Government of the
Republic of Trinidad and Tobago
Ministry of Energy & Energy Affairs

WHITE PAPER ON NATIONAL MINERALS POLICY 2015

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Energy Affairs

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ACRONYMS

EMA	Environmental Management Authority
GDP	Gross Domestic Product
GoRTT	Government of the Republic of Trinidad and Tobago
LATT	Lake Asphalt of Trinidad and Tobago (1978) Ltd.
MAC	The Minerals Advisory Committee
MEEA	Ministry of Energy and Energy Affairs
R&D	Research and Development
T&T	Trinidad and Tobago

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1. INTRODUCTION

1.1 NEED FOR A POLICY

A National Minerals Policy is a regulatory tool that provides the public with a clear statement of Government's intentions towards, and expectations from, the minerals sector. It provides guidance for the Ministry of Energy and Energy Affairs (MEEA) and the relevant stakeholders on a way forward for the sector to operate effectively and within the context of the law and best practice to ensure that optimal value from the exploitation of the nation's resources is conveyed to the citizens and to the development of Trinidad and Tobago. Also, it is important that operators in the sector seek to ensure that there is minimal detrimental impact on the environment and society from the minerals sector. The evolving nature along with the sensitivity of the sector makes it critical that cost and benefits are scrutinized to ensure that the development of the sector is done without harming the social, economic or environmental elements of the country.

One of the fundamental issues affecting the sector is illegal mining (quarrying) especially on State lands which in some cases have resulted in detrimental impacts upon the environment and citizens of the country, both directly or indirectly. As such, a policy document is essential to address the deficiencies in national enforcement mechanisms as well as the regulatory and legislative mechanisms. Further to this, the policy seeks to treat with issues related to enhancing the value derived from the sector, not solely from enhancing production volumes, but also the quality and the value-added potential of resources to ensure that high returns are derived from extracted resources and new industries emanate that create a high potential for significant earnings to the country.

1.2 PURPOSE OF THE POLICY

The National Minerals Policy seeks to outline the direction for the minerals sector and chart a course forward to enable the sector to become more efficiently and effectively regulated and compliant with legislative provisions. The development of the economy of the Republic of Trinidad and Tobago is highly dependent on mineral resources. However, it is recognized that there are significant negative impacts inherent in the activities of the Minerals Sector. Sustainable development of the nation is crucial and sustainable consumption, allocation, and extraction of

these resources are important to ensuring that there is infrastructural and economic development while maintaining availability of these resources in the future and that the environmental sustainability is maintained.

Further to this, the National Minerals Policy would ensure that the country is able to harness optimal value from the use of its mineral resources. While economic development is critical, it is this Policy's objective to ensure that the sector extracts such resources in a sustainable manner and that all direct and related operations involved in the process of minerals exploration, extraction, processing, marketing, storage, transport and distribution will be done in such a manner that any negative impacts on the environment and the citizens of the country are mitigated.

As noted, the sector has severe deficiencies that must be addressed especially relating to ensuring that quarries are regularized and conform to the relevant mining legislation.

The overarching objectives that the National Minerals Policy will seek to achieve include:

- To facilitate effective regulation of the minerals sector and any required enforcement action;
- To recognize that the natural resources of the minerals sector belong to the people of Trinidad and Tobago and to manage the minerals sector so as to accrue optimal value from its resources to the Government of the Republic of Trinidad and Tobago and by extension to citizens;
- To foster greater levels of transparency and accountability in the operations and regulation of the sector for example adherence to the Extractive Industries Transparency Initiative (EITI) principles;
- To ensure compliance with legislation through enforcement exercises with other State entities;
- To standardise the regulatory procedures for the minerals sector;
- To regularise the minerals sector's operations and to foster and promote effective and proper health, safety and environmental best practices by operators that will limit the negative effects on citizens and the environment;
- To maximize economic benefits from the use of the nation's mineral resources;
- To stimulate proper mining techniques and enhanced minerals processing and value added product development; and
- To foster competitiveness in the sector and evolution toward international operating standards and best practices.

2.0 OVERVIEW OF THE MINERALS SECTOR

2.1 NATURE OF THE LOCAL SECTOR

General Overview

The Government of Trinidad and Tobago recognizes that the minerals sector makes a significant contribution to the country's economic development. Mineral resources are finite and non-renewable, making it imperative that they be extracted and utilized in a sustainable manner. The Government further recognizes that there are challenges facing the sector especially as it relates to the protection of the State's mineral resources and the maximization of value derived from the extraction of these resources, which impacts on the revenue streams to the Government and benefits to the people of Trinidad and Tobago. As such, this policy seeks to treat with those issues along with others that may hinder the sustainability of the minerals sector, and proposes measures to be taken to counteract the deficiencies which hamper the efficient and effective management of the minerals sector.

Legal Context of Mineral Ownership

In Trinidad and Tobago, as in most other parts of the world, the ownership of the mineral rights in land is a separate interest that can be severed from the ownership of the surface rights. In this jurisdiction, the original grants of title to land by the State included all sub-surface land not expressly reserved by the State. However, for all grants of land made after the 30th day of January, 1902, the Crown (now the State) reserved unto itself the mineral rights in lands granted to private land owners. Thus, in some instances mineral rights in the country are privately owned, whereas such rights in other lands are reserved to the State.

Definition and Scope of the Local Sector

The Minerals Sector in Trinidad and Tobago consists of all the activities involved in exploiting the country's mineral resources. The scope of the sector includes:

- Mineral exploration;
- Mineral exploitation (mining or quarrying);
- Mineral processing;

- Manufacture of mineral-based products (including construction blocks, cement, agricultural lime, ceramic products, glass bottles and asphalt products);
- Minerals trading (including stockpiling, import and export of minerals);
- Transportation and machinery (supplies, sales, service);
- Land management (including land rehabilitation); and
- Professional services (consulting, management, accounting, surveying, geological, engineering, legal, and financial).

2.2 MINERAL RESERVES

The recoverable reserves of Minerals in Trinidad and Tobago identified by a recently concluded strategic environmental assessment are estimated at 467 Million Metric Tonnes (see Table 1 below). These reserves are computed for Minerals within proposed Mining Zones comprising an area of approximately 72 Square Kilometres, or approximately 1.4%, of the total land area of Trinidad and Tobago, from the ground surface to a depth of 10 metres, over a time horizon of 25 years.

Table 1: Estimated Recoverable Reserves within Proposed Mining Zones in Trinidad and Tobago (Source: MEEA's SEIA[1] Study, September 2013)

Mineral Type	Acreage (Square Kilometers)	Reserves (Millions of Metric Tonnes)
Sand and Gravel	52.0	326.0
Blue Limestone	3.5	53.0
Clay	1.8	9.8
Plastering Sand	11.7	39.2
Yellow Limestone	0.8	26.1
Porcellanite	1.1	6.5
Andesite	0.5	6.5
	71.4	**467.1**

[1] Strategic Environmental Impact Assessment (SEIA) Study, GWP Consultants LLP, September 2013

2.3 MINERAL PRODUCTION

Minerals production data collected by the MEEA for January 2005 onwards are presented in Table 2 below. The data presented represents information provided by quarry operators to the MEEA during its mineral audits, for the operations that were audited. The figure does not represent operations for which data was not available, and is thus a very conservative estimate of production over the period 2005 to 2015. Data was not collected and was therefore not available for the period 2001 to 2004. The data also does not include production from illegal mining (quarrying) operations over the period 2001 to 2015.

Table 2: Minerals Production in Trinidad and Tobago for Years: 2005 to 2015
(Source: MEEA's Minerals Audit Reports 2005 to 2015)

YEAR	Volume (Cubic Yards)							
	Sand & Gravel	Blue Limestone	Yellow Limestone	Clay	Porcellanite	Sand	Andesite	Total
2005	1,532,624	329,274	1,097,045	184,372	7,000	49,705	151,556	**3,351,576**
2006	2,446,903	763,043	1,300,891	178,043	4,870	863,277	184,615	**5,741,641**
2007	3,282,023	768,672	1,554,634	185,669	24,986	1,330,834	120,664	**7,267,483**
2008	2,364,280	885,841	1,532,960	203,282	27,087	549,180	NA	**5,562,630**
2009	1,696,315	1,429,604	1,095,183	90,721	12,329	648,045	NA	**4,972,196**
2010	1,740,499	1,235,829	1,082,291	102,338	20,744	973,911	NA	**5,155,611**
2011	2,134,645	2,986,258	1,229,115	238,043	25,587	1,189,002	NA	**7,802,650**
2012	1,747,040	3,056,592	932,465	260,287	34,328	1,217,728	NA	**7,248,439**
2013	1,948,863	1,508,357	1,113,753	243,376	34,276	1,218,084	NA	**6,066,709**
2014	1,059,062	107,255	1,052,370	132,595	22,921	961,621	NA	**3,335,824**
2015	1,094	NA	81,031	2,988	NA	NA	NA	**85,113**
TOTAL YTD	**19,953,346**	**13,070,726**	**12,071,736**	**1,821,713**	**214,128**	**9,001,388**	**456,836**	**56,589,872**

Data is based on information provided by quarry operators to MEEA's Internal Audit Unit;
N/A – Data Not Available at the time of preparation of this policy document;
Note that Mineral Audits for Years 2014 and 2015 are still in progress and figures represent data available at time of preparation of this policy document.

2.4 SIGNIFICANCE OF THE SECTOR

Relevance of Minerals to Trinidad and Tobago

Minerals are natural resources which are utilised as raw materials in all facets of life, including business, construction, economic development, communities and in various industries in Trinidad and Tobago. Mineral operations in Trinidad and Tobago play a major role in sustaining the livelihood of a large percentage of persons in rural and semi-rural areas, such as Sangre Grande and its environs. Indeed the majority of mining

operations in Trinidad and Tobago are located in the North Eastern portion of the country.

The minerals sector has significant links with various segments of the economy, and Government through the resultant policy, aims to increase and strengthen these linkages with all stakeholder sectors to ensure that the demand for mineral resources is always met for national physical development and for use by the construction and industrial sectors. Table 3 shows the revenues collected from the Minerals Sector since Fiscal 2001; when the Minerals Act, Chapter 61:03 came into effect. The revenue figures represent data available at the time of preparation of this Policy, and when compared with the available audited production figures of Table 2 above, indicate that approximately 10% of the royalties from the minerals sector was collected for the period 2001 to 2013. This represents a loss of revenue to the State of approximately TT$120 million in royalty payments, and does not include loss of revenue from royalties for production not accounted for and from illegal mining (quarrying), as well as revenues from other sources such as: taxes, business levy and green fund levy, over the said period 2001 to 2013.

Table 3: Revenue Collected from the Minerals Sector for Years 2001 to 2013
(Source: Ministry of Finance: Estimates of Revenue Booklets for Fiscal 2001 to 2013)

Fiscal Year [Oct-Sept]	Sources of Revenue			TOTAL REVENUES (TT$)
	Royalties from Asphalt (TT$)	Royalties from Other Mineral Types; Licence Fees & Application Fees (TT$)	Fees for Competitive Bid Rounds (TT$)	
2001	N/A	N/A	N/A	N/A
2002	N/A	N/A	N/A	N/A
2003	0.00	859,269.00	0.00	859,269.00
2004	146,313.00	187,962.00	0.00	334,275.00
2005	0.00	2,664,203.00	0.00	2,664,203.00
2006	111,384.00	947,301.00	334,000.00	1,392,685.00
2007	107,680.00	1,676,448.00	0.00	1,784,128.00
2008	191,482.00	944,369.00	0.00	1,135,851.00
2009	163,852.00	1,471,328.00	295,500.00	1,930,680.00
2010	49,504.00	1,601,154.00	0.00	1,650,658.00
2011	12,672.00	1,528,842.00	0.00	1,541,514.00
2012	157,644.00	1,028,518.00	0.00	1,186,162.00
2013	N/A	N/A	N/A	N/A
TOTALS YTD	**TT$940,531.00**	**TT$12,909,394.00**	**TT$629,500.00**	**TT$14,479,425.00**

N/A - Not Available at this time

Table 4 below shows the contribution of the minerals sector to the national economy.

Table 4: Contribution of the Minerals Sector to the National Economy
(Source: Central Statistical Office, May 2014)

	Minerals Sector			Total Construction Sector			Total T&T Economy
	TT$ million			TT$ million			TT$ million
Year	Gross Output	Value Added* (Gross Output *less* Intermediate Costs)		Gross Output	Value Added* (Gross Output *less* Intermediate Costs)		GDP (Current Prices)
2000	87.20			10,650.49	3,833.10		**51,370.60**
2001	90.68			11,396.02	4,353.30		**55,007.20**
2002	87.56	34.40		10,712.26	4,092.08		**56,290.00**
2003	109.47	43.01		13,604.57	5,197.00		**71,169.00**
2004	109.80	43.14		15,546.62	5,938.81		**83,652.50**
2005	125.39	42.70		19,509.16	7,452.50		**100,682.00**
2006	167.59	57.07		22,452.70	8,576.93		**115,951.10**
2007	230.04	78.33		29,606.73	11,309.77		**136,952.50**
2008				37,896.61	14,476.51		**175,287.20**
2009				35,933.15	13,726.50		**121,281.30**
2010				24,634.76	9,410.50		**131,198.00**
2011				22,964.03	8,772.30		**150,886.50**
2012				22,980.45	8,778.50		**149,326.60**
2013				24,482.39	9,352.30		**157,417.80**

N.B. **Value Added*** is the contribution to G.D.P. at Current Prices
The Minerals Sector is classified as part of the Construction Sector for National Economic Accounting from 2008, Minerals Sector figures were merged with the Total Construction Sector

From the data available and presented in Table 4 above, it can be inferred that the Minerals Sector contributes approximately 0.1% of the total Gross Domestic Product (GDP) of the national economy and represents between 0.6% and 0.8% of the Economic Value Added (EVA) by the total Construction Sector. However, it should be noted that the Minerals Sector support the much larger construction sector.

2.5 CURRENT TRENDS IN THE SECTOR

The current state of the Minerals Sector is such that there are eighty-eight (88) active mining operations in Trinidad and Tobago, as at the end of February 2015. Of this number, forty-two (42) are currently licensed, while forty-six (46) are operating under expired licences and are currently in the process of being re-licenced. There are also forty-seven (47) new applications for mining licences being processed by the MEEA for which there are no operations ongoing. Further, as at the end of February 2015 there are sixty-two (62) mineral processing plants currently operating in Trinidad and Tobago without licences, which are currently being addressed by the MEEA.

The import and export regime for minerals needs to be regularized given that there are overlaps between the Minerals Act and the import/export trade licensing system currently in force at the Ministry of Trade, Industry and Investment.

The sector also currently faces a number of environmental challenges including those posed by illegal mining (quarrying) and the non-rehabilitation of areas quarried over the past several decades.

Health and safety practices throughout the sector are below acceptable standards, as are the education and training levels of participants in the sector.

Regulations governing the management of the sector are outdated, and there is an absence of effective enforcement mechanisms in the Minerals Act to address the illegal mining (quarrying) issues facing the sector.

The computation and collection of royalties and other payments due to the State are below acceptable levels, and is currently estimated at less than 10% for all revenue from the sector.

3.0 MINERALS POLICY FRAMEWORK

3.1 SWOT ANALYSIS OF THE MINERALS SECTOR

A SWOT (strengths, weaknesses, opportunities, and threats) analysis of the Minerals Sector conducted in April 2014 has identified the internal (strengths and weaknesses) environment, as well as the external (opportunities and threats) environment, of the sector.

STRENGTHS

- Significant reserves of minerals available including limestone, sand and gravel, asphalt, andesite, clay etc.;
- Successful active quarry operators in business for multiple generations;
- Low-cost electricity rates and subsidized fuel prices; and
- No import duties for mining equipment and processing plants.

WEAKNESSES

- Insufficient rehabilitation of areas mined;
- Poor health and safety practices by many sector participants;
- Low levels of education and training specific to the sector among sector participants;
- Sterilization of mineral bearing lands by other land uses including illegal squatting;
- Poor or inadequate maintenance of access roads by operators leading to complaints by residents;
- Unwillingness of operators to comply with requests from regulatory agencies; and
- Poor record keeping and unwillingness to pay royalties and other payments due to the State.

OPPORTUNITIES

- Linkages with the Construction Sector;
- EITI compliance will lead to more robust record-keeping by the MEEA, industry operators and other stakeholders which will improve collection of and reporting on royalty and other payments to the Government;
- Development of downstream industries for export of finished products;
- Availability of new forms of renewable energy to reduce operating costs; and
- The industry can be used as a catalyst for the economic development of North

Eastern Trinidad.

THREATS

- Competition from illegal quarry operators who sell at lower prices than legitimate operators;
- Presence of criminal elements in illegal quarrying dissuades legitimate operators;
- Damage to public roads by overweight trucks used in the sector leading to a greater burden on the State to repair and maintain damaged roads;
- Stress on the natural water systems caused by poor mining (quarrying) practices and by illegal quarrying;
- Deforestation and biodiversity loss due to illegal quarrying; and
- Weak enforcement capabilities by regulatory agencies.

3.2 POLICY OBJECTIVES AND NATIONAL DEVELOPMENT GOALS

Policy Objectives:

The targeted objectives of this Policy and the strategies needed over the medium-to-long term to sustain a viable and publicly supported minerals sector are outlined below.

Objective 1: To undertake legislative reform for the effective management of the minerals sector in Trinidad and Tobago.

Strategies

The Government will:

1. Amend the Minerals Act and lay appropriate Regulations in Parliament;
2. Continue the modernization of legislation and identify overlaps and gaps with the various pieces of legislation affecting the sector; with the intention of making amendments to such other pieces of legislation.
3. Effect legislative amendments, which will provide opportunities to all segments of the Minerals Sector.

Objective 2: **To promote the effective management of the nation's mineral resources and mineral-bearing lands from the pre-mining to post-mining stage.**

Strategies

The Government will:

1. Establish an enforcement unit to undertake enforcement action required under the Minerals Act and Regulations, including action against illegal operations, to prevent loss of revenue to Government.
2. Strengthen the Minerals Division by increasing its staffing, as well as by providing adequate human and material resources for the effective management of the sector.
3. Establish a field office in the Valencia/ Sangre Grande area to allow for effective monitoring of minerals operations throughout Trinidad and Tobago.
4. Improve access to mineral-bearing State lands through the process of competitive bidding or in the national interest, as per the Minerals Act Chapter 61:03 and ensure that these activities are concentrated within Mining Zones.
5. Facilitate the supply of minerals necessary to allow for the country's continued development, having regard to the preservation of protected or otherwise environmentally sensitive areas.
6. Protect the country's 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 sterilize the resources will be opposed using relevant administrative, legislative and enforcement mechanisms.
7. Promote proper capitalization and management of mineral exploitation operations and monitor their activities to ensure compliance with applicable laws and licences and to ensure operators observe best practices that minimizes, where reasonably practicable, effects on citizens and the environment.
8. Establish a memorandum of understanding (MOU) between the Ministry of Energy and Energy Affairs and the Governmental agency responsible for Tobago affairs as it relates to the Minerals Sector, to promote coordination of regulatory agency functions in Tobago.

Objective 3: **To regulate the sector to ensure compliance, the effective management of the environment, and the promotion of and adherence to best practices in health and safety standards.**

Strategies

The Government will:

1. Improve communication and coordination among regulatory agencies, minerals exploiting entities and the citizens of T&T to ensure high levels of environmental compliance and reduction of the social and environmental impacts of mining and quarrying activities.
2. Promote improved environmental and occupational health and safety practices at the workplace and in host communities. Ensure compliance to relevant legislation and conditions outlined in licenses and leases through continuous and regular monitoring, auditing, and enforcement measures to facilitate optimal value derived from resources and adherence to health, safety and environmental standards and statutes.
3. Partner with relevant Ministries and agencies to ensure that related legislation evolve with sector trends to facilitate environmental compliance and best practice, effective management of natural resources including the quality of water, land and air.
4. Ensure that companies rehabilitate mineral exploitation sites to an environmentally acceptable topography and vegetation within such periods as dictated by applicable statutes and their licences, and promote the feasibility of these sites being used for other purposes, including agriculture, reforestation, afforestation, urban development, water storage, tourism, recreational sport and other acceptable end-uses.

Objective 4: **To promote the development of human resource capacity and provide a framework for the increased application of Science and Technology within the Minerals Sector.**

Strategies

The Government will:

1. Develop and implement educational and training programmes at dedicated institutions to provide the required pool of skilled personnel for the quarry sector to be facilitated through domestic educational institutes in collaboration with international institutes and centers of excellence that specialize in training programmes for the quarry sector.
2. Promote the certification of minerals-related professionals.
3. Encourage private sector companies to strive toward sector best-practice through its human resources by dedicating resources to improve the competencies of their employees.
4. Facilitate the introduction of programmes, specifically geared toward the sector to constantly improve the competencies of Government officials to effectively regulate the sector, to maintain compliance to Licences and all sector-related legislation along with being equipped to adequately enforce the provisions of the Minerals Act and related Regulations.
5. Facilitate research, technological, product and human resource development to ensure the sector's efficiency and competitiveness.
6. Promote, strengthen and, where possible and necessary, establish and fund research facilities and appropriate educational and training opportunities to systematically improve the availability of the competencies required to transform the sector into a major pillar of the economy.
7. Promote the establishment of an Asphalt Research Institute (ARI) to pilot the downstream development of the country's asphalt resources. Lake Asphalt of Trinidad and Tobago (LATT), University of the West Indies (UWI), University of Trinidad and Tobago (UTT), and the Ministry of Energy and Energy Affairs (MEEA) will be included in the ARI.
8. Encourage local institutions to pursue research and development relating to other segments of the Minerals Sector.
9. Facilitate the formation of strategic partnerships with leading Minerals and Science and technology institutions/ bodies.

10. Consult and collaborate with research institutions to facilitate transfer of technology and the building of local capacity.
11. Promote greater cooperation amongst mineral companies and research institutions.

Objective 5: **To enhance the local and regional competitiveness of the Minerals sector in T&T.**

Strategies

The Government will:

1. Facilitate the modernization of mineral exploitation operations through retooling, improving human resources and management, reviewing current statutes impacting the sector, and promoting and facilitating access to ports and port facilities.
2. Endeavour to accommodate all segments of the Minerals Sector, with particular emphasis on value-added products, export of mineral products, and to facilitate increased levels of import substitution by improving facilities offered to enhance the value propositions within the minerals sector.
3. Facilitate the availability of adequate energy supplies, and promote the use of renewable energy devices and energy efficient systems, especially in operations off-the-grid.
4. Streamline the application process for obtaining mining and processing licences to allow for efficient processing of licence applications in the shortest possible time.

***Objective* 6: To facilitate increased investment for the sector's development and product diversification, increased levels of import substitution, improved product quality, optimized utilization of mineral resources, and expansion of the sector.**

Strategies

The Government will:

1. Encourage and collaborate with financial institutions to facilitate local investors with concessionary financing for minerals-related ventures.
2. Allow import of minerals where it can be demonstrated that suitable quantities of the required quality are not available locally, at competitive prices.
3. Encourage investment and expansion of operations, within the confines of the licensing regime and appropriate legislation, to enhance resource extraction.
4. Promote the manufacturing of value added products from minerals resources to ensure the value generated from T&T's natural resources are retained within the country for the development of the country and its people.

***Objective 7:* To facilitate the collection and computation of mineral sector data.**

Strategies

The Government will:

1. Develop the capacity to manage domestic data within the sector. As a condition of all licences, to ensure that there is quality assurance in the production of minerals products to accurate specifications. Such information would be deposited with the MEEA for the development of a database of production data. Further to this, the Government would promote quality assurance standards and the optimal utilization of mineral resources in line with their physical, chemical, metallurgical and other characteristics; and
2. The Government will ensure transparency and accountability by making publicly available a register of licences from the minerals sector.

Objective 8: **To address underdevelopment of sub-sectors such as the Asphalt segment of the Minerals Sector, while removing imbalances where appropriate.**

Strategies

The Government will:

1. Develop and implement sector-specific awareness programmes.
2. Commission a study to determine the potential development of the resources. Such a study will also consider the environmental, economic and social implications, with the view of achieving where feasible the optimal value acquisition from extraction and production, with minimal impact on citizens and the environment.
3. Commission a study to determine the future role of the State Enterprises (National Quarries Company Ltd (NQCL) and Lake Asphalt of Trinidad and Tobago (LATT)) to determine their suitability as leaders for downstream development in the Minerals Sector.
4. Simplify and widen the investment and production incentive regimes to benefit all segments of the sector.

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

Strategies

The Government will:

1. Work toward simplifying procedures and making the export of value-added mineral products economically feasible and attractive and aid in developing export markets for such value-added products.
2. Collaborate with the relevant Ministries, agencies and sector actors to enhance the logistical and port dynamics to allow cost-effective export of value added mineral products. Facilitate the multi-purpose use of existing and yet to be developed ports. Also, where possible, facilitate the development of dedicated bulk handling

ports at strategic locations, and general access to port facilities at rates that encourage export of mineral products.
3. Assist local mineral products companies to increase their market share in various markets.

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

Strategies

The Government will:

1. Identify and pursue alternative uses for waste products.
2. Promote partnerships with entities in education, research, agriculture (including forestry), manufacturing, construction, tourism, and other segments of the economy.
3. Promote mining and minerals-focused tourism especially with regard to the rehabilitation process for quarried-out lands.

***Objective* 11: To promote increased benefits from minerals operations to host communities.**

Strategies

The Government will:

1. Promote the investment into host communities by mineral operators.
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 12: **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 Sector and encourage the private mineral operators to implement similar approaches.

2. Endeavour to promote the importance of the sector and sustainable mining practices along with making information readily available on the processes associated with the awarding of licences, leases, permits and other documents.
3. Organize press conferences, investor conferences and exhibitions, panel discussions, community and other special interest meetings and other opportunities to promote the sector.
4. Promote the use of local minerals in the development of the nation along with the export of T&T's minerals, particularly value-added products, to the international market.

National Development Goals

This policy has been developed against the Government's policy framework as articulated in the 2010 Manifesto which Cabinet has approved as the Framework for Sustainable Development, and which refers to the Seven (7) Pillars of Development. The three pillars that are most relevant to the MEEA are pillars 2, 4 and 5 as articulated below.

PILLAR 2: Poverty Eradication and Social Justice - Preference for Poor and Disadvantaged

The MEEA will contribute to poverty eradication and social justice through the strengthening and growth of the Energy and Minerals sectors and the development of new strategic areas of focus such as Renewable Energy (RE), Energy Efficiency (EE)

and Alternative Energy (AE); the MEEA will support the increased potential of Trinidad and Tobago for contributing to growth in job creation and innovation; with legislative reform and fiscal incentives that attract investment and support the expansion of RE Technologies. It will help new knowledge areas to emerge, which will include education and training in these areas and the provision of jobs for the widest range of trainees.

PILLAR 4: Information and Communication Technologies - Connecting T&T and Building the New Economy

The MEEA is continuing to develop a strong IT platform which will drive all of its processes and systems. It is also moving to align this platform with the platforms of all the State Energy and Mineral Companies and Energy Sector Firms, both local and international. Finally, it will emphasize the training of its staff in all aspects of ICT and will interface with the public on an ever increasing IT nexus.

PILLAR 5: A More Diversified, Knowledge Intensive Economy - Building on the Native Genius of Our People

The MEEA will contribute to this diversification by sustaining and maintaining high levels of growth and competitiveness through: (i) a restructuring of the energy and minerals sectors; (ii) increasing Trinidad and Tobago's proven resource position; (iii) moving up the energy and mineral value chain; (iv) downstream energy and mineral sector development which will provide support for growth of the local manufacturing sector.

3.3 POLICY INSTRUMENTS

The Government will utilize both regulatory instruments (laws and regulations) and economic instruments (taxes and fees, subsidies, incentives, and tax credits) to achieve the desired effects proposed by this paper.

4.0 POLICY ISSUES

4.1 ROLE OF THE STATE IN THE SECTOR

The National Quarries Company Limited and Lake Asphalt of Trinidad and Tobago (1978) Limited ("Lake Asphalt") are the two State enterprises that engage in mining and mining related activities. They are both fully owned state companies.

4.1.1 ROLE OF NATIONAL QUARRIES COMPANY LIMITED

National Quarries Company Limited was set up by the Government of the Republic of Trinidad & Tobago (GORTT) in February 1979. It has as its objective to supply the demand of quality products for the construction sector, to stabilize the prices of construction aggregate, and to ensure optimization of the State's mineral resources under its control.

4.1.2 ROLE OF LAKE ASPHALT OF T&T (1978) LTD.

Lake Asphalt is charged with the commercial development of the Pitch Lake of Trinidad and Tobago which is the world's largest deposit of natural asphalt. The Company has been involved in the mining, refining, manufacture and distribution of high quality road building materials and other asphalt related products for over one hundred years and is a global organization with distributors and alliances in five of the seven continents of the world.

4.2 ALLOCATION OR DISTRIBUTION OF STATE LANDS FOR MINING AND MINING RELATED ACTIVITIES

There shall be an equitable and wide allocation or distribution of State lands for mining purposes and related activities, in order to promote competition and increase production of mineral resources.

In this regard, the MEEA may utilize any of the following processes:

1. an open and competitive tender process; or

2. such allocation or land distribution method, as approved by the State, taking into consideration the following circumstances, *inter alia:*

(i) where economies of scale will result in a lowering of the price of minerals;
(ii) support for small scale operators;
(iii) creation of opportunities for new investors who possess the financial capacity and technical qualifications required for investment in mining activities and commit to directly supplying the market;
(iv) facilitation of vertically integrated operations within existing business structures;
(v) award of production-based contacts or other arrangements as determined by the State;
(vi) the national interest; and
(vii) award of joint ventures or other contractual arrangements with foreign governments and related agencies, and investors.

4.3 ROLE OF THE PRIVATE SECTOR

The private sector plays an integral role in the exploitation of the State's mineral resources. The Government will promote and encourage greater private sector participation in all aspects of mineral exploitation through the use of economic instruments and by creating an enabling environment within which the private sector can operate.

5.0 LEGISLATIVE AND ADMINISTRATIVE FRAMEWORK

5.1 MINERALS LEGISLATION

The sector is regulated by various pieces of legislation due to the diverse issues encountered in the mining process. As such, it is requisite that the legislative mechanisms are harmonized so as to ensure that gaps that can cause opportunistic behaviour are eradicated where reasonably practicable.

5.1.1 THE MINERALS ACT

The Minerals Act, Chap. 61:03, currently prevails as the key piece of legislation regulating the operations of the sector. This Act, which took effect on November 6, 2000, intended to regulate mining and mining associated matters; however, no Regulations made under the Minerals Act, to give effect to the provisions of the Act, were ever laid in Parliament for approval. The Minerals Act repealed the Mines, Borings and Quarries (MBO) Act of 1907, but saved and retained the Regulations made under that said MBQ Act, which remains in effect today. However, it is widely recognized that there are several gaps which must be addressed to ensure that the MEEA is able to effectively regulate the sector operations to prevent adverse impacts upon the environment and the citizens of Trinidad and Tobago.

5.1.2 THE MINERALS REGULATIONS

The lack of modern and effective Regulations, to give effect to the provisions in the Minerals Act, over the last decade resulted in ineffective management and poor regulation of mining and mining related activities, and the Minerals Sector in general; with the resultant deleterious effects on the environment and on host communities, as well as the poor collection of revenue due to the State. The MEEA in collaboration with other Government Ministries and agencies has finalized new regulations for the Minerals Sector. These regulations will be submitted to Cabinet in the second quarter of 2015. It is expected that they will be subsequently laid in Parliament for negative resolution.

5.1.3 THE GEOLOGICAL SURVEY ACT

Government will amend the Geological Survey Act, Chapter 60:02 to align the overlaps with the Minerals Act, Chapter 61:03.

5.1.4 THE ASPHALT INDUSTRY REGULATION ACT

Government will amend the Asphalt Industry Regulation Act, Chapter 87:50 to align the overlaps with the Minerals Act, Chapter 61:03.

5.1.5 THE MINING COMPENSATION ACT

Government will amend the Mining Compensation Act, Chapter 61:02 to align the overlaps with the Minerals Act, Chapter 61:03.

5.2 ADMINISTRATIVE AND REGULATORY FRAMEWORK

5.2.1 THE MINERALS ADVISORY COMMITTEE (MAC)

The MAC is a statutory body established under section 15 of the Minerals Act, Chapter 61:03. It comprises representatives from eleven (11) governmental ministries and agencies, as listed under section 15 of the Act, each of which has a regulatory function on the sector.

The MAC's mandate as detailed under section 16 of the Minerals Act include:

(i) Advising the Minister on matters of general policy with respect to exploration, mining, processing, import and export of minerals and other minerals related matters;
(ii) Receiving and considering applications for licences and making recommendations thereof to the Minister;
(iii) Advising the Minister on the establishment of mining zones and the establishment of mining blocks therein;
(iv) Advising the Minister on the quantum of performance and rehabilitation bonds;
(v) Advising the Minister on matters of the environment as they relate to mines;
(vi) Reviewing the provisions of the Act and the Regulations from time to time and making recommendations to the Minister as may be considered necessary; and
(vii) Advising the Minister on all such matters that may be referred to it.

5.2.2 THE MINERALS DIVISION

The Director of Minerals heads the Minerals Division of the MEEA. The duties of the Director of Minerals are outlined under section 10 of the Minerals Act, which include, inter alia, promoting and facilitating the effective and efficient management and development of mineral resources in general and the State mineral resources in particular. The functions of the Minerals Division include:

1. Exploration and Development Section:

(i) Exploration Surveys
(ii) Minerals Advisory Committee (MAC) Secretariat
(iii) Minerals Sub-Registry and Database Management
(iv) Applications and Licences Processing

2. Operations Section:

(i) Licence Monitoring
(ii) Minerals Audit
(iii) Enforcement of Act and Regulations

5.2.3 MINERALS MANAGEMENT

Management of the Sector / Governance, Transparency and Accountability:

The Minerals Sector plays a significant role in the physical development of the nation. The proper management of mineral resources is critical to ensuring that maximum value is derived from the exploitation of the nation's mineral resources. As such, the deficiencies in the regulatory system that were encountered in the past must be treated with via the resultant National Minerals Policy.
The current system of accounting for production is deficient, and therefore much of the revenue stream from the exploitation of mineral resources is not being returned to the State, especially in relation to the computation and collection of royalties. As such, Government will institute a new system at each quarry for the quantification of production and thus, the computation of the royalties due to the State to enhance the optimal derivation of revenues from the exploitation of the nation's mineral resources.

The Minerals Division will develop appropriate action plans based on the policy direction prescribed in the resultant White Paper, and will monitor, evaluate and adjust, where

necessary, its strategic plans to ensure alignment to sector trends, and national development goals.

Monitoring and enforcement measures shall be enhanced to treat with current issues plaguing the sector to ensure that the goals of the approved policy are continuously met. The policy would be reviewed, and amended if necessary, after a 3 year period to ensure there is value optimization from the exploitation of the nation's mineral resources.

Further, the Government is committed to providing information on available revenue and other benefits obtained from mining operations to ensure transparency and accountability in the Minerals Sector. To this end, it became a member of the Extractive Industries Transparency Initiative (EITI) and will continue to adhere to the EITI Principles and satisfy the EITI Standard Requirements. The Minerals Sector reporting will be included in future EITI reports.

6.0 DEVELOPMENT OF THE MINERALS SECTOR

6.1 DEVELOPMENT OF DOWNSTREAM INDUSTRIES

Development of New Mineral Industries:

There is significant value that can be derived from the exploitation of the nation's mineral resources. Asphalt has significant potential for development. As such, it is requisite that there be relevant legislative framework and policies to ensure the maximization of the resource extraction while maintaining a balance with sustainable environmental practices. The value accrued from the sector could be increased through creating an enabling environment for sustainable sector evolution. The sector is currently operating below par of international best practice.

Developing Local Sector Competitiveness:

While Research and Development (R&D) are critical components toward facilitating effective mining operations, there are many other obstacles that stymie the competitiveness of the country and the value accrued from minerals. Quality assurance and efficiently run port systems are critical infrastructural elements required for ensuring that value from resources are maximized and is retained in T&T.

Therefore, there must be developments to facilitate;

(i) the economic viability of the sector;
(ii) environmental sustainability in processes;
(iii) cost effective import and export processes and mechanisms; and
(iv) R&D into the products and potential mineral products to ensure that the sector is managed in an all-round sustainable manner.

6.2 INTERNATIONAL TRADE IN MINERAL RESOURCES

Regional Trade

Other than Trinidad and Tobago, the main islands within the Caribbean region which participate in extraction of mineral resources are: Antigua and Barbuda, Aruba, The Bahamas, Barbados, Bermuda, Cuba, Dominican Republic, Dominica, Guadeloupe, Martinique, Haiti, Grenada, Jamaica, Netherlands Antilles, Montserrat, Saint Vincent and

the Grenadines, and Saint Lucia.

The Government of Trinidad and Tobago will promote trade in minerals with the above regional partners, as well as international resource extractors, where there are benefits to be derived from such trade, and where such trade will ensure a secure supply of the quantity and quality of minerals needed for national development, especially when the local sector cannot meet the domestic demand.

6.3 EDUCATION, TRAINING AND CERTIFICATION

Capacity Development in the Sector:

The effective management of the sector and the execution of proper techniques require skilled people managing the quarries. As such, human resource capacity development is critical to ensuring that the sector operates efficiently and with minimal impacts on the environment while optimizing the monetary value accrued from the resources extracted.

6.4 RESEARCH AND DEVELOPMENT

Research and Development/Value Optimization:

Value optimization can be further enhanced via R&D into the resources that the nation currently produces. As such, there is a significant potential to gain greater value from value-added products derived from domestic mineral resources. Therefore, developing a research potential for areas such as asphalt is critical toward the effective monetization of our natural resources.

7.0 HEALTH, SAFETY, SECURITY AND THE ENVIRONMENT

7.1 SUSTAINABLE DEVELOPMENT OF THE MINERAL SECTOR

Health, Safety and Environmental Issues:

The process of minerals extraction and processing involves operations that can have significant emissions and discharges into the environment. While this must be minimized, it is critical that a balance be maintained between the level of quarrying activities in relation to the impacts on citizens and the environment since mineral resources play a key role in the development of the country. As such, there must be proper controls and mitigation strategies put in place from the planning to the execution stages in the mining process. Critical to this issue, involves the application process whereby adherence to the mining, environmental, health and safety and rehabilitation issues, are critical to ensuring that the extraction process has limited impacts on the environment and on people.

Government will establish Mining Zones after consideration of the proposals submitted in the recently concluded Strategic Environmental Impact Assessment (SEIA) study to ensure that mining and related activities are controlled within well-defined geographical boundaries, to ensure the protection of the natural environment. Government recognizes that in some cases, because of overwhelming environmental conditions, it may be beneficial to leave the mineral in the ground and instead import minerals where the national demand exceeds the supply capacity of the sector.

7.2 REHABILITATION AND AFTERUSE

Rehabilitation and Proper Land Use Management:

Rehabilitation of quarries after mining has been a major challenge such that there are many quarried-out areas whereby no rehabilitation efforts were undertaken in the past. As such, potential environmental detriments may be incurred as a result. Monitoring and enforcement of rehabilitation plans are crucial toward protecting the environment and the well-being of the people of Trinidad and Tobago. Further to this, accountability for action or inaction would be enforced to ensure that failure to comply with the laws and regulations, in this regard, would not be easily foregone.

7.3 INTER-AGENCY COLLABORATION

The National Minerals Policy furthers Government's commitment towards a path of sustainable development. As policy is developed, it is prudent to ensure that there is synergy with other related policies. Existing national policies and legislation that have some relevance on minerals include:

1. People's Partnership Manifesto (2010)
2. National Environmental Policy (2009)
3. National Policy and Programmes on Wetland Conservation for Trinidad and Tobago (2001)
4. Draft National Protected Areas Policy (2009)
5. Draft National Forest Policy (2008)
6. Environmentally Sensitive Areas Rules (2001)
7. Environmentally Sensitive Species Rules
8. Draft Waste Management Rules (2008)
9. Water Pollution Rules
10. Draft National Action Programme to Combat Land Degradation in Trinidad and Tobago (2006-2020)
11. Environmental Management Act, Chapter 35:05
12. Occupational Safety and Health Act, Chapter 88:08
13. State Lands Act, Chapter 57:01
14. Town and Country Planning Act, Chapter 35:01
15. Forests Act, Chapter 66:01
16. National Climate Change Policy (2011)
17. National Integrated Water Resources Management Policy (2005)

In implementing the National Minerals Policy, Government will ensure that there is greater inter-agency collaboration among the key stakeholders involved in the management, regulation and sustainable development of the minerals sector. These agencies include, inter alia:

1. Minerals Division
2. Forestry Division
3. Land Management Division
4. Lands and Surveys Division

5. Town and Country Planning Division (TCPD)
6. Ministry of Works and Infrastructure (MoWI)
7. Ministry of Finance and the Economy (MoFE)
8. Ministry of Health (MoH)
9. Ministry of National Security (MNS)
10. The Environmental Management Authority (EMA)
11. The Occupational Safety and Health Authority and Agency (OSHA)
12. The Water and Sewerage Authority (WASA)
13. The Tobago House of Assembly (THA)

8.0 CONCLUSION

Given the current trends and challenges, especially illegal quarrying, in the minerals sector of Trinidad and Tobago, it is imperative that legislative amendments be made which will allow the proper functioning of the Minerals Act and its Regulations. Such amendments when coupled with the administrative changes proposed will allow the twelve objectives identified in this National Minerals Policy to be achieved, for the proper management and regulation of the sector, to ensure the sustainable development of the nation while ensuring that the State receives its revenue due from the exploitation of its diminishing resource.

APPENDIX A – Map of Location of Quarries in Trinidad

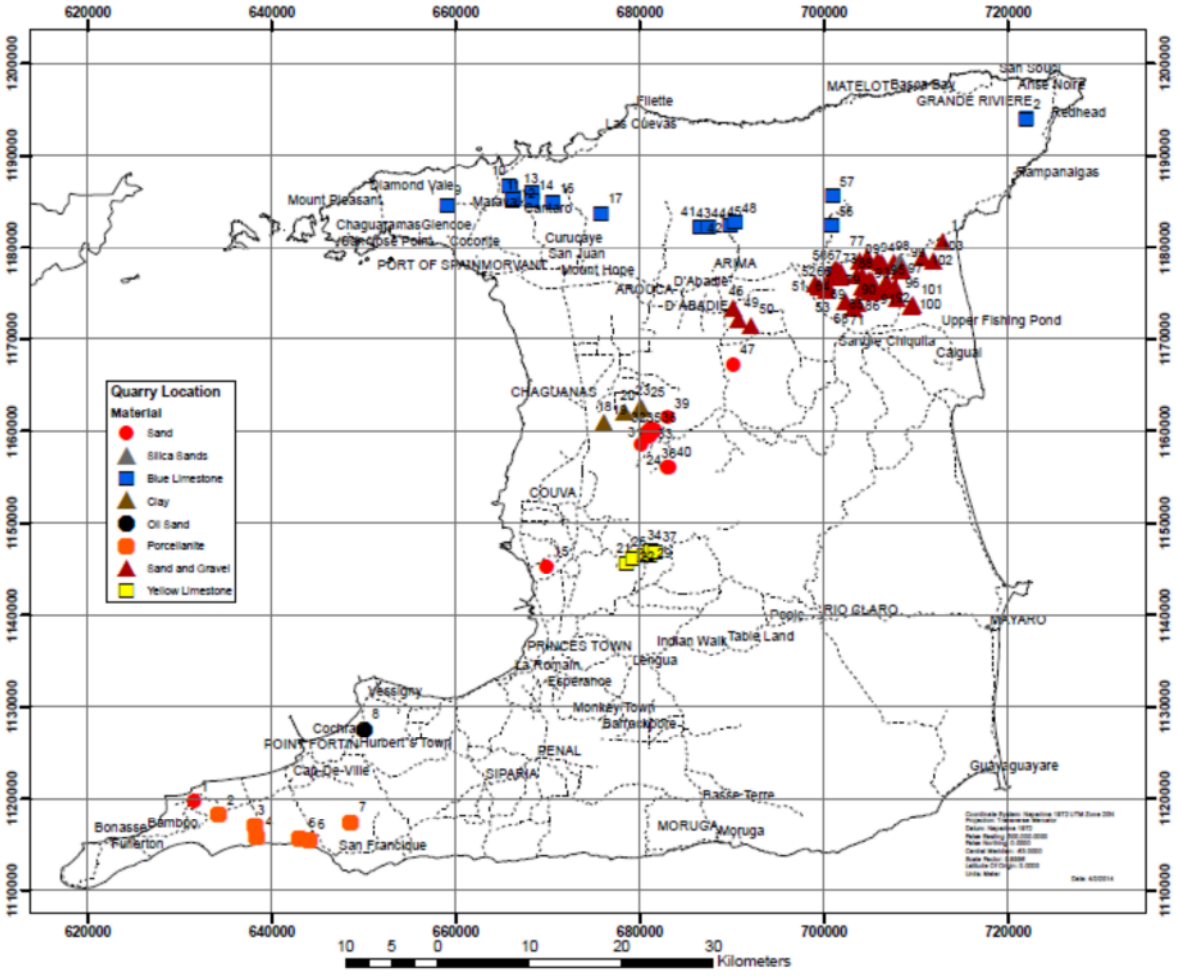

Figure 1: Map of the Location of Quarries in Trinidad
(Source: MEEA, April 2015)

APPENDIX B – Map of Location of Quarries in Tobago

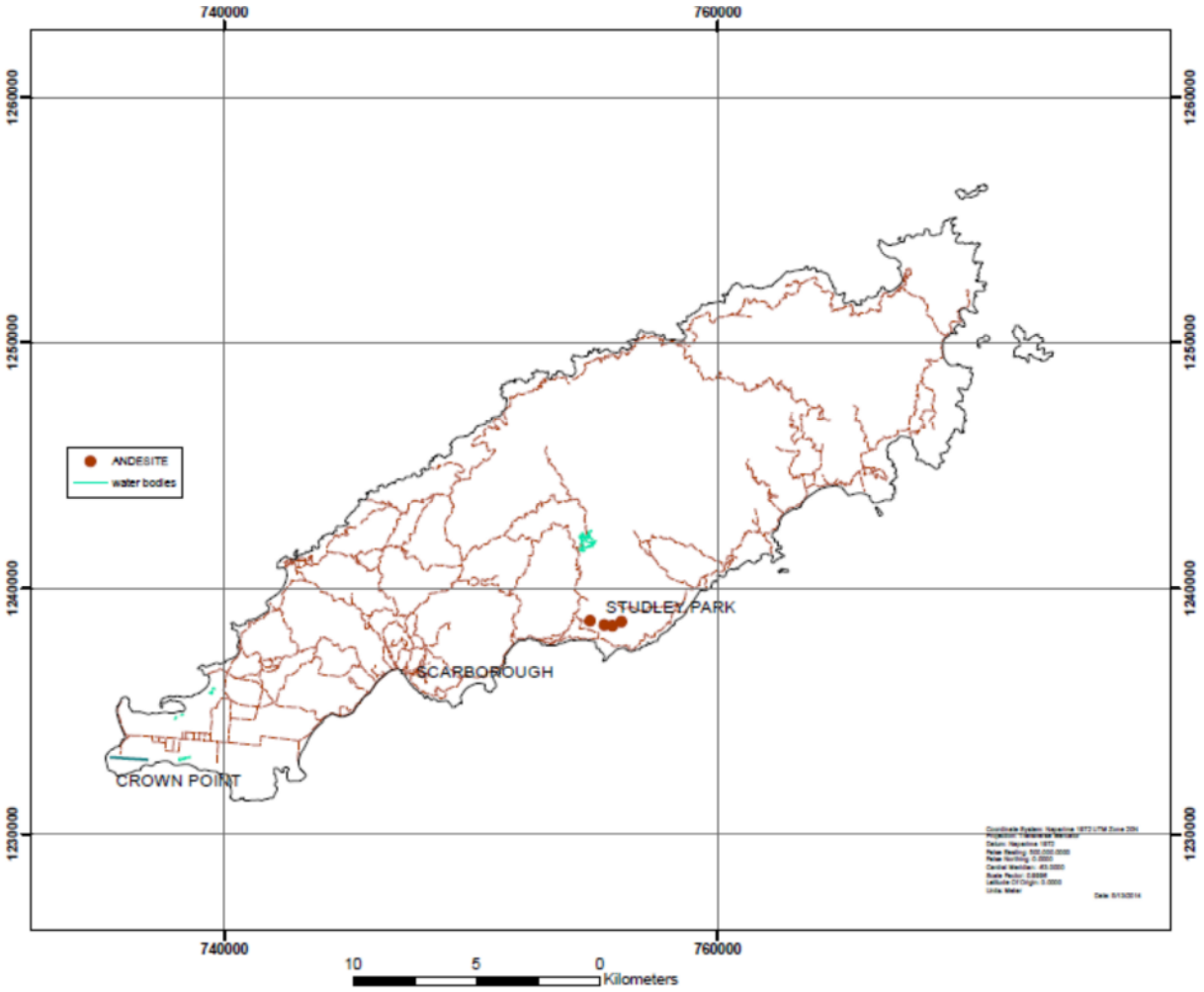

Figure 2: Map of the Location of Quarries in Tobago
(Source: MEEA, April 2015)