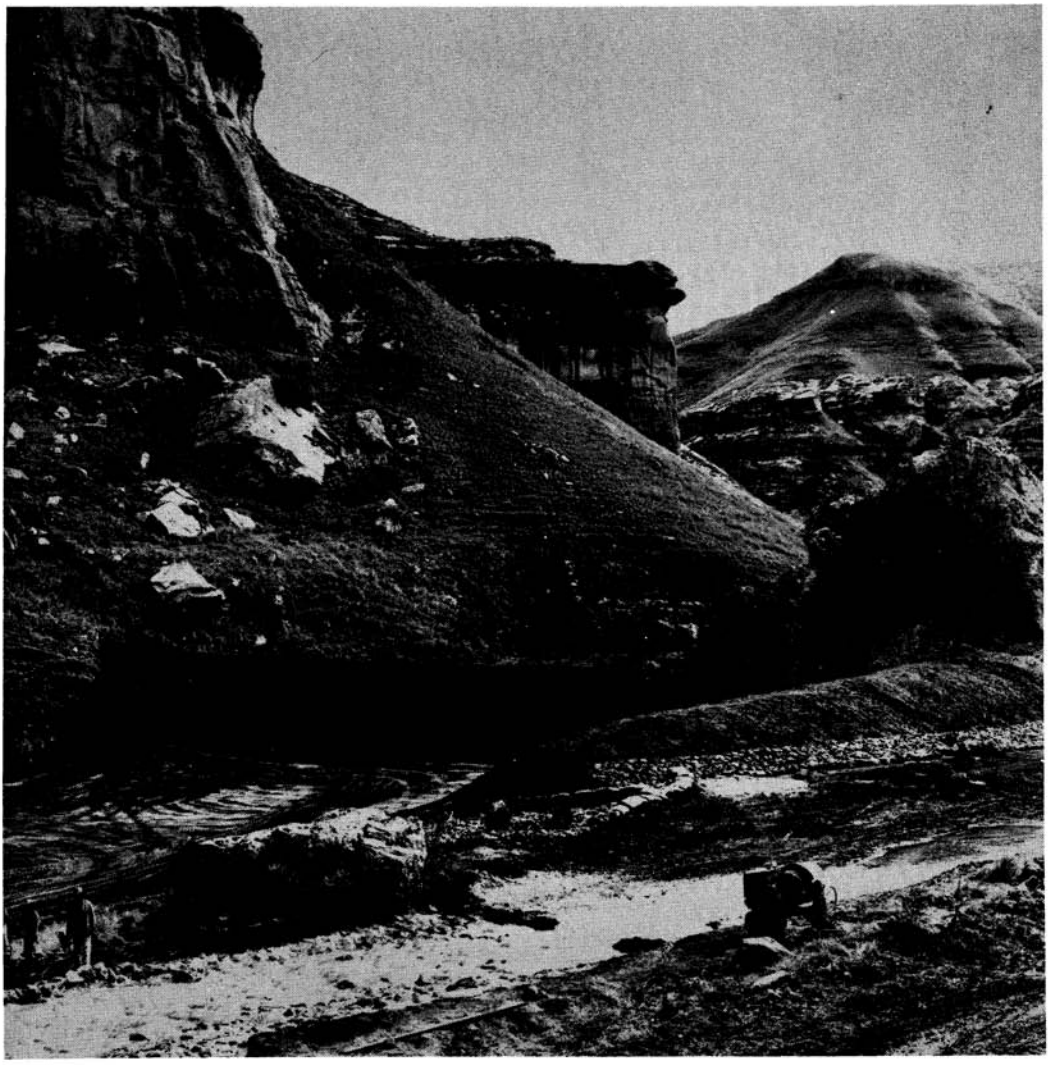


Fig. 4. Dam in die Klein-Caledonrivier naby die westelike grens van Golden Gate 521. Op die agtergrond regs is die kontak tussen die Holkranssandsteen en die Drakensberglawa duidelik sigbaar. Die krans in die middel toon donker strepe van plantaardige kleurstof. Sierlike helling van rotspuin naby die middel van die foto. Uitsig noordooswaarts. (Foto: Parkeraad)

Dam in the Little Caledon River near the western boundary of Golden Gate 521. The contact between the Cave sandstone and the Drakensberg lava can clearly be seen in the right background. The cliff in the middle shows dark stripes of staining caused by vegetable matter. Graceful slope of scree near the centre of the photo View north-eastward. (Photo: Parks Board)

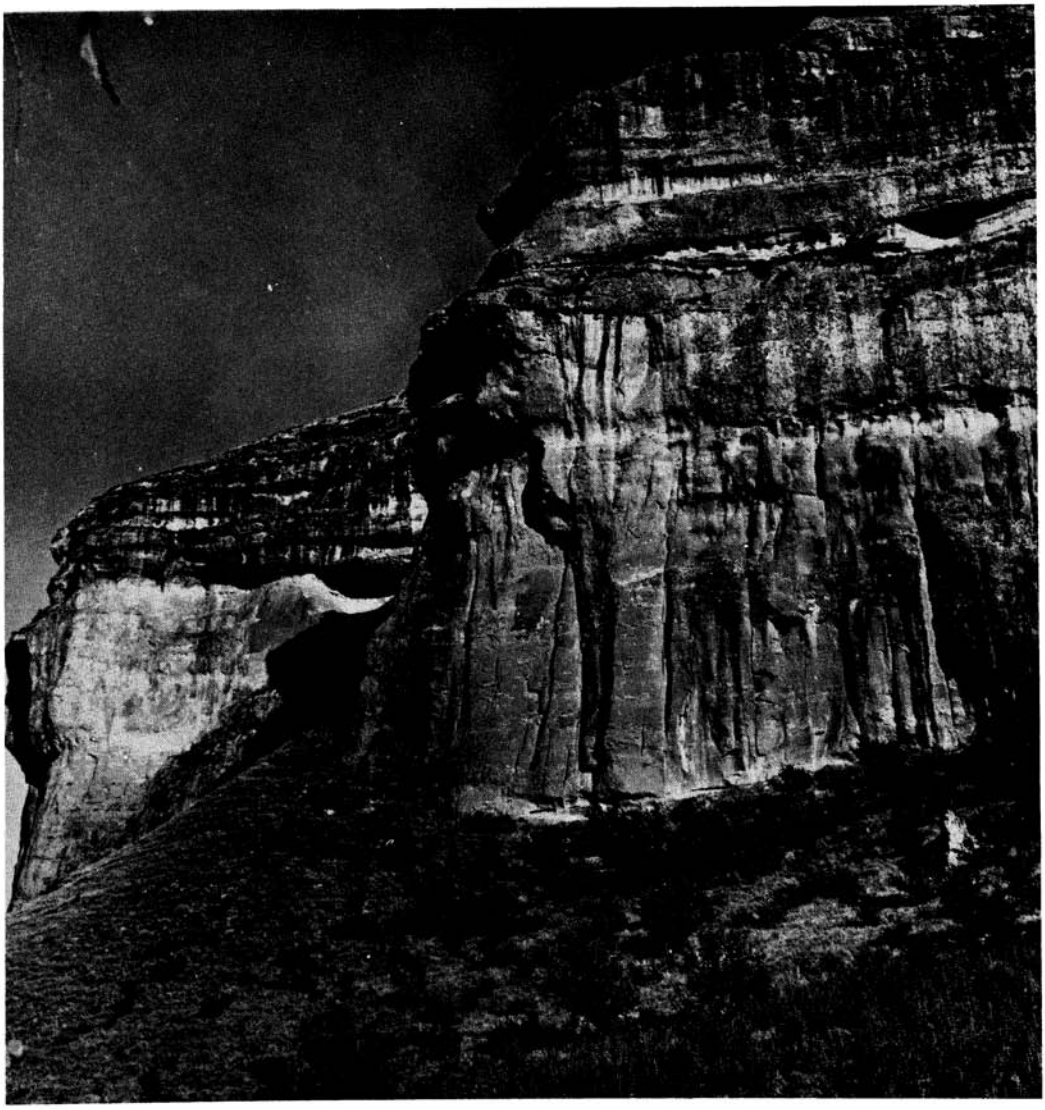


Fig. 5. Holkranssandsteen met holtes weens ongelyke verwering van sagte en harde (verkieselde) lae. Danker vertikale strepe word veroorsaak deur plantaardige kleurstof. Veelvuldige platterige kalkhoudende klonte kan in die onderste deel van die krans gesien word. (Foto: Parkeraad)

Cave sandstone with hollows due to the differential weathering of soft and hard (silicified) layers. Dark vertical stripes are caused by vegetable colouring-matter. Numerous flat calcareous concretions can be seen in the lower part of the cliff. (Photo: Parks Board)

Fig. 6: Verwering van kalkhoudende knolle in Holkranssandsteen bokant die Brandwag. (Foto: J. J. Spies)

Weathering of calcareous concretions in Cave standstone above the Sentinal. (Photo: J. J. Spies)

Fig. 7: Kalkhoudende knolle in Holkranssandsteen bokant die Brandwag. In die middel is die oorblyfsels van 'n diep uitverweerde knol. (Foto: J. J. Spies)

Calcareous concretions in Cave sandstone above the Sentinel. In the centre is the remnant of a deeply weathered concretion. (Photo: J. J. Spies)

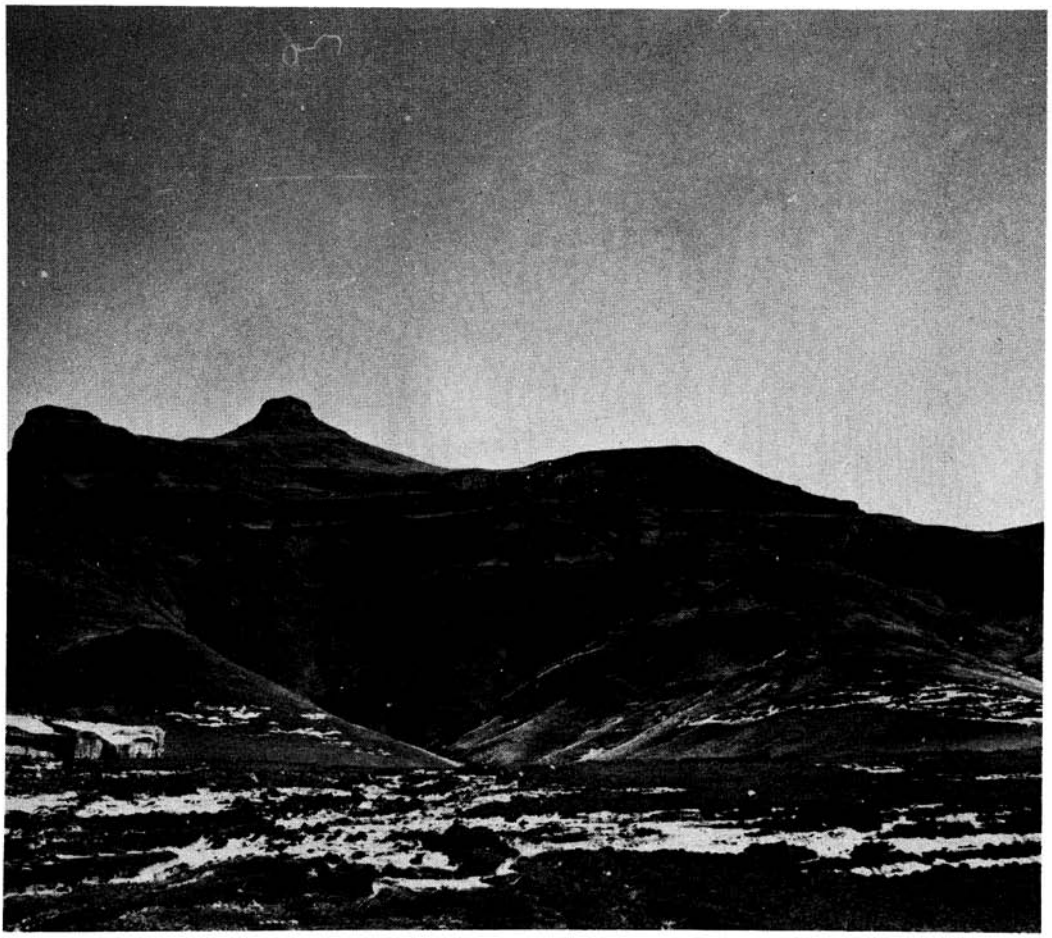


Fig. 8. Generaalskop met 'n strukturele platvorm aan die noordekant van die kruin veroorsaak deur 'n dolerietplaat in die Drakensberglawa. Die volle dikte, sowat 2,000 voet, van die lawa is hier blootgestel. Die duidelike gelaagdheid word veroorsaak deur die verskillende lawavloeie. Let op die kontras tussen die donker lawa en die wit Holkranssandsteen op die voorgrond. Uitsig weswaarts. (Foto: J. J. Spies)

Generaalskop with a structural platform north of the summit caused by a sheet of dolerite in the Drakensberg lava. The full thickness of some 2,000 feet of lava is exposed. The clearly visible stratification is due to different lava flows. Note the contrast between the dark lava and the white Cave sandstone in the foreground. View westward. (Photo: J. J. Spies)

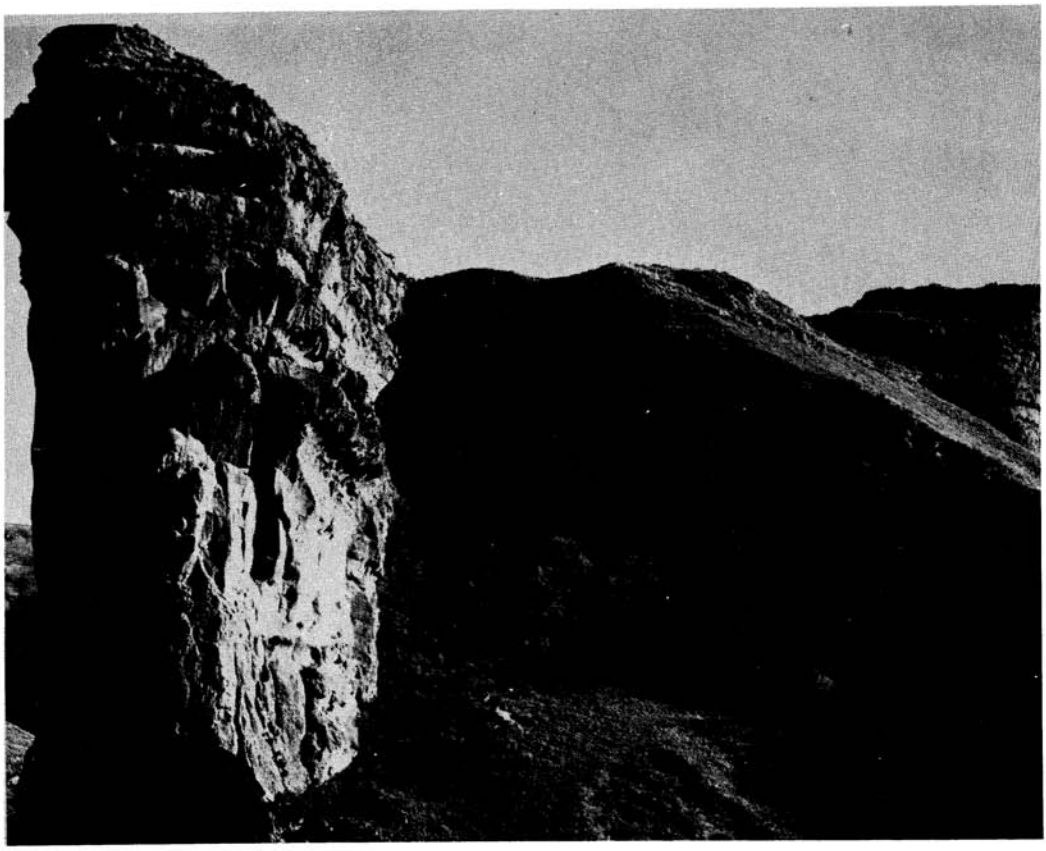


Fig. 9. Skuins dolerietplaat in Holkranssandsteen met duidelike nate waaiervormig gerangskik op plekke. Links die Brandwag van naby gesien. Uitsig noordooswaarts. (Foto: J. J. Spies)

Inclined sheet of dolerite in Cave sandstone with clearly visible joints, partly in fan-like arrangement. Left the Sentinel, a close-up. View north-eastward. (Photo: J. J. Spies)

Fig. 10: Muur van gebakte Holkranssandsteen langs 'n skuins dolerietgang op Melsetter 327. Uitsig suidweswaarts. (Foto J. J. Spies)

Wall of altered Cave sandstone next to an inclined dyke of dolerite on Melsetter 327. View south-westward. (Photo: J. J. Spies)

Fig. 11. Veranderde Holkranssandsteen wat suilvormig verweer bokant en onderkant 'n verweerde plaat van doleriet. Uitsig weswaarts. (Foto: J. J. Spies)

Altered Cave sandstone showing columnar weathering above and below a weathered sheet of dolerite. View westward. (Photo: J. J. Spies)

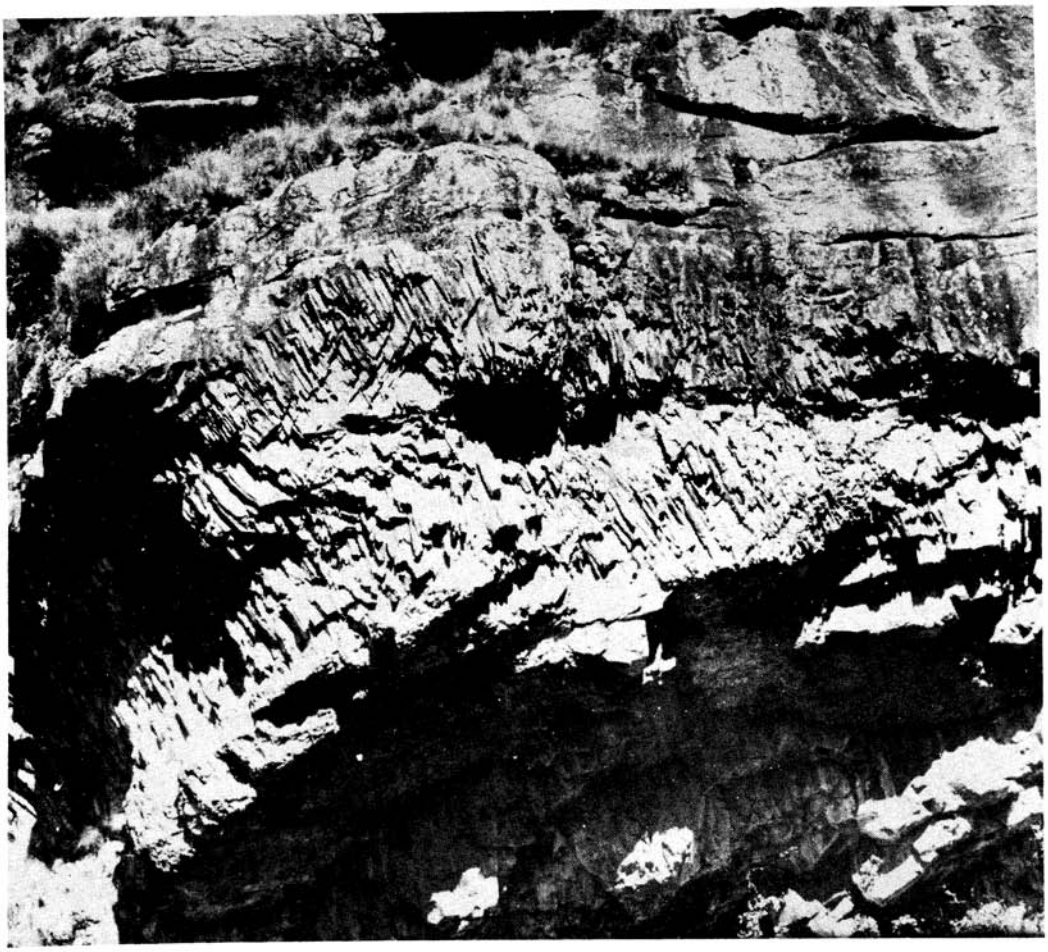


Fig. 12. Laag gebakte Holkranssandsteen, omtrent 5 voet dik, suilvormig verweer van naby gesien. Die meegaande doleriet verweer vinniger en veroorsaak die holte onder. (Foto: J. J. Spies)

A close-up of altered Cave sandstone, about 5 feet thick, showing columnar weathering. The accompanying dolerite weathers more readily and causes the hollow. (Photo: J. J. Spies)

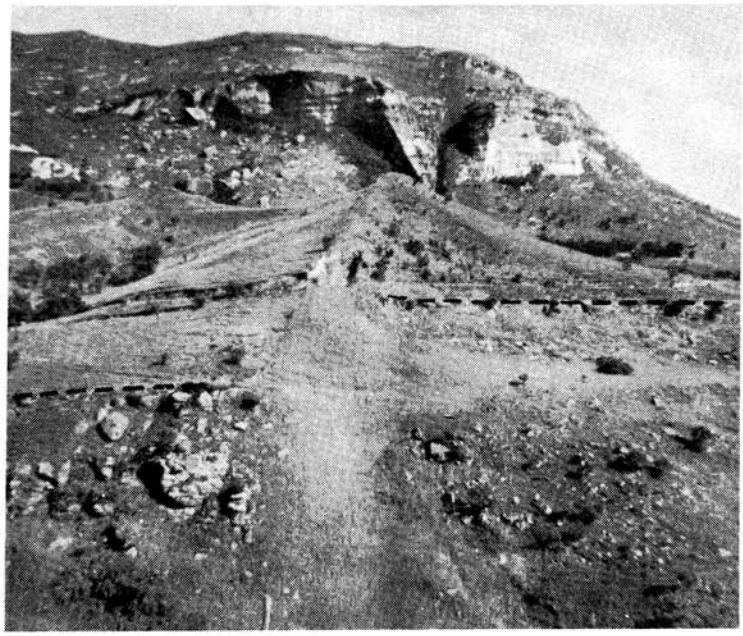


Fig. 13. Verskuiwing op General Will 623. Die verplasing van die kontak tussen Moltenosandsteen en die Rooilae is duidelik sigbaar. Uitsig weswaarts. (Foto: J. J. Spies)

Fault on General Will 623. The displacement of the contact between Molteno sandstone and the Red Beds is clearly visible. View westward. (Photo: J. J. Spies)

Fig. 14. Verskuiwing op Glen Reenen 1361. Die verplasing van sowat 200 voet van die kontak tussen die Holkranssandsteen en die Drakensberglawa is duidelik sigbaar. Uitsig ooswaarts. (Foto: J. J. Spies)

Fault on Glen Reenen 1361. The displacement of about 200 feet of the contact between the Cave sandstone and the Drakensberg lava can clearly be seen. View eastward. (Photo: J. J. Spies)

GEOLOGICAL MAP OF GOLDEN GATE NATIONAL HIGHLAND PARK

GEOLOGIESE KAART VAN GOLDEN GATE NASIONALE HOOGLANDPARK

LEGEND LEGENDE

Dark, compact and amygdaloidal basaltic lava with interbedded sandstone bands in places near the base (...)	Drakensberg Stage Etage Drakensberg		
Donker, dig en amandelhoudende basaltiese lawa met tussengelaagde sandsteenbande op plekke naby die basis (...)			
Massive, fine-grained, cream-coloured sandstone becoming reddish and argillaceous towards the base	Cave Sandstone Stage Etage Holsteensandsteen	Stormberg Series Serie Stormberg	KAROO SYSTEM STELSEL KAROO
Massiewe, fynkorrelrige en roomkleurige sandsteen wat rooserig en kleiig word aan die basis			
Largely reddish-brown mudstone with intercalated bands of medium-grained, white to yellowish-brown sandstone	Red Beds Stage Etage Rooilae		
Grotendeels rooierige bruin moddersteen met tussengelaagde middelkorrelrige, wit tot geelbruin sandsteenlae			
Mainly to cream-coloured, glistening, gritty sandstone	Molteno Stage Etage Molteno		
Grootliks roomkleurige, witterige tot roomkleurige, grensgige sandsteen			
Purplish and greenish shale	Upper Beaufort Stage Etage Bo-Beaufort	Beaufort Series Serie Beaufort	
Pers-grys en groenerige skalie			

Dolerite dykes
Doleriet gang

Dolerite sheet, partly inclined
Doleriet-vorsel, gedeeltelik skuins

Fault with dolerite filling
Verskuiwing met doleriet-vulsel

POST-KAROO
NA-KAROO

Main road
Hoofpad

Other roads
Ander paaie

Contours
Hoogtelyne

River
Rivier

Trig beacon
Driehoeksbaken

Aerial photo centre
Lugfoto-sentrum

Boundary of National Highland Park
Grens van Nasionale Hooglandpark

Yards 1000 500 0 1000 2000 3000 4000 Yds

Geologically surveyed on aerial photographs in 1965 by J.J.Spies
Geologies opgemeet op lugfotos in 1965 deur J.J.Spies

Geological Survey, Pretoria, 1966
Geologiese Opname, Pretoria, 1966