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EPOS

A CASE OF MISPLACED CONCERN

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ABOUT PUBLICATION

Mining Zimbabwe premier source of Zimbabwe Mining News. Our core focus is the Zimbabwe Mining Industry, trends, new technologies being developed and used to improve this crucial sector, as well as new opportunities and investments arising from it. Mining Zimbabwe's sole purpose is growing and empowering the Mining Industry and highlighting all its challenges as well as putting forth expert solutions



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Gearing up for 2020

Mining Zimbabwe had its ups and downs this year, a lot was discovered, learnt and achieved.

It has been refreshing to see some changes in audience interaction this year. Mining Zimbabwe continues to be the most sort after Mining publication in the country with many waiting for its journal release every month.

Zimbabwe boasts of the largest concentration of mineral deposits in the world, Mining Zimbabwe continues in its quest in pushing the Mining sector of Zimbabwe for international recognition, 25 percent of our viewers are now coming from Australia, the UK, and the USA.

The publication has moved on the international influential Mining websites from number 36 at the beginning of the year to 25th the end of November, we hope that our Mining blog is going to move into the top 10 early next year.

This year saw Mining Zimbabwe exhibiting for the second time at the Mining, Engineering and Transport Expo (Mine Entra) in July, over 3 thousand copies of the magazine were distributed.

The year also saw Mining Zimbabwe being affected by monetary policies that continue to change willy-nilly. Mining Zimbabwe being a publication changes in monetary policies affected the mining market leading to a decline in other expectations of the

magazine.

The hope of a great mining sector which was expected at the beginning of the year was short-lived due to continuous change in policies which then affected production and marketing.

Zimbabwe is poised for growth and, with the country committed to ensuring a sustainable growth path, there is a host of investment opportunities in the mining industry to be capitalised on.

The country needs up to \$11 billion to modernise the mines and boost productivity over the next 5 years. Almost all of our mines are operating below their installed capacity.

Many people are looking towards the mining industry for the revival of the economy of Zimbabwe, it is our wish at Mining Zimbabwe that everyone is involved in this great awakening of Zimbabwe, come 2030 Zimbabwe will boost to be a middle-income earner.

It is our wish that you prepare for 2020 with a positive mindset hoping that every project to be taken is going to be a huge success and contribute to economic improvement.

Mining Zimbabwe wishes you all an energetic 2020 that is going to turn opportunities into activities, turning the tables of Zimbabwe into a world-class economy.



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Arcadia Confirmed as the 7th largest global hard rock lithium asset

African lithium company, Prospect Resources Ltd has reported that Arcadia Lithium has the potential to become the biggest producer of lithium in the world and its life span has been increased beyond 15 years.

Prospect Resources announced a significant increase in the Ore Reserve estimate of its 87 percent on its Arcadia Lithium Project in the country, which further extends the life of the mine and a pathway to updated project economics.

An optimised DFS is currently being finalised to reflect this increased Ore Reserve. The optimised DFS will reflect the optimisation work that has been undertaken over the past 12 months to better reflect the economic potential of the Arcadia Lithium Project.

The upgraded Ore Reserve of 37.4Mt grading 1.22 percent Li₂O and 121ppm Ta₂O₅, which represents a 39 percent increase on the Ore Reserve announced in December 2017, incorporates updated pricing provided by Benchmark Minerals Intelligence following the completion of the low iron petalite market assessment in July 2019 and updated petalite recovery in line with recent testwork developments.

Prospect Managing Director Sam Hosack said, "The Prospect team has worked tirelessly to extract the maximum value from the Arcadia deposit, with technical support from CSA Global we have added significantly to our inventory and reinforced the strength of Arcadia's project economics".

"This incredible result confirms Arcadia as a globally unique and significant lithium deposit to supply the glass and ceramics market with technical grade ultra-low iron petalite. We see the battery market as a key driver of lithium demand growth but remain focused on the glass & ceramics market where Arcadia seeks to become a significant, consistent and reliable high-quality supplier and access the premium prices available in this market".

Appropriate studies for the development of the Arcadia Project have been undertaken by Prospect, and a number of suitably qualified independent consultants, experts, and contracting firms. All study assumptions are to a minimum for a Definitive Feasibility Study (DFS) standard. The DFS was completed in November 2018 by Prospect for a 2.4 Mtpa Dense Media Separation (DMS) and froth flotation

processing facility. This plant size forms the basis for this Ore Reserve estimate.

Geotechnical analysis was completed by South African geotechnical consultant Practara Limited (Practara) in December 2016. The geotechnical analysis identified the geotechnical domains as being in weathered or fresh rock. The optimisation and pit design for this Ore Reserve estimate is based on this geotechnical assessment.

The Ore Reserves have been classified according to the underlying classification of the Mineral Resource and the status of the Modifying Factors. The status of the Modifying Factors is generally considered sufficient to support the classification of Proved Ore Reserves when based upon Measured Mineral Resources and Probable Ore Reserves when based upon Indicated Mineral Resources. Analysis of the financial model on the main economic assumptions indicate that the project is robust in terms of all operating costs, recoveries, and product pricing; it is most sensitive and at greatest risk to changes impacting on revenue, being commodity prices and metallurgical recovery.

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Invictus confirms good source potential for gas and liquids

Invictus Energy Limited has confirmed that there is a good potential for gas and oil in Zimbabwe. The company has said that geochemical data in the Cabora Bassa Basin correlates with other African and West Australian Basins having oil and gas prone source rocks that charge multi-billion barrel and multi Tcf discoveries.

According to the company, geochemical analysis of new outcrop samples of the Permian aged Mkanga formation collected in July indicates strong correlation to 2 oil seep samples on-trend in neighboring Mid Zambezi sub-basin in Zimbabwe.

The new program of outcrop sampling and geochemistry analyses according to Invictus has provided the Company with a cohesive RockEval and extract SARA/ isotope/biomarker database, and has allowed for source rock facies and maturity interpretation and correlation with equivalent parameters from the existing database; and subsequently has expanded confidence in the source rock presence and quality.

Invictus said that the analysis confirms at least two source rock facies are present in the Cabora Bassa Basin, in the Mkanga Formation (Permian age) which consists of a high-quality oil-prone lacustrine source rock interbedded with good quality gas and liquids source rocks; and the Angwa Alternations Member (Triassic age) consisting of good quality gas and liquid (condensate and potentially light oil) prone source rock.

The Mkanga Formation has present-day Total Organic Content (TOC) values up to 40 percent and Hydrogen Index (HI) up to 380. whilst the Alternations Member of the Angwa Formation has TOC values up to 35 percent and HI up to 290. The TOC average is well above the recommended thresholds of 0.5 and 2.5 weight % of gas and oil generation respectively and confirms the ability of the source rock to generate significant quantities of hydrocarbons according to the company.

Invictus Energy also said the source rock

analysis also correlates with data from other African and West Australian Basins and suggests an affinity with oil and gas prone source rocks from Madagascar, Ethiopia, Tanzania, Seychelles, Uganda and Perth Basins where billions of barrels in place and multiple TCF gas volumes have been discovered.

Source rock Analysis also correlates with data from other African and West Australian Basins

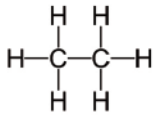
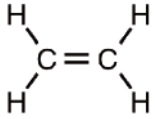
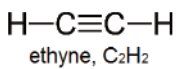
According to the company, the calculated vitrinite reflectance (%Ro) and TMax data from RockEval suggests the majority of samples from outcrop are immature for hydrocarbon generation and expulsion (at surface), indicating the sampling locations on the flanks of the basin have undergone minimal burial and uplift; this is consistent with the rift-sag model of basin development.

However, three new samples from the Permian aged Mkanga Formation have calculated %Ro sufficient for hydrocarbon generation, with the geochemical analysis of these samples additionally indicating the presence of generated liquids.

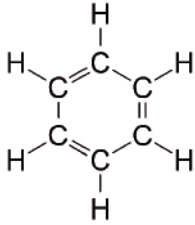
Invictus confirms good source potential for gas and liquids

Hydrocarbons

Aliphatic

ethane, C_2H_6 ethene, C_2H_4 ethyne, C_2H_2

Aromatic

benzene, C_6H_6

Extrapolation of these maturities into the subsurface of the basin suggests therefore that these source rocks identified in outcrop will have generated and expelled hydrocarbons deeper in the basin.

Invictus Managing Director Scott Macmillan commented saying that, the new RockEval geochemistry data has provided evidence that the source rock sequences present in the Cabora Bassa Basin possess good to excellent gas and liquid potential, comparable to ones in Africa and West Australia which host multi-billion barrel oil and multi-TCF gas discoveries.

Miners can retain their mining concessions which are under EPOs as long as fees are paid up to date

on the flanks of the Chewore Inliers, to the west of SG 4571, where the source rocks samples were collected from the surface.

Invictus managing director also said that the enhanced seismic imaging obtained has enabled the outcrop source and reservoir sequences to be mapped into the subsurface with greater confidence as well as providing a favorable view of the timing of two major episodes of the generation of hydrocarbons into the multiple traps in the basin.

The location of the source rock directly beneath reservoir positions them to charge the primary Upper Angwa Alternations Member target as well as shallower horizons in the Pebbly Arkose, Forest and Dande Formations. There is potential evidence of this shown by the seismic amplitude anomalies that conform to structure according to Macmillan.

Mkanga Source Rock Results Three new extract samples from the Permian aged Mkanga subset according to Invictus managing director contain generated hydrocarbons with parameters that correlate to 2 active oil seeps in the Mid

Zambezi basin to the south west.

The oil occurs in vesicles within light grey-white to medium brown-white veins of quartz and quartz breccia.

The previous analysis of the Dinde seep located in the Mid Zambezi Basin in Zimbabwe by Mobil stated "...on fracturing the rocks, which were almost too hot to handle having been lying in the sun on a day when the temperature approached 40degC, the light brown coloured, clean-smelling oil liberated from the ruptured vesicles was observed to flow freely, forming a thin film on the surface of the rock.

Cavities examined on the surface of unbroken samples were noted to commonly be lined with a dark black-brown coloured coating which still possesses an oily odour. These smears are probably the heavier hydrocarbon constituents remnant following the evaporation of the more volatile fractions (lighter hydrocarbons)." Said Macmillan.

The analysis of the Dinde oil seep confirmed that unusually for a seep the oil has not suffered any biodegradation and may have been transported hydrothermally from deeper in the basin up the quartz fault plane.



According to Macmillan, the reprocessing of the seismic data has generated higher resolution imagery, particularly near-surface



Privelage Moyo's journey to China in search of Gemstone markets



Mr Privelage Moyo at a gemstone market in China

As a gemstone consultant for ZMF as well as being the chairman of Norton Miners Association, I Mr. Privelage Moyo, early last month took time to visit China in search of markets for our upcoming gemstone sector so that we align ourselves to the 2023 vision of 12 billion United States dollars. The journey was an eye-opener as it proved that there is great economic potential in the semi-precious sector.

The first point of call was to look for strategic business people and partners who are willing to work with Zimbabwe ASM and with the know-how of our situation and challenges. I did meet up with a team of businesspeople in Ningbo who are happy to be working with all the relevant Zimbabwe departments. The whole idea is to place Zimbabwean stones directly onto the international market than to wait for the market or buyers to look for Zimbabwe. This sector has various traditional players who have been dealing with stones for centuries, making Zimbabwe a newcomer in the business.

Our aim for placing Zimbabwe directly onto

the market is such that it may quickly catch up with the rest of the world in terms of market specifications and requirements. Countries like Brazil, Pakistan, India, Madagascar, and China itself had been mining semi-precious stones for centuries



now meaning that their quality had improved, clarity and sizes.

The final place I went to was in Jiangsu province called Donghai county, 70% of its income is through the trade of semi-precious stones. A newly built crystal market or mall in 2018 made trade sales of 14.5 billion yuan (USD 2.1 billion), just one market alone. They have embraced the concept of an open market or just like our own model of Mbare

Musika whereby more than 7000 dealers are given space to sell their stones from all over the world. So, Zimbabwe needs to align itself with the rest of the world by first revisiting our laws, our export conditions, our way of doing business. Its time banks are enticed to get involved and be partners in the sector as there is the much needed foreign currency. Miners do not have the capital but banks do have super-local profits which can be turned into working capital and turned around into forex.

It's time ZMF is given the go-ahead to spearhead this sector as MMCZ is overwhelmed with responsibilities. ZMF has over 1.5 million miners and this gemstone sector alone may triple as more players are willing but there is no framework or clear trade laws.



ZMF to name and shame claim barons



Zimbabwe Miners Federation President: Henrietta Rushwaya

Zimbabwe Miners Federation (ZMF) President Ms. Henrietta Rushwaya will name and shame a cartel of mining claims that has deepened its claws in the mining sector through engaging in unscrupulous hoarding of mining claims for resale.

Rudairo Mapuranga

Speaking to Mining Zimbabwe, Rushwaya condemned and labeled these claim barons as conmen who have contaminated the whole mining sector.

"We condemn this unscrupulous practice with utmost disgust. These are conmen and people should be wary of such people. As ZMF we shall name and shame" said Rushwaya

The growth in mining sector has seen the rise of claim barons who acquire a number of claims each in order for them to sell the claims to people who want to invest in the small scale mining sector at very high

prices, ranging from over USD 4000 to USD10 000, when acquiring a claim from the Ministry of Mines and Mining Development would just be ZWL400.



According to distant observers, the rise of mining claim barons has seen the rhetoric

against Exclusive Prospecting Or-

ders which are issued in order for the country to have an assessment of the minerals they have in finer details and possibly discovering new mines.

Claims barons are reportedly threatened & the issuing of EPOs will put them out of business because they will have nowhere to peg and acquire claims for resale.

Mining claims barons are reportedly threatened and the issuing of EPOs will put them out of business because they will have nowhere to peg and acquire claims for resale.

Some Social media has seen many com-

plaints from miners who have been duped by claim barons under the pretense of being sold a rich claim while on the ground, it could be an unviable claim with operational cost higher than what is realised by the mine.

Only a handful of EPOs have been granted, further, when an EPO is granted, EPO holders allow miners to peg in areas they don't have interest in after first pass exploration.



Stopping EPOs means the country is getting left behind in discovering new deposits from new EPOs. Only 10 percent of the EPOs according to world statistics will return viable projects suitable for the establishment of world-class mines.

Blanket mine installs backup generators



In an endeavor to mitigate electricity challenges at its Zimbabwe mine, Caledonia Mining Corporation plc has installed diesel generators at its Gwanda based Blanket mine which has the capacity of providing 100 percent backup power.

Rudairo Mapuranga

According to the company, the new diesel generators that were installed at the mine have the capacity to produce 18.5MW subsequently becoming able to give a strong backup in case of electricity supply disruptions.

"New diesel generators installed at Blanket Mine are giving us 18.5MW of installed generator capacity providing 100% backup in the event of electricity supply interruptions," the company said.

Like any company, Caledonia has been complaining about serious unstable power supply which they say was hampering the implementation of its Blanket Mine's investment plan.

According to the company, the implementation of the investment plan remains on target in terms of timing and cost. Caledonia's board and management believe the successful implementation of the investment plan is in the best interest of all stakeholders because it is expected to result in increased production, reduced operating costs and greater flexibility to undertake further exploration and development, thereby safeguarding and enhancing Blanket's long-term future.

The company believes that Caledonia's cash position is expected to improve as a result of the implementation of the investment plan, therefore Caledonia will continue to assess new opportunities to invest surplus cash in addition to returning cash to shareholders.

To address the electricity problem, Blanket has procured and installed additional back-up diesel generators. The company also had a constructive engagement with the State electricity utility and the Chamber of Mines resulting in Blanket signing a new



electricity supply agreement in terms of which it will receive un-interrupted imported power at a lower cost than it previously paid.

The company is also at an advanced stage of evaluating a solar PV generating facility which would reduce Blanket's dependence on grid power.

According to Caledonia Chief Executive Officer Steve Curtis "Production of 12 712 ounces was marginally higher than the first quarter of 2019, although below plan. Production was adversely affected by lower than expected grade as problems with mining dilution adversely affected the grade and mine production continued to be disrupted due to the instability of the incoming power supply. Grade continues to receive close management attention"

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Achieving The 50-Ton Platinum Target By 2030:



Challenges and Growth Imperatives

By Lyman Mlambo



Mr Lyman Mlambo

Introduction

Zimbabwe has the world's second-largest reserve of PGMs in the Great Dyke after South Africa's Bushveld Complex. There is also potential elsewhere outside the great Dyke as evidenced by 16 platinum EPOs granted in the 1990s. Thus, the geological prospectivity for PGMs in Zimbabwe is undoubted. Zimbabwe ranks third after South Africa and Russia. For example, in 2018 South Africa, Russia, and Zimbabwe's production figures stood at 110 tons, 21 tons and 14.7 tons respectively. The platinum sector has the greatest potential to expand, besides gold, judging by its geological prospectivity, the several expansion programs by the current three producers (Zimplats, Mimosa and Unki), and the influx of new entrants into the sector (Great Dyke Investments, Karo Resources

and several other projects which are at various stages of planning and evaluation). It is no wonder that the Ministry of Mines and Mining Development targets the industry to achieve a quarter of the US\$12 billion mining industry target by 2023.

Looking at 50 tons of platinum by 2030 - what is really the magnitude of the task ahead in the context of the production trend we have seen in recent years? In the last five years (from 2014 to 2018), platinum production has grown by an average of 2.63% yearly. Assuming the average growth rate continues, platinum production would grow to about 20t by 2030, which falls far short of the 50-ton target. To achieve our target we need to grow the sector by an annual average of 10.78%. This requires a significant transformation of the current conditions under which the platinum sector is operating.

Production for platinum was on a generally upward trend from 2000 (at 0.51 tons) to 2018 (at 14.7 tons) with the highest

recorded in 2016 at 15.1 tons. Over the same period, the international price for the precious metal was initially on an upward trend from US\$544.03/ounce in 2000, peaked at US\$1,721.86/ounce in 2011 and went on a monotonic decline to US\$880.53/ounce in 2018.

Clearly, production trends have not strictly followed price trends. Therefore, the achievement of the 50t by 2030 cannot be premised on either the existence of large reserves of platinum in the country (comparative advantage) or an assumed increase in the world market price of platinum. The sufficient conditions for the growth of the platinum sector include deliberate actions to influence the competitive advantage of the sector from within (that is, independent of world price). In short, we must create conditions that make it greater business sense to invest in the Zimbabwe platinum sector than in other countries or other sectors.

Experts believe that gold produced in Zimbabwe is four times more than gold delivered to the country's sole gold buyer and exporter.

Challenges



International perception of the investment environment in the Zimbabwe mining sector, in general, is bad, with the Fraser Institute ranking the country 5th last on Policy Perception Index (PPI) and 2nd last on Taxation Regime Index (TRI) in 2015. PPI looks at the whole policy environment in the country's mining sector, while TRI (which is micro-perception index) looks at the taxation regime applicable to the sector. Platinum along with diamonds have now, like the rest of the minerals, been pronounced to be exempt from the indigenization policy requirement. However, clarity on this matter needs to be established by regularization of the Act, otherwise, the tag of indigenization could continue to linger. Perceptions themselves may not be accurate, being perceptions (not measured), but unfortunately, they drive investment decisions.

With regard to the royalty component of the fiscal regime, a comparison between Zimbabwe and other countries in the Southern African Region is instructive. Platinum royalties in Zimbabwe are based (charged) on gross sales revenue rather than on profit. This obligates even marginally economic and loss-making firms to pay them; makes them a variable cost (as they are exacted also on the cost component of gross revenue); is a drift away from the general global shift towards the profit basis, and is

less competitive compared to neighboring South Africa. In SA, while it is revenue-based, it provides some formula to link the actual rates exacted to mine profitability, so that the rates vary by mine, thus taking into the accountability to pay. Zimbabwean rates are currently the highest in the Region at 10% compared to a range of 0% in South Africa (for marginal and loss makers) to 6% in Mozambique and Tanzania. The royalty regime does not provide for stability clauses, unlike in countries like Mozambique and South Africa. There is also generally a high burden of fiscal compliance due to a multiplicity of tax heads, regulatory/legislative instruments and collecting agents.



Platinum royalties in Zimbabwe are based (charged) on gross sales revenue rather than on profit

The serious power shortages being experienced in the country have also affected the platinum sector. In general, a mine requires on average at least 16 hours of uninterrupted power supply every day to ensure that production levels are maintained and that machines run optimally (frequent power outages affect machines). In 2008 the International Monetary Fund estimated that the cost of power outages to a mining firm could be as much as 5-6 % of revenue. It is common knowledge that all forms of infrastructure including transport - road, railway, and air have suffered dilapidation over the years.

Access to finance is the greatest obstacle to doing business in Zimbabwe due to limited opportunities for offshore lines of credit coupled with inadequate local funding at very high-interest rates. This has not been helped by the lower forex retention for the PGM miners at 50%. Much of the forex is on the parallel market where rates are much higher than the interbank market rates. This has resulted in mines failing to secure inputs in time, and in local inputs being very expensive. Generally, the sector is plagued by high costs of all sorts including electricity tariffs, fuel, funding, labor, consumables, and other materials and high fiscal and administered charges.

Zimbabwe has lost mining skills (geologists, engineers, technicians, and managers) to the region and to the broader international community due to a protracted general economic recession in the country. Zimbabwe's capacity to develop more skills in the sector has suffered due to a decline in the capacity of the country's training institutions. Funding and modern skills challenges have adversely affected the capacity of the Zimbabwe Geological Survey to generate new information including geological maps. There is a need for funding of more detailed exploration (beyond reconnaissance).

Growth imperatives

There are five things that Zimbabwe needs to do to achieve the 50-ton platinum target by 2030 or even earlier by 2023. These include:

- (1) Improvement in the attractiveness of Zimbabwe as an investment destination;**
- (2) Improvement in infrastructure development framework in the country;**
- (3) Promotion of beneficiation and value addition in the platinum sector;**
- (4) General linkage promotion in the sector; and**
- (5) Attracting and retaining capital in the platinum industry.**

Achieving The 50-Ton Platinum Target By 2030: Challenges and Growth Imperatives

In order to address imperative

(1) We need to improve our country international rankings through addressing the policy vacuums, finalizing the legislative/regulatory framework in the platinum sector, providing a robust framework for the protection of private property rights and ensuring that these policies, legislations, regulations, and rights are stable.

2) We also need to improve the ease of doing business (expedite the ongoing reforms),

3) Increase forex retention levels in the sector from 50% to 85%, make the fiscal regime more competitive especially by reducing the royalty rate to the regional average and improve the availability of geological information in order to effectively reveal the country's prospectivity.

4) Improvement in infrastructural development can be achieved through several measures.

We need to integrate the production expansion plans (consistent with the 50-ton target) with infrastructural development plans so they speak to each other. Local financial institutions such as IDBZ, RBZ can



play a key role if they are capacitated enough to fund infrastructure development.

It is also probably time that mines are incentivized to participate in infrastructure projects that will ensure long-term service supply, through Public-Private Partnership (PPP) or in their own right. There is a need to develop an energy pricing model that strikes a balance between the sustainable supply of power and competitive pricing. The promotion of beneficiation and value addition in the platinum sector is a critical element of national industrialisation. The government needs to emphasize more on the carrot (incentives) than on the stick (tax penalties) until such a time that lack of compliance is deemed clearly deliberate (for example, when the mooted national centralized beneficiation facilities are in place). The infrastructure imperative alluded

to above applies here too.

Further dialogue on this matter through a beneficiation conference, to clearly define targets and implementation milestones, is imperative. Associated with this is the need to promote the development of upstream, downstream, side-stream, spatial and knowledge linkages in the PGM sector. In particular platinum mines should be incentivized to support local enterprise development and increase the local procurement of materials and consumables. The mutual feedback effects of these linkage industries to the primary production of platinum are obvious.

The PGM sector is currently operating at almost full capacity, which implies that the growth to 50 tons would be achieved only if adequate net capital is attracted. Required capital for the sector over the next five years, both for sustenance and ramp-up, stands at about US\$7 billion. It is imperative that the Government facilitates the acquisition of cheap capital for the platinum industry through loan guarantees or other instruments. This, coupled with an increase in the forex retention level, will improve the financial standing of the platinum producers.





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Important priorities to a more progressive mining sector in 2020



Consequences of the Mining sector in Zimbabwe both small scale and large are very large especially in old mines, although all the people are on their heads up expecting an economic resuscitation led by the mining sector, the sector, however, seems to lack positive energy that can make it possible for it to solely reinvigorate the economy due to the prevailing socio-economic and political realm.

Rudairo Dickson Mapuranga

Taking a closer analysis of the mining sector in Zimbabwe it doesn't take one to conclude that the potential of the sector into becoming the backbone of African economic reinforcement needs to be detected by pushing for constructive policies that aim to the wholly functioning of the mining sector and conspicuously helping in both community development and fiscus returns.

The advancement of the mining sector in Zimbabwe into a competitive sector in both explorations, granting of prospecting licenses, mining environment (taxes and loans) and pricing of minerals should be prioritised going into the coming year for the country to improve on mining investments.

Many issues need to be addressed going

into next year for Zimbabwe to have a meaningful mining sector that has the balls to resuscitate the economy.

The following are points necessary for the sector to become a leading for in the nation's redevelopment and growth.

Political correction

The political climate in Zimbabwe is very toxic and unhealthy for any meaningful business venture, there are extremely obvious differences in the political space. Elites sabotage each other on political grounds in the process disadvantaging national growth.

Despite fairly complex political and institutional challenges, many opportunities may facilitate an improvement in the governance of the mining sector, they may include among others,

(i) The shift – in power after these largely disputed 2018 elections to political dialogue between the two main actors, which may allow the government to explore practical ways of implementing its election manifesto and improving the economy through the mining sector;

(ii) Engaging large scale miners to review terms of their investment agreements and pay them on time;

(iii) The constructive initiatives from the Ministry of Mines and Mining Development, Chamber of Mines and Zimbabwe Miners Federation to initiate a dialogue and move towards development-friendly solutions.

Redollarisation

It is a well-known fact that for any economy

to compete and be stable, money should be free-floating and tradeable. The money we have in Zimbabwe is indeed free-floating but at the same time, it is not tradable. By mid-July 2019 inflation had increased to 175 percent sparking concerns that the country was entering a new period of hyperinflation, the government has since stopped releasing inflation figures. The Zimbabwean dollar is not legal tender outside Zimbabwe which means that it cannot be regarded as money outside the country but just mere paper.

Re-Dollarisation will help bring confidence at the same time stabilising business from unfortunate loss caused by hyperinflation. This will not only substantially decrease inflation and interest rates, but it will also contribute to promoting saving, investment, economic growth, and employment. It will, furthermore, stabilise the dysfunctional Zimbabwean credit system, enhance long term lending contracts and correct the misallocation of resources caused by hyperinflation.

Dollarisation will also enable the availability of loans for miners, since the money used, will be stable and sustainable.

Reindustrialisation

It is without a doubt that Zimbabwe is one the richest country in the world regarding mineral resources and is one of the leading exporting countries in respective resources. Industrialisation is associated with higher productivity growth and structural economic transformation and development.

Exportation of raw minerals has been regarded by many scholars as extremely dangerous and a blow to economic growth,

but only for the relatively mature mineral-based economies and only for certain periods.

Zimbabwe is exporting all of its chrome raw to China and then import chromium steel from the same China, it should be noted that Zimbabwe being the host of chrome should just manufacture steel then export it to China.

There is a need, therefore, for Zimbabwe to move the mining industry beyond extracting and exporting raw materials but rather, use the revenue accrued in a strategic process of industrialisation and structural transformation.

Revise payment issues

The government needs to consider putting mechanisms to pay producers on time and giving small scale and artisanal miners once-off payment in cash, this will help reduce leakages and operational down times.

It is believed that the majority of gold mined by small scale and artisanal miners is being shipped away from the country through unscrupulous means thus it becomes important for the government to look into their payment systems and then consider paying miners considerable amounts.

Chrome miners in Zimbabwe have been complaining of predatory pricing unless the issue is solved the majority of chrome miners will underproduce and others shutting down operations until things stabilise, which means that the president's USD12 billion road by 2023 will be disadvantaged.

Recently Bundura Nickel Company approached the government seeking foreign currency retention of not less than 80 percent and early payments from the

country's central bank.

Adhere to the rule of law

Zimbabwe's constitution has been hailed as a very upright and democratic mechanism that dictates the transparency of decision-making processes and it is rich in determining the degree to which politicians are held accountable. However, the majority of Zimbabweans feel that the constitution is being largely neglected for the benefit of a few oligarchs. For example, recently Mutumwa Mawere through his Twitter handle accused the government of abusing the constitution and laws of the land to suit their gains.

Despite making progress in democratic consolidation and well organised 2018 elections, the challenges Zimbabwe is facing right now seem to be coming from a democratic point of view. Many people who were supporting the current regime turned back due to different reasons including renowned journalist Hopewell Chin'ono who accuses the government of its continual disrespectful of human rights. Perhaps some sector challenges are arising due to the remaining democratic weaknesses of the political field.

It is therefore important for the government of Zimbabwe to come to terms with the constitution of Zimbabwe and make strides that will effect change in investors and citizen attitude towards the government.

For example, regarding EPOs, the government should consider working towards revealing these EPOs to accommodate the small scale and artisanal miners. EPO holders must not be allowed to renew like it currently is if there are holding onto the land speculatively so that actual mining can take place. The government should also raise taxes for an EPO holder after 1 year if it fails to gazette geological

results for some of the lands under their exploration zone. The government needs to ensure that exploration does take place and at the same time production should not stop.

End corruption

Corruption in the mining industry in Zimbabwe is not well documented but too prevalent.

This year a forensic audit by Reynolds Tendai Muza, a forensic auditor and investigator with Ralph Bommert Greenacre and Reynolds unearthed massive corruption at Hwange Colliery Company Limited in which the Minister of Mines Hon Winston Chitando was implicated. Investigations by the Mines portfolio committee also exposed that the once-thriving mine was actually destroyed by very powerful persons, some of whom are currently serving in government.

Corruption is bad for business and it reduces investment, both foreign and local, therefore a direct insult to the "Open for Business" mantra, corruption will also hinder the vision towards a USD12 billion industry.

As the former United States, Vice President Joe Biden said "Corruption is cancer: cancer that eats away at a citizen's faith in democracy, diminishes the instinct for innovation and creativity; already-tight national budgets, crowding out important national investments. It wastes the talent of entire generations. It scares away investments and jobs."

Corruption in the mining sector needs to be entirely cracked down to create a conducive environment for all miners to work without fear or favor. According to Biden, fighting corruption is not just good governance, it is self-defense and patriotism.



The government of Zimbabwe needs to reduce the risk and incidence of corruption in the mining sector by improving the transparency of decision-making regarding granting of mining exploration and extraction licenses; public and stakeholder access to mining revenue information, including where companies are based and where they operate, and public disclosure of the payment and application of mining revenues.

Improving electricity and fuel supply

Due to the continued power cuts and fuel problems facing the country, the industry's predicted growth might be thrown into an abyss of no hope.

Zimbabwe is experiencing serious power and fuel shortages which contributes significantly to the downfall of the economy.

Unstable power supply married with fuel shortages are a direct blow to mineral production, the government of Zimbabwe should, therefore, prioritise electricity generation and fuel availability to ensure that the economy of Zimbabwe doesn't lack these needs.

Promote Exploration

It is a well-known fact that Zimbabwe is hamstrung by a lack of mining exploration, it, therefore, becomes important for the country to invest in exploration through Exclusive Prospecting Orders (EPOs) and

Special Grants (SGs), however, the way EPOs are carried out should also be looked into in order to accommodate small-scale and artisanal miners.

It should, however, be noted that according to the Director of Geological Survey of Zimbabwe Forbes Mangubate the structure of the mining industry in Zimbabwe is highly skewed. There is a gap between thousands of small-scale miners and a few large mines. There are many small-scale mines with the potential to develop into medium and large-scale that's where exploration should come in.

It should be noted that over 3000 gold deposits in Zimbabwe are known through ancient works than exploration.

Digitalise mining rights, title registration, and all payments

Amidst reports of corruption, money laundering, externalisation and other unscrupulous behavior by mining personnel, all transactions which are mining-related in Zimbabwe need to be done digitally to avoid corruption and Improve transparency.

The registration of mining rights and titles should be digitalised to improve administration and avoid double title allocations. There have been reports of disputes emanating from double title allocations, digitalisation will eliminate such issues with ease.

There should be an open to public geographical locations, ownership and time validity of mining rights and titles, mining rights and title registration and payment of registration fees should be digitalised for online processing.

Improve technical staff in the ministry of mines

The Ministry of Mines and Mining development has been accused of being slow in terms of addressing the grievances of miners. Some have accused the ministry officials of their desire to be worshipped for them to do the work they are paid for by taxpayers.

The ministry of mines technical departments are reportedly understaffed because of low salaries, hereafter the experienced staff leave for the private sector for example there is no geologist in Kadoma mines offices. Consequentially, the ministry hires those that are unskilled or those without adequate experience.

There are technical people in the ministry who have never worked on a mining project yet they make decisions concerning exploration and mining projects. It is reported that, best technical skills left the country in the past 20 years and continue to leave for greener pastures.

The ministry must hire competent individuals to professionalise the mining sector ensuring that the industry will achieve its 2019 production target.

For the mining sector to reignite going into next year, it becomes important for the government to take into consideration the steps above for the country to improve in mineral production subsequently economic growth and see the 12 billion mining industry by 2023 come to fruition.

The water you are pumping away is worth a fortune



Mining Zimbabwe has been visiting a lot of small scale miners and one thing we always noticed was water being pumped from the ground and wasted away onto the surface.

This is a very common practice with the exception of one Mr Fletcher Mbizo a Norton miner who is rather not just wasting the water away but assisting ZRP Norton with the much-needed water which created an open door for others who are presently engaging in Horticulture at the site.



With the water challenges some town councils are facing other than just wasting the water away, small-scale miners can bottle this water for sale in retail outlets. If more and more of them engage in this practice bottled water will flood the market thereby bringing the prices down.

Rather than the small-scale miners bottling

the water, they can also sell water to bottled water companies too.



Eng Chris Murove

"Normally water found in mine shafts is regarded as a major problem to handle by artisanal and small scale miners as it requires expensive pumping equipment which they would rather avoid to buy if they could. However, this could change if the pumped out water is regarded as one of the products of mining and it is exploited for agricultural production. If the water is provided to local farmers within the vicinity of a mine, a new concept of "agro-mining" could be developed and may actually lead to the mitigation of climate-change-induced droughts and hence greater agricultural production around mines. This will result in the reduction of farmer-miner conflicts that occur quite frequently around the country" said Legendary miner Engineer Chris Murove.

Norton miners association chairman Mr. Privelage Moyo said "Value addition is a very good idea"

"It is a business opportunity that has the potential to bring us added revenue rather than just waste the water away. When we pump water from the ground and onto the surface it just goes to the next miner and next and next so preserving it will help reduce waterlogging.



Mr Prililage Moyo

Miners closer to schools and hospitals can also assist if there are water shortages. Or if close enough to town councils they can even build tanks that can have water being pumped directly to council reservoirs and maybe get tax breaks or other incentives from the government.



The performance of the Zimbabwe mining sector in 2019

Total output figures of the major contributors to Zimbabwe's mining sector revenue are definitely going to be lower by year-end (31 December 2019) than they were in 2018. That includes gold, platinum, chrome, diamond, coal, and nickel. These minerals also happen to be the key anchors of the US\$12 billion Mining Target by 2023.

For gold, this is very unfortunate given that the general international price trend for gold for the past 5 years has been upwards. But then, it has been shown by empirical studies that the international price trend is not a significant explanatory variable for gold production in Zimbabwe; implying that there are other more preponderant factors that overshadow the international price effect. However, in terms of relative contribution to the economy gold has maintained its key role. By November it had contributed 43% of mineral exports, employed 30% of total formal mining labour, apart from the more than half a million artisanal and small-scale gold miners spread throughout the country.

Platinum prices have also remained gen-

erally subdued for the year as they have been for the past few years now. Output by year-end will be lower than last year's 14.7 tons. This is despite the fact that the three primary producers continued to operate at full capacity. The price of palladium is excellent, as it is hovering around US\$1,700 per ounce, even exceeding that for the booming gold sector and around double that for platinum. However, palladium is not yet counted among significant products because it is jointly produced with platinum and has generally been viewed as a by-product, rather than a co-product of the latter. This is despite a high level of production for last year at 12.1 tons. By any measure (output or revenue) it is probably time that the PGM sector stops being referred to as the platinum sector. The production levels for other PGMs which include rhodium, ruthenium, and iridium has remained insignificant in 2019. One of the key challenges, among others, in the sector, is the outstanding formal clarity of the sector's exemption from meeting the requirements of the Indigenization and Economic Act, which exemption has only been pronounced

verbally and in other documents, with the Act itself not yet repealed.

Chrome output during the year has been lower than for 2018 mainly on the back of a 10% decline in capacity utilization in the sector from 80% in 2018, low ferrochrome prices and dilapidated transport infrastructure for movement of all chrome products (chrome ore, lumpy ore, and High Carbon Ferrochrome). The local pricing of raw chrome by the Minerals Marketing Corporation of Zimbabwe has also remained a sticking point in the development of the sector and agreement on this issue should be reached to enhance production in the sector. Artisanal and small-scale chrome miners have also not enjoyed as much support from institutions like RBZ as has their counterpart in the gold sector who have been supported technically and financially by the Fidelity Printers and Refineries (a subsidiary of the RBZ).

While there are four registered diamond companies in the country including ZCDC



Murwa Diamonds, Anjin and Alrosa, only the first two were active in 2019, with the latter two still to commence production operations. Diamond production by year-end will be lower than last year's 3.3 million carats, as it is projected to be 2.1 million carats (a 36% decline). This is on the back of a decline in capacity utilization from 90% to 74% in 2019 as well as the persistent high royalty rate of 15 %, which remained the highest for all the minerals and in the Southern African Region. It is commendable that the Minister of Finance and Economic Development announced a downward revision of the rate to 10% in the recent Budget Statement.

Like the four major minerals alluded to above, the rest of the minerals have recorded generally lower performance compared to 2018, including coal and nickel sectors. The average capacity utilization in the coal and nickel sectors has gone down by 32% and 30% respectively. Specific factors explaining the lower levels of capacity utilization include the low prices offered by the Zimbabwe Power Company for coal and antiquated equipment which is common to both sectors.

Generally the mining industry as a whole (including the six mentioned above and several other base metals, industrial minerals and dimension stones) faced several challenges during 2019. Major among these include: regular and prolonged power outages, inadequate foreign exchange retentions, high costs of production due to domestic inflation (which is fuelled by depreciation of the local currency) and high import costs, lower prices (for most of the minerals), low access to and high costs of finance (both operating and investment), a sub-optimal fiscal regime, lack of policy consistency and predictability and perceptions of political instability due to serious national political polarization. We need to address these issues to realize a better performance in 2020 and to achieve our US\$12 billion Mining Industry Target by 2023.

Lyman Mlambo is the Chairman of the Institute of Mining Research at the University of Zimbabwe he writes in his personal capacity.





Arcadia granted 5 pc exemption un-beneficiated lithium export tax

The Minister of Finance and Economic and Development Prof Mthuli Ncube gave African Lithium company, Prospect Resources LTD a government incentive that has exempted the company's Arcadia Lithium Project from 5% un-beneficiated lithium export tax for the first five years of operation.

Rudairo Dickson Mapuranga

According to the lithium miner, the Ministry of Finance has advised them that the development of beneficiation requires time for feasible studies, mobilisation of resources and construction, therefore, the government of Zimbabwe was going to exempt the lithium miner from un-beneficiated taxes for a period of five years from the date of the instigation of mining operations.

"The development of beneficiation facilities requires time for feasibility studies, mobilisation of resources and construction. In this regard, The Zimbabwean Treasury (a

department within MFED) has approved the exemption from the export tax of un-beneficiated lithium originating from a new mine for a period of five years from the date of commencement of mining operations". Said the government to the lithium miner.

Prospect Resources Managing Director, Sam Hosack has commended the government of Zimbabwe saying that the move by the government is supportive and attracts Foreign direct investment and that the incentive will lift Arcadia's economics project.

"This is further confirmation that the Government of Zimbabwe is supportive of Arcadia and is focused on attracting foreign investment into the country. This incentive will materially lift Arcadia's project economics and will accelerate payback of project finance." said Hosack.

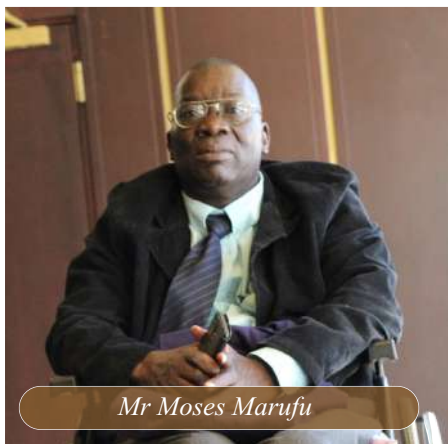
Hosack also said that the incentive will also reduce operation costs for the miner at the

same time increasing profitability and lift the projects Net Present Value.

"Our previously announced DFS and updates have all applied a 5% tax on un-beneficiated lithium to products sold. Removing the 5% tax for the first 5 years of production will reduce operating costs per tonne, increase profitability and lift the projects Net Present Value (NPV). Further details will be provided in due course."

Prospect Resources Limited is an ASX listed lithium and battery minerals company based in Perth with operations in Zimbabwe, and exploration activities in Zimbabwe and the DRC. Prospect's flagship project is the Arcadia Lithium Project located on the outskirts of Harare in Zimbabwe. The Arcadia Lithium Project represents a globally significant hard rock lithium resource and is being rapidly developed by Prospect's experienced team, focusing on near term production of petalite and spodumene concentrates

Assistance to People with Disabilities in Mining



Mr Moses Marufu

My name is Moses Marufu Zimbabwe Miners Federation (ZMF), Secretary for People with Disabilities in Mining.

I just want to make this reminder to all Miners that the 3rd December of each year is a special day for *People with Disabilities* called International Day of People with Disabilities. It's a day as miners that we should commemorate as our operations have a 15% say mine accidents causing disabilities.

Causes of Disabilities

Disabilities are caused by many factors that include health issues: road accidents mining and late the scourge of machetes. Let's all reflect on the day and give all the support to victims of mining: bus accidents etc.

This could be in the form of miners advocating for mining policies that support disabled people. The current returned Mines and Minerals bill 2015 is such a good chance for all to put inputs. Your inputs in embracing People with Disabilities in mining: a new baby in the mining industry is most welcome. We need more inputs from your peer established miners.

Disabled miners are often taken away from their area of interest ie "vachinzi chigarai kumba maremara hamuchagone".

Translated "you must now Stay at home you are no longer able as you are disabled"

As Secretary of People with Disabilities, I urge you all to give us a chance in mining. We want all structures in the ministry of mines to have a disability desk at the district, provincial and national levels. This also includes the Chamber of Mines.

NB. Zimbabwe Miners Federation has set the right cue.

Established miners and suppliers of mining equipment and services should also come on board to assist the new baby in mining. Established miners must cede some of their tributes to Pwds and give all the necessary support in terms of management for a period until PWDs grasp mining. Suppliers of services and equipment are also asked to partner Pwds in mining.

And in turn, the Government should reward such companies in the form of juicy rebates for other big mines to follow suit. That's empowerment to Pwds in mining.

Security of Miners especially PWDs

As miners we aren't safe, the issue of machetes is a yawning disability on its own. Both non-disabled and Disabled miners need protection. We call upon legislators to enact laws that are deterrent that include no representation at court.

Policies

The policymakers should take heed of this as they will benefit too when disabled. We wish no one that condition but what's good for a disabled person is good for everyone that includes ramps automatic cars and cellphones.

Appeal to Provincial Mines Directors

It is very encouraging that two Provincial

Mines Directors are embracing People with Disabilities who are keen to go into mining as they have accepted our appointment to see them especially on the allocation of claims. We appeal to other PMDs in other regions to do the same.

Appreciation to Ministry of Mines

In the same vein, our Ministry of Mines should be recognised for giving one of us employment in Mashonaland Central. We appreciate that heartily as we feel accepted in our endeavors. PWDs should be made aware of extension services by the Ministry of mines that include reconnaissance geological and induced Polarisation. All we need is to get up and be involved in mining.



Mr Marufu at a recent FPR, ZMF meeting with other officials

United Nations Convention on Rights of People with Disabilities (UNCPRD)

This document gives rights to PWDs welfare

As people with disabilities, in general, we need this piece of document's domestication. Its non domestication affects our rights. Disabled people have been marginalised for too long a time.

Solidarity messages could be sent to 0713840078 Whatsapp

EPOs a case of misplaced concern



The debate around Exclusive Prospecting Orders (EPOs) has been in public domain for over a year now with many small-scale and artisanal miners determined that EPOs are a malevolence that needs to be dealt with to allow the growth of the mining sector in Zimbabwe thereby helping the country to achieve the projected USD12 billion mining industry by 2023.

Rudairo Dickson Mapuranga

It is however without a doubt that the advantages of these EPOs to the country outweighs its disadvantages which makes them an important element in the growth and development of the mining sector provided these EPOs are carried out in a transparent and scrupulous nature.

What is an EPO?

An EPO is a large area of ground targeting the selected minerals for exploration. The maximum is 65,000 hectares in Zimbabwe and a minimum size is up to the company or individual to choose. In Zimbabwe, EPO's tenure is 3 years with an option to renew for another 3 years.

EPOs are used by companies as first-pass exploration areas. This means that companies after doing the highly technical exploration studies will eventually drop the EPO ground in 3 years.

How are EPOs issued?

Large scale exploration is carried out under licenses issued by the Head of State and administered by the Mining Affairs Board as per the provisions of Mines and Minerals Act 12:05. Two titles are issued under large scale exploration depending on the mineral to be explored according to the act, which are Special Grant (SG) for energy minerals like Coal Bed Methane, natural gas, oil, and uranium, and EPOs for other minerals, example base metals, gold, diamond.

Why are EPOs issued in Zimbabwe?

Although mineral deposits in Zimbabwe are amongst the best documented in the region in terms of available minerals and area thereof. A search through the available works always forms the first stage in the exploration of any mineral, Baseline

geological, geophysical, geochemical, Remote sensing data is necessary at this stage.

It is of paramount importance to note that, over 4000 mineral deposits in Zimbabwe are known from ancient workings and exploration activities in the country were biased towards rediscovering ancient works. The granting of EPOs and SGs is therefore of greater importance in the quantifying of our mineral wealth.

Exploration in Zimbabwe led to the discovery of several major mines some of which are still operating to date these include Zimplats, Murowa Diamonds, Freda Rebecca, Hwange Colliery et cetera.

Zimbabwe has 4 000 recorded gold deposits with nearly all of them located on ancient workings, this is, therefore, is a clear indication that the country remains under-explored to discover deposits away from these ancient workings, issuing of EPOs consequently becomes essential.

History of EPOs in Zimbabwe

The history of exploration dates back to the early 1900s instigating in 1910 concurring with the institution of the Zimbabwe Geological Survey was characterized by distinct phases of prospecting interest. The peak in exploration activities in the country came in the 1960s and early 1970s, especially for base minerals.

Ten years into the country's independence was characterized by ups and downs in the exploration sphere, however, there was an initial rush for EPOs in 1980-81 chief reason being to reinforce previously suspended exploration activities caused by the war of liberation.

The opening of River Ranch Diamond near Beitbridge encouraged a mounting interest in diamond exploration in the early 1990s, this followed a rush in platinum EPO holders who chose to invest in platinum exploration due to the fall in gold prices in early 1988.

Interest in the exploration of gas was also key interest in the early 1990s with major focus being on Coal Bed Methane, according to the Exploration works that were carried out, a significant CBM resource has been established in Zimbabwe but development to the critical stage of proving the commercial viability of the gas is still lagging behind.

Potential resource areas have been identified but commercial viability of the gas is still to be assessed, the quality of CBM is considered to be good, about 95% methane, 4% Nitrogen, and 1% shared by Ethane, Carbon Dioxide, and Oxygen. CBM resource is estimated at > 20 Trillion Cubic Feet (TCF), Pilot Production wells have been drilled and currently being tested in Lupane.

In the same 1990s, an important event in the history of exploration in Zimbabwe was marked by the coming in of the Canadian International Development Agency (CIDA) who sponsored aeromagnetic data on Zimbabwe.

This attracted several exploration companies to venture into areas that had been previously been ignored, especially the western parts of the country covered by Kalahari sands, this data also prompted diamond exploration.

The discovery of a world-class placer diamond deposit in 2006 points to significant potential in ancient basins on the edges of the craton.

With huge historical data on mineral occurrences and usage of modern exploration techniques, the full potential is

still to be realised.

Should EPOs be scrapped?

It has been a case of concern with greater minds in the small scale and artisanal mining industry crushing each other on neck and toe with regards to the position of EPOs, some pushing that the EPOs must be removed while others pushing for a more convenient way of reading through the Act and making sure that the provisions of the act are followed by EPOs holders.

It is therefore of great imperative that miners understand what the Mines and Minerals Act say on EPOs in order for them to get clear clarity and understanding on how to push the agenda on EPOs and SGs in order to address the problems caused by EPOs and SGs.

With all the advantages EPOs have on mining growth and development, it is unwise for anyone to think that EPOs can be scrapped outrightly leaving the country without clear geological data on their mining land.

If granted access to these geological reports miners will run better operations as access to geological will ensure more targeted, efficient mining which will reduce the rampant land degradation, the reduced mining costs will enable miners to have excess capital to reinvest and grow their operations, access to geological will enable miners to attract investors and structure better joint venture partnerships, access to equipment loans, collateral becomes possible as miners can utilise their claim to negotiate better terms thus promoting financial sector inclusion. More indigenous miners can venture into mining as proper information will be readily available to ensure return on investment.

Artisanals will never sustain the mining industry because of these two simple facts: They cant **MINE DEEP and they cant mine **LOWER GRADES'****
-Patrick Takaedza

Is Zimbabwe hamstrung by a lack of mining exploration?

All geologists except for a few pushing other agendas which are different and not aligned to future national development but individual gain would agree to the notion that Zimbabwe is under-explored.

According to figures released by the renowned Consulting Groups in the past, Zimbabwe's spending on exploration is "the lowest among leading mining countries". Between 1989 and 2017 Zimbabwe's share of the global exploration budget fell from 0.2 percent to literally 0 percent.

Globally, around 10 percent of all capital expenditure in mining goes towards exploration, in Zimbabwe, it is near to 0 percent, the country is not really replacing the minerals that it is mining.

It is clear that Zimbabwe has lagged behind the rest of the world in terms of mining, Zimbabwe used to be one of the largest producers of gold in Africa but currently, it is nearly close to nowhere because no new deposits are being found like in other countries in Africa.

In countries like South Africa, Democratic Republic of Congo and Uganda among others, exploration has been key factor to the growth of the industry in those countries,

EPOs a case of misplaced concern

although Zimbabwe boost of having nearly all minerals found on earth, the way the mining industry is producing send an otherwise message, exploration, therefore, needs to be at the center stage in the mining industry in Zimbabwe just like in other countries in Africa, factors leading to a limited exploration need to be addressed.

What should be the centre of concern on EPOs?

Samson Dzingwe the president and founder of Zimbabwe Prospectors Association one of the leading people who are pushing against EPOs has said that the fight which small scale and artisanal miners should push is about the way EPOs are blanketed across all mining provinces disadvantaging indigenous small-scale miners who want to help in the national fiscus.

According to Dzingwe, it is of importance for the Ministry to consider other small players who are participating in the industry other than blocking them from mining for quite a long period of time with nothing being done on the ground.

"No one is fighting EPOs, but artisanal small-scale miners and other stakeholders are only against the manner in which these EPOs have been blanketed across all mining provinces in Zimbabwe. It is in the manner they have been carpeted disadvantaging artisanal small-scale miners and other stakeholders thus a thorn in the flesh. The Ministry of Mines should have considered other small players' great participation in the mining industry other than blocking, stilling, aborting or making them extinct with time. We need coexistence of both large- and small-scale miners and preclusion of certain areas throughout all mining provinces for free participation of artisanal

small-scale miners and other stakeholders to prospect and peg with no restrictions from the blanketed or carpeted EPOs"

"Certain portions throughout all mining provinces with EPOs must be precluded or EPOs reservations to allow artisanal small-scale miners and other stakeholders free participation in the mineral wealth of their own country as sons and daughters of this wonderful country," said Dzingwe.



Ready to get down - Mr Takaedza (orange helmet) and team on a project where they were drilling down to 400m to get to the reefs

Mr Patrick Takaedza the Group Chief Geologist for RioZim which is currently the largest diversified mining company and gold producer said

"One thing that the small scale miners have overlooked is the fact that EPOs are not there to explore for gold only. Literally all big mines have been discovered through exploration in EPOs, including ZimPlats itself".

"Exploration is very expensive and risky business which the small scale miners have no capacity to undertake. The big companies who have that capacity will not invest in 10ha size claims for the simple fact that such a small area will never hold significant resource to recoup investment or

produce for a couple of years" he continued

"Recent thrust in exploration is to find deposits that are subsurface without any surface expression which the small scale miner has no capacity to find.

"Exploration diamond drilling costs approximately US\$100 per m. So EPOs focus on long term sustainability of the mining industry while small scale miners are just focused on near surface, less than 100m reefs which sooner or later will get depleted and exhausted"

"Production will need to be replaced by deeper reefs or much lower grade deposits and neither of these are attractive to the small scale. Artisanals will never sustain the mining industry because of these two simple facts. They cant mine deep and they cant mine lower grades' He ended.

What needs to be done?

Small scale and artisanal miners should desist from a culture where they prefer lamenting about EPOs like what has been happening for the past years with no progress certainly coming from their lamentations.

It is therefore vital for miners to rather map a way forward by engaging government on the following three points:

1) Approving and disapproving EPOs

It is important for miners to know that they have the power to approve or disapprove EPOs if the EPOs have not been signed. Miners, therefore, have the right to lobby for disapproval or approval, when approved miners are also able to push for them to be granted access to the receded land along

with geological data yearly, this release of land and follow up by all miners across the mining provinces will, therefore, curb corruption.

2) Permission and retainment

The other parts of the act that allow miners access through permission and retainment of their claims should be enforced as per the act this will curb corruption through miners no longer being overridden or disregarded when in possession of land rights, in order to oppose and make proper submissions referencing the act.

3) Use it or lose it

Miners must lobby to ensure that the use it or lose be enforced as this guarantees the release of land tied up for years under the guise of EPO's or ownership, the need for the activity will push owners to release land leading to miners accessing more land.

It is a known fact that Zimbabwe is seeking to resuscitate the economy through mining, therefore, there must be proper functional processes that allow and cater for small, medium and large-scale miners, the bigger picture is to quantify minerals and the quantifying of these minerals must be done within the confines of the law.



It is of paramount importance to note that all exploration projects must be monitored by all stakeholders and representatives to curb speculation and declaration of false or distortion of exploration data.

Conclusion

As renowned geologist Kennedy Mtetwa would sum it up, it is extremely important for the country to grant EPOs and these EPOs actually can take a long time because world-class mines don't get discovered in 3 years. It took many years of exploration to have the development of mines like Unki, Mimosa, and Zimplats.

Mtetwa also said that, by Zimbabwe stopping EPOs, it would push us behind by

10 years in getting new deposits from new EPOs. On global statistics, only 10 percent of EPOs will return viable projects in 10 years. The banning of EPOs will come back to haunt the country in terms of serious mining.



When an EPO is granted, EPO holders allow miners to peg in areas they don't have interest in after first pass exploration.

It is also extremely important for the government to monitor the activities of EPOs to avoid a situation where there would keep mining land for speculative purposes other than exploring. EPOs holders must make public their findings quarterly to increase transparency.

It is also important to note that, it would be foolish for the government of Zimbabwe to open the whole mining area for small scale mining prospecting before exploration, if EPOs were not granted for the Zimplats, Karo, Arcadia lithium project, etc, the whole area would be under small scale gold miners as we speak, other minerals would be put to waste.



Renowned Geologist Kennedy Mtetwa

Minerals and Location found in Zimbabwe

Agate	Nyamandhlovu, Chikomba, Lupane
Aluminum	Mutare, Nyanga, Mwenezi
Amazonite	Nyamandhlovu, Rushinga
Amethyst	Nyamandhlovu, Hurungwe, Hwange, Makonde, Lupan
Antimony	Kwekwe, Bubi, Mberengwa, Kadoma, Shurugwi
Arsenic	Bubi, Shurugwi, Mutare, Gwanda
Asbestos	Masvingo, Gwanda, Matobo, Mberengwa, Insiza, Makonde, Umzingwane
Aventurine	Masvingo, Beitbridge
Barites	Kwekwe, Mwenezi
Beryl	Hurungwe, Kariba, Goromonzi, Harare, Mudzi, Rushinga, Mutoko, Bindura, Marondera, Gutu, Buhera, Bikita, Chegutu, Hwange, Mberengwa, Gweru
Bismuth	Gwanda, Insiza, Goromonzi, Hwange
Cesium	Mudzi, Bikita, Goromonzi
Calcite	Hwange, Bindura, Chiredzi, Mwenezi
Chromium	Mberengwa, Guruve, Makonde, Gweru, Kwekwe, Shurugwi, Chegutu, Kadoma, Gwanda, Insiza, Masvingo, Chirumanzu
Citrine	Marondera, Harare, Goromonzi
Clay	Harare, Bulawayo, Gwanda, Gweru
Coal	Gokwe, Chiredzi, Beitbridge, Mwenezi, Hwange, Lupane, Binga, Kariba, Hurungwe, Bikita
Cobalt	Kwekwe, Insiza, Shamva, Bubi, Bindura
Copper	Makonde, Kadoma, Mutare, Chirumanzu, Chegutu, Kwekwe, Shurugwi, Beitbridge, Gokwe, Bindura, Chipinge, Bikita, Insiza, Makonde, Harare, Bulawayo, Shamva, Chiredzi, Nkayi, Mudzi, Chegutu, Bindura, Kwekwe, Hurungwe, Bubi, Makonde, Bikita, Gwanda, Masvingo.
Cordierite	Hurungwe, Beitbridge, Chimanimani, Rushinga, Makuti
Corundum	Beitbridge, Chiredzi, Shurugwi, Marondera, Mberengwa, Mazowe, Rushinga, Insiza, Goromonzi, Wedza, Makoni
Diamond	Gweru, Bubi, Beitbridge, Binga, Mwenezi, Mutare, Chivi
Diatomite	Hurungwe
Dolomite	Mutare, Beitbridge, Makonde, Mudzi, Masvingo, Rushinga.
Emerald	Gutu, Masvingo, Insiza, Mberengwa, Hurungwe.
Feldspar	Harare, Bikita, Umzingwane, Goromonzi
Fireclay	Hwange, Chiredzi, Kwekwe, Lupane, Nkayi, Kadoma, Kwekwe
Flint clay	Mwenezi, Beitbridge
Fluorite	Hwange, Guruve, Binga
Garnet	Beitbridge, Hurungwe, Mudzi, Guruve, Rushinga, Marondera
Graphite	Hwange, Hurungwe, Kariba, Makonde
Gypsum	Beitbridge
Gold	Every district in Zimbabwe
Iron	Kwekwe, Mberengwa, Harare, Kwekwe, Buhera, Gweru, Charter, Chiredzi, Masvingo, Mazowe, Kadoma.

Minerals and Location found in Zimbabwe

Jade	Masvingo
Kaolin	Kwekwe, Mutare, Bubi, Hwange, Kadoma, Mazowe, Harare, Umzingwane, Nkayi, Chegutu
Kainite	Hurungwe, Nyanga, Mudzi, Rushinga
Lead	Mberengwa, Kwekwe, Gokwe, Mutare, Wedza, Hwange
Limestone	Mberengwa, Gwanda, Bindura, Shamva, Mazowe, Kadoma, Umzingwane, Gweru, Chegutu, Chimanimani, Mudzi, Harare, Hurungwe
Lithium	Goromonzi, Mudzi, Buhera, Bikita, Chegutu, Hwange, Harare, Insiza, Rushinga, Mutoko, Mutare, Hwange
Magnetite	Gwanda, Nyanga, Kadoma, Mwenezi, Insiza, Buhera, Mberengwa, Beitbridge, Gweru
Manganese	Kwekwe, Gweru, Makonde, Mberengwa
Mercury	Bubi, Kadoma
Mica	Hurungwe, Rushinga, Kariba, Hwange
Molybdenum	Kwekwe, Insiza, Shurugwi, Makonde, Chipinge, Gweru, Mutare
Mtorolite	Guruve, Mutare
Nickel	Bubi, Makonde, Kwekwe, Insiza, Guruve, Shamva, Shurugwi, Matobo, Chegutu, Bindura, Gweru.
Ochre	Gweru, Kwekwe
Palladium	Kwekwe, Makonde, Shurugwi, Chegutu
Phosphate	Buhera
Platinum	Kwekwe, Makonde, Shurugwi, Chegutu, Centenary
Pyrite	Shurugwi, Gwanda, Mazowe, Kadoma, Bulilimangwe, Shamva, Hwange.
Salt	Mwenezi
Sapphire	Mudzi
Selenium	Makonde
Silica	Gweru, Kwekwe, Makonde, Chegutu, Gokwe, Harare, Goromonzi
Sillimanite	Hurungwe
Silver	Makoni, Makonde, Kwekwe
Talc	Bubi, Guruve, Insiza, Nyanga, Mutare, Mt Darwin, Mberengwa, Goromonzi, Mutoko, Wedza, Kwekwe, Makoni
Tantalum	Hurungwe, Guruve, Kariba, Mudzi, Mutoko, Shamva, Bindura, Harare, Goromonzi, Murehwa, Mt Darwin, Rushinga, Mazowe, Marondera, Gutu, Masvingo, Buhera, Bikita, Mutare, Hwange, Chivhu, Mberengwa, Chimanimani, Makoni, Insiza
Tin	Hurungwe, Mudzi, Shamva, Bindura, Goromonzi, Harare, Rushinga, Mt Darwin, Nyanga, Gutu, Bikita, Hwange, Masvingo, Mutare
Topaz	Hurungwe, Gweru, Mutare
Tungsten	Hurungwe, Kariba, Shamva, Mazowe, Rushinga, Bindura, Guruve, Mt Darwin, Harare, Mudzi, Goromonzi, Bulawayo, Insiza, Matobo, Gwanda, Umzingwane, Bubi, Buhera, Mberengwa, Kadoma, Bikita, Shurugwi, Mutare, Chipinge, Chegutu, Kwekwe, Chiredzi, Wedza, Gweru, Hwange, Masvingo, Makoni
Vanadium	Mt Darwin, Guruve, Bulawayo
Vermiculite	Buhera, Mudzi
Zinc	Kwekwe, Gokwe, Nyanga

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