

TRINIDAD AND TOBAGO.

Council Paper No. 36 of 1922.

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## LANDS AND MINES DEPARTMENT.

Administration report of the Director of Lands and Mines and  
Sub-Intendant of Crown Lands for the year 1921.

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*Laid before the Legislative Council on the  
7th April, 1922.*

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*Previous Council Paper No.*

*Registered No. of Correspondence relating to the subject—M.P. No. 3051/1922.*

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### Administration report of the Director of Lands and Mines and Sub-Intendant of Crown Lands for the year 1921.

*Council Paper No. 36 of 1922.*

*M. P. No. 3051/1922.*

HON'BLE COLONIAL SECRETARY,

I have the honour to submit, for the information of His Excellency the Governor, the reports of the Heads of the three branches of the Lands and Mines Department for the year ended 31st December, 1921.

2. The amalgamation of these departments, viz : the Crown Lands, Surveys and Mines, took place on the 17th April, 1921, the date of my arrival in the Colony.

#### **Crown Lands.**

3. The amount realised from the sale of Crown Lands during the year was the lowest on record during the last decade. This can be accounted for by the general commercial depression and by the lack of access to otherwise available lands. There was also a falling off, as compared with the previous year, in the amount of revenue derived from the Asphalt industry, which may also be attributed to the general trade depression prevailing throughout the world, necessitating the curtailment of expenditure on road building, etc.

4. I attach as Appendix I of this report a statement shewing the approximate area of Crown Lands available for sale North of latitude 10 degrees, 26 minutes, 36 seconds. It will be seen that there are about 118,000 acres still unsold, which must remain so until the finances of the Colony permit of the necessary surveys and Crown Traces being made.

Appendix II gives the number of Crown Grants issued and the acreage of Crown Lands alienated during the period 1910-1911 to 1921, while Appendix III gives the number of applications for the year for Prospecting and Exploration Licenses. There were no applications received for Mining Leases. Appendices IV and V shew graphically the distribution of lands in Trinidad and Tobago.

5. As pointed out by the Deputy Sub-Intendant in his report, the forfeitures for default of payment of lands and buildings taxes was the lowest on record and this reflects great credit on the Wardens, who are responsible for the collection of these taxes.

#### **Surveys.**

6. The report on the Survey Branch calls for little comment. A large amount of work has been carried out by this department, both outdoor and indoor. The surveys made have been mostly cadastral, and I hope that my recommendations for a complete cadastral survey of the Colony, which is a pressing necessity, will be acted upon without delay.

7. In addition to the survey work carried out by this department, a considerable amount has been done by several Oil Companies and large Estate Owners, the results of which have, in every case where required, been given free to the department.

I would specially mention that the Trinidad Petroleum Development Company, Limited, (Messrs. S. Pearsons & Son, Ltd.) have very generously promised to hand over to the Government, when completed, their topographical map of the southern half of the Island.

8. It is not generally known that this department takes solar observations for time once a week, and that standard time can thus be given to navigating officers and others interested.

**Mines.**

9. During the period under review the production of crude oil in the Colony was the largest yet known, the increase over that for the year 1920 being 9,389,648 imperial gallons.

Drilling continued actively and the majority of the Companies are to be congratulated on their development work, more especially when it is remembered that the rains have been unprecedented and retarded materially both the actual drilling as well as the preliminary work in the way of road building, etc.

10. Considerable improvement in and facilities for the handling of imports of plant, as well as in its transport, were made during the year ; and the discharge by a number of steamers of their cargoes of oilfield supplies at San Fernando, instead of at Port-of-Spain as heretofore, contributed largely to relieving the serious congestion experienced on the wharves towards the end of the year 1920 and the beginning of 1921.

11. In consideration of the grant of a permit to run heavy traffic on certain of the main roads of the Colony, the Oil Companies have, at their own expense, repaired several of these as well as made others in various parts of the southern half of the Island.

12. A Committee has been formed of representatives of the Oil Companies operating in the Colony, known as the Oilfield Managers Committee, which meets regularly under the chairmanship of the Head of the Lands and Mines Department to discuss questions in connection with the Oil industry. These meetings, though few in number so far, have resulted in a closer co-operation between the work of the companies themselves as well as with the Government.

13. I attach six Curves shewing graphically the progress made in the Oil, Asphalt and Manjak mining industries from the 1st April, 1911 to the 31st December, 1921.

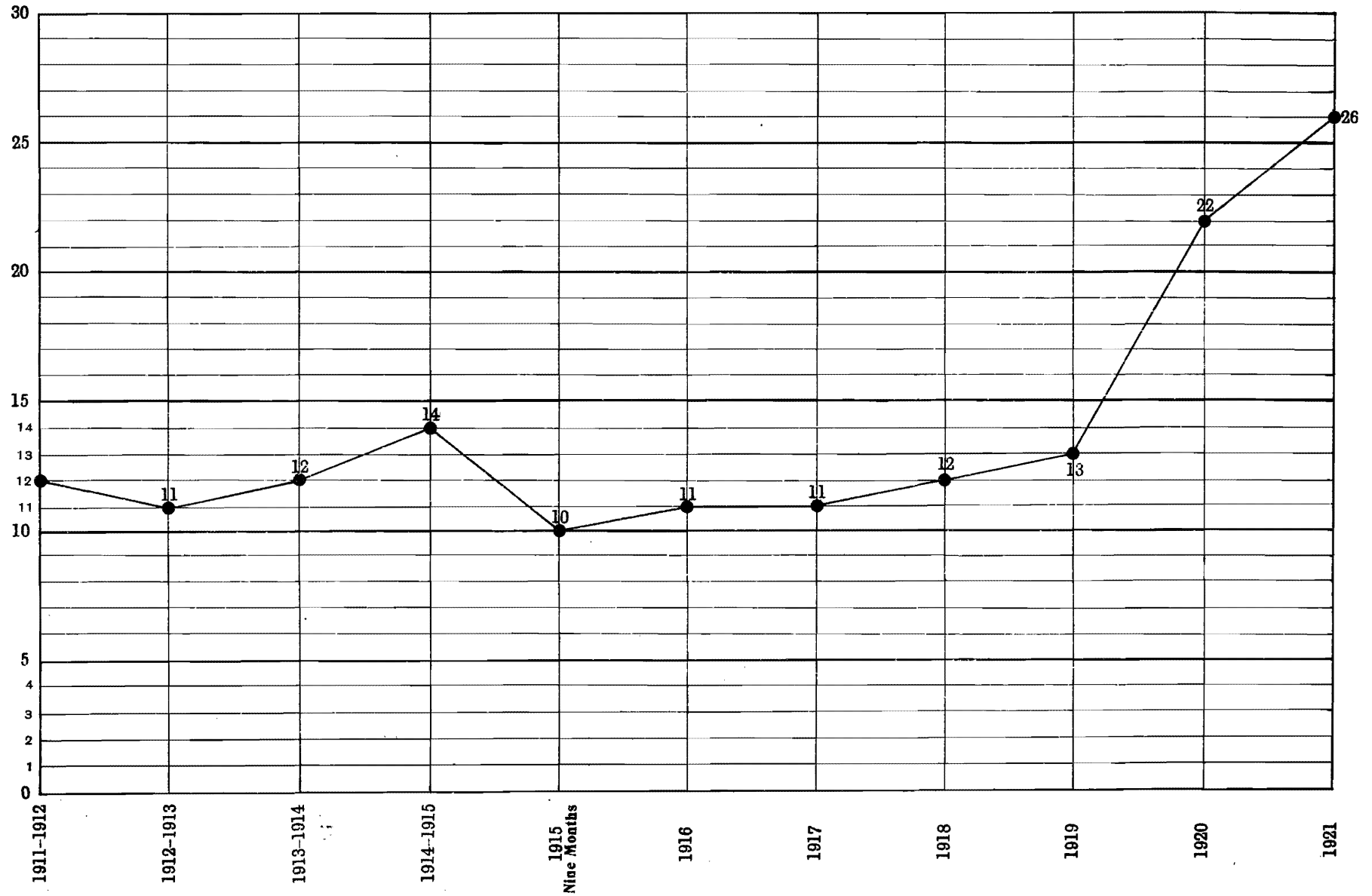
14. I should like here to express my thanks for the great help I have received from the Heads of the other Departments of the Government as well as to the Heads of the Branches of the Department under my direction: Mr. A. P. Catherall, Assistant Director of Lands and Mines, Mr. G. E. L. Guppy, Deputy Sub-Intendant of Crown Lands and Mr. J. W. Macgillivray, Crown Surveyor.

R. R. THOMPSON,  
*Director of Lands and Mines.*

24th March, 1922.

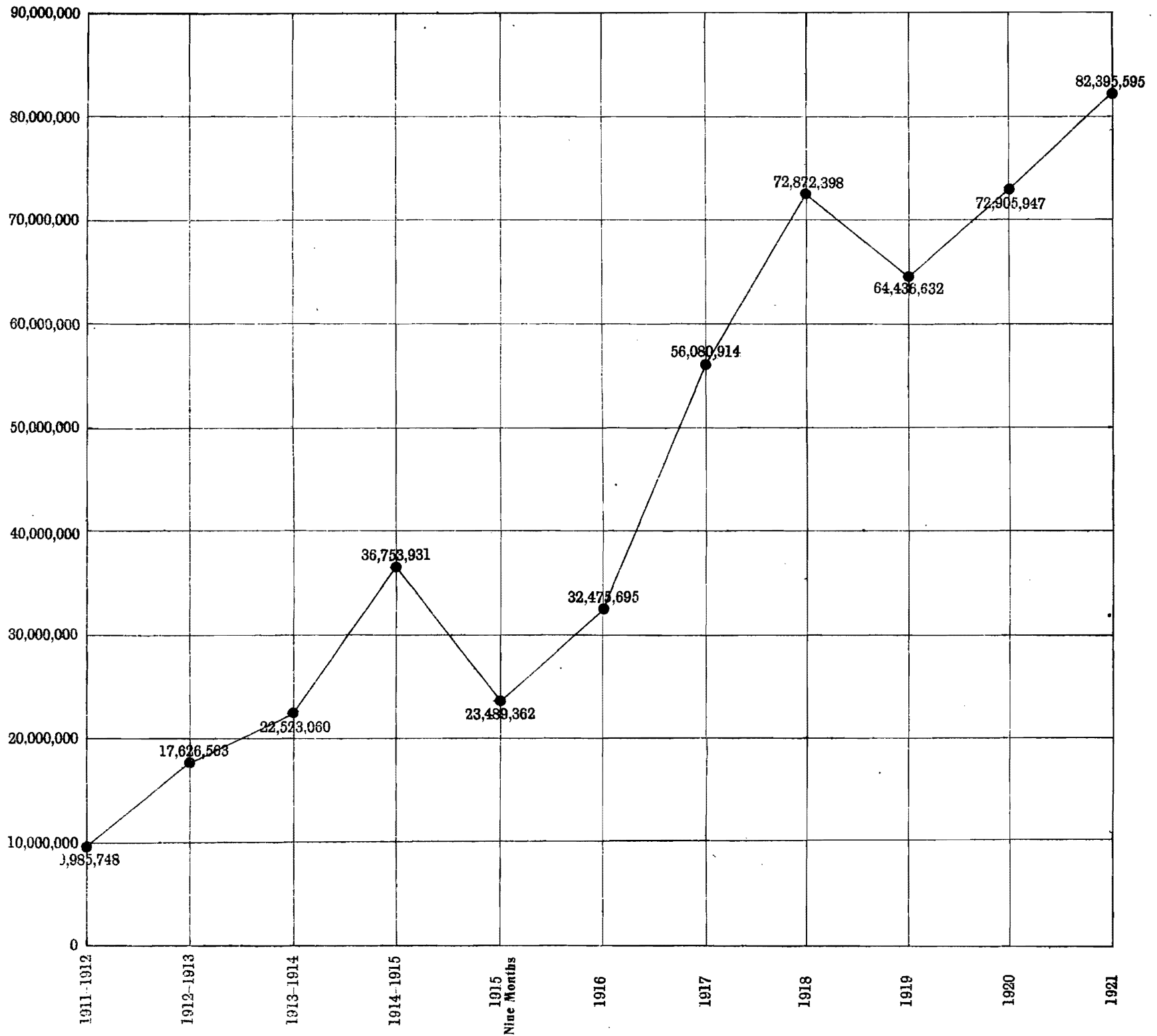
“ A ”

Curve showing total number of Oil Companies that have operated annually in the Colony from 1st April, 1911, to 31st December, 1921.



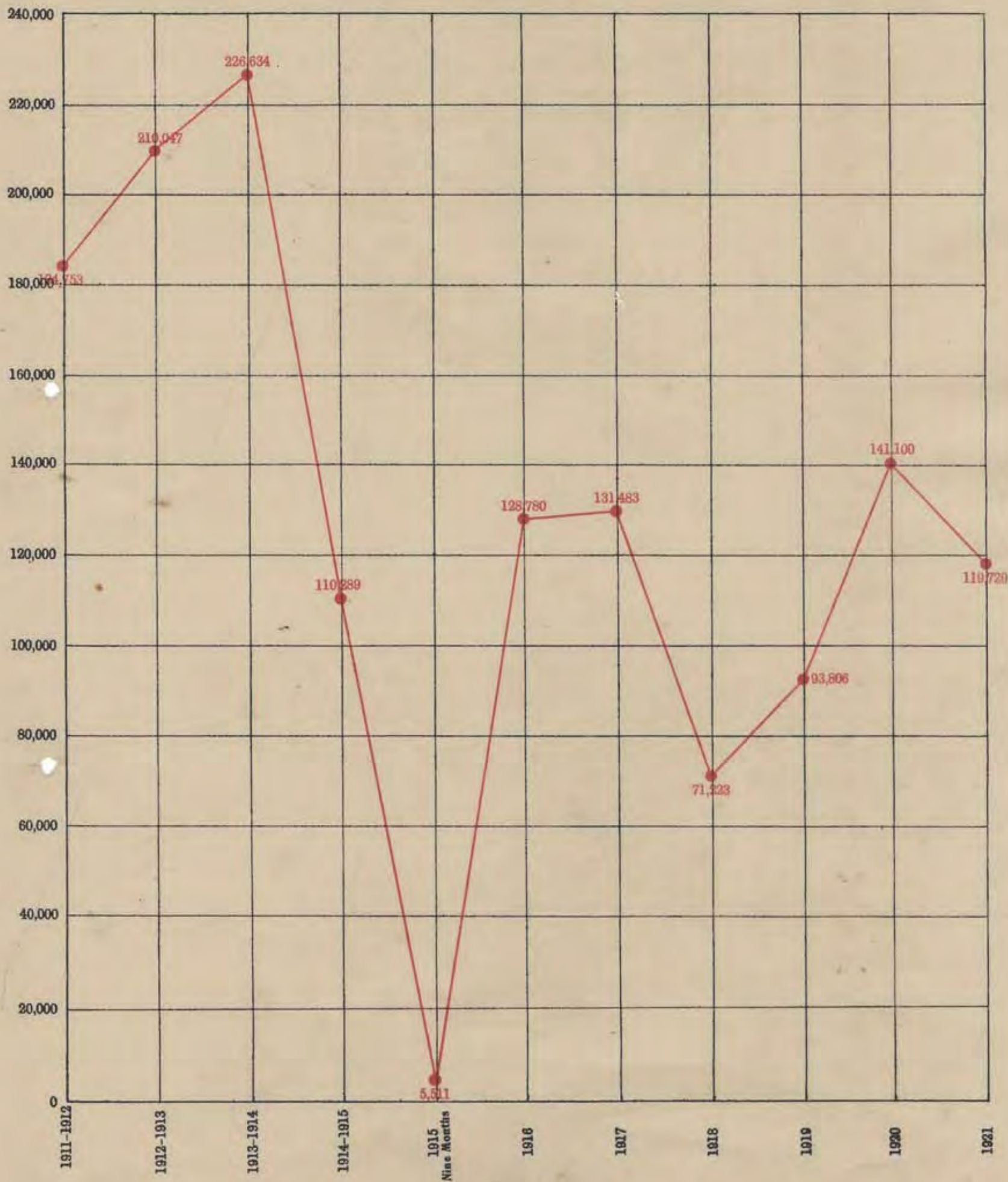
“ B ”

Curve showing yearly total production of Crude Oil from the Colony in Imperial Gallons from 1st April, 1911, to 31st December, 1921.



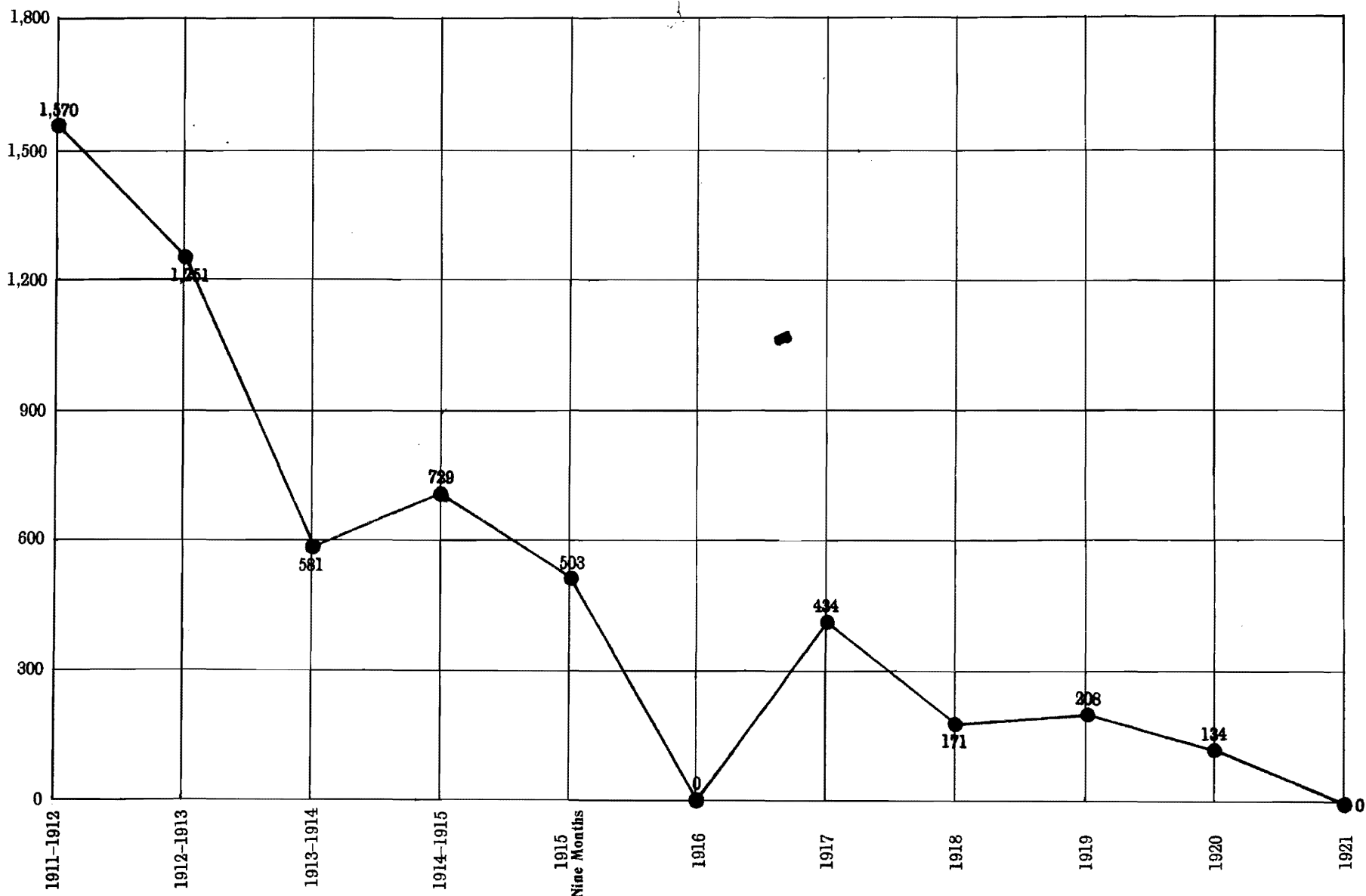
“C”

Curve showing yearly output of Asphalt from the Colony in Tons from 1st April, 1911, to 31st December, 1921.



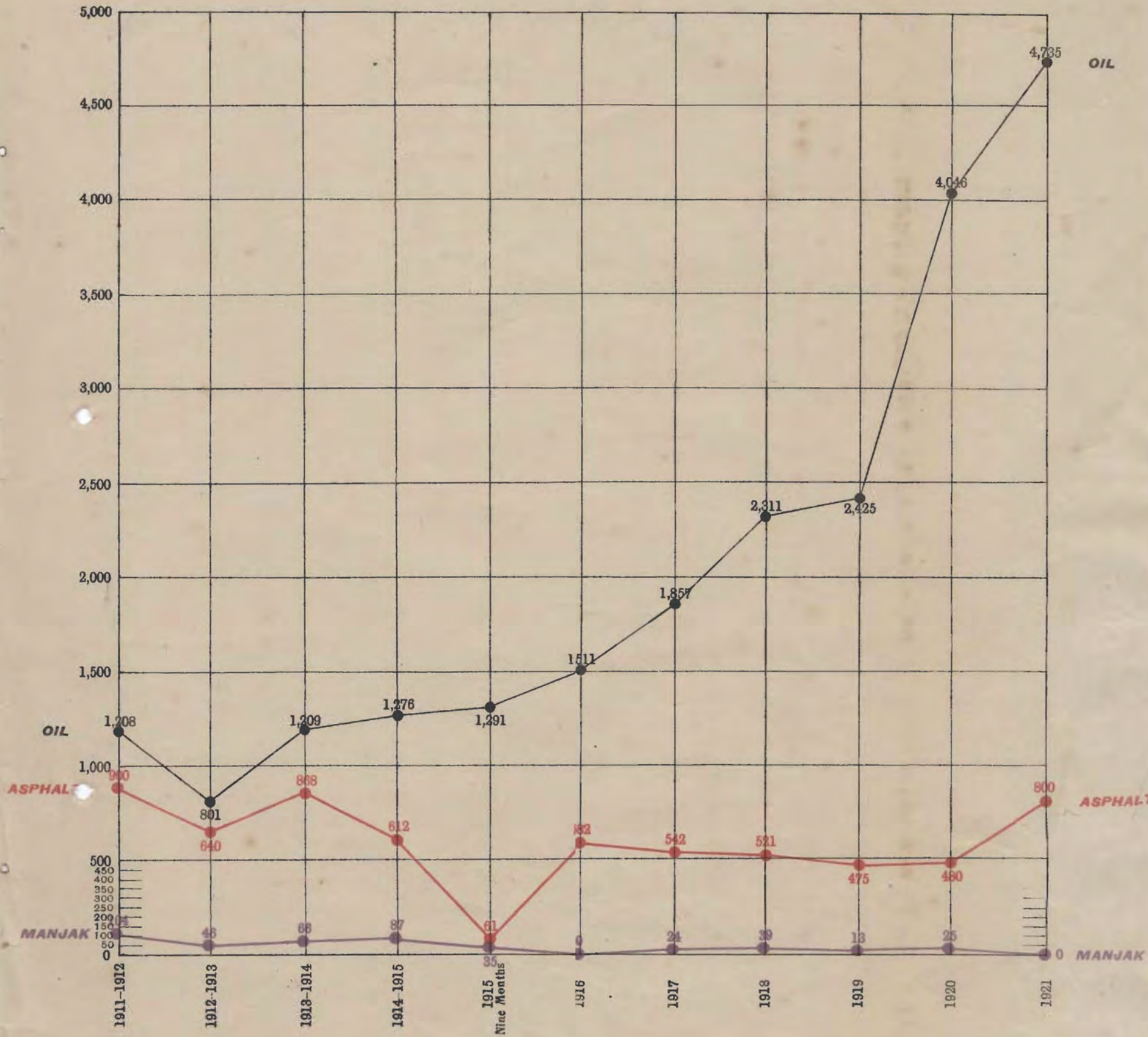
# “ D ”

Curve showing yearly output of Manjak in tons in the Colony from 1st April, 1911, to 31st December, 1921.





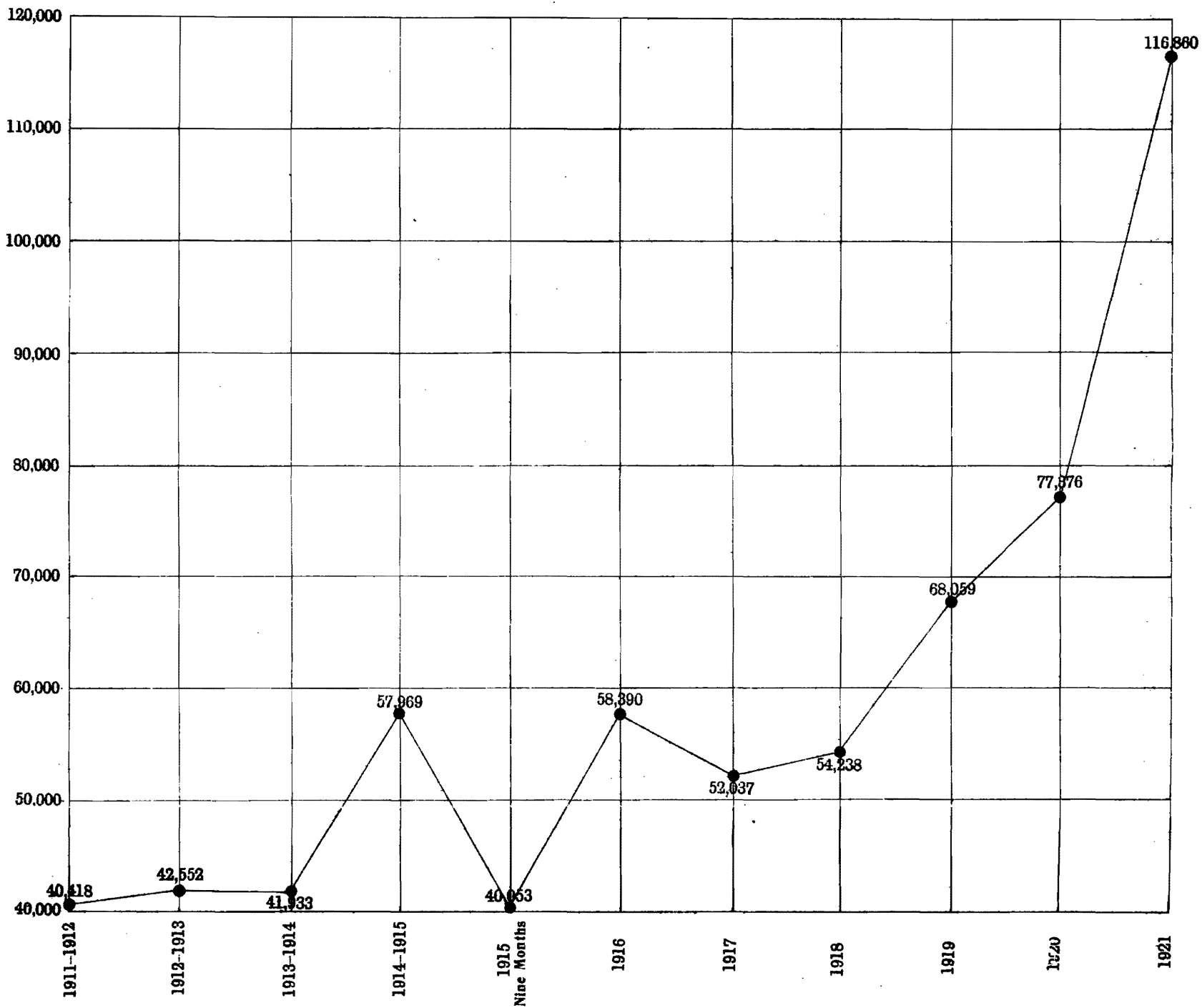
Curve showing comparison of daily average number of persons employed in the Oil, Asphalt, and Manjak Industries of the Colony from 1st April, 1911, to 31st December, 1921.





“ F ”

Curve showing yearly total number of feet drilled in the Colony from 1st April, 1911, to 31st December, 1921.



## APPENDIX I.

Approximate area of Crown Lands available for sale above Lat. 10 degrees 26 minutes 36 seconds.

County.	Ward.	Area.
St. David	Toco	14,268.3
	Manzanilla	290.9
	Matura	20,206.8
St. Andrew	Tamana	2,873.6
	Va'encia	15,236.8
	Turure	5,833.8
	Blanchisseuse	29,174.3
	Tacarigua	1,590.2
St. George	St. Ann's	2,223.9
	Diego Martin	7,158.1
	Arima	5,292.8
	Cunupia	7,560.6
	Chauanas	3,252.2
Caroni	San Rafael	2,917.4
	Montserrat	115.6
Total		118,000.3

## APPENDIX II.

Statement showing Crown Lands alienated from 1910-11 to 1921 also number of Crown Grants issued.

Year.	No. of Grants and Leases.	Acreage.			No. of Lots.
		Acres.	Rds.	Prchs.	
1910-11	543	3,466	1	27	99
1911-12	342	1,424	2	39	118
1912-13	274	1,637	3	11	48
1913-14	411	3,318	3	38	136
1914-15	405	2,508	1	22	109
1915 (9 months)	281	867	0	39	139½
1916	379	1,624	3	27	123
1917	586	3,187	2	34	254
1918	938	7,099	1	38	195
1919	*485	2,536	1	36	115
1920	†689	4,165	2	18	141
1921	464	2,614	0	18	99½
Total	5,797	34,451	3	27	1,577

## APPENDIX. III.

## (a)—Applications for Prospecting Licenses, 1921.

No.	Name of Company.	Date of Application.
1	Trinidad Leaseholds, Limited .. .. .	5th January, 1921
2	U.B.W.I. Petroleum Syndicate, Limited .. .. .	8th Do.
3	B.A.W. Syndicate (J.R. Donnan) .. .. .	13th Do.
4	Trinidad Petroleum Development Co., Ltd. .. .. .	15th Do.
5	Do. do. do. .. .. .	21st Do.
6	Apex (Trinidad) Oilfields, Limited .. .. .	29th Do.
7	Trinidad Petroleum Development Co., Ltd. .. .. .	1st February, 1921
8	Trinidad Leaseholds Limited .. .. .	16th Do.
†9	James Lynch O'Connor .. .. .	11th March, 1921
10	Trinidad Petroleum Development Co., Ltd. .. .. .	29th April, 1921
11	Cardiff and Trinidad Petroleum Co., Ltd. .. .. .	2nd May, 1921
12	The Spies Petroleum Co., Ltd. .. .. .	10th Do.
13	Do. do. .. .. .	12th Do.
14	Uroz Oilfields, Limited .. .. .	12th Do.
15	Rosehaugh Company, Limited .. .. .	12th Do.
16	The Spies Petroleum Co., Ltd. .. .. .	23rd Do.
17	Trinidad Petroleum Development Co., Ltd. .. .. .	28th June, 1921
18	Trinidad Leaseholds, Limited .. .. .	29th Do.
19	Do. do. .. .. .	29th Do.
20	Do. do. .. .. .	2nd July, 1921
21	Kern (Trinidad) Oilfields, Ltd. .. .. .	9th Do.
22	Do. do. .. .. .	11th Do.
23	Apex (Trinidad) Oilfields, Ltd. .. .. .	24th October, 1921

## (b) Applications for Exploration Licenses, 1921.

No.	Name of Company.	Date of Application.
1	Trinidad Petroleum Development Co., Ltd. .. .. .	12th January, 1921
2	Oropuche Oilfields, Limited, now General Petroleum Company of Trinidad, Ltd. .. .. .	11th February, 1921
3	Trinidad Petroleum Development Co., Ltd. .. .. .	15th Do.
4	Do. do. do. .. .. .	5th March, 1921
5	Do. do. do. .. .. .	7th April, 1921
6	Do. do. do. .. .. .	22nd Do.
7	Do. do. do. .. .. .	24th June, 1921
8	Do. do. do. .. .. .	7th November, 1921

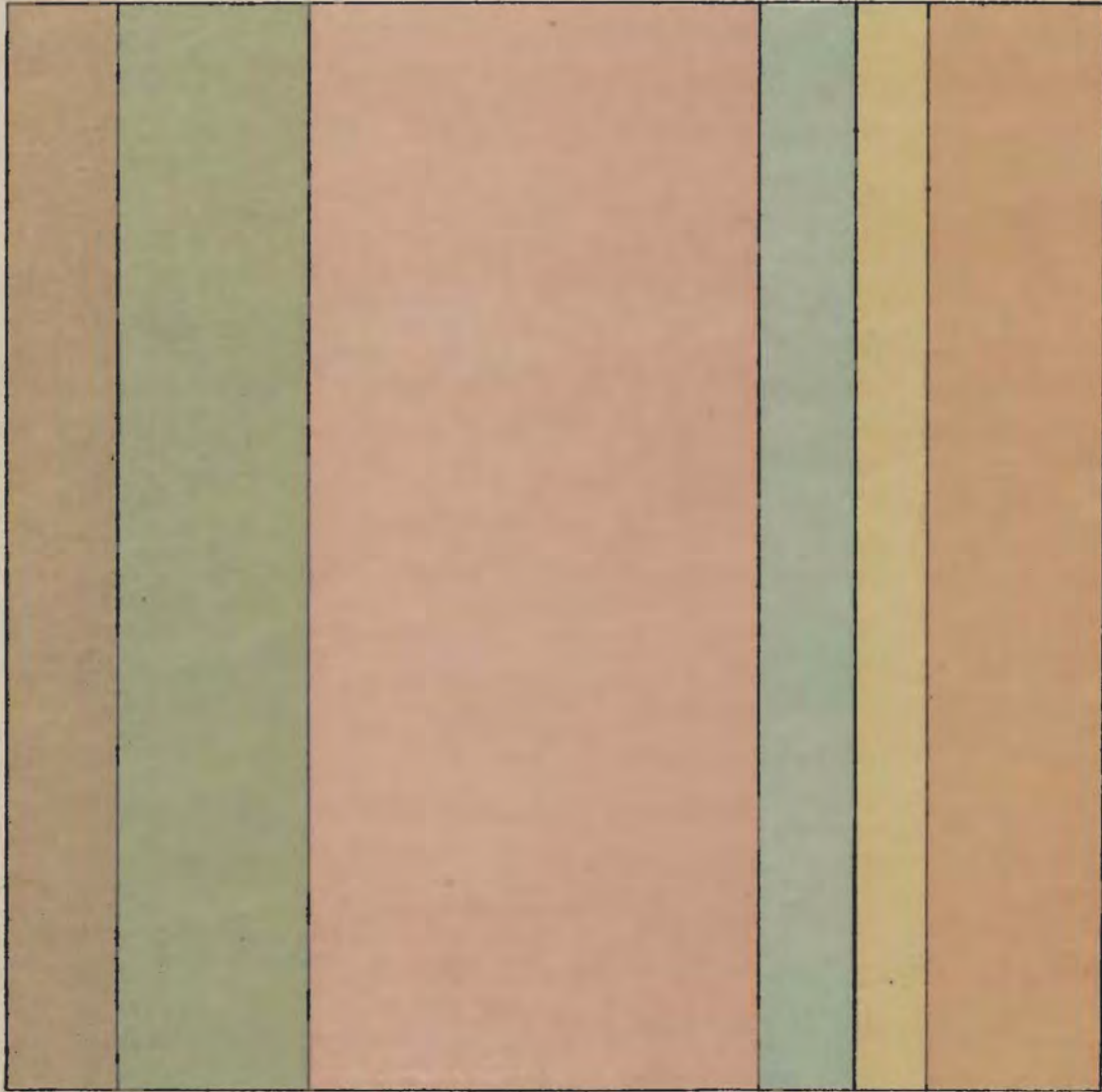
\* 7 Leases, lands at St. Clair.

† 17 Leases, lands at St. Clair.







‡ Prospect for graphite.

**APPENDIX IV.**

**GRAPHICAL DISTRIBUTION OF LANDS IN TRINIDAD.**

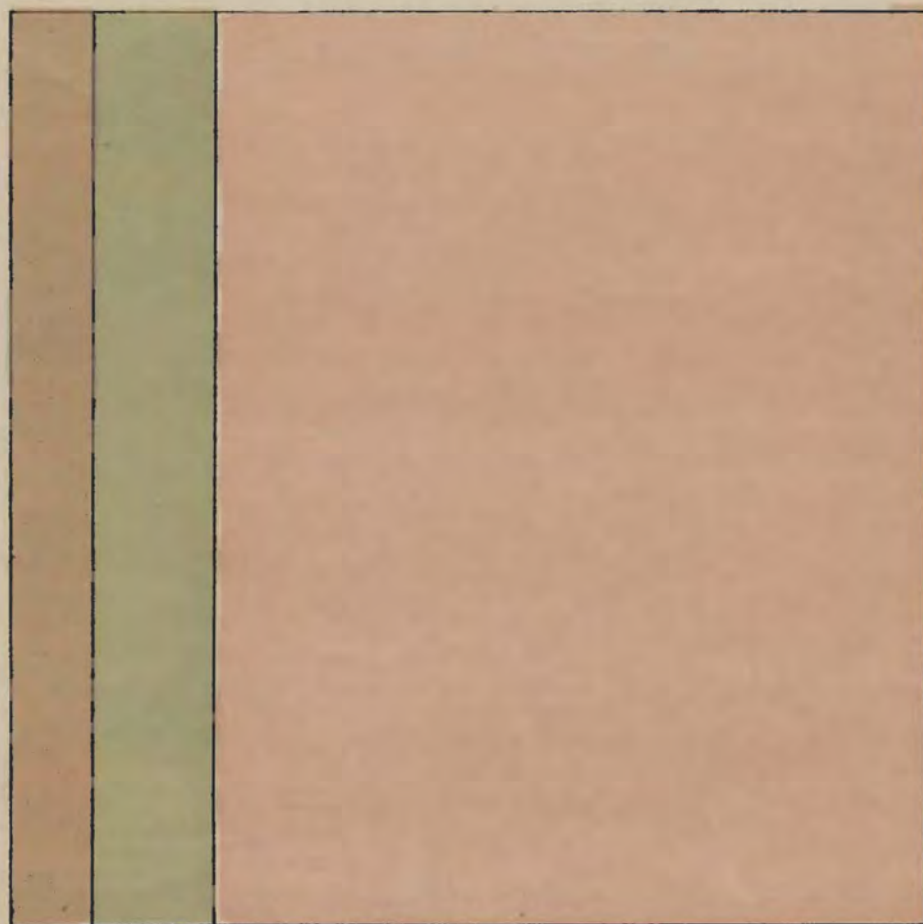


**REFERENCE**




-  .... **Crown lands available for sale above 10° 26' 36"**
-  .... **Forest Reserves**
-  .... **Alienated and other lands**
-  .... **Crown lands under Mining Lease**
-  .... " " **Prospecting License**
-  .... " " **Exploration License**

APPENDIX V.

GRAPHICAL DISTRIBUTION OF LANDS IN TOBAGO.



REFERENCE

- |   |     |                                |
|---|-----|--------------------------------|
|  | ... | Crown lands available for sale |
|  | ... | Forest Reserves                |
|  | ... | Alienated and other lands      |

**Report of the Deputy Sub-Intendant of Crown Lands on the Working of the Crown Lands Branch of the Lands and Mines Department for the year ended 31st December, 1921.**

DIRECTOR OF LANDS AND MINES, &c.

I have the honour to submit the Annual Report of the Lands Branch of the Lands and Mines Department for the year 1921.

2. The total number of petitions for Crown Lands received during the year was 295 compared with 774 for 1920, and these were divided among the Counties, the Ward of Tobago and the St. Clair District of Port-of-Spain as under :—

<i>County.</i>						<i>No.</i>
St. George	..	..	..	..	..	51
St. David	..	..	..	..	..	65
Caroni	..	..	..	..	..	57
St. Andrew	..	..	..	..	..	87
Victoria	..	..	..	..	..	5
Nariva-Mayaro	..	..	..	..	..	3
St. Patrick	..	..	..	..	..	2
Tobago	..	..	..	..	..	24
St. Clair	..	..	..	..	..	1
						295
				Total	..	295

Of the 295 petitions, 102 were for Village Lots, 1 St. Clair Lot, 106 were for parcels of 5 acres, 64 for parcels from 6 to 10 acres, 20 for parcels from 11 to 50 acres and 2 for parcels from 50 to 100 acres.

3. The total amount received on account of Land Sales was £4,833 1s. 7d. as against £15,111 4s. 6d. for 1920.

4. The "Completed" Land Sales for the year show a total of 464 Grants issued comprising 2,614 acres, 0 roods, 18 perches, and 99½ Village Lots as against 689 Grants comprising 4,165 acres 2 roods, 18 perches, and 141 Village Lots for 1920.

5. The amount actually received for these "Completed" Land Sales was £7,435 15s. 7½d. as against £17,460 7s. 9d. for 1920.

6. The number of Grants and the acreage and number of lots alienated on each of the Counties, and in Tobago and St. Clair are given below :—

<i>County.</i>		<i>No. of Grants.</i>	<i>Acreage.</i>			<i>Lots.</i>
			A.	R.	P.	
St. George	..	103	633	1	26	11½
St. David	..	79	193	1	39	54
Caroni	..	70	454	0	3	12
St. Andrew	..	125	969	2	3	12
Victoria	..	10	47	1	29	3
Nariva	..	2	—	—	21	1
St. Patrick	..	2	—	—	30	2
St. Clair	..	1	—	—	—	1
Tobago	..	72	315	3	27	3
Totals	..	464	2,614	0	18	99½

7. The number of Grants issued to East Indians during the year was 63, comprising 351 acres, 1 rood, and 25 perches, and 15 Village Lots.



8. It will be seen that there has been a considerable decrease in the sale of Crown Lands, which may partly be attributed to the very low prices paid for local produce during 1921, and partly to the fact that new Crown Traces are needed to give access to the lands available in the Northern and North-eastern Districts of the Colony.

The Crown Land in the Southern, or Oil area of the Colony is necessarily still withheld from sale, so as not to hamper the development of the Oil Industry.

9. The usual comparative statement Appendix "A" showing the "Completed Land Sales" in respect of the years 1920 and 1921 is appended.

10. The Forfeitures for default of payment of Lands and Buildings Taxes for 1920 recorded in 1921 were 17 in number as compared with 15 for the previous year (*see* Appendix B). This is very satisfactory when it is recalled that the forfeitures recorded for previous years were seldom less than two to three hundred a year, and that the number of forfeitures for 1918, recorded in 1919, namely 52, was the lowest ever recorded up to that time, and this I think indicates that the Wardens are not relaxing their activities in carrying out the provisions of the Lands and Buildings Taxes Ordinance No. 14 of 1920.

11. 37 Re-grants of Forfeited lands were issued during 1921.

12. The Revenue derived from Asphalt was as follows:—

Export Duty	..	..	..	..	£29,655	8	10
Royalty on Asphalt shipped	..	..	..	..	9,980	8	6
Royalty on Asphalt used locally		..	..	..	75	9	0
					<hr/>		
			Total..	..	£39,711	6	4
					<hr/>		

as compared with £47,707 16s. 1d. for 1920.

13. ST. CLAIR LOTS—With the exception of one lot reserved for Government purposes, all the lots laid out at St. Clair have now been sold.

14. There is no doubt that there is a large and growing demand for more building sites in and around Port-of-Spain, and this want is being acutely felt, and the Government may shortly have to consider the feasibility of releasing such portions of the remaining Crown Lands as are not actually required for Government purposes.

15. None of the lots laid out in the vicinity of The Lady Chancellor Road have been sold, (though many enquiries have been made about them) but this is in a large measure due to the fact that no roads to give easy access to these lots have yet been constructed, and to the present difficulties of Water Supply and the heavy cost of building construction.

16. ST. AUGUSTINE ESTATE.—This Estate was handed over to the Crown Lands Department in October, 1920, when the sale and lease of the remaining areas were temporarily suspended, and His Excellency the Governor has since appointed a Committee to go into the question of the price to be charged for these lands and also of revising the areas to be leased as building sites.

17. The number of applications received for Licenses to Explore and Prospect for Oil during the year was 31. There were no applications for Mining Leases.

18. The necessity of a Land Register containing all the Real Property and other references became apparent in dealing with the alienated lands applied for by Oil Companies, and a special Vote of £200 was taken in Council on 13th May, 1921, for this purpose. The preparation of this Register was entrusted to Mr. E. C. M. Stone, in July, 1921. Fair progress has been made, but as the work is necessarily slow and tedious it is not anticipated that it will be brought to a completion until about the middle of 1922.

15th March, 1922.

G. L. GUPPY,  
*Deputy Sub-Intendant.*

## APPENDIX A—CROWN LANDS.

Return showing the number of Grants, and the acreage sold in each County, for the years 1920-1921.

County.	1920.					1921.				
	No. of Grants.	Acreage Sold.			Lots.	No. of Grants.	Acreage sold.			Lots.
		A.	R.	P.			A.	R.	P.	
St. George ..	129	1,002	0	32	12	103	633	1	26	11½
St. David ..	87	459	0	21	23	79	193	1	39	54
Caroni ..	147	1,030	0	11	23	70	454	0	03	12
St. Andrew ..	185	1,409	0	20	12	125	969	2	03	12
Victoria ..	24	63	2	20	13	10	47	1	29	3
Nariva ..	42	11	3	02	40	2			21	1
St. Patrick ..	2	7	3	16	—	2			30	2
Tobago ..	56	181	3	16	1	72	315	3	27	3
St. Clair (Port-of-Spain)	17	—	—	—	17	1	—	—	—	1
Totals ..	689	4,165	2	18	141	464	2,614	0	18	99½
Total amount realised		£17,460 7s. 9d.					£7,435 15s. 7½d.			

## APPENDIX B—CROWN LANDS.

County.	1919.		1920.	
	No. forfeited.	No. since sold or regranted.	No. forfeited.	No. since sold or regranted.
St. George ..	2	2	6	Nil.
St. David ..	Nil	Nil	Nil	Nil
Caroni ..	9	2	7	Nil
St. Andrew ..	2	Nil	4	Nil
Victoria ..	Nil	Nil	Nil	Nil
Nariva ..	Nil	Nil	Nil	Nil
Mayaro ..	Nil	Nil	Nil	Nil
St. Patrick ..	Nil	Nil	Nil	Nil
Tobago ..	2	2	Nil	Nil
Total ..	15	6	17	—

**Report of the Crown Surveyor on the working of the Survey Branch of the Lands and Mines Department for the year ended 31st December, 1921.**

DIRECTOR OF LANDS AND MINES, &c.

I have the honour to submit the Annual Report of the Survey Branch of the Lands and Mines Department for the year 1921.

*A.—Triangulation.*

No Triangulation was carried out by this Department during the year, but four new tertiary trigonometrical stations—fixed by the Officer in Charge of the Topographical Survey, which can be used for controlling cadastral surveys—were permanently marked with concrete pillars by this department.

*B.—Topographical.*

Spot Levels were taken and contours at vertical intervals of 10 feet shewn on a plan of a portion of the St. Augustine Estate, containing 300 acres in order to facilitate the selection of the sites for the Residences of the Principal and Staff of the West Indian Agricultural College.

A plan shewing the positions of trees, buildings and other details in the Queen's Park—which contains about 200 acres—was prepared from actual survey.

A certain amount of topographical information was also obtained in the surveys of roads, but as these surveys were undertaken primarily to control the plotting of boundary lines on the Cadastral Sheets, this work has been included under heading C.—Cadastral.

*C.—Cadastral.*

During the year 279 orders were prepared for the surveys of Crown Lands petitioned for, as well as 78 orders for special surveys, making a total of 357 survey orders.

In addition 105 survey orders, issued in 1920 but uncompleted at the end of that year, were completed during the year.

The total area of Crown lands surveyed during the year for oil concessions amounted to 16,544 acres.

The orders for these surveys were given to Contract Surveyors who were paid by the Oil Companies interested.

The total area of new Forest Reserves surveyed during the year amounted to 7,013 acres. This work was also executed by Contract Surveyors, the cost of survey being paid by the Forest Department.

A great deal of time was, however, spent by the Survey Staff in checking the computations of these Oil Concession and Forest Reserve surveys and co-ordinating them to the Trigonometrical Stations before plotting them on the Cadastral Sheets.

The total length of boundary lines marked on the ground in the execution of the surveys completed is as follows :—

Petition and Resumption Surveys	..	..	16,690
Surveys of Forest Reserves	..	..	2,089
Surveys of Oil Concessions	..	..	7,121
			25,900
or 323 $\frac{3}{4}$ miles	..	..	chains

In addition, eleven miles of accurate traverse surveys—connected to the trigonometrical framework—were run along roads and boundaries to control the plotting of the alienated lands on the Cadastral Sheets and a considerable amount of survey work was done for the preparation of a Cadastral map of Princes Town on the scale of 1 in 2500. When completed this map will shew the boundaries of over 700 separately assessed parcels of land, lying within the limits of the town, of which at present we have no general plan.

Of the 56 Special orders executed by the Staff the following 10 are given as examples :—

- S.O. 178/21.—A cadastral survey of the Bagatelle lands—San Juan.
- S.O. 97/21.—Re-survey of certain alienated lands at Carenage to determine the boundaries of the adjoining Crown Lands.
- S.O. 323/21.—A survey of the Moruga Village.
- S.O. 357/21.—A first-class traverse survey along the Streets in the North-western part of Port-of-Spain for the preparation of a cadastral plan of the residential lots in that district.
- S.O. 306/21.—The setting out of 56 lots for a new Village at the  $24\frac{1}{2}$  mile of the Naparima-Mayaro Road.
- S.O. 289/21.—The survey of the reserve for the new Village of Valencia containing 255 acres in which 44 lots were laid out.
- S.O. 74/21.—Re-survey of Water Reserves at Atagual.
- S.O. 174/21.—Survey of a reserve for the diversion of the canal through La Holdi—St. Augustine.
- S.O. 184/21.—A re-survey of certain alienated parcels near Brasso Seco—Blanchisseuse—in order to determine the boundaries of the adjoining Crown Lands.
- S.O. 207/21.—Survey of the Harkoo Trace for resumption purposes.

Among the Special Orders executed by the Staff were some intricate boundary surveys of Crown Lands, of which we had no reliable plans or records.

By means of the survey of the Bagatelle lands—San Juan—(S.O. 178/21) 129 separately assessed parcels, with irregular boundaries—varying from  $\frac{1}{8}$  of an acre to 8 acres—were located, and 73 acres of unassessed lands defined and forfeited to the Crown.

It took one of my Assistants three months to complete this survey, though the total area covered was only 323 acres and the length of boundary lines run, 920 chains.

These surveys take a great deal of time to execute, due to the exhaustive searches and enquiries that have to be made in order to obtain the most reliable data available for the determination of the correct positions of the numerous boundary lines to be set out.

#### D.—*Office Work.*

In addition to the work of computing and checking the traverses and other calculations of the surveys executed by the Staff and Contract Surveyors, the following Maps and Plans were prepared :—

*Maps.*—An Agricultural Map of Trinidad—scale 1 in 300,000—was prepared, shewing in colours the approximate positions of lands under the principal agricultural products, and reproduced by Lithography at the Local Government Printing Office.

An Agricultural Map of Tobago, scale 1 in 50,000 was prepared and reproduced in a similar manner.

A Map of Trinidad—scale 1 in 150,000—shewing the Motor and Carriage Roads of the Island was prepared and is now being printed by Messrs. E. Stanford, London.

The 32 Cadastral Sheets comprising Districts H and K, on the scale of 12 chains to an inch, were reduced by means of the eidograph to the scale of 1 in 50,000, and improved maps of Sheets H and K, scale 1 in 50,000, are now being prepared.

**Plans.**

1,690 Grant, Lease and Survey Plans were made in connection with petitions, as well as numerous tracings for use in the field.

The alienations for the year were plotted on Maps to the scales of 1 in 9,504, 1 in 50,000 and 1 in 150,000.

Small scale plans of 16 Forest Reserves were revised and prepared for reproduction by lithography.

A general plan of the St. Augustine group of Estates was prepared.

244 separate plans were made of the St. Augustine Rice Lots.

180 plans, in duplicate, of properties within the area affected by the Caroni Reclamation Scheme were made.

New plans of Preau Village, California Village and Redhead Village were plotted.

Several plans were prepared in connection with the proposed West Indian Agricultural College as well as other miscellaneous plans and tracings.

The number of plans dealing with transactions under the Real Property Ordinance checked and certified by the Crown Surveyor during the year amounted to 792.

Solar observations for time were taken once a week to determine the correction to the Standard Clock kept in this office, from which the correct time for the Colony is obtained.

*E.—Expenditure.*

				£	s.	d.
Salaries of Staff	..	..	..	2,433	3	2
Expenses of Surveys	..	..	..	2,637	6	10½
Travelling Expenses	..	..	..	544	17	11½
Office Contingencies	..	..	..	17	18	0
				<hr/>		
				5,633	6	0

The Staff have worked hard throughout the year and performed their duties in a very efficient manner.

J. W. MACGILLIVRAY,

8th March, 1922.

*Crown Surveyor.*

**Report of the Inspector of Mines on the working of the Mines Branch of the Lands and Mines Department for the year ended 31st December, 1921.**

DIRECTOR OF LANDS AND MINES, &c..

I have the honour to submit the following report on the working of the Mines Department for the year ending 31st December, 1921.

**Official Duties.**

2. The Mines Department was carried on as a separate department until your arrival in the Colony on the 17th April last, and I acted as Inspector of Mines in addition to performing the duties of my substantive post, Deputy Inspector of Mines, from the beginning of the year until that date.

The amalgamation of the lands and Mines Departments took place from the date of your arrival in the Colony when I was appointed to the post of Inspector of Mines. The posts of Deputy Inspector of Mines, 1st Assistant Inspector of Mines, 2nd Assistant Inspector of Mines have been abolished, and three new posts created in their places, viz :—Geologist and two posts designated Assistant Inspector of Mines.

**Petroleum.**

3. I am glad to be able to state that there has been much activity in this industry during the past year. As will be seen later in this report, there has been a considerable increase in the footage drilled by the various oil companies with the result that the production of crude oil has also been largely increased. I have to record that during the year 1921 the greatest production of crude oil in the history of the Colony has been obtained. Although the exports of crude oil and its products, during the period under review, shew an increase over the year 1920 they are still below the quantities exported in 1918 and 1919 ; there were, however at the close of the year, large stocks in storage. The Admiralty continues to purchase considerable quantities of oil fuel, and have entered into new contracts to take supplies from two local companies, viz : the Trinidad Leaseholds, Ltd. and the United British Refineries, Ltd. Shipments of both crude oil and refined products continue to be made to private firms in the United Kingdom, and there is also a considerable trade with the other West Indian Colonies. Regular shipments are also made by steamers calling here for oil bunkers.

4. The following table shews the number of feet drilled and the quantity of oil produced during the period under review, as compared with the years 1919 and 1920 :—

	<i>Year ended 31st December, 1919.</i>		<i>Year ended 31st December, 1920.</i>		<i>Year ended 31st December, 1921.</i>	
	<i>Feet drilled.</i>	<i>Oil won. Imp. Gals.</i>	<i>Feet drilled.</i>	<i>Oil won. Imp. Gals.</i>	<i>Feet drilled.</i>	<i>Oil won. Imp. Gals.</i>
Crown Lands ...	40,122	53,534,295	53,404	61,532,046	70,710	61,325,279
Private Lands ...	13,937	10,902,337	23,972	11,373,901	46,150	21,070,316
Totals ...	68,059	64,436,632	77,376	72,905,947	116,860	82,395,595

During the year 1921 the number of new wells drilled was 84 (49 on Crown Lands and 35 on Private Lands) a total increase of 17 over the previous year. In 42 of these wells oil was struck. The total number of wells drilled in the Colony from the commencement of operations to the 31st December last was 607 of which 362 were on Crown Lands.



5. At the close of the year 1921, 20 companies were actively engaged in the winning of oil as against 22 at the end of 1920. Several companies had, however, temporarily suspended operations just before the end of the year.

6. The Trinidad Leaseholds, Limited, have continued, during the period under review, to concentrate their energies on their fields at the Morne L'Enfer Forest Reserve and Barrackpore. Drilling has also been carried out in the Piparo and Santa Cecilia districts but, up to the present, oil in commercial quantities has not been encountered at either place. A large production of oil has been continued to be obtained from the two former fields, the greater part of which is pumped to their refining and shipping installation at Pointe-à-Pierre. Small quantities have been retained at each of these places and refined for field consumption and for supplying local sugar factories. The additions to the refinery at Pointe-a-Pierre, mentioned in my last report, are now nearing completion; the Greenstreet process for "cracking" oil is, at the time of writing, in operation. The refinery has continued to be worked during the whole of the past year and regular shipments of oil, both to the Admiralty and private firms, have taken place. At the close of the year considerable stocks of oil and products were awaiting shipment.

7. The Trinidad Lake Petroleum Company, Limited, continued to produce oil from its private lands near the Pitch Lake; no further drilling has, however, taken place during the past year. Only small shipments were made by this company during the period under review, and at the close of the year large stocks, mainly composed of oil acquired from the Petroleum Development Company, Limited, were awaiting shipment.

8. The Petroleum Development Company, Limited, has continued drilling operations on the Crown Lands held under lease in the Morne L'Enfer Forest Reserve during the whole of the past year. The wells drilled thereon have continued to be very satisfactory, a large production being obtained.

9. The United British Oilfields of Trinidad, Limited, have confined their drilling operations to the Parry Lands area in the Morne L'Enfer Forest Reserve and have considerably extended this field. The production from this field together with that won from the Crown Lands held under lease and the private lands near Point Fortin has continued to be sold to the United British Refineries, Limited.

10. The operations of the United British West Indies Petroleum Syndicate, Limited, have been confined to the Los Bajos Field near Siparia, and drilling has been continued during the whole of the past year. The production of this Company has, as before, been pumped to Point Fortin and sold to the United British Refineries, Limited.

11. The Trinidad Central Oilfields, Limited continued developing the Crown Lands held under lease near Tabaquite. A prospecting licence over some 70,000 acres of Crown Land has been held by this company since the 1st January, 1920 and drilling operations have also been commenced on this area. Considerable additions to the machinery and buildings on the area held under mining lease have been made during the year, and the "Air lift" system of raising oil has been installed in a number of the producing wells on the field.

12. The Kern Trinidad Oilfields, Limited, a subsidiary of the Kern River Oilfields of California, Limited, commenced drilling operations during the early part of the year on the Perseverance Estate at Guapo, formerly worked by Mr. C. C. Stollmeyer. This company has continued a very active programme of development and is, at the time of writing, arranging to dispose of its production to the United British Refineries, Limited at Point Fortin.

13. Drilling was recommenced by the Trinidad United Oilfields, Limited, during the early part of the year on the Crown Lands held under lease at Palo Seco, but after drilling one well these operations were suspended. Oil has continued to be produced from the old wells and has been treated in the small refining plant owned by the company.

14. The Oropuche Oilfields, Limited, continued developing its private lands adjoining the property of the Trinidad Leaseholds, Limited near Fyzabad. As before the whole of the production obtained has been sold to this latter company.

15. A very active programme has been undertaken by the Apex (Trinidad) Oilfields, Limited, during the period under review on its private lands near Fyzabad. A large production was obtained which had, I understand, to be restricted towards the close of the year owing to the fact that the Trinidad Leaseholds, Limited, to whom the production obtained by this company is sold, were unable to provide the necessary storage; I understand, however, that the latter company will shortly be able to take largely increased quantities. A mining lease over some 100 acres of land, the surface of which has been alienated subsequent to 17th January, 1902, will shortly be issued to this company.

16. The Naparima Oilfields of Trinidad, Limited, commenced drilling operations on the private lands owned by the Saint Madeleine Sugar Company, Limited. A number of wells are in process of being drilled but, up to the present, oil in commercial quantities has not been encountered.

17. The Trinidad Petroleum Development Company, Limited, which is a subsidiary company of S. Pearson and Sons, Limited, commenced drilling on private lands near San Fernando and on Crown Lands held under prospecting licence near Tabaquite. The producing stage has not, as yet, been reached.

18. The Transvaal and Rhodesian Estates, Limited, continued extracting oil during the whole of the past year from the wells already drilled on its private lands at Point Ligoure, but no further development work has yet been undertaken.

19. A well was drilled by the Anglo-Trinidad Oil Company, Limited, on lands held under prospecting licence in the Rio Claro District. Oil was struck in this well but operations are temporarily suspended pending, I understand, the raising of further capital.

20. Drilling operations were resumed towards the close of the year by the Trinidad National Petroleum Company, Limited, on its Poonah field and a small quantity of oil was struck.

21. The Trinidad Oil Producing and Refining Company, Limited, continued drilling on its private lands near Fyzabad during the early part of the year. The production obtained was sold to the Trinidad Leaseholds, Limited.

22. The Amalgamated Oilfields of Trinidad, Limited suspended drilling on its private lands near Moruga during the early part of the year; oil in commercial quantities was not encountered.

23. The Trinidad Freeholds, Limited continued producing oil from the existing wells which was sold to the Trinidad Leaseholds, Limited.

24. The Uroz Oilfields, Limited, drilled both on private lands and lands held under prospecting licence. Operations were suspended in the middle of the year without oil in payable quantities having been struck.

25. The Trinidad Esmeralda Estates, Limited continued drilling on its private estates during the greater part of the year and were successful in striking oil. Operations are, for the present, suspended.

26. The British Controlled Oilfields, Limited, drilled several wells on private lands in the Montserrat district without striking oil in paying quantities. Work was suspended at the end of the year in order that the machinery might be transferred to Venezuela.

27. The Trinidad Tarouba Oil Development Company, Limited, continued drilling on private estates near San Fernando, but no oil was struck.

28. The General Petroleum Company of Trinidad, Limited, drilled one well on private lands in the Fort George District and then ceased work about the middle of the year.

29. Drilling operations have not been resumed by the Fyzabad Oilfields of Trinidad, Limited, during the period under review. I understand that their properties have been sold to the Spies Petroleum Company, Limited.

30. The B.A.W. Syndicate, Limited, to whom a prospecting licence over 3,484 acres of lands, the surface of which was alienated subsequent to the 17th January, 1902, was issued, commenced drilling in the Piparo District towards the end of the year.

31. The Cardiff and Trinidad Petroleum Company, Limited, and the Poole Syndicate, Limited both commenced drilling on private lands during the year.

32. The amount of royalty earned during 1921 was £20,003 being an increase of £1,293 over the previous year. The revenue obtained from wayleaves for oil conveyed through pipe lines laid along the Trinidad Government Railway was £4,101 and £1,713 in respect of oil piped along the Public Roads, making a total of £5,814 as compared with £4,651 for 1920.

33. Fees charged for crossing the Railway, Roads and Foreshore with pipe lines amounted to £16.

34. The various returns required to be submitted by the oil companies operating in the Colony, under the Ordinances administered by the Department, have been regularly furnished and after being checked have been filed in this Office.

35. INSPECTIONS.—The oilfields in the Colony have been regularly inspected, and I have to place on record my appreciation of the various fields managers and others who have assisted the officers of the Department to carry out their duties under the various Ordinances. In addition to carrying out the usual routine inspections it has been necessary to pay a considerable number of visits to the oilfields in connection with accidents, the shutting off of water, royalties, wayleaves, etc. I have much pleasure in reporting that, in the majority of cases, the various managers co-operate with this department in endeavouring to carry out the provisions of the Ordinances and Regulations. It has not been necessary to institute any prosecutions for breaches of the law.

36. LEASES AND LICENCES.—Three prospecting licences over alienated lands on which the Crown holds the oil rights were issued during the past year as follows :—

B. A. W. Syndicate, Limited	..	..	..	3,484 acres.
General Petroleum Company of Trinidad, Limited	..		..	1,331 acres.
British Union Oil Company, Limited	..	..	..	175 acres.

An exploration licence was also issued to the Trinidad Petroleum Development Company, Limited, over 185,893 acres.

37. QUARRIES.—The quarries in the Colony with the exception of the Eastern and Carrera quarries, both owned by the Government, are small and unimportant. They have been inspected as occasion demands, and have, in most cases been found to be worked in a careful manner. The number of quarries in operation during the year 1921 was 69 as against 62 during the year 1920.

38. WORK UNDER THE PETROLEUM ORDINANCE NO. 20 OF 1915.—Regular inspections of the premises in which the various products of petroleum are stored have been carried out by the officers of this department, and I have to report that in most cases the utmost care was taken by the owners to ensure safety.

39. PREVENTION OF ACCIDENTS ORDINANCE NO. 13 OF 1915.—The remarks in my Annual Report for 1920 on this subject still hold good. In the main, the managers of the various factories took great care in making the machinery under their control as safe as possible. During the period under review 83 factories were worked in Trinidad and 13 in Tobago.

#### **Work under the Asphalt Industry Ordinance.**

40. Digging on the village lots at La Brea has not yet been recommenced. There does not appear to be any prospect of it being resumed in the near future.

41. APPENDICES.—Appendix A shews the average number of persons employed and the quantity and value of minerals obtained.

Appendix B contains the list of accidents, and it will be seen that they are such as are incidental to all industrial operations of this nature.

In Appendix C is given a list of the oilfields and quarries worked during the year 1921.

Appendix D contains a comparative statement of the oil produced, refined and exported.

42. STAFF.—I have great pleasure in recording the able and loyal assistance I have received from the members of the Staff.

16th March, 1922.

A. P. CATHERALL,  
*Inspector of Mines.*

## APPENDIX A.—MINES.

Daily average number of persons employed and quantity and value of Minerals obtained from Mines, Oilfields and Quarries during the year ended 31st December, 1921.

MINERALS.	Daily average number of persons employed.		Total.	Quantity.	Approximate Value.
	Males.	Females.			
Oil .. .. .	4,647	88	4,735	82,395,595 Imp. Gls.	£ 602,406
Asphalt .. .. .	780	20	800	119,729 Tons ..	149,661
Private Quarries (Limestone, Gravel, etc.)..	447	133	580	139,061 do. ..	20,281
Government Quarries (Limestone, etc.) ..	413	116	529	88,183 do. ..	19,054

NOTE.—The difference in value between metal won from Private Quarries and Government Quarries is that the former consists of both Limestone and Gravel whilst the latter is chiefly Limestone.

## APPENDIX B.—MINES.

List of Accidents which occurred at Mines, Oilfields and Quarries during the year ended 31st December, 1921, reported under section 19 of Ordinance No. 13 of 1907.

Name of Mine, Oilfield or Quarry.	NUMBER OF ACCIDENTS REPORTED.			
	Minor.	Serious.	Fatal.	Total.
United British Oilfields of Trinidad, Limited ..	4	3	2	9
United British West Indies Petroleum Syndicate, Ltd...	4	..	..	4
Trinidad Freeholds, Ltd.. .. .	1	..	..	1
Trinidad Leaseholds, Ltd., (Pointe-à-Pierre) ..	9	..	..	9
Trinidad Leaseholds, Ltd., (Fyzabad) .. ..	19	..	1	20
General Petroleum Company of Trinidad, Limited ..	1	..	..	1
Amalgamated Oilfields of Trinidad, Limited ..	1	..	..	1
Oropuche Oilfields, Ltd. .. .. .	5	3	..	8
Trinidad Oil Producing and Refining Co., Ltd. ..	1	..	..	1
Trinidad Central Oilfields, Ltd. .. .. .	6	2	1	9
Kern Trinidad Oilfields, Ltd. .. .. .	2	..	1	3
Poole Syndicate, Limited .. .. .	1	..	..	1
New Trinidad Lake Asphalt Company, Limited ..	2	1	1	4
Prizgar's Quarry .. .. .	1	..	..	1
	57	9	6	72

APPENDIX C.—MINES.

No.	Name.	Situation.	Owner and Address.	Manager.	Daily average No. of persons employed.	Mineral worked.
1	Trinidad Central Oilfields, Ltd. . . . .	Tabaquite . .	Trinidad Central Oilfields, Ltd., 2, Broad Street Place, London E.C. 2	R. H. Sperling . . . .	966	Oil.
2	United British Oilfields of Trinidad, Ltd. . . . .	Point Fortin . .	United British Oilfields of Trinidad, Ltd., 15, Abercromby Street, Port-of-Spain	F. J. Fleming . . . .	985	Oil.
3	United British West Indies Petroleum Syndicate, Ltd.	Siparia . .	United British West Indies Petroleum Syndicate, Limited, 15, Abercromby Street, Port-of-Spain	Do. . . . .	130	Oil.
4	Trinidad Oil Producing and Refining Co., Limited	Fyzabad . .	Trinidad Oil Producing and Refining Company, Limited, Pointe-a-Pierre Road, San Fernando	A. W. Ibbett . . . .	7	Oil.
5	General Petroleum Company of Trinidad, Limited	Fifth Company . .	General Petroleum Company of Trinidad, Ltd., Pointe-a-Pierre Road, San Fernando	Do. . . . .	24	Oil.
6	Amalgamated Oilfields of Trinidad, Ltd. . . . .	Moruga . .	Amalgamated Oilfields of Trinidad, Ltd., Pointe-a-Pierre Road, San Fernando	Do. . . . .	18	Oil.
7	Trinidad National Petroleum Company, Ltd.	Williamsville and Mandingo Rd.	Trinidad National Petroleum Company, Ltd., 14, Chacon Street, Port-of-Spain	Randolph Rust . . . .	11	Oil.
8	Trinidad Lake Petroleum Company, Ltd. . . . .	Brighton . .	Trinidad Lake Petroleum Company, Limited, Brighton	Paul Munoz . . . .	150	Oil.
9	Petroleum Development Company, Ltd. . . . .	Forest Reserve . .	Petroleum Development Company, Limited, Brighton	Paul Munoz . . . .	150	Oil.
10	Oropuche Oilfields, Limited . . . . .	Fyzabad . .	Oropuche Oilfields, Limited, Pointe-a-Pierre Road, San Fernando	A. W. Ibbett . . . .	84	Oil.
11	Trinidad Tarouba Oil Development Company, Limited	Williamsville . .	Trinidad Tarouba Oil Development Company, Ltd., Royal Bank Buildings, Marine Square, Port-of-Spain	E. K. Soper . . . .	14	Oil.
12	Apex (Trinidad) Oilfields, Limited . . . . .	Fyzabad . .	Apex (Trinidad) Oilfields, Ltd., 208-224, Salisbury House, London, E.C. England	H. C. B. Hickling . . . .	142	Oil.
13	Transvaal and Rhodesian Estates, Limited . . . . .	Pointe Ligoure . .	Transvaal and Rhodesian Estates, Ltd., 18, Chacon Street, Port-of-Spain	J. Greenidge . . . .	2	Oil.
14	British Controlled Oilfields, Limited . . . . .	Santa Lucia, Williamsville	British Controlled Oilfields, Ltd., 27, Marine Square, Port-of-Spain	C. R. Clark . . . .	35	Oil.
15	Uroz Oilfields, Limited . . . . .	Williamsville . .	Uroz Oilfields, Limited, 9, St. Vincent Street, Port-of-Spain	H. P. Ingram . . . .	67	Oil.
16	Trinidad Esmeralda Estates, Limited . . . . .	Do. . .	Trinidad Esmeralda Estates, Ltd., 9, St. Vincent Street, Port-of-Spain	C. B. Gasson . . . .	10	Oil.
17	Kern Trinidad Oilfields, Limited . . . . .	Guapo . .	Kern Trinidad Oilfields, Ltd., Guapo . . . . .	W. Calder . . . .	255	Oil.
18	Anglo-Trinidad Oil Company, Limited . . . . .	Oropuche and Rio Claro	Anglo-Trinidad Oil Company, Ltd., Pointe-a-Pierre Road, San Fernando	A. W. Ibbett . . . .	14	Oil.
19	Trinidad United Oilfields, Limited. . . . .	Palo Seco . .	Trinidad United Oilfields, Ltd., 40-42, Broad Street Avenue, London	G. Rooks . . . .	16	Oil.
20	Trinidad Freeholds, Limited . . . . .	Fyzabad . .	Trinidad Freeholds, Ltd., Henry Street, Port-of-Spain	Trinidad Leaseholds, Ltd.	9	Oil.
21	Trinidad Leaseholds, Limited . . . . .	Do. . .	Trinidad Leaseholds, Ltd., Pointe-a-Pierre . . . . .	R. Beaumont . . . .	614	Oil.
22	Do. do. . . . .	Pointe-a-Pierre . .	Do. do. do. . . . .	Do. . . . .	631	Oil.
23	Do. do. . . . .	Barrackpore . .	Do. do. do. . . . .	Do. . . . .	134	Oil.
24	Do. do. . . . .	Siparia . .	Do. do. do. . . . .	Do. . . . .	9	Oil.
25	Do. do. . . . .	Piparo . .	Do. do. do. . . . .	Do. . . . .	28	Oil.
26	Do. do. . . . .	Guayaguayare . .	Do. do. do. . . . .	Do. . . . .	5	Oil.
27	Cardiff & Trinidad Petroleum Co., Ltd.	Mayo Road, Williamsville	Cardiff and Trinidad Petroleum Company, Ltd., 68, High Street, San Fernando	W. R. Brown . . . .	18	Oil.
28	Naparima Oilfields of Trinidad, Limited . . . . .	San Fernando . .	Naparima Oilfields of Trinidad, Ltd., San Fernando	A. Jeffreys . . . .	112	Oil.
29	Trinidad Petroleum Development Company, Limited	South Naparima	Trinidad Petroleum Development Company, Ltd., 107, Queen Street, Port-of-Spain	G. Kemsley . . . .	54	Oil.
30	Boole Syndicate, Limited. . . . .	Rio Claro . .	Rio Syndicate, Limited, Henry Street, Port-of-Spain	Jean de Verteuil. . . .	23	Oil.
31	B. A. W. Syndicate, Limited . . . . .	Piparo . .	6, Royal Bank Buildings, Marine Square, Port-of-Spain	J. R. Donnan . . . .	18	Oil.



APPENDIX C.—MINES.—Continued.

No.	Name.	Situatoin.	Owner and Address.	Manager.	Daily average No. of persons employed.	Mineral worked.
	MINES.					
1	New Trinidad Lake Asphalt Company, Ltd.	La Brea	New Trinidad Lake Asphalt Company, Ltd., Brighton	Paul Munoz	800	Asphalt
	QUARRIES.					
1	Bon Accord Quarry	Pointe-a-Pierre	Trinidad Government Railway, Port-of-Spain	C. Newallo	20	Sandstone.
2	Brasso Quarry	Brasso-Caparo Road	Trinidad Government, Port-of-Spain	District Engineer, South Caroni	14	Limestone.
3	Atagual Quarry	Guaracara-Tabaquite Rd.	Do. do.	Do.	4	Do.
4	Guaracara	Brasso	Do. do.	Do.	5	Do.
5	Cutucupano	Santa Cruz Rd.	Do. do.	District Engineer, Port-of-Spain	3	Do.
6	Morne Coco Quarry	Diego Martin	Do. do.	Do.	5	Do.
7	Chancellor Road	St. Ann's Hill	Do. do.	Do.	7	Do.
8	Moruga Quarry	Moruga	Do. do.	Y. de Verteuil, Princes Town	19	Sandstone.
9	Moreau Quarry	Moreau Road	Do. do.	Do.	7	Limestone.
10	Buenos Ayres	Erin Road	Do. do.	District Engineer, Siparia	9	Porcellanite.
11	Morne Diable No. 2	Morne Diable	Do. do.	Do.	25	Limestone.
12	Siparia Government	Erin Road	Do. do.	Do.	16	Porcellanite.
13	Matchpoorie	Talparo Road	Do. do.	District Engineer, North Caroni	13	Limestone.
14	Chin Chin Road	Chin Chin Extension Road	Do. do.	Do.	10	Do.
15	San Chu Chu	Tamana Road	Do. do.	Do.	3	Do.
16	Southern Road 73½ mile	Southern Central Road 73½ mile	Do. do.	District Engineer, Cedros	5	Porcellanite.
17	Southern Road 71½ Mile	Southern Central Road 71½ mile	Do. do.	Do.	8	Do.
18	Morichal	Morichal Local Road	Do. do.	District Engineer, San Fernando	8	Limestone.
19	Morne Roche	Morne Roche Quarry Road	Do. do.	Do.	5	Do.
20	Mayo Quarry	Mayo Quarry Road	Do. do.	Do.	6	Do.
21	Corosal	Corosal Road	Do. do.	Do.	4	Do.
22	8½ Mile Guaico-Tamana Road	8½ Mile Guaico-Tamana Road	Do. do.	District Engineer, St. Andrew	16	Do.
23	11 Mile Guaico-Tamana Road	11 Mile Guaico-Tamana Road	Do. do.	Do.	10	Do.
24	2½ Mile Fishing Pond Road	2½ Mile Fishing Pond Road	Do. do.	Do.	2	Do.
25	½ Mile Mandillon Road Quarry	½ Mile Mandillon Road	Do. do.	Do.	2	Do.
26	Mt. Parnassus	Scarborough	Do. do.	District Engineer, Tobago	5	Rotten Rock.

APPENDIX C.—MINES.—Continued.

No.	Name.	Situation.	Owner and Address.	Manager.	Daily average No. of persons employed.	Mineral worked.
27	Carrera .. .. .	Carrera Islands	Trinidad Government, Port-of-Spain .. .. .	Superintendent of Prisons	102	Limestone.
28	Mount Hope Quarry .. .. .	St. Joseph .. .	Do. do. .. .. .	Do. .. .. .	37	Do.
29	Eastern Quarries .. .. .	Laventille .. .	Do. do. .. .. .	F. J. Horsford .. .. .	120	Do.
30	Tabaquite-Nariva Road 1st Mile .. .. .	Tabaquite Village	Do. do. .. .. .	District Engineer, Nariva-Mayaro	16	Do.
31	Cunapo Southern Road 16½ Mile .. .. .	Biche Village .. .	Do. do. .. .. .	Do. .. .. .	23	Do.
32	Plum Road Quarry .. .. .	Manzanilla .. .	Manzanilla Local Road Board .. .. .	L. S. Daly .. .. .	2	Do.
33	Charles' Quarry .. .. .	San Fernando .. .	L. Charles, Chacon Street, San Fernando .. .. .	C. Lucas .. .. .	3	Gravel.
34	Renown Quarry .. .. .	Pointe Gourde .. .	Charles Archibald, 26, Gatacre Street, Port-of-Spain .. .. .	C. Cambridge .. .. .	6	Limestone.
35	Laventille Quarry .. .. .	Port-of-Spain .. .	Trinidad Quarrying and Transport Company, 78, South Quay, Port-of-Spain	L. R. Gransaul .. .. .	60	Do.
36	Verdun Quarry .. .. .	San Fernando .. .	H. R. McLean, 27-29, Circular Road, San Fernando .. .. .	F. de Gannes .. .. .	2	Gravel.
37	Glendale Quarry .. .. .	Do. .. .. .	Do. do. do. .. .. .	Do. .. .. .	56	Do.
38	Zonzales Place .. .. .	Port-of-Spain .. .	City Council, Port-of-Spain .. .. .	City Engineer .. .. .	4	Limestone.
39	La Pique Quarry .. .. .	San Fernando .. .	S. C. Boodoosingh, Pointe-a-Pierre Road, San Fernando .. .. .	F. de Gannes .. .. .	6	Gravel.
40	La Coulee Quarry .. .. .	Do. .. .. .	Heirs of Joachim, care of Mr. J. Dopson, San Fernando .. .. .	Do. .. .. .	14	Do.
41	Monte Cristo Quarry .. .. .	Tamana .. .. .	H. Monceaux, Cumuto .. .. .	E. E. Monceaux .. .. .	2	Limestone.
42	Mahon's Quarry .. .. .	Pointe Gourde .. .	H. H. Archer, 5, St. Joseph Road, Port-of-Spain .. .. .	C. Archibald .. .. .	62	Do.
43	Osine Quarry .. .. .	San Fernando .. .	Ste. Madeleine Sugar Company, San Fernando .. .. .	N. Fleming .. .. .	9	Gravel.
44	Heirs of Prizgar .. .. .	Laventille .. .	Heirs of Prizgar, 22, Hermitage Road, Port-of-Spain .. .. .	James Walker .. .. .	36	Limestone.
45	Thomas Bay Quarry .. .. .	Gaspree .. .. .	A. Augustine, Pointe Gourde .. .. .	A. Augustine .. .. .	5	Do.
46	Mitchell Bay Quarry .. .. .	Pointe Gourde .. .	Do. do. .. .. .	Do. .. .. .	10	Do.
47	Pointe-a-Pierre Quarry .. .. .	Pointe-a-Pierre .. .	Trinidad Leaseholds, Limited, Pointe-a-Pierre .. .. .	G. H. Simpson .. .. .	20	Sandstone.
48	Aranguel Gravel Pit .. .. .	San Juan .. .. .	Mrs. M. A. Rapsey, Maraval .. .. .	J. H. Rapsey .. .. .	18	Gravel.
49	O'Brady's Quarry .. .. .	Laventille .. .	R. M. T. Prizgar, 62, Maraval Road, Port-of-Spain .. .. .	C. Newallo .. .. .	26	Limestone.
50	Champ Fleur .. .. .	St. Joseph .. .. .	Mrs. F. Gransaul, St. Joseph .. .. .	L. R. Gransaul .. .. .	40	Do.
51	Masson Bay Quarry .. .. .	Pointe Gourde .. .	O. H. Lee Lum, 31, Charlotte Street, Port-of-Spain .. .. .	A. Joseph .. .. .	30	Do.
52	St. Joseph Quarry .. .. .	San Fernando .. .	A. Harwood & P. Pickering, San Fernando .. .. .	P. Pickering .. .. .	2	Gravel.
53	Prizgar's Quarry .. .. .	Laventille .. .	Trinidad Trading Company, Ltd., Port-of-Spain .. .. .	C. C. Carmichael .. .. .	27	Limestone.
54	Mt. Pleasant Quarry .. .. .	Mt. Pleasant Rd. .. .	Messrs. R. & J. Henderson, 31, St. Vincent Street, Port-of-Spain .. .. .	F. Thomson .. .. .	4	Shell.
55	Duke Street Quarry .. .. .	12, Duke Street, Port-of-Spain	Virginia Prime, 12, Duke Street, Port-of-Spain .. .. .	W. Bowers .. .. .	11	Limestone.
56	Champs Elysees Quarry .. .. .	Maraval .. .. .	Madame de Boissière, Champs Elysees, Maraval .. .. .	Madame de Boissière .. .. .	12	Gravel, sand and boulders
57	Heemah Quarry .. .. .	San Fernando .. .	Heemah, San Fernando .. .. .	H. Gajadharsingh .. .. .	4	Limestone.
58	Baldeo Quarry .. .. .	Do. .. .. .	M. Maharaj & Company, Gasparillo Post Office, San Fernando .. .. .	Do. .. .. .	3	Do.
59	Siparia Hill Quarry .. .. .	Port-of-Spain .. .	T. Layne, 22, Siparia Hill, Port-of-Spain .. .. .	C. McCarthy .. .. .	2	Do.
60	Savonetta Bay Quarry .. .. .	Gaspree .. .. .	A. G. Agostini, 78, South Quay, Port-of-Spain .. .. .	A. J. Blondell .. .. .	10	Do.
61	Stollmeyer No. 1 Quarry .. .. .	Guapo .. .. .	Kern Trinidad Oilfields, Ltd., Guapo .. .. .	W. Calder .. .. .	10	Asphalt Sand.
62	Stollmeyer No. 2 Quarry .. .. .	Do. .. .. .	Do. do. .. .. .	Do. .. .. .	4	Sand.
63	Stollmeyer No. 3 Quarry .. .. .	Do. .. .. .	Do. do. .. .. .	Do. .. .. .	10	Asphalt Sand.
64	Verdant Vale Quarry .. .. .	Arima-Blanchisseuse Rd. .. .	Trinidad Cocoa & Coffee Co., Palmiste Estate, San Fernando .. .. .	Eddy Thatcher .. .. .	12	Limestone.
65	La Corona Estate .. .. .	Tamana .. .. .	Roque de Verteuil, Corona Estate, Tamana .. .. .	Roque de Verteuil .. .. .	11	Do.
66	Kelly's Quarry .. .. .	Diego Martin .. .	E. T. V. Kelly, 103, Queen Street, Port-of-Spain .. .. .	Louis Cuthbert .. .. .	6	Do.
67	Fishing Pond Road 4¼ Mile .. .. .	Fishing Pond Rd 4¼ Mile	H. H. Archer, 5, St. Joseph Road, Port-of-Spain .. .. .	H. H. Archer .. .. .	10	Porcellanite.
68	Plum Road Quarry .. .. .	Manzanilla .. .	Do. do. do. .. .. .	Pedro Marcano .. .. .	25	Limestone.
69	Bourne's Bay Quarry .. .. .	Gaspree .. .. .	Ste. Madeleine Sugar Company, San Fernando .. .. .	A. Manswell .. .. .	6	Do.

## APPENDIX D.—MINES.

Comparative statement of Oil produced refined and exported year by year since inception of industry.

YEAR.	Production in Gallons.	Quantity of Crude Oil Refined in Gallons.	Quantity of Crude Oil and Refined Oil exported in Gallons.
1905-1909-10 .. .. .	368,934	..	..
1910-1911.. .. .	4,378,942	..	..
1911-1912.. .. .	9,985,748	Previous to 1912-1913 1,324,468	7,685,374
1912-1913.. .. .	17,626,563	331,928	4,295,707
1913-1914.. .. .	22,523,060	1,227,134	13,570,152
1914-1915.. .. .	36,753,931	1,449,445	12,192,289
9 months ended December, 1915 ..	23,489,362	2,045,286	14,286,585
1916 .. .. .	32,475,695	3,773,770	34,129,955
1917 .. .. .	56,080,914	17,675,068	37,777,919
1918 .. .. .	72,872,398	73,722,915	45,689,234
1919 .. .. .	64,436,632	40,248,014	49,219,1
1920 .. .. .	72,905,947	48,842,055	36,221,728
1921 .. .. .	82,395,595	63,210,566	42,817,117
	496,293,721	253,850,649	297,885,286