

35TH INTERNATIONAL GEOLOGICAL CONGRESS

27 AUGUST - 4 SEPTEMBER 2016 | CAPE TOWN, SOUTH AFRICA



POST 4 Eastern Bushveld and Nkomati

Field Trip Leader: Christopher Gauert



NOTES



The excursion will pass through Transvaal Sequence floor rocks into the Bushveld Complex granites around Vergenoeg Fluorite Mine. Passing the town of Chuniespoort and the Mohlopitse Fold Belt, we enter the northeastern limb of the Bushveld Complex looking at Lower and Lower Critical Zone rocks in the Olifants River Trough and along the 'Cameron Section'. The famous Pt-orebody of the 'Merensky Reef' will be inspected at the Maandagshoek type locality close to Burgersfort. Furthermore, exposures of the middle and upper group chromitite layers will be visited at Tweefontein Mine and the national geological monument of the Dwars River gorge, south of Steelpoort, as well as discordant ultramafic pipes. The Main Magnetite Layer and related Fe-V-Ti mineralizations of Upper Zone of the Bushveld Complex will be attended in Sekuhuneland.

It is planned to visit the Two Rivers Platinum Mine nearby, looking at underground exposure of the UG-2 chromitite workings; the excursion continues via the Mpumalanga Drakensberg Range, looking at Black Reef conglomerate in the eastern escarpment at 'Gods Window' and the stromatolitic 'Mega domes' of the Malmani Subgroup dolomites near Sudwala Caves. Passing by marginal sills in the foot wall of the eastern Bushveld Complex, a visit to the open-pit Nkomati Nickel-Copper-Platinum (-Cr-Co) Mine is planned, which constitutes a satellite intrusion of the Bushveld. Drive back to Johannesburg via Middleburg and Emalahleni.

Field Trip Leader: Christoph Gauert

Start: Johannesburg

End: Johannesburg

Dates: 5 days, Monday 5th to Friday 9th September 2016

ITINERARY

DATE	ROUTING
5 – 6 September 2016	Burgersfort (Gethlane Lodge)
6 – 8 September 2016	Between Burgersfort and Steelpoort (Khumula Lodge)
8 – 9 September 2016	Badplaas

Meal Key

BB Bed and Breakfast

DBB Dinner, Bed and Breakfast

Day 1: Monday, 5 September 2016

Overnight in Johannesburg (excluded - under own arrangements)

Early departure (7:00) from Johannesburg northwards on the N1 via Bela-Bela and Mokopane to Chuniespoort, possibly digress (Stop 1) to Vergenoeg Fluorite Mine near Rust de Winter via Pretoria-Zambezi Drive and Moloto, hopefully collection of samples from dumps.

Stop 2: Transvaal Sequence floor rocks of the Bushveld Complex around Chuniespoort and in Mohlopitse Fold Belt, north of the road, sign "Burgersfort 90km"

Stop 3: Ultramafic rocks of the "Cameron Section"- Olifants River

Stop 4: "Cameron Section" and in the Olifants' River valley. Overview of Lower and Lower Critical Zone (LZ and CLZ) rocks of the Bushveld Complex on farms Jagdlust, Clapham and Winterveld.

Stop 5: Lower Upper critical zone section on the farm "Jagdlust".

Travel to Burgersfort, overnight at Gethlane Lodge, Burgersfort.

Lunch (excluding beverages) – *Overnight Johannesburg hotel to be advised in order to arranged this.*

Dinner (excluding beverages)

Overnight: Gethlane Lodge or similar on a bed and breakfast basis

Day 2: Tuesday, 6 September 2016

08:00 Depart from Gethlane Lodge

Stop 1: Merensky Reef (MR) Maandagshoek type locality close to Burgersfort, afternoon drive past UG-3 river exposure, Driekop and Mooihoek pipes.

Stop 2: Calcsilicate felses on the way back to Steelpoort.

Stop 3: Upper Critical and Main Zones of the Bushveld Complex: Main Magnetite Layer, related mineralizations at "magnets hoogte/heights".

Stop 4: Bushveld granite close to Jane Furse Hospital in Sekuhuneland.

Overnight: Khumula Lodge, between Burgersfort and Steelpoort.

Lunch (excluding beverages)

Dinner (excluding beverages)

Overnight: Khumula Lodge or similar on a bed and breakfast basis

Day 3: Wednesday, 7 September 2016

08:00 Depart from Khumula Lodge

Stop 1: Mine Visit at Two Rivers Platinum Mine (African Rainbow Minerals – Impala Platinum JV) in the morning; underground visit to the UG2 workings; visit of the commencing UG2 open pit operation.

Stop 2: Visit the Dwars River gorge, exposure of UG1 (Upper Group Chromitite 1, CUZ) south of Steelpoort, National Monument: Chromitite layers of the anorthosites of the upper critical zone of the Bushveld.

Stop 3: Discordant ultramafic pipes (CUZ)

Stop 4: MG – chromitite exposure at Tweefontein recreation club.

Overnight: Khumula Lodge, between Burgersfort and Steelpoort.

Lunch provided by mine (EXCLUDED - under own arrangement)

Dinner (excluding beverages)

Overnight: Khumula Lodge or similar on a bed and breakfast basis

Day 4: Thursday, 8 September 2016

08:00 Depart from Khumula Lodge

Drive from Steelpoort to Dwars River then via Lydenburg Long Tom Pass, Graskop, Nelspruit, Barberton to Badplaas.

Stop 1: Marginal zone and sills of the Eastern part of the Bushveld Complex. Possible stop 1b: “Tennis ball marker”.

Stop 2: Malmani Subgroup dolomites: stromatolitic “Megadomes” between Sabie and Sudwala Caves.

Stop 3: Wolkberg Formation, Transvaal Sequence: Black Reef conglomerate

Stop 4: Mpumalanga Drakensberg Range, country rocks to the Bushveld Complex.

Overnight: Badplaas Forever Resorts

19:30 Enjoy an evening “braai” and bath in Badplaas thermal pool.

Lunch (excluding beverages)

Dinner (excluding beverages)

Overnight: Badplaas Forever Resorts or similar on a bed and breakfast basis

Day 5: Friday, 9 September 2016

07:00 Depart from Forever Badplaas Restort

Early departure from Badplaas westwards to Vygeboomdam and Vaalkop/Uitkomst/Slaaihoek.

Stop 1: Visit to the Nkomati Nickel-Copper-Platinum (-Cr-Co) Mine, a mineralised satellite intrusion of the Bushveld; open-pit, core yard and exploration drill rig.

The Nkomati mine is a large mine in the north-east of South Africa near Machadodorp in Mpumalanga. Nkomati represents one of the largest nickel reserves in South Africa having estimated reserves of 408.6 million tonnes of ore grading 0.33% nickel.

Stop 2: Marginal sills of the Eastern part of the Bushveld Complex. Lower part of the Transvaal Sequence: Timeball Hill shale, Malmani Dolomite, Black Reef conglomerate. From there to the farms, Little Mamre and Slaaihoek onto the Mpumalanga escarpment. From Machadodorp on the N4 via and Middleburg and Emalaheni (former Witbank)

Return to Johannesburg in the afternoon.

Lunch (excluding beverages)

Approximate return time 18:00.

NOTES

- All services quoted are subject to availability at the time of booking.
- Vehicle sizes are based on 15 seater vehicles and are subject to road conditions.
- Accommodation suggestions in Johannesburg: Protea Hotel Balalaika, City Lodge Sandton Katherine Street, Protea Hotel O. R. Tambo (excluded – under own arrangements)

Vehicle Size:

7 - 14 person range – Based on 1 x 15 Seater Vehicle

15 - 25 person range - Based on 2 x 15 Seater Vehicles

26 - 35 person range – Based on 3 x 15 Seater Vehicles

Vehicle costs are based on an average of 400km per day and subject to road conditions.

All excursions/sightseeing listed are time and weather permitting on the day of travel.

Minimum number 6
Maximum Number 34

COST INCLUDES:

Based on Standard accommodation

- 1 night accommodation at Gethlane Lodge on a BB basis
- 2 nights' accommodation at Khumula Lodge or similar on a BB basis
- 1 night accommodation at Badplaas Forever Resorts or similar on a BB basis
- 4 x lunch (excluding beverages)
- 4 x dinner (excluding beverages)
- Transport in private touring vehicles
- Local English speaking driver on all transfers
- Driver meals & accommodation where necessary
- Vehicle E-toll fees and Toll fees

COST EXCLUDES:

- All airfares, air reservations and airport taxes
- All other accommodation
- Entrance fees, conservation fees and park fees en-route
- All other meals
- All other transport
- All sightseeing
- Personal expenses such as tips for meals, gratuities for drivers, all alcoholic and other beverages, telephone calls and laundry, etc...
- Any other services not mentioned above