



## AMGC Director General's Message



**Eng. Phillip Ruaan Viviers from Wirsam SCIENTIFIC & Precision Equipment (Pty), South Africa serviced and repaired the major analytical machines namely; AAS, XRF and XRD on Thursday September 06 2023. AMGC Director General participated in**

**the "Inter-Institutional Coordination Meeting for the Implementation and Domestication of the AU Commodities Strategy" organized by AU from 6 to 8 September 2023, in Addis Ababa, at the AU Headquarters. The Director General of the AMGC paid on 11<sup>th</sup> September 2023 a courtesy visit to the Geological Survey of Ethiopia (GSE). Mrs. Diana M. Naburi Koikai, attended a course on Basic Gemology Skills offered by the Mineralogy, Petrology and Gemology Department at the Centre during 11-22 September 2023. A ceremony at the AMGC to the undergraduate students from Ardhi University in Tanzania who have been undertaking an Industrial Training program for 8 weeks from July 17, 2023 to September 08, 2023. The Director General of AMGC paid a condolence visit to the Embassy of the Kingdom of Morocco in Dar es Salaam and expressed his deep sorrow for the recent earthquake in Morocco. A congratulatory Letter was sent to Hon. Dr. Dotto Biteko for been appointed Deputy Prime Minister as well as Minister for Energy of Tanzania. A congratulatory letter was also sent to Hon. Anthony Peter Mavunde for been appointed Minister for Minerals of Tanzania. AMGC had the honour to invite H.E. Ricardo Mtumbuida, the High Commissioner of Mozambique in Tanzania as Guest of Honour to visit the Centre on 22 September 2023 for officiating the handing over of training certificates to two Mozambiquian professionals who had a training course on Techniques of Gold Cyanidation during 11-22 September 2023. Two Jamaicans ladies paid a familiarization visit to AMGC on September 26, 2023.**

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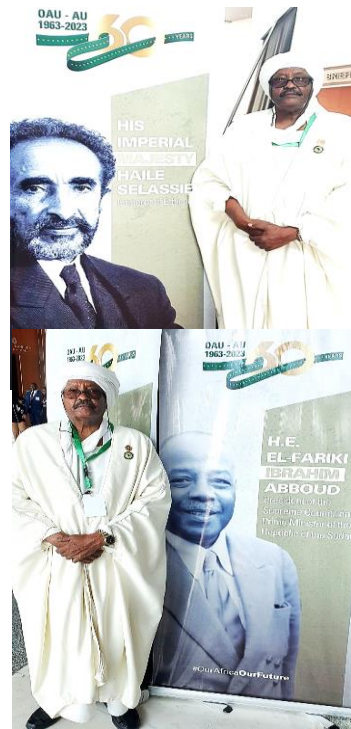
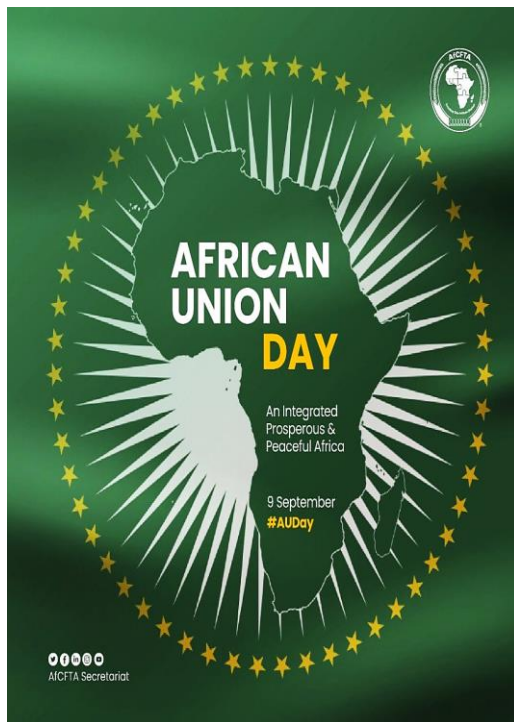
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**Thursday, September 06, 2023, AMGC an ISO 9001:2015 certified received Eng. Phillip Ruaan Viviers from Wirsam SCIENTIFIC and Precision Equipment (Pty), South Africa. Eng. Eng. Ruaan serviced and repaired the major analytical machines namely; AAS, XRF and XRD which are operated by Mr. Charles Buteta, Quality Manager & Manager of Chemical and Environmental Department (AAS & XRF) and Mr. Matokeo Simba, Manager of Mineralogy, Petrology and Gemology Department (XRD). This programmer is mandatory for quality control of the analytical services provided by the Centre.**





**African Union**  





# African Union Day

**09 SEPTEMBER**

The APRM salutes the founders of our continental organisation who on 9 September 1999, in Sirte, Libya took the historic decision to transform the Organization of African Unity into the African Union.

The transformation of OAU into AU was inspired by the need to strengthen solidarity and cohesion amongst our people. It was guided by the determination to promote and protect human and peoples' rights, consolidation of democratic culture and ensuring good governance and the rule of law.

As one of the AU institutions established to promote democracy and good governance on the continent, the APRM remains steadfast in its commitment towards the realisation of an Africa of good governance, democracy, respect for human rights, justice and the rule of law as well as a peaceful and secure continent.

[www.aprm-au.org](http://www.aprm-au.org)    



Invited and sponsored by African Union (AU), the Director General of AMGC participated in the "Inter-Institutional Coordination Meeting for the Implementation and Domestication of the AU Commodities Strategy", took place from 6 to 8 September 2023, in Addis Ababa, at the AU Headquarters. The guest of honour was H.E. Eng. Habtamu Tegnagn, the Minister of Mines of Ethiopia.











The Director General of the AMGC paid on 11<sup>th</sup> September 2023 a courtesy visit to the Geological Survey of Ethiopia (GSE); Ministry of Mines of Ethiopia. Mr. Shaddad has submitted an invitation Letter to be forwarded to H.E. Eng Habtam, the Minister of Mines of Ethiopia to visit AMGC during his expected attendance of Tanzania Mining & Investment Forum in Dar es Salaam. A meeting was held with Hon. PM Dr. Degene Hailemariam, the Director General of GSE as well as the Chairman of AMGC Board of Directors. The meeting was attended by Dr. Guta Legesse Tessema, the General Director the newly established Mineral Industry Development Institute (MIDI). Mr. Shaddad briefed the two top officials regarding performance of the Centre. A number of issues were discussed including maximization of Ethiopia benefits from the mineral services provided by the AMGC and smoothing payment of Ethiopia to its financial commitments to the Centre through UNECA as previously used to be. AMGC is ready to provide assistantship to the Ethiopian Gemmological Centre, which is currently under establishment. Dr. Degene, Dr. Guta and Ms Enatfenta Melkau Gebre, former Director General of the GSE were invited to pay a familiarization visit to AMGC during their participation in PanAfGeo-2 - WPC; Regional Workshop on ASSM for English speaking countries in Eastern and Northern Africa Region which will be held in Dar es Salaam, Tanzania on 12-17 November 2023.



**On Monday, September 11, 2023, AMGC had received Mrs. Diana M. Naburi Koikai, a Tanzanian woman who lives in Kenya. Mrs Diana came to attend a course on Basic Gemology Skills offered by the Mineralogy, Petrology and Gemology Department (MPGD) at the Centre from 11-22 September 2023.**

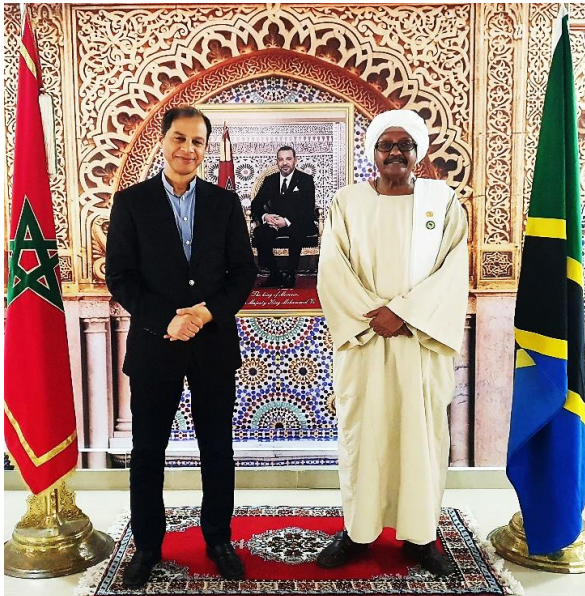
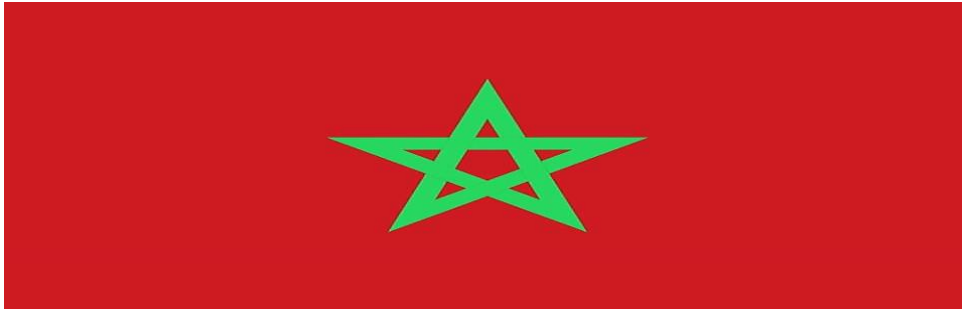




**A ceremony at the AMGC to the undergraduate students from Ardhi University in Tanzania who have been undertaking an Industrial Training program for 8 weeks from July 17, 2023 to September 08, 2023. The students learnt and gained competence and knowledge on sample preparation and analytical methods such as AAS, XRF, XRD & pH meter for different sample types. This program is freely provided to member states by different departments at the Centre. The students' list includes:-**

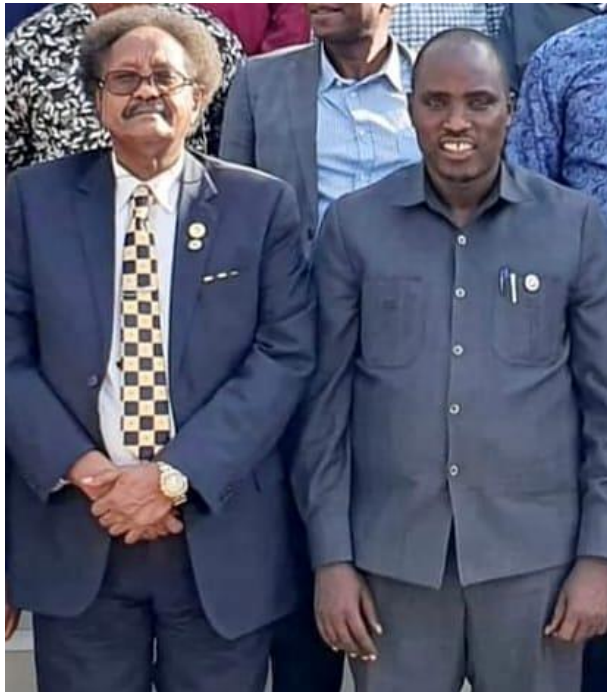
- 1 Miss. Arafa H. Mlindwa**
- 2. Miss. Clara A. Lyimo**
- 3. Miss. Joyce E. Lujuo**
- 4. Miss. Redasta E Mpwepwa**
- 5. Miss. Witness S. Madege.**





## CONDOLENCES

**The Director General of the AMGC paid on 18<sup>th</sup> September 2023 a condolence visit to the esteemed Embassy of the Kingdom of Morocco in Dar es Salaam, Tanzania. The Director General of the AMGC had the honour of being received by H.E. the Head of Mission Ambassador Zakaria El Goumiri. Mr. Ibrahim Shaddad signed a book of condolences expressing his sympathy to Morocco Government and people and he expressed his deep sorrow the grieving for the news with shock and sadness of the recent catastrophic earthquake in Morocco. On behalf of the AMGC staff and himself Mr. Shaddad conveyed in solidarity the AMGC's encouragement and sincere sympathy to the Government and people of Morocco for any loss of citizens and property.**



## CONGRATULATIONS & APPRECIATION

**On behalf of the AMGC, the Director General has the honour to congratulate Hon. Dr. Dotto Biteko for been appointed Deputy Prime Minister as well as Minister for Energy of Tanzania. The Director General of AMGC wishes also, on behalf of AMGC and himself, to take this opportunity to thank the Hon. Dr. Dotto Biteko for the leadership during his tenure as Minister for Minerals of Tanzania. AMGC recognises his able guidance which enabled the Centre to implement its activities successfully.**





## CONGRATULATIONS

**On behalf of the AMGC, the Director General has the honour to congratulate Hon. Anthony Peter Mavunde for been appointed Minister for Minerals of Tanzania. The Director General of AMGC had the honour to send Hon. Minister a congratulatory letter as well as extending an open invitation to visit the Centre at any time convenient so that the Hon. Minister could familiarize himself with the mineral services being provided by the Centre. It is worth mentioning that Hon. Anthony was born on 2<sup>nd</sup> March 1984 and has been a member of the ruling party the Chama Cha Mapinduzi (CCM; lit. Party of the Revolution); which is the leading ruling party in Tanzania and the second longest-ruling party in Africa, only after the True Whig Party of Liberia since 2006. He is a Member of Parliament and he was former Deputy Minister for Labour, Youths and employment.**



**AMGC Director General had the honour to invite H.E. Ricardo Mtumbuida, the High Commissioner of Mozambique in Tanzania as Guest of Honour to visit the Centre on 22 September 2023 for officiating the handing over of training certificates to two professionals i.e. Messrs. Carlos Albano Marove and Zaquir Issufo from Mozambique who had a training course on Techniques of Gold Cyanidation which had started on 11 September and concluded on 22 September 2023. H.E. the High Commissioner was accompanied by two diplomats who are Mr. Momed Salim Khan, First Secretary and Mr. Osvaldo Abudo, Protocol Officer.**





**AMGC received two Jamaicans ladies, Debbie Maxwell and Helen Barnaby who paid a familiarization visit to the Centre on September 26, 2023. They were introduced to the AMGC by Mr. Edward, who is a renowned Tanzanian Gemologist cooperating with the Centre. Both ladies are interested in familiarizing themselves with the mineral services provided by the Centre particularly empowering women in value addition of semiprecious gemstones and simple ceramic technology.**

# EVENTS

HELD UNDER THE PATRONAGE OF THE HONOURABLE DR. DOTO MASHAKA BITEKO (MP), MINISTER OF MINERALS, MINISTRY OF MINERALS OF THE UNITED REPUBLIC OF TANZANIA

Endorsed By



Ministry of Minerals



**TANZANIA MINING & INVESTMENT FORUM**



25 - 26 OCTOBER 2023



JNICC, DAR ES SALAAM TANZANIA

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**dmg** events



## Unlocking Tanzania's Future Mining Potential

### Tanzania Mining & Investment Forum 2023 In Numbers

2000 Attendees	700 <sub>sqm</sub> Exhibition	700 Delegates	100 Exhibiting Companies	90 Ministerial, Governmental & Industry Speakers	35 Networking Hours	25 Countries Represented	20 Conference Sessions
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### 2023 Dignitaries & Industry Leaders Confirmed To Speak Include

 Hon. Doto Biteko Minister of Minerals, Ministry of Minerals United Republic of Tanzania	 Hon. Ruth Nakanbirwa Minister of Energy and Mineral Development Uganda	 Hon. Monica Chang'anamuna Minister of Mining Malawi	 Stephen Mullaume Chief Executive Officer, Director TRX Gold	 Justyn Wood CEO/Executive Director Noble Helium
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### With Thanks To Our 2023 Sponsors & Partners To Date

<p>Diamond Sponsor</p>  <p>ANGLOGOLDASHANTI GEITA GOLD MINE TANZANIA</p>	<p>Gold Sponsor</p>  <p>BARRICK</p>	<p>Silver Sponsor</p>  <p>TotalEnergies</p>	<p>Bronze Sponsors</p>    
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## 2023 ANNUAL CONFERENCE

### Zanzibar



Golden Tulip Hotel Zanzibar Airport

OCTOBER



**Abstract Submission Deadline**  
Submit at [info@tgs.or.tz](mailto:info@tgs.or.tz)



NOVEMBER

**Pre Conference Excursion**  
Excursion is only for **80 peoples**,  
**First come first served**

NOVEMBER



**Conference**

## New Courses




**AMGC**

**New Courses**

The Mineralogy, Petrology and Gemology Department is happy to announce the following new training courses

1

Gemstone/Mineral Estimation and Valuation

2

Jewellery Design

3

Gemstone Exploration & Gem Safari's

[www.seamic.org](http://www.seamic.org)

More Info  
[matokeo@seamic.org](mailto: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. 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

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

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





## African Minerals and Geosciences Centre

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***Minerals for  
Development***

**Find us on the Web:**

**[www.seamic.org](http://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
- ✓ Mineralogical evaluation of industrial minerals, ore minerals and clays
- ✓ Gemstone identification and grading
- ✓ Specialized training in Gemmology, Gemstone Cutting and Polishing and Mineralogical and Petrological Sample preparation and Analytical Techniques.



Petrography and Gemmological Microscopes

### ANALYTICAL SERVICES

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



Polishing Machine for Polished Mount Preparation

### TRAINING SERVICES

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



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