December 2024 African Minerals and Geosciences Centre | +255 22 2650347



AMGC Director General's Message





During the month of December 2024, The African Minerals and Geosciences Centre (AMGC) within its Internship **Program** provided economic capacity building for 9 months to various apprentices from Tanzania starting from 5 December 2024. The Centre through its Mineralogy, Petrology and Gemology Department has conducted a two weeks training course on Gem Identification **Techniques for two participants**

from Tanzania. The Scanning Energy of various cope (SERVI) machine in the AFP, has been maintained by a technical personnel from WIRSAM SOUTH AFRICA on 10 December 2024. Furthermore they strongly recommended that the Tescan TIMA remain in the place of initial Installation for the lifetime of the System. On December 11, 2024. The Director General of received H.E. the Sudanese Ambassador to Tanzania on a familiarization visit on 11 December 2024. AMGC has recruited Mr. Ramadhani Athumani, as a new contracted driver since 14 December 2024. On 16 December 2024, the Director General of AMGC paid a courtesy visit to the diplomatic mission of Sudan in Nairobi, Kenya and was honored to be invited to a dinner by H.E Kamal Gubara, the Ambassador of the Sudan to Kenya. On 18 December 2024, the Director General of AMGC paid a work visit to H.E. the Chairperson of AMGC Governing Council, who is currently H.E. Hassan Ali Joho, the CS for Mining, Blue Economy, and Maritime Affairs of Kenya. December 2024, AMGC trained three mining engineers from Ariab Mining Company (AMC) in Sudan.

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H.E. Ambassador of Sudan to Tanzania paid a familiarization visit to AMGC Page 4-11

AMGC has recruited a new contracted driver, who is Mr. Ramadhani Athumani, for two years Page 12

The Director General of AMGC paid a courtesy visit to the embassy of Sudan in Nairobi, Kenya and was honored to be invited to a dinner by H.E. the Ambassador of the Sudan to Kenya.

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The Director General of AMGC paid a work visit to H.E. the Chairman of AMGC Governing Council who is currently the H.E. Hassan Ali Joho, the Cabinet Secretary for Mining, Blue Economy, and Maritime Affairs of Kenya.

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The African Minerals and Geosciences Centre (AMGC) received Mr. Omary Karangula and Madam Nice Agalla who will build their practical experiences as the Finance apprentices and Administration at Department at the Centre on 5th December 2024. The Centre within its Internship Program keeps providing practical training and economic capacity building to various apprentices from Tanzania, the host country of the Centre and other member states of the Centre as part of empowering women and youth to build their practical experiences, skills and create competent professionals in the current and future generation.







On 09th December 2024, the African Minerals and Geosciences Centre (AMGC), through its Mineralogy, Petrology and Gemology Department (MPGD) started a two weeks training course on Gem Identification Techniques for two participants from Tanzania.

- 1. Mr. Emmanuel Mchomvu from Woowme Jewerlers Dar es Salaam.
- 2. Miss Heriethanna Christomoo Tenga –AMGC Staff This training course finished on 20th December 2024. The aim of this training is to provide knowledge and skills to the participants on how to identify all gemstones, which include diamond and coloured stones.









On December 10th, 2024, the African Minerals and Geosciences Centre (AMGC), an ISO 9001:2015 Certified, received a team of two technical personnel from WIRSAM SOUTH AFRICA namely;

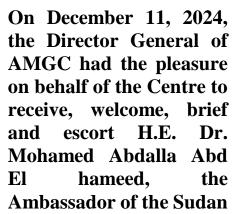
1. Eng. Manuel Grobbelaar - Service Engineer/Specialist on Tescan Electron Microscopes.



2. Ms. Lize-Meri Prinsloo - Personal Assistant to Eng. Grobbelaar.

The team has provided technical service to the Scanning Electron Microscope (SEM) machine in the Analytical Fingerprint Laboratory (AFP), which is owned by an International Conference on Great Lakes Region (ICGLR), implemented by BGR, and it is hosted at AMGC premises. The SEM at AMGC is a powerful tool commonly used across materials science fields, including geology, metallurgy, microelectronics, ceramics, coatings, cement, and soft materials mining. It performs several analyses such as high-resolution imaging, quantitative mineral analysis, elemental analysis, mineral liberation analysis, mineral characterization, determination of particle size distribution and porosity and homogeneity measurement of cement on rock ores, concentrates, tailing, leach residues, or smelter products at the shortest time possible.

Eng. Manuel Grobbelaar as the Service Support Engineer from the Sole Supplier Agency for the African continent, of the Tescan Electron Microscope range, he strongly do not recommend relocation of the Tescan TIMA System. The Equipment is highly sensitive and any modification to the Installation can cause damage to internal components. In addition, the System operates under a High Vacuum (10e-005Pa) and needs to remain in this State 24 Hours per day, 365 Days per Year with constant Power to feed the peripherals that control this Vacuum. Should the System not remain under High Vacuum, extremely high risks become apparent to the components that control and require this Vacuum. The Suspension and other internal components of the System comprise of sensitive pneumatic dampers and the risk of damage during any form of transport is extremely high when not in the original configuration that the System was shipped from the Factory. It is also strictly forbidden for anyone besides a Factory Trained Engineer from the Sole Supplier to remove any covers from the System or to make any modifications to the original Installation. In conclusion, it is strongly recommended that the Tescan TIMA remain in the place of initial Installation for the lifetime of the System.





to Tanzania on a tour to various technical departments providing mineral services including training, consultancy and analysis to the mining sector and geosciences Community in Africa and elsewhere. Furthermore the Director General of AMGC expressed much appreciation and gratitude for the sustainable support and outstanding commitments and obligations of the Government of Sudan to the Centre. The Sudan is up to date in paying timely its financial contribution to AMGC as well as leading in maximizing its beneficiation from paid mineral services particularly training provided by the Centre. Since Mr. Ibrahim Shaddad, the current Director General of AMGC has been fully on board in July 2015, a total of 440 paid training opportunities were provided to Sudanese professionals from Geological Research Authority of Sudan (GRAS), Sudanese Mineral Resources Company (SMRC), Ariab Mining Company (AMC) and Sudan's Gold Refinery. The Sudanese professionals have been trained in various on-job-training courses at the AMGC based in Dar es Salaam, Tanzania, and one paid outreach training course held at the premises of GRAS in Khartoum.

H.E. Ambassador of the Sudan commended vision and mandate of the Centre and the much appreciated services particularly training provided by the Centre. He assures the sustainable support of the Sudan to AMGC and expressed his high concern to enhance the existing excellent and fruitful relationship and cooperation that the Sudan and AMGC share for strengthening beneficial partnerships to push for the Centre's mission and mandate in serving the Mining Sector and Geosciences community in the Sudan and African Countries.

It is worth mentioning that Sudan is the last member state to join the workforce of AMGC in August 2010. The Sudan chaired the AMGC 33rd and 39th Governing Council Meetings hosted in Khartoum in 2013 and 2019, respectively.







































































































































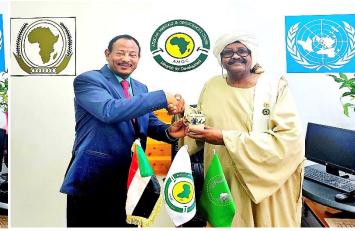














14 On December 2024 The African Minerals and Geosciences Centre (AMGC) offered to Mr. Ramadhani Athumani, years two contract as a driver under **Finance** the and Administration





Department (FAD). Mr. Ramadhani was a part time Driver at the Centre for 14 months and has shown a satisfactory performance, discipline, and behavior during the period.









On December 16 2024, Mr. Ibrahim Shaddad, the Director General of the African Minerals and Geosciences Centre (AMGC) paid a courtesy visit to the esteemed Embassy of the Sudan in Nairobi, Kenya. The Director General of AMGC met H.E. Kamal Gubara, the Ambassador of the Sudan to Kenya to express gratitude and appreciation for Sudan's sustainable support through both Ministry of Foreign Affairs and Ministry of Minerals, which enabled the Centre to implement its activities to its highest peak. H.E. Ambassador Kamal Gubara was briefed among other issues regarding the current work visit of the Director General to Nairobi, Kenya to meet the following Kenyan dignitaries:

- H.E Hassan Ali Joho, the Cabinet Secretary for Mining, Blue Economy, and Maritime Affairs of Kenya, the current Chairman of AMGC Governing Council.
- Mr. Elijah Mwangi, the Principal Secretary of State Department for Mining at the Ministry of Mining, Blue Economy and Maritime Affairs, Kenya, who is a distinguished member of AMGC Standing Committee for Officials.

The Director General of the AMGC will brief and discuss with H.E. the Chairman among other issues regarding current challenges facing the Centre and holding of the AMGC Policy Organ Meetings which will be hosted by Kenya including the AMGC Governing Council for the year 2024/2025, which will be under the chairmanship of H.E Hassan Ali Joho, the Cabinet Secretary for Mining, Blue Economy, and Maritime Affairs of Kenya.

The Director General of the AMGC intends to pay a familiarization visit to the Directorate of Geological Survey at the State Department for Mining in Ministry of Mining, Blue Economy and Maritime Affairs, Kenva.













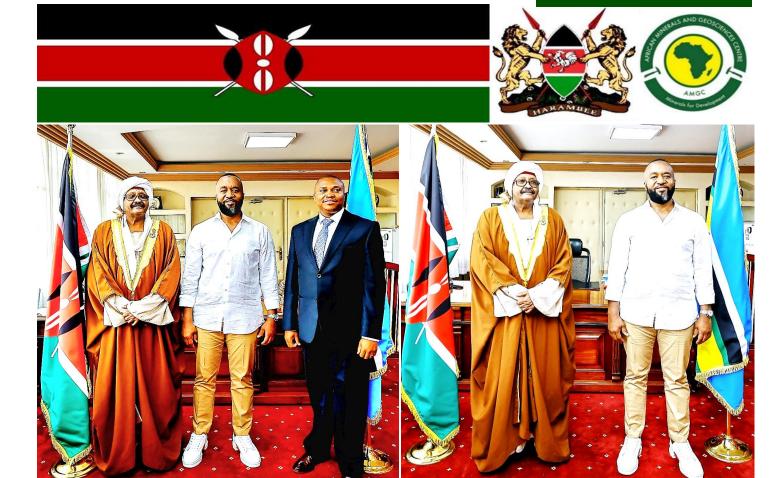






Mr. Ibrahim Shaddad, the Director General of the African Minerals and Geosciences Centre (AMGC), was honored to be invited among a visiting delegation from Sudan to a dinner by H.E Kamal Gubara, the Ambassador of the Sudan to Kenya, at his residence in Nairobi.

The visiting Sudanese delegation was from the Omdurman Islamic University (OIU) led by Professor Al-Fatih Al-Hiber, the Vice Chancellor. The OIU is a government affiliated higher academic institute established in 1912.



On 18 December 2024, Mr. Ibrahim Shaddad, the Director General of the African Minerals and Geosciences Centre (AMGC) paid a work visit to H.E. Hassan Ali Joho, the Cabinet Secretary for Mining, Blue Economy, and Maritime Affairs of Kenya, the current Chairman of AMGC Governing Council. The meeting was attended by Mr. Elijah Mwangi, the Principal Secretary of State Department for Mining at the Ministry of Mining, Blue Economy and Maritime Affairs, Kenya, who is a distinguished member of AMGC Standing Committee for Officials.

The Director General of the AMGC briefed and discussed with the two dignitaries among other issues regarding current challenges facing the Centre and holding of the AMGC Policy Organ Meetings which will be hosted by Kenya including the AMGC Governing Council, which will held in March 2025 under the chairmanship of H.E Hassan Ali Joho, the Cabinet Secretary for Mining, Blue Economy, and Maritime Affairs of Kenya.

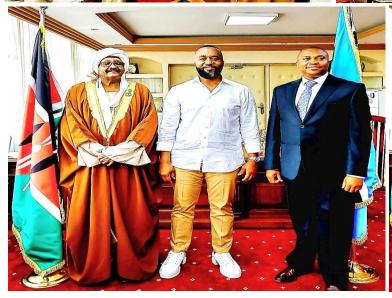
It is worth mentioning that Kenya joined the Centre in July 2006 becoming the 7th member state, chaired the AMGC Governing Council and hosted the Policy Organ Meetings three times (May 2011, June 2014 and May 2015).



















On December 23, 2024, the African Minerals and Geosciences Centre (AMGC), an ISO 9001:2015 certified received three mining engineers from Ariab Mining Company (AMC) in Sudan. The engineers include;

- 1. Mr. Jamal Hassan Ali Abaker
- 2. Mr. Abdallah Haroon Ahmed Mahmud
- 3. Mr. Bushra Abdelmahmoud Mohammed Abdelmajied

The engineers are attending a two-week training course on Mineral Economics and Strategy.

The course is conducted by Mineral Processing and Small Scale Mining Department of the Centre from 23 December 2024 to 03 January 2025.



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 for the current financial year 2024-2024 and arrears for Financial Year 2023-2024.



APPRECIATION & GRATITUDE

The African Minerals and Geosciences Centre (AMGC) would like to express its much appreciation and gratitude to Kenya for fulfilling its financial commitments for the current financial year 01 July 2024 - 30 June 2025 to the Centre. 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 H.E Hassan Ali Joho, the Cabinet Secretary for Mining, Blue Economy and Maritime Affairs in the Government of Kenya.





















APPRECIATION & GRATITUDE

The African Minerals and Geosciences Centre (AMGC) would like to express its much appreciation and gratitude to the Sudan for fulfilling its financial commitments to the Centre. Mr. Ibrahim Shaddad, the Director General of the African Minerals and Geosciences Centre (AMGC) paid a courtesy visit to H.E. Mr. Asm Mustafa, the Charge' d'affairs of the Sudan Embassy in Dar es Salaam, Tanzania on 6th September 2024 to express much appreciation and gratitude for the arrangement which have been done to send the annual subscription of Ministry of Minerals on behalf of the Government of the Sudan through the Ministry of Foreign Affairs of Sudan to the Centre. H.E. Mr. Asm Mustafa assures the sustainable support of the Sudan to AMGC and expressed his high concern to enhance the existing excellent and fruitful relationship and cooperation that the Sudan and AMGC share for strengthening beneficial partnerships to push for the Centre's mission and mandate in serving the Mining Sector and Geosciences community in the Sudan and African Countries. It is worth mentioning that the Sudan is the last member state to join the work force of AMGC in August 2010. The Sudan chaired the AMGC 33rd and 39th Governing Council Meetings hosted in Khartoum in 2013 and 2019 respectively. Sincerely



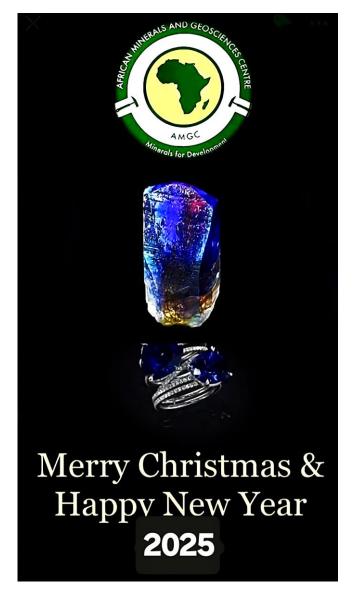


recognizes the outstanding commitments and obligations of the Government of Sudan to the Centre that enable it to implement its activities to its highest peak. The Sudan has been unreserved supporting the Centre in overcoming repeated financial constrain that the Centre is facing. The Sudan is ranking the second after Tanzania the host country of AMGC in utilizing the AMGC's mineral services and in this regard the Sudan contributes honorably in the 40% annual operational budget to be generated by the Centre. The Sudan is leading in timely fulfilling its annual subscription to the Centre and injecting additional funds through maximizing its beneficiation from mineral services particularly paid training courses provided by the Centre. Since Mr. Ibrahim Shaddad, the current Director General of AMGC has been fully on board in July 2015, a total of 440 paid training opportunities were provided to Sudanese professionals from Geological Research Authority of Sudan (GRAS), Sudanese Mineral Resources Company (SMRC), Ariab Mining Company (AMC) and Sudan's Gold Refinery. The Sudanese professionals have been trained in various on-jobtraining courses at the AMGC based in Dar es Salaam, Tanzania and one paid outreach training course held at the premises of GRAS in Khartoum.









EVENT





We are thrilled to announce the Mining Tech January-February 2025 International Forumand Exhibition.

Dates: The event has been postponed, a new date will be announced soon.

Location: Kempinski Royal Maxim Hotel First Settlement, New Cairo City. Join in Cairo explore us to groundbreaking opportunities in solar energy, mining tech, and data mining. This premier B2B event is your gateway the latest advancements to technology and an unparalleled investment opportunity. Network with industry leaders and discover how your company can benefit from the future of extracting and processing raw

Materials. Don't miss this chance to invest in the future of mining at the premier international forum for mining and technology in January-February 2025. Highlights of the event include:

- > Exploring the potential of mineral resources in the Arab world and maximizing investment opportunities.
- > Enhancing the value of raw materials through advanced preparation and manufacturing techniques.
- > Showcasing progress and development in the mining and quarrying sectors, including solar energy innovations and data mining technologies.
- ➤ Understanding global market dynamics affecting mining and quarrying products.
- ➤ Featuring cutting-edge technologies in mineral exploration, extraction, processing, and logistics.

#Invest #Extracting #Egypt #International #Mining #Solar Energy.

New Courses



The Mineralogy, Petrology and Gemology

Department is happy to announce the following

new training courses

- Gemstone/Mineral Estimation and Valuation
- 2 Jewelry Design
- Gemstone Exploration & Gem Safari's

More Info matokeo@seamic.org





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. NetCash 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 fiscalregimes 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 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

Training Topics	Duration	Fee	
Finance and Administration Department (FAD)			
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 (CED)			
Spectrometric Methods of Analysis.	2 Weeks	\$800	
Analysis of Gold and Other Base Metals	2 Weeks	\$800	
Modern Laboratory Management Method	2 Weeks	\$1,500	
Quality Management Section (QM)			
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 (MPGD)			
Mineralogical and Petrological Sample Preparation and	2 Weeks	\$800	
Analytical Techniques			
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	2 Weeks	\$800	
methods			
Industrial Minerals Application Department (IMAD)			
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	t (MPSSMD)	
Practical Mineral Processing and The Basic Mineral	2 Weeks	\$800	
Processing Flowsheet			
Sampling and Sample Preparation for Laboratory Testing	2 Weeks	\$800	
Artisanal and Small-Scale Mining Activities	2 Weeks	\$800	
Techniques of Gold Cyanidation	1 Week	\$800	
Mineral Economics	2 Weeks	\$800	
Metallurgical Balance and Process Evaluation	2 Weeks	\$800	
Extractive Metallurgy – Metallic Ore Deposits, Metal	2 Weeks	\$800	
Extraction and Purification Processes			
Environmental Management in Mining	1 Week	\$400	
Geo-information Department (GID)			
GIS and Remote Sensing for Mineral Exploration and	2 weeks	\$800	
Geological Mapping			
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	2 weeks	\$1,200	
Exploration			
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	



African Minerals and Geosciences Centre (AMGC)

Kunduchi Beach

Area
P.O. Box 9573
Dar es Salaam
Tanzania

+255 22 2650347

Fax: +255-22-2650319

seamic@seamic.org

Minerals for Development

Find us on the Web:

www.seamic.org



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

- Specialized training in Gemmology, Gemstone Cutting and Polishing and Mineralogical and Petrological Sample preparation and Analytical Techniques.



Petrography and Gemmological Microscopes

ANALYTICAL SERVICES

- Petrographic examination of thin sections and polished sections

TRAINING SERVICES

- $\begin{tabular}{ll} \hline \mathscr{S} Gemstone Characterization, Identification and Value Addition \\ \hline \end{tabular}$

- $\ensuremath{\mathscr{L}}$ Gemstone Cabochon making and Carving

Contacts

Ibrahim Shaddad

Director General ibrahimshaddad@seamic.org

Charles Buteta

Quality Manager/ Manager, Chemical and Environmental Department charles@seamic.org

Bashiri Juma

Manager, Finance and A dministration Department A g. Manager, Industrial Minerals and Application Department bashiri@seamic.org

Alex Mkama

Manager, Mineral Processing and Small-Scale Mining Department mkama@seamic.org

Matokeo Simba

Manager, Mineralogy, Petrology & Gemmology Department Ag. Manager, Geo-Information Department

matokeo@seamic.org