FOREWORD

Minerals are a significant part of the patrimony of a people. However, left undeveloped, they are of little benefit, particularly in the case of an emerging economy such as Jamaica’s. The materials that these resources provide are needed to propel the economy, generate wealth and improve the well-being of our people.

Primary industrial activities generate limited social and economic benefits. I am therefore pleased that the Policy places significant emphasis on the production of value-added mineral products, which create far greater revenues for the country, increased profits and more and better-paying jobs. It is also clear that poorly regulated or unregulated mineral exploitation activities are very serious potential threats as they may cause large-scale environmental, social and economic harm.

I am therefore pleased to present Jamaica’s first National Minerals Policy, which sets out a comprehensive and unified approach to develop the country’s Minerals Industry and to ensure that the Jamaican people are the major beneficiaries. This Policy therefore constitutes an important aspect of the Government’s determination to develop a broad-based industry within the construct of sustainability and signals its aim to create a modern and diversified Minerals Industry. It presents Government’s positions, establishes the official framework and facilitating structures to guide the effective management and continued transformation of the industry and to ensure its harmonious existence with competing interests in the wider economy.

I expect that this Policy will help to fashion a positive, balanced and competitive environment which encourages investment and development with an emphasis on the manufacture of value-added products, export-led growth and effective environmental management. This, I believe, will generate greater wealth, provide quality employment for larger, more skilled and more highly qualified numbers of Jamaicans and so extract optimum benefits from these resources.

Derrick Smith, M.P.
Minister of Mining and Telecommunications
July 2008
EXECUTIVE SUMMARY

Background
Minerals are valuable, finite and non-renewable natural resources. They provide raw materials for many industries and have played a central role in the evolution of human society and the development of leading economies.

Jamaica has a range of commercially exploitabl e minerals, including a wide variety of limestones, hard volcanic rocks, bauxite, marble, base and precious metals, sand and gravel. These minerals are of major significance to Jamaica’s economic development, particularly their contribution to the national economy, their impact on, and linkages with other sectors, and their overall contribution to GDP. In fact, since 1985 the Minerals Industry has contributed at least 5.2% to Jamaica’s annual GDP.

Rationale for a Minerals Policy
The Government of Jamaica recognizes that a properly planned, efficiently regulated, and professionally marketed Minerals Industry can make a significant contribution to national development. The National Minerals Policy seeks to establish the framework for the country’s approach to managing its mineral resources and developing its Minerals Industry. It arises out of a necessity to:

i. create a single, coherent national approach for the Minerals Industry, which will develop the enabling environment to encourage further investment and promote diversification and development of the industry;

ii. consider the rationalization of the numerous pieces of legislation governing the industry;

iii. revise the land-use and land management framework to allow for sequential planning and so optimize the benefits of exploiting the country’s mineral resources, while minimizing negative social and environmental impacts.

Vision
The vision of this Policy is for a modern, diversified, efficient and attractive Minerals Industry that protects environmental integrity and socio-cultural values, adds significant value to the economy, is based largely on the manufacture and export of value-added products, has strong and properly structured institutions and co-exists with competing interests in the wider economy.

Goals
A successful Minerals Industry in Jamaica must be supported by a strategic direction that will lead to greater economic opportunities and higher levels of investment, over the long term. The broad goals of this Policy are:

i. An industry in which current investments are safeguarded, new investments are attracted and benefits are maximized in the interest of the national economy, local communities and the companies;

ii. A Minerals Industry that contributes to sustainable national development and integrates the concept and principles of sustainable development in local and national decisions that affect the industry. This includes the effective management of mineral resources and mineral-bearing lands from the pre-mining to post-mining stage;
iii. A Minerals Industry that exemplifies environmental best practices;
iv. Increased mineral exploitation, production of value-added goods, exportation of minerals and mineral products, and the expansion, diversification and modernization of the Minerals Industry;
v. A modern legislative framework and supporting institutions which enable continued development of the Minerals Industry;
vi. A strong and profitable industry which includes substantial local interest as outlined in the National Industrial Policy and further enunciated in other national policy documents.

Policy Objectives and Strategies
The policy objectives which it is envisaged will result in a viable and publicly supported mineral resource sector are:

1. To enhance the industry's regional and international competitiveness.
2. To facilitate increased investment.
3. To ensure the effective management of the Minerals Industry, mineral resources and mineral-bearing lands from the pre-mining to post-mining stage.
4. To provide a framework for the increased application of science and technology within the Minerals Industry.
5. To facilitate product diversification, increased levels of import substitution, improved product quality, optimized utilization of minerals resources and expansion of the industry.
6. To address under-development of certain sub-sectors while removing imbalances.
7. To regulate the industry to ensure effective management of the environment, and the promotion of and adherence to best practices in health and safety standards.
8. To promote increased benefits from minerals operations to the host communities.
9. To facilitate exports and increased market share.
10. To promote and facilitate increased levels of integration with other segments of the economy.
11. To increase public awareness of the country’s endowment of mineral resources and their strategic role in the country’s social, cultural, economic and industrial development.
12. To promote the development of human resource capacity within the industry.
13. To further investigate the feasibility of promoting the exploitation of off-shore mineral resources.
14. To reform the existing legislative framework to encourage the development of all sectors of the Minerals Industry.

This Minerals Policy outlines some new policy initiatives and is designed to effectively address the emerging issues and challenges and requirements of a growing industry within a complex financial, sociological and environmental scenario. The strategies and approaches to be pursued in the effort to realize the industry’s continued transformation and development are elaborated under the following headings:

1. A Sustainable Approach to Mineral Development - which speaks to incorporating the guiding principles of sustainable development within the Industry.
2. The Business Climate: Ensuring Competitiveness - which details the approaches which will be taken in presenting the country’s Minerals Industry as an area in which to invest. It
addresses issues such as attracting investment, ensuring the existence of an enabling regulatory environment, and a strategy of mineral development.

3. Institutional Arrangement - which details proposals for the most effective arrangement to enable the policy's effective implementation. Attention is given to strengthening various state entities associated with the management of the country's mineral resources and facilitating the development of industry.

4. The Role of Science and Technology - including research and development, technology and training and the use of scientific methods for exploitation and land rehabilitation.

5. The Management of Mineral Resources - including the management of mineral reserves, mineral-bearing lands, land rehabilitation, the production of minerals and the manufacturing of value-added mineral products.

Projected within the context of a small island developing State, with the vulnerabilities and limitations attendant upon such a status, the Minerals Policy creates necessary balances between complex competing interests pertinent to facilitate sustainable national development and to augment the goals of the National Industrial Policy and other national policies. In this regard, it furthers the commitments of the National Industrial Policy relating to the development of minerals as a significant pillar of the economy; and the National Land Policy as it relates to land management, and specifically the management of mineral-bearing lands, including the rehabilitation of mined lands. It also promotes the manufacturing of value-added products, sequential land use planning and the prevention of sterilization of economically beneficial mineral resources.

Particular effort has been made to ensure that sustainable development considerations, especially environmental considerations, are infused into the strategies outlined for the development of the industry and the guiding principles that will be followed.

Monitoring and Evaluation

The Ministry with responsibility for the minerals portfolio shall develop appropriate action plans, which will outline the mechanisms by which the policy goals and objectives will be achieved, and detailing the strategies, roles and responsibilities, and timeframe. The Ministry shall be responsible for data collection and for evaluation of this Policy at the end of the first year after its implementation. Revision of the policy and the status of its implementation will be conducted once every three years. A progress and analysis report with respect to its impact and achievements will be presented every year after its implementation.
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SECTION 1
INTRODUCTION

1.1 Background

The Government of Jamaica recognizes that a properly planned, efficiently regulated, and professionally marketed minerals industry can make a significant contribution to the country’s development. This is particularly important as our mineral wealth is finite and the resources are largely non-renewable, which means that they must therefore be exploited with concern for future generations.

Jamaica’s Minerals Industry has several strengths which afford it the ability to attract investment, provide employment and create wealth. However, it also has a number of weaknesses, which must be corrected so as to put the industry in a position to develop sustainably and more importantly, the various threats must be appropriately addressed.

**Strengths**

- Significant quantities and excellent grade of mineral resources, namely bauxite, limestone and hard volcanic rocks.
- Strategic location to major international markets.
- Ongoing investment in the industry. This is especially the case in the Bauxite/Alumina sub-sector and the Industrial Minerals Sector.
- Growing businesses - Some companies have amassed a favourable amount of experience and financial resources which are being reinvested to facilitate further growth.

**Weaknesses**

**General**

- High level of dependence on the Bauxite Alumina Sector.
- Over-reliance on foreign direct investment capital.
- Aging infrastructure, which require modernisation at a more rapid pace.
- High energy cost and dependence on imported energy.
- Absence of detailed minerals-related data in the non-bauxite/alumina sub-sector.
- Tardiness at rehabilitation of mined lands.
- Proliferation of illegal quarrying activities.

**The Industrial Minerals Sector**

- Under-capitalization of operations.
- Limited access to bulk loading port facilities, which stifles the sector’s development.

**Threats**

- Large number of land-locked quarries, which contributes to high inland freight cost and the transportation of material over long distances on public roads.
- Proliferation of small, globally unproductive and uncompetitive quarries.
- Poor public image.
- Low levels of formally trained personnel in areas specific to the sector’s development. These include mining engineering, minerals management, minerals economics and related areas.
- Need to streamline the quarry zoning process.

- A highly liberalized economy which allows for the increased possibility of importing mineral products that can be locally produced.
- More facilitatory government policies and a more engaging private sector in competing mineral producing countries such as the Dominican Republic, The Bahamas and Mexico, threaten growth potentials in Jamaica.
- Low levels of research and product development.
- Absence of institutions training mining/minerals professionals.
- Difficulties in locally-owned entities accessing capital funding on terms which would stimulate their development.
- Failure to present a consistent and organized public relation campaign promoting the industry.
1.1.1 **Purpose of the Policy**

The purpose of this Policy is to establish a formal framework that outlines Jamaica’s approach to managing its mineral resources and developing its Minerals Industry so as to contribute to sustainable national development.

1.1.2 **Definition and Scope of the Minerals Industry**

The Minerals Industry is a conglomeration of activities geared at exploiting the country’s mineral resources, and producing raw minerals and value-added mineral products consumed by various sectors of the economy. The scope of the industry includes:

- Mineral exploration and exploitation (namely mining and quarrying)
- Mineral processing, beneficiation and the manufacturing of mineral-based products, including alumina, construction blocks, lime, skid resistant aggregates. (Appendices III and IV outline a larger range of mineral-based products and the major minerals found in Jamaica. Appendix V illustrates the distribution of the various mineral resources)
- Mineralogical, mining and metallurgical research and development
- Environmental Management
- Mineral waste management and recycling
- Trading and professional services
- Transportation and machinery
- Land management, including land acquisition, land rehabilitation and management of mineral resources.

1.1.3 **The Relevance of Minerals to Jamaica**

Minerals are valuable finite and non-renewable natural resources. They provide raw materials for many industries and play a central role in the evolution of human society and the development of leading economies. They are used in various branches of industry, in construction and in our homes. Minerals of one or another form are used in the construction of aircraft, sea-going vessels, civil infrastructure, appliances, equipment and vehicles. They are also used in the manufacture of toothpaste, paper, paint, glue, ink, glass, jewellery, cosmetics and other personal items, animal feed, medicines, food, and they form the base material for many fuels and metals. Minerals of various forms also find uses in soil stabilization, pollution control and purification in numerous industrial processes.

Commercially exploitable minerals are of major significance to Jamaica’s economic development owing particularly to their contribution to the national economy and their impact on and linkages with other sectors.

Mineral exploitation in Jamaica pre-dates the arrival of Columbus, however, the country’s modern Minerals Industry started with the discovery of bauxite in 1942, and the beginning of large-scale mining in 1952. Since 1985 the Minerals Industry has contributed at least 5.2% to Jamaica’s
annual Gross Domestic Product. Significant contributions are made through taxes, inflows of foreign exchange and remuneration. Between 2001 and 2007 the industry’s annual average growth was 3.2%. By providing a huge amount of minerals and mineral-based products that may otherwise have had to be imported, the industry is a major participant in import substitution.

During the period 2001 – 2007, the industry directly employed annual averages of between 4,000 and 6,200 persons on a full-time and part-time basis, which represents between 0.42% and 0.59% of the employed labour force. These figures mainly reflect employment in the Bauxite/Alumina sub-sector and do not account for total employment in other sectors. The industry’s true level of employment is therefore higher than the official figures indicate. The Sedimentary Basin Resources Assessment Project Report (2006) indicates that the sand and gravel quarries island-wide directly employ 2,500 persons, and an estimated 88,000 persons indirectly. Furthermore, minerals operations are located primarily in rural and semi-rural areas and therefore play a major role in sustaining the livelihood and social fabric of a large percentage of persons in these communities.

The industry has significant links with various segments of the economy. The Government is committed to increasing and strengthening these linkages with local engineering companies; the construction industry; haulage, equipment dealers and rental companies; auxiliary services providers; professional services, health, legal, customs, the financial sector – banking, insurance, among others.

1.2 Rationale for the Policy

This Policy arises out of a necessity to:

I. Create a single, coherent national approach for the Minerals Industry, which will develop the enabling environment to encourage further investment, and promote development of the industry.

II. Consider the rationalization of the numerous pieces of legislation and legal documents governing the industry.

III. Revise the land-use and land management framework to allow for sequential planning and so optimize the benefits of exploiting the country’s mineral resources while minimizing negative social and environmental impacts.

1.3 Existing Legislative Framework

The main legislative issues impacting the Minerals portfolio are captured in the Mining Act, the Quarries Control Act, the Mineral (Vesting) Act, the Petroleum Act, incentive legislation for the Bauxite and Alumina Industries, the National Resources Conservation Authority Act, the taxation

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1 Economic and Social Survey, Jamaica (2007).
statutes and the land development statutes. A detailed listing of statutes governing the Minerals Industry is presented at Appendix I.

Cabinet Decision #3 of 1997, which sets out a number of incentives for new investments in the Industrial Minerals Sector, is also of particular importance. Specifically, it provides for the following:

i. a ten year tax holiday for all new businesses
ii. no custom duties (on non-CARICOM goods) for machinery and equipment
iii. no GCT on goods and services connected with the project
iv. no withholding tax of any nature on dividends, interest or other branch profit remittances to the extent such dividends, interest or remittances are exempt in the country of domicile.

1.4 Vision

A modern, diversified, efficient and attractive Minerals Industry which protects environmental integrity and socio-cultural values, improves our human resource capabilities, adds significant value to the economy, is based largely on the manufacture and export of value-added products, has strong and properly structured institutions and co-exists with competing interests in the wider economy.

1.5 Goals

A successful Minerals Industry in Jamaica must be supported by a strategic direction that will lead to greater economic opportunities and higher levels of investment, over the long term. In pursuit of increased economic development and improvement in the quality of life for Jamaicans, the broad goals of this Policy are:

I. An industry in which current investments are safeguarded, new investments are attracted and benefits are maximized in the interest of the national economy, local communities and the companies;

II. A Minerals Industry that contributes to sustainable national development and integrates the concept and principles of sustainable development in local and national decisions that affect the industry. This includes the effective management of mineral-bearing lands from the pre-mining to post-mining stage;

III. A Minerals Industry that exemplifies environmental best practices;

IV. Increased mineral exploitation, value-added products, exportation of minerals and mineral products, and the expansion and modernization of the Minerals Industry;

V. The effective management of mineral resources and the Minerals Industry including:
   i. management of mineral-bearing lands and mineral resources
   ii. ownership and access to mineral-bearing lands
   iii. inventory of mineral deposits and continued exploration
   iv. mineral rights and ownership
v. adherence to environmental regulations and mine closure
vi. regulations, market mechanisms and fiscal measures
vii. mineral commodity production and exports
viii. use of cleaner technology and increased training

VI. A modern legislative framework and supporting institutions which enable continued
development of the Minerals Industry;

VII. A strong and profitable industry which includes substantial local interest as outlined in the
National Industrial Policy and further enunciated in other national policy documents.

1.6 Linkages with Other Policies

The National Minerals Policy furthers the commitments of the National Industrial Policy
relating to the development of minerals as a significant pillar of the economy. The National Physical
Plan, 1978-1998, included recommendations and strategies for overall national development
strategy and background studies on sectors such as mineral resources, and development orders
that address all matters related to land use in a community or region, including the conservation of
mineral-bearing lands.

Coherence with the National Land Policy is achieved particularly as it relates to the
management of mineral-bearing lands, including the rehabilitation of mined-out lands. The National
Land Policy speaks to establishing development limits for urban and rural settlements to safeguard
against urban sprawl, and encroachment on mining lands. This Minerals Policy builds on the Land
Policy which states that mining will continue to be a controlled activity which ensures beneficial
exploitation and encourages maximum linkages with other sectors to enhance socio-economic and
physical development, outlining various strategies that will be employed to achieve this objective.

The Minerals Policy also has critical linkages with other policies relating to housing
development and general urbanization. As the policy relates to urbanization, significant sterilization
of mineral resources and hampering of the industry’s economic growth could emerge as major
problems if the country fails to adhere to the concept of sequential land use planning.

Policy conflicts have been avoided by aligning the provisions of this Policy with those of
the draft Watershed Policy and the Policy for the National System of Protected Areas, especially
since these are likely to impose spatial limits on mineral extraction and the conditions under which
mineral exploitation companies may operate in specific areas.

The Master Plan for Sustainable Tourism Development speaks to diversifying Jamaica’s
tourism product. This Minerals Policy will support this objective as it seeks to promote minerals-
related tourism and the production of stone and mineral craft to widen the range of products being
made available by the craft sector.
SECTION 2
POLICY OBJECTIVES AND STRATEGIES

The objectives of this policy and the strategies needed over the long term to sustain a viable and publicly supported mineral resource sector are outlined below.

Objective 1: To enhance the Mineral Industry’s regional and international competitiveness.

Strategies

The Government will:
1. Facilitate the modernization of mineral exploitation operations through retooling, improving human resources and management, reviewing current statutes impacting the industry, constructing and providing access to ports and port facilities.
2. Streamline and improve the granting of incentives to all segments of the Minerals Industry, especially for value-added products and exports.

Objective 2: To facilitate increased investment. Particular efforts will be made to encourage and afford local investors ownership of a larger share of the industry. This includes facilitating access to capital on concessionary terms conducive to the industry’s development.

Strategies

1. New foreign direct investments will be facilitated.
2. Ownership of equity in mineral operations by Jamaicans will be promoted.
3. Creation of a capital development fund to promote development within the Minerals Industry.
4. Government-owned development banks will consider providing local investors with concessionary financing. Financial institutions will be encouraged to fund minerals-related ventures.

Objective 3: To promote the effective management of the Minerals Industry, mineral resources and mineral bearing lands from the pre-mining to post-mining stage.

Strategies

The Government will:
1. Improve access to mineral-bearing lands, streamline and simplify the process by which these lands can become the subject of mineral exploitation and ensure that these activities are concentrated within Mineral Development Zones (Mining Zones, Quarry Zones) (MDZs). Where appropriate, mineral exploitation will be permitted outside the MDZs. Mineral Development Zones will be linked to Parish Development Orders and Development Plans to protect mineral bearing lands.
2. Ensure the progressive development of a national mineral lands and mineral resources database, utilizing data from public and private sources. Mineral-bearing areas will be identified and, where appropriate, included in Mineral Development Zones.
3. Improve the capacity of the Mines and Geology Division (MGD) and other regulatory entities to monitor the management, use and rehabilitation of mineral-bearing lands.
4. Develop and implement mineral-bearing lands management guidelines and a national mineral-bearing lands, mineral reserves and mineral resources bank.
5. Facilitate the supply of minerals necessary to allow for the country’s continued development, having regard to protected or otherwise environmentally sensitive areas.

6. Protect the country’s strategic mineral resources. To this extent, the inappropriate use of mineral resources and mineral-bearing lands, particularly as it relates to squatting and the use of these lands for purposes which sterilise the resources will be opposed using relevant legislative and administrative mechanisms.

7. Promote proper capitalization and management of mineral exploitation operations and monitor their activities to ensure compliance with applicable laws and best practices.

8. Introduce a National Minerals Institute (NMI) to pilot the management and development of the minerals industry. The Bauxite and Alumina Trading Company (BATCO), the Mines and Geology Division (MGD), the Jamaica Bauxite Institute (JBI), Clarendon Alumina Production Limited (CAP), and the Jamaica Bauxite Mining Limited (JBM) will be included in the NMI. A National Limestone Institute (NLI) will be introduced under the NMI, with responsibility to transform the Industrial Minerals Sector, including the development of an integrated limestone sub-sector.

**Objective 4: To provide a framework for the increased application of science and technology within the Minerals Industry.**

**Strategies**

The Government will:
1. Facilitate research, technological, product and human resource development to ensure the industry’s efficiency and competitiveness.

2. Promote, strengthen and, where possible and necessary, establish and fund research facilities and appropriate educational and training opportunities to systematically improve knowledge of and available information on all aspects of our mineral resources and Minerals Industry.

3. Encourage local institutions to pursue research and development relating to the Minerals Industry.

4. Facilitate the formation of strategic partnerships with leading minerals and science and technology institutions/bodies.

5. Consult and collaborate with research institutions to facilitate transfer of technology and the building of local capacity.

6. Promote greater cooperation amongst mineral exploitation companies, and also between minerals exploiting companies and research institutions.

**Objective 5: To facilitate product diversification, increased levels of import substitution, improved product quality, optimized utilization of mineral resources, and expansion of the industry.**

**Strategies**

The Government will:
1. Provide investors with market information and opportunities.

2. Encourage investors to expand their operations to take advantage of economies of scale and to increase market share.

3. Encourage operators to produce a wider range of mineral products, especially high-end value-added products.

4. As a condition of all licences mineral operations will be required to have their mineral
resources tested by approved laboratories so as to ensure that materials of the correct specifications are produced.

5. Promote quality assurance standards and the optimal utilization of mineral resources in line with their physical, chemical, metallurgical and other characteristics.

6. Create incubation facilities that allow the local private sector to improve its capacity for import substitution and increased market share in foreign markets.

**Objective 6:** To address under-development of sub-sectors such as the Industrial Minerals Sector, while removing imbalances where appropriate.

**Strategies**

The Government will:

1. Effect legislative amendments, which will provide opportunities to all segments of the Minerals Industry.

2. Develop and implement sector-specific awareness programmes.

3. Simplify and widen the investment and production incentive regimes to benefit all segments of the industry.

**Objective 7:** To regulate the industry to ensure effective management of the environment, and the promotion of and adherence to best practices in health and safety standards.

**Strategies**

The Government will:

1. Include social, environmental and economic considerations in the decision-making process within the industry.

2. Improve the competence and capacity of regulatory agencies in order to ensure partnership within the industry in the regulatory and approval processes.

3. Improve communication among regulatory agencies and with minerals exploiting entities.

4. Promote improved environmental health and safety practices at the workplace and in host communities.

5. Monitor, audit and ensure compliance of minerals-related companies with environmental legislation and standards. Specific attention will be given to managing sensitive ecosystems, minimizing pollution and finding uses for waste products.

6. Ensure, to the satisfaction of the Commissioner of Mines, the effective rehabilitation of mined-out lands and other areas disturbed during mineral exploitation.

7. Encourage constant improvements in environmental best practices in minerals operations.

8. Require mineral operations to provide Life of Mine Plans before licences are granted and monitor their activities to ensure that the plans are followed. A Life of Mine Plan shall incorporate a mining plan, waste management plan, land rehabilitation plan and closure plan. Closure plans must clearly outline the possible impacts of closures on host communities and the natural environment. Actions to mitigate the negative impacts of such eventualities, including active sponsorship and promotion of ‘life after mining’ projects must be clearly highlighted and explained.

As part of the process, which will inform the Life of Mine Plan, the Forestry Department, NEPA, the Water Resources Authority and other agencies will undertake a comprehensive, mandate-specific examination of prospective mineral exploitation zones.
9. Effectively enforce penalties against mineral exploiting operations for breaching the conditions of their licences and or applicable statutes.

10. Create ‘no-go areas’ in which mineral exploitation activities will not be allowed. This will be related to the level of biological and socio-cultural significance as classified in the Protected Areas System Policy. Particular emphasis will be placed on protecting critical watershed areas.

**Objective 8: To promote increased benefits from minerals operations to host communities.**

**Strategies**

The Government will:
1. Promote government investment in host communities.

2. Encourage minerals-related companies to be good corporate neighbours and be more responsive to the concerns of host communities. Host communities will be encouraged to accommodate these companies.

3. Promote mineral exploitation activities to stimulate further economic development in host communities, particularly rural communities.

**Objective 9: To facilitate exports and increased market share.**

**Strategies**

The Government will:
1. Simplify existing export procedures as part of a broad drive to facilitate increased export of minerals and mineral-derived products.

2. Identify export markets for mineral products, with an emphasis on value-added mineral products.

3. Facilitate the dualization of existing ports, where possible, the development of dedicated bulk handling ports at strategic locations, and general access to port facilities at rates that encourage export.

**Objective 10: To promote and facilitate increased levels of integration with other segments of the economy.**

**Strategies**

The Government will:
1. Ensure that companies rehabilitate mineral exploitation sites to an environmentally and geologically acceptable topography and vegetation shortly after mining is completed, and promote the feasibility of these sites being used for other purposes, including agriculture, reforestation, afforestation, urban development, water storage and minerals-based tourism.

2. Identify and pursue alternative uses for waste products.

3. Promote partnerships with the educational, research, agricultural (including forestry), tourism, construction, and other segments of the economy.

4. Promote mining and minerals-focused tourism.

5. Ensure that NEPA and the local planning authorities review new minerals-related projects in an effort to minimize conflicts with other sectors.

**Objective 11: To increase public awareness of the endowment of mineral resources and their strategic role in the county's social, cultural, economic and industrial development.**

**Strategies**

The Government will:
1. Develop a public awareness and information strategy for the Minerals Industry and encourage the private minerals entities to implement similar approaches.

2. Maintain media campaigns providing information about the Industry and the processes associated with the awarding of licences, leases, permits and other documents.

3. Maintain a clearing house, including website and library, which will provide information on various aspects of the industry.

4. Organize press conferences, investor conferences and exhibitions, panel discussions, community and other special interest meetings and other opportunities to promote the industry.

5. Promote the use of local minerals in public spaces and facilities, including parks, monuments and buildings.

**Objective 12:** To promote the development of human resource capacity within the Minerals Industry.

**Strategies**

The Government will:

1. Develop and implement educational and training programmes in dedicated institutions to provide an increased pool of skilled personnel for the industry.

2. Promote the licensing of minerals-related professionals.

3. Encourage private sector companies to dedicate resources to improve the competencies of their employees and provide bursaries for students.

4. Facilitate the introduction of programmes that allow for constantly improving the competencies of employees in government-owned entities.

5. Promote harmonious industrial relations.

**Objective 13:** To further investigate the feasibility of promoting the exploitation of off-shore mineral resources.

**Strategy**

The Government will:

1. Promote and encourage a systematic investigation of the country’s marine mineral resources and the possibility of their commercial exploitation within the context of a systems approach, which ensures that environmental considerations are given full attention.

**Objective 14:** To reform the existing legislative framework to encourage the development of all sectors of the Minerals Industry.

**Strategies**

The Government will:

1. Continue the modernization of the major pieces of minerals-related statutes, particularly the Minerals (Vesting) Act, the Mining Act, the Quarries Control Act and corresponding Regulations.

2. Introduce a comprehensive Minerals Development Act, which will combine provisions of the current Mining Act and the Quarries Control Act.

3. Introduce a Minerals Industries (Encouragement) Act which will be applicable to the development of all minerals, except bauxite. Bauxite/Alumina companies will continue to benefit under the Bauxite and Alumina Industries (Special Provisions) Act and the Bauxite and Alumina Industries (Encouragement) Act.
SECTION 3

A SUSTAINABLE APPROACH TO MINERAL DEVELOPMENT

3.1 Sustainable Development and the Minerals Industry

As a small island developing State, a sustainable approach to minerals development is necessary to minimize any environmental degradation that may be associated with mineral exploitation. With this approach, the country is better able to optimize the economic and social benefits to be derived from the use of its mineral wealth, as well as to promote harmonious coexistence with other competing land-use interests.

The sustainable approach is concerned with employing technology to find new reserves, transforming resources to reserves, recycling metals and construction aggregates, substituting one mineral for another, embracing cleaner technology, minimizing waste and effectively rehabilitating mined lands. Additionally, it involves the application of visionary management to invest the proceeds of mineral exploitation in other sectors of the economy and so protect and guarantee sustainable livelihoods. It also includes, where necessary, foregoing mining owing to critical environmental, cultural and social issues.

3.2 Guiding Principles

The exploration, development, production and use of minerals and mineral products, the disposal of mineral waste and the rehabilitation of mined lands demand an integrated approach involving environmental, engineering, scientific, economic and social variables. Each variable must be taken into account from the initial to the final stage of the decision-making process.

In ensuring that these variables are integrated into decisions on issues relating to minerals and the wider Minerals Industry, the Government commits to embracing a sustainable approach to direct the industry’s development and will be guided by the following principles:

i. A transparent and progressive public policy framework that affords the industry latitude within which to develop.

ii. A transparent, progressive system of regulations that has clear regard for effective environmental stewardship and which:
   - gives preference to performance-based and self-regulatory systems (codes of practice, guidelines and other voluntary initiatives);
   - recognizes the role of local government and community groups;
   - minimizes uncertainty, delay and costs to meet regulatory requirements;
   - considers the impact of market forces and technological advances recognizing that the industry must compete within the context of increasing globalization and market liberalization.
iii. Pollution prevention as opposed to ‘end-of-pipe’ or pollution control approaches. The preventative approach addresses both the Precautionary Principle and the Polluter Pays Principle. Pollution prevention promotes the use of clean and more efficient technologies and encourages the industry to strive for environmental excellence ensuring that compliance with environmental standards is attained and/or exceeded.

iv. The application of the Ecosystem Approach which requires that the impact of human activity on ecosystem integrity be minimized. It incorporates the concept of ecological integrity and also includes social and economic components, as a healthy ecosystem may be described as one where the environment is viable and the economy is sustainable.

v. Particular focus on the prevention of environmental hazards, particularly on surrounding communities, which could be posed by mineral operations.

vi. The submission of a Life of Mine Plan to the Commissioner of Mines by minerals-related operations. The principle of prior informed consent forms a major pillar of the process that facilitates the creation of Life of Mine Plans.

vii. Intergenerational equity and the equitable distribution of the wealth generated by the use of our mineral resources to ensure continued national development.
SECTION 4
THE BUSINESS CLIMATE: ENSURING COMPETITIVENESS

4.1 Attracting Investment

Jamaica welcomes investment and is determined to ensure the competitiveness of its economy. The Ministry with responsibility for the minerals portfolio, the Jamaica Trade and Invest (JAMPRO) and other entities concerned with investment are central to attracting and maintaining investment in the industry.

The Government is committed to:

i. Continued promotion of the industry as an area ready for investment.

ii. Providing the industry with favourable fiscal regimes, including methods of raising low cost capital and facilitating continued improvement of the approval process.

iii. Providing reliable data as a basis for decision-making.

iv. Maximizing national benefits.

Among other strategies, the Government encourages a partnership approach to developing mineral projects. Foreign-owned companies are encouraged to partner with local companies or the Government in the development and ownership of mineral ventures.

4.2 Stimulating Local Investment

Increased investment in the Minerals Industry is critical to the country’s continued economic development. To enable the achievement of this objective, the Government will:

i. Facilitate entities whose major focus is the manufacture and/or export of value-added mineral products.

ii. Facilitate enhanced exports and access to traditional and new markets.

iii. Provide relevant market intelligence and encourage research into material properties and areas of application.

iv. In partnership with the private sector seek to improve the Industry’s image and promote its products at the local and international levels.

v. Facilitate mine and plant improvement, particularly in relation to modernization, the efficient use of technology, environmental best practices, resource use and effective application of mining engineering principles.
vi. Support the private sector in offering to the public avenues through which to raise capital for minerals ventures

4.3 Creating an Enabling Regulatory Environment

The Government will draw on existing legislation, but will update the legislative and regulatory framework by amending existing laws, and where necessary passing new ones to reflect the policy and its implementation and so provide an enabling environment to promote the development of the industry as a broad and coherent unit.

The Ministry with responsibility for the minerals portfolio, in consultation with stakeholders, will consider and recommend legislative reforms necessary to give effect to this policy. This includes the development of a:

i. Comprehensive Minerals Development Act – an amalgamation of the Mining Act and the Quarries Control Act. This piece of legislation will provide the legal framework for all mineral exploitation and mineral development activities within the country. It will afford similar levels of regulatory treatment, general recognition and commensurate levels of incentives to all mineral resources and so provide an equitable structure that supports the exploitation and development of the country’s mineral wealth.

ii. Minerals Industries (Encouragement) Act which will apply to the development of all minerals, except bauxite. Cabinet Decision #3 of 1997 which sets out a number of incentives for new investments in the Industrial Minerals Sector will be the base for this piece of legislation. Bauxite and alumina companies will continue to benefit under the Bauxite and Alumina Industries (Special Provisions) Act and the Bauxite and Alumina Industries (Encouragement) Act.

4.4 Strategy for Mineral Development

Sustainability considerations, particularly economic cost, social improvement and environmental issues, are the general guiding principles in Jamaica’s strategy to develop its mineral wealth.

The private sector is recognized as the engine to drive the industry’s continued development and the Government will continue to play the role of facilitator to ensure the development of any mineral or mineral deposit and to ensure the availability of mineral raw materials.

This policy proposes the formulation of a strategy for exploitation and development of each mineral, which takes into consideration effective measures for conservation and beneficiation, and the prevention of sub-optimal and unscientific mineral exploitation. Such a strategy will be reviewed periodically.
4.5 Infrastructure and Community Development

The Government is committed to investing portions of minerals-derived revenues in communities hosting minerals-related operations. This Policy encourages the employment of suitably qualified persons from the immediate communities in which minerals-related operations are located.

Companies will be encouraged to actively participate in community development activities. Promoting sustainable ‘life after mining’ projects and maintaining and/or upgrading the environmental quality of these communities should be priority activities.

4.6 Subsistence Minerals Operations

Small-scale mineral exploitation activities, especially in relation to river clearing operations aimed at obtaining sand and stone primarily for the construction sector, are an established feature of Jamaica’s Minerals Industry.

The Government commits to facilitating the scientific and efficient exploitation of small deposits by small-scale operators, particularly in rural and semi-rural communities. This facilitation should assist in increasing mineral production, creating employment, and, in some cases, reducing the problems of illegal mineral exploitation and environmental degradation.
SECTION 5
INSTITUTIONAL ARRANGEMENT

5.1 The Mines and Geology Division

Through the Commissioner of Mines, the Mines and Geology Division (MGD) functions as the main research and regulatory entity concerned with the management and development of the country’s mineral resources and Minerals Industry. The MGD studies and explains the island’s geology and metallogeny, is a major repository of geological and mineralogical information and an authority on various aspects of the country’s geology, mineral wealth and related topics. Additionally, it executes the regulatory functions necessary to maintain standards and order within the mining and quarrying sectors.

The Government is committed to the continued modernization of the MGD and its transformation into a performance based institution, so as to strengthen its capabilities in carrying out its regulatory and monitoring functions.

5.2 The Jamaica Bauxite Institute

The JBI is the immediate authority on bauxite and several aspects of the bauxite/alumina sub-sector, whose development it oversees. Its responsibilities include managing bauxite resources and reserves, undertaking research, and promoting development specific to the Bauxite/Alumina sub-sector.

In conjunction with other agencies, namely the MGD and NEPA, the JBI is also involved in environmental monitoring and interfacing with communities hosting bauxite/alumina operations.

The JBI will continue its current functions, and, where necessary, will be strengthened to improve its effectiveness and efficiency.

5.3 The National Environment and Planning Agency

The National Environment and Planning Agency (NEPA), which includes the Natural Resources Conservation Authority (NRCA), has national oversight for environmental and planning matters. Prior to the issuance of a prospecting licence, mining lease or a quarry licence, the Commissioner of Mines consults the Agency to arrive at the terms and conditions. NEPA also has the responsibility for monitoring adherence to environmental regulations, standards and guidelines relating to land use, air and effluent quality.

The NRCA has delegated to the JBI the responsibility of monitoring the Bauxite Industry under agreed conditions. NEPA therefore plays a critical role in guiding development, resource use and promoting environmental management. The Government will provide NEPA with adequate resources and will continue to strengthen this agency to improve its capacity to assist in monitoring the Industry.
5.4 Other Institutions

The Petroleum Corporation of Jamaica (PCJ) is the statutory agency that administers the Petroleum Act and has the exclusive right to explore for hydrocarbons, to develop Jamaica's petroleum resources and to enter all stages of the petroleum industry.

The Jamaica Bauxite Mining Limited, the Bauxite and Alumina Trading Company of Jamaica Limited and Clarendon Alumina Production Limited either manage bauxite lands and related assets or are involved in the marketing of the Government's share of bauxite resources and the sale of alumina. The Government will continue to support the activities of these entities and to improve their overall efficiency.

Other entities such as the Water Resources Authority, the National Land Agency, the Forestry Department and the local planning authorities (Parish Councils) play important roles. The Government will continue to strengthen these entities to improve their capacity to effectively manage, monitor and control activities within the Industry.

5.5 Institutional Strengthening

The Government is committed to the continued strengthening of national institutions involved in the implementation of this policy. Overlapping jurisdictions and gaps in the institutional framework governing the Minerals Industry shall be addressed in order to ensure effective delivery of services. This includes harmonization of inter-agency responsibility, among other strategies that will improve efficiencies, and promote and develop the industry.

The effective implementation of this policy is dependent upon multi-agency cooperation and the technical capacities of various public sector institutions. The Government therefore commits to improving the technical and human resources capacity of the regulatory agencies to assist in the implementation of this policy.

5.6 Establishment of a Minerals Development Advisory Council

It is proposed that a Minerals Development Advisory Council (MinDAC) be established to work closely with the Ministry responsible for the minerals portfolio. The MinDAC would assist in providing guidance to the Minister and institutions in respect of matters related to policy, promotion, marketing, mineral exploitation, exportation, product development and the management of mineral resources and mineral-bearing lands.

5.7 Establishment of a National Minerals Institute

This policy proposes the establishment of a National Minerals Institute (NMI) which will subsume several Government-owned minerals related entities with the aim of improving efficiencies, reducing cost and minimizing the fragmentation of the minerals portfolio. It is envisaged that the NMI will have a strong focus on spearheading research and development activities relating to the Minerals Industry and sourcing funding necessary to realize this mandate.
Government is committed to providing the appropriate mechanism to effect the proposed structure and functions of the NMI, including the rationalisation of the responsibilities of existing entities.

5.8 Institutions of Higher Learning

Providing adequate numbers of competent persons trained in various skills required by the Minerals Industry is crucial to its continued transformation, especially as it relates to the Industrial Minerals Sector. Therefore, discussions will be held with the country’s universities and other tertiary level training institutions regarding the provision of training courses for persons working in or wishing to pursue a profession within the Minerals Industry.
SECTION 6

THE ROLE OF SCIENCE AND TECHNOLOGY

6.1 Research and Development

The Government recognizes the importance of research and development. Government research institutions and the Ministry responsible for the minerals portfolio will make it a specific part of their mandates to promote and encourage investigation into various issues of relevance to the industry. Areas of particular interest include the utilization of waste from bauxite/alumina operations, the manufacture of value-added mineral-based products, the manufacture of aggregates for special applications, and marketing and promotion.

The Government encourages technology transfer and the sharing of knowledge throughout the industry, particularly in sub-sectors that are of greatest benefit to the economy.

To encourage the continued development of the industry, the Government will promote research and development in respect of product diversification and commits to provide manufacturers of value-added mineral products with a range of facilities aimed at encouraging production and enhancing international competitiveness. The application of research and development to increase the range of value-added products is therefore encouraged.

The Government is further committed to creating an enabling environment that facilitates the following:

i. **Scientific Methods of Exploitation and Land Rehabilitation** - mine development, mineral conservation and the rehabilitation of mined lands based on sound scientific, engineering principles. Regulatory agencies will collaborate with research and development organizations, and with scientific and professional bodies.

ii. **Productivity Norms** - best practice norms adopted to promote health, safety, environmental integrity, productivity and the efficient use of resources.

iii. **Mineral Processing and Beneficiation** - the strengthening of research organizations and tertiary institutions for the development of processes for beneficiation and mineral and elemental analyses of ores. Cooperation between entities engaged in this task will be promoted.
6.2 **Technology and Training**

To increase the quality of the technology and human resources within the industry, the Government will:

i. Provide resources for retooling, the upgrading of human capital, the use of the most efficient technology available and the development of local technology within the public sector.

ii. Promote retooling, training and capacity development within the private sector.

iii. Collaborate with the private sector to provide specific and dedicated facilities to train persons for the industry. The need for trained personnel is particularly great in the Industrial Minerals Sector.

Through partnerships with local and foreign-based institutions, the Government is committed to the creation of facilities for basic and specialized training for all areas of the Minerals Industry.

6.3 **Dissemination of Information**

The Ministry responsible for mineral exploitation shall facilitate the collation and dissemination of information related to the Minerals Industry. This includes information on material science, product quality and on the availability of mineral resources.
SECTION 7

MANAGEMENT OF MINERAL RESOURCES

7.1 Management of Mineral-bearing Lands

The effective management of mineral-bearing lands is central to the overall management of our mineral resources. To enable the effective management of these resources, the Government will promote the following:


Mineral-bearing lands shall be placed in a national inventory – a National Mineral Lands Bank. The amount of land added to or removed from the bank per year and the uses to which they are put will be monitored to ensure optimum use of the mineral resources and timely and efficient land rehabilitation.

Minerals-related entities shall furnish the MGD with all necessary information on mineral reserves and resources, their rate of depletion, quantity of mined land, quantity of rehabilitated land and other related information that are important for resource planning purposes.

ii. Sustained and structured mineral exploration campaigns, including off-shore mineral exploration, aimed at uncovering additional resources, systemizing the classification of resources and reserves, and studying the properties and behaviours of different minerals.

iii. Strategic land-use planning and management of mineral-bearing lands. This includes:

a. broad public education and awareness of the value of properly managing mineral-bearing lands;

b. sequential land-use planning, where maximum benefits are derived from the use of lands;

c. vigilant monitoring of changes to the use of mineral-bearing lands;

d. strategic monitoring to arrest the incidence of illegal occupation of government-owned mineral-bearing lands and the illegal sub-division of lands under private ownership;

e. the acquisition of strategic mineral-bearing lands from private landowners. Where Crown lands have been deemed to possess strategic mineral resources, the managers of such lands will be informed and said lands will not be divested.

iv. The provision of geological, mineralogical and mining dynamics information to the mining industry.

v. Quality control and the optimal uses of mineral resources as conditions of licensing mineral exploitation operations. As a result, operators, particularly in the Industrial Minerals Sector, will be required to engage the services of accredited laboratories approved by the Bureau of
Standards, Jamaica (or the Government entity mandated to develop and maintain standards), to test the quality of their mineral resources and to determine the best uses to which they can be put.

vi. Forecasting of trends in mineral uses, demands and development of new sources, including annual forecasting of production figures and long-term forecasting of mineral production.

**7.2 Sharing in the Country’s Mineral Wealth**

In an effort to increase a private landowner’s take from mineral-bearing lands over which the state has sub-surface rights, the landowner will be afforded increased opportunities to share in the wealth that might be generated from the exploitation of the mineral resources.

The Government will ensure that landowners are granted a royalty for the minerals extracted from their lands. To effect this initiative, Section 5 (j) of the Minerals (Vesting) Act will, if necessary, be amended.

Investing in minerals operations through the purchasing of stocks or otherwise owning equity in these operations will also be encouraged.

**7.3 Access to Land for Mineral Exploitation**

This policy proposes to maintain access to mineral-bearing lands for mineral exploitation and the opening of mineral reserves. To implement this policy, the Government will:

i. Give particular attention to the official demarcation of boundaries of lands contained in officially declared **Mineral Development Zones** (Quarry Zones and Mining Zones). This includes the establishment of buffer zones which are intended to restrict the creation of human settlements or other incompatible developments too close to mineral operations.

ii. Impose limits on areas that will be opened for mineral exploitation. Mineral exploitation in areas protected under different pieces of legislation and equivalent to the World Conservation Union’s (IUCN) **categories I and II**, as outlined in the Policy for the National System of Protected Areas, will not be undertaken. Cognizance will also be taken of protected areas declared under other pieces of legislation and related policies. If the minerals are deemed to be of **significant national economic importance**, this Policy acknowledges that a decision regarding mineral exploitation will be made based on broad based consultation and under strict conditions set out by NEPA, the MGD, the JBI and other regulatory agencies, and by the decision of Cabinet.

Recognizing that mineral deposits might be located in other environmentally fragile or sensitive areas, comprehensive impact assessments will be carried out to determine the feasibility of mineral exploitation in such areas.

iii. Provide reasonable guarantees that when the industry discovers a mineral deposit, it may be developed provided that the required approvals are obtained.
iv. Maintain clear policies on mineral tenure, revocation, penalties and compensation as set out in legislation applicable to the minerals sector.

7.4 Land Rehabilitation and Mine Closure

The efficient and timely rehabilitation of land after mining is a major policy objective. Comprehensive mine closure planning is essential to the after-mining use of mined lands and the continued development of former mining communities. The Government will promote the integration of the following considerations into the operations of mineral exploiting companies:

i. Rehabilitation of mined or otherwise disturbed mineral-bearing lands within three years of mining having been completed. As a requirement for mineral exploitation, the responsible parties must develop a comprehensive rehabilitation plan which must be approved by the Commissioner of Mines and the Town and Country Planning Authority. Companies will be held accountable for implementing this plan.

ii. Post-production mine decommissioning and land rehabilitation as central aspects of the mine operation and mine development process.

iii. Efficient mechanisms to finance responsible closure practices and adequate provisions to cover costs incurred in mine closure. Entities involved in the industry must possess the necessary financing, expertise and equipment to timely and efficiently carry out land rehabilitation and mine closure.

Holders of mineral exploiting permits will be required to post a Restoration Bond with the Commissioner of Mines or otherwise secure the funds required to provide for the effective rehabilitation of mined areas.

7.5 Conservation of Mineral Resources

Conservation of minerals shall be construed as a positive concept enabling augmentation of resource base through improvement in mining methods, beneficiation, the utilization of low grade ore and rejects along with the application of other measures.

In seeking to extend the usefulness and life of the diminishing resource, the Government commits to the promotion of ore blending to achieve commercially acceptable and economically viable grades.
SECTION 8

MONITORING AND EVALUATION

The implementation of this Policy will be effected through consultation with and partnerships between the Ministry with responsibility for the minerals sector and other stakeholders.

The Government is committed to implementing this policy through the development of appropriate action plans, which will outline the mechanism in which the policy goals and objectives will be achieved by detailing the strategies, roles and responsibilities, and the timeframe within which this will be done.

The development of sustainability criteria relating to environmental, economic and social objectives and indicators for mineral production and use are viewed as a priority in the implementation of this policy. In the formulation of criteria and indicators, a collaborative approach involving all stakeholders will be used. Applicable and appropriate standards and the country’s commitment to sustainable development at the international level will be taken into account.

The Ministry with responsibility for the minerals portfolio will conduct an evaluation of the policy at the end of the first year after its implementation. Revision of the policy and the status of its implementation will be conducted once every three years. A progress and analysis report with respect to its impact and achievements will be presented every year after its implementation.

The Ministry, through its Minerals Policy and Development Division and the Mines and Geology Division, shall be responsible for evaluation of the policy and for data collection. The Ministry will issue periodic updates and progress reports on the policy's implementation and achievements to the Houses of Parliament.
## APPENDIX I

### Existing Legislation and Agreements

The main pieces of legislation governing the Minerals Industry are the Mining Act, the Quarries Control Act and their Regulations, the Minerals (Vesting) Act and incentive legislation for the Bauxite and Alumina Industries. The major statutes impacting mineral exploitation in Jamaica are listed below.

<table>
<thead>
<tr>
<th><strong>Mining Legislation</strong></th>
<th><strong>Land Use Legislation</strong></th>
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<tbody>
<tr>
<td>The Minerals (Vesting) Act</td>
<td>Crown Property (Vesting) Act</td>
</tr>
<tr>
<td>The Mining Act</td>
<td>Land Acquisition Act</td>
</tr>
<tr>
<td>The Mining Regulation</td>
<td>Land Development and Utilization Act</td>
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<td>The Petroleum Act</td>
<td>Local Improvements Act</td>
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<tr>
<td>The Quarries Control Act</td>
<td>Town and Country Planning Act</td>
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<tr>
<td>The Quarries General Regulations</td>
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<tr>
<th><strong>Environmental Legislation</strong></th>
<th><strong>Taxation Legislation</strong></th>
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<tr>
<td>Beach Control Act</td>
<td>Customs Act</td>
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<tr>
<td>Endangered Species Act</td>
<td>General Consumption Act</td>
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<tr>
<td>National Solid Waste Management Authority Act</td>
<td>Harbour Fees Act</td>
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<tr>
<td>Natural Resources Conservation Authority Act</td>
<td>Income Tax Act</td>
</tr>
<tr>
<td>Air Quality Regulations</td>
<td>Land Taxation (Relief) Act</td>
</tr>
<tr>
<td>Public Health Act</td>
<td>Land Valuation Act</td>
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<tr>
<td>The Forest Act</td>
<td>Property Tax Act</td>
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<tr>
<td>The Jamaica National Heritage Trust Act</td>
<td>Stamp Duty Act</td>
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<tr>
<td>Watersheds Protection Act</td>
<td>The Bauxite (Production Levy) Act</td>
</tr>
<tr>
<td>Water Resources Act</td>
<td>The Bauxite and Alumina Industries (Encouragement) Act</td>
</tr>
<tr>
<td>Wildlife Protection Act</td>
<td>The Bauxite and Alumina Industries (Special Provisions) Act</td>
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<tr>
<th><strong>Other Operating Statutes</strong></th>
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<tbody>
<tr>
<td>Foreign Nationals and Commonwealth Citizens (Employment) Act</td>
<td>The Cement Industry (Encouragement and Control) Act</td>
</tr>
<tr>
<td>Labour Relations and Industrial Disputes Act</td>
<td>Transfer Tax Act</td>
</tr>
<tr>
<td>Shipping Act</td>
<td></td>
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<tr>
<td>Standards Act</td>
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<tr>
<td>The Caribbean Community and Common Market Act</td>
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<tr>
<td>The Cargo Preference Act</td>
<td></td>
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<tr>
<td>The Export Industry (Encouragement) Act</td>
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<tr>
<td>The Free Zone Act</td>
<td></td>
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<tr>
<td>Wharfage Act</td>
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</tbody>
</table>
APPENDIX II

Glossary of Terms

**Beneficiation**: A variety of processes whereby extracted ore from mining is reduced to particles that can be separated into mineral and waste, the former suitable for further processing or direct use.

**Ecosystem Approach**: The integrated management of natural and manmade landscapes, ecological processes, physical and biological components, and human activities, designed to maintain the integrity of our ecosystem (Natural Resources of Canada, 1995).

**Extractive Metallurgy**: the practice of extracting metal from ore, purifying it, and recycling it.

**Host Community**: The location in which mineral exploitation activities occur.

**Metallogeny**: The study of the genesis of mineral deposits, with emphasis on their relationship in space and time to regional petrographic and tectonic features of the earth’s crust.

**Metallurgy**: A domain of materials science of materials engineering that studies the physical and chemical behaviour of metals, their intermetallic compounds, and their alloys.

**Mineral-bearing Lands**: Lands, including areas covered by water, containing mineral resources of commercial value or which in future will have commercial value.

**Mineral Development Zone**: A declared area set aside for the concentration of mineral exploiting operations.

**Mineral Exploitation**: The systems, processes and techniques through which mineral deposits are transformed into usable mineral commodities. As such, it includes mineral extraction, processing (raw mineral or high value value-added product), transportation and sale for commercial purposes. It also includes recycling and rehabilitation of mined areas.

**Mining**: The extraction of valuable minerals or other geological materials from the earth, usually, but not always, from an ore body, vein, or seam. In a wider sense, mining can also include the extraction of petroleum, natural gas and water.

**Quarrying**: A form of mining that is generally centred on the extraction of rocks or minerals at the Earth’s surface. Quarries are generally used for extracting building materials, including sand and gravel, limestone and dimension stone, and other relatively cheap and bulky minerals such as salt. They are usually shallower than other types of open-pit mines. However, there are instances in which a part of a quarry or an entire quarry is located underground.

**Sequential Land-use**: The series of processes, planning and management systems which facilitate the orderly use of land for different purposes at different times.

**Sustainable Development**: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (Brundtland Report, 1987)

**Sustainable Mining Development**: Financially viable mining development that takes place in an environmentally and socially responsible manner with sound governance that provides benefits that last beyond the life of the mine to the communities where mineral development, production and transportation take place. (World Bank)
APPENDIX III

Minerals and Mineral-based Products

The scope of the Minerals Industry includes mineral exploitation, namely mining and quarrying:

i. Metallic minerals: copper, gold, silver, etc.
ii. Industrial minerals: bauxite, clay, dolomite, gypsum, limestones, marble, sand and gravel, shale, silica sand, volcanic rocks, etc.
iii. Fossil fuels: peat, petroleum, etc.
iv. Semi-precious minerals.

<table>
<thead>
<tr>
<th>MINERALS AND MINERAL-BASED PRODUCT</th>
<th>USES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bauxite (a source material for aluminium)</td>
<td>Transportation, Construction; Containers, Consumer durables, Mechanical equipment, Packaging, Pipes and tubes, Refractory and Abrasives, Electrical transmission components, etc.</td>
</tr>
<tr>
<td>Gold</td>
<td>Jewellery, Decorative articles, Dentistry, Electronics</td>
</tr>
<tr>
<td>Marble</td>
<td>(Geological) Slabs: counter tops, monuments, cladding, furniture (Commercial) Tiles: flooring, wall</td>
</tr>
<tr>
<td>Limestone</td>
<td>(Chemical and Industrial): Industrial lime, Grounded Calcium Carbonate, Precipitated Calcium Carbonate, Quicklime, Hydrated Calcium Carbonate (calcium hydroxide) (Construction) Aggregates, Construction blocks, Dimension stones Refractory, Agriculture, Environmental</td>
</tr>
<tr>
<td>Dolomite</td>
<td>Refractory blocks, Iron and steel manufacturing, Magnesium metal, Chemicals</td>
</tr>
<tr>
<td>Sand and Gravel</td>
<td>Construction, Filtration, Concrete blocks, Ready mix concrete, Glass, Filler, Abrasives</td>
</tr>
<tr>
<td>Volcanic materials</td>
<td>Pozzolan: Cement, Dimension stone, Construction aggregates, Tiles, Slabs, Cladding material</td>
</tr>
<tr>
<td>Bonding agents</td>
<td>Cement, Grout, Thin-set, Lime-based mortar, Dry wall, Ceiling material</td>
</tr>
<tr>
<td>Clay</td>
<td>Tiles, Art work, Ceramics, Drillers’ mud, Beauty products. Construction-ready cement mixes: cement with sand and gravel</td>
</tr>
<tr>
<td>Gypsum</td>
<td>Construction, Cement, Agriculture, Filler</td>
</tr>
<tr>
<td>Shale</td>
<td>Cement</td>
</tr>
<tr>
<td>Semi-precious minerals</td>
<td>Jewellery, Decorative articles</td>
</tr>
</tbody>
</table>
APPENDIX IV

Mineral Resources of Jamaica

**CLAY**

<table>
<thead>
<tr>
<th>Deposit Type</th>
<th>Deposit Location</th>
<th>Parish</th>
<th>Estimated Reserve/ Million mt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alluvial Deposit</td>
<td>Frome Plains</td>
<td>Westmoreland</td>
<td>152.4</td>
</tr>
<tr>
<td>Alluvial Deposit</td>
<td>Black River Valley</td>
<td>St. Elizabeth</td>
<td>0.508</td>
</tr>
<tr>
<td>Alluvial Deposit</td>
<td>Holland</td>
<td>St. Elizabeth</td>
<td>0.254</td>
</tr>
<tr>
<td>Alluvial Deposit</td>
<td>Frenchman’s</td>
<td>St. Elizabeth</td>
<td>0.03</td>
</tr>
<tr>
<td>Alluvial Deposit</td>
<td>Cow Market</td>
<td>St. Elizabeth</td>
<td>0.304</td>
</tr>
<tr>
<td>Alluvial Deposit</td>
<td>Nassau and Essex Valley</td>
<td>St. Elizabeth</td>
<td>2.54</td>
</tr>
<tr>
<td>Alluvial Deposit</td>
<td>Bog Walk</td>
<td>St. Catherine</td>
<td>2.15</td>
</tr>
<tr>
<td>Alluvial Deposit</td>
<td>Cave Valley</td>
<td>St. Ann</td>
<td>0.762</td>
</tr>
<tr>
<td>Alluvial Deposit</td>
<td>Liguanea</td>
<td>St. Andrew</td>
<td>Unknown</td>
</tr>
<tr>
<td>Residual Deposit</td>
<td>Above Rocks</td>
<td>St. Andrew</td>
<td>Unknown</td>
</tr>
<tr>
<td>Residual Deposit</td>
<td>Golden River</td>
<td>St. Andrew</td>
<td>0.002</td>
</tr>
<tr>
<td>Hydrothermal Deposit</td>
<td>Jobs Hill</td>
<td>St. Mary</td>
<td>0.007</td>
</tr>
</tbody>
</table>

**GYPSUM**

<table>
<thead>
<tr>
<th>Deposit Name</th>
<th>90% Gypsum</th>
<th>80% Gypsum</th>
<th>70% Gypsum</th>
<th>Anhydrite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brooks</td>
<td>1,299,770 mt</td>
<td>1,524,200 mt</td>
<td>1,645,100 mt</td>
<td>3,097,400 mt</td>
</tr>
<tr>
<td>Av. Grade</td>
<td>94.29%</td>
<td>92.89%</td>
<td>91.66%</td>
<td>22.55%</td>
</tr>
<tr>
<td>Bito</td>
<td>1,539,400 mt</td>
<td>2,060,700 mt</td>
<td>2,229,900 mt</td>
<td>2,154,600 mt</td>
</tr>
<tr>
<td>Av. Grade</td>
<td>93.98%</td>
<td>92.43%</td>
<td>91.22%</td>
<td>35.79%</td>
</tr>
<tr>
<td>Halberstadt</td>
<td>3,663,500 mt</td>
<td>3,668,600 mt</td>
<td>3,688,600 mt</td>
<td>2,366,900 mt</td>
</tr>
<tr>
<td>Av. Grade</td>
<td>93.49%</td>
<td>93.44%</td>
<td>93.44%</td>
<td>11.97%</td>
</tr>
<tr>
<td>Total Reserves</td>
<td>6,502,600 mt</td>
<td>7,273,500 mt</td>
<td>7,563,600 mt</td>
<td>7,618,900 mt</td>
</tr>
<tr>
<td>Wtd. Av. Grade</td>
<td>93.76%</td>
<td>93.03%</td>
<td>92.39%</td>
<td>23.00%</td>
</tr>
<tr>
<td>Life (Years)</td>
<td>33</td>
<td>36</td>
<td>38</td>
<td>38</td>
</tr>
</tbody>
</table>

---


HEAVY METALS/MINERALS/BLACK SANDS 6

<table>
<thead>
<tr>
<th>Deposit Name</th>
<th>Total Sand Estimate</th>
<th>Total Iron</th>
<th>Total Titanium Oxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alligator Pond (Western Extension)</td>
<td>3,356,640 mt</td>
<td>241,678 mt (7.2%)</td>
<td>46,267 mt (1.4%)</td>
</tr>
<tr>
<td>Alligator Pond (Eastern Extension)</td>
<td>11,249,280 mt</td>
<td>1,723,680 mt (15.3%)</td>
<td>308,448 mt (2.74%)</td>
</tr>
<tr>
<td>Sand Hill Deposit</td>
<td>1,767,040 mt</td>
<td>277,213 mt (15.67%)</td>
<td>59,194 mt (3.12%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>16,372,960 mt</strong></td>
<td><strong>2,242,571 mt</strong></td>
<td><strong>413,909 mt</strong></td>
</tr>
</tbody>
</table>

Additionally, there are some 500,000.00 mt of silica sands in the Hodges, Luana and Punches areas of St. Elizabeth.

CALCAREOUS DOLOMITE/DOLOMITIC LIMESTONE 7

**Known Dolomite/Calkareous Dolomite/Dolomitic Limestone Reserves**

<table>
<thead>
<tr>
<th>Deposit Name</th>
<th>Parish</th>
<th>MgO Range</th>
<th>CaCO3 Range</th>
<th>Estimated Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stewart Bay/White Bay</td>
<td>Trelawny</td>
<td>0.49% - 19.64%</td>
<td>58.94% - 99.33%</td>
<td>2.632 billion mt</td>
</tr>
<tr>
<td>Port Henderson</td>
<td>St. Catherine</td>
<td>17.99% - 21.7%</td>
<td>32.16% - 35.04</td>
<td>150 million mt</td>
</tr>
</tbody>
</table>

SKID RESISTANT AGGREGATES 8

<table>
<thead>
<tr>
<th>Deposit Name</th>
<th>Deposit Location</th>
<th>Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bito Ramble</td>
<td>St. Andrew/St. Thomas</td>
<td>122 million metric tonnes (Confirmed) Approx. 1 billion metric tonnes (Inferred)</td>
</tr>
<tr>
<td>Lottery</td>
<td>St. James</td>
<td>12.6 million metric tonnes</td>
</tr>
<tr>
<td>Tom Spring</td>
<td>Hanover</td>
<td>11.5 million metric tonnes</td>
</tr>
<tr>
<td>Nutfield</td>
<td>St. Mary</td>
<td>14.64 million metric tonnes</td>
</tr>
</tbody>
</table>

LIMESTONE (CALCIUM CARBONATE - WHITING GRADE)

Total reserves of whiting grade limestone deposits are yet to be completely quantified. An inferred resource estimate of 11.15 billion tonnes of high quality whiting grade limestone is theorized to exist within the island.

LIMESTONE (CALCIUM CARBONATE – CHEMICAL, INDUSTRIAL, METALLURGICAL GRADE)

Total reserves of industrial, chemical and metallurgical grade limestone deposits are yet to be quantified. An inferred resource estimate of 57.5 billion metric tonnes of high quality limestone for chemical, industrial and metallurgical applications is theorized to exist within the island.


7 Source: Mineral Resources of Jamaica, Bulletin No. 8, 1981, Mines and Geology Division, Kingston. NB: Total dolomite reserves currently unknown.

8 Source: Phase 1 - Skid Resistant Aggregates of Jamaica, Bulletin No. 13, Economic Minerals Unit, Mines and Geology Division, Kingston. Total known reserves currently approximately 160 million metric tonnes. N.B: Project ongoing with two other potential reserves being evaluated.
### ALLUVIAL SAND AND GRAVEL

<table>
<thead>
<tr>
<th>Deposit Name</th>
<th>Deposit Location</th>
<th>Estimated Replenishment Rate</th>
<th>Extraction Rate (2004)</th>
</tr>
</thead>
</table>
| Rio Minho¹⁰  | Clarendon        | 24 million mt (extreme flood events)  
 |                 |                               | 29.8 million mt (small flood events)  | 352,272 mt |
| Yallahs¹⁰   | St. Thomas       | 17.1 million mt (extreme flood events)  
 |                 |                               | 24 million mt (small flood events)  | 915,002 mt |
| Rio Grande   | Portland         | unknown                       | 14,348 mt              |
| Morant River | St. Thomas       | unknown                       | 13,446 mt              |
| Wagwater River | St. Mary/St. Andrew | unknown                      | 215,167 mt            |
| Rio D’Oro    | St. Catherine    | unknown                       | 4,334 mt               |
| Dry River    | St. Mary         | unknown                       | 17,796 mt              |
| Rio Pedro    | St. Catherine    | unknown                       | 3,922 mt               |
| Flint River  | St. Mary         | unknown                       | 1,011 mt               |

### SUMMARY OF MARBLE DEPOSITS ¹¹

<table>
<thead>
<tr>
<th>Location</th>
<th>Parish</th>
<th>Colour</th>
<th>Estimated Reserve/mt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braziletto</td>
<td>Clarendon</td>
<td>off-white, beige</td>
<td>50</td>
</tr>
<tr>
<td>Rodon Store</td>
<td>Clarendon</td>
<td>variety of brown, beige</td>
<td>20</td>
</tr>
<tr>
<td>Thatch Pen</td>
<td>Clarendon</td>
<td>off-white, beige</td>
<td>4</td>
</tr>
<tr>
<td>Cave Valley</td>
<td>Hanover</td>
<td>off-white, beige, variety of brown</td>
<td>-</td>
</tr>
<tr>
<td>Cuckold Point</td>
<td>Manchester</td>
<td>cream-beige to brown, pink</td>
<td>50</td>
</tr>
<tr>
<td>Troy</td>
<td>Manchester</td>
<td>cream-beige, pink, brown</td>
<td>50</td>
</tr>
<tr>
<td>Chepstowe</td>
<td>Portland</td>
<td>grey and black</td>
<td>10</td>
</tr>
<tr>
<td>Mavis Bank</td>
<td>St. Andrew</td>
<td>white, grey and black</td>
<td>10</td>
</tr>
<tr>
<td>Lumsden</td>
<td>St. Ann</td>
<td>variety of brown, pink</td>
<td>5</td>
</tr>
<tr>
<td>Above Rocks</td>
<td>St. Catherine</td>
<td>black and pink “granite”</td>
<td>-</td>
</tr>
<tr>
<td>Colbeck</td>
<td>St. Catherine</td>
<td>off-white, beige, pink</td>
<td>20</td>
</tr>
<tr>
<td>Fort Clarence</td>
<td>St. Catherine</td>
<td>off-white, beige</td>
<td>20</td>
</tr>
<tr>
<td>Hellshire</td>
<td>St. Catherine</td>
<td>off-white, pink, variety of brown</td>
<td>50</td>
</tr>
<tr>
<td>Paul Mountain</td>
<td>St. Catherine</td>
<td>cream, pink</td>
<td>10</td>
</tr>
<tr>
<td>Point Hill</td>
<td>St. Catherine</td>
<td>off-white, beige, pink, variety of brown, yellow</td>
<td>20</td>
</tr>
<tr>
<td>Redground</td>
<td>St. Catherine</td>
<td>variety of brown, yellow, pink</td>
<td>5</td>
</tr>
<tr>
<td>Flower Hill</td>
<td>St. James</td>
<td>off-white, pink</td>
<td>5</td>
</tr>
<tr>
<td>Garbrand Hall</td>
<td>St. Thomas</td>
<td>grey, black and green</td>
<td>10</td>
</tr>
<tr>
<td>Greenfields</td>
<td>St. Thomas</td>
<td>green</td>
<td>-</td>
</tr>
<tr>
<td>Serge Island</td>
<td>St. Thomas</td>
<td>red and white, green and maroon</td>
<td>3.5</td>
</tr>
<tr>
<td>Stewart Bay</td>
<td>Trelawny</td>
<td>white and off-white</td>
<td>8</td>
</tr>
</tbody>
</table>

---

⁹ Estimated replenishment rate over a ten year period.


¹¹ Source: Jamaica Marble, Bulletin No. 12, Mines and Geology Division, 1998.
APPENDIX V

Distribution of Major Mineral Resources in Jamaica
CHEMICAL, INDUSTRIAL, METALLURGICAL GRADE LIMESTONE DEPOSITS

- Distribution of Chemical, Industrial and Metallurgical Grade Deposits

LEGEND
- Alluvium
- Andesite
- August Town Formation
- Coastal Limestone
- Coral Reefs
- Cretaceous Volcanics/Limestone
- Granodiorite
- Haberdash and Nutfield Volcan
- Harbour View Formation
- Liguanea Formation
- Low Layton Pillar Lava
- Newcastle volcanics
- Richmond Formation
- Salt Pond
- Schist
- Serpentinite
- Swamp/Marsh
- Wag Water Conglomerates
- White Limestone
- Yellow Limestone

Prepared by
The Industrial Minerals Unit
SKID RESISTANT AGGREGATE DEPOSITS IN JAMAICA

LEGEND
- Alluvium
- Andesite
- August Town Formation
- Coastal Limestone
- Coral Reefs
- Cretaceous Volcanics/Limestone
- Granodiorite
- Haverstock and Nutfield Volcanics
- Harbour View Formation
- Liguanea Formation
- Lew Leyton Pillar Lava
- Newcastle volcanics
- Richmond Formation
- Salt Pond
- Schist
- Serpentinite
- Swamp/Marsh
- Waal Water Conglomerates
- White Limestone
- Yellow Limestone

Confirmed S.R.A. Deposits
1 - Tom Spring, Hanover
2 - Lottery, St. James
3 - Nutfield, St. Mary
4 - Bito - Ramble, St. Thomas
   Area's Under Investigation
5 - Sunning Hill, St. Thomas
6 - Devils Race Course, St. Mary
7 - Boundary, Portland

Prepared by the Economic Minerals Unit
Mines and Geology Division
Base Metal Occurrences of Jamaica

- Zinc
- Nickel
- Iron
- Copper
APPENDIX VI

References


Geddes, A.J.S. (1975) Preliminary Study on Black Sands Deposits of Southern Manchester, Mines and Geology Division, Kingston

Government of Jamaica (1997) Policy for the National System of Protected Areas, Natural Resources Conservation Authority, Kingston


Mines and Geology Division (1998) Jamaica Marble, Bulletin No. 12, Mines and Geology Division, Government of Jamaica


Mines and Geology Division Phase 1 - Skid Resistant Aggregates of Jamaica, Bulletin No. 13, Economic Minerals Unit, Kingston


## APPENDIX VII

### National Minerals Policy Development Committee

<table>
<thead>
<tr>
<th>Public Sector</th>
<th>Private Sector &amp; Professional Associations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Energy, Mining and Telecommunications</td>
<td>Rugby Jamaica Lime &amp; Minerals Limited</td>
</tr>
<tr>
<td>Ministry of Agriculture &amp; Lands</td>
<td>Private Sector Organisation of Jamaica</td>
</tr>
<tr>
<td>Ministry of Local Government &amp; Environment</td>
<td>Mining and Quarrying Association of Jamaica</td>
</tr>
<tr>
<td>Ministry of Industry, Technology, Energy and Commerce</td>
<td>Incorporated Master Builders Association</td>
</tr>
<tr>
<td>Ministry of Tourism, Entertainment and Culture</td>
<td>Alpart Mining Venture</td>
</tr>
<tr>
<td>Ministry of Housing, Transport, Water and Works</td>
<td>Mining Engineering Associates</td>
</tr>
<tr>
<td>Ministry of Finance and Planning</td>
<td>Quarries Advisory Committee</td>
</tr>
<tr>
<td>National Environment and Planning Agency</td>
<td>JAMALCO</td>
</tr>
<tr>
<td>Mines and Geology Division</td>
<td>Jamaica Premix</td>
</tr>
<tr>
<td>Jamaica Bauxite Institute</td>
<td>Silica Mining and Engineering Limited</td>
</tr>
<tr>
<td>Petroleum Corporation of Jamaica</td>
<td>West Indies Alumina Company</td>
</tr>
<tr>
<td>Forestry Department</td>
<td>Jamaica Institute of Environmental Professionals</td>
</tr>
<tr>
<td>Rural Physical Planning Division</td>
<td>Somerset Enterprises Limited</td>
</tr>
<tr>
<td>Office of the Cabinet</td>
<td>Michael Black Limited</td>
</tr>
<tr>
<td>Office of the Prime Minister (Ministry of Development)</td>
<td>Shaw's Quarry</td>
</tr>
<tr>
<td>Planning Institute of Jamaica</td>
<td>Norman Davis</td>
</tr>
<tr>
<td>Water Resources Authority</td>
<td>Eleanor Jones</td>
</tr>
<tr>
<td>Statistical Institute of Jamaica</td>
<td>Anthony Morgan, Godfrey Perkins</td>
</tr>
<tr>
<td>National Investment Bank of Jamaica</td>
<td>Patrick Gordon</td>
</tr>
<tr>
<td>Jamaica Trade and Invest (JAMPRO)</td>
<td>Glen Lynagh, Frank Ross</td>
</tr>
<tr>
<td>National Land Agency</td>
<td>Audley Roberts</td>
</tr>
<tr>
<td>National Works Agency</td>
<td>Carl Thomas, Godfrey Perkins</td>
</tr>
<tr>
<td>Jamaica Constabulary Force</td>
<td>Christopher Bovell, Timothy O'Driscoll, Candice Stewart</td>
</tr>
<tr>
<td>Jamaica Bauxite Mining Limited</td>
<td>Donovan Matthews</td>
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<tr>
<td>Bureau of Standards Jamaica</td>
<td>Harry Ince, Jennifer Ince</td>
</tr>
<tr>
<td></td>
<td>Locksley Allen</td>
</tr>
<tr>
<td></td>
<td>William W. Powell</td>
</tr>
<tr>
<td></td>
<td>Marjorie Paul</td>
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</table>