



# AMGC News

## Director General's Message



During the month of December 2022 AMGC organized five trainings for participants from Rwanda and Mozambique. Three participants from Rwanda attended trainings on Environmental Management in Mining, Extractive Metallurgy & Practical Mineral Processing and the Basic Mineral Processing flowsheet and participants from Mozambique attended trainings on Petrology Sample Preparations and Analytical Technique as well as GIS and Remote Sensing for Mineral Exploration and Geological Mapping. Invited and sponsored by the African Minerals Development Centre (AMDC) the Director General of AMGC participated in AMDC Workshop on development of continental value chains by ASMEs, 29<sup>th</sup> November - 1<sup>st</sup> December 2022 in Nairobi, Kenya. He delivered a PowerPoint presentation entitled: **THE AFRICAN MINERALS AND GEOSCIENCES CENTRE (AMGC) AS MODEL AMV CENTRE OF EXCELLENCE FOR ASM IN AFRICA**. The Director General was interviewed by the Ethiopian News Agency (ENA) during his recent visit to Ethiopia. The Centre assigned Mr. Matokeo Simba as Manager of Mineralogy, Petrology & Gemology Department (MPGD) and issued him a new employment contract for three years.

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## Trainings on Extractive Metallurgy & Practical Mineral Processing and the Basic Mineral Processing flowsheet



**Graduation Ceremony for two geologists; Mr. Innocent Bizimana and Mr. Thierry Makombe from Ngali Mining Ltd in Rwanda who completed their two-week trainings on Extractive Metallurgy and Practical Mineral Processing and the Basic Mineral Processing flowsheet. The trainings were conducted from 21 November 2022 to 2 December 2022 at the African Minerals and Geosciences Centre (AMGC) premises in Dar es Salaam, Tanzania.**



## **African Minerals and Geosciences Centre (AMGC) Urges African Gov'ts to Cooperate for Maximum Benefit from Mineral Wealth**



The Ethiopian News Agency (ENA) interviewed December 10/2022 Mr. Ibrahim Shaddad, who is of an Ethio-Sudanese origin and the Director General of AMGC. Mr. Shaddad briefed ENA regarding the following two issues:-

1- In his capacity as an activist in Ethio-Sudanese Friendship, he called to speed up enhancement of the solidarity between the two sisterly countries in all fields for mutual interest.

2 - AMGC is ready to support Ethiopia in the effort

of transforming the mining sector and building capacity for promotion of mining investment in Ethiopia so as, the rich mineral resource to be transformed to mineral wealth.

The Director General said cooperation of institutions responsible in the mining sector among African countries is of paramount significance for integration and exchange of information, and building skill of expertise.

This could be done through exchanges of visits and training opportunities with countries, he added.

“We have to cooperate in the field and offices by exchanging data and sharing best practices. This is the only way we survive and promote our multilateral and bilateral benefits from the mineral potentialities and mineral resources to be a real mineral wealth.”

There are Artisanal and Small Scale (ASM) mining activities along the border might be engaged in smuggling, illicit mineral trade, and negatively affecting countries not benefit from their own wealth, Shaddad noted.

Through discussion and cooperation, the mining ministries and geological institutes could formalize the sector and control the benefits for each of the countries.

According to him, illicit mineral trade may create conflict and “we (therefore) need conflict free beneficiation of mineral wealth between African countries.”

Countries could come to discuss about multilateral and bilateral benefits of mine technically, he added.

Regarding the efforts being exerted by the Ethiopian Government to intensify regional integration, Shaddad said it is an appreciable effort that all the governments of the region should join.

“They (the countries in the region) have to encourage such things and they make the middle of the bridge not waiting for the Ethiopian government to come across the bridge.” It is in the interest of our nations and we have so many common tribes along the borders, which is something arbitrary that has been created by the colonial powers, the Director General elaborated.

He advised all African states that have common borders to carry out transboundary cooperation to benefit the huge number of ASM activities across the borders.

“In this regard, I appreciate the effort of the Ethiopian Government, and call on the other governments to cooperate for multilateral and bilateral beneficiation.”

The African Minerals and Geosciences Centre (AMGC), formerly known as Southern and Eastern African Mineral Centre (SEAMIC), was established in 1977 to principally carry out regional geological integration and to provide minerals services such as training, analysis and consultancy services for programs of its founding member states.

The member states are Ethiopia, Tanzania, Mozambique, Uganda, Angola Comoros, Kenya and Sudan. In 2007, the ministerial meeting in Maputo decided that membership is open to all African states.

To reflect this expansion of the scope, the name of the Centre was changed to African Minerals and Geosciences Centre (AMGC) starting from 2015.

## New Employment Contract



The African Minerals and Geosciences Centre (AMGC) assigned Mr. Matokeo Simba as Manager of Mineralogy, Petrology & Gemology Department (MPGD) and issued him a new employment contract for three years starting from 1<sup>st</sup> November 2022. Mr. Simba has obtained his Bachelor of Science (Hons) degree in Environmental Studies from the Open University of Tanzania. He has been awarded 2023 GIA Scholarship - International Online courses on Jewelry Essentials, Colored Stone Essentials, and Diamond Essentials. His ambitious to develop his career encourages him to decide to register for a Master degree in business administration from university of Dar es Salaam. It is worth mentioning that Mr. Simba had been recruited by the Centre on 08<sup>th</sup> December 2014 and has been assigned as Ag. Manager of MPGD since 1<sup>st</sup> October 2021. He was awarded certificate of appreciation and monthly allowance as a reward for his good work performance during 1<sup>st</sup> July 2021/30 June 2022 Financial Year after he had generated income almost near the set target. The assignment of Mr. Simba as Manager of PMGD is based on satisfactory work performance, good behavior and discipline according to Staff Rules and Regulations (as amended on 1<sup>st</sup> June 2012) Reviewed by; Human Resources Consulting of Tanzania; Chapter 3; Recruitment, Selection and Appointments; (To be eligible for selection a candidate must possess the required qualification and experience for the post as described in the job description. Locally Recruited Professional Staff which allows vacancies to be reserved for internal promotion; recruitment to all senior professional posts in the Centre shall be entirely merit based; selection of staff shall be on a competitive basis, without prejudice to recruitment of fresh talent at all levels, and fullest regard shall be given to filling the vacancies by persons already in the service of the Centre).



## Training on Environmental Management in Mining



Ceremony of handing over training certificate for Mr. Alexandra Bimenyimana from Ngali Mining Ltd in Rwanda. Mr. Alexandre finished on job training on Environmental Management in Mining from 5-16 December 2022 at the African Minerals and Geosciences Centre (AMGC). His attendance forms a second series of capacity building training for the Ngali Mining Ltd Staff.

## Training on Petrology Sample Preparations and Analytical Technique



Ceremony of handing over training certificate to Mr. Sualehe Francisco Bambo from the National Petroleum Institute (Instituto Nacional de Petroleo) (INP) of Mozambique, the member state of the AMGC. Mr. Sualehe participated in a training course on Petrology Sample Preparations and Analytical Technique from 12 to 16 December 2022.

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



Graduation ceremony at the African Minerals and Geosciences Centre (AMGC) for Mr. Timoteo Ernesto Adriano from the National Mining Institute (Instituto Nacional de Minas) (INAMI) of Mozambique, the member state of the AMGC. Mr. Timoteo has completed a two-week on-job training course on GIS and Remote Sensing for Mineral Exploration & Geological Mapping. This course was conducted by the Geo-Information department of AMGC from 12 - 23 December 2022.

## Happy Independence Day



9<sup>th</sup> December 2022



12<sup>th</sup> December 2022



Invited and sponsored by the African Minerals Development Centre (AMDC) the Director General of the African Minerals and Geosciences Centre (AMGC) participated in AMDC Workshop on development of continental value chains by ASMEs, 29<sup>th</sup> November - 1<sup>st</sup> December 2022 in Nairobi, Kenya. Mr. Ibrahim Shaddad delivered a PowerPoint presentation entitled:

**THE AFRICAN MINERALS AND GEOSCIENCES CENTRE (AMGC) AS MODEL AMV CENTRE OF EXCELLENCE FOR ASM IN AFRICA**

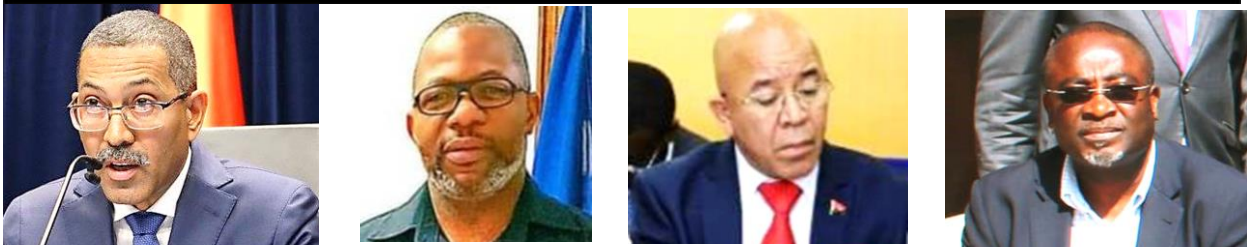


AMDC Workshop on development of continental value chains by ASMEs  
29<sup>th</sup> November - December 1<sup>st</sup> 2022  
Manzoni, Kenya



## APPRECIATION & GRATITUDE

**The African Minerals and Geosciences Centre (AMGC) would like to express its much appreciation and gratitude to Tanzania, Angola and Sudan for fulfilling its financial commitments to the Centre.**





## EVENT



## BE PART OF CAG29 - 2023

"The earth sciences and Africa's development: current realities, future projections"

### THROUGH:

- Sponsorship
- Presentation
- Attendance
- Exhibition
- Lead a field trip/workshop

**DATE:** 26 - 29 September, 2023

**VENUE:** Windhoek, Namibia

### CONTACT INFO:

cag29@mme.com.na  
cag29.whk@gmail.com  
+264 61 2848398

### ABOUT CAG:

The Colloquium of African Geology (CAG) is a major biennial meeting organized under the auspices of the Geological Society of Africa (GSAF), where earth scientists globally have the opportunities to present their research results on topics related to African geology and surrounding areas.



"Namibia. the World's Geological Paradise"

# **AFRICAN MINERALS AND GEOSCIENCES CENTRE**



## **EMPLOYMENT OPPORTUNITIES**

The African Minerals and Geoscience Centre (AMGC) is a Pan-African Mineral Service Provider with several analytical services including Geochemical Analytical Services, Mineral Processing Services and Geo-information Services. In this context AMGC is seeking for Senior Exploration Geologist, Senior Geophysist, Senior Hydrogeologist, Junior Chemist/Geochemist, Chemical Laboratory Technician and Metallurgy and Mineral Processing Laboratory Technician.

## **SUBMISSION OF APPLICATION**

Applications should include the following documents: Application letter in English highlighting the candidate's motivation and describing how the candidate meets the essential qualifications and skills for the position; A detailed CV with contact information for three referees (including their affiliation, position, e-mail and telephone number; support letters may also be attached); Certified copies of the academic certificates, as well as other relevant certificates (e.g., training and work experience) and send to:-

Director General, African Minerals and Geosciences Centre (AMGC),  
P.O. Box 9573,  
Kunduchi Beach Area, Dar es Salaam,  
Tanzania;  
E-mail: [seamic@seamic.org](mailto:seamic@seamic.org)

Note: Only Shortlisted Candidates will be contacted. Deadline is two weeks from the date of advertisement.

The advertised jobs are for AMGC Member States (Angola, Comoros, Ethiopia, Kenya, Mozambique, Sudan, Tanzania and Uganda), which their competent nationals are encouraged to apply.



# 1. JOB TITLE: SENIOR EXPLORATION GEOLOGIST

## SCOPE OF ROLE

**LEVEL OF WORK:** III

**ROLE TYPE:** Managerial

**REGION/DISCIPLINE:** Tanzania

**BUSINESS UNIT/ FUNCTION:** Dar es Salaam, Tanzania

**REPORTING RELATIONSHIP:** This position reports directly to the Manager of Geo-Information/Director General

## JOB PURPOSE:

To participate in the Centre's assist the National Institutions in standardizing and centralizing their information so that member countries can exchange information and expertise. To create a databank that can be accessed by all member states.

## ACCOUNTABILITIES & AUTHORITIES OF THE ROLE

Senior Exploration Geologist has the following accountabilities and authorities:

## TECHNICAL DUTIES

Collection and Standardization of Geological Information including related hydrogeological/geophysical data

- Collect information on geology (Lithologies & Structures), hydrogeology and mineral resources from all AMGC's member States and supervise the processing and re-processing of information to produce maps, charts and graphs
- Help in standardizing information in a pre-designed format so as to ensure easy exchange between AMGC's member States
- Ensure that confidentiality of member State information is maintained;
- Organize the information gathered such that it is easily accessible by all member States
- Institute a mechanism whereby information is periodically gathered and updated into the database of the Centre
- Standardize the hardware and software requirements of all member States and co-ordinate the central purchase of hardware and software
- Assist in the installation of equipment and subsequently its upgrade
- Liaise with vendor for the upkeep of the equipment for all member States
- Ensuring that exploration database is well managed and up to date
- Designing and validating conceptual geological models; Continuously review existing geological models as new Information and thinking becomes available and suggests ways to Improve processes In line with the industry best practices
- Perform quality control checks on all geological inputs into the exploration geology database and ensure the existence of an efficient audit trail

## **CARRY OUT CONSULTANCY, TECHNICAL TRAINING AND DEVELOPMENT PROGRAMS TO TECHNICAL AND NON- TECHNICAL CLIENTS**

- Comprehensive exploration targets and plans including compilation of historical data, managing and analyzing site database, surface sampling and mapping, and historical core reviews
- Delineation of rock units, types, structures and deposits in addition to geological geohazards through data capture, validation, interpretation, integration and 3D- geological modelling in compliance with industry best practice
- Ensure exploration offices, core shed, and other exploration facilities are in good order i.e. ensure safe keeping of computers, software dongles/licenses, backups, and housekeeping of the office & core shed to standard; Generate geological cross-sections, long, and flitches
- Prepare training budgets and assist in the development of a training calendar
- Prepare and send guidelines to National Institutions for selection of participants
- Implement training courses as per the training calendar
- Co-ordinate and conduct courses in the Centre and in the member States.

## **PUBLICATIONS**

- Plan and supervise production and standardization of maps
- Publish research developments work periodically

## **REVENUE GENERATION**

- Ensure that revenue targets set for the department are achieved
- Closely monitor income generation activities and utilize opportunities to maximize resources and increase revenue
- Utilize working equipment optimally to generate revenue
- Decide on the pricing of information and ensure that sales targets are achieved
- Strategize to reduce exploration costs by minimizing and eliminating waste

## **REPORTING**

- Preparation of technical reports detailing work completed during a reporting period and work planned for the next reporting period
- Conduct technical presentations on the progress of exploration geology for a client
- Reports new findings to the Manager of Geo-Information department and Director General as part of quality assurance process
- Assumes the responsibilities of the Alternate Exploration Manager/Exploration Manager as might be required
- Administer the recruitment of specialists required to execute programmes in the field of geoscience
- Prepare and submit annual work plans, quarterly and monthly progress reports to the Director General
- Gives high priority to safety, occupational health, and environmental management



## **MANAGEMENT DUTIES**

- Ensures that optimum expenditure of resources, i.e. personnel and equipment such that planned exploration programs are completed on time and within the respective allocated budgets
- Evaluates expected expenditure and provides input on annual budget proposal based on evaluation
- Ensures all correspondences and administration-related records In the Department are in place
- Ensures that the work allocation and supervision and control processes and procedures support the Department's effectiveness, and that organization policies and controls are complied with
- Submits periodic reports as required or ad hoc reports as required which provide information that facilitate the keeping of an audit trail and the making of decisions by Management
- Participates in the development of Department's strategic plans to ensure that targets are met
- Allocates roles and responsibilities to subordinates and review their works to ensure that Company policies and controls are complied with
- Demonstrate strong commercial and business improvement acumen and perform overall quality control of the work (budget, schedule, plans, personnel performance) and report regularly on project status

## **LEADERSHIP DUTIES**

- Make decisions based on reason and moral principles
- Conducts daily and weekly meetings with team
- Delegates tasks to the team and review works of subordinates
- Provides feedback to the team on work completed
- Conduct on-job training for professionals
- Discusses performance verbally on weekly basis, and officially once a year

## **TEAMWORK AND RELATIONSHIPS DUTIES**

- Prepare and propose relevant and targeted exploration geology growth programs
- Involves all disciplines within Exploration, Mining, Survey, IT, Procurement, HR, Admin and individuals performing different tasks and roles to optimize productivity and good teamwork
- Encourages team participation in problem solving techniques
- Good working relationship with the local communities in working areas
- Ensures compliance to general safety policy and procedures
- Minimize workplace Incidents (near-misses, Injuries, property damages)
- Provides Input from own field of expertise.

## **QUALIFICATION AND EXPERIENCE**

- Bachelor of Science Degree in geology with minimum 6 years of experience required, Master's Degree in in Economic Geology preferred. Membership of a reputable professional body would be an added advantage;

- Minimum 6 years progressive experience with a strong emphasis in geological mapping, exploration, mineral economics, and leadership required;
- A strong foundation of geological mapping, exploration procedures, business acumen, and commercial skills required;
- knowledge of African geology, mineral deposits and mining with experience across multiple terranes required;
- Experience across auriferous veins and Polymetallic replacement deposit types required;
- Experience with a full range of targeting tools including, but not limited to geophysical, geochemical, remote sensing, and geologic field methods;
- Excellent data and business analysis skills - ability to conduct detailed analysis, define milestones, and provide business logic and calculations;
- Ability to conduct research and development of leading-edge exploration technology;
- Proficiency in English, with excellent written and oral communication skills;

## **KNOWLEDGE AND SKILLS**

- A sound understanding of geological mapping principles and experience in hands-on and management of exploration field works including drilling;
- An understanding of structural geology
- Strong computer skills and proficient in ArcGIS and Microsoft Office (Word, Excel, Outlook, PowerPoint, and Access) required
- Working knowledge of Geological Software (Micromine / Leapfrog/ Surpac/ Datamine, etc.)
- Good in data collection and management techniques
- Leadership experience and a strong interpersonal skill
- Experience in coaching and mentoring subordinates
- Ability to deliver concise technical and business focused presentations and reports in simple to understand format to a broad audience of cross functional peers and stakeholders
- Creative thinker with a desire to challenge the status quo and conventional thinking with the ability to implement new ideas, processes, and technologies
- Organized, disciplined, and motivated self-starter with high standards expected of themselves and others;
- Ability to work in a fast-paced environment and collaborate in multidisciplinary team environment
- Ability to work under pressure with minimal supervision

## **BEHAVIORAL COMPETENCIES**

- Diligence
- Integrity
- Ethical
- Timeliness



## 2. JOB TITLE: SENIOR GEOPHYSIST

### SCOPE OF ROLE

**LEVEL OF WORK:** III

**ROLE TYPE:** Managerial

**REGION/DISCIPLINE:** Tanzania

**BUSINESS UNIT/ FUNCTION:** Dar es Salaam, Tanzania

**REPORTING RELATIONSHIP:** This position reports directly to the Manager of Geo Information/Director General

### ACCOUNTABILITIES & AUTHORITIES OF THE ROLE

Senior Geophysist has the following accountabilities and authorities

### TECHNICAL DUTIES

Collection and Standardization of Geological Information including related geophysical/hydrological data

- Collect information on geophysics, geology (Lithologies & Structures), hydrogeology and mineral resources from all AMGC' s member States and supervise the processing and re-processing of information to produce maps, charts and graphs
- Institute a mechanism whereby information is periodically gathered and updated into the database of the Centre that can be accessed by all member States
- Ensure that confidentiality of member State information is maintained
- To assist the National Institutions of AMGC' s member States in controlling quality of the geophysical data collected through cataloguing, standardizing, reprocessing and interpreting for effective application of existing geophysical data and in the production of regional, national and local thematic maps
- To help the National Institutions in standardizing and centralizing their information so that member countries can exchange information and expertise;
- Standardize the hardware and software requirements of all member States and co-ordinate the central purchase of hardware and software
- Assist in the installation of equipment and subsequently its upgrade for all member States
- Liaise with vendor for the upkeep of the equipment for all member States
- Plan and supervise production and standardization of maps
- Examine the physical properties of rocks, as well as gathering and evaluating well data in order to build reservoir models
- Acquire existing geophysical data and convert them into computer readable regional standardized data sets
- Interpret geophysical data using state-of -the-art methodology and standards and present the results through maps, articles, publications etc.
- Interpreting and mapping of 2D and 3D seismic data
- Prepare detailed inventories of existing geophysical surveys in the member States
- Identify areas of incomplete geophysical data coverage and decide on strategies to fill in the gaps

## **MANAGEMENT, CARRY OUT CONSULTANCY, RESEARCH, TECHNICAL TRAINING AND DEVELOPMENT PROGRAMS**

- Comprehensive exploration targets and plans including compilation of historical data, managing and analyzing site database, surface sampling and mapping, and historical core reviews
- Delineation of rock units, types, structures and deposits in addition to geological geohazards through data capture, validation, interpretation, integration and 3D- geological modelling in compliance with industry best practice
- Ensure exploration offices, core shed, and other exploration facilities are in good order i.e. ensure safe keeping of computers, software dongles/licenses, backups, and housekeeping of the office and core shed to standard; Generate geological cross-sections, long, and flitches
- Prepare training budgets and assist in the development of a training calendar
- Prepare and send guidelines to National Institutions for selection of participants
- Implement training courses as per the training calendar
- Co-ordinate and conduct courses in the Centre and in the member States;
- Co-ordinate and conduct courses in the Centre and in the member States;
- Conduct research work on the following topics in order to incorporate all the available geophysical data into the geophysical regional thematic sets:
  - Effects of using sample media;
  - Methods of normalizing for different analytical methods
- Publish promotion material, monthly newsletter and research developments work periodically
- Ensure that revenue targets set for the department are achieved
- Closely monitor income generation activities and utilize opportunities to maximize resources and increase revenue
- Utilize Geophysical equipment optimally to generate revenue
- Decide on the pricing of information and ensure that sales targets are achieved
- Administer the recruitment of specialists required to execute programmes in the field of geoscience
- Prepare and submit annual work plans, monthly, quarterly and annual progress reports to the Director General

## **LEADERSHIP DUTIES**

- Make decisions based on reason and moral principles
- Conducts daily and weekly meetings with team
- Excellent time management skills with the ability to manage multiple assignments concurrently and meet critical deadlines
- Delegates tasks to the team and review works of subordinates
- Provides feedback to the team on work completed
- Conduct on-job training to professionals
- Discusses performance verbally on weekly basis, monthly, quarterly and annually

## **TEAMWORK AND RELATIONSHIPS DUTIES**

- Prepare and propose relevant and targeted exploration geology growth programs
- Involves all disciplines within Exploration, Mining, Survey, IT, Procurement, HR, Admin and individuals performing different tasks and roles to optimize productivity and good teamwork
- Encourages team participation in problem solving techniques
- Good working relationship with the local communities in working areas
- Ensures compliance to general safety policy and procedures
- Minimize workplace Incidents (near-misses, Injuries, property damages)
- Provides input from own field of expertise

## **QUALIFICATION AND EXPERIENCE**

- Bachelor of Science Degree in geophysics with minimum 6 years of experience required, Master's Degree in geophysics preferred. Membership of a reputable professional body would be an added advantage
- Minimum 6 years progressive industry experience in collecting and processing of a comprehensive range of land-based geophysical data including seismic, EM, GPR, magnetic, gravity and resistivity for geotechnical and environmental applications and leadership required; Have experience in modelling and simulation of geophysical systems
- Knowledge of seismic acquisition techniques, seismic data processing, seismic wave propagation, digital signal processing, numerical modelling and inversion, and optimization
- Demonstrated record of technical problem solving and innovation in seismic imaging and inversion research
- knowledge of African geology, mineral deposits and mining with experience across multiple terranes required
- Ability to conduct and lead research and development/research projects of leading-edge geophysical technology
- Ability to deliver concise technical and business focused presentations and reports in simple to understand format to a broad audience of cross functional peers and stakeholders
- Proficiency in English, with excellent written and oral communication skills

## **KNOWLEDGE AND SKILLS**

- Strong computer skills and proficient in Geophysical Software, GIS based programs and data processing software (ACAD, ArcGIS, Global Mapper, HYPACK, SonarWiz, MagPick, Caris, Open source QGIS, etc.), and Microsoft Office (Word, Excel, Outlook, PowerPoint, and Access)
- Expertise in subfield of choice
- Good in data collection and management techniques
- Creative thinker with a desire to challenge the status quo and conventional thinking with the ability to implement new ideas, processes, and technologies;
- Leadership experience and a strong interpersonal skill
- Experience in coaching and mentoring subordinates



- Ability to deliver concise technical and business focused presentations and reports in simple to understand format to a broad audience of cross functional peers and stakeholders
- Organized, disciplined, and motivated self-starter with high standards expected of themselves and others
- Ability to work in a fast-paced environment and collaborate in multidisciplinary team environment
- Ability to work under pressure with minimal supervision

## **BEHAVIOURAL COMPETENCIES**

- Diligence
- Integrity
- Ethical
- Timeliness

## **3. JOB TITLE: SENIOR HYDROGEOLOGIST**

### **SCOPE OF ROLE**

**LEVEL OF WORK:** III

**ROLE TYPE:** Managerial

**REGION/DISCIPLINE:** Tanzania

**BUSINESS UNIT/ FUNCTION:** Dar es Salaam, Tanzania

**REPORTING RELATIONSHIP:** This position reports directly to the Manager of Geo Information/Director General

### **JOB PURPOSE:**

To participate in the Centre's assist the National Institutions in standardizing and centralizing their information so that member countries can exchange information and expertise. To create a databank that can be accessed by all member states.

### **ACCOUNTABILITIES & AUTHORITIES OF THE ROLE**

The Senior Hydrogeologist has the following accountabilities and authorities:

### **TECHNICAL DUTIES**

Collection and Standardization of Hydrological Information including related geological/geophysical data

- Collect information on geology (Lithologies & Structures), hydrological resources and mineral resources from all member States and supervise the processing and re-processing of information to produce maps, charts and graphs;
- Help in standardizing information in a pre-designed format so as to ensure easy exchange between the member States

- Ensure that confidentiality of member State information is maintained
- Organize the information gathered such that it is easily accessible by all member States
- Institute a mechanism whereby information is periodically gathered and updated into the database of the Centre.
- Use their hydrogeological decision-making and interpretation skills in the evaluation of newly discovered or referred sites for action.
- Use their hydrogeological expertise to review, interpret, and evaluate data associated with hazardous waste site evaluations and remedial actions and conduct all activities necessary to facilitate site clean-up and/or management of immediate threats to public health or the environment.
- Evaluate and prioritize inactive hazardous substance or waste disposal sites by evaluating routes of exposure through groundwater, surface water, air and direct contact with the hazardous waste.
- Plan and conduct sampling activities across the member state provide technical and regulatory support, including analytical strategies, remediation measures, and rule development.
- Work closely with mining stakeholders to provide geological and hydrogeological technical expertise on projects.
- Apply knowledge of geology and hydrogeology to aid development and management of groundwater resources for clients.
- Evaluation and interpretation of test data.
- Interpret and analyze various forms of geological and hydrogeological data to build model of the groundwater regime including contamination.
- Participate with a team of engineers to perform groundwater flow and transport modelling in support of project work (environmental, water supply, urban drainage etc.)
- Determine the nature, extent, fate and transport of contaminants and source areas at environmental sites;
- Carry out technical training and development programs to technical and non-technical clients;

### **STANDARDIZATION OF HARDWARE AND SOFTWARE**

- Standardize the hardware and software requirements of all member States and co-ordinate the central purchase of hardware and software
- Assist in the installation of equipment and subsequently its upgrade
- Liaise with vendor for the upkeep of the equipment for all member States
- Ensuring that hydrological database is well managed and up to date
- Designing and validating conceptual hydrological models; Continuously review existing hydrological models as new Information and thinking becomes available and suggests ways to improve processes in line with best practices
- Perform quality control checks on all hydrological inputs into the hydrological database and ensure the existence of an efficient audit trail

### **CARRY OUT CONSULTANCY, TECHNICAL TRAINING AND DEVELOPMENT PROGRAMS TO TECHNICAL AND NON- TECHNICAL CLIENTS**

- Comprehensive hydrological targets and plans including compilation of historical data, managing and analyzing site database, surface sampling and mapping, and historical core reviews

- Delineation of aquifers, types, structures in addition to geohazards and hydrology through data capture, validation, interpretation, integration and 3D- hydrological modelling in compliance with best practice
- Ensure safe keeping of computers, software dongles/licenses, backups, flitches and generation of lithological log and hydrogeological log in well drilled
- Prepare training budgets and assist in the development of a training calendar
- Prepare and send guidelines to National Institutions for selection of participants
- Implement training courses as per the training calendar
- Co-ordinate and conduct courses in the Centre and in the member States.

## **PUBLICATIONS**

- Plan and supervise production and standardization of maps
- Publish research developments work periodically.

## **REVENUE GENERATION**

- Ensure that revenue targets set for the department are achieved
- Closely monitor income generation activities and utilize opportunities to maximize resources and increase revenue
- Utilize working equipment optimally to generate revenue
- Decide on the pricing of information and ensure that sales targets are achieved.
- Strategize to reduce exploration costs by minimizing and eliminating waste;

## **REPORTING**

- Preparation of technical reports detailing work completed during a reporting period and work planned for the next reporting period
- Conduct technical presentations on the progress of hydrogeological work for a client;
- Reports new findings to the Manager of Geo-Information Department and Director General as part of quality assurance process;
- Assumes the responsibilities of the Alternate Hydrological Manager as might be required
- Administer the recruitment of specialists required to execute programmes in hydrogeology and related fields
- Prepare and submit annual work plans, quarterly and monthly progress reports to the Director General
- Gives high priority to safety, occupational health, and environmental management

## **MANAGEMENT DUTIES**

- Ensures that optimum expenditure of resources, i.e. personnel and equipment such that planned exploration programs are completed on time and within the respective allocated budgets
- Evaluates expected expenditure and provides input on annual budget proposal based on evaluation



- Ensures all correspondences and administration-related records In the Department are in place
- Ensures that the work allocation and supervision and control processes and procedures support the Department's effectiveness, and that organization policies and controls are compiled with
- Submits periodic reports as required or ad hoc reports as required which provide information that facilitate the keeping of an audit trail and the making of decisions by Management
- Participates in the development of Department's strategic plans to ensure that targets are met
- Allocates roles and responsibilities to subordinates and review their works to ensure that Company policies and controls are compiled with.
- Demonstrate strong commercial and business improvement acumen and perform overall quality control of the work (budget, schedule, plans, personnel performance) and report regularly on project status

### **LEADERSHIP DUTIES**

- Make decisions based on reasons and moral principles
- Conducts daily and weekly meetings with team
- Delegates tasks to the team and review works of subordinates
- Provides feedback to the team on work completed
- Conduct on-job training for the professionals
- Discusses performance verbally on weekly basis, and officially once a year.

### **TEAMWORK AND RELATIONSHIPS DUTIES**

- Prepare and propose relevant and targeted hydrogeology growth programs
- Involves all disciplines within hydrogeology, exploration, mining, survey, IT
- Procurement, HR, Admin and individuals performing different tasks and roles to optimize productivity and good teamwork
- Encourages team participation in problem solving techniques
- Good working relationship with the local communities in working areas
- Ensures compliance to general safety policy and procedures
- Minimize workplace Incidents (near-misses, Injuries, property damages)
- Provides Input from own field of expertise.

### **QUALIFICATION AND EXPERIENCE**

- Bachelor of Science degree in hydrogeology, and related field is required, Master's Degree preferred.
- Minimum of five to ten years of verifiable experience in hydrogeology, and related field is required.
- Experience with dewatering systems, hydrologic and hydrogeological principles, and hydrologic modelling preferred.
- Direct experience with well drilling, preferably with deep, large diameter, large volume production/dewatering wells preferred.
- Underground mine operation and passive drainage experience preferred.
- Excellent communication skills and ability to work with other departments, contractors, stakeholders, and regulators required
- Application of standard methods in determination of discharge and presence

## **KNOWLEDGE AND SKILLS**

- Expert knowledge of computer skills for data management and reporting (Excel, Word, PowerPoint, Vulcan, mine-site, Deswick, leapfrog or other Hydraulics/Hydrology/Mining software, Image Processing/Analysis Software and various database systems) required;
- Proficiency in numerical and spatial data analysis skills and familiarity with watershed or marine modelling;
- Computer scripting (using Python, R, and/or Matlab) for mapping, statistical and/or spatial analysis, and data visualization techniques;
- Experience Leadership, coaching, mentoring subordinates and a strong interpersonal skill;
- Well-developed oral and written communication skills in English;
- Positive attitude towards learning and being trained by a workmates and experts;
- High level of personal accountability and sense of responsibility;
- Ability to work under pressure with minimal supervision;

## **BEHAVIORAL COMPETENCIES**

- Diligence
- Integrity
- Timeliness

## **4. JOB TITLE: JUNIOR CHEMIST/GEOCHEMIST FOR ANALYTICAL GEOCHEMISTRY**

### **SCOPE OF ROLE**

**LEVEL OF WORK:** IV/V

**ROLE TYPE:** Operational

**REGION/DISCIPLINE:** Tanzania

**BUSINESS UNIT/ FUNCTION:** Dar es Salaam, Tanzania

**REPORTING RELATIONSHIP:** This position reports directly to the Manager of Chemical and Environmental Services / Director General

### **ACCOUNTABILITIES & AUTHORITIES OF THE ROLE**

A qualified junior Chemist/Geochemist for working in the Analytical Finger Printing (AFP) laboratory using laser-ablation inductively coupled plasma mass spectrometer (LA-ICP-MS) and a scanning electron microscope (SEM). The candidate is also to set up and run the chemical and environmental laboratory (CED) which is equipped with XRF, AAS and ICP. The junior Chemist/Geochemist has the following accountabilities and authorities:

### **TECHNICAL DUTIES**

- Receive, record and analyze geological and other types of samples from clients
- Record, interpret and report results to the client

- Knowledge of geochemistry and analysis of geological materials
- Knowledge of Environmental analysis
- Be responsible for running the above mentioned analytical equipment to produce analytical data necessary for the AFP and CED
- Check the analytical quality of the obtained results
- Perform adaption of the used methods if necessary
- Support the development of additional applications of the equipment within the framework of the AMGC service portfolio
- Perform the basic technical service for the above mentioned equipment
- Organize technical support by the equipment manufacturer if necessary
- Conduct on-job training for professionals interested to upgrade the practical know-how knowledge

### **MANAGEMENT DUTIES**

- Evaluates expected expenditure and provides input on annual budget proposal based on evaluation
- Ensures all correspondences and administration-related records In the Department are in place
- Ensures that the work allocation and supervision and control processes and procedures support the Department's effectiveness, and that organization policies and controls are compiled with
- Submits periodic reports as required or ad hoc reports as required which provide information that facilitate the keeping of an audit trail and the making of decisions by Management
- Participates in the development of Department's strategic plans to ensure that targets are met
- Allocates roles and responsibilities to subordinates and review their works to ensure that Company policies and controls are compiled with
- Demonstrate strong commercial and business improvement acumen and perform overall quality control of the work (budget, schedule, plans, personnel performance) and report regularly on project status

### **QUALIFICATION AND EXPERIENCE**

- Bachelor of Science degree in Chemistry and/or Geochemistry, and related fields is required, Master's Degree preferred
- Minimum of six years of verifiable practical experience in Chemistry and/or Geochemistry, and related field is required (including the application and development of modern instrumental analytical methods preferably in geological laboratories)
- Experience in mineralogy, inorganic instrumental analytical chemistry or chemo-metrics would be an advantage
- Having a knowledge of environmental analysis would be an advantage
- Working on AAS, ICP and XRF equipment will give an added advantage
- Excellent data and business analysis skills - ability to conduct detailed analysis, define milestones, and provide business logic and calculations required



- Ability to deliver concise technical and business focused presentations and reports in simple to understand format to a broad audience of cross functional peers and stakeholders required
- Organized, motivated self-starter with high standards expected of themselves and others required
- Ability to work in a fast-paced environment required

### **Knowledge and Skills**

- Well-developed oral and written communication skills in English
- Expert knowledge of standard office software (Excel, Word, PowerPoint and Data Analysis Software) required
- Experience in leadership, coaching, mentoring subordinates and a strong interpersonal skills
- Positive attitude towards learning and being trained by a workmates and experts
- High level of personal accountability and sense of responsibility
- Ability to work under pressure with minimal supervision

### **Behavioral Competencies**

- Diligence
- Integrity
- Timeliness

## **5. JOB TITLE: LABORATORY TECHNICIAN (CHEMICAL AND ENVIRONMENTAL DEPARTMENT)**

### **SCOPE OF ROLE**

**LEVEL OF WORK:** V/VI

**ROLE TYPE:** Operational

**REGION/DISCIPLINE:** Tanzania

**BUSINESS UNIT/ FUNCTION:** Dar es Salaam, Tanzania

**REPORTING RELATIONSHIP:** This position reports directly to the Manager of Chemical and Environmental Department / Director General

### **ACCOUNTABILITIES AND AUTHORITIES OF THE ROLE**

The laboratory technician should have the following accountabilities:

### **TECHNICAL DUTIES**

- Undertake sample handling and sample preparation for chemical analysis using appropriate techniques and gears.
- Perform physical and/or chemical tests as directed
- Routine care, cleaning and maintain working environment
- Maintain laboratory instrumentation and equipment; diagnose problems, calibrate and retest as appropriate; ensure laboratory has appropriate supplies for operation

- Conduct capacity building training for laboratory personnel and other stakeholders in techniques and use of instrumentation covering scheduling issues, sample preparation.
- Organize and store all samples, chemicals, reagents and compressed gases along with spares' inventory according to safety instructions
- Record all data and results in specified forms (paper and electronic) with accuracy and responsibility
- Perform other duties as required: Laboratory QA/QC, Safety and Hazardous Waste Disposal

## **QUALIFICATION AND EXPERIENCE**

- A valid Diploma in Technical Laboratory Science with at least five years of working experience
- Proven experience as Laboratory Technician or relevant position
- Experience in operating different machines such as AAS, XRF, ICP-MS, ICP-OES, C-S analyser, Mercury analyzer, UV-VIS spectrometer and multi-probes.
- In depth knowledge of ISO systems, OSH Systems, preventative measures and good laboratory best practices
- Computer literacy such as MS Office (especially Excel) and database systems

## **KNOWLEDGE AND SKILLS**

- Ability to understand and apply verbal and written work and safety-related instructions and procedures given in English.
- Ability to communicate in English with respect to job assignments, job procedures, and applicable safety standards
- Must be able to work in a potentially stressful environment
- High level of personal accountability and sense of responsibility.
- Ability to work as a team and under pressure with minimal supervision
- 

## **BEHAVIORAL COMPETENCIES**

- Diligence
- Integrity
- Timeliness

# **6. JOB TITLE: LABORATORY TECHNICIAN (METALLURGY AND MINERAL PROCESSING)**

## **SCOPE OF ROLE**

**LEVEL OF WORK:** V/VI

**ROLE TYPE:** Operational

**REGION/DISCIPLINE:** Tanzania

**BUSINESS UNIT/ FUNCTION:** Dar es Salaam, Tanzania

**REPORTING RELATIONSHIP:** This position reports directly to the Manager of Mineral Processing and Small Scale Mining Department / Director General

## **ACCOUNTABILITIES & AUTHORITIES OF THE ROLE**

He/she will be handling laboratory bench scale equipments and facilities to analyze samples or substances for the development and testing of energy-saving and low-cost mineral beneficiation and recovery methods and reporting findings to the Engineer or Supervisor. The ideal candidate will have experience in working under possibly hazardous conditions (e.g. chemicals). He/she will be well-trained to maintain safety conditions and will be passionate for doing work that makes things move forward. The laboratory technician should have the following accountabilities:

### **TECHNICAL DUTIES**

- Prepare samples for analysis/runs tests using appropriate techniques and perform sample preparation for quality control program
- Conduct bench scale experiments/monitors sample progression under direction of Engineer or Supervisor; or set up test plant or operational flow for sample preparation, sample analysis and mineral beneficiation and recovery.
- Provide operation diagnostics and adjustments for tests equipment
- Maintain laboratory instrumentation and equipment; diagnose problems, calibrate and retest as appropriate; ensure laboratory has appropriate supplies for operation
- Conduct capacity building training for laboratory personnel and other stakeholders in techniques and use of instrumentation covering scheduling issues, sample preparation, mineral beneficiation and recovery.
- Perform other duties as required: Laboratory QA/QC, Safety, Hazardous Waste Disposal, and Material Collection.
- Provide input and recommendations to Engineers regarding laboratory testing
- Data entry and spreadsheet development for test results
- Perform other duties as required Design and execute laboratory testing according standard procedures, make observations and report findings
- Conduct experiments under defined conditions to verify/reject various types of hypotheses using refined scientific methods
- Organize and store all samples, chemicals reagents, and compressed gases according to safety instructions
- Record all data and results in specified forms (paper and electronic) with accuracy and responsibility
- Maintain equipment and assist in ordering laboratory supplies
- Ensure that all safety guidelines are followed strictly at all times and maintain a clean and orderly environment.
- Assisting in carry out technical training and development programs to technical and non-technical clients;

### **QUALIFICATION AND EXPERIENCE**

- A valid Diploma in Metallurgy and Mineral Processing with at least five years of working experience
- Proven experience as Laboratory Technician or relevant position



- Experience in operating electrical and nonelectrical laboratory equipment and potentially dangerous chemicals (floatation reagents, cyanides, acids etc.)
- In depth knowledge of OSH Systems, preventative measures and laboratory best practices
- Working knowledge of MS Office (especially Excel) and database systems
- Ability to work autonomously and under pressure

## **KNOWLEDGE AND SKILLS**

- Ability to understand and apply verbal and written work and safety-related instructions and procedures given in English.
- Ability to communicate in English with respect to job assignments, job procedures, and applicable safety standards
- Must be able to work in a potentially stressful environment
- Work is in a mineral and metallurgical laboratory, which may include exposure to extremes in temperature and humidity, moving mechanical parts, risk of electrical shock, toxic chemicals, fumes or airborne particles.
- Personal protective equipment is always required when performing work in a mineral processing environment, including, hearing protection, safety glasses, safety footwear, and as needed, respirator, rubber steel-toe boots, protective clothing, gloves and any other protective equipment as required
- High level of personal accountability and sense of responsibility.
- Ability to work under pressure with minimal supervision.

## **BEHAVIORAL COMPETENCIES**

- Diligence
- Integrity
- Timeliness



## 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 Department</b>		
Leadership and Management Skills	2 Weeks	\$1,500
Financial Management Skills	2 Weeks	\$1,500
Executive Secretarial Skills	2 Weeks	\$1,500
<b>Chemical and Environmental Department</b>		
Spectrometric Methods of Analysis.	2 Weeks	\$800
Analysis of Gold and Other Base Metals	2 Weeks	\$800
<b>Quality Management Section</b>		
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
<b>Mineralogy, Petrology and Gemology Department</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 Department</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 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***

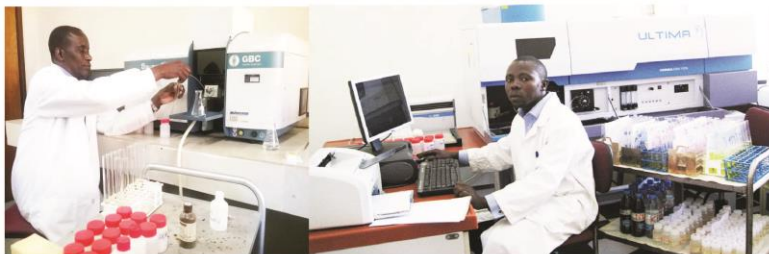
**Find us on the Web:**

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



## GEOCHEMICAL AND ENVIRONMENTAL SERVICES

The Geochemical and Environmental Department of AMGC carries chemical analysis of geological materials (rocks, minerals, soil, sediment and concentrate) so as to demarcate areas with economic mineral potential. It also offers useful analytical data on metals, water, soils, minerals, fish, sewage for use by metallurgists, environmentalists, agriculturalists, road construction engineers and water engineers. The section provides training and consultancy services to clients from member states and other countries.



Chemist at work in AAS laboratory

Chief chemist at work in ICP - OES laboratory

### TRAINING SERVICES

Training on relevant aspects of specialized chemical analysis of geological and environmental materials by short courses or attachment and tailor-made basis are also organized by the Department. The training courses include:

- ✓ Spectrometric Methods
- ✓ Analysis of Gold and Other Precious Metals
- ✓ Modern Laboratory Management Methods
- ✓ Environmental Technologies
- ✓ Field Sampling Techniques for Chemical Analyses
- ✓ Laboratory Sample Preparation Techniques for Chemical Analyses



Chemist testing loss on ignition

Chemist preparing petroleum samples for ICP - OES testing

## Contacts

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