

MINES

Report of the Inspector of Mines and Petroleum Technologist for the Year 1942

HONOURABLE COLONIAL SECRETARY,

I have the honour to submit, for the information of His Excellency the Governor, the following report on the work of the Mines Department for the year 1942.

THE PETROLEUM INDUSTRY

2. Petroleum requirements for war purposes continued to govern the activities of the Petroleum Industry during the year. Towards the end of this period it became increasingly difficult to obtain delivery of equipment and materials manufactured from steel and other commodities in short supply. In the interests of economy, therefore, and with the object of reducing their requirements from abroad to a minimum, the oil companies which constitute the Petroleum Association of Trinidad voluntarily arranged to pool their surplus stocks of equipment and material and also to economise in material by making a substantial reduction in their drilling operations. It was considered that in spite of the reduction in drilling proposed it would be possible to maintain, by selective drilling, for a time at any rate, the existing level of crude oil production of the Colony (approximately 60,000 barrels daily) which was sufficient to meet all expected requirements. It is satisfactory to record that up to the end of the year such proved to be the case. Attention is drawn to the fact that the above mentioned reduction in drilling operations was only decided on during the latter part of the year and is additional to a general reduction which has been taking place steadily during the past two years. This general reduction was caused partly by existing production potential being sufficient to meet market requirements and partly by a decrease in exploration drilling consequent upon war conditions.

3. *Production of Crude Oil.*—The total production of crude oil for the year 1942 amounted to 22,069,178 barrels which is 1,563,199 barrels or 7.60 per cent. more than the production for 1941.

4. *Drilling.*—As noted in paragraph 2 a considerable reduction in drilling operations has occurred during the year 1942, the number of oil wells commenced being only 169 compared with 270 for the year 1941. The total number of oil wells drilled in the Colony to the end of 1942 is 3,911 of which 2,581 are on lands the oil rights of which are vested in the Crown and 1,330 are on private lands.

The number of feet drilled during 1942 amounted to 623,398, a decrease of 311,856 feet or 33.3 per cent. on the footage for 1941.

The depth of the deepest well completed in the Colony remains unaltered at 10,015 feet.

5. The following table shows, comparatively, the number of feet drilled and the quantity of oil produced during the years 1940, 1941, and 1942:—

	Number of Feet Drilled			Production in Barrels of 35 Gals.		
	1940	1941	1942	1940	1941	1942
Crown Oil Rights ..	827,911	785,487	546,233	16,680,423	15,380,226	17,793,360
Private Oil Rights ..	197,711	149,767	77,165	5,546,453	5,125,754	4,275,818
Totals ..	1,025,622	935,254	623,398	22,226,876	20,505,980	22,069,178

NOTE:—Previous to the year 1941, figures showing the number of feet drilled included fresh water wells. In the footage figures for 1941 and 1942 shown above, fresh water wells are excluded.

6. *Oilfield Operators.*—The number of oilfield operators in the Colony during the year was 16 as compared with 17 in 1941.

7. *Persons Employed.*—The average number of persons employed in the Petroleum Industry during 1942 amounted to 13,996 per day as compared with 14,890 during 1941.

8. *Leases and Licences.*—During the year 12 applications for leases were received—2 principal and 10 supplemental. Three principal and two supplemental leases were registered and seven exploration licences were renewed. The total number of mining leases and exploration licences in force at the end of the year amounted to 87, the details of which are as follows:—

	Acreage.								
	Crown			Alienated					
	A.	R.	P.	A.	R.	P.			
80 Mining Leases ....	....	....	....	152,501	1	27	56,586	1	05
7 Exploration Licences ..	....	....	....	141,394	3	06	—	—	—
87	Total	....	....	293,896	0	33	56,586	1	05

9. *Total Area under Lease or Licence.*—The total area under Crown and Private Leases on the 31st December, 1942, amounted to 408,338 acres (or 34.23 per cent. of the total area of Trinidad), made up as follows :—

	A.	R.	P.
Area of Crown Lands under Exploration Licence	141,394	3	06
Area of Alienated Lands under Mining Lease the oil rights of which are vested in the Crown	56,586	1	05
Area of Crown Lands under Mining Lease	152,501	1	27
Area of privately owned oil rights under Lease, according to details supplied by the oil companies	57,855	2	35
Total.....	408,338	0	33

10. *Revenue from Royalties and Fees.*—The revenue collected under these heads amounted to \$1,387,629.30 as compared with \$1,337,672.80 collected during the year 1941. For purposes of comparison, the following table shows the amounts collected under each head for the years 1940, 1941 and 1942 :—

	Amounts Collected		
	1940	1941	1942
	\$ c.	\$ c.	\$ c.
Royalties in respect of oil produced from Crown and Alienated Lands	1,306,506 02	1,332,368 99	1,382,558 75
Fees charged for pipe lines along and across the Trinidad Government Railway and Public Roads	3,828 48	5,303 81	5,070 55
Totals	1,310,334 50	1,337,672 80	1,387,629 30

11. *Refineries.*—Seven permits for the refining of oil were issued during the year under the Oil Mining and Refining Ordinance, Ch. 26. No. 3. Of these permits four were issued in respect of small field topping plants the operations of which are of relative unimportance.

The total crude oil capacity of the refineries operating in the Colony amounts to approximately 28,500,000 barrels per annum. During 1942 a total quantity of 21,914,247 barrels of crude oil was refined, compared with 20,812,467 barrels during 1941.

12. *Gasolene Extraction Plants.*—Four Gas Absorption Plants and two Gas Adsorption Plants for the recovery of gasolene from natural gas were in operation during the year.

13. *Loading Facilities.*—Four deep water piers equipped for loading tank steamers with petroleum and its products are in use. Facilities for bunkering vessels in the harbour of Port-of-Spain are also available.

14. *Pipelines.*—Approximately 334 miles of main oil pipelines have been laid down in the Colony and the total number of permits issued under the Pipelines Ordinance, Ch. 26. No. 9, to the end of 1942 amounted to 111.

15. *Tank Storage.*—The total main tank storage capacity for petroleum in the Colony is approximately 7,472,850 barrels.

16. *Exports of Petroleum and its Products.*—The quantity of petroleum and its products exported during the year increased substantially as compared with the year 1941, the amounts and values for the two years being as follows :—

1941—17,123,931 barrels valued at	\$28,980,268.00
1942—19,063,926 barrels valued at	\$33,949,671.00

Petroleum and its products including Asphalt continued to form the largest part, viz.: 80.50 per cent. of the Colony's total exports during 1942, the value being more than six times that of the products of the next most important of its industries, viz.: Sugar (including Molasses and Rum).

The value of the leading staple products of the Colony exported during 1942 is shown in the following table :—

<i>Staple Products Exported</i>	<i>Value</i>	<i>Per cent. of Total</i>
Petroleum and its Products	\$33,949,671	78.81
Sugar, Molasses and Rum	5,595,031	12.99
Cocoa	1,187,994	2.76
Asphalt	727,934	1.69
Fruits and Fruit Products	438,532	1.02
Bitters	251,117	0.58
Coffee	33,646	0.08
Coconuts, Copra and Coconut Oil	3,864	0.01
Other Exports not enumerated	886,312	2.06
	<u>\$43,074,101</u>	<u>100.00</u>

17. *Returns.*—The various returns submitted by the oil companies under the various Ordinances and Regulations in respect of their operations have been regularly received and after being checked have been filed with the records of the Department.

18. *Inspections.*—The operations on the various oilfields were inspected by officers of this Department as frequently as possible, and I have pleasure in recording that the Managers have readily co-operated in ensuring that the provisions of the Ordinances and Regulations were effectively carried out.

19. Included in this report as Appendix "B" will be found some notes and statistics relating to the progress of the petroleum industry which have been compiled by the Assistant Petroleum Technologist.

THE ASPHALT INDUSTRY.

20. Shipping difficulties continued to create adverse conditions for the Asphalt Industry and a substantial decrease, both in production and exports, has to be recorded for the year 1942. The production of asphalt during the year amounted to 63,409 tons as compared with 80,540 tons for the year 1941, a decrease of 17,131 tons. The following table shows, comparatively, the quantity of asphalt produced and exported during the years 1940, 1941 and 1942:—

	1940	1941	1942
Production (in tons)	78,652	80,540	63,409
Export (in tons)	36,393	48,199	24,331

FACTORIES AND WORKSHOPS.

21. During the period under review 309 factories and workshops, exclusive of units situated on oilfields, were in operation in Trinidad and Tobago. During the inspection of these factories and workshops by officers of this Department recommendations were made for ensuring the safety of the workmen and such recommendations were at all times readily carried out by the managers concerned.

QUARRIES.

22. The number of quarries worked during the past year was 144 as compared with 170 in operation during the year 1941. Most of these quarries are very small and relatively unimportant. As a result of inspection it was found that, as a general rule, the quarries were being worked in a careful manner. The various recommendations made by officers of this Department for increasing the safety of the workmen were usually carried out without delay.

ACCIDENTS.

23. All fatal and serious accidents which occurred on oilfields and in refineries, factories and quarries during the period under review have been investigated, as in the past, by officers of the Department under the Mines, Borings and Quarries Ordinance, Ch. 26. No. 4, and the Prevention of Accidents Ordinance, Ch. 30. No. 3, and, where necessary, recommendations have been made to the employers with the object of reducing the incidence of such accidents to a minimum. During the year 1942 four fatal accidents occurred in the Petroleum Industry, compared with six for the year 1941, and five occurred in other industries.

PETROLEUM ORDINANCE, Ch. 26. No. 2.

24. The premises where dangerous petroleum products are stored have been inspected, and all possible care has been taken to ensure safety. During the year 552 licences were issued for this storage and sale of petroleum and its products. The revenue actually collected from such licences during 1942 was \$1,888.80.

APPENDICES.

25. Appendix "A" shows the list of oil and asphalt operators in the Colony during the year 1942.

26. Appendix "B" gives notes and statistics relating to the Petroleum Industry.

27. Appendix "C" is a statement of the quantity and value of minerals obtained and the daily average number of persons employed in the petroleum, asphalt and quarry industries.

28. Appendix "D" gives the Rates of Wages and Hours of Labour employed in the oilfields for the year 1942.

29. A statement of oil produced and exported is shown as Appendix "E".

30. Appendix "F" shows the amount of oil refined year by year.

STAFF.

31. Mr. G. D. Proctor, one of H. M. Inspectors of Factories in the United Kingdom, was seconded for one year from the 18th June, 1942, to this Government as Senior Inspector of Factories and has been temporarily attached to the Mines Department.

During the year under review the following officers of the Department were granted leave:—

Mr. N. Betancourt	....	....	Assistant Inspector of Mines.
Mr. W. N. Foster	....	....	Assistant Petroleum Technologist
Mr. A. C. Francis-Lau	....	....	Senior Clerk.
Mr. H. O. Roberts	....	....	2nd Class Clerk.
Mr. C. Ahwai	....	....	2nd Class Clerk.
Mr. Y. Ali	....	....	Assistant Draughtsman.

I have much pleasure in recording the very able and willing assistance I have received from all the members of the staff.

R. S. MACKILLIGIN,
*Inspector of Mines and
Petroleum Technologist.*

29th May, 1943.

APPENDIX "A."

LIST OF OIL AND ASPHALT OPERATORS IN TRINIDAD.

No.	Company	Nature of tenure of lands on which operations took place	District in which operations took place	Disposal of Oil
1	Antilles Petroleum Co., (T'dad) Ltd.	Private Lands	Brighton, Vessigny, Roussilac	Crude sold to United British Oilfields of Trinidad, Ltd.
2	Apex (T'dad) Oilfields, Ltd.	Private Lands, Crown Lands, and Crown Oil Rights under Lease	Fyzabad, Siparia ...	Crude Oil sold to Trinidad Leaseholds.
3	Cory Bros. & Co., Ltd. ...	Crown Lands under Mining Lease	Moruga Road ...	No production.
4	Kern Trinidad Oilfields, Ltd.	Private Lands, Crown Lands, and Crown Oil Rights under Lease	Guapo, Moruga ...	Crude sold to United British Oilfields of Trinidad, Ltd.
5	Partap, Ramesar ...	Private Lands	Fyzabad	Crude sold to United British Oilfields of Trinidad, Ltd.
6	Petroleum Options (1925) Ltd.	Private Lands	San Francique ...	Crude sold to Trinidad Leaseholds, Ltd.
7	Premier (Trinidad) Oilfields, Ltd.	Crown Lands under Lease Private Lands	Palo Seco, San Francique	do. do.
8	Roodal, Timothy	Private Lands	Fyzabad	do. do.
9	Siparia Trinidad Oilfields, Ltd.	Crown Lands, and Crown Oilrights under Lease	Palo Seco, Morne Diablo	do. do.
10	Trinidad Central Oilfields, Ltd.	Crown Lands under Lease ...	Guapo, Barrackpore	do. do.
11	Trinidad Consolidated Oilfields, Ltd.	Private Lands, Crown Oilrights under Lease	Fyzabad ...	do. do.
12	Trinidad Lake Asphalt Operating Co.	Crown Lands under Lease ...	La Brea	Pitch refined and exported.
13	Trinidad Leaseholds, Ltd. ...	Private Lands, Crown Lands, and Crown Oilrights under Lease	Barrackpore, Forest Reserve, Guayaguayare, Quinam	Pumped to Company's Refinery at Pointe-a-Pierre.
14	Trinidad Oilfields Operating Co., Ltd.	Private Lands, Crown Oil rights under Lease	Palo Seco, San Francique	Crude sold to Trinidad Leaseholds, Ltd.
15	Trinidad Petroleum Development Co., Ltd.	Private Lands, Crown Lands, and Crown Oil Rights under Lease	Coora, Los Bajos, Palo Seco, Quarry	Crude sold to United British Oilfields of Trinidad, Ltd.
16	Trinidad Northern Areas, Ltd.			No operations during the year.
17	United British Oilfields of Trinidad, Ltd.	Private Lands, Crown Lands, and Crown Oil Rights under Lease	Cedros, Parrylands, Penal, Point Fortin	Pumped to Company's Refinery at Point Fortin
18	Zenith Trinidad Oilfields, Ltd.	Private Lands	Fyzabad	Crude sold to Trinidad Leaseholds, Ltd.

APPENDIX "B".

INSPECTOR OF MINES AND PETROLEUM TECHNOLOGIST.

Production.—The production of crude oil during 1942 amounted to 22,069,178 barrels, being an average of 60,463 barrels per day. This represents an increase of 7.6 per cent. on the production for 1941.

Early in the year, 60,000 barrels per day became accepted as an unofficial quota for the Colony's production, and this figure has been sustained in spite of the decrease in the number of drilling rigs, the footage drilled being only 623,398 feet, a decrease of 33.3 per cent. compared to last year.

A comparison of footage and production figures for 1941 and 1942 is as follows :—

	<i>Footage.</i>		<i>Production.</i>	
	1941	1942	1941	1942
Crown	593,930	375,310	10,309,161	13,012,471
Alienated	191,557	170,923	5,080,065	4,780,889
Private	149,767	77,165	5,125,754	4,275,818
Total	935,254	623,398	20,505,980	22,069,178

Drilling.—During the year 169 oilwells were started as compared with 270 last year. The total number of oilwells started in the Colony was 3,911 at the end of the year.

The following Table gives an analysis of the drilling operations carried out during the year :—

	<i>On Crown Lands</i>	<i>On Alienated Lands</i>	<i>On Private Lands</i>	<i>Total.</i>
Unfinished at end of 1941	21	5	17	43
Started during 1942.. .. .	98	42	29	169
	119	47	46	212
Completed as Oil Producers	95	38	23	156
Completed as Dry Holes	—	—	—	—
Abandoned while drilling	3	2	3	8
Unfinished at end of 1942	21	7	20	48
	119	47	46	212
Old Wells abandoned during 1942	7	7	3	17
Old Wells recompleted during 1942	50	18	23	91

The following Tables are attached :—

No. 1—Showing Drilling Summary for 1942.

No. 2—Showing Production Summary for 1942.

No. 3—Showing number of wells started and footage drilled since the commencement of the Industry in 1867.

No. 4—Showing the Annual Production since returns were first sent to the Government in 1908.

No. 5—Showing the number of wells started annually, and the status of these wells on the 31st of December, 1942.

19th May, 1943.

W. N. FOSTER,
Assistant Petroleum Technologist.

TABLE I
DRILLING SUMMARY FOR THE YEAR, 1942

Month	Wells started			Completed as Producers			Re-completed as Producers			Abandoned			FOOTAGE DRILLED FOR OIL				Rigs Running.
	C	A	P	C	A	P	C	A	P	C	A	P	Crown	Alienated	Private	Total	
January	13	2	2	10	2	—	2	—	2	1	—	1	37,807	12,936	3,775	54,518	31
February	7	6	2	8	6	3	5	—	2	1	—	—	38,815	12,815	5,232	56,862	33
March	9	6	2	9	0	1	2	3	3	1	—	—	36,372	19,239	7,422	63,033	34
April	11	3	3	9	5	1	7	2	—	3	—	2	31,091	17,695	7,623	56,409	32
May	9	3	3	7	4	3	5	1	1	1	—	—	45,850	17,872	4,254	67,976	33
June	10	4	2	11	5	2	5	2	1	2	8	2	31,851	12,561	4,864	49,276	33
July	8	5	3	6	3	2	7	1	2	—	—	—	36,160	15,405	8,370	59,935	30
August	5	4	3	9	3	1	2	2	2	1	—	—	31,247	15,687	10,233	57,167	29
September	7	2	—	7	3	3	2	2	5	—	—	—	23,768	15,046	4,997	43,811	25
October	6	2	3	6	2	3	3	1	2	—	—	—	15,632	11,079	5,580	32,291	24
November	7	1	4	5	3	3	7	1	2	1	—	—	26,466	9,434	6,879	42,779	24
December	6	4	2	8	2	1	4	2	1	—	—	—	20,251	11,154	7,936	39,341	22
Totals	98	42	29	95	38	23	51	17	23	11	8	5	375,310	170,923	77,165	623,398	—
	169			156			91			24							

C=Crown. A=Alienated. P=Private.

27th March, 1943.

W. N. FOSTER,
Assistant Petroleum Technologist.

TABLE No. 2.

ANNUAL PRODUCTION SUMMARY BY MONTHS DURING 1942.

(In Barrels of 35 Imperial Gallons).

MONTH	Light Fractions returned to Crude	Per Cent	FLOWING			GAS/AIR LIFT			PUMPING			PLUNGER LIFT			DISPLACEMENT PUMP			BALING/SWABBING			Total No. Producing Wells	Total No. of Wells drilled	Prod. Wells Per cent. Wells Drilled	PRODUCTION					TOTAL	
			No. of Wells	Pro-duction	Per Cent.	No. of Wells	Pro-duction	Per Cent.	No. of Wells	Pro-duction	Per Cent.	No. of Wells	Pro-duction	Per Cent.	No. of Wells	Pro-duction	Per Cent.	No. of Wells	Pro-duction	Per Cent.				No. of Wells	Crown	No. of Wells	Alien-ated	No. of Wells		Private
Jan. ...	8,300	.5	593	1,224,514	66.9	135	118,664	6.5	651	366,140	20.0	193	105,572	5.8	16	4,770	0.2	67	2,791	0.1	1,655	3,237	51.3	676	1,005,545	375	415,757	604	409,449	1,830,751
Feb. ...	7,838	.5	589	1,091,041	67.3	119	106,769	6.6	674	310,723	19.1	191	97,394	6.0	15	4,320	0.2	67	3,541	0.2	1,655	3,252	51.1	684	896,878	369	367,414	602	357,334	1,621,626
March ...	9,010	.5	588	1,212,285	68.2	126	116,246	6.5	655	334,276	18.8	191	102,287	5.7	14	2,013	0.1	64	2,422	0.1	1,638	3,262	50.4	705	1,012,325	362	402,552	571	363,662	1,778,539
April ...	8,745	.5	604	1,245,956	69.6	116	112,601	6.3	666	316,619	17.7	196	102,365	5.7	3	755	—	71	1,780	0.1	1,656	3,285	50.4	730	1,052,786	361	396,287	565	339,748	1,788,821
May. ...	8,434	.4	612	1,310,074	69.6	119	119,226	6.3	664	336,347	17.9	191	104,302	5.5	2	1,293	0.1	68	1,786	0.1	1,656	3,299	50.2	725	1,136,909	370	392,742	561	351,811	1,881,462
June ...	8,416	.4	627	1,312,072	71.0	121	117,237	6.3	632	308,588	16.7	185	99,714	5.4	1	569	—	61	2,310	0.1	1,627	3,370	49.0	754	1,123,106	357	381,615	516	344,191	1,848,906
July ...	8,580	.4	641	1,384,927	71.3	122	118,277	6.1	643	324,952	16.7	190	101,562	5.2	1	567	—	56	2,597	0.1	1,653	3,333	49.6	765	1,186,032	369	407,136	519	348,294	1,941,462
Aug. ...	8,604	.4	631	1,368,633	70.9	116	110,514	5.7	598	330,432	17.1	199	110,138	5.7	1	434	—	60	2,557	0.1	1,605	3,345	47.9	705	1,158,092	376	420,900	524	352,320	1,931,312
Sept. ...	8,234	.4	631	1,282,997	69.4	115	113,980	6.1	601	325,479	17.6	193	114,240	6.2	3	1,709	0.1	55	1,972	0.1	1,598	3,343	47.6	701	1,094,970	366	401,538	531	352,103	1,848,611
Oct. ...	8,807	.5	652	1,333,734	69.8	117	124,751	6.5	593	319,824	16.7	193	115,805	6.1	8	4,454	0.2	63	2,262	0.1	1,626	3,353	48.5	724	1,148,262	371	407,724	531	353,651	1,909,637
Nov. ...	7,893	.4	639	1,261,327	68.9	119	129,086	7.0	614	311,137	17.1	192	113,772	6.2	7	5,741	0.3	34	1,629	0.1	1,605	3,364	47.7	712	1,084,882	376	399,495	517	346,208	1,820,585
Dec. ...	8,017	.4	614	1,280,957	68.9	134	133,687	7.2	597	317,554	17.1	196	109,491	5.9	6	5,704	0.3	41	2,056	0.1	1,586	3,376	46.9	706	1,112,690	372	387,729	508	357,047	1,857,466
TOTALS:	100,878	.4	Avg. 618	15,308,517	69.3	Avg. 121	1,421,038	6.4	Avg. 632	3,902,071	17.7	Avg. 192	1,276,642	5.8	Avg. 6	32,329	0.1	Avg. 59	27,703	0.1	Avg. 1,630	3,376	48.3	Avg. 715	13,012,471	Avg. 368	4,780,889	Avg. 546	4,275,818	22,069,178

26th January, 1943.

W. N. FOSTER,
Assistant Petroleum Technologist.

TABLE 3
COLONY OF TRINIDAD
Number of Wells started and Footage Drilled Annually

YEAR	WELLS STARTED								FOOTAGE DRILLED								YEARLY TOTALS	CUMULATIVE
	CROWN		ALIENATED		PRIVATE		TOTALS		CROWN		ALIENATED		PRIVATE					
	Annual	Cum.	Annual	Cum.	Annual	Cum.	Annual	Cum.	Annual	Cum.	Annual	Cum.	Annual	Cum.				
1867 ...	—	—	—	—	1	1	1	1	—	—	—	—	964	964	964	964		
1900 ...	—	—	—	—	1	2	1	2	—	—	—	—	600	1,564	600	1,564		
1902 ...	1	1	—	—	2	4	3	5	600	600	—	—	1,315	2,879	1,915	3,479		
1903 ...	1	2	—	—	—	4	1	6	1,172	1,772	—	—	1,060	3,939	2,232	5,711		
1904 ...	1	3	—	—	—	4	1	7	860	2,632	—	—	—	3,939	860	6,571		
1905 ...	—	3	—	—	—	4	—	7	—	2,632	—	—	—	3,939	—	6,571		
1906 ...	1	4	—	—	2	6	3	10	1,104	3,736	—	—	1,499	5,438	2,603	9,174		
1907 ...	1	5	—	—	2	8	3	13	798	4,534	—	—	1,563	7,001	2,361	11,535		
1908 ...	—	5	—	—	4	12	4	17	—	4,534	—	—	2,352	9,353	2,352	13,887		
1909 ...	—	5	—	—	6	18	6	23	—	4,534	—	—	5,362	14,715	5,362	19,249		
1910 ...	5	10	—	—	7	25	12	35	3,771	8,305	—	—	4,319	19,034	8,090	27,339		
1911 ...	8	18	—	—	38	63	46	81	4,902	13,207	—	—	34,010	53,044	38,912	66,251		
1912 ...	10	28	—	—	35	96	45	126	6,839	20,046	—	—	32,881	85,925	39,720	105,971		
1913 ...	25	53	—	—	18	114	43	169	13,813	33,859	—	—	26,388	112,313	40,201	146,172		
1914 ...	50	103	—	—	16	132	66	235	35,146	69,005	—	—	23,283	135,596	58,429	204,601		
1915 ...	31	134	—	—	19	151	50	285	29,208	98,213	—	—	25,652	161,248	54,860	259,461		
1916 ...	28	162	—	—	20	171	48	333	30,866	129,079	—	—	28,035	189,283	58,901	318,362		
1917 ...	38	200	—	—	6	177	44	377	41,227	170,306	—	—	9,557	198,840	50,784	369,146		
1918 ...	38	238	—	—	4	181	42	419	47,700	218,006	—	—	6,796	205,636	54,496	423,642		
1919 ...	40	278	—	—	13	194	52	471	49,741	267,747	—	—	16,769	222,405	66,510	490,152		
1920 ...	43	321	1	1	23	217	68	539	53,002	320,749	1,665	1,665	24,009	246,414	78,676	568,828		
1921 ...	49	370	4	5	32	249	85	624	71,318	392,067	2,896	4,561	44,631	291,045	118,845	687,673		

TABLE 3—Continued
COLONY OF TRINIDAD
Number of Wells started and Footage Drilled Annually

YEAR	WELLS STARTED								FOOTAGE DRILLED						YEARLY TOTALS	CUMULATIVE
	CROWN		ALIENATED		PRIVATE		TOTALS		CROWN		ALIENATED		PRIVATE			
	Annual	Cum.	Annual	Cum.	Annual	Cum.	Annual	Cum.	Annual	Cum.	Annual	Cum.	Annual	Cum.		
1922 ...	68	438	4	9	20	269	91	715	88,299	480,366	8,701	13,262	39,463	330,508	136,463	824,136
1923 ...	70	508	5	14	33	302	108	823	79,907	560,273	7,060	20,322	58,805	389,313	145,772	969,908
1924 ...	67	575	8	22	34	336	110	933	90,141	650,414	6,190	26,512	55,197	444,510	151,528	1,121,436
1925 ...	46	621	16	38	37	373	99	1,032	86,904	737,318	18,446	44,958	63,543	508,053	168,893	1,290,329
1926 ...	69	690	13	51	46	419	128	1,160	109,234	846,552	18,752	63,690	72,691	580,744	200,657	1,490,986
1927 ...	73	763	13	64	73	492	159	1,319	101,920	948,472	17,288	80,978	122,465	703,209	241,673	1,732,659
1928 ...	43	806	33	97	64	556	139	1,458	71,481	1,019,953	58,842	139,820	112,863	816,072	243,186	1,975,845
1929 ...	52	858	58	155	48	604	159	1,617	92,590	1,112,543	118,583	258,403	96,309	912,381	307,482	2,283,327
1930 ...	76	934	31	186	56	660	163	1,780	170,389	1,282,932	85,561	343,964	116,706	1,029,087	372,656	2,655,983
1931 ...	9	943	25	211	26	686	60	1,840	42,972	1,325,904	95,410	439,374	80,260	1,109,347	218,642	2,874,625
1932 ...	21	964	20	231	20	706	61	1,901	44,568	1,370,472	67,162	506,536	61,557	1,170,904	173,287	3,047,912
1933 ...	36	1,000	22	253	23	729	81	1,982	85,946	1,456,418	87,550	594,086	62,206	1,323,110	235,702	3,382,614
1934 ...	56	1,056	30	283	38	767	124	2,106	167,952	1,624,370	88,503	682,589	95,328	1,328,458	351,783	3,635,397
1935 ...	55	1,111	46	329	38	805	139	2,245	185,788	1,810,158	142,722	825,311	107,789	1,436,227	436,299	4,071,696
1936 ...	59	1,170	39	368	73	878	171	2,416	235,804	2,045,962	145,554	970,865	213,171	1,649,398	594,529	4,666,225
1937 ...	92	1,262	46	414	151	1,029	289	2,705	345,393	2,391,355	162,804	1,133,669	403,378	2,052,776	911,575	5,577,800
1938 ...	110	1,372	67	481	102	1,131	279	2,984	384,103	2,775,458	207,939	1,341,608	313,866	2,366,642	905,908	6,483,708
1939 ...	106	1,478	66	547	73	1,204	245	3,229	377,737	3,153,195	208,089	1,549,706	249,011	2,615,653	834,846	7,318,554
1940 ...	162	1,640	75	622	53	1,257	290	3,519	556,120	3,709,315	271,791	1,821,497	197,711	2,813,364	1,025,622	8,344,170
1941 ...	178	1,800	43	641	49	1,301	270	3,742	593,930	4,291,882	191,557	1,995,509	149,767	2,960,699	935,254	9,248,090
1942 ...	98	1,898	42	683	29	1,330	169	3,911	375,310	4,667,192	170,923	2,166,432	77,165	3,037,864	623,398	9,871,488

NOTE:—Previous to the year 1941 figures showing the number of wells and footage drilled included fresh water wells. In the figures for 1941 shown above fresh water wells are excluded.

TABLE 4
Yearly Trinidad Production

Year	Crown	Cumulative Total	Alienated	Cumulative Total	Private	Cumulative Total	Yearly Totals	Grand Cumulative Total
1908	—	—	—	—	37	37	37	37
1909	—	—	—	—	47,295	47,332	47,295	47,332
1910	55	55	—	—	105,023	152,355	105,078	152,410
1911	3,994	4,049	—	—	217,298	369,653	221,292	373,702
1912	9,104	13,153	—	—	476,801	846,454	485,905	859,607
1913	52,153	65,306	—	—	533,029	1,379,483	585,182	1,444,789
1914	512,299	577,605	—	—	480,917	1,860,400	993,216	2,438,005
1915	392,389	969,994	—	—	512,330	2,372,730	904,719	3,342,724
1916	478,815	1,448,809	—	—	449,060	2,821,790	927,875	4,270,599
1917	1,065,945	2,514,754	—	—	536,357	3,358,147	1,602,302	5,872,901
1918	1,588,805	4,103,559	—	—	493,115	3,851,262	2,081,920	7,954,821
1919	1,539,973	5,643,532	—	—	301,063	4,152,325	1,841,036	9,795,857
1920	1,758,039	7,401,571	—	—	325,071	4,477,396	2,083,110	11,878,967
1921	1,751,943	9,153,514	300	300	601,916	5,079,312	2,354,159	14,233,126
1922	1,534,796	10,688,310	147	447	909,727	5,989,039	2,444,670	16,677,796
1923	1,847,118	12,535,428	63,334	63,781	1,140,335	7,129,374	3,050,787	19,728,583
1924	2,410,737	14,946,165	76,467	140,248	1,570,856	8,700,230	4,058,060	23,786,643
1925	2,647,095	17,593,260	200,781	341,029	1,538,634	10,238,864	4,386,510	28,173,153
1926	2,630,100	20,223,360	310,953	651,982	2,030,426	12,269,290	4,971,479	33,144,632
1927	2,039,363	22,262,723	297,761	949,743	3,043,676	15,312,966	5,380,800	38,525,432
1928	2,652,981	24,915,704	1,470,333	2,420,076	3,561,273	18,874,239	7,684,587	46,210,019
1929	2,987,795	27,903,499	1,627,439	4,047,515	4,100,554	22,974,793	8,715,788	54,925,807
1930	3,429,030	31,332,529	1,831,338	5,878,853	4,158,589	27,133,382	9,418,957	64,344,764
1931	2,795,572	34,128,101	2,530,175	8,409,028	4,417,751	31,551,133	9,743,498	74,088,262
1932	3,200,083	37,328,184	2,410,813	10,819,841	4,515,225	36,066,358	10,126,121	84,214,383
1933	3,684,148	41,012,332	1,606,595	12,426,436	4,270,610	40,336,968	9,561,353	93,775,736
1934	4,586,366	45,598,698	1,805,178	14,231,614	4,502,819	44,839,787	10,894,363	104,670,099
1935	5,288,943	50,887,641	2,255,484	16,487,098	4,126,797	48,966,584	11,671,224	116,341,323
1936	5,982,993	56,870,634	2,199,025	18,686,123	5,055,012	54,021,596	13,237,030	129,578,353
1937	7,128,085	63,998,719	2,615,207	21,301,330	5,759,697	59,781,293	15,502,989	145,081,342
1938	8,165,149	72,163,868	3,475,547	24,776,877	6,096,505	65,877,798	17,737,201	162,818,543
1939	9,724,193	81,888,061	4,170,532	28,947,409	5,846,891	71,724,689	19,741,616	182,560,159
1940	11,448,511	93,336,572	5,231,912	34,179,321	5,546,453	77,271,142	22,226,876	204,787,035
1941	10,300,161	103,636,733	5,080,065	39,259,386	5,125,754	82,396,896	20,505,980	225,293,015
1942	13,012,471	116,649,204	4,780,889	44,040,275	4,275,818	86,672,714	22,069,178	247,362,193

Table 5

Table showing number of Oil Wells started in each year and status of Wells at 31st December, 1942

YEAR	WELLS STARTED			PRODUCING			IDLE			ABANDONED			UNFINISHED			TOTALS			
	C	A	P	C	A	P	C	A	P	C	A	P	C	A	P	Prod.	Idle	Aban.	Unf.
1867			1									1						1	
1900			1									1						1	
1902	1		2							1		2						3	
1903	1									1								1	
1904	1									1								1	
1905																			
1906	1		2							1		2						3	
1907	1		2							1		2						3	
1908			4						1			3					1	3	
1909			6						4			2					4	2	
1910	5		7			1	3		1	2		5			1	4	7		
1911	8		38	1		4	3		7	4		27			5	10	31		
1912	10		35	1		2	4		9	5		24			3	13	29		
1913	25		18			3	14		5	11		10			3	19	21		
1914	50		16	2		2	25		7	23		7			4	32	30		
1915	31		19			4	21		13	10		2			4	34	12		
1916	28		20	2		6	16		10	10		4			8	26	14		
1917	38		6	4		1	19		2	15		3			5	21	18		
1918	38		4	6			21			11		4			6	21	15		
1919	40		13	7		1	20		2	13		10			8	22	23		
1920	43	1	23	4		3	23		5	16	1	15			7	28	32		
1921	49	4	32	5		5	27		11	17	4	16			10	38	37		
1922	68	4	20	5	1	4	38		4	25	3	12			10	42	40		
1923	70	5	33	5		3	38	1	13	27	4	17			8	52	48		
1924	67	8	34	9		4	37	1	15	21	7	15			13	53	43		
1925	46	16	37	18	2	8	14	1	14	14	13	15			28	29	42		
1926	69	13	46	12	1	18	34	1	16	23	11	12			31	51	46		
1927	73	13	73	12		24	32	7	23	29	6	26			36	62	61		
1928	43	33	64	6	17	27	25	10	23	12	6	14			50	58	32		
1929	52	58	48	9	24	15	27	20	23	16	14	10			48	70	40		
1930	76	30	56	20	8	17	42	8	24	13	14	14	1		45	74	41	2	
1931	9	25	26	2	9	12	5	14	8	2	2	6			23	27	10		
1932	21	19	20	6	10	9	13	9	7	2		4			25	29	6		
1933	36	19	23	9	9	9	19	10	10	6		4	2		27	39	10	2	
1934	56	29	38	22	21	19	25	6	14	8	2	5	1		62	45	15	1	
1935	55	41	37	30	20	18	18	18	11	5	3	7	2		68	47	15	3	
1936	59	36	72	31	18	30	23	12	26	4	6	13	1		79	61	23	4	
1937	87	42	151	48	25	93	36	13	38	3	4	16			166	87	23	4	
1938	106	63	101	59	40	50	32	19	31	15	4	16			149	82	35	4	
1939	102	65	72	57	56	40	39	7	17	5	2	15	1		153	63	22	1	
1940	157	74	52	108	52	32	45	18	13	3	3	7	1	1	192	76	13	2	
1941	178	43	49	129	33	27	43	9	12	4	1	8	2		189	64	13	4	
1942	98	42	29	74	29	16	11	5	6	3	2	2	10	6	5	119	22	7	21
TOTALS:	1,898	683	1,330	703	375	507	792	189	425	382	112	378	21	7	20	1,585	1,406	872	48
	3,911			1,585			1,406			872			48			3,911			

C.= Crown;

A.= Alienated;

P.= Private,

18th March, 1943,

W. N. FOSTER,
Assistant Petroleum Technologist.

APPENDIX "C"

Statement of the Quantity and Value of Minerals obtained and the Daily Average Number of Persons employed in the Petroleum, Asphalt and Quarry Industries during the years 1941 and 1942.

INDUSTRY	1941					1942.				
	Quantity	Approximate Value *	Daily average number of persons employed			Quantity	Approximate Value *	Daily average number of persons employed		
			Males	Females	Total			Males	Females	Total
Petroleum	20,505,980 bbls.	\$ c. 17,709,841 38	14,700	190	14,890	22,069,178 bbls.	\$ c. 19,345,696 09	13,799	197	13,996
Asphalt (a)	46,269 tons	138,807 00	459	7	466	33,165 tons	99,495 00	378	3	381
Private Quarries (Limestone, Gravel, &c.)	481,538 tons	214,720 79	726	152	878	420,292 tons	229,624 29	670	106	776
Government Quarries (Limestone, Gravel, &c.)	109,147 tons	79,841 19	287	69	356	126,172 tons	66,306 51	224	32	256

(*) The values given are those returned by owners and managers and represent value at place of production.

(a) In addition to the figure shown against this item, the following quantities were extracted from the Pitch Lake by the Public Works Department for use on the roads of the Colony, viz :

1941 34,271 tons. 1942 30,244 tons.

APPENDIX "D"

Rates of Wages and Hours of Labour employed on the Oilfields

CLASS OF WORKER	HOURLY WAGE		DAILY WAGE		Normal Weekly hours of Labour.	EXPLANATORY NOTES
	Min. (Cents per hour.)	Max.	Min.	Max.		
Rigmen employed in Drilling ...	21	28	—	—	48/56 hrs.	<p><i>General Remarks,</i></p> <p>1. <i>Housing.</i></p> <p>Accommodation is sometimes provided for those employees whose presence is required on the Fields.</p> <p>2. <i>Medical Attention.</i></p> <p>(a) In the case of accident arising from employment medical attention is usually free. In other cases the practice varies from Company to Company.</p> <p>3. <i>War Bonus.</i></p> <p>In addition to all the hourly rates stated there has been paid a "War Bonus Addition". This is payable at the rate of $\frac{1}{2}$c. per hour for every 5 points increase in the Government cost of living index number. Such War Bonus additions have been paid as follows:</p> <p>Effective 24th Jan., 1940— 1c. per hour. Effective 18th Feb., 1940— $1\frac{1}{2}$c. per hour. Effective 15th Sept., 1940— 2c. per hour. Effective 16th April, 1941— $2\frac{1}{2}$c. per hour. Effective 15th June, 1941— 3c. per hour. Effective 15th Feb., 1942— $3\frac{1}{2}$c. per hour. Effective 16th April, 1942— 4c. per hour. Effective 16th July, 1942— $4\frac{1}{2}$c. per hour. Effective 16th Aug., 1942— 5c. per hour. Effective 16th Oct., 1942— $5\frac{1}{2}$c. per hour. Effective 15th Nov., 1942— 6c. per hour.</p> <p>The amount being paid at the close of the year is thus 6c. per hour additional on all rates.</p>
Rigmen employed in Production ...	20	30	—	—	do.	
Production men ...	15	21	—	—	do.	
Rig Builders ...	16	30	—	—		
Blacksmiths ...	18	30	—	—		
Boilersmiths ...	18	30	—	—		
Cabinet Makers ...	18	30	—	—		
Carpenters ...	18	30	—	—		
Chauffeurs ...	18	30	—	—		
Electricians ...	18	30	—	—		
Firemen ...	16	24	—	—		
Fitters (Bench, Engine or Pump) ...	18	30	—	—	45/48 hrs. up to 56, when working on shift.	
Masons ...	15	26	—	—		
Motor Mechanics ...	18	30	—	—		
Moulders ...	15	26	—	—		
Painters ...	14	21	—	—		
Plumbers ...	15	30	—	—		
Riveters ...	18	30	—	—		
Tinsmiths ...	15	30	—	—		
Turners ...	18	30	—	—		
Welders ...	18	30	—	—		
Semi-skilled ...	13	26	—	—		
Unskilled ...	13	18	—	—		

APPENDIX "E"

Statement of Oil produced and exported year by year since the inception of the Petroleum Industry in the Colony

Year						Production in barrels	Quantity of crude and refined oil exported in barrels
1908	...	...	...	...	...	37	—
1909	...	...	...	...	...	47,295	46
1910	...	...	...	...	...	105,078	—
1911	...	...	...	...	...	221,292	219,582
1912	...	...	...	...	...	485,905	122,734
1913	...	...	...	...	...	585,182	387,719
1914	...	...	...	...	...	993,216	348,351
1915	...	...	...	...	...	904,719	408,188
1916	...	...	...	...	...	927,875	975,142
1917	...	...	...	...	...	1,602,302	1,079,369
1918	...	...	...	...	...	2,081,920	1,305,407
1919	...	...	...	...	...	1,841,036	1,406,264
1920	...	...	...	...	...	2,083,110	1,034,907
1921	...	...	...	...	...	2,354,159	1,223,346
1922	...	...	...	...	...	2,444,670	1,615,740
1923	...	...	...	...	...	3,050,787	2,432,470
1924	...	...	...	...	...	4,058,060	3,224,529
1925	...	...	...	...	...	4,386,510	3,606,608
1926	...	...	...	...	...	4,971,479	3,988,308
1927	...	...	...	...	...	5,380,800	4,456,770
1928	...	...	...	...	...	7,684,587	6,361,675
1929	...	...	...	...	...	8,715,788	8,243,023
1930	...	...	...	...	...	9,418,957	7,678,807
1931	...	...	...	...	...	9,743,498	8,964,303
1932	...	...	...	...	...	10,126,121	9,637,474
1933	...	...	...	...	...	9,561,353	8,909,298
1934	...	...	...	...	...	10,894,363	9,981,774
1935	...	...	...	...	...	11,671,224	10,993,540
1936	...	...	...	...	...	13,237,030	12,405,222
1937	...	...	...	...	...	15,502,989	14,124,056
1938	...	...	...	...	...	17,737,201	16,417,020
1939	...	...	...	...	...	19,741,616	17,600,222
1940	...	...	...	...	...	22,226,876	20,188,921
1941	...	...	...	...	...	20,505,980	17,123,931
1942	...	...	...	...	...	22,069,178	19,063,926
Totals	...	...	...	...	...	247,362,193	215,528,672

APPENDIX "F"

Comparative Statement of Oil refined in the Colony

Previous to 1920	...	...	...	...	...	...	...	4,051,373 barrels.
1920	...	...	...	...	...	...	...	1,395,487 do.
1921	...	...	...	...	...	...	...	1,806,016 do.
1922	...	...	...	...	...	...	...	1,820,018 do.
1923	...	...	...	...	...	...	...	2,360,279 do.
1924	...	...	...	...	...	...	...	3,433,902 do.
1925	...	...	...	...	...	...	...	3,790,343 do.
1926	...	...	...	...	...	...	...	3,786,876 do.
1927	...	...	...	...	...	...	...	4,796,223 do.
1928	...	...	...	...	...	...	...	6,725,383 do.
1929	...	...	...	...	...	...	...	7,642,726 do.
1930	...	...	...	...	...	...	...	7,989,679 do.
1931	...	...	...	...	...	...	...	6,899,144 do.
1932	...	...	...	...	...	...	...	7,635,296 do.
1933	...	...	...	...	...	...	...	9,129,810 do.
1934	...	...	...	...	...	...	...	10,846,584 do.
1935	...	...	...	...	...	...	...	11,148,285 do.
1936	...	...	...	...	...	...	...	13,028,161 do.
1937	...	...	...	...	...	...	...	15,111,046 do.
1938	...	...	...	...	...	...	...	17,596,932 do.
1939	...	...	...	...	...	...	...	19,414,920 do.
1940	...	...	...	...	...	...	...	22,060,110 do.
1941	...	...	...	...	...	...	...	20,812,467 do.
1942	...	...	...	...	...	...	...	21,914,247 do.
Total	...	...	...	...	...	...	...	<u>225,195,307</u> do.