

MINISTRY OF ENERGY AND ENERGY INDUSTRIES



ANNUAL ADMINISTRATIVE REPORT • OCT 2000 - SEP 2001



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Published By

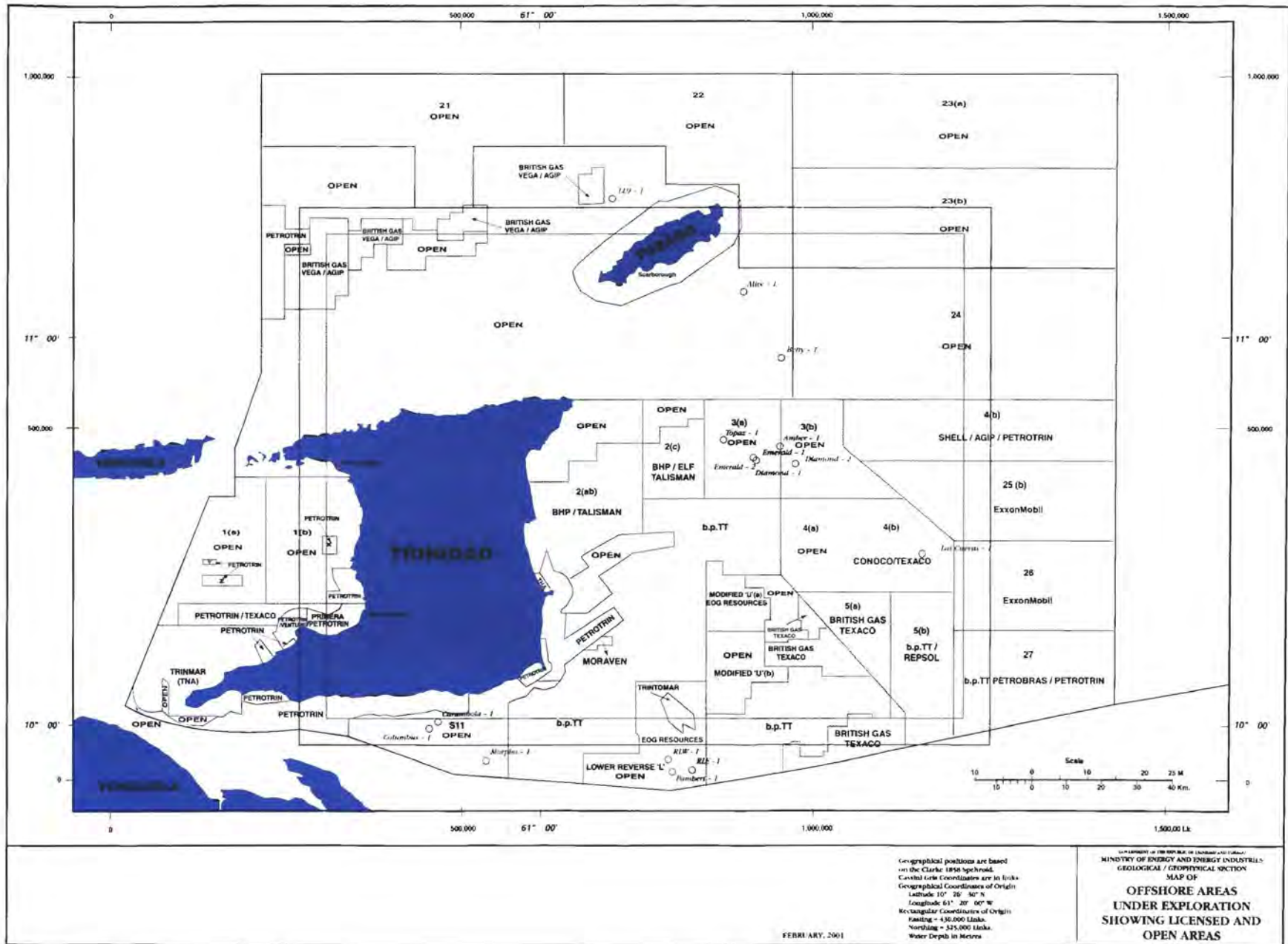
THE MINISTRY OF ENERGY & ENERGY INDUSTRIES

RIVERSIDE PLAZA, PORT OF SPAIN

THE REPUBLIC OF TRINIDAD & TOBAGO

Website: www.energy.gov.tt

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •





MINISTRY OF ENERGY
AND ENERGY INDUSTRIES

MISSION

The Ministry of Energy and Energy Industries is in the business of ensuring the efficient and effective management of the energy and mineral sectors of the Republic of Trinidad and Tobago for the benefit of the nation.

VISION

The Ministry of Energy and Energy Industries will be a dynamic, client-oriented organisation – the centre of excellence in the mineral sectors.

STRATEGIC OBJECTIVES

1. To promote optimal growth and development of the energy and mineral sectors in a safe and environmentally sound manner.
2. To promote the Republic of Trinidad and Tobago as a viable location for exploration and production opportunities.
3. To promote optimal growth of downstream natural gas-based investment opportunities.
4. To establish and maintain an organisational structure designed to achieve the Ministry's Mission.
5. To develop and implement policies that satisfy the needs of employees.

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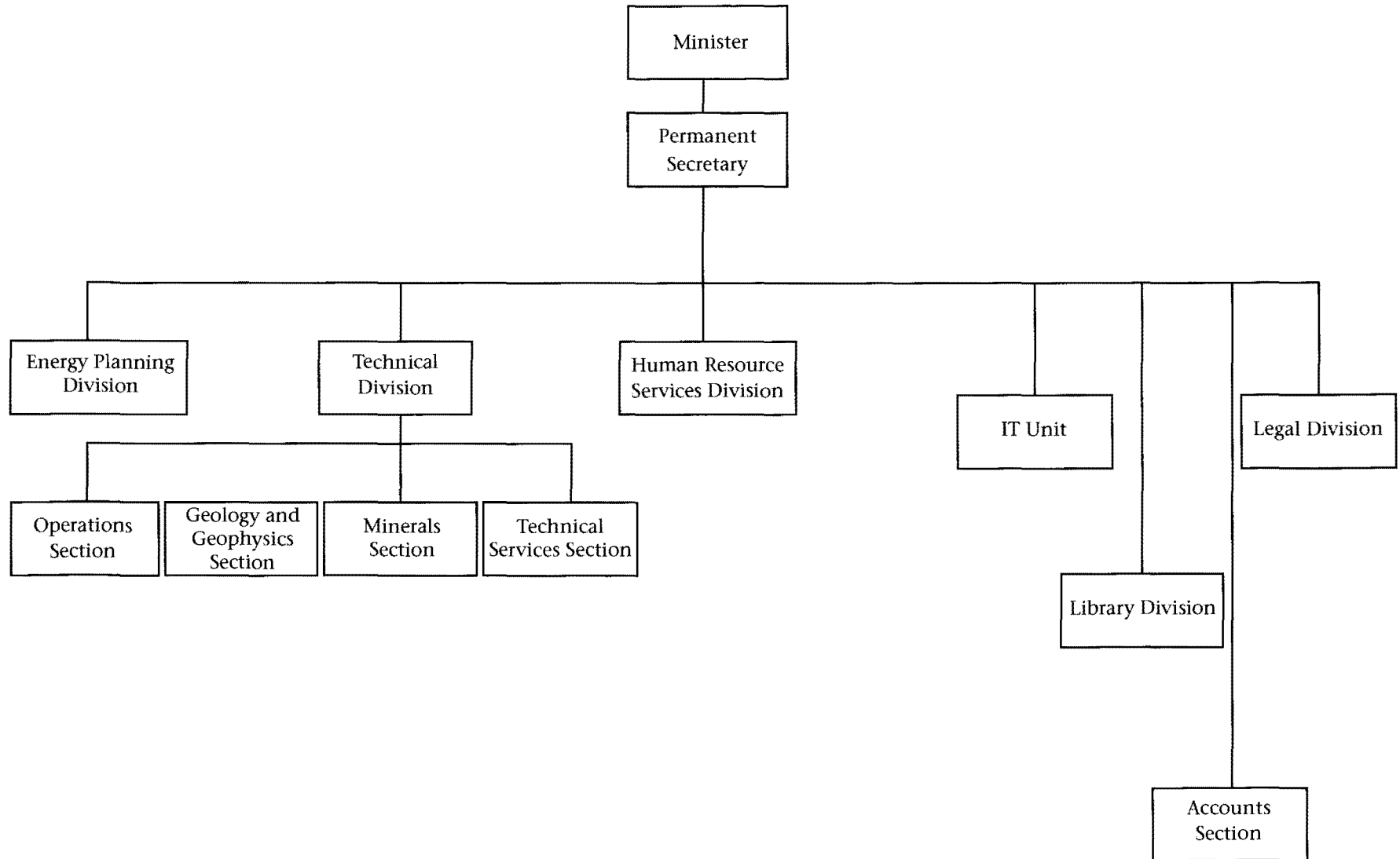
SERVICES PROVIDED

The Ministry of Energy and Energy Industries is the agency of government with responsibility for managing and developing the petroleum and mineral resources of the Republic of Trinidad and Tobago.

Major services of this Government Ministry include:

1. Issue of leases and licenses for Exploration and Production Sharing Contracts.
2. Approval for the use of new drilling or production rigs.
3. Approval for the use of drilling or production rigs (idle).
4. Approval for the use of drilling or production rigs after major modification and repairs.
5. Approval for certified measuring storage facilities as well as for the construction and modification of Gathering Stations.
6. Approval of petroleum product storage (in excess of 100 imperial gallons).
7. Approval of Liquefied Petroleum Gas (LPG) Bottling Plants.
8. Approval of offshore installations and modification of these installations.
9. Approval of chemicals for use in the energy industry.
10. Certification of Customs Duty-Free entries for use in the offshore petroleum industry.
11. Approval of Customs Licence for export of aggregate (crushed stone and other materials used in the manufacture of concrete).
12. Issue of leases and licenses for mining activities in respect of quarries.
13. Control/Monitoring and assisting with the National Oil Spill Contingency Plan.
14. Sale of data on energy and energy industries.
15. Renewal of gas station retail marketing licence.
16. Issuing of gas station retail marketing licence.
17. Issue and renewal of peddlers' licence.
18. Provision of Library and Information Services on the local and international petroleum industry.

ORGANISATIONAL CHART



EXECUTIVE SUMMARY

This Report departs from the style of previous years in that it reflects the activities and achievements of the Ministry of Energy and Energy Industries during the fiscal year, rather than the calendar year.

The fiscal year, as mandated by Parliament, now runs from October to September, rather than January to December.

The Ministry serves the industry and the general public from three locations: two in Port of Spain and one in San Fernando. The Ministry's Head office is at Riverside Plaza, in east Port of Spain, the Technical Section in the Moonan Building in upper Frederick Street and the Operations Section at Pointe-a-Pierre Road, San Fernando.

October 2000 to September 2001 was another successful period for the Ministry of Energy and Energy Industries as it continued to preside over the development of the country's most important economic sector. The executives at the helm included Senator Lindsay Gillette, Minister of Energy and Energy Industries, Hon. William Chaitan, Minister in the Minister of Energy and Energy Industries and Mr. Andrew Jupiter, Permanent Secretary.

One of the Ministry's biggest challenges has been helping to steer Trinidad and Tobago into the LNG industry and that process continued into the fiscal year, with the simultaneous construction of Trains 2 and 3 alongside the already functioning Train One at the Atlantic LNG complex in Point Fortin. The Ministry also monitored the development of related gas-producing and pipeline projects.

The rate of growth of the natural gas sector in Trinidad and Tobago will largely depend on the amount of reserves available and the Ministry's vision for the most appropriate way to allocate those reserves.

In this regard, two key events during the fiscal year included the completion of a natural gas audit by Ryder Scott Consultants and the drawing up of the first Natural Gas Master Plan by Gaffney Cline and Associates. The audit identified a new level of non-associated possible and probable gas reserves with the proven gas reserves in the offshore region of 19.67 trillion cubic feet (tcf).

Natural gas production during the period averaged 1.606 mmscf/d, an increase on the 1999-2000 fiscal year while crude oil and condensate production averaged 112,658 b/d, a fall of 7.17 percent.

Continual exploration is the key to discovering more oil and gas and the Ministry offered seven offshore blocks for exploration bids by companies during the fiscal year. The auction opened on April 20, 2001 and closed on September 4, 2001. Three of the blocks attracted no bids and of the four that did, negotiations on production sharing contracts (PSCs) relating to two-3a and Lower Reverse L, were initiated.

Improvements in the Ministry's ability to electronically store and retrieve the mass of data necessary for the proper discharge of its functions, continued during the year. The Web Site was re-designed, the local area network (LAN) upgraded and a Wide Area Network (WAN), linking all three divisions, installed.

In its continuing effort to raise the awareness of the energy industry and energy issues among the wider population, the Library and Information Services Division co-coordinated the fourth series of the "Energy Alive" educational television Quiz Programmes. Following its success on local television, "Energy Alive" was transferred to the Web, where the questions and answers for each show were made available. Single and multi-player versions of "Energy Alive" were also made available on the Internet.

KEY TO COMPANY NAMES

ALNG	-	ATLANTIC LNG COMPANY OF TRINIDAD & TOBAGO	PPGPL	-	PHOENIX PARK GAS PROCESSORS LIMITED
BGTL	-	BRITISH GAS TRINIDAD LIMITED	PTTL	-	PERIYAR TRINIDAD AND TOBAGO LIMITED
BHP	-	BROKEN HILL PROPERTY PETROLEUM COMPANY LIMITED	TED	-	TRINIDAD EXPLORATION & DEVELOPMENT COMPANY
BP	-	BP TRINIDAD AND TOBAGO	TERL	-	TRACMAC ENERGY RESOURCES LIMITED
CARIRI	-	CARIBBEAN INDUSTRIAL RESEARCH INSTITUTE	TITAN	-	TITAN METHANOL COMPANY LIMITED
CMC	-	CARIBBEAN METHANOL COMPANY	TRINGEN I & II	-	TRINIDAD AND TOBAGO NITROGEN COMPANY
EEPTL	-	EXXON EXPLORATION & PRODUCTION TRINIDAD LIMITED	TRINMAR	-	TRINIDAD MARINE AREAS
EOGRTL	-	EOG RESOURCES TRINIDAD LIMITED	TRINTOMAR	-	TRINIDAD & TOBAGO MARINE PETROLEUM COMPANY
FARMLAND	-	FARMLAND/MISSCHEM	TSEP	-	TRINIDAD SHELL EXPLORATION & PRODUCTION LIMITED
HYDRO AGRI	-	HYDRO AGRI TRINIDAD LIMITED	TTMC I & II	-	TRINIDAD AND TOBAGO METHANOL COMPANY PLANTS I & II
METHANOL IV	-	METHANOL IV COMPANY LIMITED	T&TEC	-	TRINIDAD AND TOBAGO ELECTRICITY COMMISSION
MORAVEN	-	MORA OIL VENTURES LIMITED	VINTAGE	-	VINTAGE PETROLEUM COMPANY LIMITED
NGC	-	THE NATIONAL GAS COMPANY OF TRINIDAD AND TOBAGO LIMITED	VOGTL	-	VERMILION OIL & GAS TRINIDAD LIMITED
NHETT	-	NEW HORIZON EXPLORATION TRINIDAD & TOBAGO LIMITED	VPTL	-	VENTURE PRODUCTION TRINIDAD LIMITED
NPMC	-	NATIONAL PETROLEUM MARKETING COMPANY			
PETROTRIN	-	PETROLEUM COMPANY OF TRINIDAD AND TOBAGO			
POGL	-	PRIMERA OIL & GAS LIMITED			

ABBREVIATIONS

MT, mt	-	tonnes	MMscf	-	million standard cubic feet
mt/sd	-	tonnes per stream day	adj.	-	adjustment
mt/cd	-	tonnes per calendar day	mmb	-	million barrels
mt/y	-	tonnes per year	mmbo	-	million barrels of oil
m ³	-	cubic metre	mmscf/d	-	million standard cubic feet per day
OSF	-	on stream factor			
bopd	-	barrels of oil per day			
bpcd	-	barrels per calendar day			
bpsd	-	barrels per stream day			
LPG	-	Liquid Petroleum Gas			
LNG	-	Liquified Natural Gas			
MMbtu	-	Millions of British Thermal Units			
N/A	-	Not Available.			
st	-	Short tons			



ADMINISTRATIVE ACTIVITIES

REVENUE AND EXPENDITURE

ALLOCATION:

For the Financial Year that ended on September 30, 2001, the Ministry of Energy and Energy Industries was initially allocated the sum of forty-five million, three hundred and sixty-three thousand, one hundred and eighty-nine dollars (\$45,363,189.00). The transfer of the Electrical Inspectorate Division to the Ministry of Energy and Energy Industries during the financial year resulted in an increased allocation of TT\$45,791,106.00.

The breakdown of the allocation was as follows:

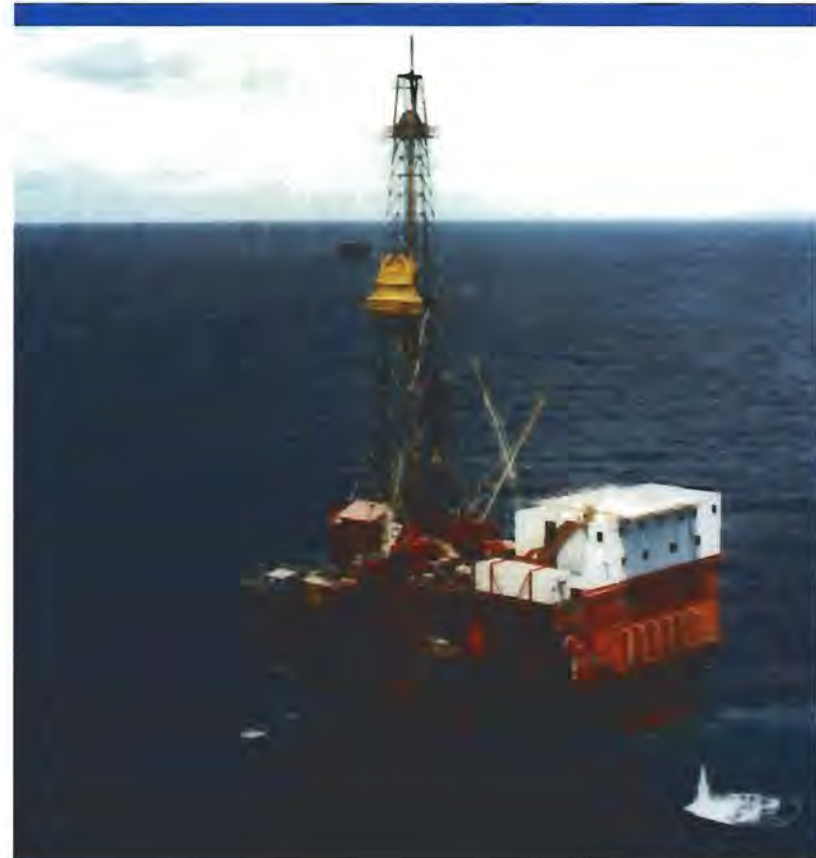
PERSONNEL EXPENDITURE	TT	\$16,685,201.00
GOODS AND SERVICES	TT	\$17,135,648.00
MINOR EQUIPMENT PURCHASES	TT	\$1,620,400.00
CURRENT TRANSFERS & SUBSIDIES	TT	\$368,300.00
DEVELOPMENT PROGRAMME	TT	\$9,981,557.00

REVENUE:

Total Revenue collected for 2001 was TT\$1,057,315,125.44
Royalty Revenue collected for 2001 amounted to
TT\$751,888,866.49

EXPENDITURE:

The Actual Expenditure for the financial year 2001 amounted to TT\$37,959,847.11



HUMAN RESOURCES

In the period October 2000 to September 2001 the Ministry of Energy and Energy Industries continued its recruitment drive to strengthen its human resource capability in order to advance the Ministry's objectives as set out in its Strategic Review and Action Plan 1998 – 2003. A summary of these and other activities in the Human Resources Unit for the period under review is as follows:

- Twenty-three vacant posts were filled through appointments and promotions.
- There were six resignations, one retirement and one transfer out of the Ministry.

See Figure 1 for the Total Establishment in 2001

TRAINING

In keeping with the Ministry's strategic goal to ensure the continuous upgrading of skills through training and professional development activities, employees of the Ministry participated in several technical and professional seminars, workshops, training courses and technical meetings at local and overseas venues as follows:

- Local - 221
- Overseas - 103

In accordance with government's Training Policy and Guidelines, the Ministry granted financial assistance to twelve officers to allow them to pursue tertiary level programmes in the areas of Human Resource Management, Accounting, Information Technology and Administrative Professional studies.

Figure 1:

TOTAL ESTABLISHMENT - 2001

Administrative Sections	No. of Employees
General Administration	39
Accounts	13
Energy Planning	18
Engineering	27
Geology and Geophysics	58
Legal	3
Library	5
Operations	66
Minerals division	28
Total number employed	257

ENERGY PLANNING

REVIEW OF KEY ACTIVITIES AND ACHIEVEMENTS IN KEEPING WITH ORGANIZATIONAL GOALS

The Energy Planning Division conceptualised a programme of activities to facilitate the enhanced delivery of its services for the year 2000/2001. The planned programmes were influenced in the main by issues raised in the Ministry's "Strategic Review and Action Plan 1998 –2003". In the planning initiative, due consideration was given to the dynamic nature of the global energy industry and timely intervention to changing energy developments.

The work of the Energy Planning Division has evolved over time to include the newer aspects of the Government's energy policy. This situation necessitated a reorganisation of the Division even before the anticipated restructuring of the Ministry was realised. In this regard the Division now operates with four sub-sections as follows: -

1. Policy, Research, Information and International Relations
2. Natural Gas-Based Project Development, New and Renewable Energy Projects, Petrochemical Marketing
3. Fiscal, Auditing and Contract Management
4. Domestic Retail Marketing, Royalty Evaluation and Pricing.

The key activities for the period October 2000 to September 2001 were as follows: -

- Finalisation of the energy policy document for Trinidad

and Tobago to guide the sector's development from 2000.

- Publication of National Energy Balance Series 1981 –1997.
- Natural gas Master Plan - provision of technical support to consultants.
- Restructuring of the domestic retail market – open market to multinationals, removal of price control and subsidies, grant licences to new entrants.
- Removal/reduction of subsidy.
- Assist Ministry of Finance in re-activation and provision of technical assistance to the Permanent Petroleum Pricing Committee (PPPC).
- Establish measures to review companies report on local content re. Production Sharing Contracts (PSCs) and preparation of expenditure reports by cost centres.
- Development of models to compare E&P licence agreements and the PSCs viz-a-viz the fiscal implications under the different tax regimes.
- Update a model to compute and review the Government of Trinidad & Tobago revenues under E&P licences under various pricing scenarios.
- Monitor and prepare progress reports on the ALNG

expansion project. Establish with the Technical Advisory Group (TAG), mechanism for monitoring and measuring local content.

- Develop a model to monitor net back wellhead gas prices re-pricing arrangements for ALNG Train 1 to support audit by the BIR - Board of Inland Revenue.
- Evaluate the feasibility study for the Periyar downstream petrochemical project.
- Audit of financial reports re PSCs – 48 quarterly audits to be completed during the year.
- Restructuring of T&TEC – review Consultants Report, Rating Structure and Natural Gas Sales Contract and price to T&TEC. Restructuring of the Electrical Inspectorate.
- Evaluate along with Technical Division, NGC and Petrotrin, Shell's gas to liquids project. Evaluate proposals by REEMA and Sasol/Chevron Texaco.

PERFORMANCE ACCOMPLISHMENTS VERSUS EXPECTATIONS/GOALS AND APPROPRIATE MEASURES OF PERFORMANCE

The Energy Planning Division made a concerted effort to accomplish all its projected tasks during the period under review. Many projects were carried to completion, some remain ongoing while others were reprioritised due to pressing demands for action in other areas, evidence of the industry's dynamism alluded to earlier, and the manpower constraints under which the department has functioned given its increased responsibilities. The following highlights the Division's performance during the period.

Finalisation of the energy policy document for Trinidad and Tobago to guide the sector's development from 2000.

This document has undergone several iterations. During 2001 the variables such as reserves profiles, production data etc. were updated and a final draft was completed. Two major energy projects during 2001 had implications for policy, which would feed into gas policy in particular. These were the Natural Gas Audit and The Natural Gas Master Plan. A significant oil and gas find off the East Coast led to some new considerations in specific policy areas. Policy reviews are therefore necessary and some policy shifts and revisions are expected in 2002.

Publication of National Energy Balance Series 1981 –1997.

The National Energy Balance Series was completed for the period 1981 – 2000 and is currently available for internal use in the Ministry.

Data Requirements

International and local data requirements were met during 2001. These included obligations to OLADE, CEIS, bp Statistics, Energy Détente as well as requests from other Ministries and institutions.

Hosting of the First Meeting of the Caribbean Hydrocarbon Commission

With the establishment of the Caribbean Hydrocarbons Commission, the Energy Planning Division was appointed as the Secretariat and played a major role in the preparation and conduct of the inaugural meeting held in August 2001.

Natural gas Master Plan – provision of technical support to consultants.

During 2001 the Ministry of Energy and Energy Industries engaged consultants to develop a Master Plan for the country's natural gas sub-sector. The Energy Planning Division prepared "Invitation to Bid Documents" and assisted in the evaluation of submissions from five prospective consultants. Gaffney Cline and Associates were selected as the preferred bidder. Officers from the Division arranged and attended stakeholder meetings, public consultations and also provided counterpart services to the consultants. A draft report was submitted on November 6, 2001.

Restructuring of the domestic retail market – open market to multinationals, removal of price control and subsidies and the grant licences to new entrants.

This has been an ongoing issue and the process of demonopolisation/deregulation of the domestic retail market continued during the fiscal year. Specific issues addressed during this period were as follows:

- (a) Monitoring of the ongoing negotiations between the new wholesale marketer United Petroleum Company (UNIPET) and NPMC for the sale/transfer of its equipment at certain owner/dealer stations. The matter remained unresolved at the end of the year.
- (b) The granting of new sites to the wholesale dealers NPMC and UNIPET for the establishment of gas stations.
- (c) Discussions continued to resolve the issue of responsibility for remediation works required at the sites of owner/dealers. The matter remained unresolved at year's end. In contrast environmental

remediation works were undertaken at nine NPMC sites.

- (d) A committee comprising representatives from the Ministry of Energy and Energy Industries, Ministry of Finance, NPMC, and Petrotrin was set up to make proposals for dealing with levy and subsidy payments to the wholesale marketing companies. At the beginning of the fiscal year subsidy payments owed to NPMC and UNIPET totalled \$332.4M and \$0.5M respectively. The matter was partially resolved by the decision of the Ministry of Finance to pay \$77M toward the debt from the proceeds of the Stabilisation Fund.

Removal/reduction of subsidy

Members of the Energy Planning Division represented the Ministry on a committee appointed to review the issues related to the subsidy of petroleum products and to suggest mechanisms for the reduction or elimination of the subsidies. Other representatives of the committee included personnel from the Technical Advisory Group and the Ministry of Finance. The committee submitted its proposals to the Minister of Energy and Energy Industries.

Assist Ministry of Finance in re-activation and provision of technical assistance to the Permanent Petroleum Pricing Committee (PPPC)

A review of the Ministry's fair market pricing methodology for crude oil was conducted during the year. In this regard the pricing model was revised and converted from a Lotus to an Excel format and the relevant spreadsheets were updated. This exercise was conducted in anticipation of the re-activation of the Permanent Petroleum Pricing Committee. To date one preliminary meeting of the committee was held during which time the new members

ADMINISTRATIVE ACTIVITIES

were informed of the rationale for the committee, the obligations of the membership and the manner in which its work is to be conducted.

Establish measures to review companies report on local content re PSCs and preparation of expenditure reports by cost centres.

The report on this section combines two other aspects of the work programme since they are interrelated and are of a fiscal and economic nature and these are the following:

- Development of models to compare E&P licence agreements and the PSCs viz-a-viz the fiscal implications under the different tax regimes.
- Update a model to compute and review GORTT revenues under E&P licences under various pricing scenarios.

The evaluation of the revenue generation potential of oil and gas acreages, whether operating under Exploration and Production licence or Production Sharing Contracts, is a primary responsibility of the Energy Planning Division. During the past year, various models were reviewed and developed to determine the fiscal implications of the terms associated with several of the exploration blocks under contract. This aspect of the work programme also included also an analysis of alternative scenarios in anticipation of the submission of proposals for new exploration blocks by oil companies. Analyses were also carried out on proposals for at least two out of round bid discussions, re Modified U(b) and Block 6, and acreages offered under the 2000/2001 Competitive Bid Round.

In addition, the Division was engaged in the monitoring of the financial obligations under the Production Sharing Contracts, as well as other related activities among which are to:

- (i) Establish a mechanism for monitoring of the local content, with regard to these Production Sharing Contracts. Draft guidelines and standardized format were forwarded to the companies who have since submitted their comments.
- (ii) Review of the development plans in collaboration with the Technical Division.

Work on this aspect of the Division's mandate is ongoing. As more licensed acreages reach the development phases and/or more acreages are offered for exploratory work, it is hoped that the Division can be strengthened to operate more effectively and efficiently.

Monitor and prepare progress reports on the ALNG expansion project. Establish with TAG mechanism for monitoring and measuring local content.

The Division played a major role in the negotiations for the ALNG Expansion Project and has also been involved in monitoring plant construction and related activities, which commenced in October 2000. The project entailed the following:-

- i. Construction of Trains 2 and 3 alongside the completed Train 1 in Point Fortin
- ii. The development of the North Coast Marine Area with platforms and gas wells to drain the reservoir
- iii. A pipeline from the North Coast to the LNG plant at Point Fortin
- iv. Development of the Amherstia Platform with necessary gas wells to supply Train 2
- v. Development of the Kapok/Bombax project for gas to Train 3 and for additional pipeline and gas processing capability.

The individual projects were all closely monitored to determine the impact of both capex and opex investments in the sector. As at September 30, 2001 engineering, procurement and construction activity were ahead of schedule. Estimated expenditure on the US\$1.1 billion two-train Expansion Plant project, as at September 30, 2001 was US\$576.1Mn.

Another very important aspect of the Division's monitoring exercise has been to ensure that the company meets its obligations with respect to local content. Approximately US\$152Mn was committed to the development of local content by the end of the review period, which is above the minimum US\$150Mn that must be achieved and not far below the preferred US\$200Mn. The Project has been expected to employ an estimated 3000 workers during peak construction, mainly nationals and 100 permanent employees thereafter.

Develop a model to monitor net back wellhead gas prices re pricing arrangements for ALNG Train 1 to support audit by BIR.

The netback model being formulated will be required to link several separate databases storing information on the following cost elements:-

- i. Daily gas prices at Henry Hub
- ii. Daily gas prices at Boston City Gate
- iii. Daily European gas prices at Zeebrugge
- iv. Daily NGL prices at Mount Belvieu
- v. Calculated values for shipping, regasification and port costs.

The division commenced work on gathering the information for each of these databases and the process was ongoing at the end of the year.

Evaluate the feasibility study for the Periyar downstream petrochemical project.

A team comprising personnel from the Energy Planning Division, the National Gas Company, the Tourism and Industrial Development Company and the Technical Advisory Group were involved in this project. The team was mandated to evaluate a project proposal, submitted by Periyar Trinidad and Tobago Limited, (PTTL), to build and operate a petrochemical complex for the manufacture of methylene diphenylene isocyanate (MDI) and toluene di-isocyanate (TDI), key intermediates in the production of polyurethanes. The team submitted its report to the Energy Sub-committee.

Audit of financial reports re PSCs – 48 quarterly audits to be completed during the year.

Twelve Production Sharing Contracts were operative during the period under review. Each contractor, under the terms of the Contract, is required to submit to the Minister of Energy and Energy Industries, within 60 days from the end of each calendar quarter, a statement of expenditure and an inventory statement containing specific information. Under the terms of the PSC, the Minister is required to verify, inter alia, that claimed costs are not disqualified for cost recovery. The statement of expenditure shall be deemed approved as submitted if the Minister does not respond to the Contractor in writing, within the 90-day period.

The performance objective of the PSC Audit Unit was the completion of 48 audits for the year, i.e. four quarterly reports for each of the 12 contracts, to halt a backlog situation. The Unit completed 34 of the 48 audits targeted for the year under review. This Unit is still short of one Assistant Audit Analyst.

Restructuring of T&TEC – review Consultants Report, Rating Structure and Natural Gas Sales Contract and price to T&TEC. Restructuring of the Electrical Inspectorate.

Responsibility for the electricity sector was assigned to the Ministry of Energy and Energy Industries by Prime Ministerial directive dated December 29, 2000. As a consequence of that decision the Ministry had to follow up on a restructuring exercise, already contracted to the Stone and Webster Group of consultants. The Consultants were contracted to do a two-part study on a “Strategy for developing the legal and regulatory framework for the electricity in Trinidad and Tobago”. Phase 1 of the exercise, which involved advising on the structure of the sector and the appropriate levels and options for competition, was completed on December 20, 2000. The strategy report was submitted for the consideration of Cabinet on August 22, 2001.

Evaluate along with Technical Division, NGC and Petrotrin, Shell’s gas to liquids project. Evaluate proposals by REEMA.

The Team worked with Shell to investigate the feasibility of its proposal to site a 70,000 bpd Gas to Liquid (GTL) facility in Trinidad and Tobago. Preliminary analysis showed that the project capacity needed to be scaled down to half the proposed size (35,000 bpd) to ensure alignment with the reserves required for the project and the 2 Tcf of uncommitted gas available. The division continues to explore the ramifications of the GTL investment and prepared comments on the fiscal incentives promised to REEMA for their smaller GTL project.

Caribbean Renewable Energy Development Project (CREDP)

The Energy Planning Division in close collaboration with the CEIS Liaison Officer has progressed the involvement of Trinidad and Tobago in the full range of activities of the regionally planned Caribbean Renewable Energy Development Project (CREDP). The key objectives of CREDP are to remove barriers to the increased

use of renewable energies thus reducing the Caribbean region’s dependence on fossil fuels and contributing to the reduction of greenhouse gas emissions. In Trinidad and Tobago’s case, however, the project will provide an avenue to help showcase to the region the benefits of adopting “green” energy efficient projects including the use of natural gas in their energy mix.

CREDP will also provide innovative financing mechanisms for renewable energy projects. Trinidad and Tobago is seeking to be one of the early signatories to the project document, which must be signed by the representatives of at least three member countries to become effective. There is also the requirement that the Government commit to contribute a limited amount of US\$30,000 in cash or kind as part of its signing to this document.

Monitoring of the downstream petrochemical industry

The Division continued to monitor developments in the domestic downstream ammonia, urea and methanol industries. This was reflected in the preparation and submission of monthly Cabinet notes on Crude Oil and Petrochemical Production and Prices, quarterly status report on gas based projects, various speeches and research papers. The importance of these monitoring activities is at once obvious given the global environment in which these industries operate.

Trinidad and Tobago was able to take advantage of relatively high international petrochemical prices spurred on by unprecedented natural gas price movements over the review period. Average US natural gas price in December 2000 was US\$10.50/MMBtu. New proposals for increases in local ammonia and methanol capacity were entertained which would further enhance the country’s global position as an ammonia and methanol producer and exporter. Meanwhile, construction work progressed on the CNC 1 ammonia and Atlas methanol plants with the former plant scheduled to come on stream in early 2003 and the latter, in late 2004.

The Energy Planning Division has been able to deliver on the various assignments, which comprised its work programme during the review period. The work of the division was nevertheless constrained by several factors. The slow pace of implementing the expected restructuring exercise has meant that the much-needed manpower remains unavailable to carry out some of the detailed studies and analyses, which the Division had hoped to achieve. Furthermore the dynamism of the sector encourages the commissioning of numerous ad-hoc assignments, which ultimately lead to a reprioritization of the work schedule and a consequent delay or suspension in completing previously set targets.

FUTURE ACTIVITIES

Notwithstanding the constraints mentioned in the previous section, the Energy Planning Division will continue to work assiduously in the fulfilment of its mandate with respect to the Ministry's mission and will operate with the same structure during the ensuing year. In this regard there are several assignments, which are routine in nature, which will be handled in the new fiscal year. One example of this is the operations of the PSC Audit Unit which future activities are unchanged. The Unit intends to complete at least 48 audits for the period October 2001 to September 2002, to reduce the backlog and to report in a timely manner in accordance with the terms of the PSC.

The responsibility for electricity transmission and distribution has been transferred from the Ministry of Energy and Energy Industries to the reconstituted Ministry of Public Utilities and the Environment. The Ministry of Energy and Energy Industries has, however, retained responsibility for power generation and its future activities will be restricted to this area.

Secretariat to the Standing Committee of Energy

Arising out of Cabinet's decision to establish a Standing Committee on Energy it was agreed that the Ministry of Energy

and Energy Industries provide secretariat services to the body. This responsibility now resides with the Energy Planning Division.

Fiscal and Economic Matters

The Energy Planning Division will be involved in the negotiation process for the award of additional Production Sharing Contracts during the ensuing year. Officers of the Division will be required to analyse the proposed fiscal terms and production splits, for any crude oil and natural gas, which may be discovered, to guide the deliberations of the Ministry's negotiators. It is anticipated that negotiations will centre on the award of Block 3(a) and the Reverse L Block.

Assignments, which were ongoing at the end of September 2001, will roll over into the new fiscal year. Among these will be the following:-

Energy Policy

Energy policy updates will continue during 2002. The change in administration in specific policy areas coupled with changing circumstances both in the local and international energy industries are expected to precipitate some new directions for guiding the growth, expansion and development of the sector. The Energy Planning Division will play its part in the formulation and implementation of the new policy directives.

Energy Balances

The updating of the annual energy balance for 2001 is a major priority for the first two quarters of 2002. This will be followed by a major thrust in the updating of the series to 2001 with a view to the completion/publication of a report to 2001.

Caribbean Hydrocarbons Commission

The Second Meeting of the Caribbean Hydrocarbons Commission is due to be held during 2002. A project to study the feasibility of using natural gas in the Caribbean is due to commence in 2002 prior to the meeting of the commission. The terms of reference for the project are currently being prepared by OLADE for submission to the IDB together with a proposal for funding.

Gas to Liquids

The Government is currently pursuing discussions with Sasol/ Chevron Texaco on the establishment of a 34,000 bpd GTL facility. The Energy Planning Division expects to review this proposal as part of its future obligations.



OPERATIONS

The Operations Section is responsible for the following activities:

- Exploration and production
- Pipeline transmission systems
- Manufacture of petroleum products, petrochemicals and LNG
- Marketing of petroleum products, including gasoline, LPG and CNG
- Work permit application review

The Operations Section is headed by a Director who reports to the Chief Technical Officer. The Units that comprise the Operations Sections are based on disciplinary functions and are as follows.

- (i) The Petroleum Engineering Unit headed by a Senior Petroleum Engineer and staffed by Petroleum Engineers and Petroleum Engineering Assistants;
- (ii) The Chemical Engineering Unit headed by a Senior Chemical Engineer and staffed by Chemical Engineers;
- (iii) The Mechanical Engineering Unit headed by a Chief Mechanical Engineer and staffed by Mechanical Engineers;
- (iv) The Petroleum Inspectorate headed by two Petroleum Inspectors III and staffed by Petroleum Inspectors I and II;
- (v) The Administrative Unit headed by an Administrative Officer II and staffed by clerical and typing personnel.

The Petroleum Inspectorate is further divided into two sub-units responsible for Upstream (Exploration & Production) activities and Downstream (Manufacturing and Marketing) activities. These are led by Petroleum Inspectors III.

The sub-unit of the Petroleum Inspectorate, which is responsible for Exploration and Production activities, is organised into the following groups:

- (i) Inspections
- (ii) Fiscalisation and Galeota, and
- (iii) Pipeline and Oil Loss

The second sub-unit which is responsible for downstream activities is organised into the following two groups :

- (i) Refining and Petrochemicals
- (ii) Storage and Marketing

This section of the Annual Report highlights the achievements of the various sections and units of the Operations Section.

PETROLEUM ENGINEERING UNIT

Following were the major achievements for the review period.

- (i) Evaluation and approval of 179 proposals to drill oil and gas wells.
- (ii) Evaluation and approval of 223 proposals to perform remedial work on oil and gas wells.
- (iii) Review of plans and activities relating to the following

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

ADMINISTRATIVE ACTIVITIES

- new oil and gas field developments:
- Kapok Development – BP
 - Osprey Development – EOG Resources
Block 4a
 - NCMA-1 Development – British Gas
- (iv) Preparation of Technical reports/papers for presentation at public fora.
- (v) Preparation of Annual Reports for all operating companies. The reports summarized the activities of each company and were used as the basis of the Annual Technical Meetings (ATM) held with all companies.
- (vi) Convening of regular meetings with company personnel to resolve technical issues relating to monitoring of activities and approval of work programmes.
- (vii) Preparation of the Ministry's Monthly Bulletin which provides statistical data on the industry and a review of production activity. The Bulletin is widely used by both the local and international industry and is published on the Ministry's web-site. The major factor adversely affecting the publishing of the Bulletin relates to the timeliness of data received from the industry.
- (viii) Preparation of Activity Reports including (a) Weekly Industry Review which is sent to all senior staff of the Ministry including the Chief Technical Officer and the Permanent Secretary and (b) Monthly Crude Oil Production Summary which is incorporated into a report that is sent to the Cabinet.
- (ix) Input to the drilling of Pilot Holes in deep water areas as a precursor to exploration wells.
- (x) Participation in Industry Studies/Activities
Senior Petroleum Engineer Mr. Mohan Jogie participated in a one-year training programme in Tulsa, Oklahoma where he performed studies related to the Red Mango Field Development. Mr. Marc Rudder, Petroleum Engineer II, was seconded to the BP Amoco Project Team in Houston for a nine-month period. He was directly involved in the technical studies being carried out on the Kapok Development Project.
- (xi) Witnessing Testing of Exploration Wells
All test programmes for exploration wells must be approved by the Ministry. These well tests are witnessed by personnel of the Ministry to ensure accurate information is received by Government. This has implications for adequate assessment of field development costs and revenues. During the past years, Petroleum Engineers of this unit witnessed several well tests that required the engineers being offshore for extended periods.
- xii Certification of work done by Petroleum Companies to facilitate Board of Inland Revenue - Oil Audit Section in computing tax allowances.

Other functions performed included approval of Duty Free Entry applications.

MECHANICAL ENGINEERING UNIT

The Mission of this section is to ensure that the management and development of the energy sector takes place with due regard

to safety and preservation of the environment and within the framework of local and international design and operating standards for plant, facilities and equipment. Following were the major achievements:

Facility Approvals

A large portion of the work activity in the Mechanical Engineering Section was centered around facility approvals. These approvals consist of an involved review of design information, HSE information, operating limits, emergency response plans, certification and verification accompanied by inspections all geared towards establishing that the facility is Fit-for-Purpose. Each approval may take up to several months to complete and involves numerous meetings with company personnel to resolve technical issues related to design, fabrication, installation and operations. The following facilities were evaluated.

(i) Barges

- TRINMAR - ONYX Floating Production Barge
Approval for this barge was given on February 19, 2001.
- TRINMAR - Eagle II Production test barge - Gulf-of-Paria region.
Approval for this barge was given on September 3, 2001.
- Venture Production - LM 1 Barge
Two inspections were carried out on this barge and approval of related documentation is ongoing.

(ii) Platforms

- British Gas - NCMA Hibiscus platform
The approval process from design to installation of this platform was completed. The platform was installed in North Coast Marine Area. The approval process consisted of a review of the EIA, structural information, processing information,

mechanical design information, safety and environment information and review of reports done by the Certified Verification Agent. British Gas opted to have two inspections carried out by the Ministry while the platform was in the U.S.A. to facilitate any changes to the platform while still in the fabrication yard. The first inspection (May 6 – 12, 2001) dealt mostly with the facility design, HSE issues and the CVA methodology while the second (August 7 – 8, 2001) consisted of a pre-production inspection to verify implementation of recommendations and also to witness the function testing of various devices on the platform.

• EOG Resources - Osprey Platform

The approval process from design to installation of this platform was completed. The platform has been installed in Block U-a. The approval process consisted of a review of the Environmental Impact Assessment, structural information, processing information, mechanical design information, safety and environment information and a review of reports done by the Certified Verification Agent (CVA). EOG Resources opted to have an inspection carried out by the Ministry while the platform was in Louisiana to facilitate any changes to the platform while still in the fabrication yard. The inspection (June 18 – 21, 2001) dealt predominantly with the facility design, HSE issues and the CVA methodology.

• bp - KAPOK PROJECT (cassia 'a' and 'b' platforms)

The approval processes for these platforms were effected at the initial stages. During the month of March 2001 bpTT invited one Mechanical Engineer and a Petroleum Inspector to participate in a HAZOP (Hazard and Operability Study) of the Cassia 'A' and 'B' platforms. The HAZOP team consisted of a multidisciplinary set of people, comprising operators, facilities engineers, process engineers, instrumentation engineers and safety engineers. The HAZOP discussions were very

informative and by inviting the Ministry of Energy to participate in the design process at the beginning stage, early problem identification was made possible resulting in timely resolution of issues and concerns.

• bp - Bombax Pipeline Project

This project consists of the installation of the following works:

- 48" pipeline from Cassia 'B' to Beachfield through tie-in manifold
- 26" pipeline from Kapok to Cassia 'B' through tie-in manifold.
- 20" pipeline jumper from existing 40" pipeline (Mahogany to Shore) to tie-in manifold.
- 6" pipeline from Kapok to existing 12" condensate line from Mahogany to shore.

A Mechanical Engineer, Petroleum Inspector and a Petroleum Engineer represented the Ministry at a bpTT HAZOP – Hazard and Operability Study - of the Bombax project. The HAZOP study proved beneficial to both BP and the Ministry team. The Ministry personnel obtained a better insight of the project and it provided opportunity for the exchange of technical information and the sharing of expertise.

(iii) Approval of Rigs

The Mechanical Engineering section participates along with the Petroleum Inspectorate in the approval of any new rig, barge rig or drill ship that is to be operated in the territorial waters of Trinidad and Tobago. The following rigs were inspected.

- a) Venture Production - Ensco XII barge rig
- b) BP - Chile's Coronado Rig

Review Of Environmental Impact Assessment (EIA) Report

Prior to the establishment of the Environmental Management Authority (EMA), all environmental impact assessments (EIA) relating to energy and energy based Industries were approved by the Ministry of Energy and Energy Industries. The EMA is now responsible for the final approval in matters concerning the environment. The Ministry is nevertheless still required to review all EIAs impacting on the energy industry. After reviewing an EIA, all the Ministry's concerns are documented and comments are submitted to the relevant company or Government agency. The review of an EIA can take a period from one to two months or more depending on the size and complexity of the project. EIAs for the following projects were reviewed during the period October 2000 to September 2001:

- British Gas - North Coast Marine Area Field Development Project
- EOG Resources - Oilbird Exploratory Prospect
- BP - Bombax Pipeline and Kapok Field Development Projects
- NGC - North West Peninsula Extension

Committee Membership

Officers from Mechanical Engineering Section are sometimes called upon to serve on various committees and to assist with developing standards or dealing with government related matters.

- (i) TTBS standard for pipeline identification
The development of this standard, which started in the fourth quarter of 1999, was completed and ready for publishing. The standard deals with the specification for the

identifications of pipelines, piping, conduit and ducts.

- (ii) **Powergen's environmental indemnity**
PowerGen has an Indemnity Agreement with the Government of Trinidad and Tobago. A Committee was appointed to assess the options and the costs involved with an upgrade in order to protect the economic interests of the people while still having PowerGen operate in an environmentally safe manner. These discussions began in the second quarter of 2001.

CNG Stations and Equipment

The final inspection of the Automotive Components Ltd CNG (Compressed Natural Gas) Station was conducted on June 5, 2001. The CNG equipment used in the station have been added to the approved list of CNG equipment after it was verified that they met the conditions set forth in the Compulsory Standard TTS 411:1992 Specification for Compressed Natural Gas.

LPG Bottling Plant

The Ramco LPG Bottling plant was visited on September 5, 2001 and a follow-up inspection was carried out on November 23, 2001.

Special Projects

Special projects form part of the work of the Mechanical Engineering Section in developing standards and systems to be used in the Ministry of Energy and Energy Industries and the industry at large. The following are such systems on which work was done or on which final decisions were made.

- (i) **Pipeline Licence**
The Mechanical Engineering Section prepared and submitted a Draft Pipeline Licence to the Legal Section. The

Licence has received the approval of the Attorney General's Office. The Licence will play an integral part in informing licencees of what is expected when designing, constructing and operating a pipeline system or network.

- (ii) **Guidelines For Road Tank Wagons**
The Operations Section began to prepare Guidelines for Road Tank Wagons with a view to raising safety and operating standards in the transportation of petroleum and petroleum products by road tank wagons. The core of the development team consisted of one Mechanical Engineer and two Petroleum Inspectors. The development of this guideline was in its final drafting stage at the end of the period.
- (iii) **Framework For Regulating The Management Of Risk**
This project was started in the third quarter of 2000. It involved the development of a framework that sought to remove ambiguities and bridge any gaps that may have existed in the management of risk by the industry. It was expected to identify what needed to be done for effective analysis and management of risk. The primary purpose of the manual will be to serve as guidance for the Ministry's regulatory staff and to aid companies in controlling risk in order to achieve a level of risk that is considered "as low as reasonably practicable" (ALARP). Due to the unavailability of manpower resources and an increase in work activities in other areas, work on this project was temporarily stopped in 2001 and targeted completion date rescheduled.
- (iv) **Incident Management System**
A draft Incident Management System was completed by the Mechanical Engineering Section to aid operators in achieving compliance with the Ministry's expectations for the response to all incidents that may occur. The new system

ADMINISTRATIVE ACTIVITIES

will seek to address any deficiency/major deficiencies in the notification, regulatory intervention/reporting requirements, investigation and tracking and trending processes mandatory for all incidents. This new system will replace the existing system in the Ministry for handling incidents.

CHEMICAL ENGINEERING UNIT

The Refining and Petrochemical (Chemical Engineering) Section as part of the Operations Section Department has the responsibility for monitoring the safety and environmental trends in the local refinery and petrochemical sector. The achievements for the period under review were as follows:-

Projects Completed

- i Process Safety Management (PSM) audit of Farmland/Mischem ammonia unit.
- ii PSM audit of Titan Methanol Limited.
- iii Safety Audit of BP Trinidad Limited onshore oil and gas processing facilities.
- iv Safety Audit of Phoenix Park Gas Processors Limited.
- v Provided assistance with position paper on a Gas to Liquids plant.
- vi Developed draft checklist on Environmental Management System.
- vii Prepared annual reviews of refining, petrochemical and LNG plants for year 2000.
- viii Investigated fire at Atlantic LNG Train 1 unit.

Projects Ongoing

- i EIA Review of Atlantic LNG Trains 2 and 3.
- ii EIA Review of Caribbean Nitrogen Company ammonia plant.
- iii Participation in Technical Subcommittee on Environment Health and Safety at Point Lisas.
- iv Continuing deliberations on diesel fuel specification re implementation and funding. The standard specifies the required properties and methods of test for diesel fuel intended for use in Trinidad and Tobago. A major concern has been the environmental effects of the fuel and the specification seeks to address this issue.

PETROLEUM INSPECTORATE

Upstream (Exploration and Production)

Petroleum Inspectorate Upstream, working in collaboration with the Mechanical Engineering Unit performed the following inspection of facilities. See Figure 2.

Figure 2:
INSPECTION OF FACILITIES

Facilities Inspected	No. Inspected
Platforms	20
Gathering Stations	120
Drilling Rigs	16
Production Rigs	22
Clusters	6

ADMINISTRATIVE ACTIVITIES

Five abandoned rigs were inspected before their arrival in Trinidad and Tobago including the Glomar Jack Ryan of Galveston U.S.A.

Inspectors were involved in the following:

- Approval of Trinmar's Floating Production Test Barge, Eagle II.
- Platform approval of British Gas NCMA Project.
- BP Kapok Project - New Platforms Kapok and Cassia B.
- Upgrade of Cassia A.
- BP Bombax project - New Pipelines.
- Well abandonment.
- Several EIA Reviews e.g. Kapok, Bombax.
- Monitoring upgrade/repairs at Petrotrin Galeota Main Storage and Platforms.
- Monitoring upgrade/repairs at BP Galeota Main Storage.
- Monitoring refurbishment of Sundowner Rig 801.
- Participation in the Technical sub-committee re. Environmental Issues – Pt.Lisas Industrial Estate.
- Re-organizing of effluent monitoring programme with CARIRI.
- Evaluating environmental indemnity clause re: Powergen
- Liaising with EMA relative to the implementation of new regulations.
- Participation in numerous meetings with company officials.

In addition to its major on-going activities the Section was involved in:

- Formulating guidelines for the inspection of Mobile Offshore Drilling Units (MODU).
- Reviewing Internal Drilling Rigs Inspection checklist.

Pipeline And Oil Loss Section

The following tabulation identifies the environmental samplings and inspections carried out:

Coastal Effluent Samplings	216
NOSCP Inventory Inspections	14
Oil/Water Separator Inspections	37
Wells and well sites Inspections	539
Investigations inclusive of 3rd party damage to crops, property, etc.	71
Town and Country Applications	6

Fiscalisation and Galeota

The work programme of the Group for the period October 1, 2000 to September 30, 2001 was aimed at achieving the following: see Figure 3.

**Figure 3:
FISCALISATION AND GALEOTA**

	PLANNED	ACTUAL	PROJECTED
Royalty/Sample Blends	1,500	1,296	1,300
Shipment/Transfers	95	86	95
Gas Meter Calibrations	250	518	500
LACT Calibrations	100	76	84
Tank Strappings	as required	12	as required

Downstream (Manufacturing and Marketing)

(i) Storage And Marketing Section

The Section achieved most of its objectives and targets and was able to accomplish the following:

- Joint inspections of all service stations between Petroleum Inspectors of the Ministry of Energy and Energy Industries and Sales Representatives of NPMC for the purposes of issuing licences.
- Processing of storage applications.
- Completion of draft guidelines for the operation of road tank wagons.
- Completion of Draft Peddlers Licence and revised Retail Marketing Licence.
- Quarterly Meetings with NPMC.
- Conduct of Re-inspection of existing storages
- Inspection of Tobago facilities through quarterly joint visits with NPMC.

(ii) Refining And Petrochemical Section

The Refining and Petrochemical section was involved in the following activities.

- Effluent Sampling:
 - (a) To examine the levels of potential pollutants being discharged into the environment and make recommendations for the establishment of standards.

(b) To establish a regulatory presence within the petrochemical industries to impress upon these organizations that their activities are being constantly monitored.

- Gasoline Sampling:
There were no incidence of “off-spec” gasoline for the period under review.
- Dispensing Pump Calibrations
A total of nine hundred and fifty three dispensing pumps from one hundred and sixty five service stations were calibrated during the period under review. Eighty percent were accurate. There are at present one hundred and seventy two service stations in operation. All service stations are calibrated at least once per year, but in the review period this target fell short by seven CNG dispensers at five of the fourteen service stations.

There are fourteen service stations with CNG facilities. The projection is for all CNG dispensers to be calibrated at least once per year.

Three LNG shipments at ALNG, Point Fortin were monitored for accuracy.

Technical meetings were held with NPMC and CARIRI relative to CNG dispensing units and gas sampling exercise.

Investigation of accidents/incidents at the Pointe-a-Pierre Refinery, the ALNG Plant Pont Fortin and the Petrochemical Plants at Point Lisas as they occurred.

LABORATORY ANALYSES

The Ministry was actively involved in conducting studies on different aspects of the energy industries. CARIRI's Petroleum Testing Laboratory honoured its TT \$575,000 contract with the Ministry of Energy and Energy Industries in 2000 performing analyses on samples. See Figure 4 for tests, which were performed.

However, the cost of effluent testing was increased by CARIRI due to:

- (i) The coming of stream of the TTS 547:1998 standard for the specification for the effluent from Industrial Processes Discharged into the Environment. This

standard identified additional parameters for analysis, which were not previously requested/ required by the Ministry of Energy and Energy Industries.

- (ii) The testing of unleaded gasoline, which utilises special grade chemicals that are costly.
- (iii) The increase in the cost of Oil and Grease analysis due to the reversion to the gravimetric method of analysis and increased cost of the chemical hexane used. This change in test method was due to the ban on the chemical freon which is ozone unfriendly and which was formerly used in the infra red method with a Horiba instrument.

Figure 4:
LABORATORY ANALYSES

Description	Total No. of Samples Tested		Fee TT\$	
	2000	2001	2000	2001
Gasoline Analysis Excluding Lead	32	93	37,600.00	123,300.00
Gasoline Analysis Including Lead	112	26	155,400.00	30,550.00
Amoco Effluent Sampling	26	18	7,800.00	5,400.00
Petrotrin Santa Flora Effluent Sampling	206	183	59,730.00	50,860.00
Petrotrin P.A.P. Effluent Sampling	64	25	92,080.00	36,500.00
Petrotrin Point Fortin Effluent Sampling	41	12	73,670.00	22,440.00
Point Lisas Effluent Sampling	114	40	91,900.00	36,130.00
Effluent ex Rio Negro	3		1,025.00	
RLE 1 Analysis	19	18	76,000.00	72,000.00
Graphical analysis of effluent data (1995-1999) May-Nov			100,000.00	
Oil Sample ex McDonald's Gulf View		1		3,600.00
TOTAL	617	416	595,205.00	480,780.00

Work Permit Application Reviews

The Operations Section was responsible for representing the Ministry on the Work Permit Committee. A significant percentage of the work permit applications emanate from the energy sector. Many of these applications had to be investigated prior to making recommendations. Complaints from members of the public were investigated.

A work permit database was developed to assist in managing the inventory of work permit applications and to track the status of processing. The database will help the Ministry to maximize the training and hiring of locals by keeping track of understudies for jobs for which expatriates were hired.



GEOLOGY AND GEOPHYSICS

The Geology and Geophysics Section was involved in several major projects during the year including:

- The acquisition of 2D Ultra Deep Seismic Survey
- Scanning of Data
- Biostratigraphic Study of the East Coast Marine Area
- A Paleoseismology Study of the Central Range Fault
- Competitive Bid Round 2001

THE ACQUISITION OF 2D ULTRA DEEP SEISMIC SURVEY

A Consortium of petroleum companies funded this project and to this end a Memorandum of Understanding was agreed upon and signed between the Ministry and the Consortium. The major goal: to appraise virgin acreage for open competitive bidding. It is expected that the acquisition should begin in 2002.

SCANNING OF DATA

This project, which is expected to be completed in 2003, involves capturing the hard copy of data in digital form to populate the Ministry's database facilitating retrieval and use of data on the petroleum industry. The first stage included the scanning of geophysical data for use in the Competitive Bid Round 2001. This was successfully completed and was available for the opening of the bid round in April 2001.

BIOSTRATIGRAPHIC STUDY OF THE EAST COAST MARINE AREA

This project was proposed by the company - BioStratigraphic Associates Ltd - to be done on a speculative basis with no funding to be supplied by the Ministry. The contract was negotiated and signed in 2001. The study was not undertaken as planned in 2001 as the company did not receive the required financial precommitments for start up.

A PALEOSEISMOLOGY STUDY OF THE CENTRAL RANGE FAULT

This study was undertaken by Mr. John Weber to establish whether the active Central Range Fault could be the source of a major earthquake. The project started in April 2001 and the fieldwork was completed at the end of the month. The first part of the study has been completed and the report submitted to the Ministry of Energy, under budget at a cost of US\$ 34,000. The Project was funded from the Research and Development Fund.

COMPETITIVE BID ROUND 2001

Seven blocks were offered - Blocks 22, 23(a), 23(b), 24, 3(a), Lower Reverse "L" and S11. Of the seven, the Ministry received bids on four, Blocks 23(a), 23(b), 3(a), Lower Reverse "L". The Block 3(a) was awarded to BHP. It attracted a signature bonus of US\$19 million, and a work programme that included 3D seismic and six wells in the obligatory phase. The bids for 23(a), 23(b), and Lower Reverse "L" did not cross the economic hurdles which the Ministry had set but because they were not very far off, it was recommended that discussions be held with the companies as they may have yielded favourable results. The cost of conducting the bid round was approximately \$750,000. Revenues collected for the sale of data was estimated at US\$1.44 million. The project schedule included the publishing of Order by April 20, 2001, with Bids to be submitted by September 04, 2001. Bids evaluation and results were announced on November 04, 2001 and negotiations for awards to began in December 2001.

MINERALS

Activities for the Minerals Division for the period are summarized as Minerals Exploration and the Tobago Sandstone Survey.

TOBAGO SANDSTONE SURVEY

A resource survey of sand deposit derived from weathered rock of the Tobago Diorite was undertaken in October 2000. A 400-acre parcel of private lands within the Arnos Vale Estate was identified as a suitable site for the exploration and development of a sand quarry to provide an indigenous source of sand to the Tobago House of Assembly.

Dr. Allison Williams, Advisor to the Chief Secretary, Tobago House of Assembly initiated the survey. The Ministry of Energy and Energy Industries was expected to quantify the reserves of sands at the site. This would be followed by acquisition of the lands by the State and thereafter allocation to the private sector following a competitive bidding process.

An application was made to the Ministry of Energy and Energy Industries for an exploration licence by the owner of the Arnos Vale Estate in February 2001. The applicant was advised to conduct the relevant field studies and submit a reserves estimates study, EIA Report, Mine Design Plan and Restoration Plan for the site as a pre condition for the grant of a license. To date none of documents have been received by the Ministry of Energy.

MINERALS EXPLORATION

Ministry of Agriculture Survey

A resource evaluation exercise to quantify the reserve of sand and gravel at the Ministry of Agriculture Quarry site in Tapaná was conducted over the nine month period July 2000 to March 2001. A total of 24,000 feet of survey lines were cut and measured

and 1,056 feet were drilled and logged by the auger crew within a 355 done block.

Tapaná Pine Survey

A survey of the deposits of sands and gravels within the Pine Plantation on Tapaná Road Valencia began and survey lines have been out, measured, drilled and logged by the auger crew.

Legislative Reform

Drafting of Regulations under the Minerals Act 2000.

Regulations have been drafted under Section 48 (2) to regulate the following activities.

- i. The health and safety of mine works
- ii. The management of the mines and the appointment of quarry managers
- iii. Prescribing the fees and royalties chargeable and the bonds payable with respect of licenses.
- iv. The storing of explosives, fire or detonators and procedure for blasting.
- v. The prevention of pollution of land water or air.
- vi. The rehabilitation and restoration of mines
- vii. The general regulation and safe working of mines

The areas for which regulations are outstanding include

- i. determining Mining procedures and issue operational guidelines
- ii. determining the types and duration of licenses and the procedures for issuing those licenses
- iii. the keeping of books, records and other like

- iv. matters of procedure for laying down the terms and conditions to be observed by the licensees.
- v. Guidelines and operational procedures for the exploration, import and export of Minerals
- vi. For giving effect to and carrying out the objects, purposes and provisions of the Act.

Sectorial Reform

Regularisation/Renewal of Quarry Concessions.

Cabinet by Minute No 1677 of July 1999 agreed inter alia to the regularization/renewal of all quarry activities on State lands that were active as at January 1 1996 subject to

- i. the payment of all outstanding royalties
- ii. submission of a mine plan
- iii. restoration of exhausted quarry pits.

A list of all State Lands quarries that are eligible for regularization/ renewal was prepared and letters sent to the twenty operators requesting the submission of a mine design plan, restoration plans and EIA Reports as a pre requisite for the grant of a license. A deadline date of January 31, 2002 was set for operators to submit their documents in pursuit of a license, failing which the lands would revert to the State.

Quarry Industry Seminar

The Ministry of Energy and Energy Industries in collaboration with the National Energy Skills Centre jointly hosted a Quarry Seminar on the topic: "Modernization of the Quarry Industry in Trinidad and Tobago" at the NESC in Brechin Castle, Couva from July 2 to 7, 2001. The presenters included Mr. Neil Wells and Ms. Ruth Alington of the Geoffrey Walton Practice in the United Kingdom. The Seminar focused on the preparation of Mine Design Plans, Restoration Plans, EIA Reports and Bankable Documents for the establishment and operation of a sand and gravel quarry. A total of 120 participants from government Ministries and the quarry industry participated and the general consensus was that the seminar should be an annual event.



TECHNICAL SERVICES

RESERVOIR ENGINEERING

In 2001, the Reservoir Engineering Section pursued the following:

- (i) Reserve estimation (country's)
- (ii) Enhanced oil recovery monitoring
- (iii) Crude oil and condensate production forecasting
- (iv) Review of petrophysical data on BHP Block 2(c).

Staffing

Mr. Raffie Hosein, Petroleum Engineer I joined the Reservoir Engineering Staff in October 2001.

Reserve Estimation

Under Directive MOE 97 ENG 2, companies are required to submit to the Ministry, their crude oil and condensate reserves. These reserves are to be reported in accordance with the definitions of the SPE (1987).

The country's proved crude oil and condensate reserve as January 1, 2000 was estimated at 686 MMBO and represents the highest recorded reserves in 36 years.

Crude Oil and Condensate Production Forecasting

Forecast figures for 2001/2002 were submitted to the Ministry of Finance. Notwithstanding the country's increasing proved crude oil reserves, crude oil and condensate production continued to decline, perhaps due to the fact that most of the proved reserves are yet to be developed and also due to the diminished performance of enhanced oil recovery schemes.

Enhanced Oil Recovery

Generally, fluid withdrawal rates exceed the injection rates in reservoirs creating voidage and no pressure maintenance. Low oil prices in the previous years caused cut backs in expenditure in fluid injection, resulting in reduced secondary recovery performances.



INFORMATION TECHNOLOGY (IT)

MAJOR GOALS FOR 2001

- Development of a Wide Area Network (WAN)
- LANs' upgrade
- Installation and configuration of new server at Head Office, replacement of server at the Operations Division and upgrade of server at the Technical Division
- Expansion and upgrade of existing hardware capabilities
- Creation of common operating environment
- E&P data management solutions - evaluation
- Installation of in-house email server
- Network policies - development and revision
- Setup of Remote access and ftp capability
- Disaster recovery systems and procedures
- Additional Staffing for IT
- End user training

ACTIVITIES/ACHIEVEMENTS

Development of a Wide Area Network (WAN)

Performance Measurement: Service: *Ability to share files easily between all branches of the Ministry and to maximize use of network resources. Uptime: 99.99 percent; Security: 100 percent*

The wide area network, electronically linking the Ministry's Operations Division, Technical Division and the Head Office was set up, initially using a 64k leased line connection. By end-2001 this was upgraded to 256k. A 64k Internet port was activated to connect all employees to the Internet. Network security and Internet filtering software tools were implemented.

Local Area Networks (LANs) – upgrade

Performance Measurement: *99.9 percent LAN uptime at all locations;*

Equipment needed to upgrade the LAN at the Operations section to 100MB Ethernet was ordered and the networking capabilities at Riverside Plaza and the Technical Division were expanded. At Operations, eight data outlets and 13 computer power outlets to accommodate existing and new staff were added. At Technical Division, ten data outlets and five power outlets were added and at Riverside Plaza, nine data, three computer power outlets and 11 normal were added between Jan-Sept. 2001 to accommodate new employees and relocation of existing employees. Additional drops were also installed at Technical by bpTT to accommodate the installation of a new UNIX workstation and storage device purchased under an existing arrangement with the energy company.

At the Operations Section, the electrical work necessary to install the Liebert Cabinet to protect the server equipment was completed.

An FTP server was set up at Riverside Plaza to enable companies to send files to one central location to be accessed by the various branches of the Ministry.

Hardware/Software

Performance measurement: 100 percent Technical and Functional adequacy; 100 percent of Staff with computer access; fully licensed software

At Riverside Plaza changes were made to network design with a switch from Novell NOS to Windows 2000. A new W2K server as set up at the Riverside Plaza and NT 4.0 was set up on the Novell server that was previously used for the Operations Section. The NT 4.0 server at Technical Division was upgraded.

The workstation hardware inventory at all three locations of the Ministry was expanded and upgraded with the installation

ADMINISTRATIVE ACTIVITIES

and configuration of 40 new computers spread across all three locations. Four new notebook computers were acquired to satisfy the higher-end computing needs of geoscientists and other staff. Memory and operating system upgrades from Windows NT 4.0 and Windows 95/98, were also begun on some older model computers and laptops that were then re-assigned based on functionality and adequacy. Data migration was carried out on all upgrades and replacements.

The following special purpose software were acquired: Adobe Go-Live, Norton System Works, Adobe Acrobat 4.0, Partition Magic, @RISK – Decision Tools Suite with RISK Optimizer, Seagate Crystal Reports, Eaglepoint Civil 2000, AutoCAD, Firewall-I, Websense 4.3, Norton AV Corporate Edition for Firewalls etc., Windows 2000 server (single-user).

Licences were renewed/purchased for the following: Oracle 8i, Audit Control Language (ACL), Websense – three year subs., Surpac, Lotus Notes client.

A standard suite of applications was selected as the basis on which a common operating environment will be implemented. All new installations followed this standard. System configuration standards were also used for installation of the server's at all three branches.

Internet and E-mail

Performance measurement: 99.9 percent of users familiar with the use of e-mail to communicate inter-departmentally and with customers;

An in-house email server was set up. All staff members are assigned e-mail accounts at our domain - @energy.gov.tt. Internet access is via the 64k Internet port. However, the number of staff being granted access has increased with a resulting drop in performance

due to the sharing by all branches of the 64k line. This situation is to be rectified using the most cost-effective option available

Website

The Ministry's website was re-designed to:

- a. enhance the overall aesthetic design of the website
- b. develop a more efficient navigational structure to facilitate easier access to site data and information
- c. develop a database structure using SQL to publish all content dynamically
- d. Develop and integrate into the site design administrative tools to facilitate easy maintenance and updating of the site with minimal technical knowledge
- e. Develop advanced site features and tools to improve usability, interactivity and user satisfaction

Multimedia/Videoconferencing

Two multimedia projectors were acquired – one for on-site location in the main Conference Room, Riverside Plaza and the other for portable use. Videoconferencing equipment was purchased courtesy the National Gas Company under the terms of an agreement with the Ministry in the Natural Gas Master Plan. The projectors were installed in the Conference Room.

Policy Development

A draft revised internet and E-mail Policy and a draft Computer and Network Usage Policy were circulated for comments.

Evaluation of E&P Data Management Solution

A detailed assessment was made of Schlumberger's Geoquest Finder data management package. Final decision on acquisition is to be made.

Databases

A training database was developed for the HR section to provide information that will assist both managers and HR staff on the training needs etc. of the staff.

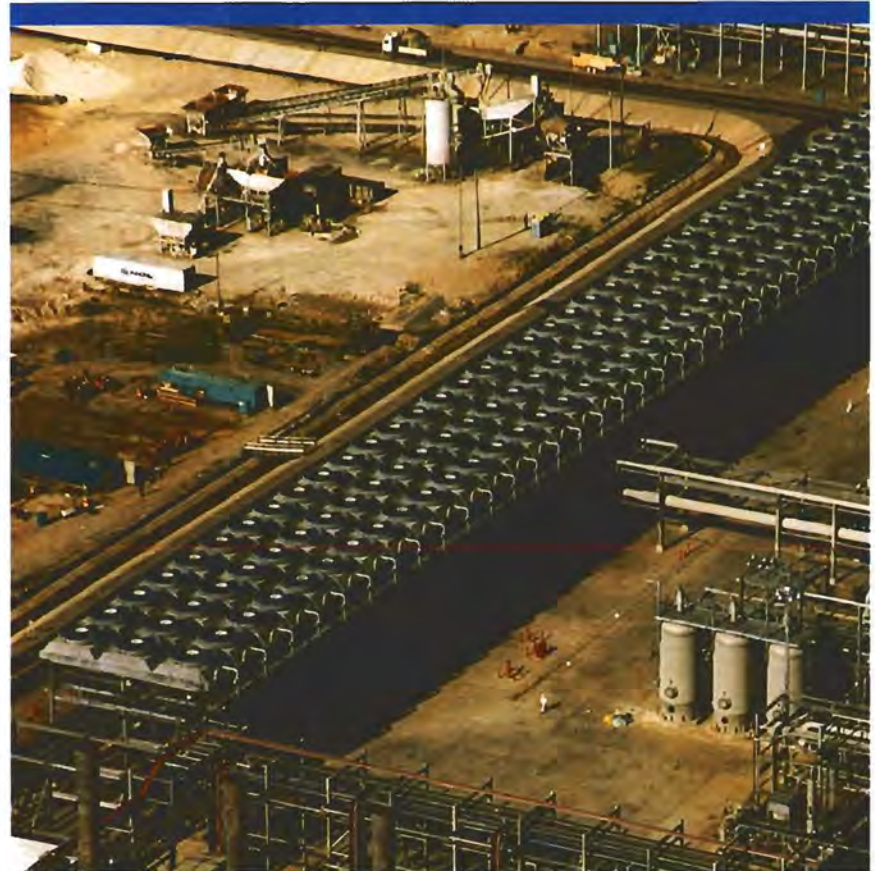
Final testing of the MS Access/VB databases developed for the PEAs continued into 2001.

Training

End-user training courses on the use of Lotus Notes for e-mail, calendaring and scheduling was conducted for Ministry users.

Staffing

The critical staffing shortfall was alleviated, to some extent, by outsourcing software support services on a limited basis.



LIBRARY AND INFORMATION SERVICES

The Library and Information Services Section continued to explore opportunities to strategically align the information services with technological developments and opportunities. This is in keeping with its Mission to provide up to date and timely information support for primary and general users at the Ministry's three locations. In this regard, multi-user licenses were acquired for purchase of some of the main journals and professional publications in electronic format and these were made available to the desktops of the relevant officers. Some of the services and e-journals included:

- SPE Online Database, 1 –10 users
- Platt's Global Alert
- OGJ Online, 1- 5 Users
- Natural Gas Week, 1-3 Users
- Daily Price Snapshot, 1-3 Users
- LNG Express

The complete collection of API, ASTM and ASME Standards were updated on CD-ROM through a grant received from ARCO as part of its negotiations under the Block 27 licence. Additions to the collection received in print, electronic and A/V formats were as follows:

PERIODICALS		BOOKS	
PURCHASES	GIFTS	PURCHASES	GIFTS
1,207	1,218	18	120

ENERGY ALIVE

The Library coordinated the fourth series of "Energy Alive", the Ministry's educational television quiz show conducted

for students in Sixth Form secondary schools during October – December, 2000. The content for the competition was prepared by a team of experts that included representatives from this Ministry (Chemical Engineering and the Petroleum Inspectorate), the Ministry of Education, the Society of Petroleum Engineers, the Geological Society of Trinidad and Tobago and the Environmental Management Authority. Staffing support for a Secretariat was provided by the National Energy Skills Center and this included an Administrative Assistant, a Clerk Typist and a Production Assistant.

Presentation College, San Fernando won the Sixth Form series, with St. Stephen's College placing second. Local energy companies provided major sponsorship to the production as well as the prizes for participants.

ENERGY ALIVE ONLINE

The Ministry contracted the University of the West Indies Faculty of Engineering Real Time Systems Group to develop a web version of "Energy Alive". This followed requests for making the questions and answers on the show available on-line to students and the general public. This segment of the project was sponsored by British Gas Trinidad and Tobago, and "Energy Alive Online" was developed in three phases as follows:

1. Publishing on the Ministry's website the questions and answers for each show in the Sixth Form series immediately following broadcast of the Quiz.
2. Creation of a single player version of "Energy Alive", using the content of the third series conducted for the primary schools (to be available in the first quarter of 2001)
3. Creation of a multi-player version on the Internet (to be available in the second quarter of 2001).

CEIS Activities

In addition to its routine responsibilities as the National Focal Point for the Caribbean Energy Information System (CEIS), the Liaison Officer also participated in regional initiatives in which support from the CEIS was requested for the following regional projects:

- a UNDP-GEF funded project on a Caribbean Renewable Energy Development Project
- Capacity Building participation in the Clean Development Mechanism (identified in the Kyoto Protocol) funded by USAID and the US Department of Energy.



LEGAL

The Legal Section of the Ministry of Energy and Energy Industries provided information and advice on the following:

- Legislation for the licensing of sub-contractors of Licensees under the Petroleum Act Chap.62:01
- Legislation for the renewal of Licences for petroleum operations under the LNG Project
- Deed of Assignment between Conwest Exploration International Ltd., Anderman Smith/Caroni Inc. and Shell Exploration and Production and Krishna Persad & Associates Ltd.
- Deed of Assignment between Texaco Trinidad Limited and Petroleum Company of Trinidad and Tobago Limited (Petrotrin)
- LNG Expansion Agreement (Articles X, XI, XII)
- Clause 6 of BPA Expansion Agreement
- Performance Bond for Trinidad Exploration and Development Limited (TED)
- Unitization and Unit Operating Agreement
- With-holding Taxes and Double Taxation Treaties
- Cabinet Minutes with respect to the Competitive Bidding Process of the Minerals Division
- Farmout procedures in respect of Advance Oil Company Limited
- Legislation required for giving effect to agreements for the Atlantic LNG Project Train 1
- Procedures for relinquishment of Production Sharing Contract (PSC)

Other activities included:

- Preparation of a Licence for the Pitch Lake
- Preparation of a Petrochemical Licence
- Preparation of a Pipeline Licence
- Processing of applications for sub-licences and assignments for Ministerial Consent
- Processing of request for access to official documents under The Freedom of Information Act, 1999
- Presentation on the Mineral Act to National quarries, and to Police Officers at the Sangre Grande Police Station re: illegal quarrying activities
- Research Paper: Leading Opportunities in Latin America, New Developments
- Preparation of Order (Gross Margin) for Petroleum Production Levy and Subsidy



INDUSTRY ACTIVITIES



GEOPHYSICAL SURVEYS

Geophysical surveys were conducted by four companies in 2001. Three companies, BHP Billiton, bpTT and British Gas conducted geophysical survey operations over their respective marine acreages, while Trinidad Exploration Development in joint venture with Petrotrin conducted survey activity within the Southwestern peninsula of Trinidad.

BHP Billiton conducted a 3D seismic acquisition programme within their Block 2(c) acreage covering a total of approximately 388km². Acquisition was conducted by Western Geco.

BP Trinidad and Tobago conducted a series of 2D seismic test lines within their Block 27 deep water acreage totaling 40 line km. Acquisition was conducted by Western Geco.

British Gas conducted a 3D seismic acquisition programme within their NCMA acreage covering a total of approximately 312km². Acquisition was conducted by Veritas DGC.

Trinidad Exploration Development conducted a 3D seismic acquisition programme over their Southwestern peninsula acreage covering a total of approximately 150km². Acquisition was conducted by Grant Geophysical.

In addition to these major geophysical surveys, several small geohazard surveys were also conducted in 2001 for bpTT, British Gas, BHP and EOG Resources.

bpTT conducted geohazard surveys over their Exploration and Production licensed acreage for selection of safe drilling locations for their proposed Pomello, Coconut, Triana, Mento, Red Mango-3 and Teak-Bravo prospects. British Gas conducted geohazard surveys in their ECMA acreage for both a proposed pipeline

route from the Dolphin to Immortelle Platform and for a safe drilling location for the proposed Dorado-1 well. BHP conducted geohazard surveys for selection of safe drilling locations for their proposed Kairi well in Block 2(c) and over their Mustang prospect in Block 2(ab). EOG Resources conducted geohazard surveys for a safe drilling location for their proposed Parula-1 well.

DRILLING

One hundred and forty wells were spudded in Trinidad and Tobago in 2000/2001, ten more than the number spudded in 1999/2000. Total depth drilled was 561,139 feet, 101,373 feet or 22.0 percent more than the depth drilled in 1999/2000. Rig days utilized in achieving this footage was 3,198.7; this compares to 2,135.0 rig days in 1999/2000.

Of the 140 wells spudded, 15 were exploration wells. Exploration footage was 117,906 feet or 21.01 percent of total footage. In 1999/2000, 11 Exploration wells were drilled for footage of 116,201 feet. In 2000/2001 there was an increase in exploration footage of 1.47 percent or 1705 feet.

In 2000/2001, 125 wells spud were classified as development. Development footage, 443,233 feet accounted for 79.0 percent of total footage, up from 74.7 percent of the 1999/2000 total footage when 119 development wells were spud.

Three companies - Moraven, TSEP and British Gas - did no drilling in 2000/2001. Three new companies - Venture Production Trinidad Limited, EEPTL, Vintage, New Horizon and TERL - commenced drilling operations in 2000/2001. (See Appendix I for a breakdown of drilling activities for the reporting period.)

CRUDE OIL PRODUCTION

Average crude oil production for Trinidad and Tobago during 2000/2001 was 112,658 bopd, a decrease of 7.17 percent when compared to the 1999/2000 production of 121,355 bopd. Despite an overall drop in production, certain companies managed to end 2000/2001 with an increased production, as compared to their 1999/2000 figures. The companies that showed increases were Lease Operators, Farmout Operators, TED, TERL, TTMAR, Brighton Joint Venture and Primera (formerly PCOL). All other companies - BP Amoco, Trinmar, EOG, Moraven and Petrotrin - had declines in production. Additionally, January 1999/2000 saw Tracmac Energy Resources Limited (TERL), commence production operations. Additionally, the joint venture between Petrotrin and Venture Production Company had its first production (November 1999/2000). See details in Appendices XII and XIII.

Secondary and Enhanced Oil Recovery

Crude oil production from secondary and enhanced oil recovery operations averaged 11464 BOPD in 2001 and accounted for 10.1 percent of the country's total production. There were 33 active schemes during the year. Among these were fourteen waterfloods, nine steamfloods, five carbon dioxide schemes and five water alternating steam (WASP) projects, as in the previous year.

Waterfloods

Oil production derived from water injection projects decreased from 6589 BOPD in 2000 to 5960 BOPD in 2001, reflecting the overall inadequate injection and increasing field watercuts from the mature schemes.

Steamfloods

Steam injection was not pursued aggressively, due to the high cost of steam generation. During 2001, steam injection rates fell to 10992 BSPD and reached an all time low.

As a consequence, oil production fell from 1444 BOPD in 2000 to 1261 BOPD in 2001. Also, the continued shut-in of the Parrylands Cruse 'E' steamflood project has contributed to significant deferment of oil production. See Appendix XV.

WATER ALTERNATING STEAM PROJECTS (WASP)

Unreliable injection water supplies hampered the performance of WASP projects in 2001. This has resulted in oil production decreasing from 3961 BOPD in 2000 to 3642 BOPD in 2001.

Carbon Dioxide Injection

Petrotrin has five carbon dioxide projects, all within the Forest Reserve field. Due to recent initiatives by Petrotrin to increase its supply of carbon dioxide from Hydro Agri for injection purposes, average oil production increased to 621 BOPD in 2001. This represents an increase of more than 17 percent above the 2000 figure of 527 BOPD. Petrotrin is considering the expansion of the Carbon Dioxide transmission system for CO² injection into new reservoirs.

Waterfloods

Water was injected into only four of the eight waterfloods at Petrotrin. Daily average production fell to 792 BOPD. Overall the level of fluid withdrawal from the projects exceeded the level of injection, creating voidage within the reservoirs; and contributing to the 19.6 percent decline. See Appendix XVI.

At the Galeota Platform B and C waterfloods, there was no injection due to an electrical fire which occurred in July 1999. The company has no plans for commencing injection in the Cruse G Waterflood.

NATURAL GAS PRODUCTION

Natural gas production of Trinidad and Tobago averaged 45.48 million cubic metres per day (Mm^3/d) (1,606 MMscf/d) for the review period, an increase on the previous year's average production. The increase in gas production was due mainly to the coming on stream of the Atlantic LNG plant in its first full year of production (2000) and to the coming on stream of the PCS Nitrogen '01' and '02' plants which were shutdown during the first half of 2000.

Conservation

The National Gas Company compressor platforms in the Teak and Poui fields compressed a total of 0.95 billion cubic metres (33.58 billion cubic feet (BCF)) of gas at an average daily rate of 2.60 Mm^3/d (92MMscf/d). Of this, approximately 0.89 billion cubic metres (31.41 BCF) was delivered into the sales line at an average daily rate of 2.44 Mm^3/d (86.20 MMscf/d). The remainder 0.16 Mm^3/d (5.8 MMscf/d) was utilized as fuel on the platforms.

Utilization

The commissioning of new plants at Point Lisas in 2000 and 2001, was responsible for an increase in domestic natural gas demand. This was as a result of the Titan Methanol plant coming fully on stream in the second half of 2000 and also the two PCS Nitrogen plants in 2001. The PCS Nitrogen '01' and '02' plants were shut down for the first five months of 2000 due to negotiations for a new gas contract with the NGC.

Domestic natural gas demand averaged 29.5 Mm^3/d (1042.6 MMscf/d), an increase of 14.5 percent on the previous year's figures of 25.76 Mm^3/d (909.9 MMscf/d). Gas demand peaked in October 2000 at 29.86 Mm^3/d (1054.57 MMscf/d) and in August 2001 at 30.73 Mm^3/d (1,085.36 MMscf/d). The average demand for the year 2002 is projected to be approximately 1,100 MMscf/d

(31.15 Mm^3/d) as the new Caribbean Nitrogen Company's ammonia plant is expected to come on-stream in the second quarter of 2002.

Reserves Reporting - 2001

The country's non-associated natural gas reserves were compiled on an annual basis, which were in the categories of proven, probable and possible. An independent audit of the non-associated natural gas reserves was conducted by petroleum consultant Ryder Scott Company of Houston, Texas, and a report was submitted to the Ministry in August 2001. The proven reserves of Trinidad and Tobago as at January 1, 2001 were estimated at 19.67 trillion cubic feet (TCF).

Forecasting

The Ministry continued its 12-month and 5-year forecasts of the country's gas supply and demand. The demand forecasts were based on the existing plants and expected plants to come on-stream in the period of the forecast.

Gas Projects

The Ministry was involved in the approval of the development plans for EOG Resources Osprey gas field, and British Gas Hibiscus gas field. The Hibiscus field was being developed to supply gas to the Atlantic LNG plant at Point Fortin for its Trains 2 and 3, while the Osprey field would supply gas to the Caribbean Nitrogen Company (CNC) plant at Point Lisas.

British Gas installed its Hibiscus platform in September 2001 to facilitate the development of the NCMA-1 and EOG Resources also installed its Osprey platform in September.

In the review period, gas well development drilling activity was mainly focused on drilling by bpTT in the Amherstia field to produce gas to meet its contractual commitment to deliver gas to the domestic market and to the Atlantic LNG plant at Point

Fortin. The company drilled four gas wells off the Amherstia platform in 2001. Only one gas well was drilled in the Mahogany field but this well was temporarily abandoned.

The Ministry also monitored the gas delivered to the ALNG plant in 2001 the plant's second full year of operations.

The Senior Petroleum Engineer of the Ministry participated in the natural gas reserves audit conducted by international consultants Ryder Scott Company, and also the 'Natural Gas Master Plan' project by Gaffney Cline and Associates.

Gas Exploration

Nine exploration wells with natural gas objectives were spudded. bpTT drilled two wells, EOG Resources also two wells, BHP/ELF Talisman Consortium three wells, while Vintage Petroleum Inc. drilled two wells. The Gas Section's duty was to monitor and analyse any testing of these wells.

Compression

The Gas Section of the Ministry monitored the compression operations of the National Gas Company (NGC) in the Teak and Poui fields, and bpTT's compressors in the Samaan and Poui fields.

Pipeline

There were three major gas pipelines constructed during 2001. British Gas laid down its 24" diameter offshore and onshore gas pipelines from the Hibiscus platform to Atlantic LNG plant at Point Fortin. EOG Resources also laid down a 16" diameter gas pipeline from the Osprey platform to a tie-in on the NGC 24" offshore pipeline and a 6" diameter condensate pipeline from the Osprey platform to the Pelican platform.



REFINING

For the year 2001, Petrotrin processed a total of 55.8MMB of crude oil at the Pointe a Pierre refinery. This represented a slight decrease of 5.2% from the previous year. Petrotrin continues to process indigenous and purchased crude as well as crude under processing agreements. Purchased crudes were: CanoLimon, Oguendjo, Saramacca, Vasconia, Marlim and Mesa. Barbados crude is processed under a processing agreement.

Figure 5
CRUDE OIL IMPORTS (bbl)

CRUDE TYPE	2001	2000
BARBADOS *	393,291	565,566
CANO LIMON	1,074,897	3,061,679
MANDJI	0	4,453,789
MARLIM	6,585,938	1,069,710
MESA	17,475,275	18,565,578
OGUENDJO	2,439,584	552,479
ORIENTE	0	755,071
SARAMACCA	522,867	835,430
VASCONIA	4,242,283	5,797,405
TOTAL	32,734,135	35,656,707

* 3RD PARTY

Figure 6
REFINERY THROUGHPUT
LOCAL & IMPORTED CRUDE (bpcd)

YEAR	LOCAL (BPCD)	IMPORTED (BPCD)	TOTAL (BPCD)
1998	69,006	68,729	137,735
1999	69,694	80,292	149,986
2000	65,773	95,317	161,090
2001	61,017	92,050	153,067



INDUSTRY ACTIVITIES

Figure 7
REFINERY OUTPUT (bbl)

PRODUCT	2001	2000
L.P.G.	878,369	1,310,676
MOGAS	10,349,281	11,568,210
AVGAS	14,796	1,332
WHITE SPIRIT	(14)	(400)
KERO/AVJET	5,358,159	5,935,814
GAS OIL	12,193,243	12,790,118
FUEL OIL	22,598,249	21,998,138
LUBE OIL	(556)	1,342
PETROCHEMICALS OTHER FINISHED AND UNFINISHED PRODUCTS	(130)	3,521
GAS/LOSS	1,824,631	1,387,340
BITUMEN	413,068	308,015
SULPHUR	85,783	52,305
TOTAL	55,869,148	58,959,338

Figure 8
DOMESTIC PETROLEUM PRODUCT CONSUMPTION (bbl)

PRODUCT	2001 QUANTITY	2000 QUANTITY
L.P.G.	588,796	595,312
MOGAS	2,808,542	2,755,830
KERO\AVJET	708,439	850,212
GAS\DIESEL OIL	1,015,450	1,554,254
FUEL OIL	0	3,424
LUBES & WAXES	12,114	18,364
OTHERS	7,693	19,570
TOTAL	5,141,034	5,796,966

Figure 9
PETROLEUM PRODUCT EXPORTS (bbls)

PRODUCT	2001 QUANTITY	2000 QUANTITY
L.P.G.	156,028	479,713
MOGAS	7,508,406	7,533,967
KERO \ AVJET	3,076,960	3,210,828
GAS \ DIESEL OIL	10,217,093	11,919,775
FUEL OIL	23,499,786	21,021,430
LUBES & WAXES	267,926	18,364
SULPHUR	1,924	71,208
OTHERS	1,379,376	1,728,784
TOTAL	46,107,499	45,984,069

PETROCHEMICAL

PERFORMANCE REVIEW OF PETROCHEMICAL, NATURAL GAS LIQUIDS AND LIQUEFIED NATURAL GAS PLANTS

OVERVIEW OF PRODUCTION AND EXPORT

The performance of natural gas based petrochemical plants were again mixed in 2001. There were large increases in methanol, ammonia and natural gas liquids (NGLs) output and an equally substantial decline in ammonia and urea.

Methanol

Methanol production attained another record high of 2,773,542.51 tonnes, an increase of 13.68% over 2000. New capacity from the Titan Methanol plant, which began operations in mid-2000 was responsible for much of this increase. The remaining increase essentially came from Caribbean Methanol, a plant that had a marked improvement in performance this year. Exports trends shadowed that of production and increased by 18.13 %.

Ammonia

Ammonia production was a record high of 3,694,332.74 tonnes, an increase of 13.54% over 2000. In a reversal of the situation in 2000, PCS Nitrogen plants this time was responsible for the increase whereas production from all other plants declined. Export trends were similar to production and posted an increase of 16.9 %.

Urea

Urea production was down by 8.87% and export was up marginally by 0.45% from 2000 respectively. The PCS Nitrogen Urea plant was in turnaround during June to July and experienced more

loss time in July and August from equipment failures soon after restating after the turnaround.

Natural Gas Liquids

Natural Gas Liquids (Liquefied Petroleum Gas- LPG and Natural Gasoline) from Phoenix Park Gas Processors (PPGPL) rose for the third consecutive year to a record high of 7,521,463.73 barrels. This is 8.5% above 2000 output. PPGPL NGLs from Atlantic LNG (ALNG) increased only marginally; therefore liquids extracted from natural gas was responsible for most of this year's increased production. Export increased by 10.33% over 2000.

Liquefied Natural Gas

Liquefied Natural Gas (LNG) production and exports decreased by 4.13% and 2.73% respectively from 2000.



INDUSTRY ACTIVITIES

Figure 10
PETROCHEMICAL INDUSTRIES PRODUCTION AND REPORT

Company	Product	Production		Export	
		2000	2001	2000	2001
Familand/MissChem	Ammonia	627,213.94	611,231.98	638,817.40	627,258.10
Hydro-Agri	Ammonia	312,670.00	261,812.00	307,885.00	268,088.00
PCS Nitrogen	Ammonia	1,277,504.75	1,835,741.76	963,623.74	1,542,145.85
Tringen I	Ammonia	484,261.00	445,493.00	473,874.00	465,166.00
Tringen II	Ammonia	552,234.00	540,054.00	566,475.00	546,642.00
Sub total	Ammonia	3,253,883.69	3,694,332.74	2,950,675.14	3,449,299.95
TTMC I	Methanol	457,679.83	436,208.42	447,937.65	308,308.60
TTMC II	Methanol	584,351.44	538,477.20	571,547.49	584,259.09
CMC	Methanol	439,960.36	542,092.15	466,893.83	578,011.85
Methanol IV	Methanol	575,923.50	579,038.74	558,209.26	615,047.00
Titan	Methanol	381,931.00	677,726.00	318,759.10	706,178.90
Sub total	Methanol	2,439,846.13	2,773,542.51	2,363,347.33	2,791,805.44
PCS Nitrogen	Urea	565,129.77	514,979.72	515,524.87	517,831.31
PPGPL	Propane	2,901,285.67	3,159,169.52	2,902,665.00	3,144,342.53
	Butane	1,945,373.31	2,105,638.11	1,954,777.00	2,137,289.64
	Natural gasoline	2,085,541.66	2,256,629.11	2,147,260.00	2,446,929.00
Atlantic LNG	LNG*	6,483,644.00	6,215,950.00	145,706,882.00	141,722,141.00
LNG Production - M3					
LNG Export - Mmbtu					



APPENDICES



• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

TABLE D-3

**SUMMARY OF WELLS SPUDDED, DEPTH DRILLED AND RIG DAYS
BY COMPANIES - OCT 2000 - SEPT 2001**

COMPANY	NO. OF WELLS SPUD.			DEPTH DRILLED (ft.)			RIG DAYS			NO. OF RIGS
	EXPL.	DEV.	TOTAL	EXPL.	DEV.	TOTAL	EXPL.	DEV.	TOTAL	
BPtt	1	12	13	13,160	145,394	158,554	90.50	1022.67	1113.17	6
TRINMAR	2	14	16	10,670	65,258	75,928	25.00	263.00	288.00	1
PETROTRIN	0	30	30	0	96,613	96,613	0.00	447.00	447.00	2
PET.LO	0	7	7	0	36,271	36,271	0.00	116.00	116.00	2
PET.FO	3	15	18	13,787	7,058	20,845	70.50	44.50	115.00	2
EOG	1	0	1	5,410	0	5,410	144.00	0.00	144.00	1
EEPTL	2	0	2	26,103	0	26,103	160.00	0.00	160.00	1
VPTL	2	2	4	15,488	8,448	23,936	127.00	43.00	170.00	2
BHP	2	0	2	16,940	0	16,940	96.00	0.00	96.00	1
TERL	0	16	16	0	34,378	34,378	0.00	151.00	151.00	1
PRIMERA	0	11	11	0	26,555	26,555	0.00	158.00	158.00	2
VINTAGE PET.	2	0	2	16,348	0	16,348	110.00	0.00	110.00	1
NEW HORIZON	0	12	12	0	17,475	17,475	0.00	72.00	72.00	1
TED	0	6	6	0	5,783	5,783	0.00	58.00	58.00	1
TOTAL 00/01	15	125	140	117,906	443,233	561,139	823.00	2375.17	3198.17	24
TOTAL 99/00	11	119	130	116201	343565	459766	475.5	1659.46	2134.96	24

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

APPENDIX I
SUMMARY OF EXPLORATORY AND SEMI-EXPLORATORY ACTIVITIES (Oct '00 - Sept '01)

OPERATOR	WELL NAME	LOCATION	LAHEE EXPLORATORY CLASS	DATE SPUDDED	DATE COMPLETED	DEPTH DRILLED (FEET)	TD OF WELL (FEET)	RESULT / REMARKS
BP	Cashima #1	10 03' 40.292" 60 22' 55.451"	A-1	25/02/2001	09/05/2001	13160	12800	gas
BHP	Spitfi e #1	10 34' 36" 60 35' 54"	A-3	14/05/2001	02/07/2001	9545	9500	abandoned dry
	Kairi #1	10 43' 45.637" 60 34' 45.591"	A-3	04/07/2001	18/08/2001	8200	8200	oil & gas discovery
E.O.G.R.T.L	Osprey A2, ST1, ST2	<i>768,644.14</i> <i>1,134,960.65</i>	A-1/A-2b	11/8/2000	20/02/2001	18535	15302	gas
	Oilbird #2	10 05' 08.45" 60 35' 28.61"	A-1	27/09/2001	31/10/2001	15015	15015	gas
E.E.P.T.L	Adelpha #1	10 39' 12.4" 59 56' 44.3"	A-2c	6/12/2000	09/02/2001	12018	12018	dry (minor gas shows)
	Dynamine #1	10 16' 52.768" 59 46' 54.903"	A-2c	10/2/2001	14/05/2001	14085	14085	dry (minor gas shows)
TRINMAR	S 818	<i>1,132,087</i> <i>628,365</i>	A-1	14/03/2001	08/04/2001	5100	5100	oil
	S 821	10 13' 12.70" 61 45' 9.48"	A-1	5/07/2001	16/07/2001	5500	5500	oil
V.P.T.L.	AS 129	10 15' 06.932" 61 37' 38.608"	A-2b	22/11/2000	27/04/2001	9518	9518	oil
	Guapo Marine #10	<i>646,010</i> <i>1,130,540</i>	A-1	18/08/2001	18/09/2001	5970	5970	abandoned
VINTAGE	Carapal Ridge #1	<i>688,761</i> <i>1,128,770</i>	A-3	08/04/2001	31/05/2001	8828	8828	gas discovery
	Corosan #1	<i>688,761</i> <i>1,128,770</i>	A-1	15/06/2001	22/07/2001	8018	8018	gas discovery

FIGURES IN ITALICS ARE WGS 84 (X,Y) CO-ORDINATES.

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

APPENDIX II
ANNUAL STATISTICS OF PRODUCTION, DRILLING, REFINING, EXPORTS AND IMPORTS
OCT 2000/2001 - 1992

ITEM	UNIT	1996	1995	1994	1993	1992
1. CRUDE OIL	'000 BBL	47,113	47,584	47,235	44,634	49,195
2. CASING HEAD GASOLINE (C.H.P.S.)	'000 BBL	0	0	0	0	0
3. TOTAL CRUDE OIL AND NATURAL GASOLENE (1+2)	'000 BBL	47,113	47,584	47,235	44,634	49,195
4. CRUDE OIL PRODUCTION - STATE OIL RIGHTS	'000 BBL	45,352	45,657	45,201	42,373	46,871
5. CRUDE OIL PRODUCTION - PRIVATE OIL RIGHTS	'000 BBL	1,760	1,927	2,034	2,261	2,324
6. TOTAL IMPORTS	'000 BBL	11,617	11,003	12,668	16,478	18,259
7. IMPORTS OF REFINED PRODUCTS	'000 BBL	3,094	3,883	1,271	1,826	989
8. IMPORTS OF CRUDE OIL FOR REFINING	'000 BBL	8,523	7,005	11,052	14,469	16,843
9. IMPORTS OF OTHER OILS FOR REFINING AND BLENDING	'000 BBL	0	115	345	183	427
10. TOTAL EXPORTS	'000 BBL	76,360	51,641	55,382	48,729	61,807
11. EXPORT OF CRUDE OIL	'000 BBL	20,886	21,486	23,086	20,504	23,380
12. EXPORTS OF REFINED PRODUCTS	'000 BBL	55,474	30,155	32,296	28,225	38,427
13. RUNS TO STILL	'000 BBL	33,731	35,705	37,597	38,190	42,277
14. DAILY REFINERY CAPACITY	BBL/DAY	175,000	260,000	260,000	260,000	255,000
15. NUMBER OF WELLS SPURRED	AS STATED	67	90	69	56	59
16. TOTAL NUMBER OF WELLS COMPLETED	AS STATED	87	61	54	36	63
17. NUMBER OF WELLS COMPLETED AS OIL WELLS	AS STATED	61	34	34	28	52
18. NUMBER OF WELLS ABANDONED	AS STATED	16	24	9	5	11
19. TOTAL DEPTH DRILLED	FEET	400,577	148,912	129,904	69,072	77,366
20. DEPTH DRILLED ON STATE OIL RIGHTS	FEET	122,096	136,982	129,109	67,533	70,858
21. DEPTH DRILLED ON PRIVATE OIL RIGHTS	FEET	107,542	11,930	795	1,539	6,508
22. AVERAGE DEPTH OF COMPLETED WELLS	FEET	14,554	2,618	2,163	1,979	1,453
23. AVERAGE NUMBER OF WELLS PRODUCING	AS STATED	3,941	3,736	3,350	3,341	3,306
24. AVERAGE NO. OF WELLS PRODUCED BY FLOWING	AS STATED	294	281	290	326	333
25. AVERAGE NO. OF WELLS PRODUCED BY ARTIFICIAL LIFAS	STATED	3,647	3,455	3,060	3,015	2,973
26. AVERAGE DAILY PRODUCTION PER PRODUCING WELL	BARREL	32.7	34.9	38.6	36.6	40.7
27. AVERAGE DAILY PRODUCTION PER FLOWING WELL	BARREL	118.7	129.8	105.1	87.8	101.2
28. AVERAGE DAILY PRODUCTION PER ARTIFICIAL LIFT WE	BARREL	25.7	27.2	32.3	31.1	33.9
29. TOTAL VALUE OF DOMESTIC EXPORTS *	'000\$	14,368,368	14,031,077	11,055,200	8,405,615	7,811,404
30. TOTAL VALUE OF PETROLEUM PRODUCTS (ITEM 29) *	'000\$	4,646,658	661,845	3,275,004	2,932,086	2,979,658
31. TOTAL VALUE OF ASPHALT PRODUCTS *	'000\$	19,729	21,172	16,148	19,984	15,900
32. TOTAL NATURAL GAS PRODUCED	MMSCF/D	9,058	7,762	7,700	7,080	7,414
33. USED AS FUEL	MMSCF/D	4,757	4,361	4,258	4,030	4,301
34. REPLACED IN FORMATION	MMSCF/D	0	0	0	0	0
35. LOSSES, NOT COLLECTED	MMSCF/D	145	103	145	136	165

*Source: Central Statistical Office

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APPENDIX II
ANNUAL STATISTICS OF PRODUCTION, DRILLING, REFINING, EXPORTS AND IMPORTS
OCT 2000/2001 - 1992

ITEM	UNIT	1996	1995	1994	1993	1992
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3. TOTAL CRUDE OIL AND NATURAL GASOLENE (1+2)	'000 BBL	47,113	47,584	47,235	44,634	49,195
4. CRUDE OIL PRODUCTION - STATE OIL RIGHTS	'000 BBL	45,352	45,657	45,201	42,373	46,871
5. CRUDE OIL PRODUCTION - PRIVATE OIL RIGHTS	'000 BBL	1,760	1,927	2,034	2,261	2,324
6. TOTAL IMPORTS	'000 BBL	11,617	11,003	12,668	16,478	18,259
7. IMPORTS OF REFINED PRODUCTS	'000 BBL	3,094	3,883	1,271	1,826	989
8. IMPORTS OF CRUDE OIL FOR REFINING	'000 BBL	8,523	7,005	11,052	14,469	16,843
9. IMPORTS OF OTHER OILS FOR REFINING AND BLENDING	'000 BBL	0	115	345	183	427
10. TOTAL EXPORTS	'000 BBL	76,360	51,641	55,382	48,729	61,807
11. EXPORT OF CRUDE OIL	'000 BBL	20,886	21,486	23,086	20,504	23,380
12. EXPORTS OF REFINED PRODUCTS	'000 BBL	55,474	30,155	32,296	28,225	38,427
13. RUNS TO STILL	'000 BBL	33,731	35,705	37,597	38,190	42,277
14. DAILY REFINERY CAPACITY	BBL/DAY	175,000	260,000	260,000	260,000	255,000
15. NUMBER OF WELLS SPUDDED	AS STATED	67	90	69	56	59
16. TOTAL NUMBER OF WELLS COMPLETED	AS STATED	87	61	54	36	63
17. NUMBER OF DRILLING WELLS COMPLETED AS OIL WELLS	AS STATED	61	34	34	28	52
18. NUMBER OF DRILLING WELLS ABANDONED	AS STATED	16	24	9	5	11
19. TOTAL DEPTH DRILLED (ALL WELLS)	FEET	400,577	488,556	426,194	226,614	253,825
20. DEPTH DRILLED ON STATE OIL RIGHTS	FEET	352,828	449,416	423,586	221,565	232,474
21. DEPTH DRILLED ON PRIVATE OIL RIGHTS	FEET	47,749	39,140	2,608	5,049	21,352
22. AVERAGE DEPTH OF COMPLETED WELLS (16)	FEET	4,652	8,589	7,096	6,493	4,767
23. AVERAGE NUMBER OF WELLS PRODUCING	AS STATED	3,941	3,736	3,350	3,341	3,306
24. AVERAGE NO. OF WELLS PRODUCED BY FLOWING	AS STATED	294	281	290	326	333
25. AVERAGE NO. OF WELLS PRODUCED BY ARTIFICIAL LIFT	AS STATED	3,647	3,455	3,060	3,015	2,973
26. AVERAGE DAILY PRODUCTION PER PRODUCING WELL	BARREL	32.7	34.9	38.6	36.6	40.7
27. AVERAGE DAILY PRODUCTION PER FLOWING WELL	BARREL	118.7	129.8	105.1	87.8	101.2
28. AVERAGE DAILY PRODUCTION PER ARTIFICIAL LIFT WELL	BARREL	25.7	27.2	32.3	31.1	33.9
29. TOTAL VALUE OF DOMESTIC EXPORTS *	'000\$	14,368,368	14,031,077	11,055,200	8,405,615	7,811,404
30. TOTAL VALUE OF PETROLEUM PRODUCTS (ITEM 29) *	'000\$	4,646,658	661,845	3,275,004	2,932,086	2,979,658
31. TOTAL VALUE OF ASPHALT PRODUCTS *	'000\$	19,729	21,172	16,148	19,984	15,900
32. TOTAL NATURAL GAS PRODUCED	MMSCF/D	879	751	745	685	716
33. USED AS FUEL	MMSCF/D	459	421	412	390	415
34. REPLACED IN FORMATION	MMSCF/D	0	0	0	0	0
35. LOSSES, NOT COLLECTED	MMSCF/D	14	10	12	11	15

*Source: Central Statistical Office

APPENDIX III
SUMMARY OF COMPLETIONS (DEVELOPMENT WELLS) IN TRINIDAD AND TOBAGO (Oct '00 - Sept '01)

AREA	NO. OF OIL & GAS PRODUCERS	WELLS ABANDONED COMPLETED	* TOTAL COMPLETION	DRILLING RIGS IN USE @30/09/01
1	13	1	14	-
2	12	1	13	1
3	0	0	0	1
4	5	1	6	-
5	26	1	27	2
6	14	0	14	-
9	7	2	9	-
11	12	3	15	2
13	1	0	1	-
14	3	2	5	1
TOTAL	93	11	104	7

* - Includes oil, gas, and abandoned wells

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APPENDIX 111A

KEY TO AREA - NUMBER ON APPENDIX 111

AREA NUMBER

- 1 Soldado, North Marine, Couva Marine, Manicou, (Gulf of Paria Block 1)
- 2 Pt. Ligoure, F.O.S., Area IV and Guapo, Boodoosingh, Point Fortin West and Central, Parrylands Cruse, Guapo.
- 3 Brighton (Land and Marine), Vessigny, Merrimac.
- 4 Palo Seco, Los Bajos, Erin, Central Los Bajos, Mackenzie, South Erin, Grand Ravine.
- 5 Forest Reserve, Fyzabad, Point Fortin East, New Dome, San Francique, Apex Quarry, Roodal.
- 6 Quarry, Coora, Quinam, Morne Diablo.
- 7 Oropouche
- 8 Penal, Barrackpore, Wilson, Siparia, Puzzle Island Debe.
- 9 Moruga North and West, Rock Dome, Inniss, Trinity, Catshill, Balata, Bovallius.
- 10 Marcelle/Beach, Guayaguayare, Moruga East, Maloney.
- 11 Pelican, Galeota, Teak, Samaan, Poui, Cassia, Diamond Prospect, Flambouyant, Banyan, Mahogany, Amherstia, Immortelle, Kiskadee, Ibis. East Coast, Reverse 'L' East, Reverse 'L' West, Mora, Arima, South East Galeota, North West Teak, OPC, West Samaan, West East Queen Beach, Pamberi, El Nino, San Piper, Manakin, Dolphin (Block 6).
- 12 South Marine (South Coast), Mobil.
- 13 Tabaquite, Pointe-a-Pierre, Springvale.
- 14 Icacos, South West Peninsula, Bonasse.
- 15 Aripo
- 16 NCMA (Hibiscus, Chaconia, KK4)

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APPENDIX IV
MONTHLY ANALYSIS OF DRILLING AND WORKOVER ACTIVITY (OCT '00 - SEPT '01)
(Depth drilled in feet)

MONTH	NEW WELLS STARTED	OIL & GAS PRODUCERS		INJECTION WELLS		ABANDONED						COMPLETED OTHER		TOTAL WELLS	TOTAL AGGR DEPTH	AGGR DEPTH PER WELL	RE-COMPLETED WELLS	ABANDONED WELLS
						AFTER TESTING		DRY HOLES		TECHNICAL								
						Number of Wells	Aggregate Depth	Number of Wells	Aggregate Depth	Number of Wells	Aggregate Depth							
OCTOBER '00	6	6	43327	0	0	0	0	1	4726	0	0	0	0	7	48053	6865	8	1
NOVEMBER	6	7	32179	0	0	0	0	0	0	0	0	0	0	7	32179	4597	15	1
DECEMBER	8	5	45838	0	0	0	0	0	0	0	0	0	0	5	45838	9168	13	0
JANUARY '01	8	4	19355	0	0	0	0	1	5793	0	0	1	5800	6	30948	5158	5	0
FEBRUARY	14	6	12047	0	0	0	0	1	12018	2	25010	0	0	9	49075	5453	6	0
MARCH	24	15	34401	0	0	0	0	0	0	1	12484	0	0	16	46885	2930	3	0
APRIL	12	16	33134	0	0	0	0	1	1750	0	0	2	8505	19	43389	2284	4	1
MAY	9	5	35663	0	0	0	0	3	18134	1	13160	2	6373	11	73330	6666	8	3
JUNE	11	7	33812	0	0	0	0	1	50	0	0	0	0	8	33862	4233	16	0
JULY	14	9	52035	0	0	0	0	2	11795	0	0	0	0	11	63830	5803	11	1
AUGUST	17	11	44947	0	0	0	0	1	7395	0	0	0	0	12	52342	4362	13	0
SEPTEMBER	11	5	23970	0	0	0	0	0	0	2	8874	1	5000	8	37844	4731	6	0
OCT '00 - SEPT '01	140	96	410,708	0	0	0	0	11	61,661	6	59,528	6	25,678	119	557,575	4,686	108	7
OCT '99 - SEPT '00	128	107	305,017	0	0	1	13,680	6	45,740	1	17,905	2	14,950	117	397,292	3,396	96	7

NB : AGGR. DEPTH = FINAL DEPTH DRILLED FOR EACH WELL

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APPENDIX V

MONTHLY ANALYSIS OF LAND AND MARINE DEPTH DRILLED (Oct '00 - Sept '01)
(feet)

MONTH	STATE LAND	PRIVATE LAND	SUB-TOTAL LAND	MARINE	SUB-TOTAL STATE	TOTAL	RIG MONTHS
OCTOBER '00	18,238	0	18,238	27,487	45,725	45,725	7.13
NOVEMBER	13,006	0	13,006	27,151	40,157	40,157	7.37
DECEMBER	13,758	0	13,758	19,622	33,380	33,380	6.96
JANUARY '01	13,864	2,500	16,364	29,804	43,668	46,168	9.36
FEBRUARY	16,722	4,003	20,725	20,168	36,890	40,893	10.45
MARCH	21,733	0	21,733	38,234	59,967	59,967	9.92
APRIL	20,611	1,866	22,477	34,485	55,096	56,962	9.63
MAY	21,000	7,381	28,381	9,043	30,043	37,424	8.90
JUNE	18,129	6,709	24,838	18,482	36,611	43,320	9.13
JULY	27,182	5,180	32,362	24,023	51,205	56,385	9.51
AUGUST	24,543	3,000	27,543	31,633	56,176	59,176	7.45
SEPTEMBER	20,095	1,699	21,794	19,788	39,883	41,582	8.63
TOTAL	228,881	32,338	261,219	299,920	528,801	561,139	104.44

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

APPENDIX VI
CRUDE OIL PRODUCTION BY FIELDS, AREAS OR DISTRICTS
OCT 2000 - SEP 2001

COMPANY, FIELDS AREAS OR DISTRICTS	DISCOVERY YEAR	TOTAL WELLS COMPLETED	ANNUAL PRODUCTION		CUMULATIVE PRODUCTION THROUGH SEPTEMBER, 2001
			OCT'00 - SEP'01	OCT'99 - SEP'00	
			BARRELS	BARRELS	'000 BARRELS
PETROLEUM COMPANY OF TRINIDAD AND TOBAGO LTD.					
BALATA EAST AND WEST	1952	77	65,160	81,420	4,382
CATSHILL	1950	137	100,748	133,495	25,265
INNISS	1956	41	7,659	1,686	6,393
ROCK DOME	1962	3	0	0	16
PENAL	1936	289	213,909	237,559	65,505
NEW DOME	1928	31	0	0	3,171
SAN FRANCIQUE	1929	27	0	0	5,980
GUAPO/BOODOOSINGH	1922	892	525,872	542,838	98,728
PARRYLANDS 1-5	1913	519	305,504	266,244	44,815
POINT FORTIN AND GRAND RAVINE	1907	777	783,413	941,222	79,648
BEACH		0	45,193	45,727	279
ERIN/ERIN (TTOC)	1963	31	114,940	138,927	7,601
MAHAICA	1954	6	0	0	0
GUAYAGUAYARE AND LOS BAJOS	1902	729	22,544	32,666	91,833
ANTILLES TRINITY	1956	95	45,102	50,559	16,134
BARRACKPORE	1911	437	403,127	470,837	41,067
OROPOUCHE	1944	132	38,782	53,674	7,751
MORNE DIABLO AND QUINAM	1926	104	1,829	2,435	7,870
FOREST RESERVE	1920	2,115	1,121,872	1,137,040	275,406
PALO SECO	1930	955	1,549,537	1,687,577	172,136
BRIGHTON LAND	1903	623	0	0	72,203
PT. LIGOURE/BRIGHTON MARINE	1937	0	0	0	4,251
COUVA MARINE	1963	6	0	0	301
CRUSE	1913	150	86,406	87,394	27,031
WILSON	1936	82	40,232	47,406	20,620
BALATA CENTRAL	1949	6	0	0	371
MAYARO		9	0	0	0
SIPARIA		2	2,007	1,547	26

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

APPENDIX VI (cont'd)
CRUDE OIL PRODUCTION BY FIELDS, AREAS OR DISTRICTS
OCT 2000 - SEP 2001

COMPANY, FIELDS AREAS OR DISTRICTS	DISCOVERY YEAR	TOTAL WELLS COMPLETED	ANNUAL PRODUCTION		CUMULATIVE PRODUCTION THROUGH SEPTEMBER, 2001
			OCT'00 - SEP'01	OCT'99 - SEP'00	
			BARRELS	BARRELS	'000 BARRELS
FYZABAD/APEX QUARRY	1920-1938	1,049	551,351	597,770	181,115
MORUGA EAST	1953	80	18,143	11,335	2,965
MORUGA NORTH	1956	23	0	0	1,085
MORUGA WEST	1957	0	0	0	9,815
COORA/QUARRY	1936	744	291,183	307,632	97,605
MC KENZIE	1926	1,661	57,198	69,419	7,278
NORTH MARINE	1956	19	0	0	1,269
GALEOTA	1963	105	275,738	405,333	23,076
CENTRAL LOS BAJOS	1973	280	400,487	432,009	17,031
MARCELLE VALLEY		0	34,467	40,570	259
TABAQUITE	1911	238	0	0	1,978
MALONEY	1902	1	0	0	2
NAVETTE		0	119,435	153,762	1,142
ANTILLES VESSIGNY		1	38,411	41,249	258
GOUDRON	1902	2	1,613	2,085	64
LEASE OPERATORS		108	1,354,475	1,349,719	6,442
FARMOUT		120	343,640	343,640	1,796
PUZZLE ISLAND/DEBE	1998	1	0	0	15
VINTAGE			0	0	0
NEW HORIZON			0	0	0
TOTAL	409	17,921,169	19,059,693	874,647	1,431,978
PRIMERA OIL AND GAS LIMITED					
SIPARIA	1957	5	2,004	1,547	932
SAN FRANCIQUE	1929	135	172,582	144,854	5,312
FYZABAD/ROODAL	1918	284	85,038	85,838	14,342
PALO SECO	1915	99	25,433	28,640	1,755
BARRACKPORE	1970	10	17,662	20,735	668
ICACOS	1955	14	6,597	12,020	5,293
DEFUNCT FIELDS	1954	19	0	0	323
TOTAL		566	309,316	293,634	28,624

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APPENDIX VI (cont'd)
CRUDE OIL PRODUCTION BY FIELDS, AREAS OR DISTRICTS
OCT 2000 - SEP 2001

COMPANY, FIELDS AREAS OR DISTRICTS	DISCOVERY YEAR	TOTAL WELLS COMPLETED	ANNUAL PRODUCTION		CUMULATIVE PRODUCTION THROUGH SEPTEMBER, 2001
			OCT'00 - SEP'01	OCT'99 - SEP'00	
			BARRELS	BARRELS	'000 BARRELS
TRINMAR					
FOS/FT	1954	35	50,206	70,671	8,137
SOLDADO	1955	847	172,582	144,854	618,586
TOTAL	1918	284	85,038	85,838	14,342
BP TRINIDAD AND TOBAGO					
SPARROW	1997	1	0	0	0
TEAK	1969	160	5,004,458	5,596,489	346,975
SAMAAN	1971	94	2,956,466	3,198,944	230,032
POUI	1974	94	1,984,009	2,464,046	219,051
CASSIA	1973	10	121,449	173,586	19,556
MORA	1982	6	0	0	956
FLAMBOUYANT	1993	3	211,027	361,697	4,906
IMMORTELLE	1993	25	2,798,399	2,910,506	6,725
BANYAN	1995	1	0	0	16,450
RENEGADE	1997	1	0	0	0
AMHERSTIA	2000	8	477,747	0	0
MAHOGANY	1998	21	4,367,614	4,962,989	7,280
TOTAL		424	17,921,169	19,668,257	851,931,258
TRINTOMAR					
PELICAN	1990	3	107,183	98,343	5,878
TOTAL		3	107,183	98,343	5,878
TRINTOMAR					
PELICAN	1990	3	107,183	98,343	5,878
TOTAL					
TRINTOMAR					
PELICAN	1990				
TOTAL		3	107,183	98,343	5,878

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APPENDIX VI (cont'd)
CRUDE OIL PRODUCTION BY FIELDS, AREAS OR DISTRICTS
OCT 2000 - SEP 2001

COMPANY, FIELDS AREAS OR DISTRICTS	DISCOVERY YEAR	TOTAL WELLS COMPLETED	ANNUAL PRODUCTION		CUMULATIVE PRODUCTION THROUGH SEPTEMBER, 2001
			OCT'00 - SEP'01	OCT'99 - SEP'00	
			BARRELS	BARRELS	'000 BARRELS
ENRON					
KISKADEE	1993	35	926,368	1,173,540	9,825
IBIS	1995	6	67,672	14,542	1,248
TOTAL		16	994,040	1,188,082	11,703
MORAVEN					
MORA	1982	10	260,141	273,084	1,1966
TOTAL		10	260,141	273,084	1,1966
T.E.D.					
BONASSE	1997	11	8,815	3,468	12
TOTAL		11	8,815	3,468	12
VENTURE PRODUCTION					
BR. MARINE/PT LIGOURE		16	491,886	321,933	130
BRIGHTON LAND		0	0	952	1
TOTAL		16	491,886	322,885	131
TRACMAC					
MORUGA WEST		140	252,455	110,531	61
TOTAL		140	252,455	110,531	61
VINTAGE PETROLEUM T'DAD LTD.					
C.B.J.V.			3,097	0	3
TOTAL			3,097	0	3
NEW HORIZON J.V.					
PELICAN			0	0	0
TOTAL					
GRAND TOTAL		14,775	41,120,216	44,414,610	2,958381

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APPENDIX VII
CRUDE OIL PRODUCTION BY MONTHS AND METHODS
OCT - 2000 - SEPT - 2002
(barrels)

MONTH	FLOWING			GAS LIFT			PUMPING		
	NO.OF WELLS	PRODUCTION	DAILY AV. PER WELL	NO.OF WELLS	PRODUCTION	DAILY AV. PER WELL	NO.OF WELLS	PRODUCTION	DAILY AV. PER WELL
OCTOBER	401	1,163,533	93.6	458	1,665,191	117.3	2,901	773,075	8.6
NOVEMBER	406	1,116,769	91.7	456	1,625,779	118.8	2,888	750,787	8.7
DECEMBER	404	1,129,954	90.2	468	1,679,795	115.8	2,876	757,576	8.5
JANUARY	395	899,658	73.5	459	1,669,623	117.3	2,865	762,272	8.6
FEBRUARY	398	735,051	66.0	466	1,315,569	100.8	2,871	707,023	8.8
MARCH	409	932,208	73.5	476	1,655,895	112.2	2,847	754,086	8.5
APRIL	383	1,007,823	87.7	480	1,729,162	120.1	2,872	730,249	8.5
MAY	371	941,188	81.8	482	1,756,409	117.5	2,866	749,603	8.4
JUNE	381	973,852	85.2	480	1,720,687	119.5	2,821	721,539	8.5
JULY	350	1,013,362	93.4	464	1,728,285	120.2	2,877	785,517	8.8
AUGUST	339	1,121,824	106.7	456	1,662,257	117.6	2,812	782,915	9.0
SEPTEMBER	325	1,060,664	108.8	455	1,587,799	116.3	2,790	752,407	9.0
TOTAL OCT 2000 - SEP 2001		12,095,886			19,796,451			9,027,049	
AVERAGE OCT 2000 - SEP 2001	380	33,139	87.2	467	54,237	116.2	2,857	24,732	8.7

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APPENDIX VII (cont'd)
CRUDE OIL PRODUCTION BY MONTHS AND METHODS
OCT 2000 - SEP 2001
(barrels)

MONTH	SWAB			OTHER METHODS			TOTAL NO. OF WELLS PRODUCING	TOTAL OIL PRODUCTION	DAILY AV PER PRODUCING WELL	B.O.P.D.	SALT WATER	
	NO. OF WELLS	PRODUCTION	DAILY AV. PER WELL	NO. OF WELLS	PRODUCTION	DAILY AV. PER WELL						% OF TOTAL FLUID
OCTOBER	159	16,370	3.3	24	365	0.5	3,943	3,618,534	29.6	116,727	5,165,041	58.8
NOVEMBER	110	13,296	4.0	25	407	0.5	3,885	3,507,038	30.1	116,901	4,903,699	58.3
DECEMBER	110	15,089	4.4	23	394	0.6	3,881	3,582,808	29.8	115,574	4,880,027	57.7
JANUARY	181	19,061	3.4	20	380	0.6	3,920	3,350,994	27.6	108,097	5,256,097	61.1
FEBRUARY	182	16,597	3.3	23	533	0.8	3,940	2,774,773	25.2	99,099	3,796,016	57.8
MARCH	200	17,020	2.7	24	484	0.7	3,956	3,359,693	27.4	108,377	5,117,651	60.4
APRIL	229	17,644	2.6	35	657	0.6	3,999	3,485,535	29.1	116,185	5,394,759	60.7
MAY	240	18,860	2.5	32	670	0.7	3,991	3,466,730	28.0	111,830	5,284,371	60.4
JUNE	207	15,952	2.5	33	943	1.0	3,922	3,432,973	29.2	114,432	5,214,423	60.3
JULY	231	17,210	2.4	39	806	0.7	3,961	3,545,180	28.9	114,361	5,586,788	61.2
AUGUST	211	13,998	2.1	28	801	0.9	3,846	3,581,795	30.0	115,542	4,935,049	57.9
SEPTEMBER	209	12,573	1.9	30	720	0.8	3,809	3,414,163	29.9	113,805	4,981,688	59.3
TOTAL OCT 2000 - SEP 2001		193,670			7,160			41,120,216			60,515,609	
AVERAGE OCT 2000 - SEP 2001	189	531	2.8	28	20	0.7	3,921		28.7	112,658	165,796	59.5

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**APPENDIX VIII
CRUDE OIL PRODUCTION BY OPERATING COMPANIES
OCT 2000 - SEPT 2001**

COMPANY	FLOWING			GAS LIFT			PUMPING		
	AV. NO.OF WELLS	PRODUCTION	DAILY AV. PER WELL	AV. NO.OF WELLS	PRODUCTION	DAILY AV. PER WELL	AV. NO.OF WELLS	PRODUCTION	DAILY AV. PER WELL
BP	52	7,531,808	396.8	116	10,389,361	244.9	0	0	0.0
P.O.G.L.	3	30,094	27.5	1	1,931	5.3	110	270,131	6.7
TRINMAR	55	2,415,105	120.3	208	8,385,114	110.4	37	1,012,181	74.9
PETROTRIN	141	485,816	9.4	101	581,507	15.8	2,077	6,159,920	8.1
TRINTOMAR	3	107,183	97.9	0	0	0.0	0	0	0.0
E.O.G.R.T.L.	10	994,040	272.3	0	0	0.0	0	0	0.0
MORAVEN	0	0	0.0	5	260,141	142.5	0	0	0.0
L.O.	43	145,393	9.3	1	2,428	6.7	455	1,105,738	6.7
F.O.	14	30,312	5.9	0	0	0.0	116	281,515	6.6
T.E.D.	1	2,931	0.0	0	0	0.0	3	5,884	5.4
T.E.R.L.	4	50,993	34.9	0	0	0.0	54	182,350	9.3
V.P.T.L.	55	299,114	14.9	35	175,968	13.8	6	9,331	4.3
VINTAGE	0	3,097	0.0	0	0	0.0	0	0	0.0
TOTAL OCT 2000 - SEPT 2001	381	12,095,886	87.0	467	19,796,450	116.1	2,857	9,027,050	8.7

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APPENDIX VIII (cont'd)
CRUDE OIL PRODUCTION BY OPERATING COMPANIES
OCT 2000 - SEPT 2001

COMPANY	SWAB			OTHER			AV. NO. OF WELLS	TOTAL OIL PRODUCED	DAILY AV. PER WELL	COMPANY'S PROD'N AS A % OF TOTAL PROD'N	SALT WATER	
	AV. NO. OF WELLS	PROD'N	DAILY AV. PER WELL	AV. NO. OF WELLS	PROD'N	DAILY AV. PER WELL					PRODUCTION	% OF TOTAL FLUID
BP	0	0	0.0	0	0	0.0	169	17,921,169	290.5	43.6	38,240,765	68.1
P.O.G.L.	0	0	0.0	28	7,160	0.7	142	309,316	6.0	0.8	82,229	21.0
TRINMAR	0	0	0.0	0	0	0.0	299	11,812,400	108.2	28.7	7,293,438	38.2
PETROTRIN	58	42,092	2.0	0	0	0.0	2,376	7,269,335	8.4	17.7	12,121,056	62.5
TRINTOMAR	0	0	0.0	0	0	0.0	3	107,183	97.9	0.3	1,515,243	93.4
E.O.G.R.T.L.	0	0	0.0	0	0	0.0	10	994,040	272.3	2.4	163,447	14.1
MORAVEN	0	0	0.0	0	0	0.0	5	260,141	142.1	0.6	6,606	2.5
L.O.	93	100,916	3.0	0	0	0.0	591	1,354,475	6.3	3.3	795,030	37.0
F.O.	15	31,550	5.8	0	0	0.0	145	343,377	6.5	0.8	175,284	33.8
T.E.D.	0	0	0.0	0	0	0.0	4	8,815	6.9	0.0	5,129	36.8
T.E.R.L.	24	19,112	2.2	0	0	0.0	82	252,455	8.4	0.6	102,232	28.8
V.P.T.L.	0	0	0.0	0	0	0.0	95	484,413	14.0	1.2	13,988	2.8
VINTAGE	0	0	0.0	0	0	0.0	0	3,097	0.0	0.0	0	0.0
TOTAL OCT 2000 - SEPT 2001	189	193,670	2.8	28	7,160	0.7	3,921	41,120,216	28.7	100.0	60,514,447	59.5

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

APPENDIX IX
TOTAL CRUDE OIL PRODUCTION BY MONTHS
OCT- 2000 - SEPT - 2001
(Production in barrels)

MONTH	BP	P.O.G.L	TRINIMAR	TRINTOMAR	E.O.G.R.T.L	MORAVEN	PETROTRIN	LO.	F.O.	T.E.D.	V.P.T.L	T.E.R.L	VENTAGE
	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION
OCTOBER	1,608,538	26,601	971,359	7,774	118,363	27,839	649,158	117,641	34,765	422	37,609	18,465	
NOVEMBER	1,595,271	26,482	940,718	13,290	88,451	17,580	617,164	112,652	30,667	379	47,720	16,664	
DECEMBER	1,590,526	27,214	1,012,267	12,939	77,404	22,934	630,482	105,638	27,707	539	58,241	16,917	
JANUARY	1,393,742	27,012	948,579	12,869	98,810	22,862	616,469	117,363	30,592	546	63,971	18,179	
FEBRUARY	1,009,434	23,944	881,921	11,256	75,411	13,075	569,089	103,686	27,818	380	43,072	15,687	
MARCH	1,450,909	27,991	954,950	10,578	78,024	23,410	617,676	110,254	27,617	510	35,098	22,676	
APRIL	1,611,190	24,681	953,703	8,636	73,201	20,409	584,433	119,496	29,155	445	36,477	23,709	
MAY	1,533,030	24,334	995,319	7,486	76,506	24,121	601,125	116,775	30,502	655	32,562	24,315	
JUNE	1,548,450	26,185	991,169	6,707	68,581	22,706	577,768	112,428	25,561	580	28,493	24,345	
JULY	1,538,680	26,088	1,052,164	5,513	80,875	19,329	620,518	119,844	28,499	1,712	28,590	23,368	
AUGUST	1,551,953	25,557	1,082,600	4,578	82,948	23,106	604,121	111,988	26,123	1,577	39,786	25,726	1,732
SEPTEMBER	1,489,446	23,227	1,027,651	5,557	75,466	22,770	581,332	106,710	24,371	1,070	32,794	22,404	1,365
TOTAL OCT'00-SEP'01	17,921,169	309,316	11,812,400	107,183	994,040	260,141	7,269,335	1,354,475	343,377	8,815	484,413	252,455	3,097
TOTAL OCT'99-SEP'00	19,668,257	293,792	12,759,577	98,343	1,188,082	273,084	8,245,929	1,349,719	343,640	3,468	131,148	60,846	0

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APPENDIX X
LAND AND MARINE CRUDE OIL PRODUCTION
OCT- 2000 - SEPT- 2001
(barrels)

MONTH	MARINE								TOTAL MARINE	LAND BASED MARINE			LAND	TOTAL
	TRINMAR SOLDADO	PETROTRIN/ VENTURE A.B.M.	PETROTRIN ALS PT. LIGOURE	PETROTRIN GALEOTA	BP	TRINTOMAR	E.O.G.R.T.L.	MORAVEN		TRINMAR F.O.S.	PETROTRIN A.S.	PETROTRIN GUAPO		
OCTOBER	966,309	37,609	7,473	30,835	1,608,538	7,774	118,363	27,839	2,804,740	5,050	0	834	807,910	3,618,534
NOVEMBER	936,677	40,309	7,411	34,712	1,595,271	13,290	88,451	17,580	2,733,701	4,041	0	764	768,532	3,507,038
DECEMBER	1,008,662	50,660	7,581	30,833	1,590,526	12,939	77,404	22,934	2,801,539	3,605	0	631	777,033	3,582,808
JANUARY	943,585	56,603	7,368	21,254	1,393,742	12,869	98,810	22,862	2,557,093	4,994	0	756	788,151	3,350,994
FEBRUARY	876,371	36,392	6,680	20,804	1,009,434	11,256	75,411	13,075	2,049,423	5,550	0	488	719,312	2,774,773
MARCH	949,100	27,833	7,265	19,775	1,450,909	10,578	78,024	23,410	2,566,894	5,850	0	912	786,037	3,359,693
APRIL	948,677	29,816	6,661	14,524	1,611,190	8,636	73,201	20,409	2,713,114	5,026	0	821	766,574	3,485,535
MAY	992,199	27,560	5,002	23,442	1,533,030	7,486	76,506	24,121	2,689,346	3,120	0	735	773,529	3,466,730
JUNE	987,106	24,663	3,830	13,174	1,548,450	6,707	68,581	22,706	2,675,217	4,063	0	771	752,922	3,432,973
JULY	1,049,131	20,870	7,720	20,686	1,538,680	5,513	80,875	19,329	2,742,804	3,033	0	926	798,417	3,545,180
AUGUST	1,079,568	31,205	8,581	23,060	1,551,953	4,578	82,948	23,106	2,804,999	3,032	0	1,161	772,603	3,581,795
SEPTEMBER	1,024,809	24,712	8,082	22,639	1,489,446	5,557	75,466	22,770	2,673,481	2,842	0	712	737,128	3,414,163
TOTAL	11,762,194	408,232	83,654	275,738	17,921,169	107,183	994,040	260,141	31,812,351	50,206	0	9,511	9,248,148	41,120,216

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APPENDIX X (cont'd)
LAND AND MARINE CRUDE OIL PRODUCTION OCT- 2000 - SEPT- 2001
(barrels)

MONTH	T.E.D.	P. O. G. L	L.O.	F.O.	PETROTRIN		TRINMAR	
	LAND	LAND	LAND	LAND	LAND	MARINE	LAND BASED MARINE	MARINE
OCTOBER	422	26,601	117,641	34,765	618,323	30,835	5,050	966,309
NOVEMBER	379	26,482	112,652	30,667	586,158	31,006	4,041	936,677
DECEMBER	539	27,214	105,638	27,707	603,440	27,042	3,605	1,008,662
JANUARY	546	27,012	117,363	30,592	595,215	21,254	4,994	943,585
FEBRUARY	380	23,944	103,686	27,818	548,285	20,804	5,550	876,371
MARCH	510	27,991	110,254	27,617	597,901	19,775	5,850	949,100
APRIL	445	24,681	119,496	29,155	569,909	14,524	5,026	948,677
MAY	655	24,334	116,775	30,502	577,683	23,442	3,120	992,199
JUNE	580	26,185	112,428	25,561	564,594	13,174	4,063	987,106
JULY	1712	26,088	119,844	28,499	599,832	20,686	3,033	1,049,131
AUGUST	1577	25,557	111,988	26,123	581,061	23,060	3,032	1,079,568
SEPTEMBER	1070	23,227	106,710	24,371	558,693	22,639	2,842	1,024,809
TOTAL	8,815	309,316	1,354,475	343,377	7,001,094	268,241	50,206	11,762,194

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APPENDIX X (cont'd)
LAND AND MARINE PRODUCTION OCT 2000 - SEPT- 2001 (cont'd)
(barrels)

MONTH	BP	TRINTOMAR	E.O.G.R.T.L.	V. P. T. L.	MORAVEN	T. E. R. L.	VINTAGE	TOTAL		GRAND TOTAL PRODUCTION
	MARINE	MARINE	MARINE	MARINE	MARINE	LAND	LAND	LAND	MARINE	
OCTOBER	1,608,538	7,774	118,363	37,609	27,839	18,465		821,267	2,797,267	3,618,534
NOVEMBER	1,595,271	13,290	88,451	47,720	17,580	16,664		777,043	2,729,995	3,507,038
DECEMBER	1,590,526	12,939	77,404	58,241	22,934	16,917		785,060	2,797,748	3,582,808
JANUARY	1,393,742	12,869	98,810	63,971	22,862	18,179		793,901	2,557,093	3,350,994
FEBRUARY	1,009,434	11,256	75,411	43,072	13,075	15,687		725,350	2,049,423	2,774,773
MARCH	1,450,909	10,578	78,024	35,098	23,410	22,676		792,799	2,566,894	3,359,693
APRIL	1,611,190	8,636	73,201	36,477	20,409	23,709		772,421	2,713,114	3,485,535
MAY	1,533,030	7,486	76,506	32,562	24,121	24,315		777,384	2,689,346	3,466,730
JUNE	1,548,450	6,707	68,581	28,493	22,706	24,345		757,756	2,675,217	3,432,973
JULY	1,538,680	5,513	80,875	28,590	19,329	23,368		802,376	2,742,804	3,545,180
AUGUST	1,551,953	4,578	82,948	39,786	23,106	25,726	1,732	776,796	2,804,999	3,581,795
SEPTEMBER	1,489,446	5,557	75,466	32,794	22,770	22,404	1,365	740,682	2,673,481	3,414,163
TOTAL	17,921,169	107,183	994,040	484,413	260,141	252,455	3,097	9,322,835	31,797,381	41,120,216

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

APPENDIX XI
AVERAGE NO. OF PRODUCING WELLS LAND AND MARINE
OCT- 2000 - SEPT- 2001

MONTH	MARINE								TOTAL MARINE	LAND BASED MARINE			LAND	TOTAL
	TRINMAR SOLDADO	PETROTRIN/ VENTURE A.B.M.	PETROTRIN ALS PT. LIG	PETROTRIN GALEOTA	BP	TRINTOMAR	E.O.G.R.T.L.	MORAVEN		TRINMAR F.O.S.	PETROTRIN A.S.	PETROTRIN GUAPO		
OCTOBER	293	93	1	30	167	2	9	5	600	6	0	7	3,330	3,943
NOVEMBER	290	96	1	31	169	4	9	5	605	5	0	8	3,267	3,885
DECEMBER	293	97	1	31	170	4	9	5	610	6	0	7	3,258	3,881
JANUARY	295	87	1	20	166	3	10	5	587	6	0	8	3,319	3,920
FEBRUARY	304	97	2	17	165	3	10	5	603	6	0	7	3,324	3,940
MARCH	304	105	10	19	170	3	10	5	626	6	0	6	3,317	3,955
APRIL	300	98	5	17	169	3	10	5	607	7	0	6	3,379	3,999
MAY	308	91	7	18	169	4	10	5	612	6	0	6	3,367	3,991
JUNE	304	92	5	18	169	4	9	5	606	6	0	5	3,305	3,922
JULY	277	86	4	20	171	4	9	5	576	6	0	7	3,372	3,961
AUGUST	274	83	2	12	169	3	10	5	558	6	0	6	3,276	3,846
SEPTEMBER	275	79	2	12	168	3	10	5	554	6	0	6	3,243	3,809
AVERAGE	293	92	3	20	169	3	10	5	595	6	0	7	3,313	3,921

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

APPENDIX XII
MONTHLY CRUDE OIL PRODUCTION BY LEASE - OCT - 2000 - SEPT - 2001
(barrels)

MONTH	STATE LEASE			PRIVATE LEASE			TOTAL	
	NO.OF WELLS	PRODUCTION	DAILY AV. PER WELL	NO.OF WELLS	PRODUCTION	DAILY AV. PER WELL	NO.OF WELLS	PRODUCTION
OCTOBER	3,316	3,489,368	33.9	627	129,166	6.6	3,943	3,618,534
NOVEMBER	3,265	3,386,179	34.6	620	120,859	6.5	3,885	3,507,038
DECEMBER	3,258	3,454,563	34.2	623	128,245	6.6	3,881	3,582,808
JANUARY	3,290	3,220,809	31.6	630	130,185	6.7	3,920	3,350,994
FEBRUARY	3,310	2,655,513	28.7	630	119,260	6.8	3,940	2,774,773
MARCH	3,318	3,229,705	31.4	638	129,988	6.6	3,956	3,359,693
APRIL	3,367	3,364,125	33.3	632	121,410	6.4	3,999	3,485,535
MAY	3,356	3,345,901	32.2	635	120,829	6.1	3,991	3,466,730
JUNE	3,295	3,316,749	33.6	627	116,224	6.2	3,922	3,432,973
JULY	3,317	3,423,254	33.3	644	121,926	6.1	3,961	3,545,180
AUGUST	3,228	3,465,492	34.6	618	116,303	6.1	3,846	3,581,795
SEPTEMBER	3,201	3,301,172	34.4	608	112,991	6.2	3,809	3,414,163
TOTAL OCT '00 - SEP '01		39,652,830			1,467,386			41,120,216
AVERAGE OCT '00 - SEP '01	3,293	108,638	33.0	628	4,020	6.4	3,921	112,658

• MINISTRY OF ENERGY AND ENERGY INDUSTRIES •

APPENDIX XIII
CRUDE OIL PRODUCTION BY COMPANY LEASE - OCT 2000 - SEPT 2001
(barrels)

COMPANY	STATE LEASE		PRIVATE LEASE	
	PRODUCTION	% OF TOTAL PRODUCTION	PRODUCTION	% OF TOTAL PRODUCTION
BP	17,921,169	100.0	0	0.0
P.O.G.L.	76,844	24.8	232,472	75.2
TRINMAR	11,812,400	100.0	0	0.0
PETROTRIN	6,175,768	85.0	1,093,567	15.0
TRINTOMAR	107,183	100.0	0	0.0
E.O.G.R.T.L.	994,040	100.0	0	0.0
MORAVEN	260,141	100.0	0	0.0
L.O.	1,232,142	91.0	122,333	9.0
F.O.	333,178	97.0	10,199	3.0
T.E.D.	0	0.0	8,815	100.0
V.P.T.L.	484,413	100.0	0	0.0
T.E.R.L.	252,955	100.0	0	0.0
VINTAGE	3,097	100.0	0	0.0
TOTAL OCT 2000 - SEPT 2001	39,652,830	96.4	1,467,386	3.6

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**APPENDIX XIV
SUMMARY OF FLUID INJECTION IN TRINIDAD AND TOBAGO 1997 - 2001**

NO. OF PROJECTS IN OPERATION AT END OF YEAR		INJECTION VOLUMES						OIL PRODUCED BY WELLS UNDER PROJECT INFLUENCE						OIL EXPRESSED AS A PERCENTAGE OF COUNTRY'S TOTAL		
YEAR	PRODUCTION	WATER	STEAM	CARBON DIOXIDE	WASP STEAM/ WATER	CARBON DIOXIDE	WATER & OTHER FLUIDS	STEAM (bspd)	WASP STEAM (bspd)	WATER INJECTION PROJECTS (bopd)	THERMAL RECOVERY PROJECTS (bopd)	CARBON DIOXIDE PROJECTS (bopd)	WASP STEAM/ WATER (bopd)		ALL PROJECTS (bopd)	
1997		14	15	5	0	2,275	31,920	32,487	-	-	8224	7,492	591	-	16,307	13.2
1998		14	15	5	0	521	44,644	20,075	-	-	7787	6,817	459	-	15,063	12.3
1999		13	11	4	4	160	38,004	429	6,577	8,438	6987	2,400	227	3,630	13,244	10.6
2000*		13	9	5	5	243	26,801	2,574	7,524	12,830	6,631	1,489	481	4,001	12,602	10.4
2001**		14	9	5	5	2,010	6,123	3,134	9,468	5,074	6,107	1,313	598	9,468	17,486	15.5

* Financial Year - October 1999 - September 2000

** Financial Year - October 2000 - September 2001

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**APPENDIX XV
SECONDARY AND ENHANCED OIL RECOVERY OPERATIONS - OCT 2001 - SEPT 2002**

WATER INJECTION

COMPANY	ACTIVE PROJECTS	WATER INJECTED (bwpd)	OIL PRODUCED (bopd)	WATER PRODUCED (bwpd)	GAS PRODUCED (Mcf/d)	WATER CUT %
AMOCO	5	0	2,962	1,758	1,428	37.2
TNA	1	1,463	2,131	3,288	N.A.	60.7
PETROTRIN	7	468	668	1,375	229	67.3
ALL COS.	13	1,931	5,761	6,421	1,657	52.7

STEAM INJECTION

COMPANY	ACTIVE PROJECTS	STEAM INJECTED (bspd)	OIL PRODUCED (bopd)	WATER PRODUCED (bwpd)	OIL/STEAM RATIO
PETROTRIN	9	1,447	1,075	3,034	0.74
ALL	9	1,447	1,075	3,034	0.74

CARBON DIOXIDE

COMPANY	ACTIVE PROJECTS	CARBON DIOXIDE INJECTED (Mcf/d)	OIL PRODUCED (bopd)	WATER PRODUCED (bwpd)	GAS PRODUCED (Mcf/d)	G.O.R.
PETROTRIN	5	5,188	613	347	761	1241
ALL	5	5,188	613	347	761	1241

COMPANY	ACTIVE PROJECTS	WATER INJECTED (bwpd)	STEAM INJECTED (bwpd)	OIL PRODUCED (bopd)	WATER PRODUCED (bwpd)	GAS PRODUCED (Mcf/d)	WATER CUT %
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PARTIAL WASP

PETROTRIN	5	6,849	9,531	3,455	16,508	1,475	
			82.7				
ALL	5	6,849	9,531	3,455	16,508	1,475	
			82.7				

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APPENDIX XVI
WATER INJECTION SUMMARY BY PROJECTS - OCT' 2000 - SEP' 2001

COMPANY	FIELD	PROJECT	WATER INJECTION (bwpd)	OIL PRODUCED (bopd)	WATER PRODUCED (bwpd)	GAS PRODUCED (Mcf/d)	WATER CUT %
AMOCO	TEAK	MM-01/L SAND	0	1592	783	1053	33.0
		O/1UM SAND	0	195	148	140	43.1
		U SAND	0	911	732	160	44.5
		O/2 SAND	0	138	55	59	28.5
		O/1(UML) SAND	0	126	40	16	24.2
	ALL	ALL	0	2962	1758	1428	37.2
TNA	MAIN FIELD	8011 WATERFLOOD	1,463	2,131	3,288	N.A.	60.7
	ALL	ALL	1,463	2,131	3,288	N.A.	60.7
PETROTRIN	CATSHILL	CO-30.BLK.24	159	30	8	9	21.1
		N SAND	225	117	442	49	79.1
	TRINITY	SHALLOW HERRERA	84	113	258	38	69.5
	PT. FORTIN	CRUSE 'G'	0	85	48	33	36.1
		PLATFORM "B"	0	106	27	26	20.3
	FYZABAD	FOREST	0	96	437	35	82.0
		CRUSE	0	121	155	39	56.2
ALL	ALL	468	668	1,375	229	67.3	
TOTAL	ALL	ALL	1,931	5,761	6,421	1,657	52.7

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APPENDIX XVII
STEAM INJECTION SUMMARY BY PROJECTS - OCT 2001 - SEPT 2002

COMPANY	FIELD	PROJECTS	STEAM INJECTED (bspd)	OIL PRODUCED (bopd)	WATER PRODUCED (bwpd)	WATER CUT %	OIL/STEAM RATIO
PETROTRIN							
	GUAPO		1,447	694	2,706	79.6	0.48
	F.RESERVE	Ph.1 West Ext.*	0	29	83	74.1	0.00
		Cyclic Steamflood	0	51	6	10.5	0.00
	P.LANDS `E`.	Main Steamflood	0	6	71	92.2	0.00
		Phase 1. Exp.	0	2	6	75.0	0.00
		Phase 1a. Exp.	0	9	11	55.0	0.00
	Pt.FORTIN	Cruse `E`	0	15	0	0.0	0.00
	Pt.FORTIN CENTRAL	Cruse `E`	0	125	55	30.6	0.00
		Cruse `E` Area IV	0	144	96	40.0	0.00
	ALL	ALL	1,447	1,075	3,034	73.8	0.74

* Forest Reserve Phase 1 West Expansion (Cyclic Steamflood) 106 mscf/d was injected in the first quarter.

CARBON DIOXIDE INJECTION SUMMARY BY PROJECTS - OCTOBER 2001 - SEPTEMBER 2002

COMPANY	FIELD	PROJECT	INJECTION (Mcf/d)	OIL (bopd)	WATER (bwpd)	GAS (Mcf/d)	G.O.R
PETROTRIN	F.RESERVE	Zone 5 Sds.	2,067	148	106	108	730
		Exp.CO ² Cyclic	0	22	1	10	455
		UCWE	1,480	237	81	75	316
		Phase 1 East	1,641	182	159	67	368
	OROPOUCHE	CO ² Flood	0	24	0	501	20,875
ALL COS.	ALL	ALL	5,188	613	347	761	1,241

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**APPENDIX XVIII
NATURAL GAS PRODUCTION COMPANY
(thousand Cubic Feet) MCF
(1997 - 2001)**

COMPANY	OCT'97-SEPT'98	OCT'98-SEPT'99	OCT'99-SEPT'00	OCT'00-SEPT'01
b.pIT	217,425,914.00	300,103,482.00	381,212,902.00	424,860,912.00
TRINMAR	15,931,085.00	16,920,889.00	16,075,248.00	16,908,349.00
PETROTRIN	6,543,063.00	6,171,633.00	5,331,928.00	5,869,444.00
PRIMERA	11,726.00	10,688.00	18,338.00	13,017.00
TRINTOMAR	420,960.00	415,735.00	104,645.00	24,056.00
EOG RESOURCES	48,875,907.00	46,283,446.00	51,120,292.00	50,629,808.00
COASTLINE	416,536.00	270,835.00	243,984.00	185,431.00
BRITISH GAS	62,971,107.00	56,667,346.00	78,505,560.00	87,523,443.00
MORAVEN	155,102.00	257,787.00	275,547.00	221,589.00
TOTAL	352,751,400.00	427,101,841.00	532,888,444.00	586,236,049.00

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APPENDIX XIX
NATURAL GAS UTILIZATION: (1997 - 2001)
(Million Cubic Feet/Day) (MMCF/D)

	COMPANY	OCT'97-SEPT'98	OCT'98-SEPT'99	OCT'99-SEPT'00	OCT'00-SEPT'01
REFINERY (AS FUEL)	Petrotrin (P-a-P)	47.45	40.94	45.61	42.10
	Petrotrin (P/F)	2.64	2.34	0.89	0.72
	Sub-Total	50.09	43.28	46.5	42.82
FIELD USE (AS FUEL)		40.00	36.00	34	32.00
ALNG FUEL		35.00	45	45.00	
PRODUCTION USE *		237.57	212.23	206.55	211.53
TOTAL UTILIZATION (OIL COMPANIES)		327.66	326.51	332.05	331.35
FERTILIZER MANUFACTURE	Hydro-Agri	10.75	27.47	37.42	35.25
	PCS Nitrogen Ammonia	132.04	127.38	78.5	129.37
	PCS Nitrogen 04	25.99	54.67	60.04	66.60
	Farmland MissChem Ltd	23.51	51.58	59.15	55.48
	Tringen 1	51.37	53.65	54.41	54.19
	Tringen 11	49.32	43.06	51.81	51.95
	Tringen GTG	5.41	5.72	5.58	5.98
	PCS Nitrogen Urea	10.30	8.66	9.93	8.64
	Sub-Total	308.69	372.19	356.84	407.46
METHANOL MANUFACTURE	Methanol - T&T I	48.78	47.13	43.48	43.61
	CMC	47.16	44.98	43.83	49.84
	Methanol - T&T II	49.00	46.75	53.46	51.91
	Methanol IV	28.76	53.07	52.44	52.62
	Tital Methanol	0.20	24.84	67.10	
	Sub-Total	173.70	192.13	218.05	265.08
IRON AND STEEL MANUFACTURE	Ispat	41.88	35.06	19	34.26
	Nucor	9.90	1.85	0	0.00
	Cliffs & Associates Ltd	4.32	7.55	10.24	
	Caribbean Ispat Megamod	9.44	34.59	37.43	
	Sub-Total	51.78	50.67	61.14	81.93
POWER GENERATION	T & TEC	179.51	181.44	185.3	193.88
LIQUIFIED NATURAL GAS	ATLANTIC LNG	114.00	379	390.93	
CEMENT MANUFACTURE	Trinidad Cement Limited	12.08	12.63	12.67	12.01
GAS PROCESSING	PPGPL	17.29	18.53	17.14	26.49
SMALL CONSUMERS	12.15	12.61	13.39	13.42	
TOTAL		1082.86	1280.71	1575.58	1722.55

*NB: Includes re-compressed gas used for gas lifting.

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APPENDIX XX
ANNUAL STATISTICS FOR NATURAL GAS PRODUCTION AND UTILIZATION 1997-2001

	OCT'97 - SEPT'98		OCT'98-SEPT'99		OCT'99-SEPT'00		OCT'00-SEPT'01	
	MMSCF/D	%	MMSCF/D	%	MMSCF/D	%	MMSCF/D	%
PRODUCTION	966	100	1170	100	1456	100	1606	100
GOR (M3/M3)	1421		1660		2065		2539	
A. USED AS FUEL:								
IN FIELDS	40	4.2	36	3.1	34	2.3	32	2.0
IN REFINERIES	50	5.2	43	3.7	46	3.2	42	2.6
BY NON OIL COMPANIES	438	45.3	463	39.6	462	31.7	523	32.6
ALNG FUEL	35	3.0	45	3.1	45	2.8		
SUB TOTAL	528	54.7	577	49.4	587	40.3	642	40.0
B. OTHER COMPLETE UTILIZATION:								
USED AS PROCESS GAS	325	33.6	367	31.3	390	26.8	456	28.4
INJECTED INTO FORMATION	0	0.0	0	0.0	0	0.0	0	0.0
CONVERTED TO N.G.L.*	14	1.5	15	1.3	12	0.8	22	1.4
CONVERTED TO L.N.G.**	114	9.7	379	26.0	391	24.3		
SUB TOTAL	339	35.1	496	42.3	781	53.6	869	54.1
C. VENTED	99	10.2	97	8.3	88	6.1	95	5.9
TOTAL	966	100	1170	100	1456	100	1606	100

* N.G.L. - NATURAL GAS LIQUIDS.

**L.N.G. - LIQUIFIED NATURAL GAS.

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APPENDIX XXI
ASPHALT EXTRACTED FROM THE PITCH LAKE AND THE QUANTITY OF DERIVED
PRODUCTS EXPORTED AND CONSUMED LOCALLY
1999 - 2000, 2000 - 2001

NATURAL ASPHALT	METRIC TONS	
	OCT. 1999 - SEPT. 2000	OCT. 2000 - SEPT. 2001
EXTRACTED BY MINISTRY OF WORKS FOR LOCAL USE	0	0
EXTRACTED BY TRINIDAD LAKE ASPHALT COMPANY	9887	13266
TOTAL	9887	13266
DERIVED PRODUCTS MANUFACTURED BY THE COMPANY		
EXPORTS :-		
CRUDE ASPHALT	0	0
DRIED ASPHALT	7637	9941
CEMENT ASPHALT	0	0
TOTAL	7637	9941
LOCAL SALES :-		
CRUDE ASPHALT	0	0
DRIED ASPHALT	308	304
CEMENT ASPHALT	3534	2555
TOTAL	3842	2859

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APPENDIX XXII

DESTINATION OF EXPORTS OF CRUDE AND REFINED PRODUCTS FROM TRINIDAD AND TOBAGO (OCT '00 - SEPT '01)

(All quantities in barrels)

COUNTRY	TOTAL REFINED PRODUCTS	% OF TOTAL EXPORTS	CRUDE PETROLEUM EXPORTS	L.P.G.	AVIATION GASOLENE	MOTOR GASOLENE	KEROSENE & AVIATION TURBINE FUEL	GAS & DIESEL OILS	FUEL OIL	PETRO-CHEMICALS	ASPHALT	LUBES & GREASES	OTHER
NORTH AMERICA -													
CANADA	1,065,616	1.42	0	0	0	0	0	349,824	465,963	0	0	0	249,829
USA	13,132,769	41.52	17,954,521	0	0	1,534,274	216,120	2,302,927	8,173,450	0	0	0	905,998
TOTAL N.A.	14,198,385	42.94	17,954,521	0	0	1,534,274	216,120	2,652,751	8,639,413	0	0	0	1,155,827
CENTRAL AMERICA -													
REPUBLIC OF PANAMA	246,63	5	0.33	0	0	0	0	0	246,635	0	0	0	0
GUATEMALA	1,459,243	1.95	0	0	0	694,345	138,310	626,588	0	0	0	0	0
OTHER C.A. (a)	2,387,764	3.19	0	43,403	0	614,579	149,471	1,580,311	0	0	0	0	0
TOTAL C.A.	4,093,642	5.47	0	43,403	0	1,308,924	287,781	2,453,534	0	0	0	0	0
SOUTH AMERICA -													
GUYANA	1,178,676	1.57	0	22,453	0	41,964	2,580	329,558	782,121	0	0	0	0
SURINAME	932,634	1.25	0	1,696	0	362,200	78,183	490,555	0	0	0	0	0
FRENCH GUIANA	1,487,639	1.99	0	26,467	1,019	279,349	293,266	778,360	109,178	0	0	0	0
OTHER S.A. (b)	1,002,579	1.34	0	0	0	283,732	240,300	478,547	0	0	0	0	0
TOTAL S.A.	4,601,528	6.15	0	50,616	1,019	967,245	614,329	2,077,020	891,299	0	0	0	0
WEST INDIES -													
BRITISH (c)	13,570,828	18.12	0	177,061	4,985	4,258,114	2,507,446	3,297,116	3,325,563	0	0	0	543
FRENCH (d)	3,110,341	4.15	0	53,614	1,653	847,318	712,658	460,386	1,034,712	0	0	0	0
NETHERLANDS (e)	1,338,898	1.79	0	0	0	1,900	8,800	1,192,190	0	0	136,008	0	0
HAITI	91,314	0.12	0	23,563	0	0	0	0	67,751	0	0	0	0
OTHER W.I. (f)	9,350,123	12.49	0	33,855	0	626,301	162,602	1,171,902	7,355,463	0	0	0	0
TOTAL W.I.	27,461,504	36.67	0	288,093	6,638	5,733,633	3,382,706	4,938,204	12,975,679	0	0	0	136,551
EUROPE -													
ITALY	0	0.00	0	0	0	0	0	0	0	0	0	0	0
ENGLAND	0	0.00	0	0	0	0	0	0	0	0	0	0	0
OTHER EUROPE (g)	317,469	0.42	0	0	0	0	0	0	317,469	0	0	0	0
TOTAL EUROPE	317,469	0.42	0	0	0	0	0	0	317,469	0	0	0	0
OTHERS													
JAPAN	4,230	0.01	0	0	0	0	0	0	0	0	0	0	4,230
OTHERS*	501,267	0.67	0	0	0	0	220,418	0	280,849	0	0	0	0
TOTAL OTHERS	505,497	0.68	0	0	0	0	220,418	0	280,849	0	0	0	4,230
TOTAL CARGOES	51,178,025	92.33	17,954,521	382,112	7,657	9,544,076	4,721,354	12,121,509	23,104,709	0	0	0	1,296,608
FOREIGN BUNKERS	5,746,941	7.67	0	160,356	3,642	1,688,343	1,802,455	1,537,468	554,119	0	558	0	0
TOTAL EXPORT	56,924,966	100.00	17,954,521	542,468	11,299	11,232,419	6,523,809	13,658,977	23,658,828	0	558	0	1,296,608

Note: These figures are only for Trinto

*Countries not detailed

(a) Other C.A. : Ecuador, Nicaragua, El Salvador, Honduras, Costa

(e) Netherlands : St. Eustatius, Aruba, Curacao

(b) Other S.A. : Uruguay, Colombia, Brazil

(f) Other W.I. Islands : Bahamas, Cuba, Tortola, Virgin Gorda

(c) British : Antigua, Anguilla, Barbados, Bequia, Carnacou, Domini

Mustique, Puerto Rico, Dominican Republic, U.S. Virgin Islands

(d) French : Guadeloupe, Martinique, St. Barthelmy, St. Barts, St. Maarten.

(g) Other Europe : Germany, Belgium

Saba, St Martin, Marie Galante.

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APPENDIX XXII
DESTINATION OF EXPORTS OF CRUDE AND REFINE FROM TRINIDAD AND TOBAGO (OCT 00 - SEPT 01)
(All quantities in barrels)

COUNTRY OTHER	TOTAL	% OF	CRUDE	L.P.G.	AVIATION	MOTOR	KEROSENE &	GAS &	FUEL OIL	PETRO-	ASPHALT	LUBES	
	REFINED PRODUCTS	TOTAL EXPORTS	PETROLEUM EXPORTS		GASOLENE	GASOLENE	AVIATION TURBINE FUEL	DIESEL OILS		CHEMICALS		& GREASES	
NORTH AMERICA -													
CANADA	1,065,616	1.43	0	0	0	0	0	349,824	465,963	0	0	0	249,829
USA	13,132,769	41.31	17,694,535	0	0	1,534,274	216,120	2,302,927	8,173,450	0	0	0	905,998
TOTAL N.A.	14,198,385	42.74	17,694,535	0	0	1,534,274	216,120	2,652,751	8,639,413	0	0	0	1,155,827
CENTRAL AMERICA -													
REPUBLIC OF PANAMA	246,635	0.33	0	0	0	0	0	246,635	0	0	0	0	0
GUATEMALA	1,459,243	1.96	0	0	0	694,345	138,310	626,588	0	0	0	0	0
OTHER C.A. (a)	2,387,764	3.20	0	43,403	0	614,579	149,471	1,580,311	0	0	0	0	0
TOTAL C.A.	4,093,642	5.49	0	43,403	0	1,308,924	287,781	2,453,534	0	0	0	0	0
SOUTH AMERICA -													
GUYANA	1,178,676	1.58	0	22,453	0	41,964	2,580	329,558	782,121	0	0	0	0
SURINAME	932,634	1.25	0	1,696	0	362,200	78,183	490,555	0	0	0	0	0
FRENCH GUIANA	1,487,639	1.99	0	26,467	1,019	279,349	293,266	778,360	109,178	0	0	0	0
OTHER S.A. (b)	1,002,579	1.34	0	0	0	283,732	240,300	478,547	0	0	0	0	0
TOTAL S.A.	4,601,528	6.16	0	50,616	1,019	967,245	614,329	2,077,020	891,299	0	0	0	0
WEST INDIES -													
BRITISH (c)	13,570,828	18.19	0	177,061	4,985	4,258,114	2,507,446	3,297,116	3,325,563	0	0	0	543
FRENCH (d)	3,110,341	4.17	0	53,614	1,653	847,318	712,658	460,386	1,034,712	0	0	0	0
NETHERLANDS (e)	1,338,898	1.79	0	0	0	1,900	0	8,800	1,192,190	0	0	0	136,008
HAITI	91,314	0.12	0	23,563	0	0	0	0	67,751	0	0	0	0
OTHER W.I. (f)	9,350,123	12.53	0	33,855	0	626,301	162,602	1,171,902	7,355,463	0	0	0	0
TOTAL W.I.	27,461,504	36.80	0	288,093	6,638	5,733,633	3,382,706	4,938,204	12,975,679	0	0	0	136,551

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APPENDIX XXII (cont'd)
DESTINATION OF EXPORTS OF CRUDE AND REFINED FROM TRINIDAD AND TOBAGO (OCT 00 - SEPT 01)
(All quantities in barrels)

COUNTRY OTHER	TOTAL REFINED PRODUCTS	% OF TOTAL EXPORTS	CRUDE PETROLEUM EXPORTS	L.P.G.	AVIATION GASOLINE	MOTOR GASOLINE	KEROSENE & AVIATION TURBINE FUEL	GAS & DIESEL OILS	FUEL OIL	PETRO- CHEMICALS	ASPHALT	LUBES & GREASES	
EUROPE -													
ITALY	0		0	0	0	0	0	0	0	0	0	0	0
ENGLAND	0		0	0	0	0	0	0	0	0	0	0	0
OTHER EUROPE (g)	317,469	0.43	0	0	0	0	0	0	317,469	0	0	0	0
TOTAL EUROPE	317,469	0.43	0	0	0	0	0	0	317,469	0	0	0	0
OTHERS													
JAPAN	4,230	0.01	0	0	0	0	0	0	0	0	0	0	4,230
OTHERS*	501,267	0.67	0	0	0	0	220,418	0	280,849	0	0	0	0
TOTAL OTHERS	505,497	0.68	0	0	0	0	220,418	0	280,849	0	0	0	4,230
TOTAL CARGOES	51,178,025	92.30	17,694,535	382,112	7,657	9,544,076	4,721,354	12,121,509	23,104,709	0	0	0	1,296,608
FOREIGN BUNKERS	5,746,941	7.70	0	160,356	3,642	1,688,343	1,802,455	1,537,468	554,119	0	558	0	0
TOTAL EXPORT	56,924,966	100.00	17,694,535	542,468	11,299	11,232,419	6,523,809	13,658,977	23,658,828	0	558	0	1,296,608

Note: These figures are only for Trintoc.

*Countries not detailed

- (a) Other C.A. : Ecuador, Nicaragua, El Salvador, Honduras, Costa Rica, Mexico
(b) Other S.A. : Uruguay, Colombia, Brazil
(c) British : Antigua, Anguilla, Barbados, Bequia, Carriacou, Dominica
Grenada, Jamaica, Monserrat, Nevis, St. Kitts, St. Lucia
St. Vincent, Bermuda.
(d) French : Guadeloupe, Martinique, St. Barthelmy, St. Bartgs, St. Maarten.
Saba, St Martin, Marie Galante.

- (e) Netherlands : St. Eustatius, Aruba, Curacao
(f) Other W.I. Islands : Bahamas, Cuba, Tortola, Virgin Gorda
Mustique, Puerto Rico, Dominican Republic,
U.S. Virgin Islands
(g) Other Europe : Germany, Belgium

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APPENDIX XXIII
MOVEMENTS OF REFINED PRODUCTS - OCT '00 - SEPT '01
(All quantities in barrels)

PRODUCT	OPENING INVENTORY	PRODUCTION	PURCHASES FROM THE REFINERY	IMPORTS	OTHER RECEIPTS	TOTAL OPENING INVENTORY AND RECEIPTS	LOCAL CONSUMPTION			
							OWN USE	LOCAL BUNKERS	L.A.T.T.	TOTAL
LPG	82,339	895,308	59,112	0	0	1,036,759	159	0	0	159
Mogas - Premium	4,015,131	10,488,679	1,943,076	1,933,045	0	18,379,931	7,072	0	0	7,072
Mogas - Regular	121,800	130,565	0	0	0	252,365	1	0	0	1
Mogas - Unfinished	1,413,673	136,849	0	0	0	1,550,522	0	0	0	0
Naptha	850,388	234,809	46,725	0	0	1,131,922	0	0	0	0
Aviation Gasoline	161,678	15,493	5,534	0	0	182,705	0	0	0	0
Av. Turbine Fuel/Kero	2,089,973	5,767,333	20,782	20,782	0	7,898,870	880	0	0	880
Marine Diesel	0	0	0	0	0	0	0	0	0	0
White Spirit	2,917	-522	0	0	0	2,395	0	0	0	0
Gas Oil	4,652,759	12,847,799	6,303	0	0	17,506,861	25,369	1,263,422	0	1,288,791
Petrochemicals	204,308	2,106	0	0	0	206,414	0	0	0	0
Lubes	462,573	178	22,994	9,924	0	495,669	0	0	0	0
Fuel Oil	12,235,288	22,847,401	451,641	0	0	35,534,330	0	8,150	0	8,150
Asphaltic Products	276,727	451,414	0	0	0	728,141	0	0	0	0
Other Finished Products	14,151,772	2,673,646	474,398	0	0	17,299,816	0	0	0	0
Unfinished Products	2,416,566	-513,336	513,317	206,553	0	2,623,100	0	0	0	0
TOTAL	43,137,892	55,977,722	3,543,882	2,170,304	0	104,829,800	33,481	1,271,572	0	1,305,053
REFINERY CRUDE OIL INPUT	57,581,747									
REFINERY GAS & LOSS/(GAIN)	1,604,025									
% GAS/LOSS TO REFINERY INPUT	2.79									
REFINERY GAS	99,402.00									

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APPENDIX XXIII
MOVEMENTS OF REFINED PRODUCTS - OCT '00 - SEPT '01
(All quantities in barrels)

PRODUCT	SALES TO NPMC	SALES TO OTHER COMPANIES	EXPORTS		TRANSFERS REFINERY	TRANSFERS OTHER	ENDING INVENTORIES	TOTAL CLOSING INVENTORY
			CARGOES	FOREIGN BUNKERS				
LPG	583,339	0	208,776	160,356	0	0	84,129	1,036,759
Mogas - Premium	2,661,217	0	8,008,908	1,688,343	0	0	6,014,391	18,379,931
Mogas - Regular	128,798	0	0	102,365	0	0	21,201	252,365
Mogas - Unfinished	0	0	0	0	0	0	1,550,522	1,550,522
Naptha	0	0	300,590	0	0	0	831,332	1,131,922
Aviation Gasoline	2,403	0	5,137	3,642	0	0	171,523	182,705
Av. Turbine Fuel/Kero	725,710	0	3,153,691	1,700,090	0	0	2,318,499	7,898,870
Marine Diesel	0	0	0	0	0	0	0	0
White Spirit	0	0	0	0	0	0	2,395	2,395
Gas Oil	868,230	128,169	9,131,717	1,537,468	0	0	4,552,486	17,506,861
Petrochemicals	1,172	0	4,230	0	0	0	201,012	206,414
Lubes	11,066	0	11,609	0	0	0	472,994	495,669
Fuel Oil	3,424	30,346	23,237,064	554,119	0	0	11,701,227	35,534,330
Asphaltic Products	8,536	0	446,011	558	0	0	273,036	728,141
Other Finished Products	0	0	3,380,400	0	0	0	13,919,416	17,299,816
Unfinished Products	0	0	0	0	0	0	2,623,100	2,623,100
TOTAL	4,993,895	158,515	47,888,133	5,746,941	0	0	44,737,263	104,829,800

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APPENDIX XXIV

SUMMARY OF CRUDE OIL ASSESSED FOR STATE ROYALTY WITH PRICES AND ANALYSES : 1ST QUARTER 2001

COMPANY	NET ROYALTY PRODUCTION (Barrel)	FIELD STORAGE VALUE		ROYALTY PAYABLE \$	GASOLINE		LEAD mls
		Per Barrel	Dollar		Barrel	%	
PETROTRIN							
-EX-TRINTOPEC(LAND)	800,000	60.29	48,232,914.00	4,823,291.40	27,600	3.45	275,000.00
-GALEOTA	61,833	136.93	8,466,602.48	1,058,325.31	8,768	14.18	0.00
-EX-TRINTOC	1,000,000	110.40	110,399,034.90	11,039,903.49	34,500	3.45	-
TRINTOMAR	34,703	185.43	6,434,951.40	804,368.93	19,966	57.53	0.00
Primera (formerly PCO)	13,824	139.94	1,934,523.57	193,452.36	1,253	9.06	3,192.00
TNA	2,785,450	123.45	343,854,857.58	34,385,485.76	283,891	10.19	11,088,782.46
BP AMOCO	3,854,085	264.58	1,019,704,748.12	127,463,093.52	586,161	15.21	5,769,973.86
EOG Resources	252,245	189.15	47,712,307.14	5,964,038.39	145,262	57.59	0.00
MORAVEN	59,651	172.12	10,267,358.50	1,286,988.53	-	-	-
Total	8,861,791	180.21	1,597,007,297.69	187,018,947.69	1,107,401	12.50	17,136,948.32

APPENDIX

SUMMARY OF CRUDE OIL ASSESSED FOR CROWN ROYALTY WITH PRICES AND ANALYSES : 1ST QUARTER 2001

COMPANY	GAS OIL			TOTAL GAS OIL			FUEL OIL	
	53 - 57	48 - 52	43 - 47	#2 FUEL	Barrel	%	Barrel	%
PETROTRIN								
-EX-TRINTOPEC(LAND)					127,120	15.89	646,560	80.82
-GALEOTA					31,628	51.15	21,438	34.67
-EX-TRINTOC					158,900	15.89	808,200	80.82
TRINTOMAR	12,191	0	0	0	12,191	35.13	2,546	7.34
Primera (formerly PCO)	0	0	0	4,358	4,358	31.52	8,213	59.41
TNA	0	244,641	0	244,641	8.78	2,256,918	81.03	
BP AMOCO	0	2,853,915	2,853,915	74.05	414,009	10.74		
EOG Resources	0	0	0	88,499	88,499	35.08	18,484	7.33
MORAVEN	-	-	-	-	-	-	-	-
Total	12,191	3,098,556.00	0.00	92,857.00	3,521,252	39.74	4,176,368	47.13

*Moraven's royalty on crude is based on "Fair Market Value", therefore no barrel fractions are reflected.

**All prices are in \$TT

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APPENDIX XXIV (cont'd)

SUMMARY OF CRUDE OIL ASSESSED FOR STATE ROYALTY WITH PRICES AND ANALYSES : 2ND QUARTER 2001

COMPANY	NET ROYALTY PRODUCTION (Barrel)	FIELD STORAGE VALUE		ROYALTY PAYABLE \$	GASOLINE		LEAD mls
		Per Barrel	Dollar		Barrel	%	
PETROTRIN							
-EX-TRINTOPEC(LAND)	600,000	60.29	48,232,914.00	4,823,291.40	27,600	3.45	275,000.00
-GALEOTA	51,140	130.00	6,648,200.00	831,025.00	7,252	14.18	20,000.00
-EX-TRINTOC	1,000,000	110.40	110,399,034.90	11,039,903.49	34,500	3.45	-
TRINTOMAR	22,829	186.28	4,252,695.98	531,587.00	13,439	58.87	0.00
Primera (formerly PCO)	12,024	126.65	1,522,833.77	152,283.38	1,070	8.90	1,461.60
TNA	2,940,191	109.39	321,630,617.65	32,163,061.77	306,611	10.43	11,976,225.66
BP AMOCO	4,692,670	175.26	822,453,822.75	102,806,727.84	737,524	15.72	6,774,029.64
EOG Resources	218,288	190.34	41,548,063.02	5,193,507.88	128,708	58.96	0.00
MORAVEN	67,952	167.06	11,352,258.69	1,413,913.24	-	-	-
Total	9,805,094	139.52	1,368,040,440.76	158,955,301.00	1,256,704	12.82	19,046,716.90

APPENDIX

SUMMARY OF CRUDE OIL ASSESSED FOR CROWN ROYALTY WITH PRICES AND ANALYSES : 2ND QUARTER 2001

COMPANY	GAS OIL			#2 FUEL	TOTAL GAS OIL		FUEL OIL	
	53 - 57	48 - 52	43 - 47		Barrel	%	Barrel	%
PETROTRIN								
-EX-TRINTOPEC(LAND)					127,120	15.89	646,560	80.82
-GALEOTA					26,158	51.15	17,730	34.67
-EX-TRINTOC					158,900	15.89	808,200	80.82
TRINTOMAR	7,751	0	0	0	7,751	33.95	1,639	7.18
Primera (formerly PCO)	0	0	0	3,601	3,601	29.95	7,353	61.15
TNA	0	240,421	0		240,421	8.18	2,393,159	81.39
BP AMOCO	0	3,447,882			3,447,882	73.47	507,264	10.81
EOG Resources	0	0	0	73,924	73,924	33.87	15,656	7.17
MORAVEN	-	-	-	-	-	-	-	-
Total	7,751	3,688,303.00	0.00	77,525.00	4,085,757	41.67	4,397,561	44.85

*Moraven's royalty on crude is based on "Fair Market Value", therefore no barrel fractions are reflected.

**All prices are in \$TT

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APPENDIX XXIV (cont'd)

SUMMARY OF CRUDE OIL ASSESSED FOR STATE ROYALTY WITH PRICES AND ANALYSES : 3RD QUARTER 2001

COMPANY	NET ROYALTY PRODUCTION (Barrel)	FIELD STORAGE VALUE		ROYALTY PAYABLE \$	GASOLINE		LEAD mls
		Per Barrel	Dollar		Barrel	%	
PETROTRIN							
-EX-TRINTOPEC(LAND)	800,000	60.29	48,232,914.00	4,823,291.40	27,600	3.45	275,000.00
-GALEOTA	66,385	130.00	8,630,050.00	1,078,756.25	9,413	14.18	80,000.00
-EX-TRINTOC	1,000,000	110.40	110,399,034.90	11,039,903.49	34,500	3.45	-
TRINTOMAR	15,648	161.19	2,522,280.26	315,285.03	9,326	59.60	0.00
Primera (formerly PCO)	12,014	126.10	1,514,927.29	151,492.74	1,122	9.34	1,646.40
TNA	3,162,415	111.40	352,286,831.13	35,228,683.11	319,045	10.09	12,461,897.70
BP AMOCO	4,580,079	160.95	737,148,132.66	92,143,516.58	702,531	15.34	5,510,842.26
EOG Resources	239,289	164.35	39,326,757.35	4,915,844.67	142,867	59.70	0.00
MORAVEN	63,389	169.74	10,759,476.00	1,317,380.51	-	-	-
Total	9,939,219	131.88	1,310,820,403.59	151,014,153.78	1,246,404	12.54	18,329,386.36

APPENDIX

SUMMARY OF CRUDE OIL ASSESSED FOR CROWN ROYALTY WITH PRICES AND ANALYSES : 3RD QUARTER 2001

COMPANY	GAS OIL			#2 FUEL	TOTAL GAS OIL		FUEL OIL	
	53 - 57	48 - 52	43 - 47		Barrel	%	Barrel	%
PETROTRIN								
-EX-TRINTOPEC(LAND)					127,120	15.89	646,560	80.82
-GALEOTA					339,556	511.50	23,016	34.67
-EX-TRINTOC					158,900	15.89	808,200	80.82
TRINTOMAR	5,236	0	0	0	5,236	33.46	1,086	6.94
Primera (formerly PCO)	0	0	0	3,632	3,632	30.23	7,260	60.43
TNA	0	232,508	0	232,508	7.35	2,610,862	82.56	
BP AMOCO	0	3,394,814	3,394,814	74.12	482,734	10.54		
EOG Resources	0	0	0	79,917	79,917	33.40	16,505	6.90
MORAVEN	-	-	-	-	-	-	-	-
Total	5,236	3,627,322.00	0.00	83,549.00	4,341,683	43.68	4,596,223	46.24

*Moraven's royalty on crude is based on "Fair Market Value", therefore no barrel fractions are reflected.

**All prices are in \$/TT

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APPENDIX XXIV (cont'd)

SUMMARY OF CRUDE OIL ASSESSED FOR STATE ROYALTY WITH PRICES AND ANALYSES : 4th QUARTER 2000

COMPANY	NET ROYALTY PRODUCTION (Barrel)	FIELD STORAGE VALUE PAYABLE		ROYALTY mls \$	GASOLINE		LEAD
		Per Barrel	Dollar		Barrel	%	
PETROTRIN							
-EX-TRINTOPEC(LAND)	800,000	60.29	48,232,914.00	4,823,291.40	27,600	3.45	275,000.00
-GALEOTA	100,259	127.03	12,735,681.20	1,591,960.15	14,217	14.18	20,000.00
-EX-TRINTOC	1,000,000	110.40	110,399,034.90	11,039,903.49	34,500	3.45	-
TRINTOMAR	34,003	201.99	6,868,278.23	858,534.78	19,685	57.89	0.00
Primera (formerly PCO)	13,917	154.42	2,149,093.23	214,909.32	1,276	9.17	1,764.00
TNA	2,924,344	129.12	377,588,447.34	37,758,844.73	262,402	8.97	10,249,422.12
BP AMOCO	4,794,335	209.87	1,006,197,746.30	125,774,718.29	737,132	15.38	6,992,937.42
EOG Resources	284,218	203.04	57,708,810.15	7,213,601.27	165,029	58.06	0.00
MORAVEN	68,994	205.13	14,152,452.81	1,776,729.61	-	-	-
Total	10,020,070	163.28	1,636,032,458.16	191,052,493.04	1,261,841	12.59	17,539,123.54

APPENDIX

SUMMARY OF CRUDE OIL ASSESSED FOR CROWN ROYALTY WITH PRICES AND ANALYSES : 4TH QUARTER 2000

COMPANY	GAS OIL			TOTAL GAS OIL			FUEL OIL	
	53 - 57	48 - 52	43 - 47	#2 FUEL	Barrel	%	Barrel	%
PETROTRIN								
-EX-TRINTOPEC(LAND)					127,120	15.89	646,560	80.82
-GALEOTA					51,282	51.15	34,760	34.67
-EX-TRINTOC					158,900	15.89	808,200	80.82
TRINTOMAR	12,484	0	0	0	12,484	36.71	1,834	5.39
Primera (formerly PCO)	0	0	0	4,318	4,318	31.03	8,612	61.88
TNA	0	285,094	0	285,094	9.75	2,376,848	81.28	
BP AMOCO	0	3,575,225	3,575,225	74.57	481,978	10.05		
EOG Resources	0	0	0	104,964	104,964	36.93	14,225	5.00
MORAVEN	-	-	-	-	-	-	-	-
Total	12,484	3,575,225	3,575,225	109,282.00	4,319,387	43.11	4,373,017	43.64

*Moraven's royalty on crude is based on "Fair Market Value", therefore no barrel fractions are reflected.

**All prices are in \$TT

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APPENDIX XXV (cont'd)

**THE ROYALTY ASSESMENT ON CRUDE OIL, NATURAL GASOLINE AND NATURAL GAS PRODUCED
ON STATE OIL MINING LEASES FOR EACH QUARTER FOR THE PERIOD OCTOBER 2000 - SEPTEMBER 2001**

SOURCE OF REVENUE	UNITS	31-12-2000	31-03-2001	30-06-2001	30-09-2001
ROYALTY ON NATURAL GAS	(\$TT)	8,194,310.08	8,233,923.88	6,903,271.81	7,935,921.65
ROYALTY ON NATURAL GASOLINE	(\$TT)	0.00	0.00	0.00	0.00
MINIMUM RENT NET OFFSET					
BY ROYALTY ON CRUDE OIL	(\$TT)	825,472.08	818,895.13	822,620.35	973,091.63
ROYALTY ON CRUDE OIL	(\$TT)	191,052,493.04	187,018,947.69	158,955,301.00	151,014,153.78
YEARLY TOTAL	(\$TT)	200,072,275.20	196,071,766.70	166,681,193.16	159,923,167.06

THE VOLUMES UPON WHICH THE ABOVE ASSESSMENTS WERE MADE WERE AS FOLLOWS :

SUBSTANCE ASSESSED FOR ROYALTY	UNITS	31-12-2000	31-03-2001	30-06-2001	30-09-2001
NATURAL GAS	M.C.F.	109,200,157	142,904,708	133,033,638	140,224,686
NATURAL GASOLINE	I.G.	0	0	0	0
CRUDE OIL NET	BARREL	10,020,070	8,861,791	9,805,094	9,939,219
FIELD STORAGE VALUE PER BARREL	(\$TT)	163.28	180.21	139.52	131.88
ROYALTY PAYABLE PER BARREL	(\$TT)	19.07	21.10	16.21	15.19

DATA USED TO EVALUATE CRUDE OIL FOR CROWN ROYALTY ASSESSMENTS :

PRODUCT	UNITS	31-12-2000	31-03-2001	30-06-2001	30-09-2001
3% Sulphur Grade Fuel	(\$TT)	122.913009	119.417749	100.573321	110.371482
1% Sulphur Grade Fuel	(\$TT)	186.331073	160.514278	142.451490	127.193260
0.7% Sulphur Grade Fuel	(\$TT)	200.983066	169.010047	148.611555	132.900350
No. 2 Fuel	(\$TT)	239.304765	202.043261	194.236073	181.632254
43-47 D.I. Gas Oil	(\$TT)	240.372481	203.109340	195.295542	182.673787
48-52 D.I. Gas Oil	(\$TT)	240.702023	203.438377	195.622539	182.995247
53-57 D.I. Gas Oil	(\$TT)	241.361107	204.096451	196.276532	183.638169
70-72 Oct. M Headed Motor Gas	(\$TT)	211.623241	211.482959	219.317801	181.799977
Average Middle rate for Sight Draft on N.Y./T.T.					
Currency for U.S. \$1.00	(\$TT)	6.276974	6.267390	6.228462	6.122950
Value of Tetra Ethyl Lead in TT cents per Millilitre		0.133299626	0.13176046	0.12731272	0.127312466

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