



## AMGC News

### Director General's Message



During May 2022 three training courses were carried out including 1<sup>st</sup> online training course for ACP-EU Development Minerals Uganda Country Program; training on Artisanal and Small-Scale Mining for one professional from Ministry of Petroleum and Mining, Kenya, and Laboratory Certification and Accreditation training for one professional from National Minerals Agency (NMA), Sierra Leone. The Director General participated in 24<sup>th</sup> Meeting of ICGLR Regional Committee on Fight against Illegal Exploitation of Natural Resources in Kinshasa, Democratic Republic of Congo during 25<sup>th</sup> – 28<sup>th</sup> April 2022. He paid courtesy visits to Ministry of Mines and Petroleum of Ethiopia and Commission for Economic Development, Trade, Tourism, Industry and Mining of the African Union in Addis Ababa. The Ethiopian News Agency interviewed the Director General on Ethiopia Work Relationship with AMGC. Returning to Dar, the Director General paid a courtesy visits to Excellences Ambassadors of Ethiopia, Angola and Mozambique regarding challenges facing AMGC. The Centre received an external consultant to the BGR project on the Analytical Fingerprint on 9<sup>th</sup> May 2022.

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## Participation in 24<sup>th</sup> Meeting of the ICGLR Regional Committee on the Fight against the Illegal Exploitation of Natural Resources



Article 31 of the ICGLR Protocol against the Illegal Exploitation of Natural Resources in the Great Lakes Region provides for the Regional Committee against the Illegal Exploitation of Natural Resources to meet when necessary, but at least twice a year to follow up on activities for the implementation of the said Protocol. To date, the Committee has held twenty-three meetings, with the last three having been held virtually in light of the travel restrictions as a preventive measure to contain the Covid-19

Pandemic. At its recent (23<sup>rd</sup>) meeting held virtually on 23<sup>rd</sup> October 2021, the Regional Committee on Natural Resources resolved to hold its 24<sup>th</sup> meeting in March 2022 in a format to be determined by the ICGLR Secretariat in light of travel restrictions and preventive measures against the Covid-19 pandemic. In view of the progressive lifting of travel restrictions in the Great Lakes Region, the ICGLR Secretariat has adopted to organize the meeting in person.

### Meeting objectives

The main objectives of the meeting were as follows:

1. Updates by Committee members on the status of implementation of National Roadmaps for the Six Tools of the Regional Initiative on the Fight against the Illegal Exploitation of Natural Resources in their respective Member States since the last meeting held on 23<sup>rd</sup> October 2021;
2. Updates by the Conference Secretariat on the status of implementation of Regional Initiative on the Fight against the Illegal Exploitation of Natural Resources at regional level;
3. Strategic planning for implementation of the recommendations of the 6<sup>th</sup> meeting of Ministers in charge of Mines held virtually on 29<sup>th</sup> November 2021.

#### 4. Expected results

- An update on the status of implementation of National Roadmaps for the Six Tools is provided; and recommendations on way forward formulated;
- An update on the status of implementation of the Regional Initiative on the Fight against the Illegal Exploitation of Natural Resources; and guidance on way forward provided;

-A strategic plan for implementation of the recommendations of the 6<sup>th</sup> meeting of Ministers in charge of Mines is developed and adopted.

5. Organizers - ICGLR Conference Secretariat and ICGLR National Coordination Mechanism and Ministry of Mines in the Democratic Republic of Congo.

6. Participants - Members of the ICGLR Regional Committee on the Fight against the Illegal Exploitation of Natural Resources,

-Relevant Conference Secretariat and National Coordination Mechanism staff as well as that of the Ministry of Mines in the DRC;

-Invited partners in the implementation of the Regional Initiative on the Fight against the Illegal Exploitation of Natural Resources



## **Training course on Artisanal and Small-Scale Mining**



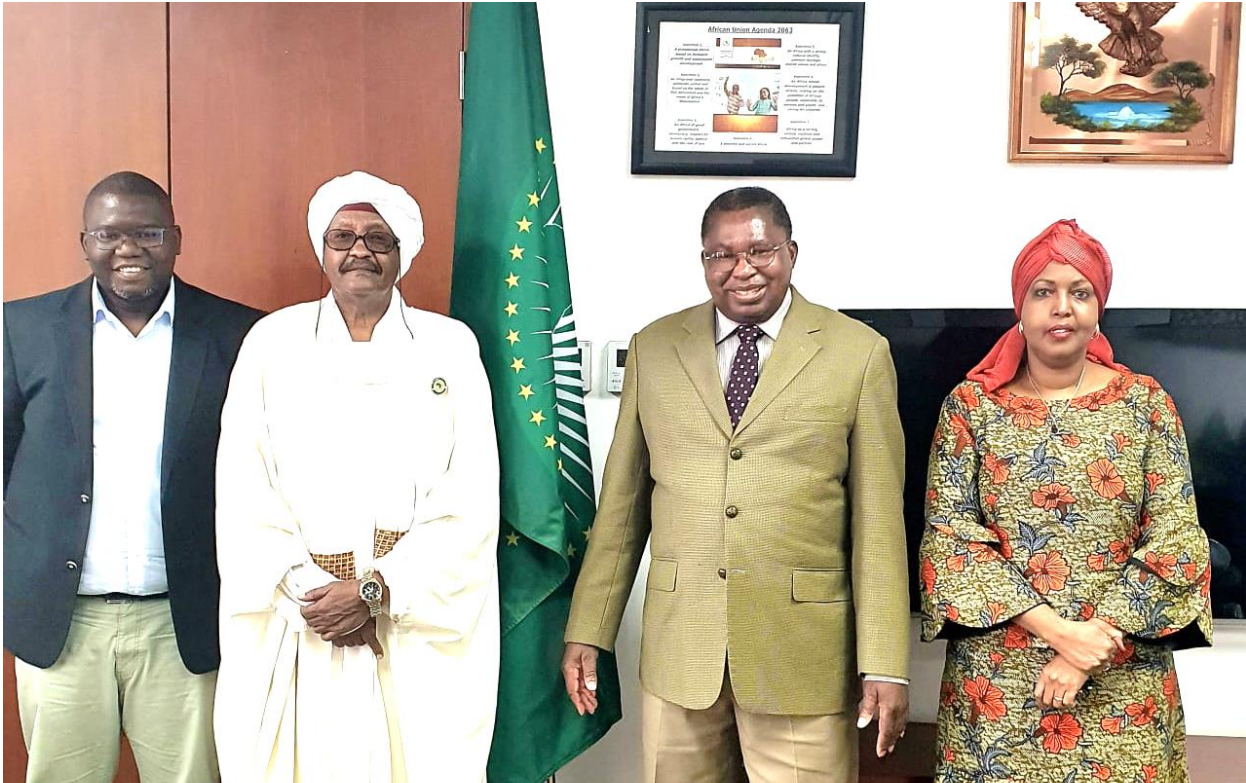
**Certificate hand out Ceremony to Mr. Gregory Kituku from Ministry of Petroleum and Mining, Kenya. Mr. Kituku participated in a two-weeks training course on Artisanal and Small-Scale Mining Activities at the AMGC's Department of Mineral Processing and Small-scale Mining.**

## **Training course on Laboratory Certification and Accreditation**



**Certificate hand out ceremony to Mr. Abdul Amara, a Chemist and Technical Services and Lab Manager from National Minerals Agency (NMA), Sierra Leone who completed a training course on Laboratory Certification and Accreditation. The course was conducted from 2-13 May 2022 by the Quality Management Section at African Minerals and Geosciences Centre (AMGC).**

## **DG Courtesy Visit to the Commissioner for Economic Development, Trade, Tourism, Industry, and Minerals of the African Union Commission (AUC) In Addis Ababa-Ethiopia.**



**Mr. Ibrahim Shaddad, the Director General of the African Minerals and Geosciences Centre (AMGC) paid a courtesy visit to H.E. Albert M. Muchanga, the Commissioner for Economic Development, Trade, Tourism, Industry, and Minerals of the African Union Commission (AUC) on 4<sup>th</sup> May 2022. The visit was facilitated by Dr. Hussein Hassan, the Director of Industry and Mining Division as well as the he is the representative of AUC in the Policy Organ Meetings of AMGC. A meeting was held and attended by the following AUC officials:-**

- 1- Mr. Chiza Charles, Acting Director of the Department of Industry, Minerals Entrepreneurship and Tourism;**
- 2- Mrs. Ron Osman Omar, Acting Director of Industry and Mining Division as well as Senior Policy Officer in Industry Division;**
- 3- Eng. John Yuhanis, the Personal Assistant for the Commissioner;**

**The meeting discussed enhancing the working relationship of AMGC with the newly established African Minerals Development Centre (AMDC) under the flagship of AU to implement the African Mining Vision (AMV) endorsed by the African heads of states. A Memorandum of Understanding (MoU) will be signed as soon as between AUC and AMGC.**



## **A Courtesy Visit to the Geological Survey of Ethiopia (GSE); Ministry of Mines and Petroleum of Ethiopia**



**Mr. Ibrahim Shaddad, the Director General of the African Minerals & Geosciences Centre (AMGC) paid a courtesy visit to the Geological Survey of Ethiopia (GSE); Ministry of Mines and Petroleum of Ethiopia on 6<sup>th</sup> May 2022.**

**The Director General met Mr. Kiros Alemayehu, the Chief of staff and had meeting was with Dr. Degene Hailemariam, the incoming Director General of GSE as well as the Chairman of AMGC Board of Directors. The meeting was attended by Ms Enatfenta Melaku Gebre, the outgoing Director General of GSE. The two dignitaries were briefed regarding current challenges including financial constrains facing the Centre. A number of issues were discussed including maximization of Ethiopia benefits from the mineral services provided by the Centre.**

**Ethiopia, being one of the founding member states of AMGC, has been unreservedly supporting the Centre since its establishment in 1977. Due to Ethiopia's significant contribution to the running of the AMGC, shouldered more than three times hosting Policy Organ Meetings of the Centre as well as ten times the responsibility of chairing the Governing Council. Out of the six Directors General managing the Centre since 1977, Ethiopia was elected twice to manage the Centre, at the early beginning by Mr. Mahdi Shumburo during 1978-1986 and Mr. Ketema Tadesse during 2006-2015. Ethiopia was elected Chair of the Board of Directors of AMGC from 1997 to 2005 chaired by Mr. Ketema Tadessa, former Director General of the Geological Survey of Ethiopia (GSE) and then from 2015 to 2019 by Mr. Masresha Gebreselassie, former Director General of the GSE; from 2019 to January 2022 by Madam Enatfenta Melkau Gebre, former Director General of the GSE and from January 2022 by Dr. Dejene Hailemariam, the current Director General of the Geological Survey of Ethiopia.**

**One of the departmental managers at AMGC is Mr. Mesfin Wubeshet, of the Geo-information services, whom has been employed as the only International Professional staff for the last twenty four years.**

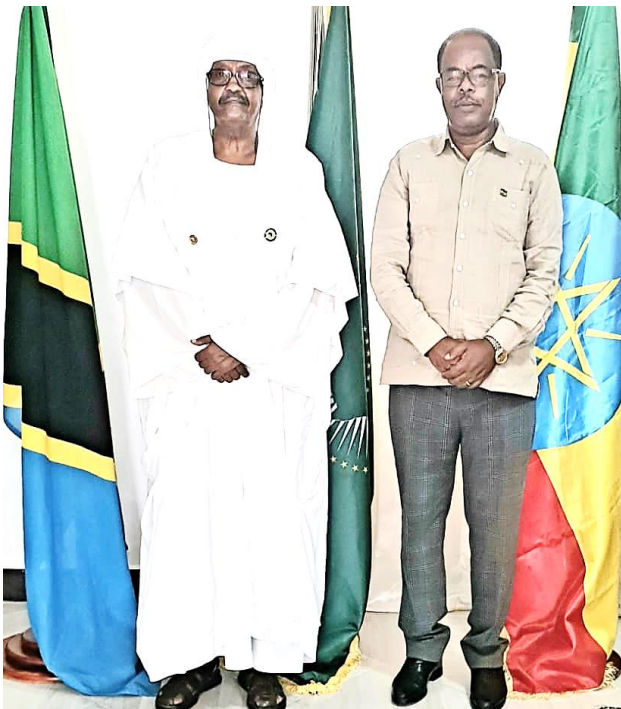
**It is worth mentioning that the Centre's current premises in Dar es Salaam, Tanzania was constructed in 1990/91 and both the consulting architect and the contractor who built the buildings were Ethiopian companies, Getachew Bekele Architect and Berta Construction Company, respectively.**

## Visit of External Consultant to the BGR Project



On 9<sup>th</sup> May 2022, the African Minerals and Geosciences Centre (AMGC) received Mr. André Ufer, external consultant to the BGR project on the Analytical Fingerprint for a discussion with Director General of AMGC on the Analytical Fingerprint Laboratory hosted at the centre.

## Courtesy Visit to H.E. the Ambassador of Ethiopia in Tanzania



The Director General of the African Minerals and Geosciences Centre (AMGC) paid a courtesy visit to H.E. Mr. Shibru Mamo kedida, the Extra-Ordinary & Plenipotentiary Ambassador of Ethiopia in Dar es Salaam, Tanzania on 17<sup>th</sup> May 2022. H.E. the Ambassador was briefed regarding current challenges facing the Centre. H.E. Mr. Shibru promised to pay a familiarization visit to AMGC as soon as possible. The Centre sincerely recognises about the outstanding commitments and obligations of the Government of Ethiopia to the Centre that enabled it to implement its activities to its highest peak. AMGC looks forward for Ethiopia to continue supporting the Centre as well as to maximise its benefits from mineral services including training, analysis and consultancy provided by the Centre.

## **A Courtesy Visit to H.E. the Ambassador of Angola in Tanzania**



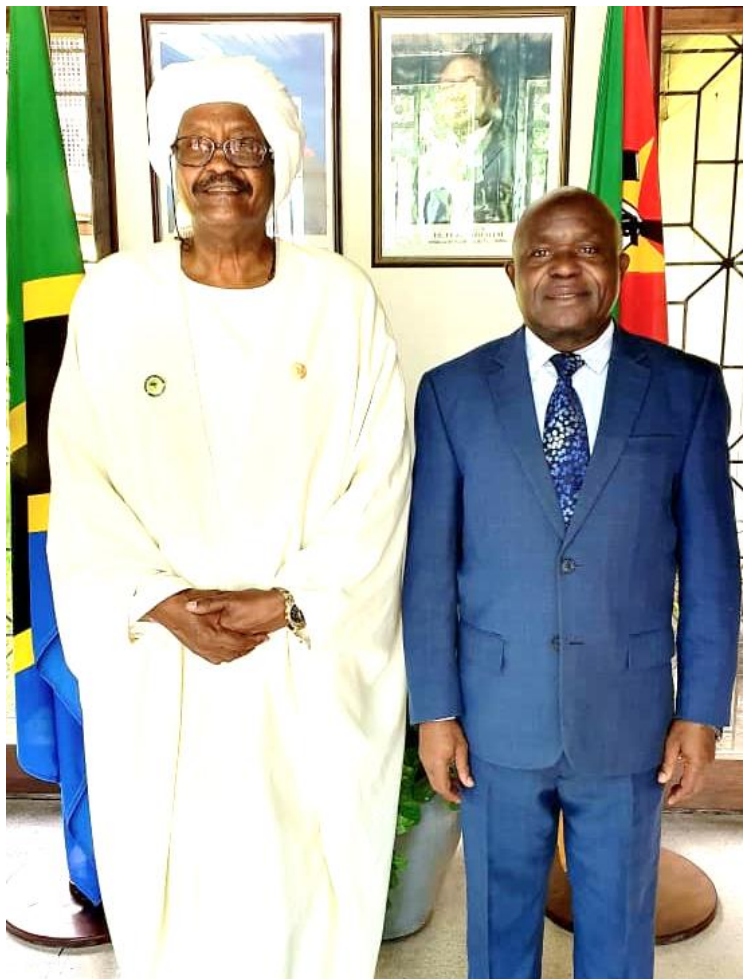
**Mr. Ibrahim Shaddad, the Director General of the African Minerals and Geosciences Centre (AMGC) paid a courtesy visit to H.E. Sandro de Oliveira, the Ambassador of the Republic of Angola in the United Republic of Tanzania on 24<sup>th</sup> May 2022. H.E. the Ambassador was briefed regarding current challenges facing the Centre and H.E. the Ambassador assured the support of Angola to AMGC.**

**Angola, one of the founding**

**member states of AMGC, has been unreservedly supporting the Centre since joining the Centre on 23<sup>rd</sup> 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 Xiaquivuila, the Director General of the Geological Institute of Angola is the representative of Angola in AMGC Board of Directors.**



## A Courtesy Visit to H.E. the Ambassador of Mozambique in Tanzania



Mr. Ibrahim Shaddad, the Director General of the African Minerals and Geosciences Centre (AMGC) paid a courtesy visit to H.E. Ricardo Mtumbuida, the High Commissioner of Mozambique in Tanzania in his esteemed office on 26<sup>th</sup> May 2022. Mr. Shaddad briefed H.E. Mtumbuida among other issues, challenges facing the Centre and the beneficiation of the Mozambique from the mineral services provided by AMGC. H.E. the High Commissioner of Mozambique assured the sustainable support of Mozambique to the Centre.

Mozambique one of the founding member states of AMGC, has been unreservedly supporting the Centre since its establishment in 1977. Due to Mozambique's significant contribution to the running of the AMGC, has shouldered three times

hosting Policy Organ Meetings of the Centre (i.e. 8<sup>th</sup> Governing Council Meeting held on 2-3 October 1987, 18<sup>th</sup> Governing Council Meeting held on 5<sup>th</sup> August 1998 and 27<sup>th</sup> Governing Council held on 31 May 2007) as well as more than four times the responsibility of chairing the Governing Council of the Centre. Mozambique has been also among the leading member states that are using the Centre's mineral services including training. The Centre looks forward for a continued support from Mozambique.

Out of the six Directors General managing the Centre since 1977, Mozambique was elected in 1996-2002 to manage the Centre by Dr. Antonio Maria Pedro who is currently the Director of the United Nations Economic Commission for Africa (UNECA), Sub-regional Office for Central Africa. Mr. Elias Xavier Daudi, the National Director of the Directorate of Geology and Mines of Mozambique at the Ministry of Mineral Resources and Energy in Mozambique is a member of the AMGC Standing Committee of Officials and Mr. Horacio Belengueze, the Mineral Processing Engineer at the Ministry of Mineral Resources and Energy of Mozambique is a member of the AMGC Board of Directors.



## CONGRATULATIONS



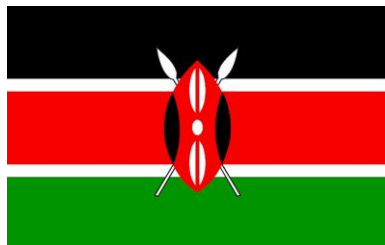
The Management of the African Minerals and Geosciences Centre (AMGC) has the honour to congratulate H.E. Carlos Joaquim Zacarias for being appointed Minister of Mineral Resources and Energy of Republic of Mozambique (MIREME).



The Management of the African Minerals and Geosciences Centre (AMGC) has the honour to congratulate H.E. Dr. Teodoro C. Vales for being appointed the Permanent Secretary (PS) of the Ministry of Mineral Resources and Energy, Republic of Mozambique (MIREME).

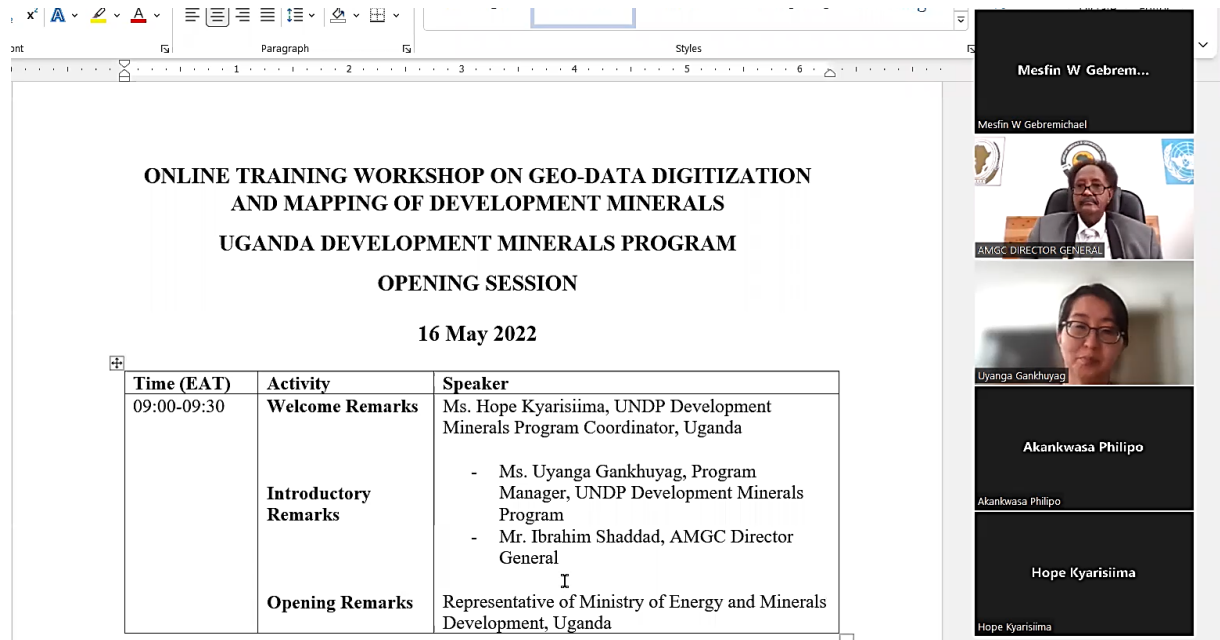
## GRATITUDE AND APPRECIATION

The African Minerals and Geosciences Centre (AMGC) would like to express its much appreciation and gratitude to Kenya and Sudan member states of AMGC for fulfilling their financial commitments to the Centre during the financial crisis the Centre is facing in current fiscal year 2021/22. AMGC appeals to the rest of the member states to support the Centre for effectively implementing its operational and development programs.



The Ethiopian News Agency interviewed Mr. Ibrahim Shaddad, the Director General of AMGC on Ethiopia Work Relationship with the Centre during his visit to Addis Ababa, Ethiopia on 6<sup>th</sup> May 2022.

## Online Training on Geodata Digitization and Mapping of Development Minerals of Uganda



The screenshot shows a Zoom meeting interface. On the left, a presentation slide titled "ONLINE TRAINING WORKSHOP ON GEO-DATA DIGITIZATION AND MAPPING OF DEVELOPMENT MINERALS UGANDA DEVELOPMENT MINERALS PROGRAM OPENING SESSION 16 May 2022" is displayed. The slide contains a table with the following content:

Time (EAT)	Activity	Speaker
09:00-09:30	Welcome Remarks	Ms. Hope Kyarisiima, UNDP Development Minerals Program Coordinator, Uganda
	Introductory Remarks	<ul style="list-style-type: none"> <li>- Ms. Uyanga Gankhuyag, Program Manager, UNDP Development Minerals Program</li> <li>- Mr. Ibrahim Shaddad, AMGC Director General</li> </ul>
	Opening Remarks	Representative of Ministry of Energy and Minerals Development, Uganda

On the right side of the Zoom interface, a list of participants is visible, including Mesfin W Gebremichael, AMGC DIRECTOR GENERAL, Uyanga Gankhuyag, Akankwasa Philipo, and Hope Kyarisiima.

The opening session of the online training on Geodata Digitization and Mapping of Development Minerals of Uganda on 16<sup>th</sup> May 2022 on a ZOOM online meeting platform. The Geoinformation Department started an online training course on Digitization and Mapping of Development Minerals through the ACP-EU Development Minerals Program for the Uganda country program. This training was the first online training program to be organized by the Centre. 14 participants from private sector and government offices were in attendance. The training has three sessions the first being the basic principles of mapping techniques for five days to be followed by a field excursion session to be conducted by the participants on selected field sites. The last session will be the mapping of the selected sites using the data collected from the field excursion with online supervision and support by Geoinformation Department.

## CONDOLENCES



The Management of the African Minerals & Geosciences Centre (AMGC) wish to convey heartfelt and deepest condolences on the very sad occasion of demises of Dr. Herbert M'cleod, the IGC Sierra Leone and Liberia Country Director as well as the mining expert and consultant. We pray his soul rest peacefully in the hands of our Lord.





## 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
<b>Finance and Administration Services</b>		
Leadership and Management Skills Training Course	2 Weeks	\$800
Financial Management Skills Training Course	2 Weeks	\$800
Executive Secretarial Training Course	2 Weeks	\$800
<b>Chemical and Environmental Services</b>		
Spectrometric Methods of Analysis.	2 Weeks	\$800
Analysis of Gold and Other Base Metals	2 Weeks	\$800
<b>Quality Management</b>		
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
<b>Mineralogy, Petrology and Gemmology Services</b>		
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
<b>Industrial Minerals Application Services</b>		
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

<b>Mineral Processing and Small-scale Mining Services</b>		
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
<b>Geo-information Services</b>		
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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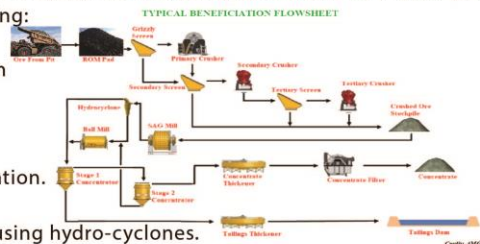


## MINERAL PROCESSING & SMALL SCALE MINING SERVICES

*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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