



AMGC News

Director General's Message



During the month of July 2022, we organized training courses in addition to our routine mineral services. The training courses provided during the month include Quality Control and Assurance in laboratories for participant from Sierra Leone organized by the Quality Management Unit of the Centre, Gemstone characterization and Identification course and Gemstones value addition techniques for participant from UK/Nigeria organized by the Mineralogy Petrology and Gemmology Department. The Industrial

Minerals Application Department organized Pottery Course for Beginners for participant from UK/Nigeria.

AMGC has received 7 undergraduate students from University of Dodoma (UDOM) and Ardhi University (ARU), Dar es Salaam for Industrial Training programme which started from 28 July 2022 to 26 September 2022. The Centre was also visited by the High Commissioner of Malawi and the Councilor from High Commission of Nigeria. The Capital TV of Dar es Salaam made a documentary filming of the production process of the ceramic ware products of the Centre to feature these works at its TV channel. 133 students of a secondary school in the neighborhood of the Centre made a study visit to familiarize themselves in the earth sciences field which are being practiced at the Centre.

Contents

Visit of the High Commissioner of Malawi	1
Training course on Quality Control and Quality Assurance in Laboratories	2
PanAfGeo Photography Competition	2
Training courses on Gemstones Characterization & Identification Techniques, Gemstones Value Addition Techniques and Pottery for Beginners	3
Visit of Capital Television Team	4
Congratulations	4
Practical Training for Undergraduate University Students	5
Visit of Kunduchi Girls Islamic High School Students	6
Comoros Independence Day	6
New Trainings	7 - 8
Training List	9 - 10



Familiarization Visit of the High Commissioner of Malawi in Tanzania



H.E. Mr. Andrew Kumwenda, the High Commissioner of Malawi in Tanzania accompanied by a delegation of two Malawian diplomats paid a familiarization visit to the African Minerals and Geosciences Centre (AMGC) on 5th July 2022.

Training course on Quality Control and Quality Assurance in Laboratories



Graduation ceremony for Mr. Solomon Sulaiman Amadu, a Chemist from National Minerals Agency (NMA) in Sierra Leone. Mr. Solomon who attended a two-week training course on Quality Control and Quality Assurance in Laboratories from 28th June 2022 to 08th July 2022.

PanAfGeo Photography Competition

PanAfGeo is running a Photography Competition for all participants of the PanAfGeo project. The theme for your photos is “What PanAfGeo means to you?” and can include entries on how you think PanAfGeo benefits you, your Survey, your Society or your Country. Ten finalists will see their photos printed in high resolution, framed and exhibited during the final meeting of the project in 2024. Winners will be announced during that meeting and on the PanAfGeo website and social media.



Key information:

- **Deadline: 22nd of March 2024**
- **The contestants must have been involved in any way in PanAfGeo phase 2, and the photograph must be taken during one of the training packages.**
- **Photos should illustrate the best of “what PanAfGeo means to you” and should include a short description of why this was important to you.**
- **The photographs have to be sent in jpg format, high resolution.**
- **To be sent to Céline Andrien - celine.andrien@eurogeosurveys.org; cc - tracey@dancyenergy.com**

Training courses on Gemstones Characterization & Identification Techniques, Gemstones Value Addition Techniques and Pottery for Beginners



Graduation ceremony at African Minerals and Geosciences Centre (AMGC) for the two British Nigerian trainees who are Mrs. Nkem Anagor and Ms. Toni Olokun from Nigeria/UK. AMGC through its Mineralogy, Petrology and Gemology Department provided the two practical training courses Mrs. Nkem for four consecutive weeks with the following details:- Gemstones Characterization and Identification Techniques for two weeks training from 20 June to 01 July 2022 and Gemstones Value Addition Techniques from 04-15 July 2022. The Industrial Minerals Application Department provided to Ms. Toni a three-weeks training entitled Pottery Course for Beginners from 27th June 2022 to 15th July 2022. The graduation ceremony for the two trainees was officiated by Mr. David Akhigbe, Councilor at the Nigeria High Commission in Tanzania who represented the Nigerian High Commissioner to Tanzania H.E. Dr. Hamisu Umar Takalmawa. The ceremony was also attended by Mr. Abdulwarith S. Mahmud, Consular Officer at the Nigeria High Commission.

Visit of Capital Television Team



The African Minerals and Geosciences Centre (AMGC) received Mrs. Khadija Zimbabwe and her team from Capital Television, Dar es Salaam- Tanzania on 25th July 2022 Mrs. Khadija is the producer of interior design program called The Decor, which is broadcasted on Capital Television. The main purpose of the visit was to feature activities of the AMGC's Industrial Minerals Application Department (Development Minerals Department) especially in ceramic simple technology production to raise Tanzanians' awareness of the great work done at the Centre. The program intends to showcase the AMGC's eye-catching, distinctive ceramic technology and products in the TV program. The program specifically focused on ceramic utensils, showing all required steps from designing to moulding or pottery till the finished products.

Congratulatory Messages



The Management of African Minerals and Geosciences Centre has the honour to congratulate Mr. Elias Xavier Felix Daudi for being appointed Director General of the National Institute of Mines of Mozambique, the member state of AMGC. AMGC looks forward for a continued close relationship between the two Institutions (i.e. AMGC and the National Institute of Mines of Mozambique) especially in the mineral services including training and analysis.



The Management of African Minerals and Geosciences Centre has the honour to congratulate Dr. Rokhaya Samba Dienne, Newly appointed Director General Senegal Geological Survey. President Organization of African Geological Surveys (OAGS) and strategic member of AMREC Working Group.

Practical Training for Undergraduate University Students



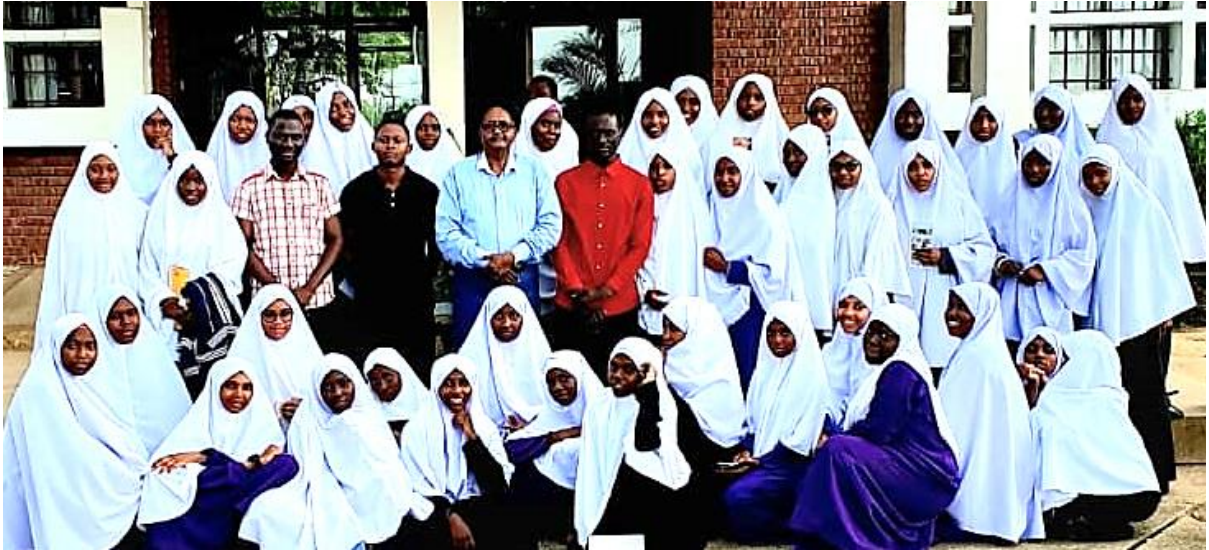
The African Minerals and Geosciences Centre has received 7 undergraduate students from University of Dodoma (UDOM) and Ardhi University (ARU), Dar es Salaam for free of charge Industrial Training programme which started from 28 July 2022 to 26 September 2022. The list of Students from UDOM are;

1. Mr. Gripa Zege Makambuya
2. Mr. Fredrick Makori Mafuru
3. Mr. Alphonse Marwa Sospeter.

And the students from ARU are;

1. Mr. Lusekelo Japhet Kangele
2. Miss. Doris Mangowi Frank
3. Miss. Renister Mbunda Bruno
4. Miss. Josephine Stewart Urassa

Study Tour of Kunduchi Girls Islamic High School Students



The African Minerals and Geosciences Centre (AMGC) received the first and second groups comprising total of 133 students from Kunduchi Girls Islamic High School in Dar es Salaam, Tanzania for a study tour visit on July 27, 2022. The goal was to familiarize and give knowledge to the students on various Geoscientific, Mining, and other operations as part of their curriculum and extracurricular activities. The information, knowledge and insights on various activities carried out by all AMGC departments were shared to the students for helping them to have more comprehensive understanding particularly in Geosciences and Mining. The students showed great interest in the mineral services provided by the Centre, making the tour visit a successful one. As part of establishing relationships with the surrounding community and for the benefit of the young generation, AMGC will continue to receive and offer expertise and trainings to various schools.

Congratulations



**Happy 47th
Independence
Anniversary of
Comoros, the member
state of AMGC**



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 Training Course	2 Weeks	\$800
Financial Management Skills Training Course	2 Weeks	\$800
Executive Secretarial Training Course	2 Weeks	\$800
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	\$800
Quality Control and Quality Assurance in Laboratories	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	1 Week	\$400
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	1 Week	\$400
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 Assessment and Mitigation of 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
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	2 weeks	\$2,000
Geoheritage / Geoparks	On Request	
Geo-safari – Geo-traverse across the Pan-African terrains: Tanzanian Craton, Greenstone belt, East African Rift Valley, the Kibaran and Mozambique belts.	On Request	



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***Minerals for
Development***

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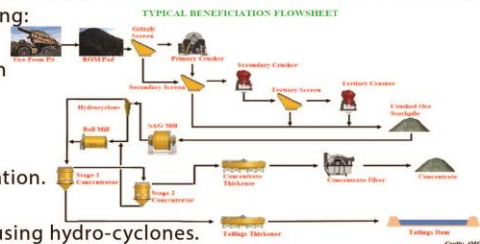


MINERAL PROCESSING & SMALL SCALE MINING SERVICES

The Mineral Processing Laboratory is equipped with a unique platform of laboratory and bench scale facilities for the development and testing of energy saving, low-cost crushing, grinding and concentration processes in environmental friendly ways.

Each aspect of beneficiation methods is optimized and incorporated into an overall process flow sheet development including:

- Ore crushing and grinding
- Bench scale gravity concentration
- Dense/heavy media separation
- Magnetic separation
- Froth flotation
- Dewatering or solid-liquid separation.
- Leaching (hydrometallurgy)
- Ore screening and classification using hydro-cyclones.



Training on different mineral techniques is provided. Laboratory facilities are used for practical demonstration during training. Currently the following courses offered:

1. Mineral Processing Basics – Beneficiation operations and Metallurgical Processes
2. General Sampling Technics and Sample Preparation for Laboratory Testing
3. Artisanal and Small Scale Mining Activities and Related Issues
4. Techniques of Gold Cyanidation for Small Scale Mining Operations
5. The Economics and Evaluation of the Minerals Industry
6. Metallurgical Balance and Process Control
7. Environmental Management in Mining



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