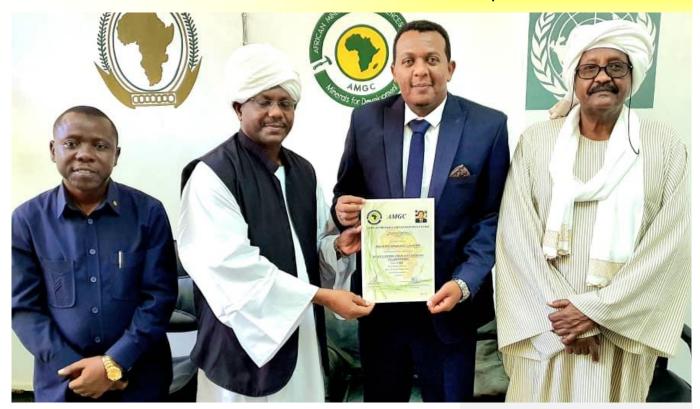
#### October 2022 African Minerals and Geosciences Centre | +255 22 2650347



## **AMGC** News

## **Director General's Message**





The Director General of AMGC participated in launching African Minerals the of Development Centre (AMDC) Phase II and the 2<sup>nd</sup> African Forum on Mining activities at AU headquarter in Addis Ababa, Ethiopia. It was also an opportunity to meet and discuss with the representative of the UNECA chairing the AMGC Standing Committee of Officials as well as Vice Chair of AMGC Board of Directors. The Director General had a meeting with the Director General of Geological Survey of Ethiopia (GSE) as well as he is the Chairman of AMGC Board of Directors. The Centre organized training courses for participants from

Tanzania, Sudan and Mozambique. The students from different higher learning institutions from Tanzania who were on practical attachment at the Centre completed their attachment during this month. The Centre was visited by the representative of Bruker, the manufacturer of one of the XRF machine in the Chemical and Environmental Department on the issues related to the maintenance of equipment. The Centre was also visited by the delegation from headquarter of the ICGLR in Bujumbura, Burundi to discuss on the matters of the AFP Laboratory hosted at AMGC. The Centre received children from Dar es Salaam for a clay day workshop. A delegation from Trafford Minerals Trading International Limited Tanzania (TMTI) which operates from DRC paid a familiarization visit the Centre seeking collaboration in terms of analytical and quality control expertise for their newly registered Beryllium and Lithium mining company in Tanzania.

## **Contents**

The Launch of AMDC Phase II	1	
Visit of ICGLR Delegation	1	
AMGC – UNECA Meetings	2	
DG's Visit to Geological Survey of		
Ethiopia	3	
Clay Day Workshop	4	
Visit of Bruker team	5	
Certificate Ceremony for Industria	ıl	
Practical Training Undergraduate		
Students	6	
Trainings on GIS and Remote Sens	ing 7	
Training on Processing and Recovery of		
Gold from its Ores	7	
Trainings on Introduction to GIS a	nd	
Remote Sensing Applications and Quality		
Control and Quality Assurance in		
Laboratories	8	
Visit of delegation from TMTI	9	
Training on GIS and Remote Sensi	ng 10	
Training on Petrology Sample		
Preparation & Analytical Techniqu	ies 11	
Congratulation	11	
Appreciation & Gratitude	12	
New Trainings	12 - 13	
Training List	14 –15	

## The Launch of AMDC Phase II and the 2<sup>nd</sup> African Forum on Mining



AMGC Director General, Mr. Ibrahim Shaddad participated in the Launch of AMDC Phase II and the  $2^{nd}$  African Forum on Mining, which was co-organized by the African Union Commission (AUC) Department of Economic Development, Trade, Tourism, Industry, and Minerals (ETTIM) and the Interim Secretariat of the African Minerals Development Centre (AMDC) from  $3^{rd}$  to  $4^{th}$  October 2022, physically at the African Union Headquarters in Addis Ababa, Ethiopia.

### Visit of ICGLR Delegation



The International Conference on Great Lakes Region (ICGLR) delegation led by Dr. Mugyereza B. Ham accompanied with Mrs Arthemie Ndikumana visited the African Minerals and Geosciences Centre (AMGC) on 10 October 2022 as well as held a meeting with AMGC and Federal Institute of Geosciences (BGR), Germany as the development partner at the Centre. The meeting discussed various issues including management and technical aspects along with commercialization for the sustainability of Analytical Finger Print (AFP) Laboratory.

## **UNECA - AMGC Meetings**



Discussion United Nations Economic Commission for Africa (UNECA) and African Minerals and Geosciences Centre (AMGC) was carried out through two virtual and physical meetings. The virtual meeting was held on Thursday 15<sup>th</sup> September 2022 at 11:00 AM Addis Ababa/Dar es Salaam time. Then followed by an in person meeting held at UNECA Headquarters in Addis Ababa, Ethiopia on Wednesday 5<sup>th</sup> October at 03:00 PM.

Mr. Ibrahim Shaddad, the Director General of AMGC briefed two of the UNECA officials regarding current challenges and developments in the Centre. UNECA was represented by Mr. Jean-Paul Adam, Director, Technology, Climate Change and Natural Resource Management Division. It is worth mentioning that Mr. Jean is the Vice Chairman of AMGC Board of Directors as well the AMGC Chairman of the Standing committee of Officials.

The meeting was attended by Mr. John Robert Sloan, the Economic Affairs Officer of Green and Blue Economy Section, Technology, Climate Change and Natural Resources Management Division (TCND) at UNECA.

## DG's Visit to Geological Survey of Ethiopia



The Director General of AMGC on 9th October 2022 met Dr. Degene Hailemariam, the Director General of Geological Survey of Ethiopia (GSE) as well as in his capacity the Chairman of AMGC Board of Directors. The meeting was attended by Mr. Sisay Shimelis, a senior International Consultant, who is also providing consulting services to the Ministry of Mines, Petroleum. and Natural Gas (MOMPNG). Mr. Shaddad briefed the two dignitaries regarding recent developments and challenges facing the Centre. A number of issues were discussed and Dr. Degene assured the sustainable support of Ethiopia to the Centre. AMGC sincerely recognizes 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. Ethiopia is one of the main founders of the Centre when it was established 45 years ago in 1977.

Ethiopia was unreservedly supporting the Centre until 2018/19 and the total contributions made by Ethiopia was US\$ 2,819,209.87. AMGC looks forward for Ethiopia to continue supporting the Centre as well as to maximize its benefit and enjoy the 40% cost reduction from all mineral services provided by the Centre. The Centre is willing to cooperate with Ethiopia in establishment of an Extractive Industry Centre of Excellence (EICE) and in this regard a tripartite MoU is proposed to be signed between AMGC, Ministry of Mines and Petroleum of Ethiopia and Universal Minerals Exchange for a Public Private Partnerships (PPP). Out of the six Director Generals managing the Centre since 1977, Ethiopia was elected twice to manage the Centre, the first Director General was Mr. Mahadi Shumburo from Ethiopia, who served for nine years during 1978-1986 and the fifth Director General was Mr. Ketema Tadesse who served for nine years during 2006-2015. Due to Ethiopia's significant contribution to the running of the Centre, shouldered more than three times hosting Policy Organ Meetings of the Centre as well as ten times the responsibility of chairing the Governing Council. Ethiopia was elected Chair of the Board of Directors of the Centre from 1997 to 2006 chaired by Mr. Ketema Tadessa, former Director General of the GSE. In 2006 an Ethiopian Director General, Mr. Ketema Tadesse, was appointed and the Chairperson post was transferred to another member state (Angola). When the term of Mr. Ketema ended in 2015, Ethiopia resumed back its Chairperson position for the Board of Directors and is serving with this post up to now. From 2015 to 2019 the Board of Directors chaired by Mr. Masresha Gebreselassie, former Director General of the GSE and from 2019 to Jan 2022 by Ms Enatfenta Melkau Gebre, former Director General of the GSE and then from Jan 2022 up to now by Dr. Dejene Hailemariam, current Director General of the GSE. One of the departmental managers at AMGC is Mr. Mesfin Wubeshet, of the Geoinformation services, whom has been employed as the only International Professional technical staff for the last 25 years.

## Clay Day Workshop



On 10<sup>th</sup> October 2022, the African Minerals and Geoscience Centre (AMGC) received 8 children from Dar es Salaam for clay day workshop. The clay day workshop is a special short training program conducted under Industrial Minerals Application Department (IMAD) designed for women and men, children, schools and families for acquiring the basic know-how and skills in ceramics and pottery simple technology. IMAD also provides other various training courses for production of ceramics, pottery, researches and consultancy services for Industrial Minerals (Development Minerals).

#### Visit of Bruker team



AMGC was visited on Wednesday 12 October 2022 by Bruker team who are suppliers of the S8 Tiger X-Ray Fluorescence Spectrometer (XRF) housed at the Centre. The team was led by Ms. Lynsey Singh from Bruker South Africa (Pty) Ltd. Others in the delegation were Ms. Anna Michael and Mr. Haron Moshi who are representatives of Bruker in Tanzania. Numerous issues were discussed including collaboration on the provision of instrumentation training, new terms on provision of repairs, services and maintenance of the XRF machine and terms on procurement of new machines from Bruker. Bruker is enabling scientists to make breakthrough discoveries and develop new applications that improve the quality of human life. Bruker's high-performance scientific instruments and high-value analytical and diagnostic solutions enable scientists to explore life and materials at molecular, cellular and microscopic levels. In close cooperation with our customers, Bruker is enabling innovation, improved productivity and customer success in life science molecular research, in applied and pharma applications, in microscopy and Nano-analysis, and in industrial applications, as well as in cell biology, preclinical imaging, clinical phonemics and proteomics research and clinical microbiology. Today, worldwide more than 7.500 employees are working on this permanent challenge at over 90 locations on all continents. Bruker continues to build upon its extensive range of products and solutions, its broad base of installed systems and a strong reputation among its customers. Being one of the world's leading analytical instrumentation companies, Bruker is strongly committed to further fully meet its customers' needs as well as to continue to develop state-ofthe-art technologies and innovative solutions for today's analytical questions.

## Certificate Ceremony for Industrial Practical Training to Undergraduate Students



Certification ceremony at AMGC for 6 undergraduate students from Dar es Salaam Institute of Technology (DIT), Tanzania who have successfully completed their 8 weeks Industrial Practical Training (IPT) program at AMGC laboratories. The free of charge training was conducted from August 22, 2022 to October 16, 2022 to the following students; DIGNA J. SULLE (Bachelor of Tech. in Lab Sci.), SHANI MAY (Bachelor of Tech. in Lab Sci.), HIGHNESS R. MLAKI (Bachelor of Engineering in Min. Eng.), JEFF VENANCE (Bachelor of Tech. in Lab Sci.), TWALH ATHUMANI (Bachelor of Tech. in Lab Sci.) and CALVIN MARCO (Bachelor of Tech. in Lab Sci.). The students have learnt and demonstrated competency in several laboratory areas including sample preparation, ceramics production for mineral value addition, mineral processing techniques, mine waste management and analytical methods (AAS, XRF & XRD) for water, soil, sediment, metallic and industrial minerals analyses. AMGC has for current financial year July 2022/ June 2023, provided free of charge Industrial Practical Training to 16 undergraduate students from different universities in Tanzania, the host country of the Centre.

## Training on GIS and Remote Sensing for Mineral Exploration and Geological Mapping



Certificate ceremony for the professional Ms. Ilundy Mellert from Andre Instituto Nacional de Minas de Moçambique (INAMI) attended a training who course on GIS and Remote for Mineral Sensing **Exploration and Geological** Mapping at the African Minerals and Geosciences Centre (AMGC) from 3<sup>rd</sup> to 14<sup>th</sup> October 2022.

## Training on Processing and Recovery of Gold from its Ores



Certificate ceremony for one trainee from Tanzania whom had been trained on PROCESSING AND RECOVERY OF GOLD FROM ITS ORES. The training was conducted by the Mineral Processing and Small Scale Department of the African Minerals and Geosciences Centre (AMGC).

## Trainings on Introduction to GIS and Remote Sensing Applications and Quality Control and Quality Assurance in Laboratories



AMGC received Mr. Esam Aldein Abdelrahim, the Counsellor in the Sudan Embassy in Tanzania as the guest of honour for the certificate ceremony of the following three professionals:-Ms. Lucia Moiane Mutongue from Instituto Nacional de Minas de Moçambique (INAMI), Ministry of Mineral Resources and Energy in Maputo, Mozambique. Ms. Lucia attended a training on Introduction to GIS and Remote Sensing Applications from 3<sup>rd</sup> to 21<sup>st</sup> October 2022. Mr. Mohammed Azhari Musa Algorashi and Mr. Musab Yousif Mustafa Babeker, they are chemists from Ariab Mining Company (AMC), Ministry of Minerals; Sudan. Both chemists attended a training on Quality Control and Quality Assurance in Laboratories from 10<sup>th</sup> to 21<sup>st</sup> October 2022.

## Visit of delegation from Trafford Minerals Trading International (EA) Limited



AMGC received the delegation of 06 personnel from Trafford Minerals Trading International (TMTI) Sarl/TMTI (EA) Limited Tanzania on Monday October 24, 2022. The delegation was led by Mr. Joseph Omondi Kadhinga, the Chief Executive Officer and Mr. Martin Obiero Achieng, the Finance Director. Currently, TMTI operates from Democratic Republic of Congo (DRC). The aim of the visit was to familiarize with AMGC activities and seeking for collaboration in terms of analytical and quality control expertise for their newly registered Beryllium and Lithium mining company in Tanzania. In this meeting, AMGC was represented by Mr. Ibrahim Shaddad, the Director General and Mr. Charles Buteta Athuman, the Quality Manager and Manager of Chemical and Environmental Department as well as a frequent Acting Director General. Mr. Shaddad assured the TMTI team of a positive support and quality service from the Centre in terms of analysis of samples, training in quality control and quality assurance, acquiring International Standards (ISO Certification and Accreditation) of the company and hosting meetings for public awareness. AMGC as a Centre of Excellence in mineral provision services appeals for similar scope companies in Africa especially in the mineral sector to visit the Centre and benefit from the long held and available technical expertise since 1977.

## Training on GIS and Remote Sensing Application on Geohazards and Hydrology



AMGC held on 28<sup>th</sup> October 2022 a certificate ceremony for two Mozambican professionals trained on GIS and Remote Sensing Application on Geohazards and Hydrology from 17<sup>th</sup> to 28<sup>th</sup> October 2022. The two professionals are:- Ms. Isalina Telma De Sousa Rangel and Mr. Gabriel Vasco Balate both professionals are from Department of Applied Geology and Seismology of Instituto Nacional de Minas de Moçambique (INAMI), Ministry of Mineral Resources and Energy in Maputo, Mozambique. The handing over of the certificates was officiated by Mr. Maruvuko Msechu, the Acting Assistant Commissioner for Local Content and Corporate Social Responsibility at the Ministry of Minerals of Tanzania who is the Board member representing Tanzania. After the certificate ceremony Mr. Maruvuko attended AMGC Monthly Management for October 2022 which held at the Centre's premises in Kunduchi, Dar es Salaam. As per the Rules of Procedure of the Board of Directors of AMGC, the Board member representing Tanzania, the host country is to attend the Centre's monthly management meetings.

## Training on Petrology Sample Preparation and Analytical Techniques



The African Minerals and Geosciences Centre (AMGC) received the following Six (06) technicians from Geological Research Authority of the Sudan (GRAS); Ministry of Minerals to participate 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.

## **Congratulations**



The Management of the African Minerals and Geosciences Centre (AMGC) has the honour to congratulate H.E. Dr. Diamantino P. Azevedo for being re-appointed Minister for Mineral Resources, Petroleum and Gas of Angola. AMGC sincerely recognises about the outstanding commitments and obligations of the Government of Angola to the Centre that have enabled it to implement its activities to its highest peak. AMGC looks forward for Angola to

continue supporting the Centre as well as to maximise its benefits from the Centre regarding mineral services provided by the Centre. It is worth mention that H.E. Dr. Diamantino was the 4<sup>th</sup> Director General of the Centre during his tenure in 2002-2006. H.E. Dr. Diamantino P. Azevedo, the Minister for Mineral Resources, Petroleum and Gas of Angola is the current Vice Chair of AMGC Governing Council.

### **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	2 Weeks	\$800		
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 methods	2 Weeks	\$800		
Industrial Minerals Application Department				
Pottery for Beginners	2 Weeks	\$800		
Mould Making	2 Weeks	\$800		
Forming Techniques	2 Weeks	\$800		
<b>Decorations in Pottery and Ceramics</b>	2 Weeks	\$800		
Bricks & Tiles Manufacturing [Clays]	2 Weeks	\$800		
Glaze Formulation	2 Weeks	\$800		
<b>Body Composition Formulation</b>	2 Weeks	\$800		

Mineral Processing and Small-scale Mining Department			
<b>Practical Mineral Processing and The Basic Mineral Processing</b>	2 Weeks	\$800	
Flowsheet			
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	
<b>Environmental Management in Mining</b>	2 Week	\$800	
Geo-information Department			
GIS and Remote Sensing for Mineral Exploration and Geological	2 weeks	\$800	
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 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

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
- 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**

- Rock slabbing and polishing

#### TRAINING SERVICES

- Mineralogical and petrological sample preparation and analytical techniques





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