

Managing our Mineral Resources in Changing Times

CLINTON THOMPSON

Commissioner of Mines, Mines and Geology Division

Mr. Chairman, local and overseas delegates, specially invited guests, ladies and gentlemen. It is indeed a pleasure to address you this morning at this, the opening ceremony of the 9th International Congress on Rudist Bivalves.

I would like to take the time to also say a warm Jamaican welcome to all and especially to the delegates from the various countries and continents that are represented here this morning.

Two years ago, in 2009, the Mines and Geology Division celebrated its 150th Anniversary. That occasion was not about celebrating 150 years of existence but importantly, 150 years of work and achievements in the geosciences in Jamaica. It is often said that the past defines the future, and that in order to know where you are heading on a journey, one must always check the rear view mirror.

History records the contribution and the role played by past directors of Jamaica's Geological Survey – some of whom, in a real sense, could be regarded as pioneers in their own right.

This Congress on Rudist Bivalves inspires us to turn the pages of history and reflect on the work and contribution of one of our past directors, Lawrence John Chubb. We must however, not fail to mention that the official survey in this area actually commenced in the 1800's when an attempt was made at resolving Jamaican stratigraphy by Henry Thomas De la Beche, the pioneer for the Geological Survey of Great Britain. His dating was erroneous, but was formally corrected by Lucas Barrett, Director of the first Government commissioned geological survey of Jamaica. His discovery of a "Hippurite" rudist in Back Rio Grande in the Blue Mountains, laid the platform on which Jamaican Stratigraphy would be resolved. Following up on the many studies conducted on Cretaceous rock successions by Trechmann, Chubb focussed on building on this seminal work, making several contributions to understanding the Jamaican Cretaceous. The thick Jamaican Cretaceous succession and the diversity of rudists species compared to other places in the Caribbean appealed to Chubb. He naturally took an interest in resolving the problems of stratigraphy and correlating the rock record with other areas of the Caribbean and

Central America. He utilized palaeontology to the utmost and was successful. He published numerous papers in several academic journals. This undertaking led him to become, in his time, the leading authority on Rudistids and Caribbean Cretaceous fossils. Chubb undertook the enormous task of documenting and figuring all the known species of rudists in Jamaica. He located George Wall's fossil collection in the Natural History Museum, London, and in the process also named one of the species. He compiled all his work along with those of other palaeontologists to assemble the timeless taxonomic monograph number 45 "*Rudists of Jamaica*" in *Palaeontographica America* of 1971.

Chubb, like others before, made an indelible mark on the Jamaican geology; he never restricted his work to sediments and fossils only. His contribution along with others before laid the foundation for the modern geological survey. Today, one and a half centuries later, we continue benefit from the work of our past directors and are committed in this changing landscape in which we operate to do more with even less. In this regard, the MGD is therefore challenged to develop and adopt strategies to ensure that we fulfil our mission, which is: *'to develop a comprehensive scientific understanding of the geology of the island and direct the orderly development of the country's minerals industry, ensuring that all activities proceed in accordance with the relevant legislations and in harmony with the environment.'*

Therefore, as we continue on our journey of modernizing our minerals industry and meeting the global challenges, we are mindful of the importance of being more resourceful in how we manage our resources. We recognize the need for proper management and sound environmental practices in the development of our mineral resources and importantly the needs of other sectors of our economy. In light of this, we have adopted a number of strategies to address this specific concern. All applications of licences to extract minerals must now be accompanied by a mine/quarry plan which must address the three stages, pre-mining, mining and post mining - known as Life of Mine Plans. This requirement is now

embraced by other mining jurisdictions throughout the World. No longer are these activities viewed as separate and unrelated areas of companies' operation, but as part of an integrated operation. If we don't know the goal we are working towards, we stand a good chance of missing it. This also brings into focus the issue of restoration/rehabilitation of mined out lands which has been an area of concern for some time now.

Again, if we do not mine/quarry with a final plan in mind, we will run into problems which have been the experience. This has been the case in the past. One of the concepts that we are now promoting more is that where possible, mining companies should incorporate mining infrastructure as part of national development. For example converting mining haul roads to being part of the country's road network

As part of our efforts to address the long standing issue of restoration, the MGD established a National Restoration Committee (NRC) in 2009. The aim of the NRC is to develop guidelines for rehabilitation of lands disturbed for mining and quarrying – ensure all lands disturbed are satisfactorily restored in accordance with approved end use. Bench marking, best practices along with Research and Development are other key areas of focus. As a country, we have seen the result of being almost totally dependent on one industry (bauxite) rather than the development of the entire sector. The downturn in the bauxite/alumina industry is a vivid reminder of the need to continue, and importantly, treat as a matter of priority, the diversification of the sector with specific focus on the transformation of the Industrial Minerals and the Non-bauxite Metallic Minerals sub-sectors.

Integral to the transformation process is an area that I am sure would be endorsed by all of us gathered in this room here this morning, which is Research & Development (R&D). R&D provides the opportunity for us to maximize the potential of our mineral resources. It is effectively an investment in the development of the respective industries and by extension the sector. This however requires that we adopt a strategic approach which would see a better exchange of data, information and best practices for the development and implementation of projects. Integral to this, is the development of Information Systems to identify the geology and mineral resources capacities of public institutions such as ours (MGD), research centres, universities and consultancies, documenting their field of work capacities and experience.

The changing environment in which we operate, demands that we adopt a strategic

approach to R&D. We must ensure that we are innovative in order to meet the challenges that confront us. To site an example, just recently we were informed by the company that purchases almost all the high purity limestone (commonly referred to as whiting) exported from Jamaica to the U.S.A, that the US Pharmacopeial (USP) contemplating introducing a requirement that the level of Cadmium in limestone imported into the USA for use in pharmaceutical applications should not exceed 0.5 ppm. (much lower than the level found in natural calcium carbonate deposits)

If this requirement comes into effect, then this would have a significant impact on the gains we have made throughout the years in developing this product and its market – especially the economic and social consequences! The material that we now export which is considered high grade limestone or whiting, meets the current specification for Cadmium levels of less than 1 ppm (averaging around 0.7 ppm). This sends a clear signal to us, as the Agency charged with the responsibility to not only regulate the sector, but conduct research that we must be proactive, deliberate and strategic in the execution of our mandate. We know all too well those of us who understand the life cycle of businesses that the graph shows a growth phase then maturity, after which comes the decline. It is at that phase in the life of a business, especially when you are dealing with existing products that you must become creative or innovative as failure to do so can result in the death of your business.

What is the lesson from this development with the USP? This requirement may not come into effect immediately, and we hope never will, but it means that we must be prepared to respond to these developments appropriately. What do I mean; areas of our operations such as our research must be application driven. This is a concept that we have embarked on, especially regarding our industrial minerals.

Years ago, when we imported aggregate from Nova Scotia, Canada, the government received a lot of negative feedback from the mining/quarrying industry and the public. Arising out of this, the Mines and Geology Division conducted a series of investigations which resulted in the identification of large deposits of Skid Resistant Aggregate in strategic locations throughout the island. We sincerely hope that that experience will never be repeated.

Coming out of the Cadmium experience the MGD, will be embarking on further research to identify the levels of heavy metals in our limestone deposits and map these results, thus creating greater value to the area of geoscientific mapping. A few

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weeks ago, I attend a workshop in Brussels, Belgium which examined a Draft Framework of Action for the Development of Mineral Resources in African, Caribbean and Pacific (ACP) Countries – 79 countries. The overall objectives of the Framework of Action are to foster the development of the mineral resources industry in support of the sustainable development of ACP countries and to contribute to poverty alleviation and social development in the mining sector.

The specific objectives are to strengthen the management capacity of ACP countries in the mineral sector, to integrate sustainable development measures into the ACP mining sector and to enhance the ability of states derive maximum economic and social benefits from the sector, while mitigating the negative impacts of the mining industry. Looking at a minimum funding of 1 billion euros over 10 years from Development Partners including the European Union and the financial institutions – EIB (European Investment Bank), World Bank, AfDB, etc.

The point I am seeking to emphasise here is that, despite our geographic locations, the issues related to minerals and its development are global. It is patently obvious that the challenges we face today and those will encounter in the future demand that we adopt a new approach in the way

we conduct our activities. The challenges we face are not unique to this country – in order to overcome them and progress we must develop partnerships and alliances among public and private institutions, research centres, universities etc...not just locally, but beyond our territorial boundaries. As you come together over the next three days to share and exchange scientific information at this the 9th International Congress, may your interaction and experience be a truly rewarding and fulfilling one and hopefully result in new discoveries and renewal of our collective minds.

I note from the conference program that you have three intense days of papers and presentations – I say especially to the overseas delegates – take time to enjoy yourselves and experience the true warmth of our Jamaican hospitality.

In closing, I wish for all, a successful conference and that you will continue to play your part in ensuring that the geosciences remain relevant and importantly contribute in a meaningful way, to the growth and development of our respective economies and by extension our countries .

I thank you.

Clinton Thompson
Commissioner of Mines