

ENHANCING LOCAL CONTENT DEVELOPMENT IN THE OIL AND GAS SECTOR THROUGH BARITE PRODUCTION

INTRODUCTION

The Association of Miners and Processors of Barite in Nigeria (AMAPOB), through its national president Mr. Stephen Alao, revealed that the country loses over N5 billion annually in foreign exchange to the importation of barite by companies in the oil and gas industry.

Interestingly, Nigeria has an estimated reserve of over two million (2,000,000) metric tonnes of barite ore scattered in different parts of the country including Benue, Nassarawa, Plateau and Cross River states. Cross River State has the highest quantity and quality of barite in the country, as the mineral can be found in commercial quantities in Obubra, Yala, Biase, Ikom, Yakurr and Obanliku Local Government Areas.

The abundance of different types of mineral resources in Nigeria have provided the nation with a lot of opportunities for both local and foreign investment. However, the current mining operation in the country is still not well developed, resulting to resources like barite being imported from other African countries and regions of the world. Nevertheless, there are still chances for positive turnaround if the government can initiate measures to harness the large deposits of identified natural mineral resources in the country.

The oil and gas industry is the primary user of barite worldwide, it is used as a weighting agent in drilling mud to open up the environment. The sector is a growth and thriving industry to invest in, judging by the global demand from the oil and gas which according to available statistics has been on a long-term increase.

The activities and the high demand of this precious mineral resources by players in the sector and other users, have instigated price of barite to increase steadily annually, thereby placing the commodity as a major source of revenue earner for the would be investor and the country. Price levels during 2012 were between 10 per cent and 20 per cent higher than 2011 in many key markets. While typical price of drilling mud barite is about \$150 (N54, 600) per metric ton at the mine.

On the other hand, available data on substitutes for barite in drilling mud include celestite, ilmenite, iron ore, and synthetic hematite, but none of these substitutes

have been able to effectively displace barite in any major market all over the world either because they are very expensive or do not perform competitively as barite.

This accounts for why countries such as China and India invested heavily to be ranked as the leading producers of barite, and also having the largest reserves. Nigeria, (yet to rival world producers) like the United States of America, does not produce enough barite to supply its domestic needs. In 2011 the United States produced about 700,000 metric tons of barite and imported about 2,300,000 metric tons. Hence, the urgent need for all stakeholders to heed the call by AMAPOB and open the space for interested local and foreign investors.

Arising from a stakeholders meeting on Wednesday 5th 2018, with the Nigerian Content Development and Monitoring Board (NCDMB), which is the sole agency of the Federal Government responsible for driving Nigerian Content in the Oil and Gas industry, it was evident that AMAPOD's fears and our concerns may be short-lived going by the assurances from the agency on its involvement in barite processing. The nation's 50 years losses of capital flight, jobs and the less than 5 percent in-country value addition in the sector will ultimately be addressed.

What is Barite?

According to industrial experts, Barite is a mineral composed of barium sulfate ($BaSO_4$). It receives its name from the Greek word "barys" which means "heavy." This is in response to barite's high specific gravity of 4.5, which is exceptional for a nonmetallic mineral. The high specific gravity of barite makes it suitable for a wide range of industrial, medical, and manufacturing uses. Barite also serves as the principal ore of barium and comes in different varieties such as the Barite Rose: This "barite rose" is a cluster of bladed barite crystals that have grown in sand, incorporating many of the sand grains within each crystal.

Barite Occurrence

Barite often occurs as concretions and void-filling crystals in sediments and sedimentary rocks. It is especially common as concretions and vein fillings in limestone and dolostone. Where these carbonate rock units have been heavily weathered, large accumulations of barite are sometimes found at the soil-bedrock contact. Many of the commercial barite mines are produced from these residual deposits.

It is also found as concretions in sand and sandstone. These concretions grow as barite crystallizes within the interstitial spaces between sand grains. Sometimes crystals of barite grow into interesting shapes within the sand. These structures are known as "barite roses".

Uses of Barite

This vital mineral is used as a weighting agent in drilling muds and 99 percent of the barite consumed in the United States and other developed economy is by the oil and gas. It is also used as a pigment in paints and as a weighted filler for paper, cloth and rubber. Barite is the primary ore of barium, which is used to make a wide variety of barium compounds. Some of these are used for x-ray shielding. Barite has the ability to block x-ray and gamma-ray emissions. Barite is used to make high-density concrete to block x-ray emissions in hospitals, power plants, and laboratories.

Global Market Forecast

Economic experts are predicting that the global market trends for barite is estimated to exceed USD 4.1 billion by 2024; according to a new research report by Global Market Insights, Inc. Rapidly growing oil & gas industry primarily in the U.S. owing to excess availability of shale reserves along with changing industry dynamics to increase dependency on alternative energy sources has pushed barite market size in the past few years. This is prospective to continue owing to strong need to meet energy demand in several industries including transportation, power, etc. which will subsequently generate ample growth avenues for barite market size by 2024. Nigeria's case could even be better as the country's oil and gas reserves is not so much under the threats of Shale oil for now.

The interest of PENGASSAN in Barite sector Development

As a responsible senior staff Association and a major stakeholder in the oil and gas industry, one of our cardinal objective is to contribute in nation building and development. We believe and also lend total support to a holistic expansion of activities in our sector in particular and the nation at large through investments in barite exploration, mining and usage. This we strongly believe will trigger multiple effects in activities, firstly to nation's economic outlook and also impart on us as a major worker's representative and a direct beneficiary in the following areas;

1. Job Creation/ Industrialisation

The nation's 35.3 billion barrels crude oil reserve will continue to attract investors from all over the world and with the target of producing four million {4,000,000} per day by 2020 , barite ore would continue to be in high demand. Similar investment is going on the different parts of the world to meet up with the global demand for oil which is expected to double in 2020 to further deepen the market for barite ore. What this translates is employment creation for our teeming unemployed youths and an increase in per capital income and the nation's GDP.

Conversely, PENGASSAN strongly believes that the states with proven deposits of barite could be on their way to joining the league of industrialised states if properly harnessed. It will also put an end to importation which has led to loss of jobs, infrastructural deficiencies and a huge strain on local mining sector. Besides, optimal utilisation of other solid minerals may also create over one million direct and indirect jobs within Nigeria and above Africa's inter-trade activity, which currently stands at \$110 billion.

2. Availability of the Product Locally

One of the cardinal objective of the Nigeria oil and gas industry content development Act is to encourage local production of substitute items for the sector. Barite ore though locally available, but majorly imported into the country until the government placed a restriction on the importation of the product to encourage the local industry, is one area of investment that can be exploited by both local and international investors to the benefit of the nation's economy.

3. Foreign Exchange Preservation/Earner

The countries with the largest trade surpluses are the ones with the greatest foreign reserves. This is because they wind up stockpiling dollars as they export more than they import. The reverse is the case for an economy that is dependent on importation. A recent document obtained from Solid Mines Limited, showed that the sector could add as much as \$50 billion to the nation's Gross Domestic Product (GDP) from 0.3 per cent to 10 per cent growth in the next three to five years, if the necessary investment is made.

PENGASSAN therefore calls stakeholders in the sector to look inward to help the country conserve the scarce foreign earnings.

4. Our Support For NCDMB

As an Association, we shall support the activities of the Nigerian Content Development and Monitoring Board (NCDMB), to create awareness on the provisions and opportunities in the NOGICD Act, as well as monitor compliance with content commitments in bids and other aspects.

What Government Should Do

1. PENGASSAN believes and supports the notion that “government has no business in business”, hence it is our submission that various levels of government creates the enabling environment and policies that will drive the exploration, mining and exportation of barite to markets where we have comparative advantage and also act as a revenue earner for the country.
2. That policy pronouncement especially on NOGICD Act on the mining sector should be fine-tuned in order to avoid unnecessary pitfalls and logjams that may discourage prospective investors.
3. That the prohibition on the importation of barite be made total so as to encourage local investment and production.
4. The Monitoring compliance and enforcement provisions arms of NCDMB should be equipped and straightened.
5. The licensing issuing body should ensure that only serious miners are granted with operating license and with guidelines and modes of operations properly spelt out.
6. We also will strongly advocate that oil and gas industries should conserve the scarce foreign exchange through massive patronage of locally produced barite.

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