



# AMGC News

## Director General's Message



Two training courses which were started in the month of November for three participants from Mozambique were completed during this month. The training courses were, Analysis of Gold & Other Base Metals by Chemical and Environmental Department and Open-source GIS, Best Practice in Resource Estimation and Image Processing by Geo-information Department. Two additional training courses were also carried out by Chemical and Environmental Department and Minerals Processing and Small-Scale

Mining Department during this month. The courses were Spectrometric Methods of Analysis, and Process Evaluation & Control for Mineral Processing Operations, respectively. The Director General participated the 8<sup>th</sup> meetings of its Directors of the State Offices of the Sudanese Mineral Resources Company Ltd. (SMRC) organized by General Directorate of Supervision and Control of Traditional Mining of SMRC in Khartoum Sudan. While in Sudan The Director General also paid a courtesy visit to the Ministry of Minerals of Sudan, Ethiopian Embassy in Sudan, RIDA Mining Group Headquarter, and ARIAB Mining Company Headquarter.

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## 8<sup>th</sup> Meetings of SMRC's Directors of the State Offices



The General Directorate of Supervision and Control of Traditional Mining in the Sudanese Mineral Resources Company Ltd (SMRC) organized the 8<sup>th</sup> meetings of its Directors of the State Offices in Al Salam Hotel-Khartoum during 12-14 December 2021 to reform, develop and finance the traditional mining in the Sudan. The SMRC is the governmental supervisory mechanism over mining resources in the Sudan, and it is the authority concerned with monitoring the mining sector, legalizing and regulating traditional mining, tightening the environmental safety program and establishing social responsibility projects. The gold revenue has reached US\$ 1.524,000,000 during January-September 2021. It is the highest revenue since the Sudan started exporting gold. The Sudanese mineral sector is expected to witness a major boom after the company's bold initiative to implement the policy of in-kind collection of gold revenues.

The Ministry of Minerals, Sudan through its government affiliated Ariab Mining Company has paid US\$ 62,500 as annual subscription to AMGC for the current financial year of the Centre July 2021-June 2022. The management of AMGC recognizes the much appreciated efforts of the Sudan in supporting the Centre by the sustainable and timely fulfilment of the Sudan to its financial commitment to the Centre enabling it to execute its activities.

SMRC is one of the major customers from Sudan and elsewhere requesting paid training services from the African Minerals and Geosciences Centre (AMGC). The SMRC has already paid US\$ 25,600 for training 32 professionals as following:-

- 12 Mineral Processing Engineers trained on a Process, Evaluation and Control for Mineral Processing Operations during 13-21 December 2021.
- 9 Geochemists trained on Spectrometric Methods of Analysis (22<sup>nd</sup> to 31<sup>st</sup> December 2021). They are already under training at AMGC in Dar es Salaam, Tanzania.
- 11 Geologists to be trained on Methods of Exploration for Geochemical Mapping.



## Training on Analysis of Gold and Other Base Metals



**Graduation Ceremony at AMGC for Eng. Carolina Dolores Mabumo Simbine who is a Chemical Engineer and Lab Manager at National Institute of Mines, Mozambique. Eng. Carolina participated a second course on Analysis of Gold and Other Base Metals from 29 November 2021 to 10 December 2021. The training was conducted by Chemical and Environmental Department of AMGC.**

## Training course on Open-source GIS, Best Practice in Resource Estimation and Image Processing



**Graduation Ceremony at AMGC for Mr. VLadimiro Joao Manhica and Ms. Fatima Roberto Chauque Nampete both from National Institute of Mines, Mozambique. The two trainees participated a training course on Open-source GIS, Best Practice in Resource Estimation and Image Processing from 22<sup>nd</sup> November 2021 to 17<sup>th</sup> December 2021. The training was conducted by Geo-information Department of AMGC.**

## Courtesy Visit to the Ministry of Minerals of Sudan



On 16<sup>th</sup> December 2021, the Director General of the African Minerals & Geosciences Centre (AMGC) paid a courtesy visit to the esteemed Ministry of Minerals of Sudan. It is a great pleasure to the management of the AMGC to have been working closely with the esteemed Ministry of Minerals of the Sudan and have the honor of meeting the following top dignitaries:-

- 1- H.E. Mr. Mohammed Bashir Abu Nommo, the Minister for Minerals and Member of the Governing Council (GC), the highest level of authority in the AMGC Policy Organs.
- 2- Dr. Mohammed Saied, the Under Secretary for Minerals and representative of the Sudan in the Standing Committee of Officials (SCO), which is comprised of the Principal/Permanent/Under Secretaries or equivalent officers in the Ministries of Mining of AMGC member states.
- 3- Eng. Uthman Hassan, the Director General for Geological Research Authority of the Sudan (GRAS). Eng. Uthman represents the Sudan in the AMGC Board of Directors (BoD) which is comprised of Director Generals and representatives of Geological Surveys of AMGC member states.
- 4- Mr. Ahmed Haron Eltom, the Executive Director - Office of the Minister for Minerals.

Sudan joined the African Minerals and Geosciences Centre (AMGC) in August 2010, chaired the AMGC 33<sup>rd</sup> and 39<sup>th</sup> Governing Councils and hosted AMGC Policy Organ Meetings in 2013 and 2019. The Sudan has been unreserved supporting the AMGC. Sincerely recognizes the outstanding commitments and obligations of the Government of Sudan to the Centre that enable it to implement its activities to its highest peak. Since 2015, the Sudan is timely fulfilling its financial commitment to the Centre and injecting additional funds through maximizing its benefits from paid training courses provided by the Centre for a total of 300 Sudanese professionals from Geological Research Authority of Sudan (GRAS), Sudanese Mineral Resources Company (SMRC), Ariab Mining Company (AMC) and Sudan's Gold Refinery, who have been trained in various on job training courses at the AMGC based in Dar es Salaam, Tanzania and one paid outreach training course held at the premises of GRAS in Khartoum.

## Courtesy Visit to the Embassy of the Federal Democratic Republic of Ethiopia in the Republic of Sudan



On 21 December 2021, the Director General Mr. Ibrahim Shaddad paid a courtesy visit to H.E. Mr. Yibeltal Aemero Alemu, the Ambassador Extraordinary & Plenipotentiary of Federal Republic of Ethiopia to the Republic of the Sudan. The courtesy meeting was in the esteemed office of H.E. the Ambassador at the Ethiopian Embassy in Khartoum, SUDAN. Mr. Shaddad expressed gratitude for the sustainable support by Ethiopia to the Centre. It is a great pleasure to the management of the AMGC to have been working closely with Excellences Ethiopian diplomats in the East African countries which are member states of AMGC. Ethiopia, one of the founding member states of the AMGC, has been unreservedly supporting the Centre since its establishment in 1977. Due to Ethiopia's significant contribution to the running of the AMGC as continental Centre of Excellence, Ethiopia shouldered more than three times hosting Policy Organ Meetings of the Centre as well as ten times the responsibility of

chairing the Governing Council (GC) of the Centre. Out of the six director generals managing the Centre since 1977, Ethiopia was elected twice to manage the Centre at the early beginning by Mr. Mahadi Shumboro during 1978-1986 and Mr. Ketema Tadesse during 2006-2015. Ethiopia has been chosen to be the Chair of the Board of Directors of AMGC since 1998. At the initial stage of the Centre, there were joint exploration and development projects where Ethiopia was participating like the project of Abumareh – Gizen Area Exploration programme of 1980's. At a later years the Centre's focus was realigned to capacity building to member states and regional projects were designed to support member states as well as analytical services being established to extend the provision of services made available to the member states including Ethiopia. Mr. Ibrahim Shaddad, Director General of AMGC met before Excellences Minister and Deputy Minister of Petroleum, Gas and Mines of Ethiopia as well as Director General and Chief Geologist of Geological Survey of Ethiopia (GSE). The meetings discussed maximization of Ethiopia benefit from AMGC and enjoy the 40% cost reduction from all mineral services provided by the Centre including training, analyses and consultancy. The Centre is in close correspondences with GSE to provide needed mineral services by the Centre. AMGC is ready to provide whatever Ethiopia needs in mineral services particularly outreach on outreach capacity building service through job training courses at GSE's premises in Addis Ababa on:

- Gemmology Basic Skills regarding gemstones identification and value addition covering important gemstone varieties which are found in Ethiopia, different techniques in gemstone identification, gemstone grading, pricing and marketing, synthetic, imitations and treated stones. It will be provided mainly to the professionals of the GSE, related institutions and community based groups in small scale mining areas who would later use the acquired knowledge to train others.
- modern laboratory management and laboratory quality management system through training in theory, operation & maintenance of Atomic Absorption Spectrophotometer (AAS), X-Ray Fluorescence (XRF) and the Inductive Coupled Plasma Optical Emission Spectrometry (ICP-OES).
- MoU will be signed between selected academic institute in Ethiopia and AMGC to go into partnership for a joint research and development, experience sharing, consultancy projects as well as capacity building



## Training Course on Process Evaluation and Control for Mineral Processing Operations



Graduation ceremony at AMGC for the twelve (12) Engineers from Sudanese Mineral Resources Company (SMRC), Sudan following a successful completion of a two-weeks training course on “Process Evaluation and Control for Mineral Processing Operations” which started on 13<sup>th</sup> December 2021. The trainees were; Mr. MISBAH KHALIL ELGIDAIL ARBAIN, Mr. MOHAMED MUSA IBRAHIM MAHIL, Mr. OMER FADUL ABDALLA MOHAMED, Mr. ALSHEIKH AHMED ZAINALABDEEN MOHAMEDZAIN, Mr. TALHA IBRAHIM MOHAMMED BARAKA, Mr. MOHAMMED IBRAHIM ALAGAB ADAM, Mr. AKRM MOHAMMED EDRIS MOHAMMED, Mr. ABDALRAHMAN ALHAG BASHIR ABDALRAHMAN, Mr. MUATAZ ALI HAMED OMER, Mr. MOHAMMED ALFATIH ALHADI ALBSHEER, Mr. ABUOBIEDA AHMED ABBKER HAMAD, Mr. NAZAR HAIDER MOHAMMED ELHASSAN ELHUSSAIN. The training was conducted by Mineral Processing and Small-scale Mining Department of AMGC.

## Courtesy Visit to RIDA Group Head Office in Khartoum, Sudan



On 23<sup>rd</sup> December 2021, Mr. Ibrahim Shaddad, Director General of the African Minerals & Geosciences Centre (AMGC), paid a courtesy visit to Rida Group Head Office in Khartoum North, Sudan. RIDA Group is one of the leading corporations in the mining industry of the Sudan. Fruitful discussions were held with Madam Marwa Abdelsalam, the Director of Mine Needs and Mr. Ali Abobakar Zoelnoun, the Director of Business Development attended by Mr. Wael Ahmed, the senior geologist and Mr. Hassan Khogali, the senior database geologist. The Rida Group is expected to resume benefiting from all mineral services provided by AMGC including analyses, consultancy and capacity building service through on job training courses at AMGC's premises in Dar es Salaam, Tanzania. MoU will be signed with the Mine Needs Directorate of the Rida Group for experience sharing, consultancy as well as capacity building. The Rida Group has been founded since March 1993 and started mining at blue Nile Region, Sudan in chromite and then entered to gold exploration and mining in Block 23 at River Nile state, Sudan.

Currently the Group works in mining of gold, basalt, chrome and various other industrial minerals across different stages such as exploration, development and production in four countries (Sudan, Eritrea, Guinea and Morocco). Moreover, Rida Group has strong vision and is planning to construct an all-inclusive competitive mining company with broad portfolio in whole mining value chain and growing successfully all over Africa.



## **Courtesy Visit to Ariab Mining Company Ltd Head Office in Khartoum, Sudan**



On 23<sup>rd</sup> December 2021, Mr. Ibrahim Shaddad, Director General of the African Minerals & Geosciences Centre (AMGC), paid a courtesy visit to Ariab Mining Company Ltd. (A.M.C) Head Office in Khartoum, Sudan. The Sudan Government affiliated A.M.C is the owner of Hassai gold mine and the leading gold mining company in the Sudan. Fruitful discussions were held with Eng. Elsadig Ibrahim, the Director General of A.M.C and his senior executive assistants.

On behalf of the Ministry of Minerals, Sudan A.M.C pays timely annual subscription to AMGC. The management of the Centre expressed appreciation and gratitude to the management of A.M.C in regularly supporting AMGC by the sustainable and timely fulfilment of the Sudan financial commitments to the Centre enabling it to execute its activities.

The A.M.C will resume soon benefiting from mineral services provided by AMGC particularly capacity building service through on job training courses at AMGC's premises in Dar es Salaam, Tanzania. The Hassai gold mine is an open pit mine located in the hilly desert of the Red Sea in NE. Sudan, approximately 500 km from Port Sudan. It has been in operation since 1992, with 12 open pits developed over the years to extract high-grade oxide ore.

The mine contains 14.09mt of proven and probable reserves graded at 2.4g/t Au. The net resources in the measured and indicated category have been estimated at 16.06mt graded at 2.77g/t Au. Inferred resources amount to 4.3mt grading at 2.77g/t Au. The ore mined comes from a gold-enriched upper zone of a much larger mineralized system. The main sources of gold are the VMS deposits developed over two phases. In the first phase, a carbon-in-leach (CIL) plant was constructed to treat the open pit resources and the collected tailings on the property. The second phase added a flotation plant to process the VMS ore. The development capital estimated at \$191.2m. The mine has produced more than 2.3 million ounces (Moz) of gold. La Mancha Resources, through its subsidiary, owned 40% of the mine. The remaining was held by Ariab Mining Company, who is also the operator. La Mancha Resources, through its subsidiary sold its 44% stake to Egyptian billionaire Naguib Sawiris, then Sudan has taken full ownership of Ariab Mining Company after purchasing the 44% stake from Egyptian billionaire Naguib Sawiris in a \$100 million deal.

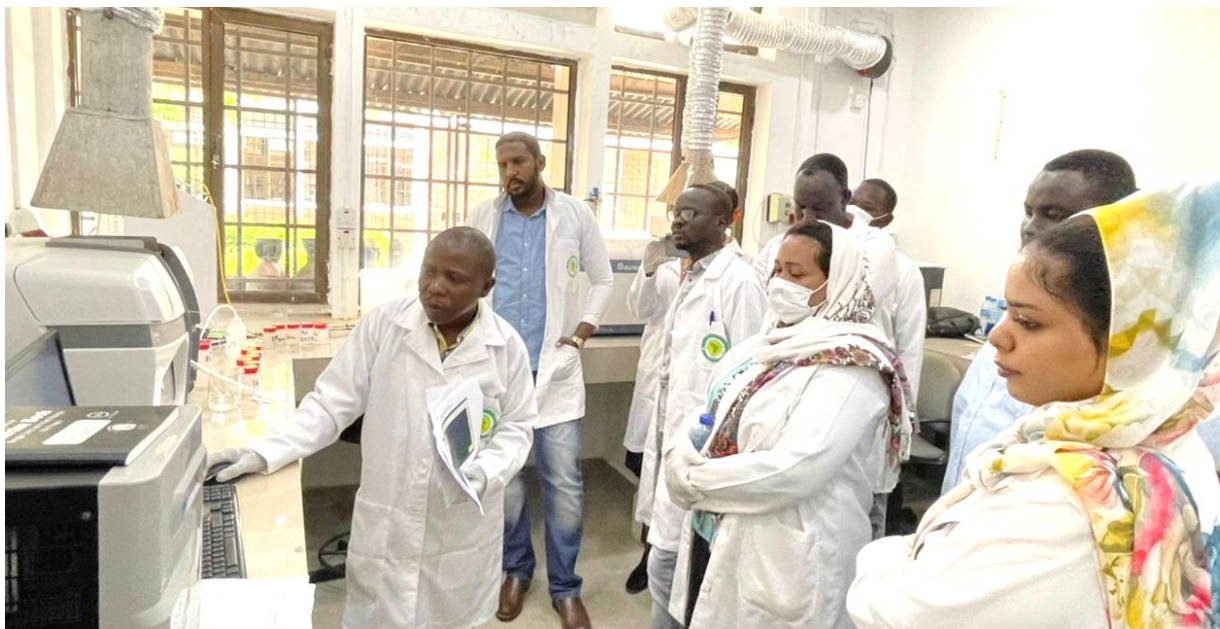


## Training Course on Spectrometric Methods of Analysis



Graduation ceremony at African Minerals and Geosciences Centre (AMGC) for nine (09) scientists from Sudanese Mineral Resource Company (SMRC), Sudan who were participating in a two-weeks training course on “Spectrometric Methods of Analysis” from 22 - 31 December 2021. Mr. YASIR MOHAMMEDOSMAN ABAKAR IBRAHIEM, Ms. HIBA HASHIM ELWASILA AHMED, Mr. AHMED DAFFALLA AWADALLA GISMALLA, Mr. ABBAS ALTIGANI ABBAS AGEED, Mr. MAAZ ELTEGANI MUSA ELTAHIR, Ms. AMANI ALI FARAH EDRIES, Mr. ABDALHALEEM MUBARAK ABDALHALEEM ABDOON, Mr. MOAWIA YAGOUB DAHEYA MAKEEN, Ms. YARA HUNUD ABIA KADOUF. The training was conducted by Chemical and Environmental Department of AMGC.

## **Training Course on Spectrometric Methods of Analysis**



**Trainees from Sudanese Mineral Resource Company (SMRC), Sudan receiving training on XplorAA AAS.**

## **A Courtesy Visit to the Sudan Embassy in Tanzania**



**Invited by H.E. Mr. Asm Mustafa, the Charge' affairs a.i. of the Sudan Embassy in Dar es Salaam, Tanzania. A group of Sudanese chemists paid a courtesy visit to the embassy. The Sudanese chemists, who are staff of the Sudanese Mineral Resources Company Ltd. (SMRC) participated a training course in the African Minerals and Geosciences Centre (AMGC) based in Dar es Salaam, Tanzania.**

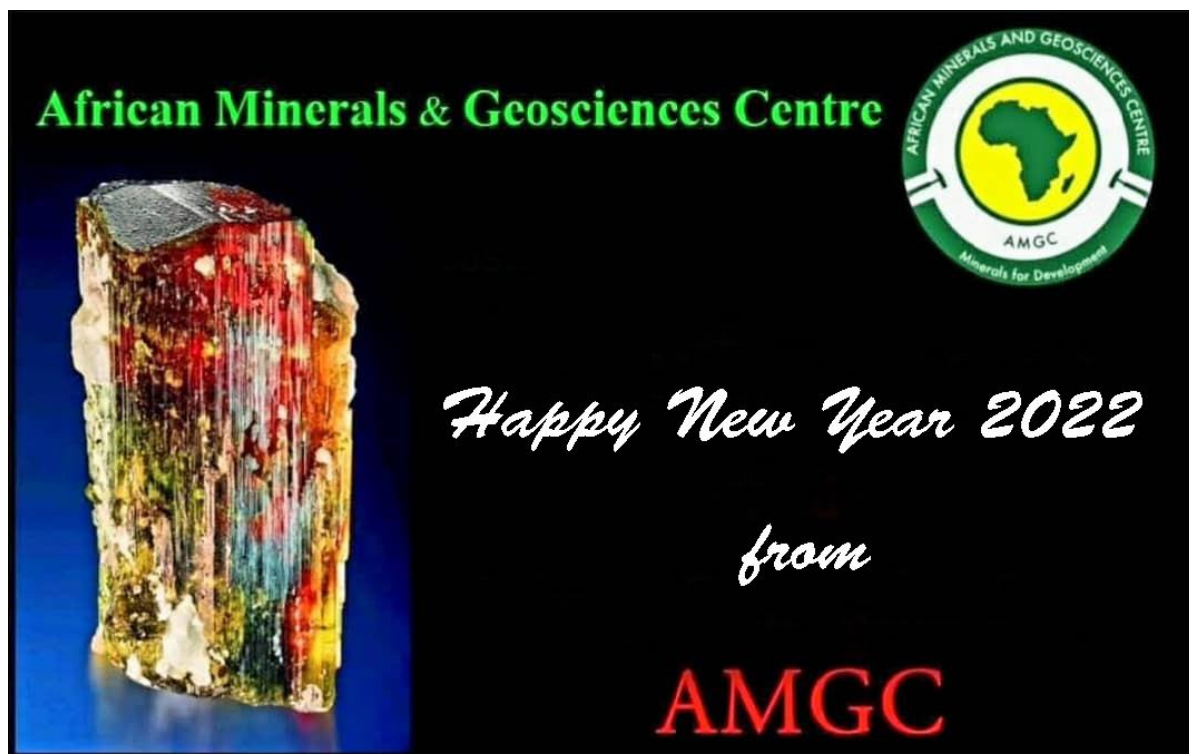


## Celebration of Honouring Mining Companies



On 30<sup>th</sup> December 2021 AMGC Director General invited by H.E. Minister of Minerals, Sudan and Management of Sudanese Mineral Resources Company (SMRC), the Management of the African Minerals and Geosciences Centre (AMGC) participated in celebration of honouring mining companies that have fulfilled their gold production commitment for 2021.

## New Year Wishes



## LIST OF TRAINING COURSES

“Tanzanian government has waived all restrictions and the COVID-19 Free Certificate will not be required anymore, but travelers will be subject to enhanced screening for COVID-19 infection. There will not be Mandatory Quarantine upon arrival.” AMGC is happy to inform all that it has started online training on some of the courses it provides. 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	Onsite	Online	Duration	Fee
<b>Chemical and Environmental Services</b>				
Spectrometric Methods of Analysis.	✓		2 Weeks	\$800
Analysis of Gold and Other Base Metals	✓		2 Weeks	\$800
<b>Quality Management</b>				
Laboratory Certification and Accreditation	✓	✓	2 Weeks	\$1,500
Modern Laboratory Management Methods	✓	✓	2 Weeks	\$800
Quality Control and Quality Assurance in Laboratories	✓	✓	2 Weeks	\$1,500
<b>Mineralogy, Petrology and Gemmology Services</b>				
Mineralogical and Petrological Sample Preparation and Analytical Techniques	✓		2 Weeks	\$800
Gemstone Identification Techniques	✓		1 Week	\$400
Gemstone Value Addition Techniques	✓		2 Weeks	\$800
Usage of Benchtop X-ray Diffraction (XRD)	✓		2 Weeks	\$800
Gemstone formation, mode of occurrences and mining methods	✓		2 Weeks	\$800
<b>Industrial Minerals Application Services</b>				
Pottery for Beginners	✓		2 Weeks	\$800
Mould Making	✓		2 Weeks	\$800
Forming Techniques	✓		2 Weeks	\$800
Decorations in Pottery and Ceramics	✓		2 Weeks	\$800
Bricks & Tiles Manufacturing [Clays]	✓		2 Weeks	\$800
Glaze Formulation	✓		2 Weeks	\$800
Body Composition Formulation	✓		2 Weeks	\$800



## Online Training Courses

<b>Mineral Processing and Small-scale Mining Services</b>				
Practical Mineral Processing and The Basic Mineral Processing Flowsheet	✓	✓	2 Weeks	\$800
Sampling and Sample Preparation for Laboratory Testing	✓		2 Week	\$800
Artisanal and Small Scale Mining Activities	✓		2 Weeks	\$800
Techniques of Gold Cyanidation	✓		1 Week	\$400
Mineral Economics	✓		2 Weeks	\$800
Metallurgical Balance and Process Evaluation	✓		2 Weeks	\$800
Extractive Metallurgy – Metallic Ore Deposits, Metal Extraction and Purification Processes	✓		2 Weeks	\$800
Environmental Management in Mining	✓	✓	1 Week	\$400
<b>Geo-information Services</b>				
GIS and Remote Sensing for Mineral Exploration and Geological Mapping	✓	✓	2 weeks	\$800
Data Integration and Mineral Targeting	✓	✓	2 weeks	\$800
Geostatistics Application in Geology	✓	✓	2 weeks	\$800
Web mapping	✓	✓	2 weeks	\$800
Geohazards	✓	✓	1 week	\$400
Open Source GIS	✓	✓	2 weeks	\$800
Image Processing using ERDAS Imagine	✓	✓	2 weeks	\$800
Geoheritage / Geoparks	✓		On Request	
Geo-safari – Geo-traverse across the Pan-African terrains: Tanzanian Craton, Greenstone belt, East African Rift Valley, the Kibaran and Mozambique belts.	✓		On Request	



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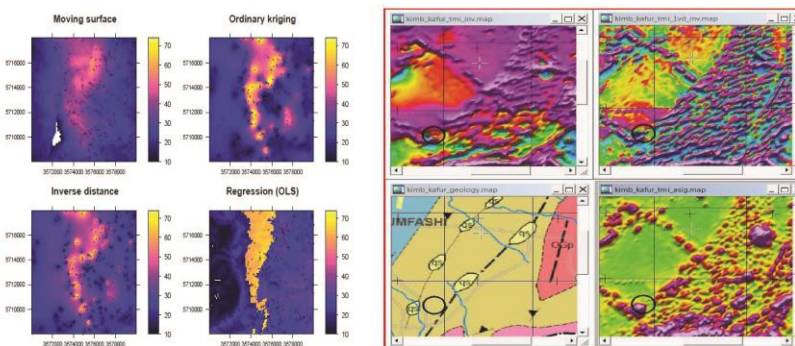
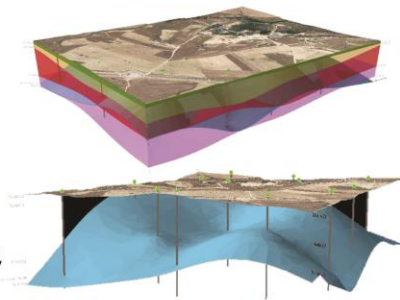
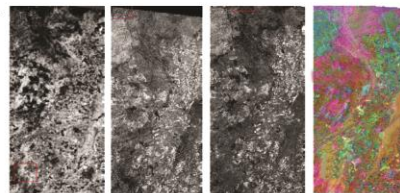


## GEO-INFORMATION SERVICES

- Geo-science Data Processing and Management: provision of training and consultancy services on the utilisation of advanced GIS and data processing techniques for mineral application
- Dissemination and Promotion of Georesources information of the Member Countries to the public through internet

### TRAINING AND CAPACITY BUILDING IN GEO-INFORMATION MANAGEMENT

- GIS and Remote Sensing for Mineral Exploration and Geological Mapping
- Geophysical and Geochemical Data Processing and Interpretation
- Mineral Exploration and Resource /Reserve Estimation
- Data Integration and Mineral Targeting
- Geostatistics Application in Geology
- Web mapping
- Geohazards
- Geoheritage sites of Tanzania
- Geo-safari – Geo-traverse across the Pan-African terrains: Tanzanian Craton, Greenstone belt, East African Rift Valley, the Kibaran and Mozambique belts.



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