

# MINING & TRADE *Review*

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Mining & Business News that Matter

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# Massive for Masi

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**How the Malawi gov't. might fail to secure a fair share of natural resource wealth?**

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- Experts expect action from new mines minister
- Enactment of new mines law a priority

By Chiku Jere

Players in the minerals sector say there is need for the new Minister of Natural Resources, Energy and Mining, Aggrey Masi MP, to remain focused and accommodate advice from experts if the country is to effectively implement reforms that will propel the budding sector to become one of the major contributors to the country's agriculture-reliant economy.

The stakeholders have voiced their views in the wake of State President Peter Mutharika's appointment of the Lilongwe City West MP as Minister responsible for mines replacing Bright Msaka.

In an exclusive interview, President of Malawi Chamber of Mines and Energy Dean Lungu urged the minister to keep the door to his office open in order to take as much sound advice from experts of the field as he can.

Lungu said that the Chamber and its members are more than willing to engage the minister and provide advice wherever and whenever necessary.

"The minister needs to embrace an open door policy. We believe that he will understand that this is the time to speed up our concerted efforts and trigger the mining industry into vibrancy, turning it into a major contributor to the country's economy," he said.

He said the government needs to involve the local private mining firms in pursuing its reforms to uplift the country's mineral sector, which is still in its infancy.

cont...on page 3 Masi facing the media at EITI launch



**Malawi launches maiden EITI Report**

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**RAKGAS to start geological mapping on oil blocks**

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Lungu: We need decisiveness



Munthali: There has been coordination



Chatupa: We lack consistence



Dulanya: Players need to complement

**...from front page** “There is need to promote engagement and cooperation, and begin to decisively implement existing mining projects. Let the minister call us for round table discussions now and then.”

“It is unfortunate that we, members of the private sector, only engage the minister when we are looking for licenses. The minute we get the licenses, we run away and stay disengaged. I believe that we should stay in touch and move together; updating each other on every development,” he said.

But Board Chairperson for Natural Resources Justice Network (NRJN) Kossam Jomo Munthali said it was encouraging to note that recently there has been engagement and coordination between government officials and the civil society which has created an atmosphere of understanding between the two sides.

“What the new minister needs to do is consolidate and strengthen this relationship. As you can see, officials from government now understand what CSO engagement is all about in terms of providing critical and constructive input,” he said.

He said CSOs have always been misunderstood as a difficult group of people, which he said they are not.

“As CSOs we realise that our role is to support government in providing checks and balances, which other people may term as the art of providing different perspectives and different school of thoughts,” he said.

Munthali said embracing and perpetuating mutual cooperation, understanding and respect among players in the sector is the only way to advance mutual goal, which is to maximize benefits from natural resource endowment to all Malawians.

He pleaded with the minister to push for the tabling and passing of the Revised Mines and Minerals Bill, a long awaited legal framework that the top activist said would address many human rights issues affecting communities from mining areas as well as ensuring maximized benefits of the country’s natural resources to all.

Seasoned consulting geologist James Chatupa of Cratons Resources emphasized on the need for consistency as regards implementation of projects.

He said he finds it frustrating to note that the current laws that govern the mining sector are capable of providing necessary guidelines for exploration and mining operations, but instead, the country is bogged down in arguments on whether it should continue operating under the existing legal instruments while the amendment process is going on or wait for new laws.

In his opinion, Chatupa said it was better to allow the business in the sector continue so that progress is made, and incorporate the amended law along the way.

“But it seems that on one hand, Malawi wants to make progress, but on another the country is pulling itself

backwards,” said Chatupa.

He said would-be geoscientists that are being trained at Malawi University of Science and Technology (MUST) will need a mining industry with full of opportunities to get employed and that will not be possible with the current indecisiveness on the part of government.

“For instance, the Kanyika Niobium project; the company was granted a mining licence and government managed to reach a development agreement with the investor, but till now no go-ahead has been given.”

“The new minister has to look into issues like these and facilitate quick decision making, if we are to move forward in the sector,” he said.

On the part of academia, Dr. Zuze Dulanya head of Geological and Earth Sciences department at Chancellor College urged the new minister to take a holistic approach in addressing problems rocking the mineral sector.

He said in as much as the country needs to groom geoscientists, there is need to tackle issues such as fostering conducive environment of doing business since the country is ranked lowly in as far as attracting investment is concerned due to, among other things, bureaucratic business registering process.

Dulanya said from a research and teaching perspective, there are things that they would have loved done, to support implementation of the newly revised and approved geosciences curriculum.

“The curriculum alone without supporting infrastructure

and equipment will not deliver the much desired goals, so there’s need for the minister to coordinate provision of up to date teaching and research facilities to facilitate the change the curriculum promises to bring. At the moment, we are far from it,” he said.

The academician also backed the notion of various players in the sector complementing each other and not competing.

“The work of academicians and government departments such as Geological Survey and Mines Department should be seen as complementing each others’ efforts. At the moment, we are more of competitors. This has huge implications on the progress we make in the sector and beyond,” said Dulanya, quickly adding that these were his personal views and he could be wrong.

In an interview with *Mining & Trade Review*, Masi agreed on the need to coordinate mining sector stakeholder efforts in order to turn the dream of having a vibrant and economically reliable mining industry into reality.

He acknowledged that the passing of the new mining law remains pertinent in this respect and promised to do everything possible to expedite its enactment, adding that the bill will probably be tabled in the next sitting of parliament.

He however made an appeal to Corporate Entities, Civil Society Organisations and those who matter in the sector to embrace reforms that government is implementing as well as come forth with progressive ideas that will lead to the growth of the sector



By James Kazembe



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**EDITORIAL**



BY MARCEL CHIMWALA, PUBLISHING EDITOR

**Grey areas for Masi, bright spots for Msaka. Congratulations!**

We join stakeholders in the extractives sector in welcoming Lilongwe City West Member of Parliament, Mr. Aggrey Masi, as the new Minister of Natural Resources, Energy and Mining.

As the stakeholders are quoted in our main article, Mr. Masi, who does not have any experience in this job, has a massive role to play in addressing pertinent issues at the Ministry.

In the mining sector, as the Minister himself acknowledges, there is this outstanding issue of tabling the Revised Mines and Minerals Bill which is rotting at Capital Hill despite strong advocacy from the civil society to see it passed.

All along, Malawians have been speaking loudly that only a privileged few are benefitting from mining activities in the country because of lack of adequate legal framework as the country continues to use the Mines and Minerals Act (1981) which is deemed archaic and outdated.

The Revised Mines and Minerals Bill, among other things, has a provision for companies to sign community development agreements so certainly when this law is enacted, it will be a solace to communities who feel they are not adequately benefitting from the natural resources that are being depleted in their areas.

In essence, the issue of the bill needs to be urgently addressed, Mr. Masi, because communities, who are angry with the delays in enacting the new law will not be appeased with any political rhetoric. They need action!

The other grey area that Mr. Masi has to look at is this issue of government indecisiveness on handling issues to do with mining investment.

For instance, in 2014 when Peter Mutharika ascended to power, the Ministry suspended oil exploration licences saying they were reviewing terms for the licences and after over a year, the suspension was lifted.

We feel blundering of that nature is a disincentive to investment, which the new Minister must check against as it certainly has a negative impact on exploration schedules and dents Malawi's image as an investment destination of choice.

The other significant issue which the Minister must address is that of corruption and greed which is said to be rife not only in his Ministry but in the whole government set up.

For example, there is the issue of the Kangankunde Rare Earth Project in Balaka, which is one of the most promising mining ventures but it is failing to take off because of poor handling of the investment by greedy politicians which has resulted in legal wrangling between the original tenement holder whose licence was not renewed and the government.

We hope the new Minister will not want to be in the group of such greedy politicians and with the strides that Malawi has made in joining the Extractives Industry Transparency Initiative (EITI), issues of corruption on mining issues will be an occurrence of the past.

As Consulting Geologist, James Chatupa, is quoted in our main article, we also hope to see Mr. Masi continuing from where his predecessor left on issues at the Ministry. We do not expect renegotiation of licences, suspensions and other political actions that will disturb progress on mining projects.

All in all, we congratulate Mr. Masi for the new crown and his predecessor Mr. Msaka who is now Minister of Education. Your open door policy, Mr. Msaka was an inspiration and we hope Mr. Masi will follow suit.

**EYE ON MALAWI'S EXTRACTIVES**

With Rachel Etter Phoya



**How the Malawi government might fail to secure a fair share of natural resource wealth?**

'Is the deal a good deal?' is a question often asked about the agreement signed between Paladin and the government for Kayelekera uranium mine. Reductions in royalty rates and other tax incentives have come under public scrutiny, while the company and government argue that these were necessary for the project to go ahead.

In Malawi, negotiating tax terms has been the norm to date for mining and petroleum contracts. The amendments to the Taxation Act passed last year address this for solid minerals by fixing tax rates. This was done in an effort to protect future potential revenues from the sector. However, reduced tax rates are not the only way a government can lose revenue. Revenue can be lost through erosion of the tax base against which tax rates are applied.

A framework to assess all kinds of risks to government revenue is set out in a new study by Resource for Development. It looks at both the loss of revenue due to the tax rates for a particular project and the loss of revenue due to the tax base against which revenue is assessed. It argues that there are clear patterns in how companies try to reduce their payments to government.

The main pathways through which government lose revenues from the extractive sector are described briefly below:

**1) Tax rates and reductions in revenue**

• *Tax breaks:* To promote investment, governments often award tax breaks, such as allowing accelerated depreciation or tax exemptions, and these can be in place for the lifespan of the project due to stabilisation clauses added into agreements.

• *Treaty shopping:* Companies may also be able to reduce tax payments through making use of double taxation agreements (an act sometimes referred to as 'treaty shopping'). ActionAid released 'An Extractive Affair' in 2015 on how Paladin purportedly used a tax treaty between Malawi and the Netherlands to route 'its loan from Malawi to Australia via the Netherlands' and 'lowered its withholding taxes in Malawi by more than US\$27.5 million over six years'.

**2) Tax base erosion and reductions in revenue**

Eroding the tax base is done in mainly two ways – through under-reporting project revenues and inflating costs.

• *Under-reporting project revenues:* To minimise the tax burden, companies often will shift profits between higher tax jurisdictions to lower ones through a large network of subsidiaries. This can be done through under-reporting production or not reporting by-products or reducing the sales price through intra-firm sales agreements, excessive marketing fees, and forward sales.

• *Over-reporting project costs:* In the same way, companies may try to inflate costs or to shift costs into the highly taxed producing countries to reduce the tax base and therefore taxes owed to government. This can be done in a number of ways including through claiming ineligible costs. A private Chilean iodine, potassium and lithium company, Sociedad Quimica y Minera de Chile, a few years ago encouraged companies to submit invoices even for services not provided and the money from the paid invoices was mostly transferred to politicians. In 2015, the company submitted amendments to its tax returns for a 5-year period and paid taxes and interest totalling approximately USD 7m. Companies can also inflate the prices of procured goods and services to increase costs. The Indonesian government has abandoned cost recovery in its production sharing contracts, even though it pioneered the production sharing fiscal regime in the 1960s, as it was unable to curb inflating cost recovery claims. Intra-firm financing for capital investments also poses a risk to government revenues where interest rates may not be 'based on arm's length 'market' prices but are rather designed to inflate costs that are deductible against taxable income'. Australia's tax office recently won a case in which two Chevron subsidiaries used abusive debt financing and as a result, Chevron owed AUD 322 million in back taxes and penalties.

To address these challenges, the report makes a number of recommendations. First, the government should limit stabilisation and carefully analyse double taxation treaties. In order to protect the tax base, monitoring of the quantity and quality of commodity produced is essential. Establishing a reference price based on international benchmarks, where these exist, for the calculation of government revenues is also a useful tool. To control project costs claimed by a company, risk-based audits and anti-avoidance measures at the national level are important, such as setting caps on certain types of expenditures. It also goes without saying that strengthening tax administration is vital, but an imbalance in expertise between companies and government 'will remain, for the foreseeable future, between the lawyers and accountants'. And it may be wiser to change the balance between profit-based and production-based taxes to the latter, which have fewer associated revenue risks. Finally, project-level revenue analysis, using public disclosures, is the most effective way to understand payment to government through 'taking into account project production and project costs, the sale value of the commodity and the applicable fiscal terms'.

The report is a reminder for the government to look beyond revisions to tax rates to ways to address the erosion of the tax base because 'tax rates are meaningless in the absence of the tax base against which they are assessed. Put simply, whether the corporate income tax is 25 or 35 percent is irrelevant if companies report no taxable income'.

Take a look at 'Many ways to lose a billion: How government fail to secure a fair share of natural resource wealth': <http://www.res4dev.com/many-ways-to-lose-a-billion/>

		Risks to Revenues
Tax Rates	TAX BREAKS	<b>Tax Incentives</b> • Accelerated depreciation <b>Tax Holidays</b> • Corporate tax exemptions
	TREATY SHOPPING	<b>Withholding Taxes</b> • Dividend payments • Interest payments <b>Capital Gains Tax</b>
	UNDER-REPORTED PROJECT REVENUES	<b>Production Volumes</b> • Under-reporting production • Non-reporting of by-products  <b>Sale Price</b> • Intra-firm sales agreements • Excessive marketing fees • Forward sales / price hedging
	OVER-REPORTED PROJECT COSTS	<b>Ineligible Costs</b> • Falsified or duplicate invoices <b>Misallocated Costs</b> <b>Inflated Goods and Services</b> • Over-priced used machinery • Transport (rail, ports, pipelines) • Management fees  <b>Debt Financing</b> • Thin capitalization • Abusive interest rates

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# Malawi launches n

...Initiative to ensure transparency and accountability in extractives sector ..



Deginitaries pose for a group photo after the launch

By Chiku Jere

Malawi has made a giant stride towards adherence to the Extractive Industries Transparency Initiative (EITI) by officially launching its first ever EITI report signaling the country's unwavering commitment in the implementation of the initiative, which is the global transparency and accountability standard for natural resources management and governance.

The launching ceremony, held at Bingu International Convention Centre (BICC) and presided over by the new Minister of Natural Resources, Energy and Mining, Honourable Aggrey Masi MP, follows the recent submission of the report to EITI International Secretariat in Oslo, Norway for assessment as the country guns for EITI 'compliant status'.

A country attains EITI 'compliant status' upon adherence to a set of principles that compels resource-rich countries to prudently manage their natural resources for inclusive benefit among its citizenry through economic growth, sustainable development and reduction of poverty.

The 99-page report covers activities that occurred during the period between July 1, 2014 and June 30, 2015 in three sectors of Malawi's extractives industry namely; mining, oil and gas, and forestry and details reconciliation of revenues realised from the extractive industries both by Corporate Entities and Government.

The aim of the report is to strengthen the understanding of the level of contributions of the extractive sector to the economic and social development of Malawi in order to improve transparency and good governance in all components of the extractive industry value chain.

In his speech, Masi commended President Peter Mutharika for demonstrating 'great' political commitment


for Malawi to join the EITI by making a public declaration in his maiden state of the nation address in 2014 which culminated into the appointment of Minister of Finance Goodall Gondwe as EITI Champion.

"This bold decision by the president through a public proclamation in his first state of the nation address entails the country's commitment to transparency and accountability under his leadership," he said.

He also commended Malawi's EITI Multi Stakeholder Group (MSG) for 'much progress' registered in pursuing the EITI process ever since the State President made the commitment.

Masi hailed the group for managing to develop an effective work plan for implementing the initiative which has led to milestone achievements, among them, the successful lodging of an application for EITI candidature status for Malawi and setting up of a functional Secretariat.

The minister also singled out the establishment of a



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# Malawi's maiden EITI Report

...This will minimize loss of revenue from the industry - Minister



**Hon. Masi**

Masi said Government's adherence to EITI, coupled with the enactment of the Access to Information Legislation, is a clear demonstration that Malawi is committed to ensuring transparency and accountability in the extractive industry.

The minister also appreciated assistance from development partners including German, Britain and the World Bank, who have been providing financial and technical support towards the implementation of the EITI process.

German Deputy Ambassador to Malawi Thoms



**Stagner: German Deputy Ambassador**

"So it is pleasing to note that Malawi chose the path of committing to EITI which will ensure transparency and accountability in the management of natural resources, subsequently averting all the injustices," he said.

He said he was happy that the German through GIZ and the UK through Department for International Development (DfID) were able to support Malawi's EITI process and that the two countries have been promoting the same in other countries across the world.



**The minister (centre) flanked by Natural Resources Justice Network chairperson Kossam Munthali (left) and president of Malawi Chamber of Mines and Energy Dean Lungu (right), cutting a ribbon to officially launch MWEITI report**

Stagner congratulated Malawi for what he said is a great achievement for the country.

He pointed out that natural resources offer opportunities for social, political and economic development of a country, but when there is poor governance, the same resources become a source of corruption, environmental pollution or social conflict, ending up with the poor not benefiting from the resources generated.

Ironically, he said, Malawi is ahead of German when it comes to EITI implementation as German only got an official recognition as EITI 'candidate' in February 2016 and is yet to produce its first report.

Patronage at the event included a diverse of high level representation from government, the private sector, civil society, traditional leaders and mining communities ■

clear roadmap for facilitating beneficial ownership disclosure as another very important facet of the EITI process, which will ensure that there is no loss of revenue by government from the extractive industries through transfer pricing, money laundering and other financial crimes.

"In most cases, these unfortunate activities are done by beneficial owners of companies who are usually not known and cannot be traced. In some extreme cases, these invisible owners would also finance terrorist activities, thereby jeopardizing the security of a country. I have no doubt that, if the beneficial ownership roadmap is fully implemented it would help curb such malpractices and reduce potential harmful effects on Malawi," he said.


The minister said another milestone on the EITI process worth commending is the promulgation of the Open Data Policy which obliges information holders in the extractive industry to make information accessible.

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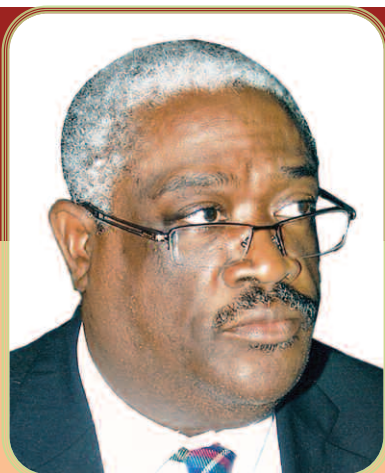
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# TECHNICAL FILE

by Grain Wyson Phillip Malunga FIMMM  
Mining and Environmental Management Expert

## An Economic Window Through Malawi's Countrywide Airborne Geophysical Survey

### Abstract

Airborne geophysical survey provides an effective and cost efficient way of undertaking reconnaissance surveys over large areas. Detailed data is thereafter collected over localised areas. The data improves discovery of underground structures such as archaeological artefacts, extended geological boundaries and is used to target the discovery of mineral deposits. Recent airborne geophysical survey (2013 – 2014) will help improve understanding of the geology of Malawi and speed up discovery of mineral deposits including oil and gas. The paper describes common geophysical methods that are used and how interpretation of hidden treasures is made.

### Introduction

Geophysical surveying is a subsurface characterisation of geological features and archaeological artefacts detected by geophysical instruments. Geophysical instruments can detect buried features when their physical properties contrast measurably with their surroundings. Many of these technologies are traditionally used for exploration of economic materials such as metals and hydrocarbons, and for the search of ground water through understanding of geology and geological structures. Geophysical techniques are non-destructive, efficient, combine various detections for comprehensive analysis and they are cost effective.

Methods used in geophysics include Magnetics, Gravity, radiometrics, Electromagnetics, Ground penetrating radar (GPR), Resistivity, Seismic refraction (and / or near surface seismic reflection), Spontaneous potential (or "SP") and Induced polarization (or "IP"). Recent airborne geophysical survey (which was termed "kauniuni") used magnetics, Gravity and Radiometrics.

### Magnetic Method

The magnetic method detect small variations in magnetic mineralogy of minerals such as magnetic iron, pyrrhotite and titanomagnetite. In most cases, total-magnetic field data are acquired. Magnetic anomalies may be related to primary igneous or sedimentary processes that establish the magnetic mineralogy, or they may be related to secondary alteration that either introduces or removes magnetic minerals (B. Hoover et. al, 2004). The method may help to detect Banded Iron Formation. Figure 1 shows magnetic anomaly on Mlindi Structure which is composed of Metapyroxenite, vermiculite and biotitite.

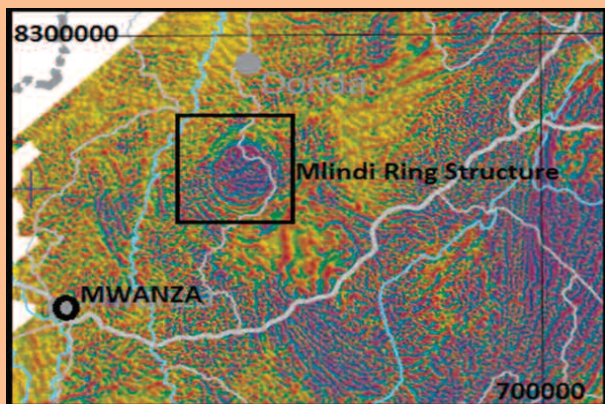


Figure 1: Mlindi Ring Structure Magnetic Anomaly

Recent airborne surveys have confirmed the existence of a North-South trending dyke (Mchinji Dyke) crossing Malawi from Mchinji to Chitipa. A portion of it is shown cutting across metagabbro dykes near Mkanda (Figure 2).

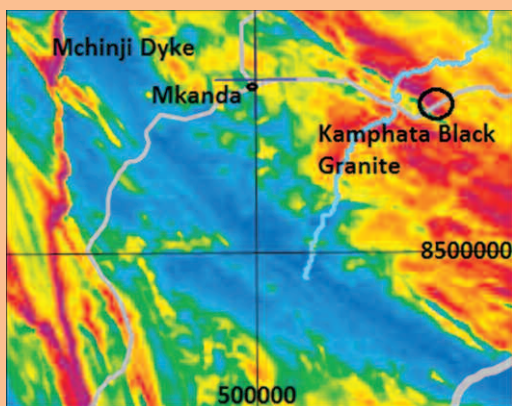


Figure 2: Mchinji Dyke

### Gravity Methods

Gravity measurements define anomalous density within the Earth. Gravity anomalies are computed by subtracting a regional field from the measured field, which result in gravitational anomalies that correlate with source body density variations (B. Hoover et. al, 2004). Deposits of high-density, such as chromite and hematite yield gravity highs while deposits of low-density, such as weathered kimberlite or deep sedimentary formation (Figure 3), yield gravity lows.

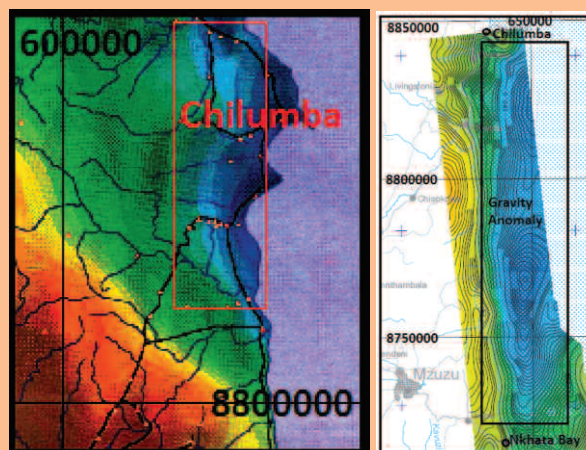


Figure 3: Chilumba Low Gravity Anomaly, 2000 and 2014 Respectively

### Radiometric Methods

Scintillometry or gamma-rays are used to identify the presence of the natural radioelements of potassium, uranium, and thorium. Total count and individual radioelements can be measured to define their abundance. Gamma-ray methods are commonly used in uranium exploration because they provide direct detection. Thorium content, like uranium content, tends to increase in felsic rocks,

such as in granitic centres or alkali rocks. Figure 4 shows radiometric anomaly over Chikangawa nepheline syenite. This is dominated by high Uranium anomaly.

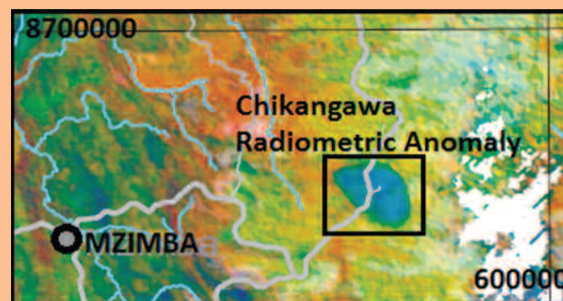


Figure 4: Chikangawa Radiometric Anomaly

Table 1: Summary of Airborne Geophysical Methods undertaken in "Kauniuni 2014"

AIRBORNE METHOD	MEASUREMENT	UNITS	PHYSICAL PROPERTY	SOURCE OF ANOMALY	DEPTH
Gravity	Total Attraction of Earth's Gravity Field	Gravity Unit (0.1 mGal)	Density	Rock Density Differentiation	All
Magnetic	Total Attraction of Earth's magnetic field	Nanotesla (nT)	Magnetic susceptibility	Magnetic contrast	Surface to Curie isotherm
Radiometry	Rate of gamma ray photons received	% K and ppm equiv U and Th	Quantity of K+U+Th	K+U+Th contrasts in Earth	Upper 50 cm

### Social Economic Issues

Interesting geological features will be discovered and reaffirmed. These features will reveal new geology and lead to possibility of discovering economic minerals. Further work will be required to carry out ground follow up in order to undertake ground geophysics, geological mapping and exploration drilling to confirm mineralisation. There will be a long lead time to mineral extraction and employment opportunities will be growing to support these activities.

A national consensus and strong legislation on how to undertake the above activities are required. Efficient communication mechanisms required to disseminate information relating to how mineral resource development is undertaken right from ownership of mineral resources, mineral resource rent, distribution and sharing of wealth generated from the mining sector.

Proper communication and management of people's expectation, including political and civil leadership, will lead to creation of positive signals to investors. Mining investors are not rich but are a special group of investors who take risks mobilising financial and technical resources through share capital and loans.

Until an economic mineral deposit is discovered and developed will this special group be in a position to meaningfully get involved in negotiating community development agreements that bring sustainable development.

### References

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2. Hoover B., Douglas P. Klein and Campbell D. C., 1995, Geophysical methods in exploration and mineral environmental investigations: U.S. Geological Survey Open-file Report, CHAP3, pp 19 - 27 ■



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# RAKGAS to start geological mapping on oil blocks

By Deborah Manda

UAE firm, Rak Gas MB45, has announced plans to kick-start geological mapping on its blocks 4 and 5 as part of oil exploration work for the tenements located in Malawi's part of the Africa Rift system.

Rakgas Country Manager Chimwemwe Chikusa says in a statement the company will engage a consulting firm to carry out the geological mapping exercise for a period of two months in order to better understand the onshore geology of the blocks.

Chikusa.

He says the team shall include at least one experienced geologist with a minimum of a Master's Degree and 15 years of related work experience preferably in Malawi.

The oil discoveries in Lake Chad, Sudan, Kenya and Uganda, which form part of the East African Rift system, aroused interest by oil companies to explore oil and gas in Malawi.

In 2009, the Government of Malawi demarcated six exploration blocks in Malawi's Rift System which were

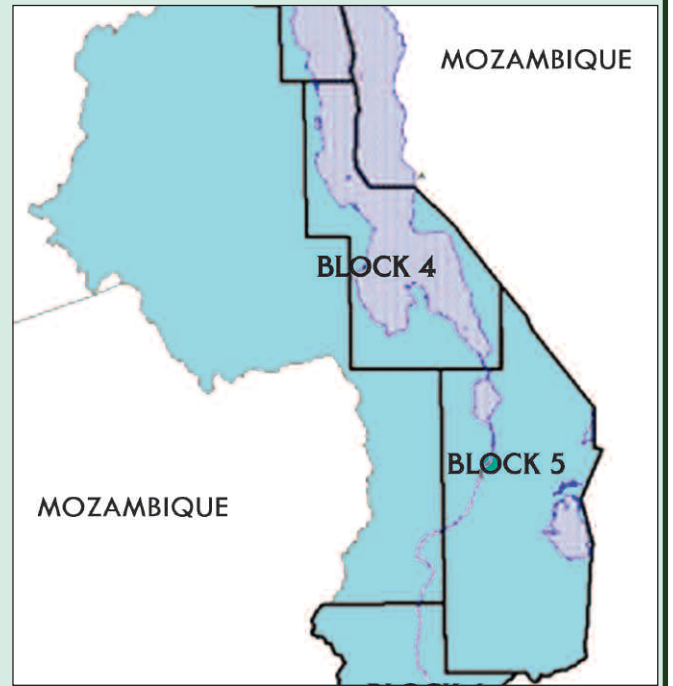
thick sedimentary rocks in some parts of the lakebed with potential for hydrocarbon accumulation.

There is also presence of large structural features which are capable of trapping migrating petroleum and evidence to suggest that potential reservoir rock is being deposited locally along the lake margins, and there is a possibility of such deposits extending into Lake Malawi.

With such facts, geologists say although there is lack of geological evidence to demonstrate thermal maturity and a potential for source rocks, it is plausible to consider the



Chikusa (left) sharing a word or two with new Natural Resources, Energy and Mining minister Aggrey Masi



Part of Malawi map showing Rakgas' blocks 4 and 5

Chikusa says that the consultant will, among other tasks, conduct a detailed site mapping of the rock and sedimentary outcrops and their structures utilising various technical inputs.

"At the end of the consultancy, we want to have geological maps of the relevant scale according to details, remote sensing maps and a report analysing the findings including; significant geo-structural settings, lithological stratigraphic column and any other relevant findings," says

awarded to multinational firms which include SacOil Holdings Block 1, Hamra Oil Holdings Blocks 2 and 3, Rak Gas Blocks 4 and 5, and Pacific Oil Ltd Block 6.

Oil exploration in Malawi started in 1980's when US's Duke university conducted a ship borne seismic survey over lake Malawi which was sponsored by over 10 international oil companies including giant multinationals Shell B.V, Mobil and Placids.

The results of this research work indicate that there are

petroleum potential of Malawi as good.

Hamra Oil is also reportedly mobilising to launch geological investigations for Blocks 2 and 3 which will include onshore drilling using environmentally friendly techniques.

Both Rak Gas and Hamra completed a full tensor survey over their blocks.

All petroleum prospecting licences were granted for a period of four years with the option of two additional three-year extension periods.

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