

Geological Society of Zimbabwe



Newsletter

June 2017

No. 2 of 3 of 2017



The GSZ, recognising the desire in quarters for the implementation of a Code of Registration, Ethics, Competence and Reporting (RECR Code) for geoscientists in Zimbabwe, linked with Continued Professional Development (CPD), will hold a workshop commencing at 16.00hrs on Friday 14th July directed at discussing the issues involved and, taking cognizance of Member's views and obtain direction to determine how your Committee should proceed or not.

www.geologicalsociety.org.zw

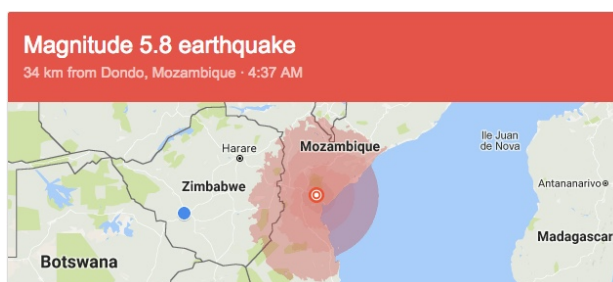
The Geological Society of Zimbabwe, P.O. Box CY 1719, Causeway, Harare
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Contents

EDITORIAL	3
CHAIRMAN'S CHAT	5
CONFERENCES	6
ARTICLES AND REPORTS	
Dewatering structures in the Manjeri National Monument Unconformity Exposure	8
Planetary and Space Sciences in Africa Today	11
NEWS	
Geology Department, University of Zimbabwe – Maideyi Meck	13
The Professor Tom Blenkinsop UZ Geology Field Trip Fund	14
Midlands State University, Faculty of Mining and Mineral Processing Engineering, Zvishavane Campus – Antony Mamuse	15
Geological Survey Department – Ernest Mugandani	17
News from the Mining Industry – Forbes Mugumbate	19
RESEARCH FUNDING OPPORTUNITIES	
GSZ Research and Development Fund	23
SEG Timothy Nutt Scholarship Memorial Fund	23
CONTACT DETAILS OF MEMBERS OF THE EXECUTIVE COMMITTEE	24
INSTITUTIONAL MEMBERS, 2016	24

STOP PRESS!

This morning (24/06/2017), as I was putting the finishing touches to this Newsletter at 4.37 local time, a strange noise was heard, which I took to be the plumbing. Other people in Harare had heard noises and felt a faint tremour. This was the 5.8 magnitude earthquake with its epicentre reported by USGS as being 34km northwest of Dondo in Sofala Province, Mozambique. Location 19.401°S; 34.501°E at a depth of 10km.



Editorial

A welcome is extended to Maideyi Meck and her Committee in this, the first Newsletter of their 2017 tenure. With challenges inherited from their preceeding Committee and initiatives in the making, we look forward to an active year ahead. This starts with a promise made by Brent Barber to call an early general meeting to discuss issues of professionalism and ethics within our Society and Zimbabwe's geological fraternity as a whole. You are therefore encouraged to attend the meeting on 14th July, details of which are outlined in the conference list and as our frontispiece, and then enjoy the braai and interaction following. There are numerous conferences and meetings coming up culminating this year in our own Summer Symposium, so there should be no shortage of stimulation and potential to accumulate points for your Continued Professional Development (CPD).

Thanks go to Tony Martin for sharing his observations on dewatering structures in the Manjeri Formation as exposed at the unconformity exposure south of Zvishavane. This no doubt absorbed much discussion during the Second Year field trip earlier this month. We look forward to more of Tony's observations and photographic prowess in future newsletters. Grateful thanks are also extended to our regular contributors, Maideyi Meck, Ernest Mugandani and Forbes Mugumbate, and a welcome to our columns is given to Antony Mamuse.

Maideyi shared links on the subject of Planetary and Space Sciences being encouraged through the Geological Society of Africa, for which she is the Regional Representative. Details are included here for your interest. In this regard, it is interesting to note that the US-based Travel Channel International visited Zimbabwe in May to record footage for their popular TV series '*Expedition Unknown*'. Their prime subject interest was to record and popularise little known facts about Zimbabwe's meteorites, inferences that might be drawn for extra-terrestrial life and apparent alien visitations. To this end they chose our own animated, dynamic and spirited Sharad Master as the main film star. He flew into Victoria Falls and then travelled with the film crew to Nkayi where they arrived at the site of the March 2009 meteorite fall. This fell into a gully with a woosh and a bang and splashed some youngsters herding cattle on the bank above. They found three large fragments, which their headman advised them to bring by barrow to his kraal. This they did but a person purporting to be a 'nanga' said they should be returned to the original location as retaining them would be an omen of grave portent. The community complied but next day the chondritic stones were nowhere to be seen. About 100g of the meteorite ended up with the authorities (not the Museum). The next thing the internet shows us that the meteorite has been fully analysed and is registered with *Meteoritics* and that fragments are on sale through a dealer in Arizona. Our Museum, the rightful custodian, has no record of the Nkayi Meteorite. So keep a look-out for this episode of *Expedition Unknown*, which will put Zimbabwe on the 'Space Map' starring Sharad – he bought a solar topi for effect!

Whilst in Zimbabwe, Sharad took time off to give our Society a talk on 18th May on the subject of the *Geoheritage of the Sahara and Sahel* based on his articles published in the IGC special publication *Africa's Top Geological Sites*. Well illustrated and informally presented, this offered the audience a real and enjoyable insight into North African

geology and scenery. The full publication can be purchased through the Geological Society of South Africa and at major book sellers in that country.

Episodes, the geoscience journal of the IUGS published a special issue for the 35th IGC in Cape Town (Vol. 39 No. 2 of 2016) entitled *The Great Mineral Fields of Africa*. The introduction to this publication, of which Sharad is a co-author, can be downloaded from the IGC website. Included here for your interest is their publication map of the geological framework of Africa, much of which was compiled by Sharad.

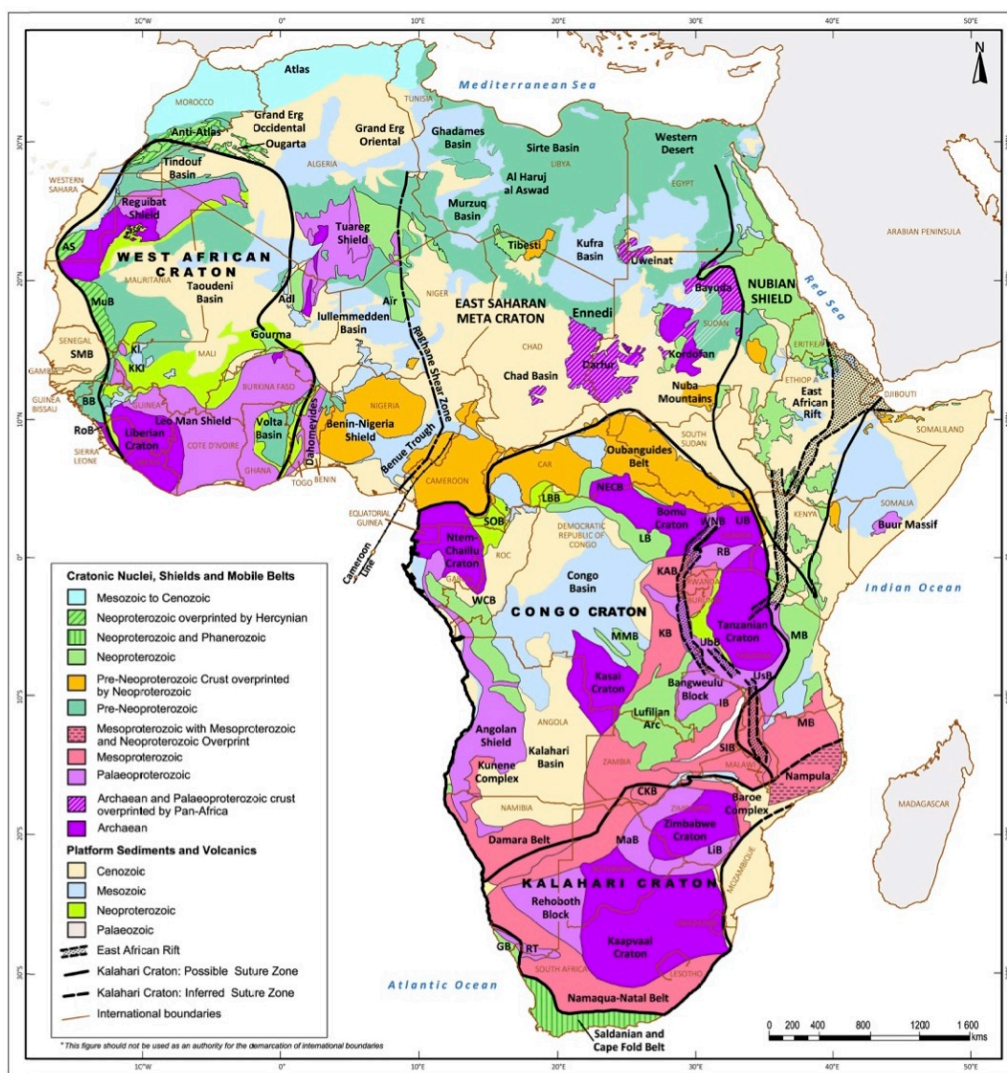


Figure 1a. Simplified Geological Framework of Africa.

Cratons, Shields, Mobile Belts, Massifs and Basins: Adl – Adrar des Iforas Massif; AS – Adrar Souttouf Massif; CKB – Choma-Kalomo Block; EAR – East African Rift; GB – Gariep Belt; IB – Irumide Belt; KAB – Karagwe-Ankolian Belt; KB – Kibara Belt; KI – Kayes Inlier; KKI – Kédougou-Kéniéba Inlier; LB – Lindian Belt; LBB – Liki-Bembe Basin; LiB – Limpopo Belt; MB – Mozambique Belt; MaB – Magondi Belt; MMB – Mbuji-Mayi Basin; MuB – Mauritanide Belt; NECB – North East Congo Block; RB – Ruwenzori Belt; RoB – Rokelide Belt; RT – Richtersveld Terrane; SIB – Southern Irumide Belt; SOB – Sembe-Ouessou Basin; WCB – West Congo Block; WNB – West Nile Belt.

Countries: CAR - Central African Republic; ROC - Republic of Congo (Brazzaville). The boundaries of the three great African cratons are defined by mapped or inferred sutures which separate them from adjoining regions. In places these boundaries occur within Pan African mobile belts.

Tim Broderick



Chairperson's Chat

With ideas for the year ahead

Maideyi Meck

I would like to start my tenure with thanking the Society very much for honoring me with this opportunity to serve in the Chair. I hope in the same spirit I will receive the support that goes with the position. On my part, for this honour, I will keep in mind the common goals, vision and mission of the Society and I will do my utmost to further these. I want to congratulate and welcome all the committee members to this important and highly relevant organisation in Zimbabwe. I also want to appreciate and welcome Tim Broderick as the newsletter editor for the Society, a role he has been playing exceptionally well for over a decade. I appreciate his continued commitment to our society. I heartily thank Dr Brent Barber, my predecessor, for his tremendous contributions to our work. Under his leadership the Society focused on enhancing our visibility. There is no doubt that he has laid a solid foundation for a number of initiatives to be built upon. Thus we, the present committee members, will need to further these ideas and challenges that will take us to a higher level of national relevance, attractiveness and acceptability as the flagship of Earth Sciences in Zimbabwe and for the benefit of the larger community and the encouragement of research. In doing these, we will focus now on these key areas:

Membership

We will endeavour to update and reorganize our membership database. We will explore ways to improve, increase and maintain the membership of our Society. We will revise the way by which we collect membership subscriptions, and administer applications and admissions so that the Geological Society is accessible to all interested persons.

We intend to identify key interested persons in each of the mining region to serve as regional co-ordinators in order to bring the Society and its activities closer to local geologists. They will become channels for information dissemination and be responsible for mobilizing activities (talks and trips) in their respective regions.

We are also hoping to be able to organise social functions that will give members a chance to interact, socialise and exchange ideas and updates on regional developments.

Professional Body

Following the current trend worldwide, we will endeavor to strengthen our professional standing for the benefit of our members through collaboration with credible, global institutions that are in line with our shared vision.

Relevance in Society

It is my opinion that our Society should increase its relevance in the national eye. Taking into consideration that mining is an anchor of this nation, the Society should interact more positively with other mining-related institutions, the Ministry of Mines and Mining Development and be aware of any government activity that deals with mining issues.

International Conference

Building on what was proposed during the tenure of Brent Barber, it is resolved to make a concerted effort to organise an international geological conference to be held in Zimbabwe within a reasonable timeframe.

Field trips, Talks and Workshops

During the tenure of my predecessor there was a significant increase in the number of talks presented to the Society and of organized trips to areas of geological interest. We will seek to maintain this level and, if possible, surpass it.

Information Dissemination

In order to ensure inclusiveness and to publicise our activities to both members and non-members, the Society will try and improve all communication channels through the Honourary Secretary and Administrator. We will also make use of the Newsletter to achieving this goal. It is also my opinion that the Newsletter should have a wider coverage than is current to try and take our Society to society. We will continuously update the website to be more interactive and active so as to capture this wider audience. As committee members we will also use communication to discuss and disseminate information to a wider audience. Where possible Skype and other Apps will be employed.

Thank you!

Conferences

On 14th July 2017 at 4pm

The Geological Society of Zimbabwe will be holding a workshop
on

'Professional Body and Code of Ethics'

at the

Department of Geology, University of Zimbabwe

The aim of the workshop is to discuss and agree a roadmap around possibly of becoming a Professional Body with a Code of Ethics.

This is an important meeting that will affect all our futures.
Please attend.

This will be followed by a braai at the Department

Please contact Brent Barber beforehand, on the following email address, for further information and discussion: gold.zw.gold@gmail.com

Zimbabwe National Institute of Rock Engineering (ZINIRE), AGM and Annual Symposium, Saturday 22nd July 2017, Zimbabwe School of Mines, Bulawayo. Registration \$50.00. Contact: admin@zinire.co.zw

Building a Robust Mineral Industry, SAIMM Zimbabwe Branch, 3-4 August 2017, Cresta Lodge, Msasa, Harare. Contact Gugulettu Mazibuko, Conferencing Co-ordinator on gugu@saimm.co.za or see website : <http://www.saimm.co.za> for attendance, abstract submission, sponsorship or exhibition space.

11th International Kimberlite Conference, Gaborone, Botswana 18-22 September 2017. 50 years of Diamonds in Botswana. www.11ikc.com

2nd International Conference on Continental Ichnology (ICCI), 1-8 October 2017, near Langebaan, Western Cape with field trip to Lesotho. Contact Dr Emerse Bordy, UCT on website <https://sites.google.co/site/icci2017conference/home>

Geological Society of Zimbabwe

Summer Symposium 2017

1st December 2017

Department of Geology, UZ

Call for Papers

We are looking for presentations on broad range of subjects of general interest to Geologists.

If you would like to present, please let us know (andrewdutoitzim@gmail.com)

Please put this date in you diary now

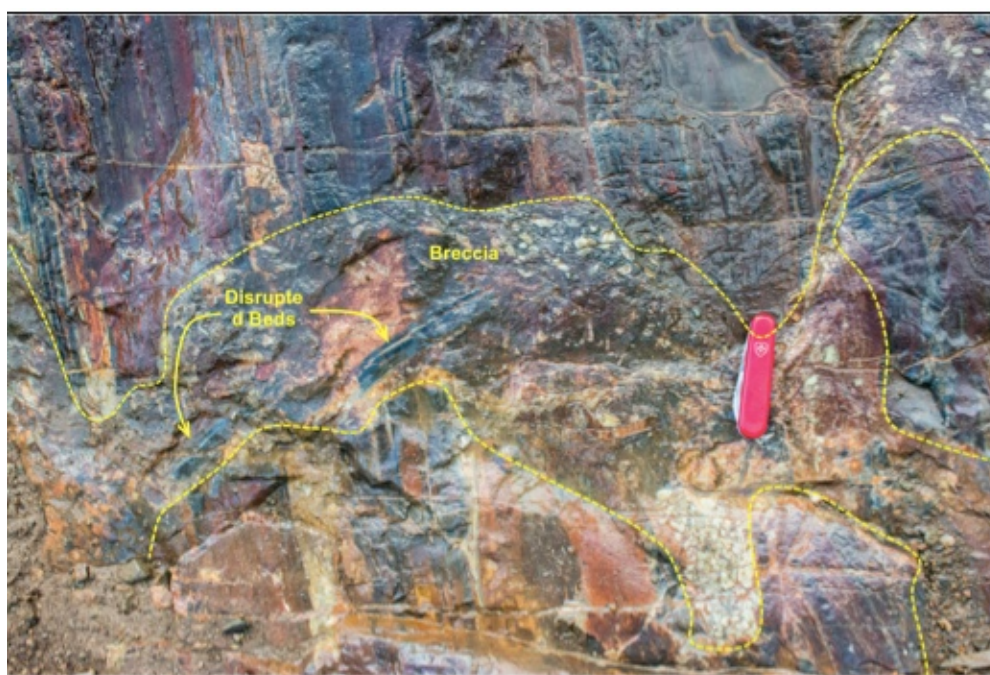
The 13th International Platinum Symposium will take place at the Ranch Hotel near Polokwane, South Africa from 30th June to 6th July 2018. There will also be a two day layered igneous rocks symposium immediately before organized by Steve Barnes and Rais Latypov. Field trips will be integrated with the event and post-conference. Contact Prof. Judith Kinnaid, Director EGRI, University of the Witwatersrand, 2050 WITS, South Africa. Tel: +27 (0)11 7176583

Articles and Reports

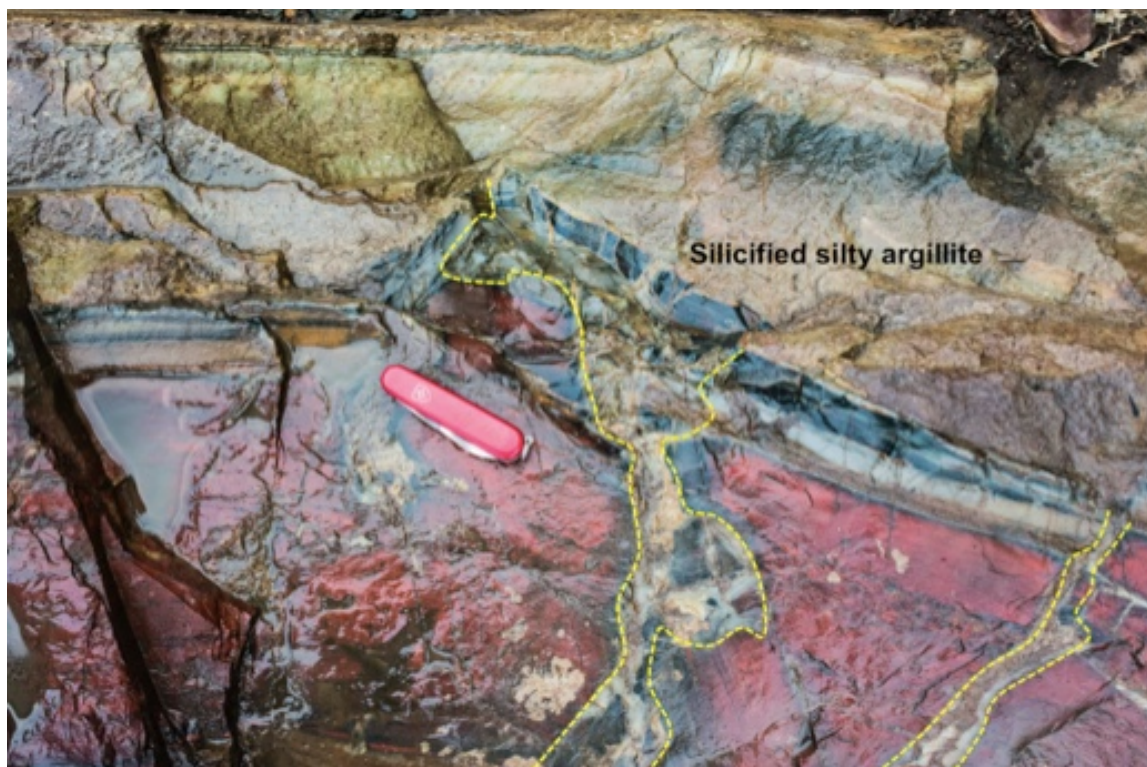
Dewatering structures in the Manjeri National Monument Unconformity Exposure *Tony Martin*

Dewatering or water escape structures have long been recognised in sedimentary packages. They result from loose packing of detrital material (usually silt or sand) and, with continued sedimentation, the superincumbent load compresses the underlying strata and the water escapes into the lower pressure regime above. If the overlying deposits are porous, this flow can be homogeneous and will not be detected in the rock record. However, where the overlying deposits are relatively impervious, the escaping water disrupts the bedding to produce a wide variety of structures from clastic or neptunian dykes, to intraformational folding and faulting, flame structures and wedges of uplifted sedimentary layers.

At the Manjeri National Monument unconformity site 9km southeast of Zvishavane there are a number of different dewatering structures in the lowermost units of the succession and these are illustrated below. Several occur in the lowermost jaspilite unit with the water emanating from an underlying silty argillite and these terminate within a similar, porous detrital layer above. One of these has meandering contacts and incorporates wall-rock clasts to form patches of breccia. In places the jaspilite bedding has been wedged upwards in the flow direction and in one instance into the sediments above. These structures are filled with vein-like quartz and where the escaped water dissipates into the porous material above there is evidence of mild silicification. The whole appearance of these suggests that the jaspilite was semi-consolidated at the time of water break-through.

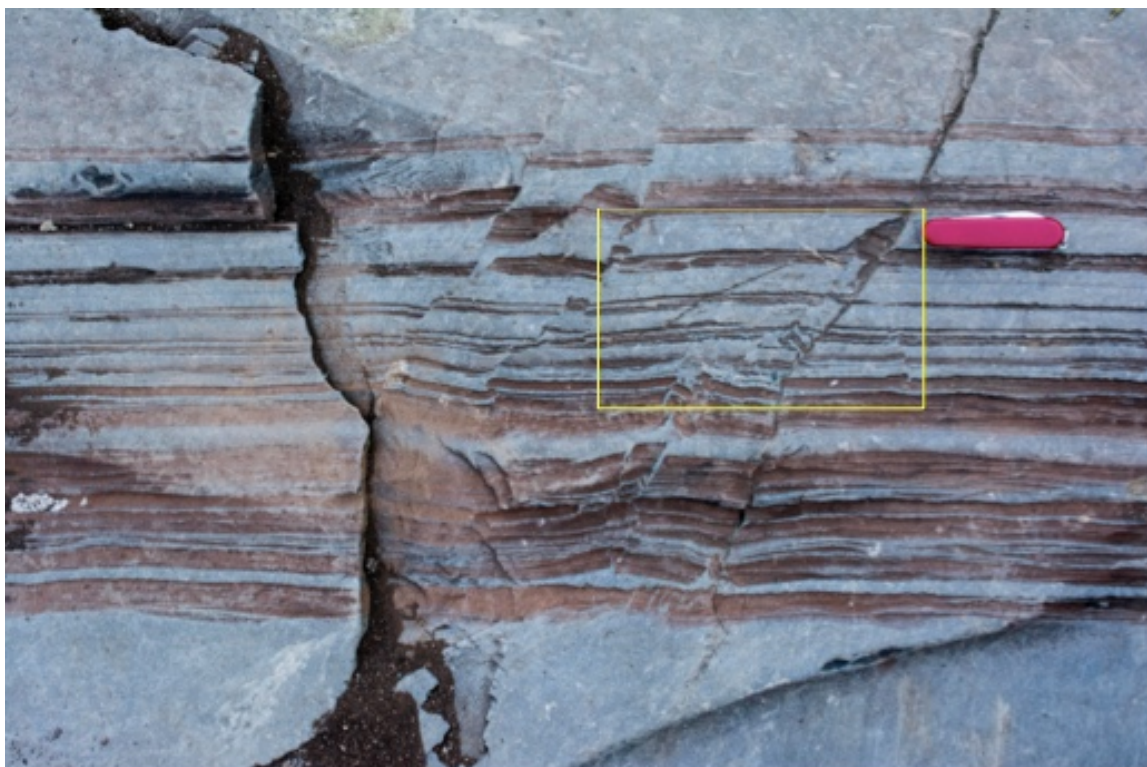


Dashed outline of dewatering structure in jaspilite – younging left to right



Wedging up of jaspilite layers into silty argillite

Above the jaspilite layer is a thicker succession of banded silty argillite, which contains some dolomite – all of it assumed to be detrital. These also contain a number of similar structures that lead to intraformational faulting and folding.



Dewatering structures creating synconsolidation faulting and local, minor folding (see inset below) and brecciation. Brown weathering is due to increased dolomite content in layers



Intrafolial folds, brecciation and faulting

In other places dewatering is displayed as multiple veins filled with quartz and breccia.



Multiple dewatering structures including two injections of brecciated material in the larger vein



Multiple veins in silty argillite with significant sinistral displacement across the main vein

None of these structures traverse the whole of the unconformity outcrop and most are confined to individual lithological units and rarely exceed 2m in length.

A perfect sandstone dyke in argillite, which was noted in 1974, became lost, but was recently rediscovered. Unfortunately the camera crashed and the dyke has yet to be photographed.

The next episode of the newsletter may contain some pretty photographs of the Reliance Formation.

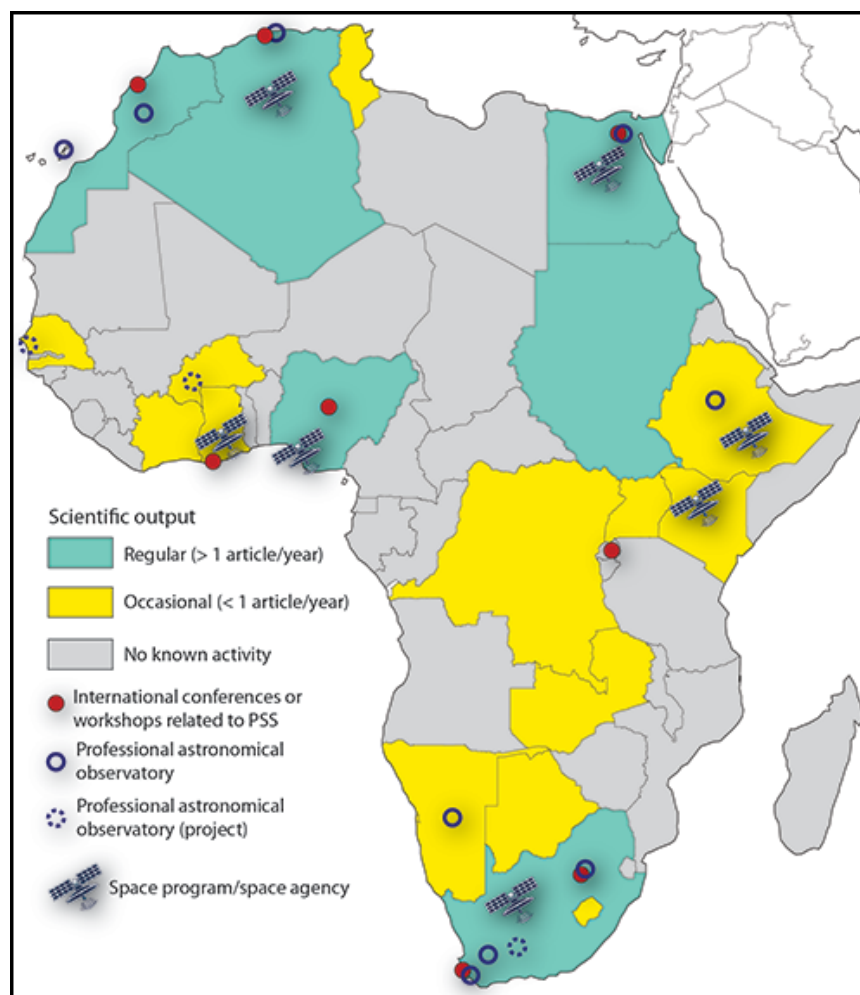
Planetary and Space Sciences (PSS) in Africa Today

David Baratoux david.baratoux@get.omp.eu

<https://eos.org/features/the-state-of-planetary-and-space-sciences-in-africa>

PSS is a vast domain of research. Here we focus on the exploration of the solar system, the study of planetary material (meteorites), and geological processes affecting planets such as impact cratering.

A preliminary scan of articles published between 2000 and 2015 in four representative PSS journals — *Icarus*, *Journal of Geophysical Research: Planets*, *Journal of Geophysical Research: Space Physics*, and *Meteoritics and Planetary Science* — reveals that Africa produces less than 1% of the world output of scientific publications in PSS, despite having more than 15% of the world's population (See Figure). What factors cause this low rate, and how can production be increased?



Map illustrating emerging activities in planetary and space sciences in Africa. Color codes represent results from a preliminary scan of published journals. The use of “project” here means that plans are in place to build facilities. Click [here](#) for a list of recent international conferences and workshops related to planetary and space sciences in Africa. Credit: David Baratoux

Discussions at the 35th International Geological Congress (IGC) last year in Cape Town, South Africa, revealed a widespread misperception in modest- and low-income African countries that funding fundamental science costs society a lot but has little or only long-term societal impact. This misperception remains an obstacle for developing PSS, representatives at IGC observed.

However, solutions exist. For example, the recent emergence of PSS in North Africa illustrates the [key role](#) played by a few dedicated individuals, particularly when they are [supported](#) by political will favoring the training and academic recruitment of a knowledgeable young generation. For an overview of emerging PSS activities across Africa, see the text figure.

PSS in Southern Africa

Southern Africa has a [strong PSS presence](#) and the most advanced facilities on the continent, including the [South African National Space Agency](#) and the [South African Astronomical Observatory](#) (founded in 1820). The world's largest radio telescope project, the iconic Square Kilometre Array ([SKA](#)), is currently being built in the deserts of Australia and South Africa.

The SKA has strong government support, and degree programs in astronomy are growing to meet the demand for scientists, but the planetary sciences have no dedicated academic or research programs in southern Africa. Isolated groups work on specific projects, such as meteorite and impact cratering studies, stellar occultations, asteroid detection and characterization, and lunar laser ranging.

Also published in EOS [Earth & Space Science News](#)

<https://eos.org/opinions/africa-initiative-for-planetary-and-space-sciences>

News



Geology Department, University of Zimbabwe

Maideyi Meck

The department continues to do well. It now has 10 members of staff - 4 PhD-holders and 6 MSc-holders. The new additions to the department are **Oliver Maponga**, **George Kwenda** and **Tonderai Harawa**. Teaching progressed well and the department managed to carry out assessments for the attached students. Many thanks to the mining houses who have facilitated these assessments. The department hopes the mining industry will once again accommodate our students for the crucial experience that they will need next year. The department also enjoyed guest lectures from Dr Mark Tsomondo and Tim Broderick. The semester ended on 2nd June and, as usual, the Part 2 field trip commenced immediately. The students left on 3rd June for the Mberengwa Greenstone Belt and returned on 11th June. Mr Chinoda co-ordinated and led the trip with assistance from Dr Martin. We would like to thank mining houses for accommodating us, notably at Mimosa, Unki and Shabanie mines where staff and students were hosted during both the reconnaissance trip and the field trip.

The department held a curriculum review workshop on 27th May and this process will be reconvened through until the end of July. As you are 'the market for our products', the department would like to have feedback on the skills, courses and practise currently being taught and offered to our students at UZ. The department is also keen to receive input on where industry believes emphasis should be placed in our teaching with an indication as to those areas where we might currently be lacking, emphasizing new topics that industry may deem necessary to impart to students. You can email your contribution to Dr Meck

at maideyimeck@yahoo.com or gloriachipari@gmail.com You are also free to peruse the current curriculum.

With the help of funding sourced by Dr Martin, the department has commenced refurbishment within our premises.

Contact details as of February 2017:

Name	Position	Email	Cell	Office Number	Office Phone 04-303211 (Extension)
Prof M Ityokumbul	Chairman				15032 Secretary
Dr. T. Njila	Senior Lecturer	drtnjila@gmail.com	0783696888	21A/5A	15029
Dr. M.L. Meck	Senior Lecturer	mabvira@science.uz.ac.zw	0772906612	25	15027
Dr. M. Tewelde	Senior Lecturer	mulughetal@yahoo.com	0775471789	6A	15030
Dr. A. Martin	Lecturer	anthony.martin2107@gmail.com	0772211224	2A	15036
Mr. T. Marova	Lecturer	taka.marova@geofieldmining.com	0773297796	3A	15026
Mr. F.B. Mupaya	Lecturer	fbmupaya@gmail.com	0773599433	26	
Ms. S.Ncube	Lecturer	sinikiwencube26@gmail.com	0776746145	19	
Mr. O. Maponga	Lecturer				
Mr. G. Kwenda	Lecturer				
Mr. T. Harawa	Lecturer				
Mr. G. Chinoda	Teaching Assistant	grecie.chinoda@gmail.com	0773000324	15	15025
Ms. S. Sibanda	Teaching Assistant	selinasibanda64@gmail.com	0782707852	1A	15192
Ms. N. Magaranhewe	Teaching Assistant	nancy.magaranhewe@gmail.com	0774065415	18	15191
Mr. D. Maguze	Chief Technician	dmaguze@science.uz.ac.zw	0712639792	24	15033
Mrs G. Chipari	Secretary	gchipari@science.uz.ac.zw	0772950681	21A	15032
Mr. F. Zihanzu	Technician	fzihanzu@science.uz.ac.zw	0772218208	1	15024
Mrs E. Hamah	Technician	emhamah@gmail.com	0773924053		
Mr. D. Mupambo	Technician	DIDYMUS@science.uz.ac.zw	0772916652	16	15024
Mr. P. Sena	Technical Assistant	psena@science.uz.ac.zw	0772390026		15193
Ms. S. Gorogodo	Messenger/Cleaner		0772390026		15029

The Professor Tom Blenkinsop UZ Geology Field Trip Fund

Following the successful presentation of the 2013 A.M. Macregor Memorial Lecture in Harare and Bulawayo, and his lead of the field trip in the Renco Mine area, Professor Tom Blenkinsop made a generous donation of \$200 to the Geological Society of Zimbabwe (GSZ). This was in support of University of Zimbabwe (UZ) geology student field trips. Over the years the UZ Geology Department has been under funded, resulting in their failure to raise sufficient money to conduct the mandatory field trips for its students. The GSZ responded by donating funds and materials from its own resources as well as from members. This assistance went towards the welfare of the geology students, especially in meeting costs for field trips.

Using the donation from Prof. Blenkinsop as seed money, the GSZ has now established the “*Professor Tom Blenkinsop UZ Geology Field Trip Fund*” to be administered by its Executive Committee. Tom has indicated an interest in supporting the Geology Department on a long term basis, not only to help in mobilizing funds for various activities, but by also providing moral and material support. Annually the students go on their main field trip, which lasts around 2 weeks with direct costs being in the range of \$6000 per class. Therefore we are appealing to all our members to donate generously to this worthy cause both in cash or in kind. Materials such as fuel and food are most welcome.

The direct benefits that accrue to the geological profession are that it ensures a properly trained graduate. Referring to the adage that the best geologist is the one who has seen the most rocks, our students need quality field trips. From these field excursions we also want to develop the Zimbabwe Geology Atlas.

Your donations, either in cash or in kind, should be forwarded to our Treasurer, Collins Mwatahwa – E-mail: cmwatahwa@Angloplat.com or to our Administrator, Julie Kuhn - E-mail: geol.soc.zimbabwe@gmail.com

THANK YOU FOR YOUR GENEROSITY

H. N. Gumbo



MIDLANDS STATE UNIVERSITY
FACULTY OF MINING AND MINERAL PROCESSING ENGINEERING
ZVISHAVANE CAMPUS

1. Introduction

This is the first time that the Midlands State University's (MSU's) Faculty of Mining and Mineral Processing Engineering is contributing an article to the Geological Society of Zimbabwe's Newsletter. As such this article is a brief introductory overview of the purpose and activities of the Faculty which opened doors to the first student intake in September 2015. The vision behind establishment of the Faculty is to significantly and practically contribute to the national goal of value addition and beneficiation of Zimbabwe's abundant mineral resources. Housed at MSU's Zvishavane Campus, the Faculty currently has two departments offering three programmes: Department of Mining Engineering (BEng. Honours in Mining Engineering), and Department of Metallurgical & Materials Engineering (BEng. Honours in Metallurgical Engineering, and BEng. Honours in Materials Engineering).

2. Faculty Growth Strategy

At full strength, the Faculty will incorporate more departments, including:

- Geosciences
- Mechanical Engineering,
- Spatial Sciences & Mine Surveying, and
- Fuels and Energy

Subject to requisite internal and external assessments and approvals, the Department of Geosciences is expected to commence operations in 2018. Initially the Geosciences Department will offer undergraduate geology and geophysics programmes, and a postgraduate geological mapping programme. The rest of the proposed departments will be setup sequentially thereafter. In addition several facilities, including a gemmology centre, will be deliberately established within the Faculty to accelerate realisation of the fruits of sustainable minerals value addition and beneficiation.

3. Equipment

MSU is building capacity for world-class research and training at the Faculty of Mining and Mineral Processing Engineering through sequential acquisition of state-of-the-art geological, mining and mineral processing equipment. Lab-scale mineral beneficiation equipment and workshop equipment is already in stock and a well-equipped physical metallurgy laboratory was commissioned earlier in the year.

4. Faculty staff and students

The Faculty currently has a total enrolment of 188 students, 11 teaching staff, 3 technicians, an administrator and a secretary. The Faculty is actively seeking partnerships with other universities, the mining industry and government and to that end a Mining Industry Advisory Committee, chaired by a mining industry executive, was recently launched to advocate for the Faculty's programmes and activities. Faculty students launched the Mining & Metallurgy Association meant to keep them abreast with developments in industry through networking and interaction with invited industry personnel.

Staff and student research and development activities will be summarised in future issues of the Newsletter.

5. Conclusions

MSU's Faculty of Mining and Mineral Processing Engineering seeks to contribute meaningfully to Zimbabwe's development through excellence in research, training and community engagement. To do this effectively, the Faculty requires support and partnerships with Zimbabwe's universities, the mining industry and the government, as well as with relevant regional and international institutions.

Submitted by Dr Antony Mamuse, Acting Dean

**ZIMBABWE**

Geological Survey Department

Ernest T. Mugandani
etmugandani@gmail.com

Staffing

We take this opportunity to congratulate **Temba Mabasa Hawadi**, Director of the Zimbabwe Geological Survey, following the award of a honorary Doctor of Science Degree (DSc) by the London Graduate School of the Commonwealth University on 30th March 2017. The degree is in recognition of “his contribution in augmenting Zimbabwe’s geoscientific database especially for promoting exploration”. Temba has also been appointed a Board Member to the Minerals Marketing Corporation of Zimbabwe (MMCZ).

Temba attended a workshop on **Marine Mineral Resources of Africa’s Continental Shelf and Adjacent International Seabed Area**, which was held in Kampala, Uganda from 2nd to 4th May 2017. The main objective of the workshop was to bring together investors and various experts to discuss the use of the sea and its resources for sustainable economic development.

Sokesimbone Lunga, Frank Muzanenhamo and Ms Sibongubuhle Mpindiwa, all Principal Geologists, continue to act respectively as Provincial Mining Directors for Matabeleland South, Mashonaland West and Masvingo mining districts while the writer continues as Acting Deputy Director for the department.

Ms Mitchell Maisera, an IT Geologist, was transferred from the Harare to Midlands Mining District centred on Gweru with effect from 20th March 2017 while **Ms Luba Gilberta Thwala**, IT Geophysicist, resigned from the department with effect from 10th April 2017.

Ms Yvonne Gurenje joined the department as Assistant Accountant in April 2017. Prior to this appointment she served with the Ministry of Mines and Mining Development Head Office in the same capacity. We wish her a warm welcome to the department.

Training

Geosoft Oasis Montaj software training was undertaken at the Geological Survey from 13-17th March 2017. The participants were M.T. Hawadi, Director, L. Shawarira,

Principal Geophysicist, M. Ndoro, Senior Geophysicist, A. Charumbira, Geophysicist, A. Makuvaza, Geophysicist and E. Muchenjekwa, Geological Technician. This was customized training courtesy of African Development Bank (AfDB) funding under the Governance and Institutional Strengthening Project (GISP).

Training on the use of Database Management Systems and Structured Query Language (SQL) database server software was done from 20th March to 7th April 2017 at the departmental offices in Harare with sponsorship from the African Development Bank (AfDB). The following officers attended: Ms E. Mupomhori, Geological Technician, M. Munhapa, IT Technician, Mrs A. Mudzi, Assistant Chief Cartographer, Mrs N. Chimuka, Principal Cartographer, Ms Vimbai Takawira, Geologist, Ms C. Chatambudza, Geological Technician, M. Ndoro, Senior Geophysicist, B. Ncube, Economic Geologist, N. Tavengwa, Librarian and Admire Charumbira, Geophysicist.

The writer and the following geoscientists, cartographers, librarian, administration and human resource officers, Tendai Kashiri, Lloyd Shawarira, Tapiwa Murwira, Nicholas Tavengwa, Alice Mudzi, Sakhile Ndlovu, Laiza Chibove and Esnath Mupomhori, participated in a one-week study tour of the Geological Survey of Namibia (GSN) in Windhoek from 15th to 19th May 2017. The objective of the tour was to learn how other geological surveys are carrying out their activities and programmes with special emphasis on digital map production technologies and geological data management. The study tour was one of the training programmes provided under African Development Bank (AfDB) funding. Lessons gleaned from the interaction will undoubtedly shape our thinking as we seek to transform our own organisation into a more efficient and well-resourced Geological Survey of the future.

Lloyd Magombedze, Benedict Ncube, Vimbayi Emeldah Gengezha and Vimbai Takawira, all geoscientists, are currently in Namibia undergoing training in Mineral Resource Assessment with sponsorship from the PanAfGeo project of the Organization of African Geological Surveys (OAGS). The training will run from 5th to 16th June 2017 in Windhoek.

Bulletin Editing

Editing of the 12 geological bulletins and 7 maps is progressing well despite having missed the completion timelines due to a number of challenges. However, the editing of 8 bulletins has now been completed and these are being reviewed for conformity to required standards. Digitizing of the 7 maps is on-going and most of them have exceeded the 50% completion mark. Despite the milestones covered to date, every effort is being put in place to ensure completion of both editing and digitizing before 30th June 2017, at which time funding from the African Development Bank (AfDB) comes to an end.

NEWS from the MINING INDUSTRY

Forbes Mugumbate
fmugumbate@gmail.com

New Permanent Secretary

President Mugabe recently reshuffled some permanent secretaries in government, with the result that Professor Francis Gudyanga, the former Secretary for Mines and Mining Development, is now in the Ministry of Higher and Tertiary Education, while Munesushe Munodawafa has replaced him at the Mines ministry. Mr Munodawafa, who holds a BSc degree in Economics and an MSc in Public Administration, is a career civil servant who at one stage was seconded to the National Railways of Zimbabwe as the General Manager. He has worked in the Vice President's Office as a Principal Director, and then as Permanent Secretary before being transferred to the Ministry of Transport in 2012 where he worked until this current posting.

Chamber of Mines AGM

The Chamber of Mines of Zimbabwe held its 78th Annual General Meeting and Conference in Victoria Falls from 18th to 20th May 2017 under the theme '*Growth to Boom - Key Imperatives for Mining Success*'. Walter Chidakwa, Minister of Mines and Mining Development, officially opened the conference that was attended by several delegates from the mining and related industries, and by government personnel. Our fellow geologist, Allan Mashingaidze, who now plies his trade at Rio Zim, effectively steered proceedings at the conference.

Office bearers for 2017 are Batirai Manhando, BNC - President; Elizabeth Nerwande, Mimosa Mining Company – 1st Vice President; Ken Mekani, Metallon - 2nd Vice President; and Toindepi Muganyi, Freda Rebecca – Past President.

Various issues were discussed at the conference, the following being noteworthy:

The minerals industry grew at 8% by volume of production and by 3.6% by value in 2016. This resulted in minerals contributing -

- more than 15% of nominal GDP,
- over 50% of exports
- 30% of revenue to the fiscus, and
- 2% to national formal employment.

The growth was underpinned by good performance in PGMs, gold and nickel. The chrome and ferrochrome sectors have shown great recoveries. Whereas in the First Quarter of 2016 chrome ore exports were valued at \$1.3 million, this rose to \$37 million in the same period in 2017. Ferrochrome exports rose from \$42 million in the first quarter of 2016 to \$147 million in the first quarter of 2017.

Mining is forecast to grow by 5.1 % in 2017.

Of concern, however, remains the issue of power tariffs. Mining and smelting consumes up to 40% of electricity generated, hence the tariff issue is paramount. It was generally agreed that high electricity charges are sterilizing several mineral deposits that could be easily mined if these charges were lower.

The issue of indigenization, especially with regards to local content, was discussed. Mining companies could easily achieve indigenization requirements through procuring from local companies.

Delegates lamented the low level of mineral exploration. The Minister of Finance invited delegates to come up with proposals to encourage the exploration sector. This is obviously a challenge to the geological community.

Changes at the Helm of BNC

Following allegations of misdemeanors by Chinese shareholders in the London Stock Exchange mining junior ASA Resources Group Plc, former Managing Director of Bindura Nickel Corporation (BNC), David Murangari, a geologist, has been appointed to the position of non-executive chairman of the company. Murangari, a veteran in the mining industry, was deputy chairman and non-executive director of BNC at the time of his appointment. The appointment is viewed as an attempt by the Chinese shareholders to exorcise the ghost of China International Mining Group Corporation (CIMGC), after the fraud scandal.

Forever Diamonds

The Zimbabwe Consolidated Diamond Company (ZCDC)'s new General Manager, Dr Morris Mpofu, a former RBZ economist, has acknowledged during a presentation at the Chamber of Mines conference in Victoria Falls, that the rich and easy-to-mine alluvial diamond deposits have been exhausted. The company has now embarked on extensive exploration in the Marange area and farther to the north in Penhalonga to evaluate the basal Umkondo conglomerate source rock and some kimberlites. The thrust is to generate bankable documents to attract investment. The Ministry of Finance, through the RBZ, has advanced \$80 million to ZCDC for capitalization and exploration. Heavy duty mining equipment worth over \$32 million is already being delivered from Belarus. However, what seems to conflict with the facts that alluvial diamonds are said to have largely been exhausted and a recognition for the need to comprehensively explore and evaluate both kimberlitic and conglomeratic sources, is that the ZCDC has already bought heavy duty mining equipment capable of developing huge open-pit mines. This apparent case of 'putting the cart before the horse' situation raises the question - have viable mining locations already been defined, or is the company over confident that mineable deposits are there? Only time will tell!

Platinum Refinery on the Horizon?

The Minister of Mines, Walter Chidakwa, the mining community and the nation at large woke up to a pleasant surprise on the first morning of the Chamber of Mines Conference, with the news that the government had signed an agreement with Australian company, Kelltech, to design and fund the construction of a \$300 million platinum refinery. This was two months after Cabinet had approved the project. Kelltech will form a joint venture company with the Zimbabwe Mining Development Corporation (ZMDC). The new joint venture company would be owned 49% by Kelltech, 30% by ZMDC and 21% by Kelltech's indigenous partner, Golden Sparrow. Construction work is expected to take 24 months from ground breaking, resulting in a facility that will give Zimbabwe capacity to refine its own platinum. It appears the whole deal was shrouded in secrecy as local platinum players were caught unawares. Minister Chidakwa had to apologize

publicly to the local platinum stakeholders for not having consulted them during negotiations for the deal.

Mines and Minerals Amendment Bill

The amendment to the Mines and Minerals Act is now taking shape according to the Minister of Mines and Mining Development, who informed delegates at the Chamber of Mines conference in Victoria Falls that the process was now at the stage of being debated in Parliament. However, newspapers reported that Mines and Energy Parliamentary portfolio committee chairperson Daniel Shumba had identified serious loopholes in the proposed Bill, which he believes could retard development of the mining industry. Shumba has threatened to dismiss the Bill. One area of concern is the lack of clarity on the classification of strategic minerals. The classification that will be embedded in the Act will make it necessary to go to Parliament whenever changes in the definition of a strategic mineral has to be made. The composition of the Mining Affairs Board is also queried. The Parliamentary committee is advocating for a more independent mining affairs board to ensure accountability. Also, Shumba stated, "I believe the business of government is to govern a nation and not to try and be an entrepreneur," thus castigating provisions in the Bill that allow government to be directly involved in mining.

Sabi Gold Mine Revived

Zimbabwe Mining Development Corporation (ZMDC)-owned gold producer, Sabi Gold Mine, which has been under care and maintenance, has resumed operations following identification of an investor by the judicial manager. The mine got a new lease of life after government injected \$7 million worth of equipment with a consortium of local investors, Chandawana Minerals Company, injecting \$6 million. The mine has already started producing gold. The revival, however, is being threatened by mafia-style groups that have on occasions invaded underground with machetes and home-made explosives to terrorize miners for the purpose of looting ore.

Lithium Potential Unveiled

Premier African Minerals has declared an inferred resource at its wholly-owned Zulu lithium and tantalum project near Shangani, with an estimated resource of 20.1 million tonnes grading 1.06% lithium oxide (Li_2O) and 51 parts per million tantalum pentoxide, using a cut-off grade of 0.5% Li_2O . The resource, which is compliant with Samrec, is further estimated to contain 562,000t of lithium carbonate equivalent and 1025t of tantalum pentoxide.

Meanwhile Australia-listed Prospect Resources has received approval for its environmental-impact assessment and investment licence for its Arcadia lithium project, near Goromonzi east of Harare. Since starting extensive drilling activities in July 2016, the company has delineated a mineral resource of 34.9 million tonnes at 1.42% lithium oxide.

Tungsten Production

Premier African Minerals marked its first shipment to Durban of wolframite concentrate from the newly upgraded plant at its RHA tungsten mine, near Hwange. The company has been undertaking plant upgrades at the tungsten mine, completing the transition in March after the installation of an X-ray transmission (XRT) sorter in February. The XRT sorter proved to be capable of recovering up to 100% of minerals. Break-even production of wolframite occurs at 3000 metric tonnes a month, with the plant having already achieved and exceeded this production level.

Makorokoza Headache

With the closure of many factories and the generally poor performance of the economy, hundreds of youths have resorted to artisanal mining for gold. A month hardly passes without reports of sporadic gold rushes. These are normally triggered by individuals roaming the countryside with metal detectors. Any report of detection of nuggets attracts hundreds of youths from all over the country. Some individuals have become professionals in this field, being found to be present wherever reports of significant nugget finds are made.

Apart from causing difficulties in the administration of mining title when several belligerent groups claim the same ground, some of whom are backed by powerful people, the lure of gold is claiming a lot of lives. For instance, eight artisanal miners died recently after an unsupported mine shaft they were working in collapsed near Mazowe Mine.

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GSZ Research and Development Fund

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



SEG Timothy Nutt Scholarship 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.

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 year-end.

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.

See the Society of Economic Geologists website for further details and the next call for applications.

GEOLOGICAL SOCIETY OF ZIMBABWE: CONTACT DETAILS OF MEMBERS OF THE EXECUTIVE COMMITTEE FOR 2016

NAME	PORTFOLIO	EMAIL
Meck, Maideyi	Chairperson	maideyimeck@yahoo.com
Duma, Steven	Vice-Chairman & UZ Representative	steven.duma@zimplats.com
Musiwa, Kudzai	Hon. Secretary	kudzimusi@gmail.com
Kuhn, Julie	Administrator	geol.soc.zimbabwe@gmail.com
Mwatahwa, Collins	Hon. Treasurer	collins.mwatawa@angloamerican.com
du Toit, Andrew	Summer Symposium	andrewdutoitzim@gmail.com
Mugandani, Ernest	ZGS Representative	emghans@yahoo.co.uk
Bouammar, Houda	Talks & Meetings	houda.bouammar@gmail.com
Chikandiwa, Nevison	Talks & Meetings	wchikandiwa@yahoo.co.uk
Ait Kaci Ahmed, Ali	Newsletteer	ali_aitkaci@yahoo.fr
Mugumbate, Forbes	Regional Representative	fmugumbate@gmail.com
Barber, Brent	Professional Registration	barber.brent@gmail.com

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