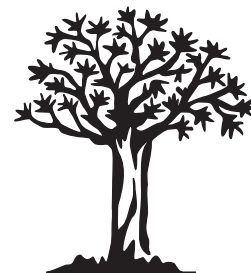
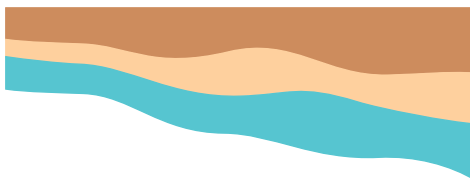


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Northern Cape branch
Geological Society of South Africa



Geology and mineralogy of the Rhenosterkop tin, tungsten and zinc deposit **14 May 2021**

The first event of the Northern Cape branch in 2021 will be held at the Lake Grappa in the town of Kakamas (coordinates: 28 42'13.8"S / 20 28'39.70"E). Accommodation at the venue includes a tented camping option as well as rooms and chalets. Accommodation is not included in the registration costs. Attendees must arrange their own accommodation. The cost of tented camping is R150/person per night. Tent stands are situated on the lawn with electricity and ablution facilities available.

The website of Lake Grappa is <http://lakegrappa.co.za/>
The event will take place on Friday the 14th of May 2021.

Allan Saad will present a talk on Rhenosterkop, which is a significant tin, tungsten, and zinc deposit. It has a surface expression and is located between the R64 tarred road and the Orange River. Economic potential of the deposit was recognized firstly by the geologist Dr. Vaughn Armstrong in the late 1980s working for Rio Tinto. He discovered the deposit by means of geochemical sampling techniques.

The mineralization present is not visible in hand specimen. The deposit is hosted within an a quartz, biotite, and topaz greisen. Typical greisen deposits contain muscovite and biotite, making Rhenosterkop unique in its mineralogical assemblage. The biotite greisen is believed to have formed by hydrothermal fluids altering the host granitic rock along thrust planes forming shallow-dipping sheet-like bodies, which merge to form a massive mineralized and greisenized body in the centre. The body is weather resistant compared to the surrounding granites and forms an outcropping ridge 1,500 m long and 300 m wide. The body has a dip of 15 degrees to the east. The deposit contains 29 million tonnes at a grade of 0.124% Sn, 0.583% Zn, and 0.016% WO₃ with a stripping ratio of 0.27:1.

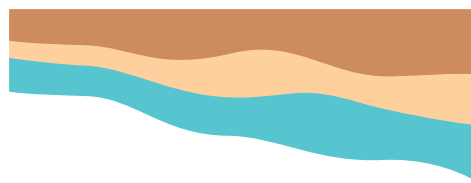
Introduction of the Northern Cape branch by Chair Person Masibulele Zintwana of Anglo American Kumba Iron Ore

“The Northern Cape has seen an increase in mineral exploration and mining during the last decade. A need has arisen for formal and informal coordination of the interests of the Geoscientists and stakeholders in the region. Due to the increase mineral exploration interest in an area that is well endowed with minerals, the GSSA set about to establish the Northern Cape branch, which it envisages to be the custodian of the GSSA functions, and supporting the development agendas of all interested parties and members. The objectives of the branch are to promote awareness of geology and foster interest in the earth sciences in the geographic region encompassing the Northern Cape. In addition, the branch will provide a social venue and professional forum for all geoscientists of the region. It is a strategic vision of the branch to be fervent advocate for socioeconomic development and technical expertise for the Northern Cape.”

Interim Exco: Chair Person Masibulele Zintwana (Anglo American Kumba), Vice Chair Person Deon du Plessis (Earthlab), Secretary Joshua Kilani (Remote Exploration Services), Treasurers Elsabe Cloete (Vedanta Zinc International) and Francois Stassen (Master Drilling), and Communications Loni Gallant (Orion Minerals).
Committee members: Mpfumelo Mhlongo (Petra Diamonds), Rounelda Cloete (Alexkor), Deon Bowers (Jodesi) and Darryl Bennett (GW Minerals)

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Programme and information

Date: 14 May 2021 (Day 1): Continuous Professional Development points (4). Dinner is included in the registration cost (one large Pizza per person including a cool drink)

TIME SLOT	SPEAKER	TITLE OF TALK
18:00 – 18:15	Mr. Masibulele Zintwana	Introduction of the GSSA Northern Cape branch and interim EXCO and committee.
18:15 – 18:45	Mr. Allan Saad	Geology and Mineralogy of the Rhenosterkop tin, tungsten and zinc deposit.
18:45 – 19:15	Dr. Hermann Praekelt	A geological perspective of the Bushmanland
19:15 – 20:00	Mr. Masibulele Zintwana	Annual General Meeting of the Northern Cape branch of the Geological Society of South Africa

Date: 15 May 2021 (Day 2): Continuous Professional Development points (4). Breakfast will be for everyone's own account.

Time slot	Guided field excursion	Description
08:00 – 11:00	Mr. Allan Saad and Dr. Hermann Praekelt	Field excursion to the Rhenosterkop deposit. The deposit is a few kilometers from the venue. Further arrangements will be communicated with regard to logistics closer to the event.

Registration costs (including VAT) – the registration costs exclude accomodation:

Students: Day 1 (R400) Day 2 (R250) Other attendees: Day 1 (R900) Day 2 (R400)

For registrations, membership applications or any other general enquiries use the following email:
admin.nc@gssa.org.za

Registrations will be assisted by either Francois Stassen or Elsabe Cloete. Sponsorships and other communications will be assisted by Loni Gallant.

Lake Grappa is located off the R64 tarred road from Kakamas towards Augrabies. The venue is clearly marked with sign posts.

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Biography of Allen Saad (M.Sc. Geology Pr.Sci.Nat. FGSSA)

Allan graduated in 1979 with an Honours degree in geology from the University of Johannesburg, followed some years later by a Master's degree from the Potchefstroom University, South Africa (His M.Sc. was based on the mineralogy of the Rhenosterkop tin, tungsten and zinc deposit in Northern Cape).

Following graduation, Allan was employed in the coal section of the Geological Survey of South Africa, until he was recruited by Rio Tinto where he was employed from 1982 until 2000.

During the period 1982 to 2000 he focused on multi-commodity mineral exploration mainly in Southern Africa where extensive experience was gained in various fields which included copper, platinum, gold, diamonds, coal, iron ore, manganese, base metals, industrial minerals, and other metals and minerals. This work involved exploration and evaluation of various mineral deposits from discovery to feasibility stages, and included the drilling and evaluation of the Rhenosterkop tin, tungsten, zinc deposit, and involvement in the feasibility study of this project.

In later years Allan was appointed Business Development Manager – Africa for Rio Tinto and held this position until electing to establish his consultancy company in 2000. During this period he evaluated many opportunities which were brought to the attention of his company and visited various mining operations owned by Rio Tinto internationally.

Following the establishment of his consultancy company, geological services were rendered to numerous large and small mining and exploration companies. Energies were focused both locally and abroad on project generation and management, due diligence and evaluation studies on various potential mining opportunities, as well as specializing in mineral tenure in South Africa. During this period, Allan established and led the Foreign Investors Mining Association, an association which represented the interests of foreign investors and junior mining and exploration companies, and played an active role in formulating the new mineral legislation in South Africa.

Allan has over the past few years discovered, promoted and managed a variety of mineral projects including the Roodekraal Copper Prospect (Potchefstroom), the Doornhoek fluorspar project (Zeerust) – the world's largest fluorspar resource, the Estima Coal Project in Mozambique (a world-class coal deposit exceeding >1.3 billion tonnes of coal), and initiated and drilled a major manganese project in the Kalahari, which is now the

producing Kudumane mine. The fluorite project is currently approaching the development stage.

Allan is a Fellow of the Geological Society of South Africa, and professionally affiliated to the South African Council for Natural Scientific Professions. During his illustrious career, Allan has presented numerous geological papers both nationally and internationally.

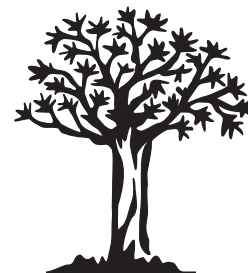
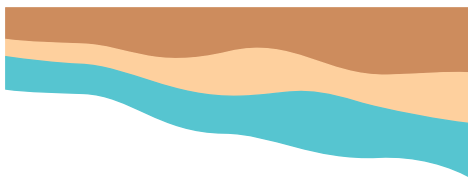


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Biography of Hermann Praekelt (Ph.D. Geology, Pr.Sci.Nat. FGSSA)

After 44 years at the University of the Free State, of which the first eight years as a student, Dr. Praekelt retired and then moved the coast, living in Reebok, between Mossel Bay and George.

His first real experience of Bushmanland geology was in 1978 when he started his M.Sc. mapping work at Augrabies. The area covered more than 2,400 km². Towards the end of 1978, after struggling to make sense of a specific geological contact, he realized, after attending a talk by Mike Coward of the United Kingdom, that the contact was indeed a Thrust Fault. That was a first for the Namaqua Mobile Belt. A spin-off was the recognition of terranes as entities separated by thrust boundaries.

In 1981 he started his Ph.D. mapping north of Aggeneys as part of the so called Goldfields Project. For seven years he worked as part of a team to establish the stratigraphy for the Pofadder Terrane and also the origin of the mineralization.

His interest shifted in 1996 to the rocks of the Congo Caves Group north of Oudtshoorn and is still involved.

Geology is one of his hobbies and he is passionate about it.



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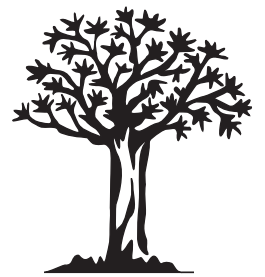


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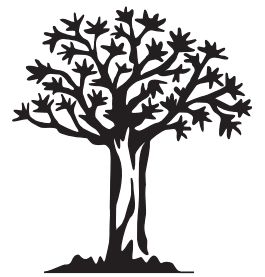


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