

OVERBERG GEOSCIENTISTS GROUP (OGG)

(OGG – Reg. No. 275-138 NPO)

GeoExcursion: Greater-Worcester & Hex River Valley Geology, Fold Belt Syntaxis, Hot-springs, Aquifers, Wine & Flower experience 4 – 6th September 2026

This excursion will provide a unique 2,5day experience of the greater Worcester region, including the Greater Brandvlei dam and hot-springs, Doornrivier and Hex River Valley settings. The excursion start-point will be the Stettyn Wine Farm on Saturday 4 September, at 08h30 for 09h00. The Alvi's Drift and Nuy Wine Cellars will be visited during the 3-day event.

The excursion will highlight the juxtaposed southern Cape geological successions, including Malmesbury Basement (>600Ma), Cape Granites (~540My) Cape Supergroup (Table Mountain, Bokkeveld and Witteberg Groups), Karoo (Ecca sediments & Dwyka tillites) and Jurassic/Cretaceous Uitenhage Group rocks (Enon conglomerates). The juxtaposition of these multiple successions covering over 600 million years of geological history, are the consequence of the extensive faulting and folding in the Cape Fold Belt (CFB) Syntaxis zone.

The Southern Cape Mountains Syntaxis zone, also known as the Ceres or Worcester Syntaxis, is a structurally complex region in the Western Cape (RSA), where the north-northwest trending branch of the CFB, meets the east-west trending southern branch. This area (or zone) acts as a hinge or "elbow" of the Cape Fold Belt, resulting in intense folding, faulting, and interference patterns.

The excursion will be led by Jurie Viljoen (Geologist) and Dr Anso Le Roex (Plant Ecologist) who have lifetimes of experience in respect of the geology, structure, soils, and aquifers of the Cape Fold Belt and 'symbiotic' biodiversity of the Cape Floristic Region (CFR). They will be supported by other geological and hydrological experts participating in the excursion.

Registration details and OGG payments are kindly required by end-March to secure participation in the Excursion. The Guidebook and registration fee is R300.00 per person, with no cost to Students and scholars. There will be adequate parking at selected stops, planned for the excursion but sharing of transport to limit the number of vehicles is recommended.

OGG Bank details are as follows: Standard Bank Current Account; Overberg Geoscientists Group NPC; Acc. No. - 10168933800; Branch Code - 051001; Swift Address - SBZA ZA JJ.

Accommodation for the 2-night Excursion will be at the *Slanghoek Mountain Resort*, an ideal locality and setting to the west of Worcester, with excellent facilities at affordable pricing. Participants must make their own reservations pay their own accommodation costs. Facilities at Slanghoek include camping and cottages; for further details please call the Resort management on 023- 344 3138 Cottage details are in the link below.

<https://mail.google.com/mail/u/0?ui=2&ik=6b3c7f64a1&attid=0.2&permmmsgid=msg-f:1856808955580776554&th=19c4b5e84528006a&view=att&zw&disp=inlineof the>

To register, reserve your place on this Excursion or obtain more details please contact John Bristow (m: 082 571 3004; jwbdia@gmail.com) or Anso LeRoux (anso@pokkraal.co.za).



Brandvlei Hot Springs

Fault Controlled high-temperature (~64° C) upwelling in the Brandvlei Correctional Services Facility south of Worcester.

Image above is pre-1899; image below from 25 February, 2026

Geological Society of South Africa
Geologiese Vereniging van Suid-Afrika

SITE C9 PLEK

BRANDVLEI HOT SPRING / BRANDVLEI WARMBRON

Brandvlei thermal spring, the hottest (64° C) in South Africa, flows at a rate of about 126 litres per second. The pure tasteless water does not deposit any mineral matter and, though very weakly radioactive, lacks specific medicinal properties. The position of the spring is evidently controlled by the types of rock and their structure. Rainwater that seeps into the Table Mountain Group sandstone of Stettynsberg moves downward under gravity. It becomes pressurised below a barrier of Cedarberg Formation shale towards the closure of an arch-like (anticlinal) structure at the northern end of the mountain range. Here a fault, which displaces the formations, provides the conduit for rapid upward escape of the artesian water. Its high temperature is not related to volcanic activity but to the natural heat gradient in the earth's crust, according to which the temperature rises by approximately 25° C per kilometre of depth.

Brandvlei warmbronn, die warmste (64° C) in Suid-Afrika, vloei teen sowat 126 liter per sekonde. Die suiwer, smaaklose water laat nie 'n neerslag agter nie en is effe radioaktief, dog het geen besondere genesende eienskappe nie. Die posisie van die bron is bepaal deur die gesteentetipes en hul struktuur. Reënwater wat in die Tafelberg Groep sandsteen van Stettynsberg wegsyfer, beweeg afwaarts onder swaartekrag. Dit kom onder druk soos dit onder 'n keerbank van Sederberg Formasie skakel in 'n boogstruktuur (antiklien) na die noordekant van die bergreeks beweeg. Hier is die formasies verplaas deur 'n verskuiving wat die deurgang verskaf waarlangs die artiese water opwaarts kan ontsnap. Die hoë temperatuur daarvan is nie te wyte aan vulkaniese werking nie, maar aan die natuurlike temperatuurgradiënt in die aardkors, waarvolgens die temperatuur met ongeveer 25° C per kilometer diepte styg.





Doornrivier Valley, Farm and Mountains in the background



Folded Witteberg Formations south of Worcester





Uitenhage Group, Enon Fm (Nuy, east of Worcester)



Ecca Group, Waterford Fm (near Nuy)

Cederberg Shales (Sandhills, HRV)



***Basement of Malmesbury Group shales
(south of DeDoorns, HRV)***



Hex River Valley (HRV) & Mountains from the north-east (Cape Fold Belt Syntaxis zone)