



TRINIDAD AND TOBAGO
MINISTRY OF ENERGY AND NATURAL RESOURCES
ANNUAL REPORT FOR THE YEAR
1982

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(1)

FOREWORD

ANNUAL ADMINISTRATIVE REPORT 1982

The declining trend in crude oil production which began in 1979 continued during 1982 despite efforts by the companies to avert it. However it was somewhat rewarding to note that whereas over the period 1980 - 1981 the rate of decline was about 11%, during the 1981/1982 the decline rate fell to approximately 6.5%. As in previous years production from the marine areas dominated the production scene and contributed to 76% of the total production.

Natural gas production registered a 4.2% increase over the 1981 figure when some 5.8 billion standard m³ were produced during 1982.

Utilization of natural gas increased by 6.9% to 76.8% in 1982.

The Teak and Poui compressor platforms owned by the Natural Gas Company which were under construction from 1981 were completed and collecting and compressing some 1.2 million standard m³/day by year end.

The Trinidad and Tobago Oil Company, TRINTOC completed and commissioned the Mahaica gas facility at Arena Mahaica. Installation of the second cross country pipeline for the Natural Gas Company began and considerable progress had been made by the end of the year.

Overall Refining capacity continued on the decline during 1982 and registered a 33% drop from the figure for 1981. While Texaco showed a dramatic drop during the year, particularly towards the end of the year, on the other hand TRINTOC showed an increase over last years throughput figures.

Concurrent with refinery throughput, petrochemical intermediate manufacture also showed a decline of 25%, from the volumes produced in 1981.

Anhydrous ammonia production sky rocketed in 1982 showing an 85% increase over the 1981 figure. Both ammonium sulphate and urea production showed increases.

The processing of the data from the geophysical survey done by Western Geophysical for the Government of Trinidad and Tobago over the period 1980/1981 was completed early in the 2nd Quarter of 1982 and final maps and reports on some of the areas were submitted to the Ministry.

there/.....

2

There were several Amendments to the Petroleum Act making for changes in the price of Petroleum products. There was also a Supplemented Refining Tax Order 1982 which affected the price for full and light refining; this became effective on the 1st January, 1982.

Amendments were also made to the Petroleum Products Levy and Subsidy Act, effecting the gross Margin.

During 1982 the Production Sharing Contract with respect to Block S7 with Mobil Exploration Trinidad Limited terminated.

The Ministry takes this opportunity to thank all the organizations that contributed towards the preparation of this report. It also wishes to recognize the dedication its staff had applied to their duty thereby enabling the Ministry to successfully monitor and manage the petroleum industry.

CRUDE OIL PRODUCTION

Trinidad and Tobago's crude oil production continued to decline in 1982 with an annual output of 10 273 566 m³. The average daily production was 28 147 m³, a decrease of 6.5% from the 1981 average. The average daily production varied from a maximum of 29 486 m³ in January to a minimum of 26 680 m³ in October with production at the year's end being 28 147 m³.

Three (3) companies registered increases in their production for 1982. Trinidad Northern Areas and Trinidad and Tobago Oil Company had marginal increases while the large percentage increase of Premier Consolidated Oilfields Limited was of negligible impact because of that company's small production. Trinidad-Tesoro Petroleum Company, Texaco Trinidad Incorporated and Amoco Trinidad Oil Company experienced decreases in annual production.

The total annual production from marine fields was 7 843 435 m³, 7.5% less than last year's figure. The average production from marine fields was 21 489 m³ and that from land fields was 6 658 m³. The marine fields accounted for 76.3% of the country's total production as compared with 77.1% for 1981.

Amoco Trinidad Oil Company, the country's largest producer, registered an average daily production of 14 777 m³ which was a 10.2% drop from the previous year. Production declined in the Teak and Poui fields by 16.1% and 11.7% respectively while the Samaan field increased by 1.2%. In the previous years, the natural reservoir decline was offset by new production from development drilling activity. However, in 1982 with the reduction of the development drilling of the three (3) discovered oilfields, oil production continue to decline from the peak production year of 1978. In addition to the natural reservoir decline, there were other factors which contributed to the falling production. There was a significant loss of condensate production from the Teak D gas wells during the closure of wells for extensive repairs of surface production facilities and for the commissioning of the redesigned gas header collection system. Unplanned compressor shutdowns on Samaan and Poui platforms reduced the total available gas for gaslift and this affected the production from those gas lift wells.

Finally/2.....

Finally, in May there was a major fire which destroyed the control room of the waterflood facilities on Teak E platform.

Trinidad Northern Areas had an average daily production of 6 036 m³, an increase of 1.6% over the previous year. The North Soldado field where the main drilling activity was concentrated on the development of platform 22 and 23 had a 18.6% increase in production. The East Soldado production declined by 9.2%, Main Field by 10.4% and Point Fortin Offshore (with less than two (2) per cent of Trinidad Northern Areas total production) fell by 44.3%. The main reasons for those declines were compressor downtime, failures in the power oil systems and sand problems especially in the FOS area.

Trinidad-Tesoro Petroleum Company Limited produced a daily average of 3 606 m³ which was 6.7% less than in 1981. Land fields contributed 83.9% of the company's total. Production from the company's three (3) offshore platforms at Galeota decreased by 23.5% to 502 m³/day due to high natural decline rates compounded by early water entry in several wells of Trintex B and C. The land production decline was mainly due to a reduction of workover activity which contributed to the high decline rate of 23% for old oil production and to frequent electrical outages. Production from Thermal Oil Recovery projects averaged 30% of the company's overall rate.

Texaco Trinidad Incorporated had a daily average of 2 456 m³ which reflected a decrease of 5.6% from last year's figure. New wells production accounted for 3.0% of the company's production and secondary recovery schemes contributed 29.5%. Frequent electrical outages have been blamed for the drop in production.

Trinidad and Tobago Oil Company achieved an average daily production of 1 222 m³ which was 1.6% greater than that produced in 1981. Oil from new wells was mainly responsible for the increased production in the third quarter of the year.

Finally, Premier Consolidated Oilfields Limited had a daily average of 50 m³, an increase of 22.0% from the previous year.

DRILLING AND COMPLETIONS

In Trinidad and Tobago there was an increase in drilling activity during 1982 as compared with the previous year. There was an increase of 5.6% in the total annual depth drilled with 252 936 m being completed in 1982. Exploratory or semi-appraisal drilling accounted for 21% with 53 056 m penetrated while the other 199 880 m represented the development drilling for the year. In terms of rig activity, there was a decrease of 9.2% with a total of 153.8 rig months being completed during the year. At year end there were three (3) rigs actively drilling exploratory and semi-exploratory wells and eight (8) engaged in development drilling.

A total of two hundred and fifteen (215) wells were completed which represented an increase of 2.4% over last year's figure. Of these, twenty-three (23) were exploratory and the remaining one hundred and ninety-two (192) development. In 1981 there were sixteen (16) exploratory and one hundred and ninety-four (194) development wells. Of the two hundred and fifteen (215) wells completed, one hundred and seventy-four (174) were producers, twenty-six (26) were abandoned and fifteen (15) were injectors. Of the one hundred and seventy-one (171) land wells completed, one hundred and sixty-one (161) were drilled to develop existing fields and the other ten (10) were exploratory or semi-exploratory. The development wells comprised one hundred and forty-one (141) producers, fifteen (15) injectors and five (5) abandonments, while eight (8) of the exploratory (and semi-exploratory) wells were completed as producers with the other two (2) being abandoned.

In the marine environment there were forty-four (44) completions of which thirty-one (31) were development and thirteen (13) exploratory. The development wells included twenty-three producers and eight (8) abandonments. Of the exploratory wells, two (2) were completed as producers with eleven being abandoned.

Trinidad/4.....

Trinidad-Tesoro Petroleum Company Limited achieved the highest number of completions made by any company during the year. A total of one hundred and twenty-five (125) completions were achieved. This number represented a 13.6% increase over last year's figure. Three (3) drilling rigs were actively engaged in development drilling in Trinidad-Tesoro Petroleum Company's land fields. These land rigs resulted in one hundred and twenty (120) wells being drilled for a total depth of 79 958 m in 23.80 rig months. Twenty-nine (29) of these were non-thermal and represented a drilled depth of 23 027 m while 90 wells were drilled primarily in the Guapo, Palo Seco/Central Los Bajos, Apex-Quarry and North Fyzabad Thermal Schemes. The total depth drilled for thermal oil recovery projects during 1982 amounted to 56 931 m.

On land there were four (4) semi-exploratory wells, all in the Guapo field. Two (2) were drilled to appraise the Nariva Formation on the Lot One Anticline while the other two (2) were drilled to Upper Eocene objectives on the Vance River Anticline. All four (4) wells were completed as producers.

In 1982, Trinidad-Tesoro Petroleum Company initiated a further outstep development of its Galeota field with five (5) development wells and one (1) semi-exploratory drilled for a total depth of 6 326 m on the Trintex D Platform.

At Trinidad and Tobago Oil Company there was a 75% increase in the number of wells spudded. There was a 51% increase in the total depth penetrated which for 1982 was 58 444 m and a corresponding 14.7% increase in rig activity to 43.5 rig months. Development drilling accounted for 67.0% of the total depth drilled. A total of seven (7) exploratory wells were drilled. Of these Cashew 1 and Avocado 1, drilled by the Rowan Forth Worth in Trinidad and Tobago Oil Company's marine acreage in the Gulf of Paria were plugged and abandoned as dry holes; FW 281 was suspended; E 137, FW 282 and P 271 produced oil and P 274 was listed as completing at year's end.

There/5.....

There was a total of thirty (30) completions for the year 1982 which represented a 14.3% decrease when compared with the previous year. Of these twenty-two (22) were completed as oil producers, one (1) as a gas producer and seven (7) were abandoned as dry holes.

Texaco Trinidad Incorporated recorded a total drilled depth of 32 899 m which was a 3% increase over the corresponding figure for 1981. There was a 18% decrease in development depth drilled and 412% increase in exploration depth drilled. The actual figures for 1982 being 24 429 m as development and 7 270 m as exploration depth drilled. There was a decrease of 6.1% in the rig months to 25.9 but a 9.7% increase in the depth drilled per day as compared to 1981. A total of sixteen (16) wells were started which included one (1) well drilled in Texaco Trinidad Incorporated's Marine Block 1 lease. This well, Iguana 1, was plugged and abandoned after testing oil and gas.

Texaco Trinidad Incorporated performed a total of seventeen (17) completions in 1982 which was 41% lower than 1981. Of the seventeen (17) fourteen (14) were oil producers and three (3) were abandoned.

Amoco Trinidad Oil Company drilling activity increased during 1982 as indicated by a 13% rise in rig months and 33% increase in drilled depth. The total number of rig months was 17.8 as compared with 15.8 in 1981 while the total drilled depth was 15 152 m, an increase of 3 690 metres. Exploratory drilling accounted for 5.4 rig months and 5 503 m, an increase of 60% over last year's depth. Development drilling accounted for 12.4 rig months and 9 649 m an increase of 21% over the development depth drilled in 1981. Amoco Trinidad Oil Company drilled three (3) development wells and four (4) exploratory wells during 1982.

Three (3) development wells were completed and two (2) of the exploratory wells, Galeota Ridge 1 and 2 were abandoned for mechanical reasons at a depth less than two hundred (200) metres. Galeota Ridge No. 3 was drilled to a ATD of 2443.9 metres from the semi-submersible drilling rig - Blue water 111.

This/6.....

This location was at a bearing N 70° E approximately 15.3 kilometres from Galeota Point. Three (3) horizons were drilled stem tested above 1219.2 metres. The two (2) upper zones tested successfully at rates of 205 cubic metres/day and 95 m³/day on a 29 mm and 25.5 mm choke respectively. Upon completion of drill stem testing, Galeota Ridge No. 3 was plugged and abandoned. La Savanna No. 1 was drilled 11.3 kilometres from Galeota Ridge No. 3 to a T.D. of 2747.8 m. No hydrocarbon bearing zones were encountered by the well bore which was subsequently plugged and abandoned. Of the three (3) development wells completed two (2) were oil producers and one (1) was a gas producer.

In 1982 Trinidad Northern Areas realised an increase in both number of development and exploratory wells spudded, resulting in a 17.2% increase in the total number of wells spudded. A total drilled depth of 64 877 m was recorded of which 74.8% was development, 19.8% exploratory and the remainder redrilled depth. The development and exploration drilled depth increased by 19.0% and 140% respectively when compared to the previous year.

There was a total of thirty-four (34) completions - twenty-eight (28) development and six (6) exploratory wells. There were twenty-six (26) completions in 1981. Of the development wells twenty (20) were completed as producers and eight (8) were abandoned.

In the case of the exploratory wells two (2) were completed as oil producers and the other four (4) were abandoned dry. There was an increase in the number of wells which were abandoned; from two (2) in 1981 to twelve (12) in 1982, and a 3.3% decrease in the number of producers completed.

During 1982, Premier Consolidated Oilfields Limited spudded one (1) development well as compared with two (2) wells in the previous year. Notwithstanding, the total depth penetrated increased by 13.4% to register 1 029 m. Drilling both in 1981 and 1982 was development in nature and was confined to December 1981, and January 1982. Two (2) wells were completed in 1982, both of them as oil producers. There were no completions in 1981.

3.

GEOPHYSICAL ANNUAL REPORT FOR 1982

The processing of the geophysical data of 1980/81 seismic survey carried out for the Government of Trinidad and Tobago by Western Geophysical Company was completed in April, 1982.

The Geophysicist 11 and the Geophysical Consultant visited the interpretation unit of Western Geophysical in Houston, Texas, U.S.A. in order to select suitable horizons for interpretation. The horizons of some of the areas were selected prior to the visit to Houston.

Western Geophysical Company submitted final maps and reports based on migrated and unmigrated data of:

Draw Bank Area	(650km)
North Post Area	(475km)
Manzanilla Area	(250km)

A map and report of the northern area previously held by Amerada Hess, and where an infill survey was done in 1980/81 by the Western Geophysical Company for the Government, was submitted. This map was prepared by the Geophysical Section of the Ministry; the map comprises old and new surveys.

A map of the block west of HH-1 well compiled from previous surveys and the 1980/81 survey, has been prepared but is not yet completed.

It was decided that apart from basic magnetic interpretation, a magnetic interpretation using Werner Deconvolution will be done. All the maps of gravity and magnetic interpretation of the Government 1980/81 survey have been submitted to the Ministry by Aero Service Division of Western Geophysical Company.

The distance (in kilometres), which Western Geophysical shot short of 6 seconds below sea bed was calculated.

All the invoices sent to the Ministry by Western for the geophysical work performed, were checked.

Comparison and appraisal of proved gas reserves in M-2 sand of KK4-2 area as estimated by Ryder-Scott Company vs Tenneco Company was carried out.

An experimental vibroseis survey, as a joint venture with local oil companies, was proposed. Approximate cost of such a survey was calculated. Discussions with oil companies on the above subject, were held. As a result of these discussions, through the Director of Contracts, invitation for bids were sent to five (5) contractors. Representatives for contractors' companies interested in bidding for the experimental line, visited the Ministry. Discussion were held with those representatives.

Trinidad-Tesoro's maps of the East Coast Galeota area were checked. It was discovered that the record sections were erroneously picked, hence the revision of the submitted maps was requested.

Appraisal of Amoco Trinidad Oil Company's exploratory well location in Plaisance area was done. The location was not approved. It was recommended that additional information should be acquired and further studies should be done.

At the request of Society of Exploration Geophysicists, the data of all magnetic surveys carried on in Trinidad were compiled. The compilation was completed in January, 1983.

At the Minister's requests a report about Tobago's earthquake of September 1982 has been submitted by the geological consultant, Mr. N. Mac Farlane and geophysical consultant, Mrs. M. Kurpiel.

A structure map and a report of Deep Horizon of Block 9 N.M.A. has been completed, but was not submitted to the Chief Petroleum Engineer since it is necessary to make some alterations and corrections.

The following companies carried out seismic surveys in Trinidad and Tobago waters:-

Amoco Trinidad Oil Company: (a) Completed the survey proposed and started in 1981.

In 1982 they shot:

108 km in S.E.G. area - 3D survey,
599 km - 2D survey in Samaan - Cascadoux trend,
Darian Ridge, E.M.Z. and West Poui areas.

(b) Shot 19 km high resolution test line in Galeota Ridge area, which was followed by a joint Amoco Trinidad Oil Company and Trinidad-Tesoro high resolution shallow seismic survey in Galeota Ridge area. Out of this survey 201 km were shot for Amoco.

(c) A sparker survey over the proposed location of exploratory well N.E. Galeota Ridge - 1.

Trinidad-Tesoro : of Amoco-Trinidad-Tesoro joint survey over Galeota Ridge area, 122 km was shot for Trinidad-Tesoro.

Trinidad and Tobago Oil Company and Tenneco (DATO GROUP) had a joint survey in the North Coast area of which:

Trinidad and Tobago Oil Company surveyed 145.175 km in block 9 and Tenneco surveyed 312.35 km in KK-4 area.

Trinidad and Tobago Oil Company submitted maps and reports of their holdings in the Gulf of Paria Sea. NM - 5 and of S-1 areas.

TABLE I.FI.

SUMMARY OF DEVELOPMENT DRILLING IN 1982 BY AREAS

	FIELD, AREA, OR DISTRICT	NUMBER OF PRODUCERS COMPLETED OIL & GAS	NUMBER OF ABANDONED WELLS	TOTAL COMPLETIONS	TOTAL DEPTH DRILLED		NUMBER OF RIGS ACTIVITY DRILLING OR TESTING DEVELOPMENT WELLS ON DECEMBER 31, 1982
					METRES	FEET	
a - Includes 1 S. INJ. WELL Depth drilled - 2350' (716m)	1	20	8	28	48 360	158,660	3
	2	35	2	38(a)	41 311	135,535(a)	3
b - Includes 2 S. INJ. WELLS Depth drilled - 32000' (975m)	4	59	1	62(b)	41 630	136,582(b)	2
	5	26	-	27(c)	15 164	49,749(c)	1
c - Includes 1 S. INJ. WELL Depth drilled - 2200' (671m)	6	6	-	17(d)	12 571	41,244(d)	-
	8	8	1	9	21 290	69,850	1
d - Includes 11 S. INJ. WELLS Depth drilled - 26805' (8170m)	9	2	1	3	3 982	13,065	-
	10	5	-	5	1 881	6,170	-
	11	3	-	3	13 691	44,918	1
	TOTALS	164	13	192	199 880	655,773	11

TABLE IIIA

KEY TO AREA - NUMBERS ON MAP (FIGURE 11) ON TABLES AND ON NEXT TEXT

AREA NUMBER	DESCRIPTION
1	SOLDADO, NORTH MARINE, COUVA MARINE, MANICOU, (GULF OF PARIA BLOCK 1)
2	PT. LIGOURE, F.O.S., AREA 1V AND GUAPO, POINT FORTIN WEST AND CENTRAL, PARRYLANDS, CRUSE, GUAPO, BOODOOSINGH.
3	BRIGHTON, (LAND AND MARINE) VESSIGNY, MERRIMAC
4	PALO SECO, LOS BAJOS, ERIN, CENTRAL LOS BAJOS, MAC KENZIE
5	FOREST RESERVE, FYZABAD, POINT FORTIN EAST, NEW DOME, SAN FRANCIQUE, APEX QUARRY
6	QUARRY, COORA, QUINAM, MORNE DIABLO
7	OROPOUCHE
8	PENAL, BARRACKPORE, WILSON, SIPARIA
9	MORUGA NORTH AND WEST, ROCK DOME, INNIS, TRINITY, CATSHILL, BALATA, BOVALLIUS
10	GUAYAGUAYARE, MORUGA EAST
11	GALEOTA, TEAK, SAMAN, POUI, DOLPHIN (BLOCK 6) DIAMOND PROSPECT, EAST COAST, REVERSE 'L' EAST REVERSE 'L' WEST
12	SOUTH MARINE (SOUTH COAST)
13	TABAQUITE, POINTE-A-PIERRE
14	ICACOS
15	NORTH COAST MARINE AREA

TABLE IV
OIL PRODUCTION BY FIELDS, AREAS, OR DISTRICTS

COMPANY, FIELD, AREA OR DISTRICT	DISCOVERY YEAR	TOTAL WELLS COMPLETED	ANNUAL PRODUCTION				CUMULATIVE PRODUCTION THROUGH	
			1981		1982		DECEMBER 1987 - '000	
			CUBIC METRES	BARRELS	CUBIC METRES	BARRELS	CUBIC METRES	BARRELS
TRINIDAD AND TOBAGO OIL COMPANY (T.O.C.)								
Balata East and West	1952	61	19 316	121,495	23 990	150,893	399	2,510
Catbiri	1950	131	29 197	183,641	25 658	161,383	3 550	22,330
Imila	1954	38	7 729	48,610	7 819	49,807	957	5,989
Ruck Dome	1962	3	0	0	0	0	3	16
Penal	1936	272	57 860	363,524	63 037	396,458	9 521	59,884
Key Dome	1928	31	660	4,151	436	2,742	494	3,107
Point Fortin East	1929	152	50 840	319,771	62 168	391,024	3 962	24,519
San Francisco	1929	27	1 077	11,804	1 693	10,651	943	5,933
Area IV and Camp	1963	192	72 164	453,889	69 340	436,138	5 785	36,387
Parrylands 1-5	1913-28	629	81 911	515,197	79 932	502,755	5 899	37,305
Point Fortin Central	1916	179	93 710	589,409	86 109	542,117	2 679	16,854
Point Fortin West	1907	311	23 712	149,137	25 800	162,279	3 101	19,502
Los Bajos	1918	29	0	0	0	0	87	546
Eric	1963	4	0	0	0	0	113	710
Total		1,869	438 976	2,761,028	446 157	2,806,248	37 488	235,794
TRINIDAD-TESORO PETROLEUM COMPANY LIMITED (T.T.P.C.L.)								
Fyzabad/Alca Quarry	1920-38	976	214 443	1,348,780	210 517	1,324,114	75 955	163,252
Camps/Bombastigh	1922	639	130 189	818,792	131 607	827,753	6 710	42,200
Maraga East	1953	77	10 719	67,422	9 866	62,053	398	2,500
Maraga West	1954	23	2 654	16,692	1 477	9,289	161	1,018
Maraga Quarry	1957	129	8 585	53,995	8 474	53,084	1 428	8,984
Coona Quarry	1936	658	128 822	870,880	116 834	734,865	13 870	87,238
Pala Saco/Erila/Mc Kenzie	1924	1,384	554 576	3,488,119	539 970	3,396,375	16 140	101,518
North Marine	1956	19	0	0	0	0	202	1,260
Galicia	1963	89	277 848	1,747,589	212 389	1,335,886	1 426	8,949
Central Los Bajos	1973	151	79 182	498,030	81 709	513,937	755	4,749
Oropuche	1975	3	1 206	7,584	1 870	11,761	36	225
Barrackpore	1977	4	1 789	11,251	1 484	9,336	11	71
Total		4,152	1 410 104	8,869,136	1 316 144	8,278,313	67 092	421,995
TEXACO TRINIDAD INCORPORATED (T.T.I.)								
Guayaguayare	1902	696	141 855	892,855	129 508	814,584	13 312	83,735
Tritity	1956	95	23 733	149,273	23 798	149,684	2 332	14,671
Barrackpore	1911	334	70 222	441,673	70 928	446,124	4 430	27,885
Oropuche	1944	128	26 822	169,329	23 905	145,329	991	6,234
Maraga Diabla/Orlaim	1926	91	5 275	33,176	4 491	28,248	1 206	1,587
Forest Reserve	1913	2,032	356 584	2,242,807	350 314	2,203,415	39 804	250,996
Pala Saco	1929	34	229 424	1,443,007	201 212	1,265,586	14 190	89,257
Brighton	1903	615	46 141	416,960	62 498	393,102	11 372	71,531
Eric	1963	23	4 176	30,039	5 338	33,577	363	2,283
Coona Marine	1963	6	0	0	0	0	48	301
Cross	1913	150	7 564	47,511	7 287	45,833	4 099	25,786
Wilson	1936	80	14 761	82,845	15 236	95,829	3 122	19,636
Tabacrita	1911	225	3 073	19,329	2 689	16,974	271	1,702
Balata Central	1949	6	0	0	0	0	59	371
Rayona		9	0	0	0	0	0	0
Total		4,427	998 970	5,978,804	896 414	5,638,285	95 702	601,955
PREMIER CONSOLIDATED OIL FIELDS LIMITED (P.C.O.L.)								
Slydia	1957	5	35	2,737	1 538	9,672	131	827
San Francisco	1929	75	4 435	27,896	4 156	26,140	486	3,055
Fyzabad/Roads	1918	254	7 767	48,855	8 974	56,444	2 085	12,111
Pala Saco	1915	81	625	3,934	657	4,101	259	1,630
Barrackpore	1970	4	1 004	6,317	1 999	12,574	22	141
Isaona	1968	11	73	5,494	823	5,179	74	463
Defunct Fields	1954	19	0	0	0	0	51	323
Total		451	15 139	95,223	18 142	114,118	3 108	19,358
TRINIDAD NORTHERN AREAS (T.N.A.)								
Fau/Ft	1954	35	17 997	113,197	9 975	62,744	1 028	6,429
Salvado	1955	552	2 151 635	13,533,148	2 193 291	13,795,412	55 504	394,113
Total		587	2 169 632	13,646,345	2 203 266	13,858,156	56 532	400,542
AMOCO TRINIDAD OIL COMPANY (ATOC)								
Teak	1971	80	2 354 555*	14,809,454*	1 974 196	12,417,344	75 285*	159,037*
Samao*	1971	46	1 532 400*	9,638,345*	1 560 326	9,751,275	22 413*	140,973*
Paul	1974	43	2 117 109*	13,315,986*	1 868 901	11,755,056	17 051	107,245*
Total		169	6 004 064*	37,763,785*	5 393 423	33,923,675	64 749*	407,255*
Grand Total		11 655	10 988 487	68,114,331	10 273 516	64,618,787	374 671	2,087,085

*SUBJECT TO CHANGE

NAME AND/OR AGE OF PRODUCING FORMATION - MICROLE

N.B. FACTOR USED

IN 1981 - 1 barrel = 0.15898 cubic metres, IN 1982 - 1 barrel = 0.15897 cubic metres

FLUID INJECTION OPERATIONS 1982

Secondary oil recovery operations in Trinidad and Tobago produced just over 1.4 million cubic metres at an average rate of 3 727 m³/day. This figure represents 13.2% of the total production of 10.3 million cubic metres.

WATER INJECTION:

Although the number of water injection projects remained unchanged during 1982, total injection dropped significantly by 47% to 1.7 million cubic metres. Oil production from the projects also declined 14% to a rate of 2 096 m³/day.

Amoco Trinidad Oil Company set back by a disastrous fire on the Teak 'E' platform in May 1982, experienced a significant drop of 62.5% in the volume of water injected. Injection rate was 1 399 cubic metres of water per day. No water was injected between June and September 1982, because of the fire.

Despite the decrease in water injection, oil production remained fairly constant throughout the period of zero-injection at 1 529 m³/day, with water cut increasing to 21%.

There were three (3) injectors and nine (9) producers in this project.

TRINIDAD NORTHERN AREAS became the largest waterflood operator by injecting 0.6 million cubic metres of water at an average rate of 1 578 cubic metres of water per day. This represents a 37% increase over the preceding year. Oil production however, fell 6% to 0.05 million cubic metres with a water cut of 53%.

In this project were five (5) injectors and eight (8) producers.

TEXACO TRINIDAD INCORPORATED operated seven (7) waterfloods and produced from an additional four (4) projects in which no water was injected. Injection fell 68% to an average rate of 1 105 cubic metres of water per day. The main reason was feed-water pump downtime at Guayaguayare, where there was no injection during the period February - July, 1982. Oil production on the other hand declined by 3% to 0.1 million cubic metres. Average water cut was 60%.

TRINIDAD-TESORO operated five (5) water-floods. Of these, one (1) was not injected into and two (2) had not produced because they were in the injecting phase. The injecting rate of 339 cubic metres of water per day for the year under review, represented an increase of 140% over last year's rate.

Oil production declined 43% to a rate of 7 m³/day. Average water cut rose to 14%.

TRINIDAD AND TOBAGO OIL COMPANY operating their lone project at Catshill, injected at a rate of 161 cubic metres of water per day, unchanged from the preceding year. Oil production rate however, fell to 17 m³/day, a decrease of 12%.

It is of interest to note that injection was zero for four (4) months, because of problems with water-supply pumps. This was the same downtime as in 1981.

At the year's end Amoco Trinidad Oil Company was experiencing teething problems with injection and Trinidad-Tesoro proposed to commence waterflooding the Upper Cruse sand of the Mackenzie field, early 1983.

STEAM INJECTION:

Steam injection projects saw an 11% increase, both in injection and production.

There were nine (9) projects in operation during 1982. Texaco Trinidad Incorporated operated three (3) of these, Trinidad and Tobago Oil Company one (1) and Trinidad-Tesoro five (5). These five (5) projects is a result of incorporation of the smaller schemes by field e.g. the schemes Main UF/LMLE, Patterns 1-24, Huff 'N' Puff in the Palo Seco field, constitute one (1) project.

TRINIDAD-TESORO operating five (5) steam projects injected 1.0 million cubic metres at a rate of 2 743 cubic metres of steam per day. This indicates an increase of 22% on last year's figure. Oil production also showed an increase, rising 8% to 0.4 million cubic metres.

The Oil-steam ratio was 0.43.

During 1982, the company expanded their schemes by drilling over ninety (90) thermal wells, with activity being concentrated in Palo Seco, Apex/Quarry, Fyzabad and Guapo.

TEXACO TRINIDAD INCORPORATED operated three (3) steamfloods, but steam was only injected into two (2) of these. A total of 0.5 million cubic metres of steam was injected at a rate of 1 404 cubic metres of steam per day, decreasing 8% from the previous year's figure.

The company however, enjoyed an increase of 17% in oil production during 1982.

Oil Steam ratio was 0.31.

At year's end only one (1) project was being injected into.

TRINIDAD AND TOBAGO OIL COMPANY completed its first full years of operation on its only steam project in Parrylands, by injecting at a rate of 75 cubic metres of steam per day. Oil production realised was 5 832 cubic metres.

The oil steam ratio was 0.21.

CARBON DIOXIDE INJECTION:

TEXACO TRINIDAD INCORPORATED injected into one (1) of its two (2) CO₂ projects at a rate of 46 219 m³/day. Oil production fell from 12 m³/day in 1981 to 6 m³/day in 1982.

A summary of fluid injection operations in Trinidad and Tobago from 1978 to 1982 is presented in Table V1. Summaries of fluid injection by Company - water and steam injection by projects are presented in Table V11, V111 and 1X respectively.

WATER INJECTION SUMMARY BY PROJECTS - 1982

COMPANY	FIELD	PROJECT	WATER INJECTED (M ³)	OIL PRODUCED (M ³)	WATER PRODUCED (M ³)	GAS PRODUCED (M ³)	WATER CUT %
ATOC	TEAK	MMD/1 (M) (L) WATERFLOOD	510 736	558 070	149 471	79 084 888	21
		ALL	510 736	558 070	149 471	79 084 888	21
TNA	SOLDADO	8011 WATERFLOOD	575 934	49 427	54 854	19 919 751	53
		ALL	575 934	49 427	54 854	19 919 251	53
TESORO	PALO SECO	PS/UF/500/1	-	1 162	32	161 223	3
	COORA	CO/UC/317/1	27 386	696	98	95 101	12
		CO/UC/214/1	13 157	-	-	-	-
		CO/UC/110/1	31 288	-	-	-	-
		CO/UC/100/1	51 923	534	301	70 560	36
		ALL	123 754	2 392	431	326 884	14
TEXACO	FOREST RESERVE	UC. 645 WATERFLOOD	515	12 460	13 072	12 980 508	51
		BERNSTEIN UM CRUSE	-	2 937	1 569	611 473	35
		UCWE MIDDLEFIELD	-	6 679	4 967	1 176 269	43
		UCRA	6 263	5 833	3 995	3 678 718	41
	PALO SECO	RANCHO QUEMADO	-	12 353	224	2 859 459	2
	GUAYAGUAYARE	410 EXTENSION	40 259	6 209	19 729	1 299 520	76
		307 EXTENSION	6 125	3 170	1 459	666 512	32
		307 WATERFLOOD	29 916	28 070	46 175	5 935 782	62
		NAVETTE 007	54 795	22 187	22 761	25 352 149	51
		NAVETTE 410	85 453	25 198	98 345	5 392 320	80
	TRINITY	SHALLOW HERRERA	179 945	23 798	51 460	858 720	68
		ALL	403 271	148 894	263 756	60 811 430	60
	TRINTOC	CATSHILL	WATERFLOOD	58 866	6 359	3 793	287 252
ALL			58 866	6 359	3 793	287 252	37
ALL COMPANIES	ALL FIELDS	ALL PROJECTS	1 672 561	765 142	472 305	160 429 704	43

TABLE V.

SUMMARY OF FLUID INJECTION OPERATION IN TRINIDAD AND TOBAGO: 1978 - 1982

YEAR	NO. OF PROJECTS IN OPERATION AT END OF YEAR				INJECTION VOLUMES			CRUDE OIL PRODUCTION					
	GAS	WATER	STEAM	CARBON DIOXIDE	NATURAL GAS (MILLION M ³)	WATER AND OTHER FLUIDS M ³)	STEAM (M ³)	OIL PRODUCED BY WELLS UNDER PROJECT INFLUENCE (M ³)				OIL EXPRESSED AS A PERCENT OF COUNTRY'S TOTAL PRODUCTION	
								GAS INJECTION PROJECTS	WATER INJECTION PROJECTS	THERMAL RECOVERY PROJECTS	CARBON DIOXIDE PROJECTS		ALL PROJECTS
1978	2	18	12	3	2.8 22.0*	3 865 372	891 404	-	611 190	409 010	27 088	1 047 288	7.9
1979	-	17	10	3	0.5 30.2*	3 617 883	1 173 057	-	627 547	481 680	18 073	1 127 300	9.1
1980	-	19	10	2	0.1 18.4*	3 039 235	1 267 536	-	849 748	455 673	6 837	1 312 258	10.1
1981	-	19	12	2	-	3 159 553	1 388 815	-	893 722	533 715	4 238	1 431 834	13.0
1982	-	19	9	2	16.9*	1 672 559	1 541 247	-	765 143	592 994	2 187	1 360 324	13.2

TABLE VI.

FLUID INJECTION OPERATIONS - 1982

WATER INJECTION

COMPANY	NO. OF ACTIVE PROJECTS	WATER INJECTED (M ³)	OIL PRODUCED (M ³)	WATER PRODUCED (M ³)	GAS PRODUCED (M ³)	WATER CUT (%)
ATOC	1	510 736	558 070	149 471	79 084 888	21
TNA	1	575 934	49 427	54 854	19 919 251	53
TEXACO	11	403 271	148 894	263 756	60 811 429	60
TESORO	5	123 753	2 393	430	326 885	14
TRINTOC	1	58 866	6 359	3 793	287 252	37
TOTAL	19	1 672 560	765 143	472 304	160 429 705	43

STEAM INJECTION

COMPANY	NO. OF ACTIVE PROJECTS	STEAM INJECTED (M ³)	OIL PRODUCED (M ³)	WATER PRODUCED (M ³)	GAS PRODUCED (M ³)	PRODUCTION RATIO
TESORO	5	1 001 289	426 461	281 167	6 014 159	0.43
TEXACO	3	512 584	160 701	441 015	19 801 555	0.31
TRINTOC	1	27 374	5 832	2 617	-	0.21
TOTAL	9	1 541 247	592 994	724 799	25 815 714	0.38

CARBON DIOXIDE INJECTION

COMPANY	NO. OF ACTIVE PROJECTS	GAS INJECTED (M ³)	OIL PRODUCED (M ³)	WATER PRODUCED (M ³)	GAS PRODUCED (M ³)	GOR
TEXACO	2	16 871 851	2 187	412	543 204	248
TOTAL	2	16 871 851	2 187	412	543 204	248

TABLE VIII

STEAM INJECTION SUMMARY BY PROJECTS - 1982

COMPANY	FIELD	PROJECT	STEAM INJECTED (M ³)	OIL PRODUCED (M ³)	WATER PRODUCED (M ³)	GAS PRODUCED (M ³)	PRODUCTION RATIO OIL-STEAM
TEXACO	FOREST RESERVE	PROJECT 111. FOREST SDS.	506 348	123 910	410 763	14 084 355	0.24
		PROJECT 1V HOT WATER	6 236	3 005	6 638	250 969	0.48
		PHASE 1 EXPANSION	-	33 787	23 614	5 466 231	-
	ALL	ALL	512 584	160 702	441 015	19 801 555	0.31
TESORO	FYZABAD	ALL PATTERNS	69 070	48 220	35 843	146 819	0.70
	PALO SECO	MAIN/UF					
		PATTERN 1 - 24	403 362	187 893	125 389	3 846 126	0.47
		HUFF - N - PUFF					
	GUAPO	EXP. GEN. - 3					
		OTHER THAN-3	201 498	93 013	87 789	1 700 086	0.46
		AREAS 1 & 2					
	APEX QUARRY	PATTERNS 1-14	246 173	39 136	17 269	194 212	0.16
	CENTRAL LOS BAJOS	MAIN PROJECT					
		PATTERN 1	81 186	58 198	14 877	126 917	0.72
ALL	ALL	1 001 289	426 460	281 167	6 014 160	0.43	
TRINTOC	PARRYLANDS	PROJECT 2	27 374	5 832	2 617	-	-
	ALL	ALL	27 374	5 832	2 617	-	0.21
ALL COMPANIES	ALL FIELDS	ALL PROJECTS	1 541 247	592 994	724 799	25 815 715	0.38

CARBON DIOXIDE INJECTION

COMPANY	FIELD	PROJECT	CO ₂ INJECTED (M ³)	OIL PRODUCED (M ³)	WATER PRODUCED (M ³)	GAS PRODUCED (M ³)	GOR
TEXACO	FOREST RESERVE	FOREST SANDS	-	289	16	47 966	166
		FOREST SDS. ZONE 5	16 871 851	1 898	396	495 238	261
	ALL	ALL	16 871 851	2 187	412	543 204	248

5

PRODUCTION

Natural Gas production for 1982, averaged 16.0 million standard m³/day (558.8 mmscf/d) an increase of 4.2% above the 1981 figure. For the entire year some 5.8 billion standard m³ (203.9 billion standard cubic feet) of natural gas was produced.

Amoco Trinidad Oil Company was responsible for 76.3% of the total gas produced, with an average daily production of 12.2 million standard m³/day (426.4 mmscf/d) which represents a 6.4% increase over the production for 1981.

Due to mechanical problems on Amoco Trinidad Oil Company's offshore platforms a shortfall in gas delivered to consumers was experienced for few intermittent periods between February and August 1982.

Trinidad Northern Areas produced an average of 1.7 million standard m³/day (59.312 mmscf/d) which represents a 7.0% decrease below 1981's production. However, Trinidad Northern Areas production for 1982 remains in the general trend of a gradual decline. Gas production from Texaco, Trinidad-Tesoro, Trintoc and Premier Consolidated Oil Limited, together produce 13.1% of the total. This amounted to 2.1 million standard m³/day (73.1 mmscf/d).

UTILIZATION

Overall gas utilization amounted to 76.8% of the total gas produced for the period. The utilization split was as follows:-

Gas used as fuel by oil companies was 15.3% which represents a daily average figure of 2.5 million standard m³/day, (85.6 mmscf/d).

Gas used as fuel by non-oil companies was 33.2% or a daily average of 5.4 million standard m³/day (190.2 mmscf/d).

Gas used as process gas amounted to 1.9 million standard m³/day (65.7 mmscf/d) showing an increase of 11.8% over last year's figure.

The largest non-oil company consumer was Trinidad and Tobago Electricity Commission which utilized 17.9% of the gas produced which represented an average daily figure of 2.9 million standard cubic metres (100.3 mmscf/d).

NEW FACILITIES

During 1982 the National Gas Company commissioned a total of nine (9) compressors on Teak and Poui Compressor Platforms. By year's end, the facilities were collecting and compressing some 1.2 million standard m³/day (40.1 mmscf/d).

During the same period, Trinidad and Tobago Oil Company Limited completed and commissioned the Mahaica gas facility at Arena Mahaica. Finally, installation work began on the second cross country pipeline for National Gas Company. By year's end, pipeline installations completed were 40% and 30% offshore and onshore respectively.

TABLE IX

ANNUAL STATISTICS FOR NATURAL GAS PRODUCTION AND UTILIZATION - 1978 - 1982

	1978		1979		1980		1981		1982	
	MILLIONS OF STD M ³	%	MILLIONS OF STD M ³	%	MILLIONS OF STD M ³	%	MILLIONS OF STD M ³	%	MILLIONS OF STD M ³	%
PRODUCTION	4,522	100.0	4,861	100.0	5,665	100.0	5,604	100.0	5,841	100
GOR (STD M ³ /STD M ³)	340	-	391	-	459	-	510	-	569	-
A. USED AS FUEL:										
IN FIELDS	304	6.7	293	6.0	277	4.9	273	4.9	301	5.2
IN REFINERIES	537	11.9	598	12.3	769	13.6	667	11.9	595	10.2
IN OTHER INDUSTRIES	1,141	25.2	1,171	24.1	1,264	22.3	1,579	28.2	1,947	33.2
SUB TOTAL:	1,982	43.8	2,062	42.4	2,310	40.8	2,519	45.0	2,842	48.5
B. OTHER COMPLETE UTILIZATION:										
USED AS PROCESS GAS	434	9.6	442	9.1	454	8.0	346	6.1	639	11.0
INJECTED INTO FORMATION	3	0.07	-	-	-	-	-	-	-	-
CONVERTED TO C.H.P.S.	2	0.03	2	-	1	-	1	-	-	-
SUB TOTAL:	439	9.7	444	9.1	455	8.0	347	6.1	639	11.0
C. VENTED:										
AFTER USE OF PNEUMATIC ENERGY	454	10.1	732	15.1	925	16.3	1,056	18.8	958	16.4
WITHOUT USE	1,647	36.4	1,623	33.4	1,975	34.9	1,682	30.1	1,350	23.2
SUB TOTAL:	2,101	46.5	2,355	48.5	2,900	51.2	2,738	48.9	2,308	39.6

(6)

REFINING AND PETROCHEMICAL MANUFACTURE 1982

REFINING

Refining capacity worldwide continue to decrease in 1982 with further shut-down and closures. In addition operating refineries have their throughput capacities significantly reduced.

Refinery throughput in Trinidad and Tobago continue to decline further in 1982. The total average throughput in 1982 was 24 004 cubic metres per day (150,975 bpd) a drop of 13% from the corresponding figure for 1981.

The following table lists daily average throughputs for the Texaco Trinidad Incorporated and Trinidad and Tobago Oil Company refineries over the decade:-

YEAR	AVERAGE DAILY THROUGHPUT				TOTAL	
	TEXACO		TRINTOC			
	CUBIC METRES	BARRELS	CUBIC METRES	BARRELS	CUBIC METRES	BARRELS
1971	52 672	331,297	10 720	67,427	63 392	398,724
1972	51 953	326,777	10 713	67,381	62 666	394,158
1973	51 138	321,648	10 571	66,492	61 709	388,140
1974	47 976	301,759	9 001	56,613	56 977	358,372
1975	29 868	187,866	7 438	46,782	37 306	234,648
1976	42 334	266,274	8 743	54,994	51 077	321,268
1977	34 588	217,555	8 764	55,124	43 352	272,679
1978	29 232	183,866	8 172	51,398	37 404	235,264
1979	27 881	175,367	8 210	51,638	36 091	227,005
1980	26 027	163,703	8 001	50,325	34 028	214,028
1981	21 291	133,917	6 297	39,628	27 588	173,545
1982	16 042	100,897	7 959	50,061	24 001	150,958

Trinidad and Tobago Oil Company refinery cumulative throughput for 1982 was 2 905 035 m³ (18,272,265 bbls) or a daily average of 7 959 m³/day (50,061 bpd) an increase of 26.4% from the 1981 processing level.

This increase in throughput was due to the commissioning of the three (3) new Gas Turbine Alternators. This removed the severe power restriction which caused reduction in the throughput in 1981. However Limited Fuel gas was available to the refinery as a result of continuing problems with the gas supply from the Soldado field. Again no LPG was produced in 1982 as this was down-graded to supplement the fuel gas supply to the refinery.

During the last quarter of 1982 the Government directed Trinidad and Tobago Oil Company to enter into a processing agreement with Texaco Trinidad Incorporated for the processing of one (1) million barrels of crude.

The average daily throughput at the Texaco Trinidad Incorporated refinery was 16 042 m³/day (100,897 bpd) a further decline of 32.7% from 1981 figure of 21 291 m³/day (133,917 bpd). Crude throughput averaged 120,000 bpd for the first half of 1982 but then dropped to 80,000 bpd in August and more drastically to 45,000 bpd in December. Texaco Trinidad Incorporated stopped imports of crude oil in December and the level of throughput was only maintained because of the processing arrangement with Trinidad and Tobago Oil Company.

In 1982 Texaco Trinidad Incorporated converted Crude Distillation Unit Nos. 6 & 9 to Visbreaking Units Nos. 1 and 2 respectively. This was done primarily to relaease some diesel/furnace oil from vacuum residum and hence reduce the volume of low valve residual fuel oil in the product slate. The low refinery throughput during the latter half of the year caused various plants to operate intermittently.

The main refinery products were:-

PRODUCTS	Million Barrels		% Change between 1981 & 1982
	1982	1981	
Fuel Oil	27.38	29.61	- 7.5
Gasolines	11.45	13.03	-12.1
Gas/Diesel Oil	9.50	10.78	-11.9
Aviation Turbine Fuel	2.51	1.34	+87.3
Kerosene	1.49	2.14	-30.4
Lubes/Grease	0.48	0.79	-39.2
Petrochemicals	0.75	1.11	-32.4

REFINED PRODUCT BALANCE 1982

Availability	Million Cu. M	Million Cu. M	Disposal	Million Cu. M	Million Cu. M
Stock at 1st January	1.33	8.34	Shipment	6.74	42.39
			Foreign Bunkers	0.59	3.69
			Local Consumption	0.96	6.02
Products Obtained Crude Delivered	8.59	54.04	Stock at 31st December	1.63	11.28
TOTAL	9.92	62.38	Total	9.92	63.38

Crude feedstock to the country's refineries originated from the following sources:-

NAME OF CRUDE	COUNTRY	AMOUNT		PER CENT TOTAL
		Cubic Metres	Barrels	
<u>TEXACO</u>				
Oriente	Ecuador	369 166	2,321,941	4.21
Dubai	United Arab Emirates and Indonesia	1 255 458	7,896,456	14.32
Berri	Saudi Arabia	2 536	15,951	0.03
Arab Light	" "	350 854	2,206,768	3.96
" Medium	" "	371 336	2,335,592	4.23
" Heavy	" "	820 108	5,158,241	9.36
Maya	Mexico	44 415	279,355	0.50
Minas	Indonesia	455 632	2,865,793	5.20
Duri	"	46 183	290,479	0.52
Crude Slops	"	2 868	18,039	0.03
TRINIDAD	-	2 144 570	13,488,715	24.47
<u>TEXACO</u>				
Sub Total	-	5 863 126	36,877,330	66.86
<u>TRINTOC</u>				
TRINIDAD	-	2 905 127	18,272,388	33.13
<u>TRINIDAD-TESORO</u>				
TRINIDAD	-	971	6,104	0.01
TOTAL		8 769 224	55,155,822	100.00

CRUDE OIL BALANCE 1982

Availability	Million Cu. m	Million Bbls	Disposal	Million Cu. m	Million Bbls
Stock at 1st. January	0.84	5.31	Export	5.27	33.18
Production	10.27	64.61(7)	Delivered to Refinery	8.76	55.11
Import	3.72	23.39	Loss from Production	0.24	1.53
			Stock at 31st. December	0.55(7)	3.50
TOTAL	14.83	93.32	TOTAL	14.83	93.32

PETROCHEMICALS:

Production of Petrochemical Intermediates produced at the Texaco Trinidad Incorporated Refinery amounted to 132 433 m³ (832,965 bbls) as compared to 177 674 m³ (1,117,518 bbls) in 1981, a decrease of 25.5% from the volumes produced in 1981.

The cyclohexane unit remained shut down and n-paraffin production was significantly reduced by unfavourable market conditions throughout the year. Trinidad and Tobago Electric Company power failure/outage again affected the operation of all petrochemical units in 1982.

PERCENT OF TOTAL PRODUCTION FOR MAJOR PETROCHEMICALS

Petrochemicals	1982	1981	Percent change
Normal Paraffin	49.2	42.5	+15.8
Toluene	37.6	34.0	+10.6
Benzene	9.1	9.2	- 1.1

PRODUCTION AND EXPORTS OF IMPORTANT PETROCHEMICAL INTERMEDIATES

(Quantities in Cubic Metres)

Trinidad & Tobago - 1982

Petrochemical Intermediates	1982		1981	
	Production	Exports	Production	Exports
Normal Paraffins	49 168	76 938*	75 494	78 305*
Di-isobutylene	-	-	-	-
Nonene	7 642	7 494	6 233	8 758*
Tetramer	2 993	4 676*	4 251	3 158
Benzene	9 095	12 349	16 312	14 563
Toluene	37 612	38 284*	60 312	57 684
Xylene	11 809	12 249*	13 522	11 495
Cyclohexane	(17)	5*	(14)	(26)
Unrefined Napthenic Acids	14 114	1 401	1 560	1 783*

* Excess of Exports over Production made up from stocks.

NITROGENOUS FERTILIZERS:

Anhydrous Ammonia production increased significantly in 1982. The net production of Ammonia was 857 987 metric ton (945,768 short ton) and this represents an increase of 85.3% over 1981 figure of 463 061 metric ton (510,429 short ton). The commissioning of Fertrin second Ammonia Plant was responsible for this.

Ammonia Sulphate production for 1982 was 37 901 metric ton (41,779 short ton) an increase of 2.4% over 1981 figure of 37 003 metric ton (40,788 short ton). Urea production amounted to 46 137 metric ton (50,857 short ton) an increase of 48.7% over 1981 figure.

The Federation Chemical Complex operated satisfactorily during the year. However, Ammonia production (at the Braun Plant) was severely affected during the first Quarter 1982 because of certain problems associated with Natural Gas Production at Amoco Trinidad Oil Company. The Sulphate and Urea Production were restricted in the first Quarter 1982 due to high inventories and operated at reduced rate throughout the year.

Fertrin production drastically increased when their second (02 Plant) Plant was commissioned in July. Both plants operated satisfactorily during the year, however both plants had minor mechanical problems especially coking of reformer tubes. At year end, problems of liquid in the Gas in being experienced. Fertrin produced 375 742 metric tons and exported 356 559 metric tons.

ACCIDENT REPORT 1982

Accidents reported for the year 1982 numbered five hundred and fifty-eight (558). This figure represents a decrease of ninety-four (94) over the 1981 total of six hundred and fifty-two (652). There were marked decreases in the number of accidents occurring in Texaco Trinidad Incorporated, Trinidad and Tobago Oil Company, Trinidad Northern Areas and Trinidad-Tesoro whereas Amoco Trinidad Oil Company recorded an increase by three (3).

Accidents occurring during drilling and Production operations totalled two hundred and sixty-eight (268) representing a decrease when compared to last year's total of three hundred and fifteen (315). Of these accidents Amoco Trinidad Oil Company's operations accounted for forty-five (45) per cent.

Refinery accidents which do not fall under the jurisdiction of the Ministry of Energy and Natural Resources totalled two hundred and ninety (290) which shows a decrease of forty-four (44) over last year's figure of three hundred and thirty-four (334).

Accidents were classified as serious and non-serious depending on the extent of injury sustained. Serious accidents comprised of sixty-three (63). This figure represents an increase over last year's total of fifty-five (55), and consisted mainly of burns, fractures, foreign bodies in eyes, crushed injuries, puncture wounds and inhalation of Toxic, Corrosive Gases.

Non-serious accidents totalled two hundred and five (205) showing a decrease of seventy-two (72) over the 1981 total of two hundred and seventy-seven (277). These consisted mainly of punctured wounds, shocks, cuts, bruises, fractures and sprains.

There was one (1) fatal accident in 1982 which occurred at Texaco's Palo Seco, Well No. 432. Simon Bachoo, a Derrickman fell from a portable rig which collapsed. He was taken from the scene of the accident to the hospital where he died later that night.

TABLE X
ACCIDENT STATISTICS - 1982

COMPANY	FIELD	TOTAL ACCIDENTS	FATALITIES	SERIOUS				MINOR			
				D	P	E	O	D	P	E	O
TEXACO TRINIDAD INCORPORATED	BARRACKPORE	7	-	4	-	-	-	2	1	-	-
	GUAYAGUAYARE	6	-	-	2	-	-	-	2	2	-
	PALO SECO	11	1	-	2	-	-	8	1	-	-
	FOREST RESERVE/BRIGHTON	22	-	-	7	-	-	4	10	-	1
	POINTE-A-PIERRE	290	-	-	-	-	-	-	-	-	-
	TOTAL (EXCLUDING P.A.P.)	46	1	4	11	-	-	14	14	2	1
AMOCO TRINIDAD OIL COMPANY	ALL	123	-	9	2	2	12	57	11	18	12
TRINIDAD-TESORO PETROLEUM COMPANY LIMITED	ALL	25	-	6	2	-	1	5	10	-	1
TRINIDAD NORTHERN AREAS	ALL	40	-	1	3	2	1	3	11	14	5
TRINIDAD AND TOBAGO OIL COMPANY	ALL	34	-	7	-	-	-	25	2	-	-
TOTAL		268	1	27	18	4	14	104	48	34	13

D - DRILLING

P - PRODUCTION

E - ENGINEERING

O - OTHERS

FACTORY INSPECTORATE ACCOUNTED FOR 555 ACCIDENTS.

TABLE XI

PRODUCTION AND EXPORT OF NITROGENOUS FERTILIZERS IN TRINIDAD AND TOBAGO 1982

IN METRIC TONS

	FEOCHEM				TRINGEN				FERTRIN				TOTAL			
	NET PRODUCTION		EXPORT		NET PRODUCTION		EXPORT		NET PRODUCTION		EXPORT		NET PRODUCTION		EXPORT	
	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982
ANHYDROUS	99 623	172 641	70 237	92 840	303 810	309 604	297 683	268 229	59 636	375 742	53 718	356 559	463 061	857 987	421 639	717 628
AMMON IA	(109 814)	(190 304)	(77 422)	(102 339)	(334 878)	(341 280)	(328 134)	(295 672)	(65 737)	(414 184)	(59 214)	(393 039)	(510 425)	(945 768)	(464 770)	(791 050)
AMMON IA	37 003	37 901	23 985	28 492	-	-	-	-	-	-	-	-	37 003	37 901	23 985	28 492
SULPHATE	(40 788)	(41 779)	(26 438)	(31 407)	-	-	-	-	-	-	-	-	(40 788)	(41 779)	(26 438)	(31 407)
UREA	31 017	46 137	29 233	46 518	-	-	-	-	-	-	-	-	31 017	46 137	29 233	46 518
	(34 190)	(50 857)	(32 233)	(51 277)	-	-	-	-	-	-	-	-	(34 190)	(50 857)	(32 233)	(51 277)

() SHORT TON

ROYALTY ASSESSMENT, 1982

Appendix V111 presents a summary of Crude Oil Assessed for State Royalty by Company, showing prices per cubic metres and analyses for the half-yearly periods ending 30th June 1982, and 31st December 1982.

The rate of Royalty on all fields is normally ten per cent (10%) of field storage value, except for Amoco Trinidad Oil Company's Licences, and the Galeota field of Trinidad-Tesoro Petroleum Company Limited, where it is twelve and one half per cent (12½%) of field storage value. The net production for Royalty purposes for the first half of 1982 was 5 749 636 cubic metres while in 1981, it was 6 132 726 cubic metres. For the second half of 1982, net production was 5 537 714 cubic metres as compared with 1981 of 6 023 774 cubic metres. The difference in the two (2) rates of Royalty is reflected in the total assessable cubic metre as indicated at column (2) of Appendix V111.

Net assessed production for Royalty purposes decreased during the first half of 1982 to 574 964 cubic metres from 613 273 cubic metres in 1981. However, for the second half of 1982 there was a larger decrease to 553 771 cubic metres as compared with 602 377 cubic metres in 1981. This decrease is due primarily to falling production in all fields, more especially in the Amoco Trinidad Oil Company's licensed areas.

During 1982 prices of Petroleum Products continued fluctuating, and these are reflected in the lowering of the average prices for the two (2) years under review. In both half year periods prices fell respectively in 1981 and 1982. The two (2) elements of falling production and decreasing prices contributed to, and are the main constraints which contributed to the reduced income on Royalty in 1982 of \$515,019,907 compared with 1981 at \$596,937,427.

Appendix 1X presents a summary of Royalty assessed for Crude Oil, Natural Gas sold and Natural Gasoline produced and Minimum Rents on State Owned Mining Leases/Licences for half-yearly periods 1980, 1981 and 1982.

It will be observed that Total Royalty on Crude Oil, Natural Gas and Natural Gasoline increased progressively through the years 1980 and 1981, but started declining in 1982 and were actually \$550,099,251, £596,937,427 and \$515,019,907 respectively. Increases in Petroleum Products prices were mainly responsible for the higher revenue in 1980 and 1981, but a decline was set in with lower prices of petroleum products in 1982, caused no doubt by the so-called "general recession" and the glut on the market, which eventually culminated in de-stocking . Declining production is also partly responsible for the decreases in revenue on royalty.

Administrative Report 1982
Legal Section.

The Legal Section of the Ministry engaged in the performance of routine duties which included the revision of contracts, the giving of advice on miscellaneous legal matters pertaining to operations in the petroleum industry, the drafting of legal documents and attendance of meetings.

A. Legislation.

The following were passed in 1982:-

- (a) The Price of Petroleum Products (Amendment) Order 1982.
- (b) The Price of Petroleum Products (LPG) (Amendment No. 5) Order 1982
- (c) The Petroleum Production Levy and Subsidy (Gross Margin) (No. 3) Order 1982
- (d) The Petroleum Production Levy and Subsidy (Gross Margin) (Amendment) Order 1982

These Orders were necessary in order to give effect to the increased prices for petroleum products.

B. Licences - Termination of Production Sharing Contract.

The Production Sharing Contract made between the Minister of Energy and Natural Resources and Mobil Trinidad Oil Company Limited over the Submarine Area identified as Block S-7 was terminated by Mobil Trinidad Oil Company on 8th of November, 1982.

C. Application for renewal of Oil Mining Leases.

The following notice of renewals of Licences were received:-

From Trinidad and Tobago Oil Company Limited in respect of Oil Mining Leases - 11661/54; 11662/54 and Supplemental Lease 8092/57.

The company wished to exercise its option to renew the leases for a further term of 30 years each from 1st January, 1984.

ANNUAL STATISTICS OF PRODUCTION, DRILLING, REFINING - EXPORTS AND IMPORTS 1982 - 1972

ITEM	UNIT(1)	PERCENTAGE DIFFERENCE 1982 - 1981	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	UNIT(2)
1. CRUDE OIL	'000 M ³	- 6.5	10 274	10 987	77 613	78 249	83 778	83 619	77 673	78 621	68 136	60 670	51 211	'000 bbls
2. CASING HEAD GASOLINE (C.H.P.S.)	'000 M ³	- 33.3	4	6	37	44	60	61	53	61	69	79	137	'000 bbls
3. TOTAL CRUDE OIL AND NATURAL GASOLINE (1 + 2)	'000 M ³	- 6.5	10 278	10 993	77 650	78 293	83 838	83 680	77 726	78 682	68 205	60 749	51 348	'000 bbls
4. CRUDE OIL PRODUCTION - CROWN OIL RIGHTS	'000 M ³	- 6.6	9 891	10 589	74 879	75 399	80 701	80 612	74 704	76 018	65 078	57 736	48 246	'000 bbls
5. CRUDE OIL PRODUCTION - PRIVATE OIL RIGHTS	'000 M ³	- 3.8	383	398	2 734	2 850	3 077	3 007	2 969	2 603	3 058	2 934	2 965	'000 bbls
6. TOTAL IMPORTS	'000 M ³	- 30.7	4 300	6 208	55 309	51 631	56 817	67 441	87 459	58 796	95 636	103 977	107 662	'000 bbls
7. IMPORTS OF REFINED PRODUCTS	'000 M ³	+730.0	581	70	-	-	-	1 681	2 503	260	46	21	76	'000 bbls
8. IMPORTS OF CRUDE OIL FOR REFINING	'000 M ³	- 39.4	3 719	6 138	55 309	51 631	56 817	65 760	84 784	58 144	95 472	103 624	107 150	'000 bbls
9. IMPORTS OF OTHER OILS FOR REFINING & BLENDING	'000 M ³	-	-	-	-	-	-	0	172	392	118	332	436	'000 bbls
10. TOTAL EXPORTS	'000 M ³	- 8.2	13 938	15 185	113 493	113 105	126 604	140 753	147 896	139 714	153 297	155 998	149 992	'000 bbls
11. EXPORTS OF CRUDE OIL	'000 M ³	- 11.9	5 956	6 760	46 075	46 282	54 008	50 936	44 408	48 307	31 870	23 614	14 005	'000 bbls
12. EXPORTS OF REFINED PRODUCTS	'000 M ³	- 5.3	7 982	8 425	67 418	66 823	72 596	89 817	103 488	91 407	121 427	132 384	135 972	'000 bbls
13. RUNS TO STILL	'000 M ³	- 13.0	8 761	10 071	78 343	82 857	85 882	99 536	117 595	85 660	130 819	141 687	144 274	'000 bbls
14. NUMBER OF WELLS STARTED	AS STATED	+ 12.6	232	206	156	190	236	235	224	182	219	205	184	AS STATED
15. TOTAL NUMBER OF WELLS COMPLETED	AS STATED	+ 4.2	215	206	183	184	215	217	207	189	212	212	189	AS STATED
16. NUMBER OF DRILLING WELLS COMPLETED AS OIL WELLS	AS STATED	+ 5.0	169	161	140	144	170	170	153	150	176	181	162	AS STATED
17. NUMBER OF DRILLING WELLS ABANDONED, ETC.	AS STATED	+ 85.7	26	14	19	40	45	47	54	24	21	31	27	AS STATED
18. TOTAL FOOTAGE DRILLED (ALL WELLS)	METRE	+ 5.6	252 936	239 609	670 928	787 132	895 098	922 295	919 705	839 649	909 980	955 185	841 742	FEET
19. FOOTAGE DRILLED ON CROWN OIL RIGHTS	METRE	- 0.03	220 747	220 806	623 384	1 228 181	863 989	882 023	879 132	772 279	766 787	874 867	760 769	FEET
20. FOOTAGE DRILLED ON PRIVATE OIL RIGHTS	METRE	+ 71.2	32 189	18 803	51 258	20 479	31 109	40 272	40 573	67 370	143 193	80 318	80 973	FEET
21. AVERAGE DEPTH OF COMPLETED DRILLING WELLS (15)	METRE	- 4.3	1 083	1 132	3 557	6 786	3 868	4 196	4 443	4 442	4 509	4 505	4 294	FEET
22. TOTAL NUMBER OF PRODUCING WELLS (AVERAGE DURING YEAR)	AS STATED	- 1.1	3 372	3 408	3 351	3 399	3 275	3 148	2 997	2 777	2 981	2 894	2 932	AS STATED
23. NUMBER OF WELLS PRODUCED BY FLOWING (AVERAGE DURING YEAR)	AS STATED	-	392	392	397	516	507	428	438	438	498	506	525	AS STATED
24. NUMBER OF WELLS PRODUCED-ARTIFICIAL LIFT (AVERAGE DURING YEAR)	AS STATED	- 1.2	2 980	3 016	2 954	2 883	2 768	2 720	2 559	2 339	2 483	2 388	2 407	AS STATED
25. AVERAGE DAILY PRODUCTION PER PRODUCING WELL	CUBIC METRE	- 5.7	8.3	8.8	63.3	63.0	70.1	72.8	71.0	77.6	62.6	57.4	47.7	BARREL
26. AVERAGE DAILY PRODUCTION FLOWING WELL	CUBIC METRE	- 18.0	23.7	28.9	248.9	215.4	271.4	335.7	328.5	358.7	248.0	204.4	146.8	BARREL
27. AVERAGE DAILY PRODUCTION PER ARTIFICIAL LIFT WELL	CUBIC METRE	+ 1.6	6.3	6.2	42.1	35.8	33.2	31.4	25.5	24.9	25.4	26.3	26.1	BARREL
28. TOTAL VALUE OF DOMESTIC EXPORTS	\$ '000	- 21.1	7 118 368	9 025 898	9 715 719	6 175 213	4 810 025	5 188 987	5 331 557	3 939 970	3 934 151	1 052 476	1 050 023	\$ '000
29. TOTAL VALUE OF PETROLEUM PRODUCTS (ITEM 28)	\$ '000	- 19.4	6 491 617	8 051 507	9 127 773	5 715 496	4 379 188	4 787 280	4 960 604	1 925 785	2 532 081	831 496	830 993	\$ '000
30. TOTAL VALUE OF LAKE ASPHALT PRODUCTS	\$ '000	+498.1	6 782	1 134	3 253	3 355	360	3 051	4 426	4 240	4 657	3 876	3 299	\$ '000
31. TOTAL NATURAL GAS PRODUCED	MILLION M ³	+ 4.2	5 841	5 604	197 811	169 740	157 920	149 589	137 959	126 434	128 293	119 979	104 338	MMCF
32. USED AS FUEL	MILLION M ³	+202.0	2 842	941	80 624	71 990	69 209	62 968	52 931	46 618	50 599	54 700	57 131	MMCF
33. REPLACED IN FORMATION	MILLION M ³	-	-	-	4	19	114	333	1 699	2 017	5 706	6 381	9 230	MMCF
34. LOSSES, NOT COLLECTED	MILLION M ³	- 16.6	297	356	12 607	82 236	73 381	8 518	76 095	70 890	63 760	49 213	28 016	MMCF

APPENDIX 11

MONTHLY ANALYSIS OF DRILLING AND WINDOVER WELLS - 1982

TRINIDAD AND TOBAGO

(IN METRES)

MONTH	DGS MONTH	NEW WELLS STARTED	DRILLING WELLS COMPLETED										CLOSED IN		MONTHLY DEPTH DRILLED			AVERAGE DEPTH DRILLED		OLD WELLS				
			OIL AND GAS PRODUCERS		INJECTION AND OBSERVATION WELLS		ABANDONED						TOTAL	AGGREGATE DEPTH	AVERAGE DEPTH	NO.	AGGREGATE DEPTH	CROWN	PRIVATE	TOTAL	/DAY	/RIS /DAY	RECOMPLETED	ABANDONED
			NO.	AGGREGATE DEPTH	NO.	AGGREGATE DEPTH	AFTER TESTING		DRY WELLS		TECHNICAL CAUSES													
							NO.	AGGREGATE DEPTH	NO.	AGGREGATE DEPTH	NO.	AGGREGATE DEPTH												
JANUARY	13.35	25	16	15 725	0	0	0	0	0	0	3	1 876	19	17 601	926	0	0	16 829	2 764	19 593	632.05	47.34	18	-
FEBRUARY	12.56	14	10	8 598	0	0	1	2 501	0	0	0	0	11	11 189	1 017	0	0	11 335	3 942	15 277	545.62	43.44	12	-
MARCH	13.11	18	20	16 091	3	1 990	0	0	2	2 860	0	0	25	20 942	838	0	0	17 035	2 977	20 012	645.53	47.08	29	-
APRIL	11.59	23	12	12 834	3	1 953	0	0	0	0	0	0	15	14 787	986	0	0	16 704	2 417	19 121	637.39	55.01	14	-
MAY	14.65	22	15	11 901	4	2 891	1	2 440	3	4 828	0	0	23	22 060	959	0	0	26 471	4 656	31 127	1004.11	68.56	10	-
JUNE	13.93	20	13	18 413	4	3 027	0	0	2	4 405	0	0	19	25 849	1 360	0	0	19 174	5 334	24 508	816.91	58.63	7	-
JULY	13.10	19	15	17 753	1	671	0	0	2	3 467	0	0	18	21 891	1 216	0	0	15 666	3 881	19 547	630.57	48.15	2	1
AUGUST	13.39	18	13	9 531	0	0	1	3 830	2	3 766	0	0	16	17 127	1 070	0	0	22 674	0	22 674	731.42	54.84	13	-
SEPTEMBER	13.24	20	15	12 876	0	0	0	0	1	914	2	3 237	18	17 028	946	0	0	17 688	4 328	22 016	733.88	55.41	8	-
OCTOBER	12.65	18	16	18 156	0	0	0	0	2	4 672	0	0	18	22 828	1 268	0	0	16 584	1 890	18 474	595.90	47.13	3	-
NOVEMBER	11.68	20	13	14 434	0	0	0	0	2	3 836	0	0	15	18 270	1 216	0	0	23 450	0	23 450	781.68	66.94	14	-
DECEMBER	9.94	15	16	18 549	0	0	0	0	2	4 801	0	0	18	23 350	1 297	0	0	17 136	0	17 136	552.77	55.64	22	-
TOTAL 1982	153.77	232	174	174 861	15	10 532	3	8 860	18	33 553	5	5 113	215	232 920	1 083	0	0	220 746	32 189	252 935	710.49	54.06	152	1
TOTAL 1981	168.82	206	168	183 055	27	14 225	4	12 771	9	23 937	1	2 595	209	236 584	1 132	1	396	220 806	18 803	239 609	673.06	46.65	161	10
% INCREASE 1982 - 1981	-8.91	13	4	-4	-43	-26	-24	-31	100	40	400	97.0	3	-1.5	4.3	-99	-100	2.0	71.2	5.6	5.6	15.4	-	-
AVERAGES 1982	12.80	19.3	14.5	1 004.8	1.2	702	0.3	2 953.4	1.5	1 864.1	0.4	1 022.7	17.9	1 083.3	-	0.0	0	18 396	2 682	21 078	-	-	-	-
AVERAGES 1981	14.10	17.2	14.0	1 089.6	2.2	526	0.3	3 192.8	0.8	2 659.7	0.1	2 595.1	17.4	1 132.0	-	0.1	396.2	18 400	1 567	19 967	-	-	-	-

APPENDIX VIII
ANALYSIS OF PRODUCTION BY OPERATING COMPANIES, 1960
(ALL QUANTITIES IN CUBIC METRES)

COMPANY	FLOWING				DGS LIFT				PUMPS				OTHER METHODS				SALT WATER				NO. OF WELLS PRODUCING	DAILY AV. PER PRODUCING WELL	TOTAL OIL PRODUCTION	AS A % OF TOTAL PRODUCTION	GROSS PRODUCTION		NET PRODUCTION	
	NO. OF WELLS	PRODUCTION IN CUBIC METRES	% OF TOTAL OIL	DAILY AV. PER WELL	NO. OF WELLS	PRODUCTION IN CUBIC METRES	% OF TOTAL OIL	DAILY AV. PER WELL	NO. OF WELLS	PRODUCTION IN CUBIC METRES	% OF TOTAL OIL	DAILY AV. PER WELL	NO. OF WELLS	PRODUCTION IN CUBIC METRES	% OF TOTAL OIL	DAILY AV. PER WELL	NO. OF WELLS	PRODUCTION IN CUBIC METRES	% OF TOTAL OIL	DAILY AV. PER WELL					PRODUCTION IN CUBIC METRES	% OF TOTAL PRODUCTION	PRODUCTION IN CUBIC METRES	% OF TOTAL PRODUCTION
TELEGRAPH BORDEN PETROLEUM	76	100 764	71.3	5.3	26	77 864	5.5	7.7	1 375	1 004 000	71.2	2.3	-	-	-	973	1 007 004	74.3	5.2	1 497	2.5	1 376 544	72.8	1 077 435	61.3	230 000	12.7	
TELEGRAPH BORDEN CORPORATION	66	406 373	16.3	6.8	277	214 857	23.8	2.1	692	600 000	19.8	2.8	-	-	-	465	975 644	32.7	8.7	804	2.6	606 414	8.7	606 373	30.8	100 000	5.0	
PRINCE CONSOLIDATED OIL-FIELD LIMITED	2	600	0.3	1.3	-	-	-	-	73	15 000	0.3	0.6	3	306	2.1	0.1	15	6 267	25.7	1.1	64	0.6	10 742	0.2	4 077	24.3	13 739	23.7
TELEGRAPH BORDEN OIL AREAS	64	800 000	31.6	22.8	167	1 294 461	35.4	28.1	91	200 000	13.9	15.4	-	-	-	279	900 000	18.7	6.8	302	20.8	2 203 267	71.5	2 203 267	100.0	-	-	
ROCK WATSON OIL COMPANY	45	7 300 000	41.6	125.4	70	2 100 000	38.4	123.3	-	-	-	-	-	-	-	94	4 004 000	48.8	240.3	710	324.2	6 303 423	59.5	6 303 423	100.0	-	-	
TELEGRAPH BORDEN OIL COMPANY	116	100 400	36.6	3.8	11	10 742	2.3	2.6	200	277 000	01.1	2.8	-	-	-	355	100 740	30.8	2.8	405	2.5	446 157	4.3	407 135	61.3	39 022	5.7	
TOTAL 1960	302	3 200 000	28.8	23.7	531	4 671 525	45.5	23.2	2 000	2 204 004	21.3	2.5	1	306	-	0.1	2 041	7 142 617	41.8	9.372	6.3	10 773 567	100.0	9 892 000	96.3	301 451	2.7	
TOTAL 1961	302	4 100 000	37.6	30.8	529	4 625 351	42.1	28.1	2 204	3 227 000	30.3	2.5	2	46	-	0.06	1 914	7 290 307	38.8	11.8	3 467	6.8	10 000 200	100.0	10 000 000	96.4	300 200	2.6

NATIONAL GASOLINE C.O.P.S. PRODUCTION

COMPANY	GROUND OIL RIGHTS	PRIVATE OIL RIGHTS	TOTAL
	CUBIC METRES	CUBIC METRES	CUBIC METRES
TELEGRAPH BORDEN PETROLEUM COMPANY LIMITED	6 400	40	6 400
TOTAL 1961	6 400	225	6 625

Appendix VIII

APPENDIX - 111C
MARINE & LAND PRODUCTION 1982
(ALL QUANTITIES IN CUBIC METRES)

TYPE OF WELL	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JANUARY-JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER		JULY-DECEMBER		YEAR-1982	
	WELLS	PRODUCTION	WELLS	PRODUCTION	WELLS	PRODUCTION	WELLS	PRODUCTION	WELLS	PRODUCTION	WELLS	PRODUCTION	AV. NO. OF WELLS	PRODUCTION	WELLS	PRODUCTION	WELLS	PRODUCTION	WELLS	PRODUCTION	WELLS	PRODUCTION	WELLS	PRODUCTION	WELLS	PRODUCTION	AV. NO. OF WELLS	PRODUCTION	AV. NO. OF WELLS	PRODUCTION
MARINE																														
T.N.A. - SOLDADO	299	188 342	278	165 516	284	184 033	282	177 489	293	188 407	290	179 373	287	1 083 160	289	189 094	288	182 860	285	181 520	294	185 971	293	174 730	304	183 956	292	1 778 131	289	2 193 291
T.T.L. - A.B.N.	59	3 238	57	3 194	56	3 294	57	3 039	61	3 620	62	3 680	59	20 044	67	3 604	68	4 148	65	4 211	59	4 360	65	4 301	50	3 664	62	24 282	60	44 332
TRINIDAD-TESSORO - GALEOTA	40	18 619	41	15 511	42	18 443	39	20 212	42	19 324	39	17 754	40	170 865	40	17 956	40	17 956	40	16 322	37	17 211	38	16 336	37	16 842	39	189 524	40	212 389
ANOCO	117	484 363	116	434 454	118	482 707	117	458 508	118	448 638	119	444 756	118	2 752 824	122	473 334	122	473 334	122	435 191	122	429 803	118	418 629	119	426 104	121	2 648 599	120	5 393 423
STD-TOTAL	515	685 562	492	618 675	500	687 876	495	659 248	514	659 969	510	645 562	504	3 966 893	518	683 988	518	671 342	512	637 304	512	637 345	514	615 996	510	630 566	514	3 826 542	509	7 843 435
DEVIATED FROM SHORE																														
T.N.A. - F.D.S.	13	756	14	1 121	11	1 191	11	932	11	1 044	11	992	12	6 036	11	804	11	605	12	512	13	522	13	776	11	740	12	3 940	12	9 975
T.T.L. - A.S.	43	698	39	509	38	637	35	1 150	34	546	32	424	37	3 964	34	568	34	312	34	480	33	366	32	376	37	490	34	2 591	36	6 555
Trinidad-Tessoro - Campo # (11551/53)	8	158	8	175	8	341	8	355	8	337	8	279	8	1 646	8	248	8	212	8	206	8	185	8	212	8	284	8	1 349	8	2 995
SUB-TOTAL	64	1 612	61	1 805	58	2 170	54	2 437	53	1 927	51	1 695	57	11 646	53	1 620	53	1 129	54	1 198	54	1 053	53	1 365	56	1 516	54	7 880	56	19 526
MARINE & DEVIATED																														
	579	687 174	553	620 480	558	690 046	549	661 686	567	661 896	561	647 258	561	3 978 540	571	685 628	571	672 470	566	638 503	566	638 398	567	617 361	566	632 082	568	3 884 422	565	7 862 962
LAND	2 833	216 881	2 851	194 321	2 876	208 713	2 859	209 240	2 850	220 526	2 798	200 789	2 844	1 256 169	2 802	202 670	2 768	190 135	2 741	188 220	2 756	188 676	2 740	193 083	2 799	197 616	2 771	1 166 400	2 807	2 410 569
TOTAL PRODUCTION	3 412	914 055	3 404	814 801	3 434	898 759	3 408	870 926	3 417	882 422	3 359	848 046	3 405	5 228 709	3 373	888 298	3 340	862 605	3 307	826 723	3 322	827 073	3 327	810 444	3 365	829 698	3 338	5 054 822	3 372	10 273 531
TOTAL																														
MARINE CUMULATIVE	3 412	914 055	6 816	1 728 556	10 250	2 627 314	13 658	3 498 241	17 075	4 380 663	20 434	5 228 709			23 807	6 116 987	27 147	6 979 592	30 454	7 806 315	33 776	8 632 388	37 103	9 443 833	40 468	10 273 531				
DEVIATED CUMULATIVE	515	685 562	1 007	1 314 237	1 507	2 002 113	2 002	2 661 362	2 516	3 321 331	3 026	3 966 894			3 544	4 650 881	4 062	5 322 223	4 574	5 959 528	5 086	6 596 873	5 600	7 212 869	6 110	7 843 435				
LAND CUMULATIVE	64	1 612	125	3 417	183	5 586	237	8 074	290	9 951	341	11 646			394	13 266	447	14 395	501	15 593	555	16 646	608	18 010	664	19 526				
DEVIATED AND LAND TOTAL	2 833	216 881	5 689	140 902	8 567	619 614	11 419	828 885	14 269	1 049 381	17 067	1 250 169			19 869	1 452 840	22 638	1 642 974	25 379	1 831 194	28 135	2 019 870	30 895	2 212 953	33 694	2 410 569				
	2 897	218 493	5 809	414 319	8 743	625 201	11 656	836 879	14 559	1 059 332	17 408	1 261 815			20 263	1 466 106	23 085	1 657 369	25 880	1 846 787	28 630	2 036 516	31 503	2 230 963	34 358	2 430 095				

APPENDIX IV
 PRODUCTION AND DISPOSAL OF NATURAL GAS - 1987
 (ALL FIGURES OF GAS PRODUCTION IN STD M³)

	CRUDE OIL PRODUCTION (STD M ³)	AVERAGE BGR	NATURAL GAS PRODUCTION	NATURAL GAS DISPOSAL								PIPELINE LOSSES UNACCOUNTED FOR	NOT COLLECTED	NATURAL GAS RECOVERY			INTER-OIL COMPANY SALES	USED FOR THE MANUFACTURE OF PETROCHEMICALS
				SALES TO OTHER COMPANIES	REPLACED INTO FORMATION	CONVERTED INTO C.N.P.S.	USED AS FUEL		VENTED TO ATMOSPHERE					NATURAL GAS TREATED	AVERAGE PLANT RECOVERY*	NATURAL GASOLINE PRODUCED (STD M ³)		
							IN FIELDS	IN REFINERIES	AFTER UTILIZATION	WITHOUT UTILIZATION	TOTAL							
JANUARY	914 872	515	479 661 845	173 321 324	-	79 292	21 150 473	48 830 245	82 372 891	111 937 826	194 330 717	5 682 515	27 278 319	6 125 927	0,068	414	44 198 909	23 350 579
FEBRUARY	814 516	532	433 162 191	154 942 664	-	66 093	21 086 943	52 216 127	76 698 789	101 232 881	177 931 670	5 263 547	22 253 547	5 784 871	0,064	368	51 278 199	17 640 068
MARCH	890 776	671	513 529 081	225 394 584	-	36 252	21 814 608	52 655 896	88 344 898	95 694 745	184 039 643	5 828 136	23 649 932	3 290 271	0,059	192	50 578 182	37 272 308
APRIL	870 843	561	488 426 591	226 412 608	-	-	22 321 470	46 878 931	79 544 331	85 544 000	165 089 331	7 411 730	20 403 521	-	-	-	49 671 525	61 363 252
MAY	882 439	581	512 634 085	236 648 764	-	33 762	23 889 545	56 792 563	77 342 449	82 818 416	160 360 845	8 914 397	26 288 189	6 282 082	0,028	179	56 147 934	64 537 597
JUNE	848 862	543	460 217 303	289 449 525	-	106 757	22 893 784	56 882 457	78 373 417	66 159 557	144 542 974	5 708 065	27 413 740	6 219 482	0,091	565	60 247 853	51 656 028
HALF-YEARLY TOTAL	5 228 808	551	2 878 641 436	1 219 584 470	-	321 186	132 366 723	314 266 219	482 676 775	543 297 425	1 026 874 200	38 920 390	147 308 248	27 682 573	0,062	1 718	312 117 602	255 839 832
				42,4%	-	-	4,6%	10,3%	16,7%	18,9%	35,6%	1,4%	5,1%	-			18,8%	8,9%
JULY	848 295	580	514 895 583	242 461 392	-	103 721	28 957 106	51 288 101	82 140 793	74 982 768	156 223 561	9 029 208	27 132 502	6 528 441	0,084	548	53 575 669	72 679 641
AUGUST	842 622	576	496 859 724	843 536 087	-	88 887	25 218 771	45 607 190	81 669 231	65 785 189	147 374 426	12 495 788	22 546 333	5 454 232	0,086	479	47 040 613	73 671 528
SEPTEMBER	826 738	579	478 456 055	229 648 109	-	84 563	28 226 479	44 534 098	78 544 863	66 384 577	145 529 440	4 104 369	26 309 206	5 198 863	0,086	447	40 744 643	69 784 528
OCTOBER	827 089	599	494 603 298	239 899 479	-	27 308	28 521 608	44 757 863	73 655 455	71 418 824	145 074 379	11 222 032	25 875 622	5 594 292	0,077	432	50 068 541	80 540 763
NOVEMBER	810 459	607	491 796 551	221 448 259	-	94 156	30 735 019	51 950 954	82 746 289	74 404 641	156 650 938	7 123 419	23 793 813	5 453 974	0,091	498	54 464 027	65 078 023
DECEMBER	829 714	585	485 699 604	240 882 862	-	74 541	26 647 774	42 608 887	77 313 268	67 691 753	145 005 022	6 858 561	24 052 657	5 510 560	0,053	290	48 075 533	71 892 599
HALF-YEARLY TOTAL	5 944 917	587	2 962 229 887	1 416 665 388	-	468 176	167 828 748	288 757 193	475 569 906	420 287 852	895 857 758	50 833 161	149 710 383	33 732 362	0,088	2 646	293 963 026	433 567 066
				47,8%	-	-	5,7%	9,5%	16,0%	14,2%	30,2%	1,7%	5,1%	-			9,9%	14,6%
YEAR TOTAL	10 273 725	569	5 840 862 243	2 636 248 858	-	789 362	300 895 471	595 023 412	958 246 681	963 685 277	1 921 931 958	89 793 551	297 018 631	61 424 935	0,072	4 404	606 086 628	689 406 898
% DISPOSAL FOR YEAR				45,1%	-	-	5,2%	10,1%	16,4%	16,5%	32,9%	1,6%	5,1%				10,4%	11,9%

* AVERAGE PLANT RECOVERY = NATURAL GASOLINE PRODUCED (STD M³) / NATURAL GAS TREATED (STD M³ x 10³)

APPENDIX Y

DESTINATION OF EXPORTS OF CRUDE AND REFINED PRODUCTS FROM TRINIDAD AND TOBAGO 1962

(ALL QUANTITIES IN CUBIC METRES)

COUNTRY	TOTALS	% OF TOTAL EXPORTS	CRUDE PETROLEUM EXPORTS	L.P.G.	AVIATION TURBINE FUEL	AVIATION GASOLINE	MOTOR GASOLINE	KEROSENE	GAS AND DIESEL OILS	FUEL OILS	LUBES AND GREASES	ASPHALTIC PRODUCTS	PETROCHEMICALS	KAPTRA	OTHER REFINED PRODUCTS
SOUTH AMERICA:															
CANADA	140 111	1.755					100 783		39 326						
U.S.A.	1 333 328	16.701	5 076 256					38 813	97 298	1 064 977	11 129		42 073	78 838	
TOTAL S.A.	1 473 239	18.456	5 076 256				100 783	38 813	136 626	1 064 977	11 129		42 073	78 838	
CENTRAL AMERICA:															
PANAMA	177 204	2.228		17 852		3 254	10 355	8 621	42 258	94 625					238
COSTA RICA	4 294	0.054													4 294
GUATEMALA	51 097	0.640				6 480	(1 509)	1 585	26 290					17 449	802
HONDURAS	296 560	3.715				1 921	121 791	48 701	113 584	9 399					1 164
MEXICO	2 725	0.034											2 725		
TOTAL C.A.	531 880	6.663		17 852		11 655	130 637	58 407	182 133	104 024			2 725	17 449	6 498
NORTH AMERICA:															
GUYANA	566 332	7.095		1 566	15 088		47 577	323	257 932	243 074	822				
SIERRA LEONE	619 189	7.757			20 707	1 905	67 342	1 938	236 637	285 240	4 896				523
FRENCH GUIANA	127 152	1.593		1 630	2 924	239	28 159	10 635	81 579	1 978					
OTHER S.A. (1)	301 199	3.773				1 344	224 199		45 302		16 074		11 758		2 522
TOTAL N.A.	1 613 872	20.218		3 204	38 719	3 488	367 277	12 897	621 458	530 242	21 792		11 758		3 045
EAST INDIAN ISLANDS:															
BRITISH (2)	351 494	4.404		6 086	41 490	1 642	21 457	4 687	85 714	164 952	680	1 056		18 913	4 727
FRENCH (3)	113 293	1.419		4 783	20 716	1 251	27 797	511	48 680	6 474					3 031
NETHERLANDS (4)	28 187	0.352					25 697		1 046						
PUERTO RICO	467 738	5.868	43 989			7 980	408 157	28 492	17 396	3 098			1 364		2 515
VIRGIN ISLANDS	35 077	0.439		517	64	3 425	20 392		8 257				2 422		
DOMINICAN REPUBLIC	4 219	0.053				4 219									
MAITI	101 519	1.272				2 770	17 625	23 221	44 091	15 812					
TOTAL E.I. ISLANDS	1 301 447	13.799	43 989	11 386	62 270	21 627	621 425	56 921	295 184	184 326	680	1 056	6 401	18 913	7 758
EUROPE:															
ITALY	116 374	1.458	835 513							108 361			8 013		
NETHERLANDS	1 062 991	13.317			4 828				34 625	546 859			76 101		378
UNITED KINGDOM	123 313	1.545								85 576				37 737	
FRANCE	175 892	2.205							34 991	141 001					
BELGIUM	95 048	1.191							95 048						
N.E. EUROPE	330 458	4.140						35 034		294 424					
OTHER EUROPE (5)	134 646	1.687							12 992	121 654					
TOTAL EUROPE	2 038 822	25.543	835 513		4 828			36 034	177 856	1 697 675			84 114	37 737	378
OTHERS:															
JAPAN	5 740	0.072													
AFRICA (6)	385 709	4.832			61 330		61 856	8 302	22 504	197 722	31 637		5 740		2 351
CANARY ISLANDS	76 290	0.956							47 285	29 005					
TANZANIA	34 705	0.435				1 010	8 158	19 738	3 070	1 829					
AUSTRALIA	56 948	0.713								56 948					
OTHERS (7)	76 250	0.955					11 213	1 150	3 425	59 168					1 28
TOTAL OTHERS	635 642	7.963			61 330	1 010	81 227	28 190	77 184	394 672	31 637		5 740		3 62
TOTAL CARGOES	7 394 922	92.642	5 955 768	32 442	167 147	37 588	1 201 048	232 762	1 400 433	3 930 116	68 238	1 056	152 811	152 937	21 3
FOREIGN BUNKERS	587 246	7.358			20 018	47			57 452	506 857	630	2 242			
TOTAL EXPORTS	7 982 148	100.000	5 955 768	32 442	187 165	37 627	1 201 049	232 762	1 457 885	4 436 973	65 868	3 298	152 811	152 937	21 3

COUNTRIES NOT DETAILED

- (1) OTHER SOUTH AMERICA - BRAZIL, COLOMBIA, VENEZUELA, ARGENTINA, ECUADOR, PERU, CHILE.
- (2) BRITISH - ANTIGUA, ANGUILLA, GRAND CAYMAN, GRENADA, ST. LUCIA, DOMINICA, ST. KITT'S, MONTserrat, NEVIS, CARRIACOU, BEQUIA, BARBADOS, JAMAICA, BAHAMAS.
- (3) FRENCH - ST. MAARTEN, ST. BARTHS, GUADELOUPE, MARTINIQUE, ST. BARTHELEMY.
- (4) NETHERLANDS - SABA, ARUBA, ST. EUSTATIUS.
- (5) OTHER EUROPE - SWEDEN, RAMSBURG, SINGAPORE.
- (6) AFRICA - REPUBLIC OF GUINEA, SENEGAL, TOGO, GAMBIA, IVORY COAST, NIGERIA.
- (7) OTHERS - CANARY ISLANDS, JAPAN, TANZANIA, HONGKONG, AUSTRALIA, AZORES, PHILIPPINES, BRENKUIZER.

SUMMARY OF CRUDE OIL ASSESSED FOR ROYALTY WITH PRICES AND ANALYSIS 1982

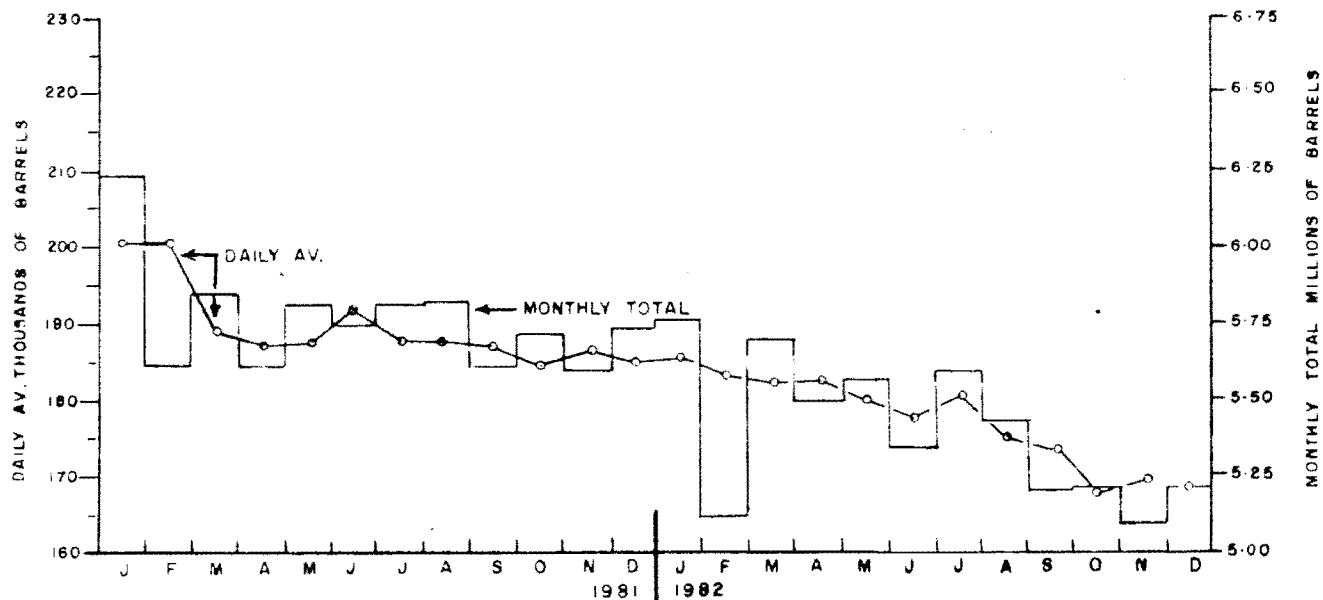
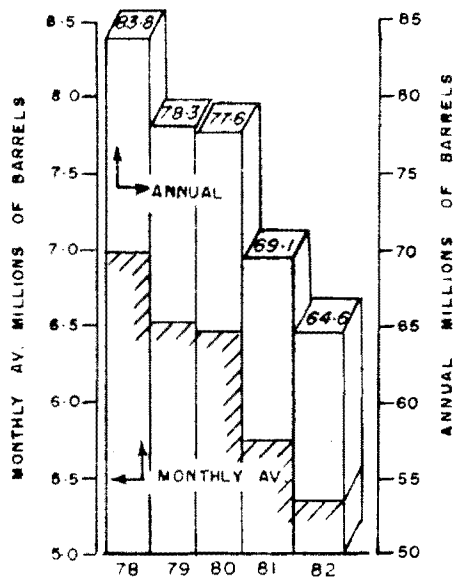
(FOR HALF-YEARLY ASSESSMENT PERIODS ENDING BOTH JUNE AND 31st DECEMBER)

ONE BARREL = 34.9726 I.G.

COMPANY	ROYALTY							SUB-DIVISION OF (ROYALTY) CRUDE INTO PRODUCTS AS R.I.F.1. ANALYSIS							FUEL OIL	
	NET ROYALTY Production	10% Asses- sed Bbls	Value \$	Av.Pr. Bbls	Quant. Bbls	%	LIGHT FRACTIONS							FUEL OIL		
							TETRA ETHYL To Blend to 70/72 Oct. Gas MLS.	55-57 D.I. Bbls	48-52 D.I. Bbls	43-47 D.I. Bbls	No. 2 Fuel Bbls	Total Gas Bbls	%	Quant. Bbls	%	
TRINIDAD TESORO PETROLEUM COMPANY LIMITED	2,869,908	286,991	16,808,372	58.57	21,932	7.64	806,125.30		21	8,942	38,762	47,725	16.63	217,334	75.73	
TESORO GALEOTA	697,321	87,165	6,219,209	71.35	15,437	17.71	-				39,460	39,460	45.27	32,268	37.02	
PREMIER CONSOLIDATED OILFIELDS LIMITED	10,813	1,081	68,363	63.22	83	7.68	7,706.40		113	245	358	358	33.12	640	59.20	
ESTATE OF TIMOTHY RODDAL	137	14	845	61.68	1	7.14	-			4	4	4	28.57	8	64.29	
TRINTOC	1,289,878	128,988	7,889,281	61.16	15,931	12.35	4,795,137.83	9,733		17,642		27,375	21.22	85,682	66.43	
TRINIDAD NORTHERN AREA LIMITED	6,850,851	685,085	40,616,900	59.29	81,942	11.96	24,444,455.70			102,370		102,370	14.94	500,773	73.10	
TEXACO TRINIDAD INC.	2,627,482	262,748	16,458,305	62.64	30,642	11.66	4,401,339.81			24,975	1,614	71,759	27.31	160,347	61.03	
AMOCO TRINIDAD OIL CO.	17,314,775	2,164,347	167,225,981	77.26	248,250	11.47	23,707,533.78			1,640,232		1,640,232	75.78	275,865	12.75	
TOTAL & AVERAGES JANUARY - JUNE	31,655,452	3,616,419	255,287,256	70.59	414,218	11.45	58,162,898.22	9,733		1,767,711	28,198	123,641	1,929,283	53.35	1,272,918	35.20
TRINIDAD TESORO PETROLEUM COMPANY LIMITED	2,570,339	257,034	15,426,278	60.00	18,211	7.09	1,788,296.47			8,370	33,635	42,005	16.34	196,818	76.57	
TESORO GALEOTA	638,565	79,821	5,852,091	73.32	14,163	17.74	-				37,960	37,960	47.56	27,698	34.70	
PREMIER CONSOLIDATED OILFIELDS LIMITED	16,983	1,698	111,054	65.39	162	9.54	21,252.00			281	291	572	33.69	964	56.77	
ESTATE OF TIMOTHY RODDAL	99	10	619	62.53	-	-	-				3	3	30.00	7	70.00	
TRINTOC	1,251,824	125,182	7,757,464	61.97	14,313	11.43	4,643,921.82	4,435		4,541	13,549	23,628	18.88	87,241	69.69	
TRINIDAD NORTHERN AREA LIMITED	7,007,305	700,731	42,555,769	60.73	92,875	13.26	28,484,208.06			90,691		90,691	12.94	517,165	73.80	
TEXACO TRINIDAD INC.	2,425,365	242,536	15,659,680	64.57	29,239	12.06	4,016,749.10	273		22,736	20,092	66,004	27.21	147,293	60.73	
AMOCO TRINIDAD OIL CO.	16,608,900	2,076,112	165,786,500	79.85	237,198	11.42	25,705,319.4			1,614,375		1,614,375	77.76	224,539	10.82	
TOTAL & AVERAGES JULY - DECEMBER	30,519,281	3,483,124	253,194,455	72.69	406,161	11.66	74,224,959.59	4,708		1,732,343	42,292	95,895	1,875,238	53.84	1,201,725	34.50
YEARS TOTALS & AVERAGES	62,174,733	7,099,543	508,481,711	71.73	320,379	11.55	132,387,258.21	14,441		3,500,054	70,490	219,536	3,804,521	53.59	2,474,643	35.86

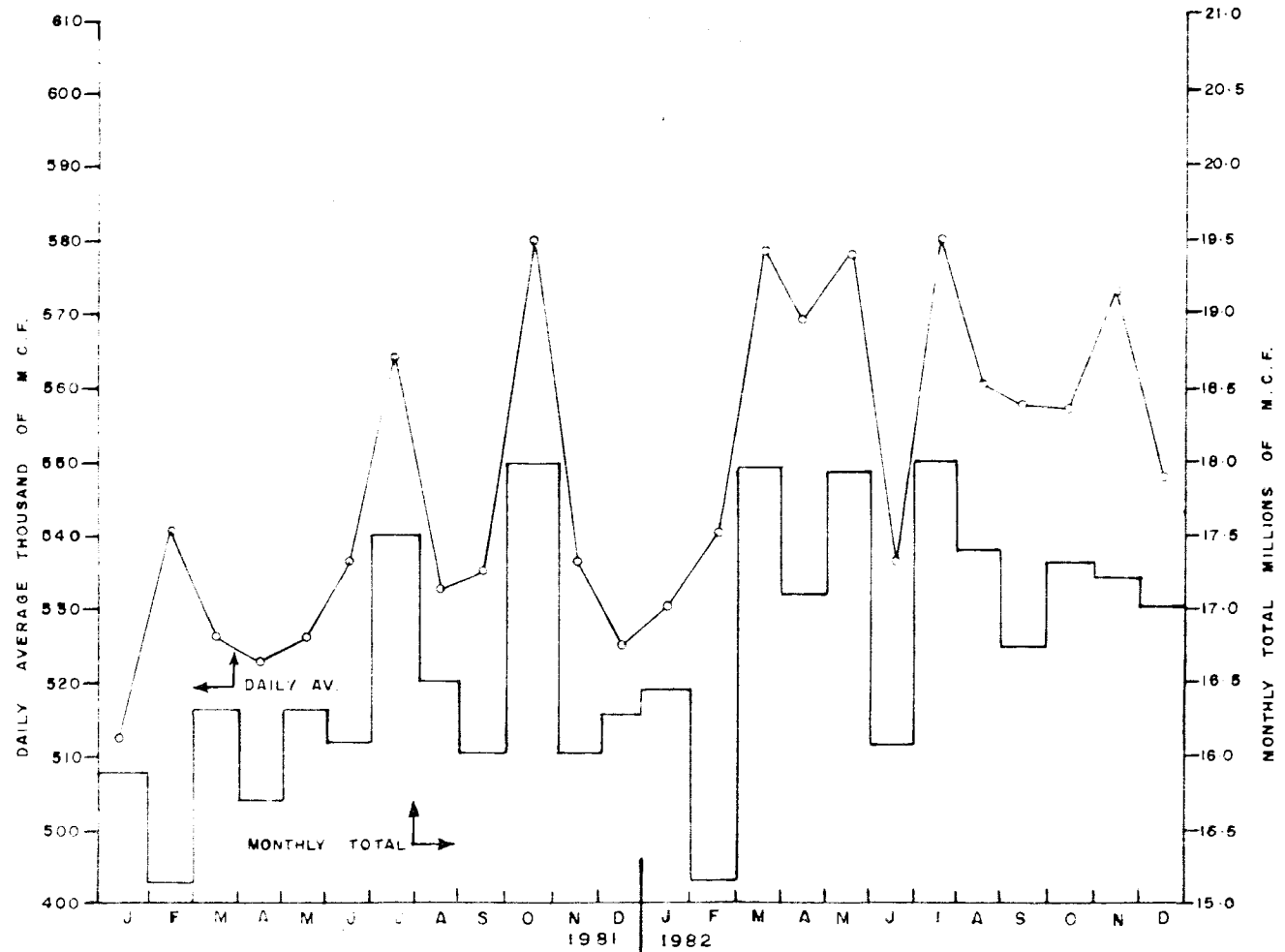
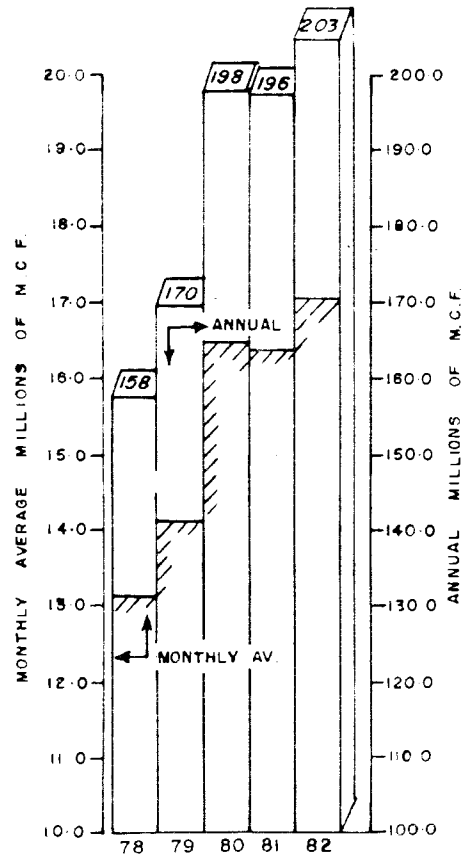
STATISTICS ON THE PETROLEUM INDUSTRY OF TRINIDAD & TOBAGO

CRUDE OIL PRODUCTION



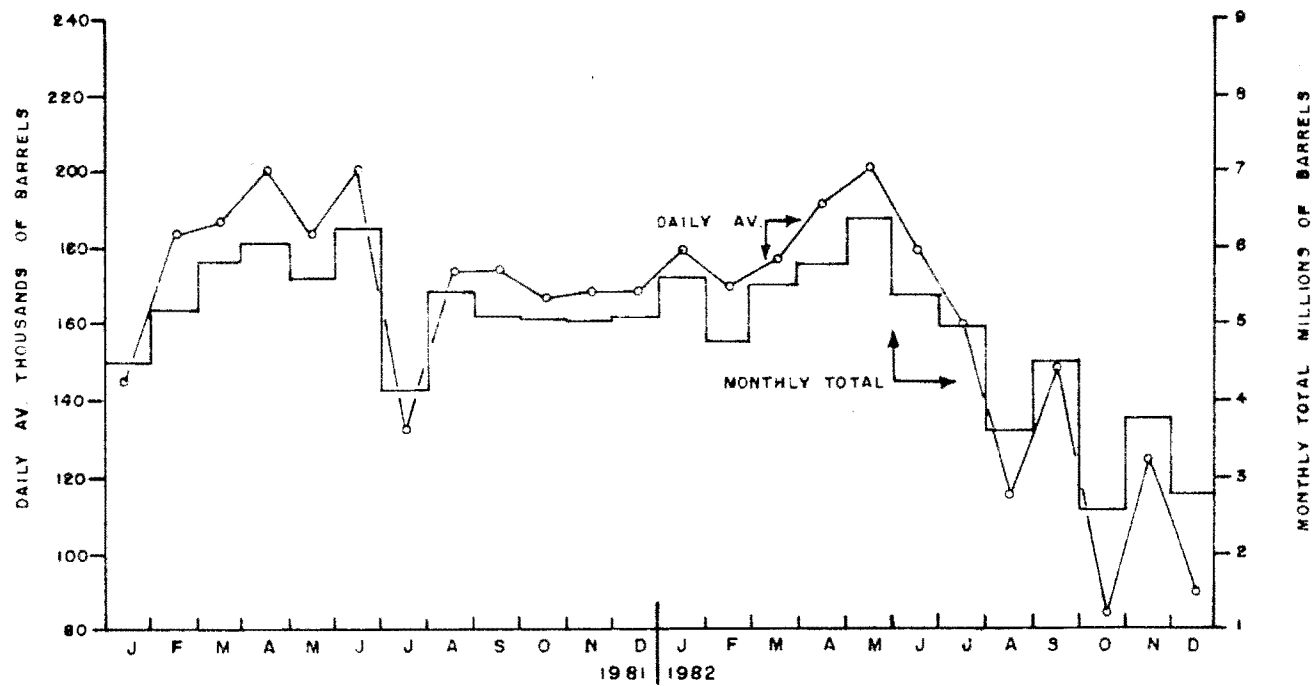
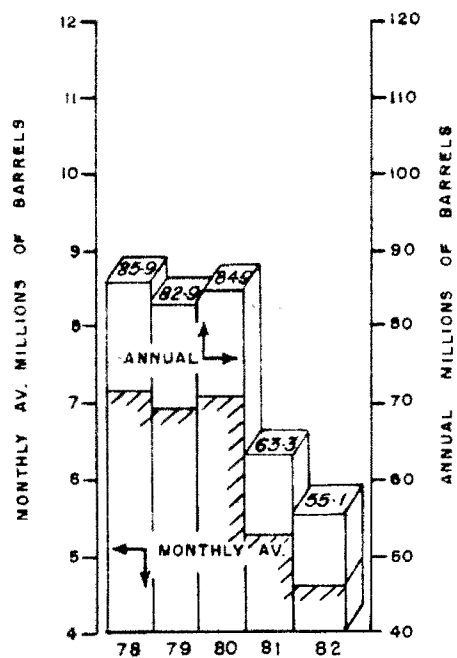
STATISTICS ON THE PETROLEUM INDUSTRY OF TRINIDAD & TOBAGO

NATURAL GAS PRODUCTION



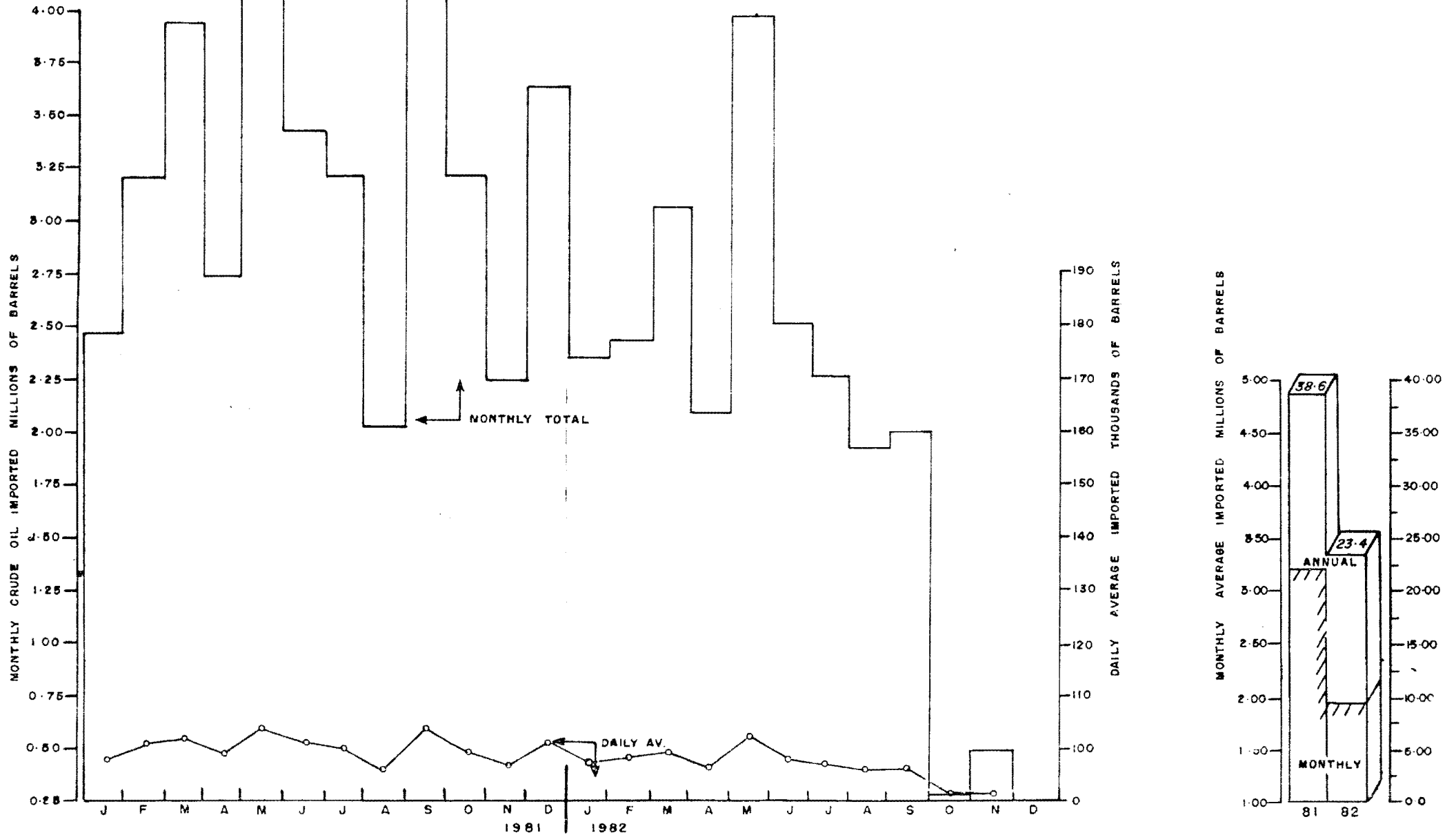
STATISTICS ON THE PETROLEUM INDUSTRY OF TRINIDAD & TOBAGO

REFINERY THROUGHPUT



STATISTICS ON THE PETROLEUM INDUSTRY OF TRINIDAD & TOBAGO

CRUDE OIL IMPORTS



STATISTICS ON THE PETROLEUM INDUSTRY OF TRINIDAD & TOBAGO

DRILLING

