

Geological Society of Zimbabwe



Newsletter

February 2025

No. 1 of 3 of 2025



Ben Mapani honoured the Society in presenting the 14th A.M. Macgregor Memorial Lecture in both Bulawayo and Harare, November 2024.

www.geologicalsociety.org.zw

The Geological Society of Zimbabwe, P.O. Box CY 1719, Causeway, Harare

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Chairperson's Chat



Ernest Tafumanei Mugandani etmugandani@gmail.com

Welcome to this exciting final edition of the Newsletter under my Chairmanship. I am proud to have been afforded the opportunity to serve as the Committee Chairman running the affairs of the Society for the past year. I am really delighted to leave the Society in its current state where the foundation continues to be laid down as we endeavor to see the growth of our Geological Society. The growth witnessed in the past year would not have been possible without dedication and support from the Executive Committee members who were determined to deliver the objectives and aspirations of the Society. Thanks to all.

International collaboration with the Society of Economic Geologists (SEG) has resulted in two international events leaving footprints in Zimbabwe. The Pre-SEG Namibia Conference field excursion to Zimbabwe's Arcadia, Bikita, and Kamativi lithium mines in October 2024 and the Post-conference field excursion to Great Dyke were such memorable events delivered to the international delegates. The Orogenic Gold in Africa and Worldwide workshop held at the University of Zimbabwe in February 2025 and associated Post-Workshop Field Trip to greenstone belts was yet another exciting event courtesy of international collaborative efforts by GSZ. Special thanks are extended to Gayle Hanssen and all the other team members for spending sleepless nights to make these events a success.

Local activities resulted in the successful holding of the GSZ Annual Summer Symposium and the Macgregor Memorial Public Lecture held on 1st November 2024 at the Natural History Museum in Bulawayo. The events were overwhelmingly attended by geoscientists both local and foreign as well as students and academia. The attendance at the events reminded some of the old geoscientists of the "Gold 82" Conference held in Zimbabwe.

Special thanks are further extended to Prof. Ben Mapani for delivering his very educative and informative Macgregor Memorial Lecture both in Bulawayo and Harare. It is particularly pleasing to welcome him to Honorary Membership of our Society. Thanks too to Edwin Gwaze from the Zimbabwe School of Mines for officially opening the Summer Symposium. Many thanks once again to the editorial team of Tim Broderick and Shepherd Mabhanga for the production of our newsletters. To the *Mining Zimbabwe* publication team - thank you for the support.

Lastly, I look forward to seeing you all at the prestigious Manna Resort in Glen Lorne, Harare for the GSZ Annual General Meeting (AGM) on the 7th March 2025 when Caston Musa will commence his tenure as Chairman of the Society.

I wish Caston and the new Committee all the best for 2025.

Notice is hereby given that the Annual General Meeting (AGM) of the Geological Society of Zimbabwe (GSZ) will be held as follows:

Date: Friday 7th March 2025

Time: 1700 hours

Venue: Manna Resort, 690 Glenwood Drive ,Glen Lorne, Harare

AGENDA

1. CONVENING OF THE MEETING
2. OBITUARIES
3. APOLOGIES
4. MINUTES OF THE PREVIOUS MEETING
 - 4.1 Consideration and approval of the minutes
 - 4.2 Matters arising not covered elsewhere in the agenda
5. CHAIRMAN'S STATEMENT
6. TREASURER'S REPORT
8. PROPOSED AMENDMENTS TO THE GSZ CONSTITUTION
9. ANNOUNCEMENT OF THE NEXT COMMITTEE 2025 – 2026
10. SOCIETY OF ECONOMIC GEOLOGISTS (SEG) FEEDBACK
12. PRESENTATION BY THE GUEST SPEAKER – Hillary Gumbo
13. **AWARDS**
 - 13.1 A.E. Phaup Award
 - 13.2 Geoffrey Bond Award
 - 13.3 J.F. Wilson Award
 - 13.4 Mike Vinyu Award
 - 13.5 Keith Viewing Award

M. Mutika

GSZ Hon. Secretary



Geological Society of Zimbabwe



MINUTES OF THE ANNUAL GENERAL MEETING HELD ON 8th
MARCH 2024 AT THE COUNTRY CLUB, HIGHLANDS, HARARE

PRESENT:

Honorary Members

Broderick Tim, Mugumbate Forbes

Members

Tenyears Gumede, Kudzai Musiwa, Andrew du Toit, Gayle Hanssen, Brian Mapingere, Shephard Mabhanga, Kennedy Mtetwa, Ernest Mugandani, Steve Duma, Metrinah Mutika, Benefit Muoneka, Caston Musa, Fyrence Ndebele, Melusi Hlambelo, Andre Botes, Matthew Magagula, Nyasha Gerema, Tendai Masuku, George Rusike, Miriam Matsanga, Dereck Machingambi, Martin Mateveke, Owen Chituri, Pilani Mangezi, Irvine Nyamukondiwa, Kundai Zvinorova, Immandi Praasad, Takudzwa Mwangura, Munashe Mugwagwa.

1. CONVENING OF MEETING

The Chairman, Tenyears Gumede, welcomed the members to the 2024 Geological Society of Zimbabwe Annual General Meeting and the Secretary declared a quorum present. The Chairman, opened the meeting at 17:16hrs.

2. OBITUARIES AND MINUTE OF SILENCE

The obituaries of **Collins Mwatahwa**, **Dave Edwards**, **Vince Atkinson** and **Lwazi Nkiwane** were given. A minute of silence was held in recognition of deceased members and colleagues who passed on during the year and for those not brought to the attention of the society.

2. APOLOGIES

Steve McCourt, Julie Kuhn, Nhamo Manenji, Maideyi Meck, Ellah Muchemwa, Renias Tirivabaya, Most Chikumba, Watson Mungadzi, Tony Martin, Sharad Master

3. MINUTES OF 2023 AGM

The following corrections were made to AGM minutes held on the 24th February 2023: -

Item on the committee for the year 2023 was to read, “Presentation by Paul Chimbodza”.

Mispelt names of members were to read, Fyrence Ndebele.

With those corrections to the Annual General Meeting minutes, of 24th February 2023, the minutes were approved as a true record of what was discussed. Proposed by Gayle Hanssen and seconded by Tim Broderick.

4. CHAIRMAN’S STATEMENT

The Chairman, Tenyears Gumede, thanked the outgoing committee for their commitment to the society, which resulted in several activities being undertaken during the year. Well-attended activities included;

- i. The Summer Symposium, which was held on the 1st of September 2023 at the University of Zimbabwe with a presentation from Dr Patrick James on Geo-tourism.
- ii. A trip to Dorowa and Shawa mines in Buhera right after the Summer Symposium, which was led by Dr Tony Martin and Dr M. Meck.
- iii. As a precursor to the Dorowa visit, the society had a visit to the Umkondo conglomerates facilitated by Doctor Igor Schmakov in Chimanimani.
- iv. The GSZ engaged with the Ministry of Tourism to identify Geo-tourism sites in Zimbabwe following the very insightful presentation by Dr Patrick James on Geo-tourism, which led to having Mr Munyikwa shed more light on the topic at the 2024 GSZ AGM.

v. The Muzarabani oil and gas trip was well facilitated by Invictus and Geo Associates. It was a marvellous experience for the geologists to see the oil rig in operation. All thanks to the facilitators for the great opportunity.

In addition, the society has been able to host some online presentations enlisted below:

- i. A Tech Talk on GIS application in geology and beyond by **Farirai Manonose**;
- ii. **Dr Mike Watkeys** presented on how good the Stoneage astronomers were with a talk titled, “From Stonehenge to the Mayani”;
- iii. **Dr Chagonda** discussed the magmatic and magmatic-hydrothermal transition evolution of the Chilimanzi and Razi Granite suites: insights from the mineralogical and petrographic record.

The Geological Society of Zimbabwe Committee and its sub-committees initiated dialogues between many of its stakeholders. These are:

- i. Parliament Portfolio Committee on Mines when they held a meeting with the Chair of the Committee at the Chamber of Mines offices. The outcome of the meeting was that geologists in general are the ones who use the Mines and Minerals Act as an example and should communicate any issues and equally proffer solutions. It was with surprise that both parties believed the [existing] Act is one of the best and it just requires modernization
- ii. Zimbabwe Miners Federation (ZMF) and held a meeting with its president and its CEO
- iii. Minister of Mines and Mining Development and the Permanent Secretary.
- iv. Online presentations and discussions with the Zimbabwe Investment Development Agency (ZIDA). While ZIDA has access to the Chamber of Mines and subsequently GSZ, they sometimes give very contrasting reports.

The Geological Society of Zimbabwe also participated in other stakeholder events and made meaningful presentations. These are:

- i Chamber of Mines AGM and Conference (attended by Mr Mugandani).

- ii AMMZ at which Mr Steve Duma presented recent advances in orebody modelling and its integration into production.
- iii GSSA African Exploration Showcase 2023 - Dr Chagonda represented GSZ and presented on Mining projects in Zimbabwe.

In conclusion, the Chairman highlighted that there is a lot of work ahead in order to keep the society afloat. The existence of many professional Societies is threatened by social media where a lot of professionals now network.

The Chairman wished the incoming committee well for 2024 under the stewardship of Ernest T Mugandani.

The Chairman's report was adopted by the meeting.

5. TREASURER'S REPORT

The Treasurer, Brian Mapingere, presented the Financial Statements for the year to December 2023. The membership subscriptions were being received in both United States Dollars and Zimbabwe Dollars. The membership fees were maintained as they were in 2023 as follows;

- i. Members and Foreign – US\$30 or the equivalent in ZWL at the prevailing bank rate at the time of payment.
- ii. Institutional – US\$500
- iii. Students - free if they are attached to a recognised Student Society.

The Treasurer commented that the sources of income were mainly, membership subscriptions, donations, Summer Symposium fees and the sales of stock.

The main sponsors for the 2023 Financial Year were the following institutional members:

Dallaglio, Zimplats, RioZim, Prospect Resources, How Mine, GeoAssociates, SMC, Antech and Diamond Drill.

Additionally, institutional membership subscriptions were allocated for the sponsorship of two members, Dr Chagonda and Steve Duma, to attend international and local conferences respectively.

The remaining funds will be used to sponsor candidates to attend the SEG conference in Namibia.

Income and expenditure table for GSZ funds from 01/ 01/2023 to 31/12/2023

| | USD | ZWL |
|----------------------------------|--------------------|------------------------|
| Total Income | \$10 705.00 | \$ 4 531 503.45 |
| Total Expenditure | \$ 5 283.31 | \$ 2 108 400.00 |
| Net income (profit) for the year | \$ 5 421.69 | \$ 2 423 103.45 |

The Financial Statements were approved and thanks were given to Joseph Kwidini (Unki Mine) for verifying the accounts. Proposed by Kudzai Musiwa and seconded by Ernest Mugandani.

6. PROFESSIONAL REGISTRATION

The committee is waiting for the response from the Ministry of Mines and Mining Development to the letter that was submitted to them. The sub-committee under the leadership of Kennedy Mtetwa will continue to pursue the matter with the Ministry.

7. NEXT COMMITTEE 2024 -2025

Chairman: Ernest Mugandani

Members: Caston Musa, Brian Mapingire, Benefit Muoneka Gayle Hanssen, Shephard Mabhanga, Melusi Hlambelo, Andrew du Toit, Metrinah Mutika, Kennedy Mtetwa and Tenyears Gumede.

The Chairman Tenyears Gumede thanked everyone for their attendance and participation.

He declared the AGM closed at 19:15hrs.

8. SEG FIELD TRIPS BY GAYLE HANSEN

Gayle presented on the upcoming SEG conference, which has a pre-conference trip on Lithium focusing on Zimbabwean projects. The trip dates are 21-26 September 2024 and the sites will be the Arcadia Pit, Bikita Mine, some exploration sites near Hwange, as well as Kamativi Mine. This trip will be led by Adam Moodley from Prospect Lithium Zimbabwe (PLZ).

A post-conference Great Dyke trip, led by Caston Musa from Unki Mines Ltd, will be from 1– 6 October 2024. Gayle also highlighted that there will be a scholarship to attend the SEG Conference in Namibia awarded to the person with the best abstract, hence all interested are welcome to apply.

9. PRESENTATION BY DARLINGTON MUNYIKWA

Mr Darlington Munyikwa's presentation was entitled, "**Zimbabwe Geoheritage: Untapped Tourism Avenue**". Mr Munyikwa emphasised how geology has shaped and formed a basis for most of the famous tourist locations in Zimbabwe like the Matopos Hills in Bulawayo. He expressed that Zimbabwe possesses Archaean and later rock formations in the mobile belts and sedimentary basins, which provide an archive of a long history of the geological, geomorphological, paleontological and cultural processes. He emphasised the need for conserving Geoheritage sites no matter their size and location and he suggested that the Geoheritage data base be used to justify a bill for protection of Geoheritage.

The full presentation is on the Geological Society of Zimbabwe website.

10. AWARDS

10.1 A.E. PHAUP AWARD

The A.E. Phaup Award is given to the author(s) of a paper published in an internationally acclaimed scientific journal, or who contributed a paper to a book published by recognised publishers, or who authored a bulletin or book edited by recognised scientists and judged to be making the most significant contribution to the advancement of the understanding of the geology of Zimbabwe. The author(s) need not be Member(s) of the Society nor be resident in Zimbabwe.

The 2023 award was awarded to Gumsley A.P., de Kock, M., Ernst, R., Gumsley, A., Hanson, R., Kamo, S., Knoper, M., Lewandowski, M., Luks, B., Mamuse, A. and Soderlund U. 2023. The Mutare-Fingeren dyke swarms: the enigma of the Kalahari cratonic exit from supercontinent Rodinia. *Geological Society, London, Special Publication*, vol. 537, 359-380.

10.2. GEOFFREY BOND AWARD

The Geoffrey Bond Award is given for the best project produced by a Geology Honours student at the University of Zimbabwe and this year it was presented to **Takudzwa Mwagura** for his project entitled, “*The effect of the Paarl fault on the Main sulphide zone, Selukwe sub chamber, Great Dyke*”.

10.3 J.F. WILSON AWARD

The Wilson Award is awarded to the Geology or Geophysics Honours student at Midlands State University who presents the best project report in the year preceding an Annual General Meeting. The recipient for 2023 was **Munashe Mugwagwa** for his dissertation entitled “*3D Geological modelling of the Ngulube Kimberlite, Southern Zimbabwe*”.

10.4 MIKE VINYU AWARD

The recipient for the Vinyu Award in 2023 was **Josiah Chakawa** for his project titled, “*An Investigation of the Geo-Mechanical Classification Systems used at Shamva Gold Mine*”, presented in 2023 for his National Diploma in Mining Geology at the Zimbabwe School of Mines.

10.5 KEITH VIEWING AWARD

The Keith Viewing Award for the best presentation in terms of scientific content and clarity of the presentation was awarded to **Godfrey S. Chagonda**, Axel Hofmann and Allan H. Wilson. Their paper was titled, “*The mineralogy and geochemistry of Archean late-granite suites along the southern extent of the Zimbabwe Craton*”.

The ceremony ended at 21:12hrs.

CHAIRMAN – TENYEARS GUMEDE

DATE

MEMBERSHIP UPDATE

Gayle Hanssen, Membership Secretary [_gaylehanssen@gmail.com](mailto:gaylehanssen@gmail.com)

Institutional Membership Contribution

Institutional Membership is an important part of the Geological Society of Zimbabwe's support profile. In 2023, a decision was made to put their income contributions towards empowering and elevating Zimbabwean geologists on the International stage.

The GSZ would like to continue to form bonds with International Institutions and would like to fund further presentations by Zimbabweans at International Conferences in 2025.

Institutional Members



Blanket Mines



Chamber of Mines, Zimbabwe



DALLAGLIO Dallaglio



GeoAssociates (Pvt) Limited



Kavango Resources



MaxGeo



Performance Laboratories, Zimbabwe



Prospect Resources Prospect Resources



Unki Mines (Pvt) Ltd (Anglo American)



Zimbabwe Platinum Mines Limited

Honorary Members

Blenkinsop, Tom; Broderick, Tim; Colvine, Sandy; Eriksson, Ken; Jelsma, Hielke; Kramers, Jan; Mapani, Ben; Martin, Tony; Master, Sharad; Mugumbate, Forbes; Nisbet, Euan; Park, Graham; Podmore, Francis; Prendergast, Martin; Wilson, Allan.

Sadly, Professor Dai Jones passed away in Canada in August 2024, and Professor Teddy Zengeni died in South Africa on 1st November 2024. We welcome Ben Mapani, who joins as Honorary Member to our Society.

Ordinary Members

We would like to welcome the following new Members to the Society:

| | | | | | | | |
|--------------|------------|--|---------|-----------|--|---------|---------------|
| Chinamora | Blessing | | Lupahla | Ottis | | Mahachi | Bernard |
| Mashingaidze | Gillian | | Mugadza | Lisa | | Mushiri | Bridget |
| Nhapi | Farirai | | Shumba | Tanatsiwa | | Sibanda | Makhosi Anele |
| Zvavashe | Kudakwashe | | | | | | |

Members who joined the Society at the Summer Symposium, but are yet to submit their
documents for final approval

| | | | | | | | |
|-----------|----------|--|----------|-----------------|--|-------------|---------------|
| Cotterill | 'Woody' | | Fambi | Prosper | | Gorodema | Beaman |
| Jaravani | Tendai | | Makome | Tafara | | Mandizvidza | Emely Ruvimbo |
| Manyani | Candice | | Masasire | Eric | | Matiza | Chipo |
| Mhindu | Charles | | Moyo | Ngoni | | Mpindiwe | Bongi |
| Mukuhlani | Tichafa | | Ncube | Bongiwe | | Ncube | Fyrence |
| Ncube | Mbongeni | | Pore | Tatenda | | Schaper | Vincent |
| Sibanda | Mangwiro | | Simba | Takudzwa Ashley | | Sizebo | Nqhabuso |

- **Honorary:** This membership has been bestowed on all presenters of the A.M. Macgregor Memorial Lecture, and to those who have made outstanding contributions to the Society over the years. Currently we have 15 such members.
- **Ordinary:** Professional membership by application for geologists who have a registered degree. To apply for this category, we need a copy of your degree certificate, a form sponsored by 2 current Ordinary Members, and your CV.
- **Foreign:** As above, but for those not resident in Zimbabwe.
- **Associate:** For interested parties not holding a degree but who are interested in participation.
- **Institutional:** Corporate membership and ardent supporters of the Zimbabwe Mining Industry.
- **Student:** Members of a recognized Student Body by the GSZ. Student body to submit members names and their number. For a Student Body to be recognized, the Constitution and current Committee to be submitted to GSZ.

<http://www.geologicalsociety.org.zw/membership>

The Membership Application Form can be down-loaded from the Membership Page of the website.

MEMBERSHIP SUBSCRIPTION FEES & RENEWAL REMINDER**(The first year's fee is the joining fee. If your application is rejected this joining fee will be forfeited)**

Members (including Associate Members) US\$30 annually
(or ZWL equivalent at the bank rate on the day of payment if US\$ unobtainable)

Institutional Member US\$500 annually
(invoices have been sent to existing members, but if your organisation is interested – please get hold of Gayle Hanssen, Membership Secretary, for an invoice - gaylehanssen@gmail.com)

Note: Foreign Members are classified as such on the basis of postal address. There is a different NOSTRO account for external payments, details for which will be provided on request.

Banking Details

Geological Society of Zimbabwe
First Capital Bank (Barclays)
Kurima House Branch

OR**Ecocash**

Merchant Number 82758

USD Nostro FCA Domestic: 21573779436

OR

RTGS Account Number: 21576533195

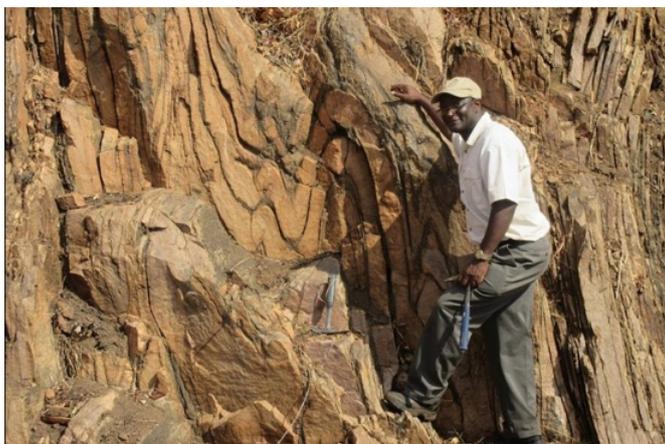
OR**FOR EXTERNAL FOREX TRANSACTIONS**

Account Name: Geological Society of Zimbabwe
Branch Name: NGO Centre
Account Numbers: Nostro FCA: 21573779533
Swift Code BARCZWHX

THE OFFICE IS OPEN

*University of Zimbabwe – Geology Department – First Floor – Room 20
Mondays and Wednesdays from 9am to 4pm*

Scan and Email your PoP to geol.soc.zimbabwe@gmail.com and kundaizvinorova@gmail.com



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Articles and Reports

14th A.M. Macgregor Memorial Lecture 2024

Zircon and detrital zircon geochronology: a handle in plate reconstructions, geological evolution of mobile belts and assessment of mineral deposit fertility

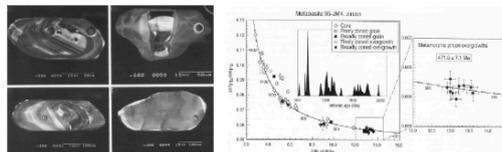
Benjamin Mapani

bmapani@nust.na; ben.mapani@gmail.com

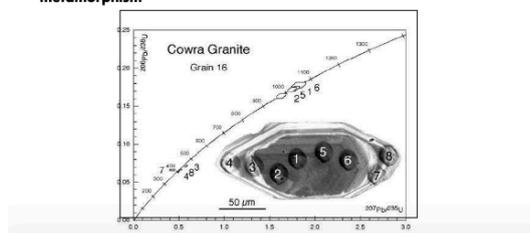
*Namibia University of Science and Technology, Faculty of Engineering
Corner Wagner and Beethoven Streets, Windhoek West, Windhoek, Namibia*

Zircons have been used in geology as good geochronometers since 1907, when Bertram Boltwood measured two rock samples that returned ages of 422my and 2200my. Zircon is one mineral that can go through a varied cycle of geological processes, from an igneous origin, through metamorphic and sedimentary events and back again into an igneous system. Zircon can go through these processes several times over and still retain a record of its full history. In each of these cycles a crystal acquires a unique signature. The technique of using zircon as a thermometer has been improved and refined from multigrain composite ages to laser ablation methods and finally now to the Sensitive High Resolution Ion Microprobe (SHRIMP), which has become standard. With the SHRIMP method we are now able to target several spots on a single zircon grain and assemble a chronology of geological events. The dating techniques coupled with a good understanding of zircon petrography and textures has allowed for the resolution of geological processes at crystalline level, for temperature inference and for a complete reconstruction of tectonothermal histories of terranes. The high temperature range of zircon means that it can record most geological events. The understanding of continental crust has been catapulted by the powerful properties of zircon: it can fractionate appreciable amounts of trace elements such as lutetium and hafnium. This property has made it possible for us to identify and estimate crustal residence times. These in turn have allowed us to complete the story of continental crust development, with precision on identifying mantle and continental derivatives. Finally, zircon is now routinely used in forensic nuclear science to fingerprint uranium sources from different mines and in understanding groundwater contamination sources in areas that operate uranium mines.

Combined Zircon interpretation of Grain morphology and age in geological evolution



SHRIMP Resolution (after Jodie Miller, 2008): Recycling via magmatism, sedimentation, magmatism and metamorphism



U–Pb age and Lu–Hf isotopic data of detrital zircons from the Neoproterozoic Damara Sequence: Implications for Congo and Kalahari before Gondwana

David A. Foster, Ben D. Goscombe, Brittany Newstead, Ben Mapani, Paul A. Mueller, Laura C. Gregory, Ewereth Muvangua

[Gondwana Research](#), Volume 28, Issue 1, August 2015, Pages 179-190

Abstract

The proximity of the Congo and Kalahari cratons during the Neoproterozoic breakup of the supercontinent Rodinia and during subsequent assembly of Gondwana is unclear. Neoproterozoic metasedimentary rocks from the rifted margins of Congo and Kalahari in the Damara Orogen yield distinctive detrital zircon U–Pb age distributions that correspond to the ages of prominent crustal components within the respective cratons. The most abundant zircons from Neoproterozoic strata deposited on the Congo margin give ages of 1150–1000 and 800–600 Ma, whereas, the most abundant zircons from the Kalahari margin strata range from 1350 to 1100 Ma. A 1350–1200 Ma detrital zircon population in the Kalahari margin strata is absent in the Damara–Congo strata. A prominent *c.* 1050–1000 Ma detrital zircon age population from Damara–Congo strata is nearly absent from the Damara–Kalahari strata, even though orogenic events of this age are found on both cratons. Damara strata on the Kalahari margin also lack detrital zircons with U–Pb ages of 900–600 Ma. The differences in detrital zircon age distributions are robust when comparing strata of the same age on both cratons, and remains so, even when younger, deeper water facies are excluded, which could have been biased by other sediment sources. These data suggest that the Congo and Kalahari cratons were not proximal in Rodinia, and did not establish their current relative positions until the end of the Neoproterozoic when they were sutured together during the collisional orogenies that formed Gondwana.

Highlights

- Detrital zircons from Damara–Congo strata reflect distinct Congo craton sources.
- Detrital zircons from Damara–Kalahari strata reflect distinct Kalahari sources.
- The Congo and Kalahari cratons were probably not adjacent until the assembly of Gondwana.

Gondwana at 750 Ma and its dispersal and assembly of Pangea

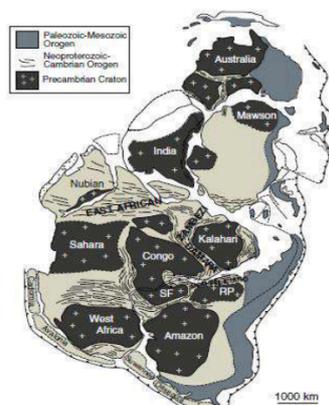


Fig. 1. Map of Gondwana (after Gray et al., 2006) showing the locations of Pan-African orogenic belts in southern Africa. RP, Rio de la Plata craton; SF, São Francisco craton.

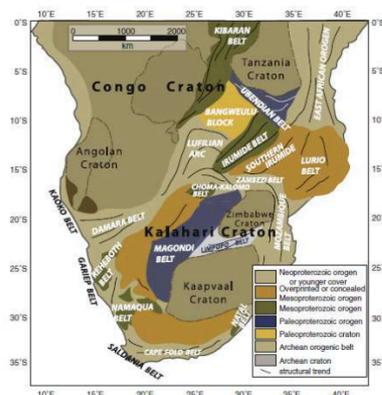


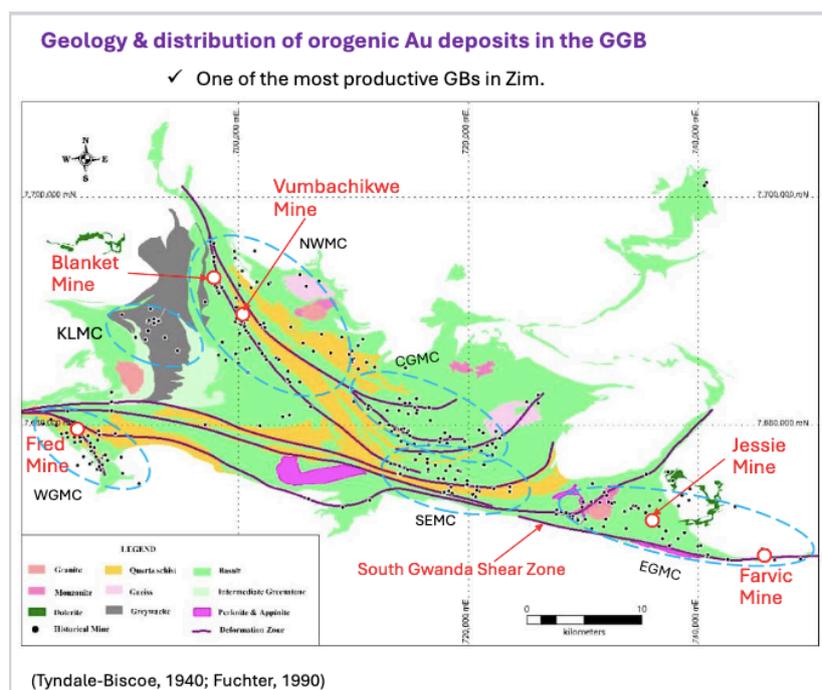
Fig. 2. Map of major geologic provinces and Precambrian orogenic belts in southern Africa. Compiled after Goscombe et al. (2000) and Haas (2003).

A review of the geology and Au-Ag mineralization in the Gwanda Greenstone Belt: Implications to exploration

Godfrey S. Chagondah, Mbongeni Manyere and Peter T. Zizhou
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The ca. 2.70 Ga Gwanda Greenstone Belt (GGB), located in the southwestern part of the Archaean granite-greenstone Zimbabwe Craton, is famous for hosting orogenic Au-Ag deposits. The belt is one of the most productive greenstone belts in Zimbabwe. Mineralization occurs both as narrow (< 1.0m), lenticular quartz-carbonate veins/reefs and wide (5-30m) replacement ore bodies hosted in metavolcanic and metasedimentary rocks. Mineralization occurs as disseminations and massive sulphidic impregnations of pyrite, chalcopyrite, arsenopyrite, galena and sphalerite. Mineralization is structurally-controlled and occurs in high-order shear zones, which splay off the regional NW-trending, South Gwanda Shear Zone. A few deposits in the GGB are associated with lithological contacts such as at the Farvic gold mine. At least five gold camps are recognized in the GGB including the Blanket-Vumbachikwe, Kemel, Freda, Bar 20 and Farvic clusters. The Blanket-Vumbachikwe camp is by far the most important and reliable cluster with consistent gold production since the 1890s. For example, Blanket Mine's annual production is currently ca. 80 000oz. Au-Ag mineralization in this camp is recognized to extend below a vertical depth of 1200m.

Au-Ag mineralization is mainly hosted in iron-rich mafic metavolcanic rocks that include amphibolite, chlorite schist and banded iron-formation. Felsic volcanic schist and metaconglomerates are sub-ordinate host rocks. Au-Ag mineralization is associated with pervasive brittle-ductile shear zones and it pinches and swells both on dip and along strike. Rocks of the GGB show variable degrees of alteration including carbonation, silicification, chloritization and sericitization. Thus, explorers should pay attention to the lithological, structural and alteration aspects of the GGB during Au-Ag mineralization campaigns. Zn and Cu constitute major pathfinder elements.



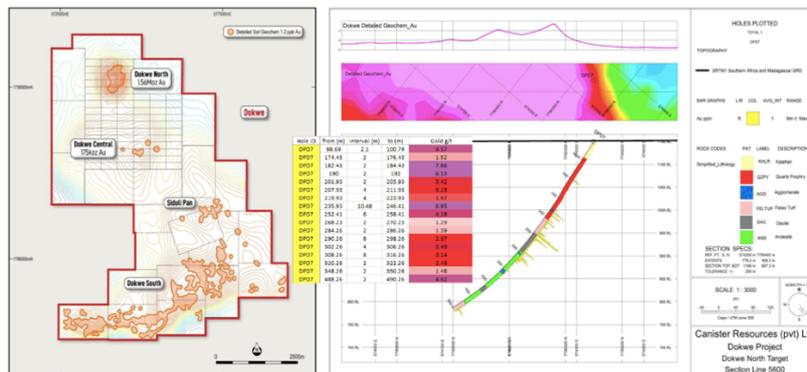
The Dokwe Gold Discovery

William Collett

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The Dokwe Gold Project represents a significant greenfield discovery within a previously undefined Archaean Greenstone Belt in Zimbabwe, underscoring the potential for new mineral exploration successes in underexplored regions. Leveraging Exclusive Prospecting Orders (EPOs) and modern exploration techniques, including geochemical, geophysical, and structural analysis, the Dokwe discovery has unveiled a substantial gold deposit in an area long obscured by overlying sediments and involving complex geological structures. This discovery not only highlights the critical role of EPOs in providing the necessary tenure security for extensive exploration activities, but also demonstrates how contemporary exploration methodologies can unlock the mineral potential of frontier regions. The success at Dokwe serves as a testament to the value of integrating innovative exploration strategies with systematic geological investigation, paving the way for future discoveries in similar greenfield settings.

Discovery



Economically important pegmatites in Africa

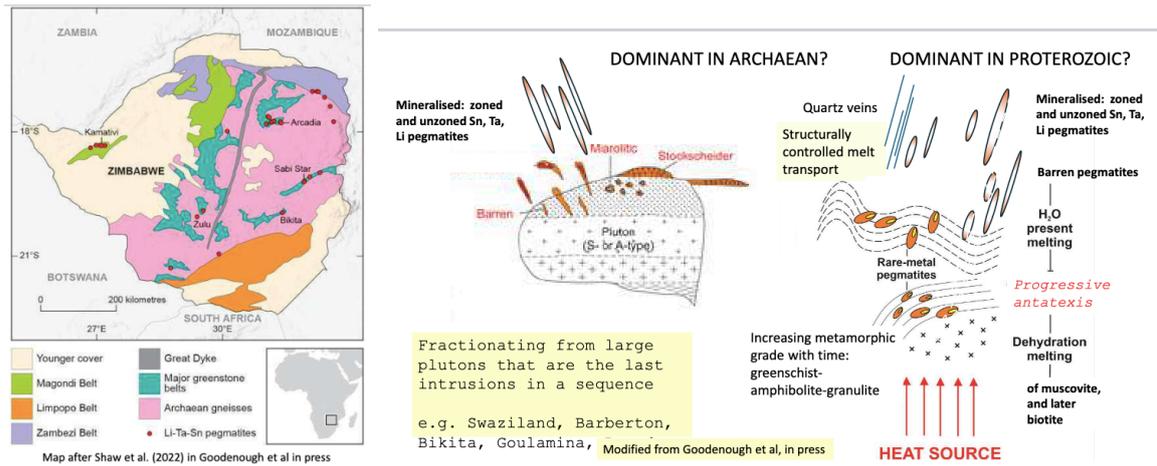
Judith Kinnaird and Paul Nex

Judith.kinnaird@wits.ac.za

CIMERA: University of the Witwatersrand, South Africa

Pegmatites occur across the African Continent. These principally range in age from Archaean to Neoproterozoic, correlating with orogenic events in the Kibaran (~1000 Ma) and the Pan-African (~550 Ma) orogens. In some provinces both LCT (lithium-caesium-tantalum) and NYF (niobium-yttrium-fluorine) pegmatites were intruded at the same time such as in the Orange River Belt in South Africa and the Pan-African Damaran and Madagascar belts. Many pegmatites have been mined for gemstones, tin, or tantalum with some having produced lithium mainly for the ceramics industry, such as Bikita in Zimbabwe. A reappraisal of a number of former Sn/Ta mines has led to the reopening of several prospects in response to the demand for lithium. Pegmatites in the Kibaran Belt of East Africa are being re-evaluated for both tin and lithium production. The Manono-Kitolo pegmatite in the DRC, produced 140,000 tons of cassiterite 10,000 tons of coltan between 1915 and the mid 1980's. A recent re-evaluation suggested reserves of 120 Mt of spodumene-bearing ore, making it one of the largest lithium reserves globally. Similarly, the Uis Mine in Namibia has re-commenced cassiterite mining but is also producing recently discovered lithium resources, while Acadia in Zimbabwe, a former Be-feldspar-

Li mine has also re-opened for lithium production. In southwestern Mali, the undeveloped prospect of Goulamina, hosts steeply-dipping, spodumene-bearing pegmatites with an ore reserve of 52 Mt at 1.51% Li_2O , with the Ewoyaa lithium project, on the Ghanaian coast also under development. It hosts ore reserves of 25.6 Mt @ 1.22% Li_2O in a Birimian-aged (c. 2.1 Ma) spodumene-bearing pegmatite. Lithium is a critical material for a low-carbon future: between 2011 and 2020 the requirement for lithium in battery manufacture increased from 27% to 71% of total lithium production (USGS, 2020) and the World Bank (2020) estimates that society will need a 488% increase in lithium production by 2050 to meet its needs for the transition to green energy.



Regional zoning of rare-element pegmatites: why understanding the distribution of LCT and NYF matters

Paul Nex and Judith Kinnaird

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Historical rare-element pegmatite classifications have frequently divided them into two groups: LCT (lithium-caesium-tantalum) and NYF (niobium-yttrium-fluorine). With the current focus on lithium as a commodity, vital for Li-ion batteries and the transition to a greener economy, the term LCT pegmatite has become much more common in academic and industry literature. The suggestion that these two groups can be distinguished by tectonic setting (Martin and de Vito, 2005) and the recognition that LCT pegmatites occur predominantly in a late orogenic environment (McCauley & Bradley, 2014; Bradley *et al*, 2017) could lead to silo-based approaches to exploration and understanding of these pegmatites.

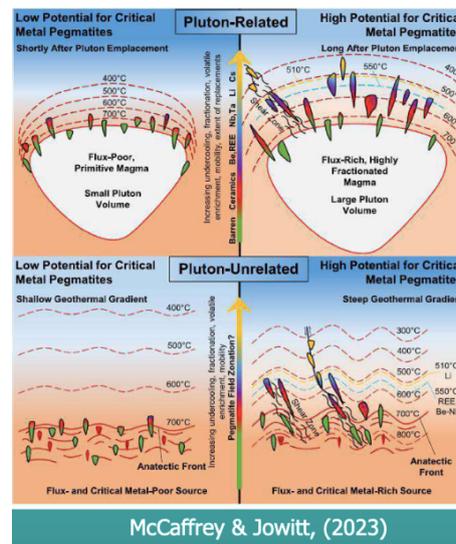
In fact, recent investigations into the distribution of pegmatites in the inland Damara Belt of Namibia and the Namaqualand part of the Namaqua-Natal Belt in South Africa show that in these orogenic belts LCT and NYF pegmatites are broadly contemporaneous, yet spatially segregated. Within these belts NYF pegmatites are found in areas with higher metamorphic grade, typically upper-amphibolite to granulite facies, while LCT pegmatites are located in amphibolite facies lithologies. Although there is no direct genetic relationship between host lithologies and the pegmatites, this is interpreted as a result of the conditions of anatexis during the formation of magma from which the pegmatites were derived.

This approach and interpretation provide a greater understanding of the distribution of pegmatites in orogenic belts, and have major implications for exploration whilst providing an explanation for the lack of a genetic relationship between granites and pegmatites exposed at surface. From a mineral systems perspective it is particularly important to consider the source of magmas in a system fundamentally controlled by the composition of the associated igneous rocks. NB: it should be noted that this work may not apply to Archaean environments as it has only been considered for Proterozoic and Phanerozoic examples.

Bradley, D.C., McCauley, A.D., & Stillings, L.M. 2017 *Mineral-deposit model for lithium-cesium-tantalum pegmatites*. USGS Scientific Investigations Report 2010-5070-O pp48.

Martin, R.F. & De Vito, C. 2005 The patterns of enrichment in felsic pegmatites ultimately depend on tectonic setting. *Canadian Mineralogist* **43** 2027-2048.

McCauley, A.D., and Bradley, D.C. 2014 The global age distribution of granitic pegmatites. *Canadian Mineralogist* **52** 183-190.



The petrogenesis of orbicular granites in the Diana's Pool area, Zimbabwe

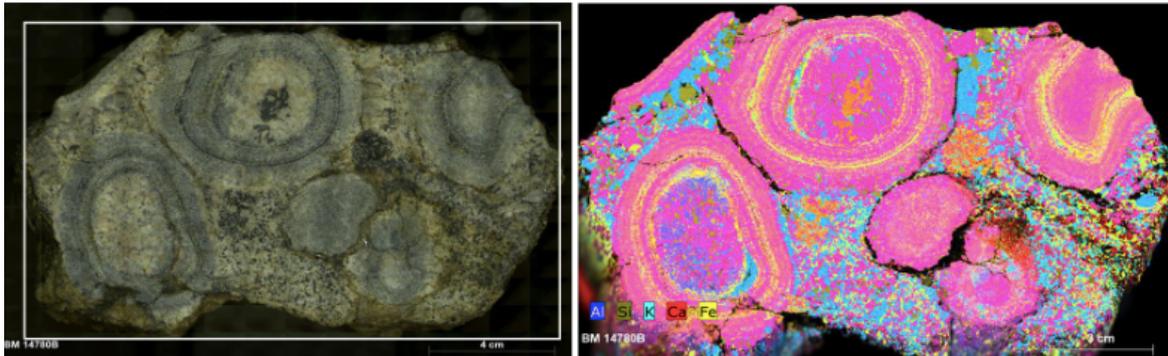
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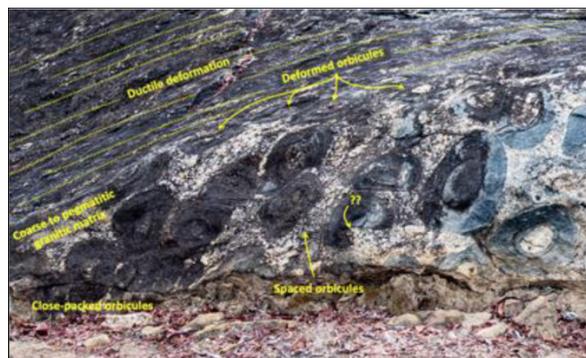
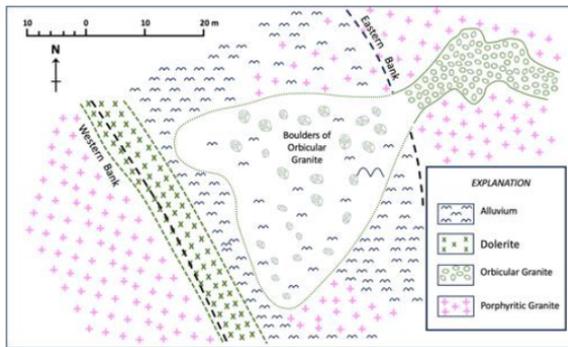
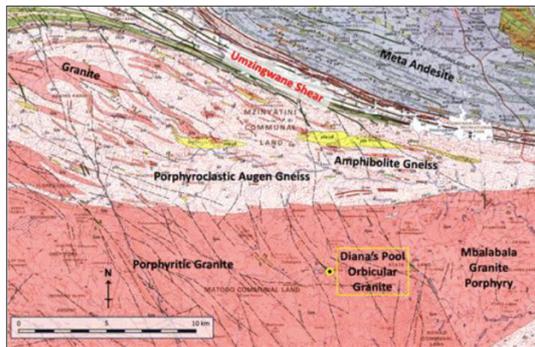
This work assesses a poorly studied outcrop of orbicular granite from the Matopos granite batholith in the Diana's Pool area, Zimbabwe. Historical samples from Diana's Pool exhibit closely packed orbicules in a granitic matrix. They are 9 to 14cm in diameter and are characterised by different types of orbicules containing coarse-grained felsic cores, fine-grained and alternating ferromagnesian and feldspathic shells, and a coarse-grained matrix. The orbicules are generally spherical to ellipsoidal in shape, however, some appear to be abraded and deformed. The compositions and grain sizes of cores and the matrix are comparable. Both the matrix and the cores are medium- to coarse-grained and dominated by plagioclase (the matrix probably in slightly lesser proportions), microcline (in variable proportions, and seemingly absent in some cores), quartz, biotite and accessory hornblende and magnetite. Contrary to the cores and matrix, shells are fine-grained and exhibit polygonal textures. In addition to this, the shells are dominated by biotite and magnetite; however, they do not contain hornblende. Plagioclase shows an almost complete overlap of An contents, $\bar{x} = 26 \pm 2.3$ (core), $\bar{x} = 24 \pm 0.9$ (shell) and $\bar{x} = 25 \pm 2.0$ (matrix). Biotite composition in the shells is significantly less magnesian ($\bar{x} = 16 \pm 2.4$) than in core ($\bar{x} =$

27 ± 2.2) and matrix ($\bar{x} = 25 \pm 2.2$), where compositions overlap. Average initial $^{87}\text{Sr}/^{86}\text{Sr}$ ratios from plagioclase in all the analysed shells ($\bar{x} = 0.70226$) are slightly more radiogenic than in the matrix ($\bar{x} = 0.70193$) and cores ($\bar{x} = 0.70187$).



Cores are autoliths, which are plagioclase-rich, cumulate, or rim fragments reworked by new magma inputs or injections. Heterogeneous nucleation leading to the formation of orbicular shells around the cores is attributed to adiabatic decompression of magma pulses ascending in dykes, leading to superheating and resorption of early solids, and volatile exsolution, inducing undercooling, supersaturation, and shell crystallisation. The coarse-grained matrix crystallised later, after the orbicules formed, creating the groundmass and locking the orbicules in place. The deformation of shells and cores suggests that the orbicules continued to evolve in the presence of a melt (matrix material). As part of the Matopos Hills World Heritage Site, the Diana’s Pool orbicular granites present a unique and noteworthy petrogenesis, which should be preserved as part of the region’s important geoheritage.

Dumisa, S.S., Bybee, G.M., Nex, P.A.M. and B.A. Jogee, B.A. 2024. The Petrogenesis of Orbicular Granites in the Diana’s Pool Area, Zimbabwe. *S.Afr. J. Geol.*, 127 (1), pp. 1-16. doi:10.25131/sajg.127.0021



SEG Orogenic Gold Workshop and associated GSZ Field Trip

Zimbabwe 10th to 15th February 2025

The University of Zimbabwe was host to the Society of Economic Geologists (SEG) Orogenic Gold Workshop. Guest lecturers included the world-renowned Richard Goldfarb (USA) and Bob Foster (UK) with Caitlin Jones (RSA) adding a bit of local African flavour. The 70 participants, which included 30 students on SEG-subsidised rates, were treated to a trip through all the major gold belts of the world, and were then given wonderful detail on the past 20 years of research on the various Orogenic gold provinces in Africa. New insights were presented on the models used in West Africa for their successful current gold boom, and there was early talk about investigating similar projects for the gold regions of Central and East Africa.



Shamva Mine Underground Visit

Of course, all time in the classroom should be matched, if not exceeded, by time in the field. 20 of the participants embarked on a country-wide trip following the workshop. The trip focused on the Archaean gold deposits of Zimbabwe, particularly the current major producers. Time was taken to visit 4 of the country's 15 greenstone belts. Each day was dedicated to a specific belt.

Day 1 entailed a visit to Zimbabwe's 3rd and 4th major gold producers. An underground visit was made to Shamva Mine and following this, Kuvimba Resources hosted a pit visit to Freda Rebecca Open pit, where over 3Moz have been extracted in the last 40 years. Gold was hosted in a wide shear zone, with two mined parallels at Shamva and disseminated in two shears at Freda Rebecca.

The second day entailed visiting open pits in the Midlands gold belt. Pickstone Peerless Mine was visited, again with 2 gold-bearing zones approximately 700m apart. The BIF-hosted Pickstone trend is currently being developed into an underground operation, with the Peerless pit being close to its final depth. The gold is hosted in a 5-10 m-wide carbonated breccia shear zone.

The team visited Zimbabwe's biggest historical gold producer, the Cam & Motor, in the afternoon. Although the 1.8 km-deep underground mine is no longer accessible, an open pit has been developed and a Biox plant has been installed to treat the refractory ores.



Rich Goldfarb and Caitlin Jones in Peerless Pit



Discussions at Blanket Mine

Days 3 and 4 were spent visiting the Archaean greenstone belts in the south of the country. Firstly, the Gwanda Greenstone Belt was visited where the team went underground at Blanket Mine, which is currently producing 200kg per month. Gold in a wide brecciated quartz vein was observed, although the production comes from several shear zones with variable styles. Again, the overall shear was of the km-scale, with more than one economic zone within it. Core was observed in the afternoon, as the heavy rains precluded any field outcrop visits.

The final day was spent on the Filabusi Greenstone Belt. Kavango Resources is doing exploration and setting up small-scale gold mining operations on this relatively underexplored belt. Scheelite-rich showings around the Balmoral Granite were visited where the company currently has a drilling programme.

All participants agreed that it was a week well spent, and there was good collaboration between the Zimbabwean and visiting geologists. I am sure that some of the group will be on the field trip in Tanzania next year, which is where provisional discussions for holding this workshop are underway.

Gayle Hanssen



Orogenic Gold in Africa Workshop – Gayle Hanssen, Caitlin Jones, Richard Goldfarb, Forbes Mugumbate and Bob Foster.

News



Geology Section: Department of Chemistry and Earth Science, University of Zimbabwe

Submitted by Maideyi Meck

Department Overview

The department continues to operate smoothly. However, registration in the **Geological Sciences** program has declined significantly, with fewer than 10 students enrolling – a distinct drop from when the program was known as **Geology**.

The **Thin Section Laboratory** is fully operational. For thin section preparation services, please contact **Ms. Hama** or **Mr. Mupambo**.

The establishment of the **National Centre for Groundwater Research and Training** is at an advanced stage. Webinars on **hydrogeology and related topics** are in the pipeline, with support from the **International Association of Hydrogeologists (IAH)**. Your participation and contributions to the hydrogeology centre are encouraged - please share your thoughts at maideyimeck@yahoo.com.

The department has **100 hard copies** of *Dambo Farming in Zimbabwe* by **Dr Richard Owen** available. Contact **Ms. Hama** to obtain a personal copy.

Additionally, the department is proud to be associated with the **Geological Society of Zimbabwe** in organizing the **SEG Workshop on Orogenic Gold in Africa and Worldwide**.

Teaching in the Department

The department continues with its **modularized teaching system** (three weeks of learning followed by one week of exams). **Industry professionals** are welcome to participate in specific modules.

A total of **26 Pan-African Minerals University of Science and Technology (PAMUST) students** are preparing for their **Master's Degree research projects**. Companies interested in offering research topics can contact the department so that these can be matched with potential graduate students.

The department is also seeking **industry professionals** to assist with teaching the **Exploration Geology Master's class**.

Staff Update

Mr Mupaya has successfully completed his **PhD research**, which is now in the examination stage.

Research in the Department

The department welcomes industry collaboration in ongoing research projects that include:

1. **Agrogeology** – Rocks for crop improvement;
2. **Geo-hydraulic properties and aquifer vulnerability** of the Middle Sabi Aquifer;
3. **Genesis and provenance of diamondiferous sediments** of the Chimanimani deposits:
Implications for exploration in the Umkondo Basin, Zimbabwe;
4. **Reappraisal of the Umkondo Basin** (southeast Zimbabwe Craton): Implications for landslide initiation;
5. **Assessment of geothermal wellhead power generation potential** and its connection to local seismic activity and geotechnology;
6. **Coal appraisal** in the Zambezi Valley; and
7. **Critical raw materials appraisal.**

Industry partners interested in contributing to these projects are encouraged to get in touch.

Staff Contact details as of February 2025:

| Name | Position | Email | Cell Phone | Office Number | Office Phone 024-2303211 (Extension) |
|------------------|-------------------|----------------------------------------------------------------------------------|------------|---------------|--------------------------------------|
| Dr P. Mushonga | Chairperson | mushonga777@gmail.com | 0774063113 | Chemistry | 15046 |
| Prof. M.L. Meck | Lecturer | mabvira@science.uz.ac.zw | 0772906612 | 25 | 15027 |
| Mr F.B. Mupaya | Lecturer | fbmupaya@gmail.com | 0773599433 | 26 | |
| Dr O. Maponga | Lecturer | mapongaoliver1954@gmail.com | 0772410609 | | |
| Mr G. Kwenda | Lecturer | gkwenda@gmail.com | 0772935936 | | |
| Mr P. Maketa | Lecturer | geologistmaketa@gmail.com | 0777386284 | | |
| Mr S. Mabhanga | Lecturer | smabhanga@gmail.com | 0783536530 | | |
| Mr B. Mappingire | Lecturer | brianmappingire7@gmail.com | 0783232316 | | |
| Ms L. Mugariri | Lecturer | lisamugariri@science.uz.ac.zw | 0716207555 | | |
| Mrs G. Chipari | Secretary | gchipari@science.uz.ac.zw | 0772950681 | 21A | 15032 |
| Mrs E. Hamah | Technician | emhamah@gmail.com | 0773924053 | | |
| Mr D. Mupambo | Technician | DIDYMUS@science.uz.ac.zw | 0772916652 | 16 | 15024 |
| Ms S. Gorogodo | Messenger/Cleaner | | 0772390026 | | 15029 |



Mennell Geological Society

Mennell Geological Society Executive 2025

| Position | Name and Surname | Email |
|-----------------------------|-------------------------------|-------------------------------------------------------------------------------------|
| PATRON | <i>Mr F B Mupaya</i> | <i>fbmupaya@gmail.com</i> |
| COORDINATOR | <i>Mr S Mabhanga</i> | <i>smabhanga@science.uz.ac.zw</i> |
| CHAIRPERSON | <i>Mr Pharisie Chibaya</i> | <i>pchibaya11@gmail.com</i> |
| VICE-CHAIRPERSON | <i>Ms Melody Makore</i> | <i>benedictermeloe@gmail.com</i> |
| SECRETARY GENERAL | <i>Miss Beauty Gwitira</i> | <i>beautygwitira19@gmail.com</i> |
| VICE SECRETARY | <i>Mr Tendai Murekwa</i> | <i>murekwatendai@gmail.com</i> |
| TREASURER | <i>Mr Denis Mandari</i> | <i>mandaridenis@gmail.com</i> |
| VICE TREASURER | <i>Miss Yvone F Makodza</i> | <i>makodzayvonne@gmail.com</i> |
| COMMITTEE MEMBER LEVEL 4 | <i>Mr Munashe Handiseni</i> | <i>munashehandiseni10@gmail.com</i> |
| COMMITTEE MEMBER LEVEL 4 | <i>Mr Munashe Tiyenga</i> | <i>munashetiyenga@gmail.com</i> |
| COMMITTEE MEMBER LEVEL 3 | <i>Miss Rutendo J Mupanda</i> | <i>rutendomupanda3@gmail.com</i> |
| COMMITTEE MEMBER LEVEL 3 | <i>Mr Pride Musasa</i> | <i>pridemusasa2@gmail.com</i> |
| COMMITTEE MEMBER LEVEL 2 | <i>Mr Calvin Chikondo</i> | <i>calvinchikondo@gmail.com</i> |
| COMMITTEE MEMBER LEVEL 1 | <i>Miss Thelma Selemani</i> | <i>selemanithelma953@gmail.com</i> |



MIDLANDS STATE UNIVERSITY
FACULTY OF ENGINEERING & GEOSCIENCES
ZVISHAVANE CAMPUS

Updates from the Department of Geosciences

1. Introduction

The MSU Geosciences Department offers 4 programmes: BSc Honours (Applied Geology), BSc Special Honours (Applied Geology) and BSc Honours (Geophysics), with a maximum of 30 students per programme per intake. There is currently one intake per year for all programmes in the department. Currently the department has 3 registered MPhil candidates and 3 prospective candidates who have progressed well with the candidacy processes.

2. Staffing

The department currently has 18 teaching staff and 4 non-teaching staff as listed in Table 1.

Table 1. List of teaching and non-teaching staff at the Geosciences Department, Midlands State University - October, 2024

| Names | Position | Email Address |
|-----------------------|-----------------------|--------------------------------------------------------------------------|
| TEACHING STAFF | | |
| Mr P Chifoto | Lecturer | chifotop@staff.msu.ac.zw |
| Ms P Chima | Chairperson/ Lecturer | chimap@staff.msu.ac.zw |
| Mr E Chinwada | Lecturer | chinwadae@staff.msu.ac.zw |
| Mr O Chingobo | Lecturer | chingoboo@staff.msu.ac.zw |
| Mr Dewah | Lecturer | dewahh@staff.msu.ac.zw |
| Dr T Dzvinamurungu | Lecturer | dzvinamurungut@staff.msu.ac.zw |
| Miss A Gumbo | Teaching Assistant | gumboa@staff.msu.ac.zw |
| Miss T Gwavuya | Teaching Assistant | gwavuyat@staff.msu.ac.zw |
| Dr A Mamuse | Senior Lecturer | mamusea@staff.msu.ac.zw |
| Dr P Mandingaisa | Lecturer | mandingaisap@staff.msu.ac.zw |
| Miss K Moyo | Teaching Assistant | kmoyo@staff.msu.ac.zw |
| Mr D Munyikwa | Lecturer | munyikwad@staff.msu.ac.zw |
| Ms R Musinga | Lecturer | musingar@staff.msu.ac.zw |
| Dr M Mutakaya | Lecturer | mutakayam@staff.msu.ac.zw |
| Mr SM Ncube | Lecturer | ncubesmn@staff.msu.ac.zw |
| Miss T Paraziva | Teaching Assistant | parazivat@staff.msu.ac.zw |
| Mr LT Senderai | Lecturer | senderayilt@staff.msu.ac.zw |
| Ms A Wazulu | Teaching Assistant | wazulua@staff.msu.ac.zw |

NON-TEACHING STAFF

| | | |
|---------------|------------------|---------------------------|
| Miss A Musoro | Technician | musoroa@staff.msu.ac.zw |
| Mr T Mwaramba | Technician | mwarambat@staff.msu.ac.zw |
| Mr L Ndhlovu | Technician | lndlovu@staff.msu.ac.zw |
| Mr F Zihanzu | Chief Technician | zihanzuf@staff.msu.ac.zw |

3. Research

Battery metals are a major research theme in the department, with all 6 MPhil candidates focussing on either lithium or nickel research, which is co-funded locally and internationally. Another emerging research thrust in the department concerns hydrogeology and environmental projects that will involve several staff and students.

4. Student Activities

The Midlands State University Students' Geological Society (MSU-SGS), an affiliate of the Geological Society of Zimbabwe, is dedicated to cultivating a deeper understanding and interest in geosciences among students. As a vibrant platform for learning, networking, and practical engagement, the society fosters academic excellence, professional growth, and collaboration with peers, institutions, and industry experts. Comprising about 90 members, the MSU-SGS is steered by a 13-member executive team responsible for curating a diverse portfolio of events, which include workshops, interdisciplinary seminars, and field trips. Through these activities, the society aims to:

- Enhance academic and professional development among its members;
- Promote collaboration and knowledge-sharing with other institutions and industry experts;
- Provide opportunities for practical engagement and hands-on experience in the field of geology.

By pursuing these objectives, the Midlands State University Students' Geological Society strives to create a dynamic and supportive community that inspires students to excel in their academic and professional pursuits.

4.1 Geological Society Symposium and Field Trip

In November 2024, the Midlands State University Geological Society attended the Macgregor Memorial Lecture and Geological Society of Zimbabwe Summer Symposium and Field Trip in Bulawayo. All three events were well received and attracted enthusiastic participation from all attendees. Details of these important events are reported elsewhere in this newsletter.

4.2 Orogenic Gold in Africa and Worldwide Workshop

On 10th and 11th February 2025, some MSU-SGS members attended the Orogenic Gold in Africa and Worldwide Workshop, organized by the Society for Economic Geologists in conjunction with the Geological Society of Zimbabwe. The workshop, hosted by the University of Zimbabwe, provided a comprehensive overview of the geology of orogenic gold deposits, including their formation, characteristics, and exploration strategies. Leading experts, including Richard Goldfarb, Bob Foster, and Caitlin Jones, shared their knowledge on the topic, covering various aspects such as tectonic and structural controls, geological characteristics, and geochemical and geophysical signatures. The workshop also covered gold metallogenies and recent exploration successes throughout Africa. MSU-SGS members appreciated the opportunity to learn from international experts and to network with peers from other institutions.

4.3 Student Meetings

During the months of October and November 2024, the Society's executive members convened four meetings to discuss and plan various activities. Under the leadership of Chairperson Mackan Rugara, and with the support of the Vice Chairperson and all executive members, the meetings focused on organizing the field trip to Bulawayo and arranging logistical support.

In addition to these planning meetings, the Society also held recruitment meetings with Level 1.1 students. These meetings provided an opportunity for new students to register and join the Society. The Society would like to extend its appreciation to all Level 1.1 students who attended the trip and paid their monthly subscriptions.

4.4 Upcoming Student Activities

The Midlands State University Students' Geological Society has an exciting lineup of events and activities planned for 2025. In the first quarter, the society will host a "Welcome Back" meet and greet event, followed by a mapping exercise and geological survey of areas around Zvishavane. The society is also planning its first locally sponsored field trip.

Throughout the year, the society will host seminars, workshops, and symposia on various topics, including geology and economic development in Zimbabwe, geology and technology, and geology and community. The society will also organize outreach programmes, fundraising campaigns, and social events to promote academic excellence, professional development, and community engagement among its members.

5. Conclusions

The MSU Geosciences Department, with an excellent age and skills-mix, is poised for sustainable growth. With an emphasis on student activities, research and collaborative partnerships, the department can transform into a world-class centre of excellence in geosciences.

Compiled By:

Antony Mamuse and Trisha Paraziva



ZIMBABWE SCHOOL OF MINES

Serving the SADC mining industry

The Zimbabwe School of Mine's focus has been on enhancing educational standards, promoting innovation and research, and fostering partnerships within the mining and geological sectors.

ZSM recognizes the critical need to equip our students with the necessary skills in geological software. We have successfully integrated various software training sessions into our curriculum, enabling students to gain hands-on experience in tools essential for modern geological analysis. This initiative not only enhances the student's technical competency but also prepares them for the demands of the industry. This initiative has

increased student proficiency in software applications such as QGIS and Surpac. We have received positive feedback from students regarding the relevance of software training to real-world applications.

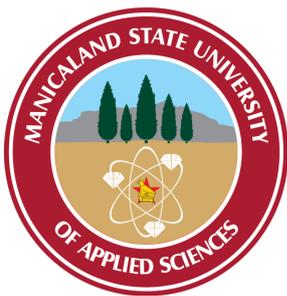
However, we also realize that continuous updates to software training modules are necessary to keep pace with industry advancements and collaboration with software providers can enhance learning experiences and provide students with current resources.

Innovation remains at the forefront of our educational agenda. Throughout the year, we encouraged students to engage in innovative projects that address current challenges in the geological sector. We look for volunteers to provide mentorship and support for innovative projects that students come up with.

The school has also made significant strides in promoting research initiatives within the institution. By emphasizing the importance of research, we aim to contribute valuable insights to the geological and mining community. This will see an increased student participation in research projects, resulting in published papers. In this regard we seek partnerships with industry stakeholders who may facilitate access to resources and expertise. Ongoing support for research initiatives is crucial for sustaining momentum and achieving impactful results.

Recognizing the importance of practical experience, we continue to attach students at the mines and so call upon anyone who has openings to contact the school. These attachments are necessary for us to produce hands-on geological practitioners that meet the requirements of the mining industry

Submitted by Fyrence Ndebele



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Department of Mining and Processing Engineering

Research.

Innovation.

Sustainable Development.

As we reflect on the last semester of 2024, it is with great satisfaction that we note its successful progression. Our academic programmes have seen significant growth, particularly in the enrolment of block release students. This increase highlights a strengthening collaboration between our institution and industry partners, which is crucial for providing practical experience to our students.

We are pleased to report an uptick in attendance for the short courses offered by our department. These courses not only enhance professional skills but also foster a deeper understanding of geological and mining principles among participants.

While we celebrate these achievements, we continue to seek opportunities for industrial attachments for our students. Such placements are vital for bridging theoretical knowledge with real-world applications and preparing them for future careers. As we approach the start of the next semester on 10th March, 2025, we look forward to building upon these successes. We invite all members and stakeholders to join us in promoting geological education and research within Zimbabwe.

Contributed by Hazel Chibaya

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NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF APPLIED PHYSICS
EARTH SCIENCES

The Applied Physics Department is currently receiving applications for the August 2025 intake for both its BSc (Hons) in Earth Science and MSc in Geophysics degree programmes. Details on how to submit the applications and more information can be found on the NUST Website. At the same time, the 2024/2025 Academic Year's Second Semester's teaching and learning activities are scheduled to commence at the department on Monday 3rd February 2025. Our current Third-year Part III BSc (Hons) students in the Earth Science Degree Programme are scheduled to commence their industrial attachment training programme at the same time, starting in February 2025. The success of our Industrial Attachment Training Programme depends very much on the willingness of industries to embrace our students. Accordingly, we are kindly requesting our industry partners to avail internship opportunities for these students.

The Applied Physics Department is also planning to host workshops and conferences in 2025. The details of these planned activities will be communicated to the public in due course.

Lastly, we are thrilled to share with you that the Applied Physics Department is currently working towards the creation of a new department to host all of its current Earth Science-related academic programmes, i.e. BSc (Hons) in Earth Science and MSc in Geophysics degree programmes. This new Department of Earth Sciences will be tasked with developing new and bold strategies that can contribute significantly towards the growth of the academic discipline of Earth Science at NUST. Currently, we have 8 Applied Physics staff members associated with the earth science-related training and research activities (See table below).

| Name | Email address | Position |
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Submitted by Dr. Brassnavy Manzunzu



Geological Survey Department

Ernest T. Mugandani
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UPDATE ON KEY DEVELOPMENTS

- The Zimbabwe Geological Survey remains hopeful for a rebound, following expressions of interest made in January this year for collaboration by the British Geological Survey (BGS) and by the UNESCO International Centre on Global-Scale Geochemistry.
- A team from the BGS, led by Dr Kathryn Goodenough, visited the Zimbabwe Geological Survey from 10th to 20th February on a fact-finding mission about the state of geological information in Zimbabwe, and to explore areas of possible co-operation. Management of Geoscientific Data and Information and final compilation with publication of the 8th edition of the 1: 1 000 000 Geological Map of Zimbabwe are high on the agenda (*see also Forbes Mugumbate's article in this newsletter*).
- The UNESCO International Centre on Global-Scale Geochemistry was officially established at the China Geological Survey on 12th May 2016. The centre aims to establish a Global co-operation network in a “Chemical Earth” Project that will foster knowledge and technology in global-scale geochemistry in order to sustain natural resources and the environments of the world.

STAFFING

- **Brandon Kunjaira**, a geologist, resigned from the department with effect from 1st January 2025. He had served the Geological Survey Department for only six months. We wish him well in his new endeavours.

- The Director, **Forbes Mugumbate** with **Mangwiro Sibanda**, **Brian Muteta** and the writer attended the Geological Society of Zimbabwe's 2024 Summer Symposium and the Macgregor Memorial Lecture that was held in Bulawayo on 1st November and included the post-Symposium Field Trip to the Diana's Pool orbicular granite site in eastern Matopos on 2nd November.
 - **Forbes** subsequently attended the Ministry of Mines and Mining Development Strategic Workshop that was held at Great Zimbabwe Hotel in Masvingo from 25th to 29th November 2024. This is a key meeting where targets to be achieved by the Ministry for 2025 were discussed and cascaded to departments for implementation.
 - **Forbes** also welcomed delegates participating in the International training workshop on Orogenic Gold held at the University of Zimbabwe from 10th to 12th February 2025. The workshop, attended by several local and foreign geologists, was conducted by world-renowned experts on gold mineralization from the Society of Economic Geologists (SEG). **Evelyn Marumisa** and **Mcepherson Gwindi** from the Geological Survey participated. It became abundantly clear that Zimbabwe, a well-known gold-producing country, is lagging behind other countries in the generation and management of data relating to gold.
 - The Zimbabwe Geological Survey, as part of the implementation of the Memorandum of Understanding (MOU) with the Japan Organization for Metals and Energy Security (JOGMEC), participated in the Southern Africa Development Community (SADC) remote sensing weeks Workshop, Seminar, and Competitions held in Botswana from 19th November to 4th December 2024. **Diana Mugadza** and **Mcepherson Gwindi** participated in all the three events while **Mangwiro Sibanda** and **Roseweter Mubaiwa** attended the Seminar and Workshop.
 - **Mangwiro** represented the Geological Survey Department at the Mining Indaba in Cape Town, South Africa that was held from 3rd to 6th February 2025. The Mining Indaba was held under the theme "Future-Proofing African Mining, Today!"
 - The Deputy Director, **Ernest Mugandani**, was part of a delegation that accompanied the Permanent Secretary for the Ministry of Mines and Mining Development on a visit to Seoul, South Korea from 11th to 15th November 2024. Resuscitation of co-operation with the Korea Institute of Geoscience and Mineral Resources (KIGAM) was among other key discussions. **Ernest** subsequently attended the Sub-Saharan Africa International Petroleum and Exhibition Conference (SAIPEC) held in Lagos, Nigeria from 11th to 13th February 2025.
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Mining News and Commentary

Forbes Mugumbate

fmugumbate@gmail.com

Appointment of a second deputy minister at the Ministry of Mines President Emmerson Dambudzo Mnangagwa has appointed **Caleb Makwiranzou** as the Deputy Minister of Mines and Mining Development, responsible for Oil and Gas Research, including other Strategic Mineral's Exploration. The MP for Mutoko South, is a civil engineer with vast industrial experience. The appointment comes at a time when Zimbabwe has not had meaningful exploration for other minerals but for the Muzarabani gas project. This means that the Ministry now has two deputy ministers. The other one is Polite Kambamura, the MP for Zhombe.

Meanwhile, Invictus Energy has announced that the Environmental Management Agency (EMA) has approved the company's environmental and social impact assessment for pilot production activities at their Cabora Bassa project. This approval marks a step toward the commercialization of the recently discovered gas resources within the Cabora Bassa Basin.

The Stilfontein Mine disaster

The world woke up in January 2025 to the news that hundreds of suspected illegal miners were holed-up in tunnel networks of the disused Stilfontein Mine in South Africa, without adequate food or water. Police had surrounded the mine without warning and stopped supplies from getting in. Civil rights groups had to intervene following videos showing piles of dead bodies in the mine and reports that conditions underground were forcing people to eat cockroaches and human flesh. A judge eventually ordered the police to rescue all the miners. In total 324 people, including survivors and dead bodies, were retrieved. The disaster claimed 87 lives of various nationalities from across the Southern African Development Community (SADC) region. Twenty (20) of these were Zimbabwean. The South African government was variously criticized for the way it handled the situation. It is believed many lives could have been saved had the authorities not sealed off the mine. Some have dubbed the incident 'South Africa's worst State-Sponsored Massacre since Apartheid'.

Small-scale mining accidents back home

Accidents have become the hallmark of small-scale mining in Zimbabwe. From January 2025 to mid-February 2025, 45 miners have already lost their lives. At this rate, the country will lose hundreds of miners by the end of the year. This is symptomatic of a sector in total decay. As many people try to get economic relief from mining, more disasters are likely to occur. Consequently, the ever rising gold production is coming at a serious cost. This is happening at a time when Inspectors of Mines from the Ministry are office-bound due to resources constraints.

Record Gold Production

Despite dominance by chaos in the small-scale mining sector, gold miners delivered a record 36.48 tonnes of gold in 2024, marking a 21% increase compared to 2023 and surpassing the industry target of 35 tonnes. The increase was driven by a 27% rise in deliveries from small-

scale miners and an 11.4% growth from larger miners, according to figures released by Fidelity Printers and Refiners.

Dallaglio, the gold arm of Padenga, produced 2025kg in the nine months up to September, reflecting a 22% increase from the same period in 2022. The company benefited from the US\$86 million invested into mining over the past five years, with most of the capital expenditure being allocated to Pickstone, which is transitioning from an open-pit mine to an underground operation to boost production.

Caledonia, which produced 1610kg up to September 2024, projected a full-year output of around 2200kg for the year.

Kuvimba Mining House, the country's largest producer, projected a production of 3500kg for 2024.

Gold miners experienced favourable market conditions, with gold prices rising by 27% in 2024. However, rising costs and economic policy challenges have constrained their operations. For instance, a survey by the Chamber of Mines indicated that miners pay an average of US14.21c/KWh, with a peak tariff of approximately US19c/KWh. Miners resort to using diesel power during power cuts, which has an implied tariff of over US30c/KWh.

Miners receive 75% of their export earnings in USD and the remaining 25% in ZiG. The rapid depreciation of the local currency erodes the value of the surrender portion of their earnings by over 50%, effectively imposing a 12% tax on exporters' gross proceeds.

Zimbabwe's gold, foreign reserves up 87%

As gold production increases, foreign currency reserves are also increasing. The reserves consist of foreign currency and gold from mining royalties, direct currency purchases from the interbank market, and outright gold purchases. According to the Reserve Bank, the total holdings of gold and foreign reserves have increased by 87%, from US\$285 million in April 2024 to around US\$550 million as at the end of January 2025. This is reported to be ensuring the full coverage of the total ZiG deposits in the economy thereby supporting the exchange rate stability.

US\$7bn mining revenue target for 2025

The permanent secretary in the Ministry of Mines and Mining Development, Pfungwa Kunaka, has indicated that government has set a target of generating US\$7 billion in revenue from the extractive industries in 2025. He said this will be achieved by addressing the mining industry's challenges, including erratic power supplies, mineral leakages and softening prices. Could this be an admission that the ambitious US\$12 billion mining industry that was to be achieved by 2023 was a failure?

Mining Indaba 2025, Cape Town

The Minister Mines and Mining Development attended the Mining Indaba 2025 in Cape Town, South Africa, to promote investment in mining in Zimbabwe. The Ministry and other officials that accompanied the Minister who were manning Zimbabwe's booth, presumably had a tough time answering questions from potential investors that visited the stall to check on the situation in Zimbabwe. Some of the questions relate to:

- Issuance and renewals of EPOs

There is an apparent freeze on issuance of EPOs, with the EPO map at the Geological Survey showing applications submitted as far back as 2009 still occupying space. All known mineral areas are virtually covered by EPO applications. On the other hand, EPOs that expired in March 2024 are still to be renewed. This gives the impression that Zimbabwe does not regard mineral exploration as an important component of the mineral value chain.

- Mines and Minerals Amendment Bill

The bill has been on the drawing table for far too long for the comfort of potential investors. Many companies have been sitting on the fence waiting to see what the new Act brings.

- Computerized Mining Cadastre

This, like the Bill, has bearings on investment decision making by some companies. The system is expected to introduce efficiencies and transparency. Investors may want to have information about the status of ground they want to occupy for exploration for their comfort. They do not want surprises where third parties emerge from nowhere producing evidence of ownership of certain critical anomalies identified during exploration. Some investors are thus waiting for implementation of the computerized cadastre before making concrete decisions to invest.

- The minimum 26% free-carry for government

There have been announcements that the government will take 26% free-carry of equity in all new mining projects. The move is ostensibly aimed at increasing the government's share in the mining industry and maximizing the economic benefits of its natural resources. Government will also negotiate for similar stakes in existing mining projects. This is obviously not going down well with some investors. A number of potential investors would want some clarification of this policy.

- The New Mining Tax Regime

The Finance (No. 2) Act, 2024, ushered in reforms to Zimbabwe's mining tax framework. Key changes are the requirement that mining entities be registered taxpayers with the Zimbabwe Revenue Authority (ZIMRA) before acquiring or transferring any mining titles. This is with effect from 1st January 2025. Special provisions are also made for capital gains tax, particularly targeting the sale or transfer of mining assets. When acquiring or transferring a mining title, the mining entity must submit a tax registration certificate issued by ZIMRA. The transaction will be deemed void and can be cancelled at the request of the Commissioner-General if this certificate is not provided.

However, despite these depressing matters, the hunger for investing in Zimbabwe's minerals industry is apparent as shown by the number of EPO applications that stand at 218 against 23 active ones. There are also considerable developments occurring in mining claims outside EPOs. Some of these projects include:

- Ariana Resources' Dokwe Gold Project is located in Tsholotsho District, which represents the largest undeveloped gold project in Zimbabwe. Considerable work for comprehensive evaluation of the deposit is taking place.
- Kavango Resources' Hillside Project in Matabeleland South where exploration results have been promising, with a drill hole intersecting 2.53 meters grading 29.08g/t gold with a peak grade of 212.07g/t over 0.34 meters.
- Caledonia Mining Corporation's ambitious expansion at Blanket Mine, and activities at the Bilboes Mine and the Motapa and Maligreen gold mining claims that are making the company a formidable multi-asset gold producer.
- Pambili Natural Resources Corporation's acquisition of the highly potential Golden Valley project that includes the previously operational London Wall and New Jessie mines.
- A recent announcement by Namib Minerals, that it has estimated its three gold mines in Zimbabwe to have a combined underground measured and indicated mineral resources of 12.89 million tonnes. Namib is a partnership between Metallon Corporation and an American special purpose acquisition company, Hennessy Capital Investment Corp. VI. The mines in question are Redwing Gold Mine, How Gold Mine and Mazowe Gold Mine.
- Premier African Minerals' announcement that it was deploying the recently mobilized £1.2 million to resuscitate operations at its Zulu lithium deposit to commence work on a state-of-the-art pilot processing plant to increase available capacity in the flotation recovery circuits, where lithium minerals are recovered.
- The announcement by the Victoria Falls Stock Exchange-listed Karo Mining Holdings that it is at an advanced stage of securing US\$225 million in debt funding to complete the construction of its platinum project south of Selous. The Karo Platinum Project, which is expected to start production in 2026, has been delayed due to funding challenges.
- The encouragement by the 2025 International Commodity Summit (ICS2025) for the worldwide investors to fund Kuvimba Mining House, which is seeking 950 million dollars for the expansion of its mining operations, is a good sign for the future of investment in the mining industry. Kuvimba intends to allocate more than half of the sought-after 950 million dollars towards its Darwendale platinum project.

Manhize steel plant hits key milestone

The Manhize Steel Plant located near Mvuma, has officially commenced the production of reinforced steel bars, marking a significant milestone in Zimbabwe's industrial development. The Steel Plant is part of the Tsingshan Group of China's extensive investment in Zimbabwe. Tsingshan Group is already deeply involved in other major projects such as Afrochine Chrome Smelting near Selous and the Dinson Colliery in Hwange, which focuses on coke production. The company has plans to eventually produce other items including pipes, bolts and nuts, rolled tubes, fencing, shafts and wires. The

current target for steel production in the first phase of the plant's operations is 600,000 tonnes of steel products annually.

Engagement with the British Geological Survey (BGS)

A team from the BGS, led by Dr Kathryn Goodenough, visited the Zimbabwe Geological Survey on a two-week fact-finding mission focusing on the state of geological information in Zimbabwe, and to explore areas of possible co-operation. The two organizations have previously worked together on a number of important projects. The state of maintenance and management of geoscientific data and the up-dating of the 1:1 million geological map of Zimbabwe (last effectively compiled in 1977) became the centre of the discussions. We can only hope that these talks will translate to positive outcomes, but this will depend firstly on the signing of a Memorandum of Understanding (MOU) between Zimbabwe and the UK, and secondly, on the availability of enough resources on the British side to fund the projects. A draft MOU document is currently under discussion.

MINING NEWS

gleaned from <https://www.mining.com/>

by Kennedy Mtetwa

Zimbabwe wants 26% free-carry stake in new mining projects

[Bloomberg News](#) | December 11, 2024 | [News Africa](#) [Chrome](#) [Gold](#) [Lithium](#) [Platinum](#)

Zimbabwe is planning to hold 26% of new mining projects on a free-carry basis, and will also negotiate with existing operators to acquire a similar stake.

“We need to move to a level where we reach 26% shareholding in most of the big projects,” Zimbabwe’s Secretary for Mines, Pfungwa Kunaka, told *Bloomberg* in an interview. “A lot of these things would take negotiations with the investors that are on the ground.”

Kunaka declined to say how the government would finance acquiring stakes in established mining projects.

Resource nationalism is strengthening across Africa as countries seek a greater share of the profits from their commodities, while addressing historical imbalances in the wealth flows from mining. Zimbabwe mines a number of metals, such as gold, platinum, lithium and chrome, with operators including Zimplats Holdings Ltd., Anglo American Platinum Ltd.’s Unki mine and RioZim Ltd.

“Obviously when you have decisions which were made some years back and decisions were made on the basis of a certain framework, you cannot just willy-nilly go and change that,” Kunaka said. “It takes negotiations.”

Kunaka did not disclose the minimum value of mining assets in which the government would want a shareholding, saying that details will be released later. The policy would be introduced from next year, he said.

Zimbabwe has a 15% free-carry shareholding in platinum miner, Karo Resources, according to its website.

(By Godfrey Marawanyika)

Zimbabwe to tackle gold smuggling by boosting mine surveillance

[Bloomberg News](#) | September 16, 2024 | [News Africa Gold](#)

Zimbabwe plans to tackle rampant gold smuggling by increasing surveillance at mining sites, Mines Minister Winston Chitando said Monday. The country loses \$1.5 billion of gold a year to smugglers, depriving it of vital export revenue, according to the International Crisis Group. Most of its gold is produced by small-scale miners, who at times get paid late by the state's sole authorized buyer, Fidelity Gold Refinery, forcing some to use other channels.

The government will deploy monitoring teams to mines to ensure all output flows to FGR, a plan that builds on a gold-tracing system announced in May. Zimbabwe aims to produce 35 tons of the metal this year, up from 30.1 tons in 2023, Chitando told reporters in the capital, Harare.

“The illegal extraction and trade of gold undermines our efforts to achieve these benefits,” the minister said. “The key to realizing this target is the plugging of leakages to side markets.”

In the latest effort to devise a credible national currency, Zimbabwe in April replaced its dollar with the ZiG, short for Zimbabwe Gold. The ZiG is backed by gold, precious minerals and cash reserves.

“Our currency is anchored on gold,” Chitando said. “Hence the need to ensure that all the gold trade is done through Fidelity Gold Refinery.”

In the first eight months of 2024, Zimbabwe produced 21 tons of gold, compared with 19.3 tons a year earlier.

(By Godfrey Marawanyika)

China mining firms partner with Zimbabwe on lithium mine

[Bloomberg News](#) | September 24, 2024 | [Battery Metals Africa China Lithium](#)

Chinese miners Zhejiang Huayou Cobalt Co. and Tsingshan Holding Group Co. are defying low lithium prices to develop a deposit of the battery metal with a Zimbabwean state company. The two firms already operate lithium projects in Zimbabwe and will complete a study before building a mine and processing plant at Sandawana, in the country's south, according to the chief executive officer of Kuvimba Mining House, the state-owned firm that owns the asset. Kuvimba had announced the deal in July, without naming the partners.

Although tumbling lithium spot prices – down almost 90% since late 2022 – have triggered some production shutdowns and deferrals around the world, Chinese companies continue to look for feedstock to supply refineries at home. Huayou and Tsingshan's construction plans would cost \$250-\$300 million and produce about 500,000 tons of lithium concentrate a year, Kuvimba's acting CEO, Trevor Barnard, said in an interview, citing a previous study. The companies are finalizing the price tag and output capacity in a more comprehensive feasibility study due to be completed within three months, he said.

Prices for the battery material will likely pick up slowly in the next year before recovering strongly from 2026 and 2027 as production surpluses give way to deficits, Barnard said. Despite that, “our economics show to us that we will still be a profitable business even at the current pricing levels,” he said.

Huayou and Tsingshan didn't respond to request for comments.

Zimbabwe has emerged as a significant producer of lithium in the last two years after a spike in prices through 2021 and 2022 fuelled a wave of transactions by Chinese firms, including Chengxin Lithium Group Co. Ltd. and Sinomine Resource Group Co. Ltd. A Huayou unit has invested more than \$700 million to buy and build the Arcadia mine, while Tsingshan has developed the smaller Gwanda project.

A manufacturer of battery materials, Huayou also owns cobalt projects in the Democratic Republic of Congo and produces nickel in Indonesia. Tsingshan, the world's top producer of stainless steel and nickel with a new steelworks in Zimbabwe, is expanding its presence in lithium mining and has a subsidiary that makes batteries for electric vehicles.

Instead of owning equity in Sandawana, Barnard said Huayou and Tsingshan have agreed to transfer the asset back to Kuvimba after a minimum of five years and recouping the loan that will finance the project. The terms of an offtake contract with the two companies are still under negotiation, according to the CEO. Kuvimba wants construction of the plant — which is set to become the largest producer of lithium in Zimbabwe — to be finished by the end of next year, he said.

Sandawana was the site of a moth-balled emerald mine that Rio Tinto Plc ran for several decades last century. More recently, Zimbabwe has sought to find iron ore and tantalum at the site before turning their attentions to lithium. Kuvimba, which has divided Sandawana into three blocks, is discussing two other earlier-stage projects that require further exploration with potential investors, including a firm belonging to British businessman Algy Cluff, who helped pioneer the North Sea oil and gas industry and has run mining projects in African countries including Zimbabwe.

(By William Clowes and Godfrey Marawanyika)

Zimbabwe softens stance on local lithium processing after price collapse

[Reuters](#) | October 3, 2024 | [Battery Metals Africa](#) [Lithium](#)

Zimbabwe has softened its requirements for lithium miners to process the mineral locally, a government official said, as the industry battles to survive a price slump over the past year. Africa's top lithium producer, Zimbabwe had last year given producers up to March 2024 to submit plans of how they would produce battery-grade lithium in the impoverished southern African country. Prices of lithium, which is mainly used in battery technologies, have fallen more than 80% in the past year largely due to overproduction from China and a drop in demand for electric vehicles.

The price collapse has forced companies like Chinese battery giant CATL to suspend production at certain mines. Albemarle, the world's top lithium miner, implemented a second round of cost cuts earlier this year and laid off workers. In Zimbabwe, lithium miners including Sinomine Resource Group's Bikita Minerals, have been forced to cut production and lay off workers as the impact of weak prices has been compounded by the country's poor infrastructure, currency volatility and policy inconsistencies.

The Zimbabwe government would now take a measured approach in its quest to localize lithium processing, deputy mines minister Polite Kambamura told *Reuters*.

"We are now considering them on a case by case basis and also considering the level of investments already put in the country," Kambamura said.

Chinese firms including Sinomine, Zhejiang Huayou Cobalt, Chengxin Lithium Group, Yahua Group and Canmax Technologies have spent more than \$1 billion over the past three years to acquire and develop lithium projects in Zimbabwe.

“Some commenced mining operations five months before the deadline, so we are considering where the project is,” he added.

Sinomine has said it plans to spend up to \$500 million building a lithium sulphate plant at Bikita within the next five years.

Huayou has said it is conducting feasibility studies for a lithium sulphate plant at its Arcadia mine.

Kambamura said the government was open to dialogue with lithium miners over their struggles.

“We understand the prices are low but they are beginning to firm up. The fact that there are upcoming projects means the environment is favourable,” he added.

(By Nyasha Chingono; Editing by Nelson Banyana and Angus MacSwan)

Zimbabwe to end tax relief for miners to spur mineral processing

[Bloomberg News](#) | November 11, 2024 | [News Africa Platinum](#)

Zimbabwe said it won't grant further tax relief to mining houses from January 2025 in a bid to force them to complete plants to process raw materials. The country's platinum industry has already made progress in developing a base metal refinery plant, which is expected to come on line next year, the Ministry of Finance said in a statement posted on X. Zimplats Holdings Ltd. has so far spent \$29 million on the \$190 million project.

“Government has already introduced 5% beneficiation tax on the export of un-beneficiated platinum, with a view to compel mining houses to invest in the requisite plants,” the Treasury said. “In addition, government removed customs duty on the importation of the equipment required in the setting up of beneficiation plants.”

Zimbabwe President Emmerson Mnangagwa said last month the government would introduce incentives to encourage mining companies to process their output locally. The plan reflects a wider push across Africa to add value to natural resources before exporting them to reap greater economic rewards.

Zimbabwe has the world's third-largest platinum reserves after Russia and South Africa and generates more than half of its revenues from exports of minerals including gold, chrome and diamonds.

Separately, Zimbabwe is negotiating with lithium miners to improve beneficiation.

(By Godfrey Marawanyika)

Zimbabwe lithium miners want royalties to be linked to prices

[Bloomberg News](#) | November 15, 2024 | [Battery Metals Africa Lithium](#)

Zimbabwe lithium miners want royalty payments to the government linked to metal prices as the current market downturn threatens the viability of investment projects. That will ensure “the government captures a higher share of revenue when lithium prices are high, while providing relief when prices drop,” the miners said in proposals forwarded by the Chamber of Mines to Zimbabwe's Ministry of Finance.

The battery metal has slumped from a peak in late 2022 amid oversupply and weak demand from the electric vehicle sector. That has coincided with the imposition of higher royalties in Zimbabwe, while projects operated by companies including China's Chengxin Lithium Group Co. and Sinomine Resource Group Co. are relatively new.

“They are still facing huge start-up costs and are yet to recoup their investments,” the Chamber said. “The high royalty has a huge impact on their top line, thereby compromising on the viability of lithium projects.”

Zimbabwe's mining sector has lost \$500 million of potential revenue due to output losses from power outages, the Chamber said. During the first half of the year, the country's mineral earnings fell 1.1% to \$2.6 billion, it added. Gold output declined 3%, while production of platinum group metals dropped 1%. Lithium output slumped 9%.

Other recommendations by Chamber of Mines:

- For the platinum sector, it proposed a price-linked royalty of 3.5% up to \$1,100 an ounce, rising to 5% for \$1,100-\$1,400, 7% for \$1,400-\$2,000 and 8.5% for price above \$2,000 an ounce.
- Mining companies want the minimum retention of foreign currency earnings to be increased to 85% from the current 75%.
- Miners are seeking a power tariff of around US9c/KWh compared with current US14.21c/KWh, and peak tariff of around US19c/KWh, which they say is unaffordable.

(By Godfrey Marawanyika)



SEG Timothy Nutt Memorial Fund

This fund will be available to provide financial support for geology students and young economic geologists located in Zimbabwe or in southern Africa with ties to Zimbabwe. The fund may be used to support SEG student chapter activities, travel to meetings, field trips, for research or study grants, technical lectures or any other activities approved by the SEG Regional Vice President for Africa.

Strong preference will be given to those applicants who are SEG Student Members.

To become an SEG Student member visit www.segweb.org/join

Applicants must describe what the project is, why the research is important and how it is to be done.

An estimate of expenses for the project must be included with the application.

Grants are expected to be fully utilized by April 30 following the calendar year in which they are awarded / dispersed.

Grant recipients are required to provide a year-end accounting of how the money was spent together with a suitable progress report or final abstract.

**A 2018 Research Grant application form may be downloaded from
www.segweb.org/StudentResearchGrants**

Student Research Grants Committee c/o Assistant for Student Affairs, Society of Economic Geologists Foundation 7811 Shaffer Parkway, Littleton, CO 80127-3732 USA

Phone: +1.720.981.7882/Fax: +1.720.981.7874



GSZ Research and Development Fund

Enquiries relating to the distribution of funds through this facility should be made with the standing Chairperson.

A GREAT OPPORTUNITY EXISTS TO CREATE ADDITIONAL AWARENESS

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Please contact Andrew du Toit at andrewdutoitzim@gmail.com, or the Honorary Secretary at geol.soc.zimbabwe@gmail.com, for more information.

You can also advertise in this Newsletter through these contacts, where the cost for an A4 page size will be \$50 in any one issue.

Conferences

Geological Society of South Africa & the Northern Cape Branch
Namaqualand Diamond Conference and Centenary
Letsatsi Lodge, Vanrhynsdorp
11-20 March, 2025

Geological Society of South Africa
GEOCONGRESS 2025
Embracing Change Through Collaboration
University of the Free State, Bloemfontein
24-27 June 2025

Geological Society of South Africa
African Exploration Showcase
Johannesburg Country Club, Auckland Park
12 – 13 November, 2025

For further information on specific events see <https://www.gssa.org.za/>
or email info@gssa.org.za

Colloquium of African Geology CAG30 -

Unveiling Africa's Geological Resources:

"Forging a Path for Sustainable Development"

Nairobi, Kenya – 23-27 September, 2025

Biennial Conference organized by the Geological Society of Africa

cag30info@cag30nbi.org / cag30.nbi@gmail.com

| GEOLOGICAL SOCIETY OF ZIMBABWE: CONTACT DETAILS OF MEMBERS OF THE EXECUTIVE COMMITTEE FOR 2024 | | | |
|------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------|------------------------------|
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