



AMGC News

Director General's Message



Briefing and discussing activities and challenges facing the Centre, the Director General of AMGC paid a courtesy visits to the Ministry of Minerals in Dodoma, Tanzania, the host country of the Centre as well as diplomatic missions of two member states of AMGC, which are the Embassy of Angola in Dar es Salaam, Tanzania and the Kenya High Commission in Dar es Salaam, Tanzania. He also paid a courtesy visit to the Turkish Embassy in Dar es Salaam, Tanzania, to speed up technical cooperation and joint research with the Turkish General Directorate of Mineral Research and Exploration (MTA) as well as academic institutes.

During the month of November 2022 the Centre organized two trainings courses for participants from Sudan and Rwanda who attended training course on petrology sample preparation and analytical techniques and training course on extractive metallurgy and practical mineral processing and basic mineral processing flowsheet.

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DG's Courtesy Visit to the Ministry of Minerals in Dodoma, Tanzania



AMGC Director General Mr. Ibrahim Shaddad paid a courtesy Visit to the esteemed Ministry of Minerals in Dodoma, Tanzania on 3rd November 2022 and had a meeting and discussion with the Dignitaries and Officials from the Ministry. Mr. Shaddad delivered a power point presentation attended by Hon. Dr. Doto Biteko, the Minister for Minerals, Hon. Dr. Steven L. Kiruswa, Deputy Minister for Minerals, Mr. Adolph Ndunguru, the Permanent Secretary for Minerals, Mr. Maruvuko Msechu, Representative of Tanzania in AMGC Board of Directors, Dr. Mussa Daniel Budeba Chief Executive Officer of Geological Survey of Tanzania (GST). The power point presentation dealt with:-

- 1- Performance of the Centre during both first quarter (1st July-30th September) of current financial year as well as the last eleven years (2012-2022).
- 2- External challenge endangering existing of the Centre and way forward.

DG's Courtesy Visit to the Turkish Embassy in Dar es Salaam, Tanzania



Pursue to the familiarization visit paid by H.E. Dr. Mehmet Gulluoglu, the Ambassador of Turkey in Tanzania to the African Minerals and Geosciences Centre (AMGC) on 13th September 2022, Mr. Ibrahim Shaddad the Director General of AMGC paid a courtesy visit to the esteemed Turkish Embassy in Dar es Salaam on 7th November 2022. The purpose of the visit by the Director General of AMGC to speed up the proposed technical cooperation between Turkish General Directorate of Mineral Research and Exploration (MTA) and AMGC regarding joint trainings for participants from AMGC member states at AMGC's premises in Dar es Salaam. Joint researches are also suggested in the cooperation to bring on board Turkish academic institutes beside MTA in areas of medical geology and meteorites in AMGC's member states.

DG's Courtesy Visit to the Embassy of Angola in Dar es Salaam, Tanzania

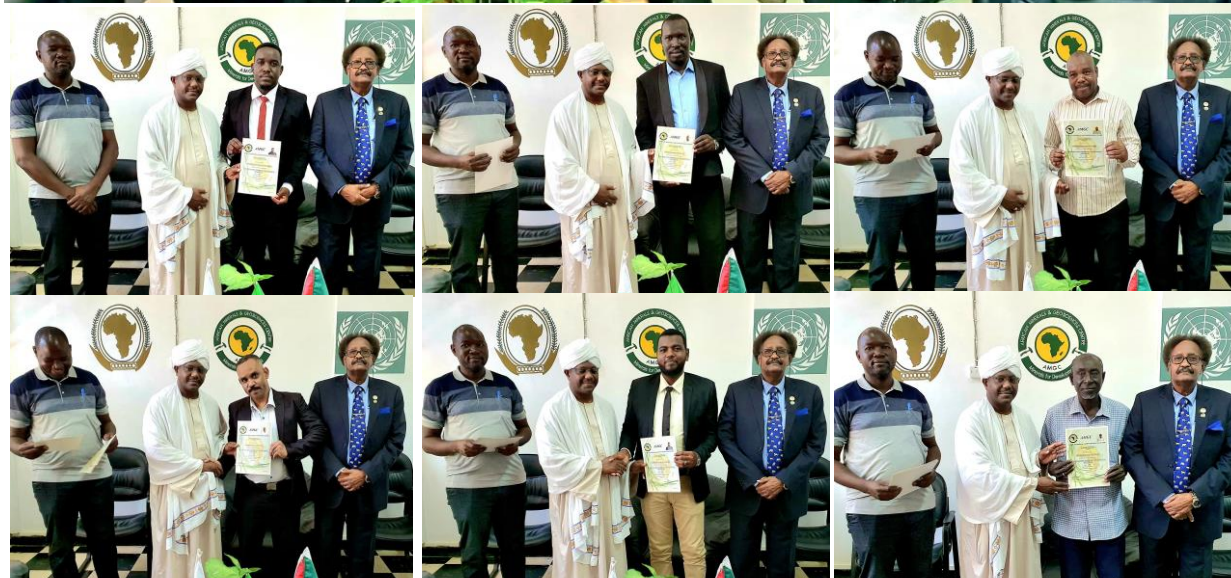


A courtesy visit was paid on 9th November 2022 to the esteemed Embassy of Angola in Dar es Salaam, Tanzania. Mr. Ibrahim Shaddad, the Director General of the African Minerals and Geosciences Centre (AMGC) met H.E. Ambassador Sandro de Oliveira. Mr. Ibrahim Shaddad had briefed H.E. Sandro de Oliveira regarding challenges facing the Centre and H.E. the Ambassador assured the continued support of Angola to AMGC to overcome challenges facing the Centre.

The Director General of AMGC had the honor to extend his congratulation to H.E. Dr. Diamantino P. Azevedo for being re-appointed Minister for Mineral Resources, Petroleum and Gas of Angola.

The Director General also expressed appreciation and gratitude to the sustainable support of Angola to the Centre. It is worth mentioning that Angola, one of the founding member states of AMGC, has been unreservedly supporting the Centre since joining the Centre on 23 May 1985. Angola shouldered more than once (in 2001 and 2009) hosting the Policy Organ Meetings of the Centre as well as chairing the Governing Council of the Centre. Out of the six Directors General managing the Centre since 1977, Angola was elected to manage the Centre from 2002 to 2006 by H.E. Dr. Diamantino Pedro Azevedo, the current Minister for Mineral Resources, Oil and Gas in Angola. H.E. Dr. Diamantino is the current Vice Chairman of the AMGC Governing Council. Angola was elected Chair of the Board of Directors (BOD) of AMGC from 2006 to 2014 by Dr. Luis Antonio, the then Advisor of the Minister of Geology and Mines of Angola and now Director of Exchange Office at the Ministry of Mineral Resources, Oil and Gas of Angola. Currently Dr. Luis is the representative of Angola in AMGC Standing Committee of Officials. Mr. Canga Xiaquivila, the Director General of the Geological Institute of Angola is the representative of Angola in AMGC Board of Directors.

Training on Petrology Sample Preparation and Analytical Techniques



AMGC received Mr. Esam Aldein Abdelrahim, the Counsellor in the Sudan Embassy in Tanzania as the guest of honour to officiate certificate hand out ceremony of the 6 technicians from Geological Research Authority of the Sudan (GRAS); Ministry of Minerals, who have participated in a two-weeks training course on "Petrology Sample Preparation and Analytical Techniques" from 31 October 2022 to 11 November 2022. The technicians are following:- Mr. Khaleel Mohammed Darjawad, Mr. Altayeb Ali Altayeb Fadlalmoula, Mr. Mohamed Abdalla Yassin Ali, Mr. Yousif Mohamed Idris Yousif, Mr. Mohamed Bakhit Mohamed Nasr and Mr. Mohamed Abdalla Adam Abdelrahman.

Training on Extractive Metallurgy and Practical Mineral Processing & Basic Mineral Processing Flowsheet



The African Minerals and Geosciences Centre (AMGC) received from Ngali Mining Ltd in Kigali – RWANDA the following two professionals:-

- 1. Mr. Innocent Bizimana**
- 2. Mr. Thierry Makombe**

They are participating in the two-weeks training courses namely; "Extractive Metallurgy" and "Practical Mineral Processing and Basic Mineral Processing Flowsheet" from 21st November 2022 to 2nd December 2022 at the African Minerals and Geosciences Centre (AMGC) premises in Dar es Salaam, Tanzania.

It is worth mentioning that, AMGC has been corresponding with Rwanda Mines, Petroleum and Gas Board of the Government of Rwanda regarding the idea of Rwanda joining AMGC. Hon. Prof. Sospeter Muhongo, the then Chairman of the Governing Council of the African Minerals and Geosciences Centre (AMGC) and Minister for Minerals of Tanzania sent an invitation letter to Rwanda on 15th November 2016. The Director General of AMGC pursued the issue by sending further invitation letters to Rwanda and telephone calls on December 20, 2016 and 04 September 2018. However, the Covid19 Pandemic halted the communication till AMGC received this first request from the Ngali Mining Ltd in Kigali – RWANDA for mineral services particularly human capacity provided by AMGC.

DG's Courtesy Visit to the Kenya High Commission in Dar es Salaam, Tanzania



Mr. Ibrahim Shaddad, Director General of the African Minerals and Geosciences Centre (AMGC) on 22 November 2022 paid a courtesy visit to H.E. Isaac Njenga, the newly assigned Kenya High Commissioner to Tanzania to express gratitude and appreciation for Kenya's sustainable support through the esteemed Ministry of Mining, Blue Economy & Maritime Affairs, which enabled the Centre to implement its activities to its highest peak. H.E. the High Commissioner of Kenya was briefed among other issues regarding current challenges facing the Centre and the Director General of AMGC extended an open invitation to him to pay a familiarize visit to AMGC as soon as possible and in date and time convenient to him.

It is worth mentioning that Kenya joined the Centre in July 2006 becoming the 7th member state, chaired the AMGC Governing Council and hosted the Policy Organ Meetings three times (May 2011, June 2014 and May 2015) and the coming one will be hosted by Kenya under the chairmanship of Hon. Salim Mvurya, Minister for Mining, Blue Economy & Maritime Affairs, of Kenya who is the current Chairman of the Governing Council of AMGC for the year 2022/2023.

APPRECIATION & GRATITUDE

The African Minerals and Geosciences Centre (AMGC) would like to express its much appreciation and gratitude to Tanzania, the host country of the Centre for fulfilling its financial commitments to the Centre.



The African Minerals and Geosciences Centre (AMGC) would like to express its much appreciation and gratitude to Angola, the member state of the Centre for fulfilling its financial commitments to the Centre.





NEW Training Courses

African Minerals and Geosciences Centre (AMGC) is pleased to announce the introduction of four new courses Geostatistics, Petroleum Sciences and Resource Estimation in collaboration with Khartoum based Consulting firm called **Knowledge and Training Centre (KTC)**. The course shall be facilitated by the Director of KTC, Dr. M. Zayed Awad, an eminent specialist in the areas of Geostatistics, resource evaluation, stratigraphy, reporting, training and mentoring, risk and decision analysis, petroleum economics, project management. The training course will be organized in Dar es Salaam at the AMGC training facilities. The following training courses are going to be offered through this collaboration.

1. Fundamental of Petroleum Economics

Duration: One Week

Course fee: US\$ 1,200

This course introduces the participants to requirements for conducting petroleum economics; different stages of the petroleum industry life cycle involving upstream, mid-stream and downstream sectors will be explained. Participants will learn how to construct a Cash Flow Model for oil and gas investment decision. They will also learn how to deal with the different financial components of petroleum cost, and classification of costs into OPEX and CAPEX. Net Cash Flow Stream analysis and computation of economic indicators (Yardsticks) such as NPV, IRR, PBP, MCE and DPI, and their interpretations are essential for petroleum investment decision-making. Cash Flow Adjustment using discount rates is also considered. Types of fiscal regimes will be explained, participant will also learn how to incorporate the fiscal parameters into a cash flow stream.

2. Geostatistical Mineral Resource Estimation

Duration: One Week

Course fee: US\$ 1,700

The course will focus on the fundamentals of Geostatistical application in mining that are required for domain specification that are required for mineral resource estimation and will include hands-on training with Geostatistical software. Geostatistical conditional Simulations may be used to assess the uncertainty associated with the Reserves Evaluation at exploration,

feasibility, and production stages. The simulations provide a range of potential reserves for the ore body's Tonnage, Metal Quantity and Recovered Grade.

3. Introduction to Oil and Gas Industry

DURATION: One Week

Course fee: US\$ 1,200

This course is designed for a wide-ranging of petroleum industry personnel. It is designed to provide green-hands technical, and a non-technical personnel with practical petroleum industry life cycle. The course covers the key phases of the exploration, development and production industry as well as transportation and refining of crudes oils.

4. Geostatistics for Mining - foundation Course

Duration: Two Weeks

Course fee: US\$ 2,000

Geostatistics, in combination with other statistical methods, offers a wide range of mathematical tools that can be used to analyze, model, provide estimates and assess uncertainties, for different types of spatial phenomena, for example, grades or geological features. The course will focus on the fundamentals of Geostatistics and statistics and will include hands-on training with Geostatistical software.

THE INSTRUCTOR



Dr. M. Zayed Awad, the former Sudanese Minister for Oil and Gas (September 2014-May 2017) BSc (Hons) from University of Khartoum, Sudan, MSc (Geol) from Technical University of Berlin (TU), PhD (Stratigraphy) from Technical University of Berlin (TU). Dr. Zayed is a university instructor with postgraduate qualifications in petroleum geology, stratigraphy, economic geology, Geostatistics, and relevant application soft wares. He has more than 35 years' experience in university teaching and more than 25 years worldwide experience in

the petroleum industry and training. He has supervised many MSc and PhD research students and reviewed several reports and research papers. He is the founder of Knowledge & Training Center (KTC) in Sudan, and he is active as a trainer since 2003. He worked on many projects and given training courses to hundreds of attendees on many aspects of geology. Dr. Zayed's skills are in Geostatistics, resource evaluation, stratigraphy, reporting, training and mentoring, risk and decision analysis, petroleum economics, project management. Dr. Zayed was the initiator and editor-in-Chief of the book titled "Petroleum Geology and Resources of the Sudan" published by Geozone (Berlin) in 2015.

LIST OF TRAINING COURSES

Tanzanian government issued a new directive on restrictions with regards to the COVID-19. All travelers coming to Tanzania will not be required COVID 19 Free Certificate if they have a valid full vaccination certificate. If one is not vaccinated a COVID 19 Free Certificate with PCR Test and will be subjected to screening and possible additional test at the airport with Rapid Antigen Test. Below is the list of the training courses offered by AMGC.

Those who are interested to participate in the training courses at AMGC facilities are advised to consult the airline they plan to travel with about the current requirements of travel to Tanzania when planning the trip to Dar es Salaam.

Training Topics	Duration	Fee
Finance and Administration Department		
Leadership and Management Skills	2 Weeks	\$1,500
Financial Management Skills	2 Weeks	\$1,500
Executive Secretarial Skills	2 Weeks	\$1,500
Chemical and Environmental Department		
Spectrometric Methods of Analysis.	2 Weeks	\$800
Analysis of Gold and Other Base Metals	2 Weeks	\$800
Quality Management Section		
Laboratory Certification and Accreditation	2 Weeks	\$1,500
Modern Laboratory Management Methods	2 Weeks	\$1,500
Quality Control and Quality Assurance in Laboratories	2 Weeks	\$1,500
Laboratory Safety and Security	2 Weeks	\$1,500
Mineralogy, Petrology and Gemology Department		
Mineralogical and Petrological Sample Preparation and Analytical Techniques	2 Weeks	\$800
Gemstone Identification Techniques	1 Week	\$400
Gemstone Value Addition Techniques	2 Weeks	\$800
Usage of Benchtop X-ray Diffraction (XRD)	2 Weeks	\$800
Gemstone formation, mode of occurrences and mining methods	2 Weeks	\$800
Industrial Minerals Application Department		
Pottery for Beginners	2 Weeks	\$800
Mould Making	2 Weeks	\$800
Forming Techniques	2 Weeks	\$800
Decorations in Pottery and Ceramics	2 Weeks	\$800
Bricks & Tiles Manufacturing [Clays]	2 Weeks	\$800
Glaze Formulation	2 Weeks	\$800
Body Composition Formulation	2 Weeks	\$800

Mineral Processing and Small-scale Mining Department		
Practical Mineral Processing and The Basic Mineral Processing Flowsheet	2 Weeks	\$800
Sampling and Sample Preparation for Laboratory Testing	2 Week	\$800
Artisanal and Small Scale Mining Activities	2 Weeks	\$800
Techniques of Gold Cyanidation	2 Week	\$800
Mineral Economics	2 Weeks	\$800
Metallurgical Balance and Process Evaluation	2 Weeks	\$800
Extractive Metallurgy – Metallic Ore Deposits, Metal Extraction and Purification Processes	2 Weeks	\$800
Environmental Management in Mining	2 Week	\$800
Geo-information Department		
GIS and Remote Sensing for Mineral Exploration and Geological Mapping	2 weeks	\$800
Best Practices in Mineral Resource Estimation	1 week	\$400
Geodatabase Development for Web mapping	2 weeks	\$800
GIS and Remote Sensing Application for Geohazards	1 week	\$400
Integrated Mineral Exploration Techniques	2 weeks	\$800
GIS and Remote Sensing for Hydrological Applications	1 week	\$400
Open-Source GIS	2 weeks	\$800
Geochemical Exploration and Mapping	2 weeks	\$1,200
Structural Geology and Geotectonics in Mineral Exploration	2 weeks	\$1,200
Fundamental of Petroleum Economics	1 week	\$1,200
Geostatistical Mineral Resource Estimation	1 week	\$1,700
Introduction to Oil and Gas Industry	1 week	\$1,200
Geostatistics for Mining - foundation Course	2 weeks	\$2,000
Prospect Evaluation: Volumetric and Risk Analysis	2 weeks	\$2,000



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***Minerals for
Development***

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MINERALOGY, PETROLOGY AND GEMMOLOGY SERVICES

The Mineralogy, Petrology and Gemmology Department utilizes the skills of its staff to address crucial issues in the mineral sector such as lack of technical knowledge on mineral testing and identification, evaluation, grading and value addition techniques.

EXPERTISE

- ✓ Mineralogical and petrological sample preparation and analysis
- ✓ Mineralogical evaluation of industrial minerals, ore minerals and clays
- ✓ Gemstone identification and grading
- ✓ Specialized training in Gemmology, Gemstone Cutting and Polishing and Mineralogical and Petrological Sample preparation and Analytical Techniques.



Petrography and Gemmological Microscopes

ANALYTICAL SERVICES

- ✓ Preparation of standard thin sections and polished sections
- ✓ Rock slabbing and polishing
- ✓ Rock core splitting
- ✓ Petrographic examination of thin sections and polished sections
- ✓ Evaluation of industrial minerals, ore minerals and clays
- ✓ Gemstone testing and identification
- ✓ Diamond grading
- ✓ Consultation and Expert opinion



Polishing Machine for Polished Mount Preparation

TRAINING SERVICES

- ✓ Mineralogical and petrological sample preparation and analytical techniques
- ✓ Gemstone Characterization, Identification and Value Addition
- ✓ Gemstone Identification Techniques
- ✓ Gemstone Value Addition Techniques (Gem Cutting)
- ✓ Gemstone Cabochon making and Carving
- ✓ Gemstone Faceting



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