

TRINIDAD AND TOBAGO.

Council Paper No. 48 of 1923.

LANDS AND MINES DEPARTMENT.

Administration Reports of the Acting Director of Lands and
Mines, the Acting Sub-Intendant of Crown Lands and the
Crown Surveyor for the year 1922.

*Laid before the Legislative Council on the
20th April, 1923.*

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HON'BLE ACTING COLONIAL SECRETARY.

I have the honour to submit the following report on the working of the Mines Branch of the Lands and Mines Department for the year ended 31st December, 1922.

Official Duties.

2. Mr. R. R. Thompson, O.B.E., B.Sc., Director of Lands and Mines, was on leave of absence from the Colony from the 27th March to the 26th September, and at the expiration of his leave retired from the Colonial Service on being appointed to the Chair of Oil Mining at the University of Birmingham.

The Petroleum Industry.

3. I am glad to be able to state that, in spite of the financial depression which prevailed during the period under review, the production of crude oil was well maintained. There was considerable activity in the industry during the year, but this was chiefly confined to the larger companies. Some of these companies had to restrict their production owing to the difficulty in finding suitable markets for their products. In spite of this fact the quantity of crude oil produced in the Colony during 1922 exceeded the highest production previously recorded, namely that for 1921, by over 3,000,000 gallons. In view of the foregoing I hope to see a very large increase in the production of petroleum in the Colony when financial conditions improve.

4. A substantial increase in the export of petroleum products was recorded during 1922, the figures being 56,000,000 gallons as against 42,000,000 gallons for the year 1921. In addition to the regular shipments of oil fuel, made under contract to the Admiralty by the Trinidad Leaseholds, Limited, and the United British Refineries, Limited, large quantities of petroleum products were exported to private firms in the United Kingdom and the United States of America. A considerable demand for petroleum products refined in Trinidad also exists throughout the West Indies.

5. The following table shews the number of feet drilled and the quantity of oil produced during 1922 compared with the years 1920 and 1921.

	Year ended 31st December, 1920.		Year ended 31st December, 1921.		Year ended 31st December, 1922.	
	<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 ..	53,404	61,532,046	70,710	61,325,279	97,802	53,725,443
Private Lands ..	23,972	11,373,901	46,150	21,070,316	38,068	31,840,860
Total ...	77,376	72,905,947	116,860	82,395,595	135,870	85,566,303

6. The total number of wells drilled in the Colony to the 31st December, 1922, is 710, of which 445 are on Crown lands. During the year under review 91 wells were drilled, of which 73 were on Crown lands and 18 on private lands making an increase of 7 over the number drilled during the previous year. Oil was encountered in 63 out of the 91 wells drilled during the year.

7. At the close of the year 16 companies were actively engaged in the winning of oil as against 20 at the end of the year 1921.

8. During the period under review the Trinidad Leaseholds, Limited, confined its drilling operations to its producing fields in the Morne L'Enfer Forest Reserve and at Barrackpore, the major portion of the production being obtained from the former field. The additions to the refinery at Pointe-a-Pierre, mentioned in my last report, were completed during the year and the storage capacity of this company was also considerably increased. Owing to the fact that large purchases of crude oil are made from other companies, more than half the oil produced in the Colony is now refined at Pointe-a-Pierre.

9. No drilling was undertaken by the Trinidad Lake Petroleum Company, Limited, during the year. Regular production was, however, obtained from the wells already drilled on private lands in the vicinity of the Pitch Lake.

10. The Petroleum Development Company, Limited, continued developing the Crown lands held under mining lease in the Morne L'Enfer Forest Reserve and obtained a very satisfactory production, which was disposed of to its allied company the Trinidad Lake Petroleum Company, Limited.

11. The operations of the United British Oilfields of Trinidad, Limited, were chiefly confined to the Parry Lands area in the Morne L'Enfer Forest Reserve. A considerable amount of drilling was done by this company during the year, in consequence of which the area of the fields under operation has been extended. This company's production was sold to its allied company, the United British Refineries, Limited, by which it was refined and marketed.

12. The United British West Indies Petroleum Syndicate, Limited, continued drilling operations on the Los Bajos field during the whole of the year. A moderate production was obtained from this field and disposed of to the United British Refineries, Limited.

13. The prospecting license held by the Trinidad Central Oilfields, Limited, expired on the 31st December, 1922, and a mining lease has been applied for. A very active drilling programme was undertaken with the result that the present field at Tabaquite has been largely extended. I am glad to be able to record that a considerable increase of production was shewn towards the close of the year.

14. The Apex (Trinidad) Oilfields, Limited, continued, during the whole of the period under review, to develop its private lands adjoining the fields of the Trinidad Leaseholds, Limited, at Fyzabad. A large production was obtained which was, to some extent, curtailed owing to a lack of marketing facilities. The mining lease, mentioned in my last report, over lands on which the Crown holds the oil rights, was issued to this company as from the 1st July, 1922.

15. The Trinidad Petroleum Development Company, Limited, a subsidiary of S. Pearson & Sons, Limited, continued drilling operations on the Phillipine Estate near San Fernando and was successful in striking a high grade oil. At the end of the year operations were being continued to test the potential production and the extent of the field. Prospecting wells were drilled on locations in the Central Range Forest Reserve and at Lizard Springs, but in neither of these wells was oil encountered in commercial quantities.

Control of the Naparima Oilfields of Trinidad, Limited, was acquired during the year and a new company, the New Naparima Oilfields, Limited, was formed to continue operations on the private lands owned by the Ste. Madeleine Sugar Company, Limited.

16. The Uroz Oilfields, Limited, recommenced work on the lands held under prospecting license but did not succeed in striking oil in commercial quantities. Control of the properties held by the Trinidad Oil Producing and Refining Company, Limited, was acquired during the period under review, and at the close of the year the company was engaged in drilling a well on this area.

17. The Kern Trinidad Oilfields, Limited, continued a very active programme during the year. A number of new wells were drilled and a considerable amount of construction work was undertaken. The production obtained was sold to the United British Refineries, Limited.

18. The Oropuche Oilfields, Limited, experienced difficulty in marketing its production and suspended drilling operations during the early part of the year. Arrangements have now been made with the Trinidad Leaseholds, Limited, for the sale of the production. The company has been recently reconstructed and will, I understand, shortly resume active development.

19. The General Petroleum Company of Trinidad, Limited, drilled one well on lands held under prospecting license in the Rio Claro district without striking oil. Operations were suspended towards the close of the year.

20. The British Union Oil Company, Limited, continued drilling operations throughout the year on lands held under prospecting license near Tabaquite, but did not succeed in striking oil in commercial quantities.

21. The B. A. W. Syndicate, Limited, continued drilling on the lands held under prospecting license during the early part of the year. Oil was not encountered in commercial quantities and operations were discontinued.

22. The Trinidad Freeholds, Limited, continued producing from the wells already drilled on private lands but did not undertake any fresh development work.

23. The Petroleum Options, Limited, drilled one well on private lands in the San Francique district and were successful in striking oil. Towards the end of the year preparations were being made to commence drilling another well.

24. The Trinidad United Oilfields, Limited, did no drilling during the year. The mining lease held by this company on Crown Lands at Palo Seco was cancelled on the 28th February, 1922.

25. The Transvaal and Rhodesian Estates, Limited, have not yet recommenced drilling operations. A small quantity of oil still continues to flow from the existing wells.

26. The Rio Syndicate suspended operations on its private lands at Rio Claro during the early part of the year.

27. ROYALTY.—The royalty earned during the period under review was £19,542 as against £20,003 for the year 1921.

28. WAYLEAVES.—The revenue obtained from wayleaves in respect of pipe lines laid along the Trinidad Government Railway and along the public roads of the Colony was as follows :—

Railways..	..	..	..	..	..	..£ 4,267
Roads ..	..	..	..	..	..	..£ 1,798

29. FEES.—Fees charged for crossing the foreshore, the railway and public roads with pipe lines amounted to £28.

30. RETURNS.—The various oil companies have regularly submitted to the department the returns required to be furnished by them in respect of their operations.

31. INSPECTIONS.—In addition to the regular field inspections which were made by officers of the department, it was necessary, as in previous years, to carry out many additional inspections in connection with accidents, royalty computations, wayleaves, refineries, water shut offs, abandonment of wells, &c. In most cases it was found that the provisions of the Ordinances and Regulations had been satisfactorily observed.

Leases and Licenses.

32. Two licenses and one mining lease have been issued to companies during the year :—

Mining lease to Apex (Trinidad) Oilfields, Limited—over 105 acres.

Prospecting license to General Petroleum Company of Trinidad, Ltd ,
over 2,286 acres.

Exploration license to General Petroleum Company of Trinidad, Ltd.,
over 2,182 acres.

Quarries.

33. With very few exceptions the quarries of the Colony are relatively unimportant and their operations are on a small scale. They were regularly inspected and in most cases were found to have been worked in a careful manner. The number of quarries worked during 1922 was 73 as against 69 in 1921.

Work under the Petroleum Ordinance No. 20 of 1915.

34. The premises in which the various products of petroleum are stored were regularly inspected by officers of the department, and it was generally found that great care had been taken to ensure safety. I have to record that, in consequence of the increase in the number of motor vehicles in the Colony, there has been, of late, a substantial increase in the number of applications to store and sell dangerous petroleum.

The Prevention of Accidents Ordinance, No. 13 of 1915.

35. Regular visits were paid to the various factories and I am pleased to be able to report that the provisions of the Ordinance were carefully observed. There were 83 factories in operation in Trinidad and 13 in Tobago during the year.

Work under the Asphalt Industry Ordinance, No. 10 of 1906.

36. No asphalt was dug on the village lots at La Brea during 1922, and I am unable to state whether there is any prospect of digging being resumed in the near future.

Appendices.

37. Appendix A shews the daily average number of persons employed in Oilfields, Mines and Quarries and the quantity and value of minerals obtained during the year ended 31st December, 1922.

38. Appendix B shews the list of accidents which occurred at Oilfields, Mines and Quarries during the year ended 31st December, 1922, reported under section 19 of Ordinance No. 13 of 1907. A comparison with last year's report shows that there was a considerable decrease in the number of accidents during the period under review.

39. In Appendix C will be found a list of the Oilfields, Mines and Quarries worked during the year 1922.

40. Appendix D comprises a comparative statement of oil produced, refined and exported year by year since the inception of the Petroleum Industry in the Colony.

41. Appendix E consists of curves illustrating the progress made in the oil, asphalt, manjak and quarrying industries from the 1st April, 1911, to 31st December, 1922.

Miscellaneous.

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

10th April, 1923.

A. P. CATHERALL,
Acting Director of Lands and Mines.

APPENDIX A.

Daily average number of persons employed in Oilfields, Mines and Quarries and the quantity and value of minerals obtained during the year ended 31st December, 1922.

MINERALS.	Daily average number of persons employed.		Total.	Quantity.	Approximate Value.
	Males.	Females.			
Oil	3,464	76	3,540	85,566,303 Imp. Gals	£ 599,006
Asphalt	890	8	898	182,655 Tons ..	114,159
Private Quarries (Limestone, Gravel, &c.) ..	492	135	627	195,706 Tons ..	23,570
Government Quarries (Limestone, &c.) ..	325	86	411	66,338 Tons ..	9,996

APPENDIX B.

List of Accidents which occurred at Oilfields, Mines and Quarries during the year ended 31st December, 1922, reported under Section 19 of Ordinance No. 13 of 1907.

NAME OF OILFIELD, MINE OR QUARRY.	NUMBER OF ACCIDENTS REPORTED.			
	Minor.	Serious.	Fatal.	Total.
United British Oilfields of Trinidad, Limited .. .. .	..	4	..	4
United British West Indies Petroleum Syndicate, Limited	1	..	..	1
Trinidad Leaseholds, Limited, (Pointe-a-Pierre)	6	..	..	6
Trinidad Leaseholds, Limited, (Fyzabad)	20	..	..	20
Trinidad Central Oilfields, Limited .. .. .	..	1	..	1
Kern Trinidad Oilfields, Limited? .. .. .	..	1	..	1
Apex (Trinidad) Oilfields, Limited	4	..	..	4
Trinidad Petroleum Development Company, Limited .. .. .	..	..	1	1
New Trinidad Lake Asphalt Company, Limited .. .. .	..	1	..	1
Prizgar's Quarry	1	..	..	1
Pointe Gourde Quarry	1	..	..	1
Southern Road Quarry 73½ miles .. .. .	..	1	..	1
	33	8	1	42

APPENDIX C.

Oilfields, Mines and Quarries worked during the year ended 31st December, 1922.

No.	Name.	Situation.	Owner and Address.	Manager.	Daily average No. of persons employed.	Mineral worked.
1	Trinidad Central Oilfields, Limited	.. Tabaquite	.. Trinidad Central Oilfields, Limited, 2, Broad Street Place, London, E.C. 2	R. H. Sperling ..	727	Oil.
2	United British Oilfields of Trinidad, Limited	Point Fortin ..	.. United British Oilfields of Trinidad, Limited, 15, Abercromby Street, Port-of-Spain	F. J. Fleming ..	605	Oil.
3	United British West Indies Petroleum Syndicate, Limited	Siparia ..	.. United British West Indies Petroleum Syndicate, Limited, 15, Abercromby Street, Port-of-Spain	Do. ..	96	Oil.
4	Trinidad Oil Producing and Refining Company, Limited	Fyzabad ..	.. Trinidad Oil Producing and Refining Company, Limited, Pointe-a-Pierre Road, San Fernando	A. W. Ibbett ..	30	Oil.
5	General Petroleum Company of Trinidad, Limited	Rio Claro ..	.. General Petroleum Company of Trinidad, Limited, Pointe-a-Pierre Road, San Fernando	Do. ..	33	Oil.
6	Trinidad National Petroleum Company, Limited	Williamsville and Mandingo Road	Trinidad National Petroleum Company, Limited, 14, Chacon Street, Port-of-Spain	R. Rust ..	7	Oil.
7	Trinidad Lake Petroleum Company, Limited	Brighton ..	.. Trinidad Lake Petroleum Company, Limited, Brighton	P. Munoz ..	115	Oil.
8	Petroleum Development Company, Limited	Forest Reserve ..	.. Petroleum Development Company, Limited, Brighton	Do ..	71	Oil.
9	Oropuche Oilfields, Limited	.. Fyzabad	.. Oropuche Oilfields, Limited, Pointe-a-Pierre Road, San Fernando	A. W. Ibbett ..	28	Oil.
10	Apex (Trinidad) Oilfields, Limited	.. Fyzabad	.. Apex (Trinidad) Oilfields, Limited 208-224, Salisbury House, London, E.C., England	H. C. B. Hickling ..	200	Oil.
11	Transvaal and Rhodesian Estates, Limited	.. Pointe Ligoure	.. Globe Oilfields, Limited, Finsbury Pavement House, London E.C., 2	J. Greenidge ..	1	Oil.
12	Uroz Oilfields, Limited	.. Williamsville	.. Uroz Oilfields, Limited, Williamsville	H. P. Ingram ..	35	Oil.
13	Kern Trinidad Oilfields, Limited	.. Guapo	.. Kern Trinidad Oilfields, Limited, Guapo	J. A. Stokes ..	261	Oil.
14	Trinidad United Oilfields, Limited	.. Palo Seco	.. Trinidad United Oilfields, Limited, 40-42 Broad Street Avenue, London	G. Rooks ..	3	Oil.
15	Trinidad Freeholds, Limited	.. Fyzabad	.. Trinidad Freeholds, Limited, 18 Henry Street, Port-of-Spain	Trinidad Leaseholds, Limited	1	Oil.
16	Trinidad Leaseholds, Limited	.. Fyzabad	.. Trinidad Leaseholds, Limited, Pointe-a-Pierre	R. Beaumont ..	417	Oil.
17	Do. do.	.. Pointe-a-Pierre	.. Do. do. do.	Do. ..	395	Oil.
18	Do. do.	.. Barrackpore	.. Do. do. do.	Do. ..	121	Oil.
19	Do. do.	.. Siparia	.. Do. do. do.	Do. ..	4	Oil.
20	Do. do.	.. Piparo	.. Do. do. do.	Do. ..	3	Oil.
21	Do. do.	.. Guayaguayare	.. Do. do. do.	Do. ..	6	Oil.
22	New Naparima Oilfields, Limited	.. San Fernando	.. New Naparima Oilfields, Limited, 107, Queen Street, Port-of-Spain	G. Kemsley ..	62	Oil.
23	Trinidad Petroleum Development Company, Limited	South Naparima	Trinidad Petroleum Development Company, Limited, 107, Queen Street, Port-of-Spain	Do. ..	191	Oil.
24	B. A. W. Syndicate, Limited	.. Piparo	.. 6, Royal Bank Buildings, Marine Square, Port-of-Spain	E. Cooper-Scott ..	14	Oil.
25	British Union Oil Company, Limited	.. Tabaquite	.. British Union Oil Company, Limited, 21, Bury Lane, London, E.C. 3	G. Ponsonby ..	70	Oil.
26	Petroleum Options, Limited	.. Fyzabad	.. Petroleum Options, Limited, St. Vincent Street, Port-of-Spain	F. E. Scott ..	19	Oil.
27	Rio Syndicate	.. Rio Claro	.. Rio Syndicate, Henry Street, Port-of-Spain	A. W. Ibbett ..	25	Oil.

APPENDIX C.

Oilfields, Mines and Quarries worked during the year ended 31st December, 1922.—Continued.

No.	Name.	Situation.	Owner and Address.	Manager.	Daily average No. of persons employed.	Mineral worked.
	. MINES.					
1	New Trinidad Lake Asphalt Company, Limited	La Brea	New Trinidad Lake Asphalt Company, Limited, Brighton	Paul Munoz	898	Asphalt
	QUARRIES.					
1	Trinidad Government Railway Quarry	Champ Fleur	Trinidad Government Railway	J. Sealy	1	Limestone.
2	Chancellor Road Quarry	St. Ann's	Trinidad Government, Port-of-Spain	District Engineer, Port-of-Spain	3	Limestone.
3	Morne Coco Road Quarry	Diego Martin	Do. do.	Do.	18	Limestone.
4	Cutucupano Quarry	Santa Cruz	Do. do.	Do.	6	Limestone.
5	Buenos Ayres Quarry	Erin Road	Do. do.	District Engineer, Siparia	5	Porcellanite.
6	Morne Diabie No. 2 Quarry	Morne Diabie	Do. do.	Do.	14	Limestone.
7	Siparia Quarry	San Fernando-Siparia-Erin Road	Do. do.	Do.	8	Porcellanite.
8	Tabaquite Nariva Road, 1st Mile Quarry	Tabaquite	Do. do.	District Engineer, Rio Claro	15	Limestone.
9	Morne Roche Quarry	Morne Roche Quarry Road	Do. do.	District Engineer, San Fernando	14	Limestone.
10	Morichal Quarry	Morichal Road	Do. do.	Do.	12	Limestone.
11	Mayo Quarry	Mayo Road	Do. do.	Do.	12	Limestone.
12	Corosal Quarry	Corosal Road	Do. do.	Do.	5	Limestone.
13	Mount Hope Quarry	St. Joseph	Do. do.	Superintendent of Frisons	22	Limestone.
14	Carrera Quarry	Carrera Island	Do. do.	Do.	121	Limestone.
15	Southern Road 73½ Mile Quarry	Southern Road 73½ mile	Do. do.	Assistant District Engineer, Cedros	7	Porcellanite.
16	Southern Road 71½ Mile Quarry	Southern Road 71½ mile	Do. do.	Do.	6	Porcellanite.
17	Mandillon Road 1½ Mile Quarry	Mandillon Road 1½ mile	Do. do.	District Engineer, St. Andrew	4	Limestone.
18	Guaico Tamana Road 11th mile Quarry	Guaico-Tamana Road 11th mile	Do. do.	Do.	2	Limestone.
19	Guaico-Tamana Road 8½ mile Quarry	Guaico-Tamana Road 8½ mile	Do. do.	Do.	17	Limestone.
20	Moreau Road Quarry	Moreau Road	Do. do.	Y. de Verteuil, Princes Town	17	Limestone.
21	Moruga Quarry	Moruga Road	Do. do.	Do.	15	Sandstone.
22	Cunin Quarry	Moruga	Do. do.	Do.	10	Limestone.
23	Brasso Quarry	Brasso Caparo Road	Do. do.	District Engineer, South Caroni	13	Limestone.
24	Guaracara Quarry	Brasso	Do. do.	Do.	3	Limestone.
25	Atagual Quarry	Guaracara-Tabaquite Rd.	Do. do.	Do.	5	Limestone.
26	Matchapoorie Quarry	Talparo Road	Do. do.	District Engineer, North Caroni	17	Limestone.
27	Chin-Chin Road Quarry	Chin-Chin Extension Road	Do. do.	Do.	30	Sandstone.

APPENDIX C.

Oilfields, Mines and Quarries worked during the year ended 31st December, 1922.—Continued.

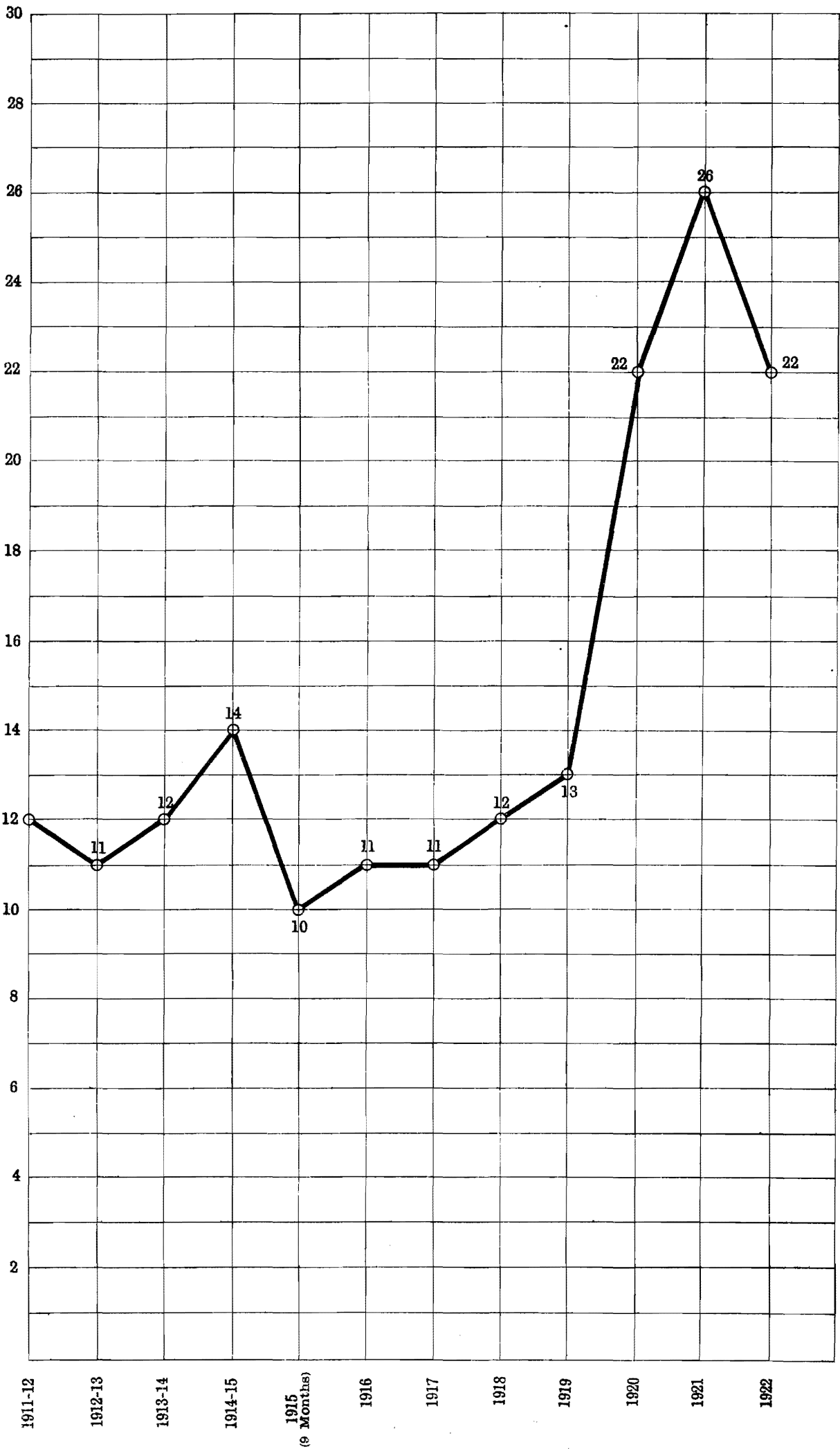
No.	Name.	Situation.	Owner and Address.	Manager.	Daily average No of persons employed.	Mineral worked.
28	Mount Parnasus Quarry	Scarborough Tobago	Trinidad Government, Port-of-Spain	District Engineer, Tobago	9	Rotten Rock
29	Verdun Quarry	San Fernando ..	H. R. Mc Lean, Circular Road, San Fernando ..	R. F. de Gannes ..	2	Argiline.
30	Glendale Quarry	do. ..	Do. do. ..	Do. ..	21	Argiline.
31	Stollmeyer No. 1	Guapo ..	C. C. Stollmeyer, Port-of-Spain ..	S. J. Davies ..	10	Sandstone.
32	Stollmeyer No. 4	do. ..	Kern Trinidad Oilfields, Limited, Guapo ..	Do. ..	1	Pitch Sand.
33	Prizgar's Quarry	Laventille ..	Trinidad Trading Company, Limited, Port-of-Spain ..	C. C. Carmichael ..	21	Limestone.
34	Usine Quarry	San Fernando ..	Ste. Madeleine Sugar Company, San Fernando ..	P. Pierre ..	9	Argiline.
35	Guaico Tamana Road 9½ Mile Quarry ..	Guaico Tamana Road ..	R. de Verteuil, Cumuto ..	J. Lessee ..	9	Limestone.
36	La Corona Estate	Tamana ..	Do. ..	R. de Verteuil ..	9	Limestone.
37	La Resource Quarry	Erin ..	C. E. Jemmott, Erin ..	C. E. Jemmott ..	4	Porcellanite.
38	Gonsalves Quarry	Port-of-Spain ..	City Council, Port-of-Spain ..	City Engineer ..	6	Limestone.
39	Champs Elysees	Maraval ..	Madame P. de Boissiere, Maraval ..	Panhree ..	11	Gravel.
40	Arima-Blanchisseuse Road Quarry ..	Arima-Blan- chisseuse Road ..	Dr. Marry, Mount Pleasant Estate ..	E. Thatcher ..	6	Limestone.
41	Charles' Quarry	San Fernando ..	J. E. Crosbie, 114, Coffee Street, San Fernando ..	C. A. Lucas ..	2	Argiline.
42	Pointe-a-Pierre Quarry	Pointe-a-Pierre ..	Trinidad Leaseholds, Limited, Pointe-a-Pierre ..	R. Beaumont ..	8	Sandstone and grit.
43	Duke Street Quarry	Duke Street ..	Virginia Prime, 12, Duke Street, Port-of-Spain ..	W. Bowers ..	12	Limestone.
44	Stollmeyer No. 3	Guapo ..	C. C. Stollmeyer, Port-of-Spain ..	S. J. Davies ..	2	Sandstone.
45	Stollmeyer No. 5	do. ..	Do. do. ..	Do. ..	10	Sandstone.
46	Hermitage Estate	Pointe-a-Pierre ..	H. Gajadharsing, Gasparillo Post Office ..	H. Gajadharsing ..	7	Limestone.
47	Baldeo Quarry	San Fernando ..	Do. do. ..	Do. ..	2	Limestone.
48	Caratal Road 1½ Mile Quarry ..	do. ..	Do. do. ..	Do. ..	2	Limestone.
49	St. Joseph No. 1 Quarry	San Fernando ..	P. Pickering, San Fernando ..	P. Pickering ..	2	Argiline.
50	La Coulee Quarry	do. ..	H. R. Mc Lean, San Fernando ..	R. F. de Gannes ..	8	Argiline.
51	Clarke's Quarry	Laventille ..	Trinidad Quarrying and Transport Company, Port-of-Spain ..	L. R. Gransauil ..	47	Limestone.
52	Cronstadt Island Quarry	Cronstadt Island ..	Do. do. ..	Do. ..	21	Limestone.
53	Circular Road Quarry	San Fernando ..	San Fernando Borough Council, San Fernando ..	J. J. Waddell ..	1	Argiline.
54	Kelly's Quarry	Diego Martin ..	E. T. V. Kelly, 103, Queen Street, Port-of-Spain ..	L. Cuthbert ..	6	Limestone.
55	Mitchell Bay Quarry	Pointe Gourde ..	A. Augustin, Pointe Gourde ..	A. Augustin ..	5	Limestone.
56	Aranguez Quarry	San Juan ..	Mrs. M. A. Rapsey, Aranguez Estate ..	J. H. Rapsey ..	20	Gravel.
57	Basilon Street Quarry	Port-of-Spain ..	C. M. Lastique, 26, Siparia Hill, Port-of-Spain ..	C. M. Lastique ..	4	Limestone.
58	O'Brady's Quarry	Laventille ..	C. C. Newallo, 38, Belle Eau Road, Belmont ..	C. Newallo ..	6	Limestone.
59	Heirs of Prizgar	do. ..	J. Walker, 25, St. Vincent Street, Port-of-Spain ..	J. Walker ..	8	Limestone.
60	Newallo's Quarry	San Juan ..	C. Newallo, 38, Belle Eau Road, Port-of-Spain ..	C. Newallo ..	24	Gravel.
61	Plum Road Quarry	Manzanilla ..	Manzanilla Local Road Board ..	L. S. Daly ..	2	Limestone.
62	Masson's Quarry	Pointe Gourde ..	Lec Lum and Company, 31, Charlotte Street, Port-of-Spain ..	A. Joseph ..	40	Limestone.
63	Mahon's Quarry	do. ..	H. H. Archer, St. Joseph Road, Port-of-Spain ..	C. Archibald ..	29	Limestone.
64	Renown Quarry	do. ..	C. Archibald, 5, St. Joseph Road, Port-of-Spain ..	C. Cambridge ..	5	Limestone.
65	La Pique Quarry	San Fernando ..	S. C. Boodoosingh, San Fernando ..	P. Wadally ..	3	Argiline.
66	Dunsire Quarry	Pointe-a-Pierre ..	T. L. Dunsire, San Fernando ..	J. Hurdle ..	2	Argiline.
67	Monte Cristo Quarry	Tamana ..	H. Monceaux, Arizona Estate, Cumuto ..	E. E. Monceaux ..	1	Limestone.
68	Bourne's Bay Quarry	Gaspree ..	Ste. Madeleine Sugar Company, San Fernando ..	A. Andre ..	7	Limestone.
69	Arena Quarry	San Rafael ..	M. Lange, Guanapo Station ..	M. Lange ..	1	Limestone.
70	Verdant Vale Quarry	Arima- Blanchisseuse ..	J. C. Augustus, Palmiste Estate, San Fernando ..	E. Thatcher ..	3	Limestone.
71	Plum Road Quarry	Manzanilla ..	H. H. Archer, 5, St. Joseph Road, Port-of-Spain ..	H. H. Archer ..	18	Limestone.
72	Fishing Pond Road, 4½ Mile Quarry ..	Caigual ..	Do. do. do. ..	do. ..	10	Sandstone.
73	Eastern Quarries	Laventille ..	Do. do. do. ..	Do. ..	200	Limestone.

APPENDIX D.

Comparative statement of oil produced, refined and exported year by year since the inception of the Petroleum Industry in the Colony.

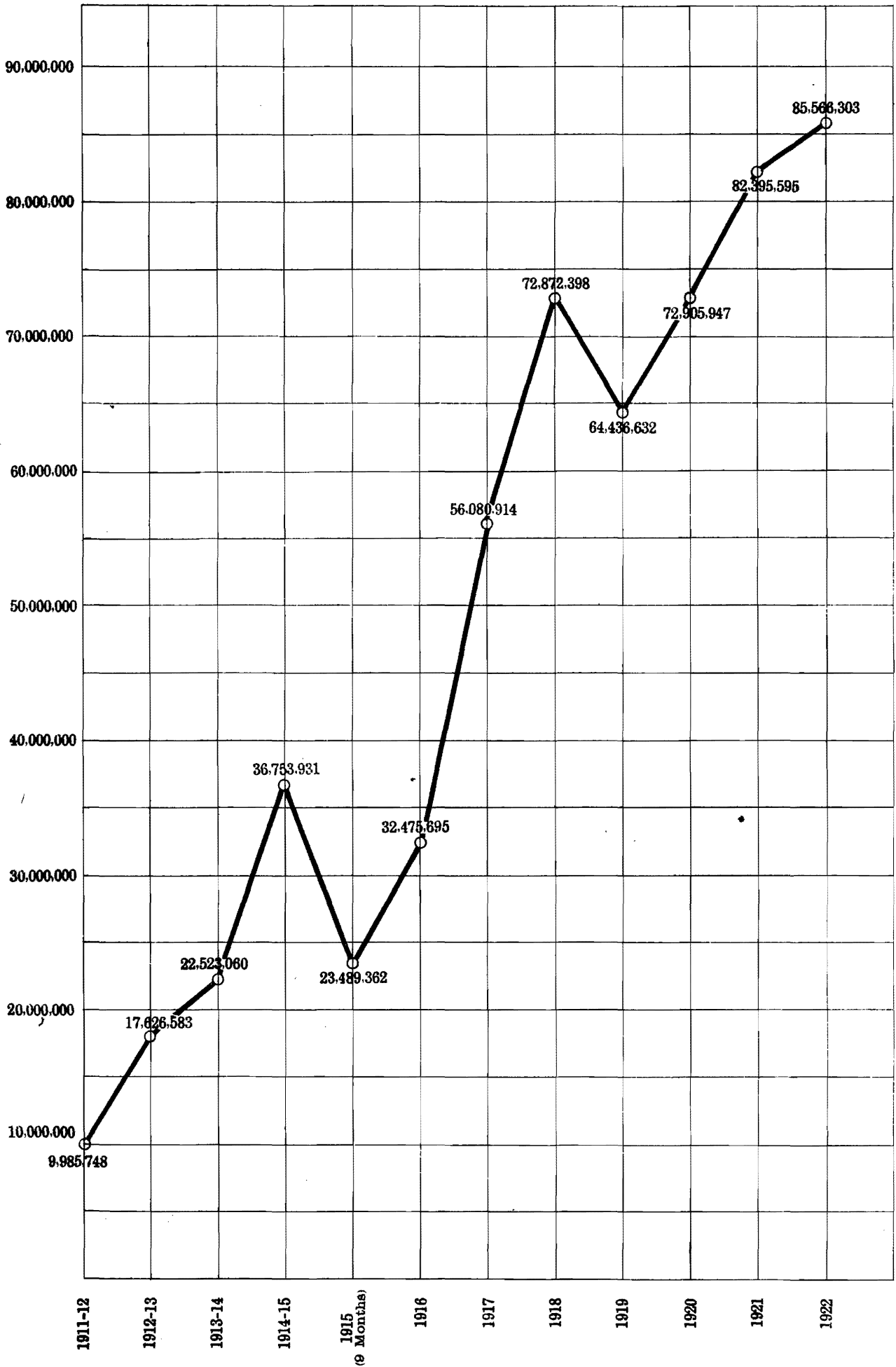
YEAR.	Production in Gallons.	Quantity of Crude Oil refined in Gallons.	Quantity of Crude Oil and Refined Oil exported in Gallons.
1905 to March 31st, 1910	368,934	..	..
1910-1911	4,378,942	..	..
1911-1912	9,985,748	Previous to 1912-1913 1,324,468	7,685,374
1912-1913	17,626,563	331,928	4,295,707
1913-1914	22,523,060	1,227,134	13,570,152
1914-1915	36,753,931	1,449,445	12,192,289
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	49,219,226
1920	72,905,947	48,842,055	36,221,728
1921	82,395,595	63,210,566	42,817,117
1922	85,566,303	63,700,621	56,550,915
	581,860,024	317,551,270	354,436,201

Curve showing the number of Oil Companies that have operated annually in the Colony from 1st April, 1911, to 31st December, 1922.



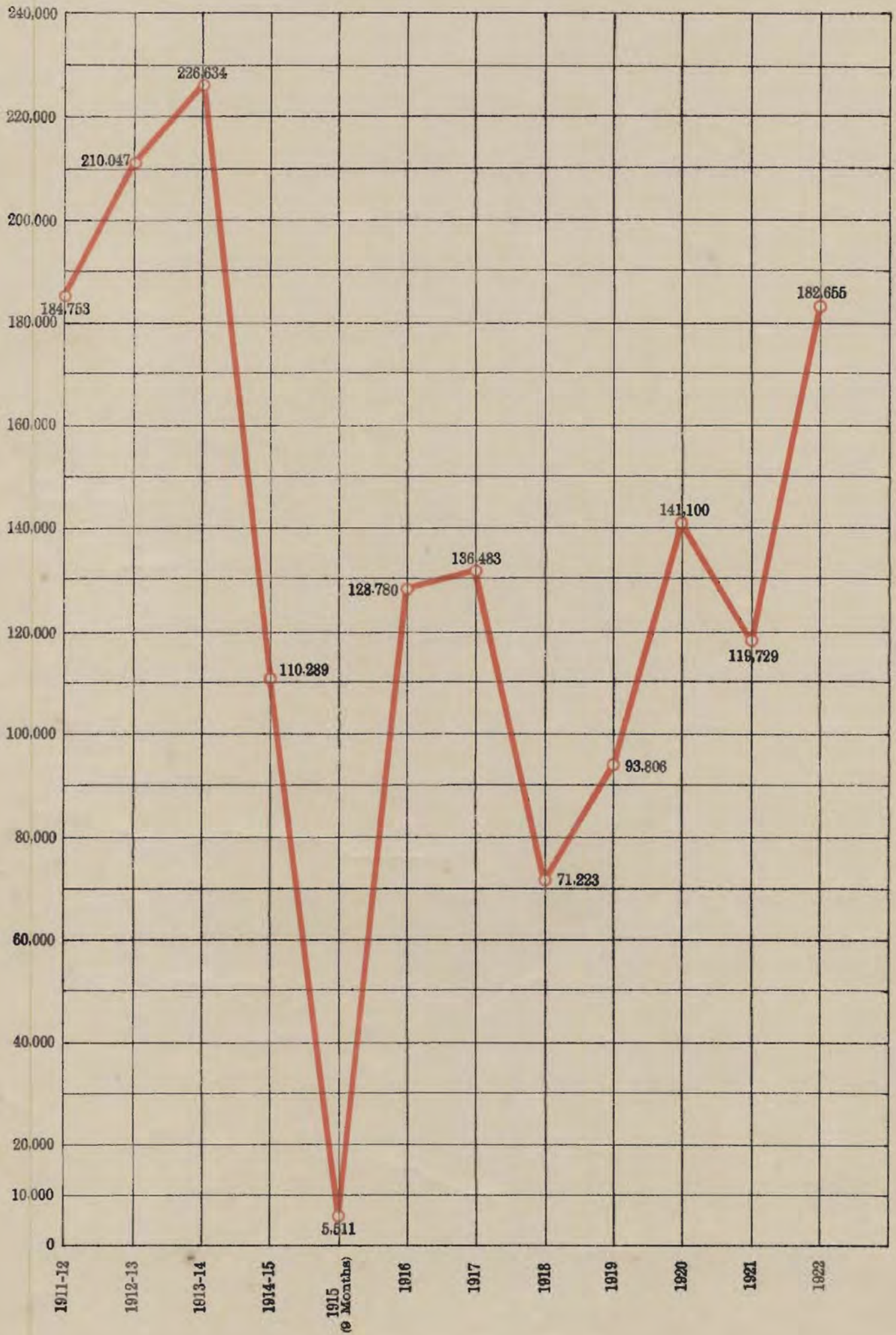
“ B ”

Curve showing yearly total production of Crude Oil from the Colony in Imperial Gallons from 1st April, 1911, to 31st December, 1922.

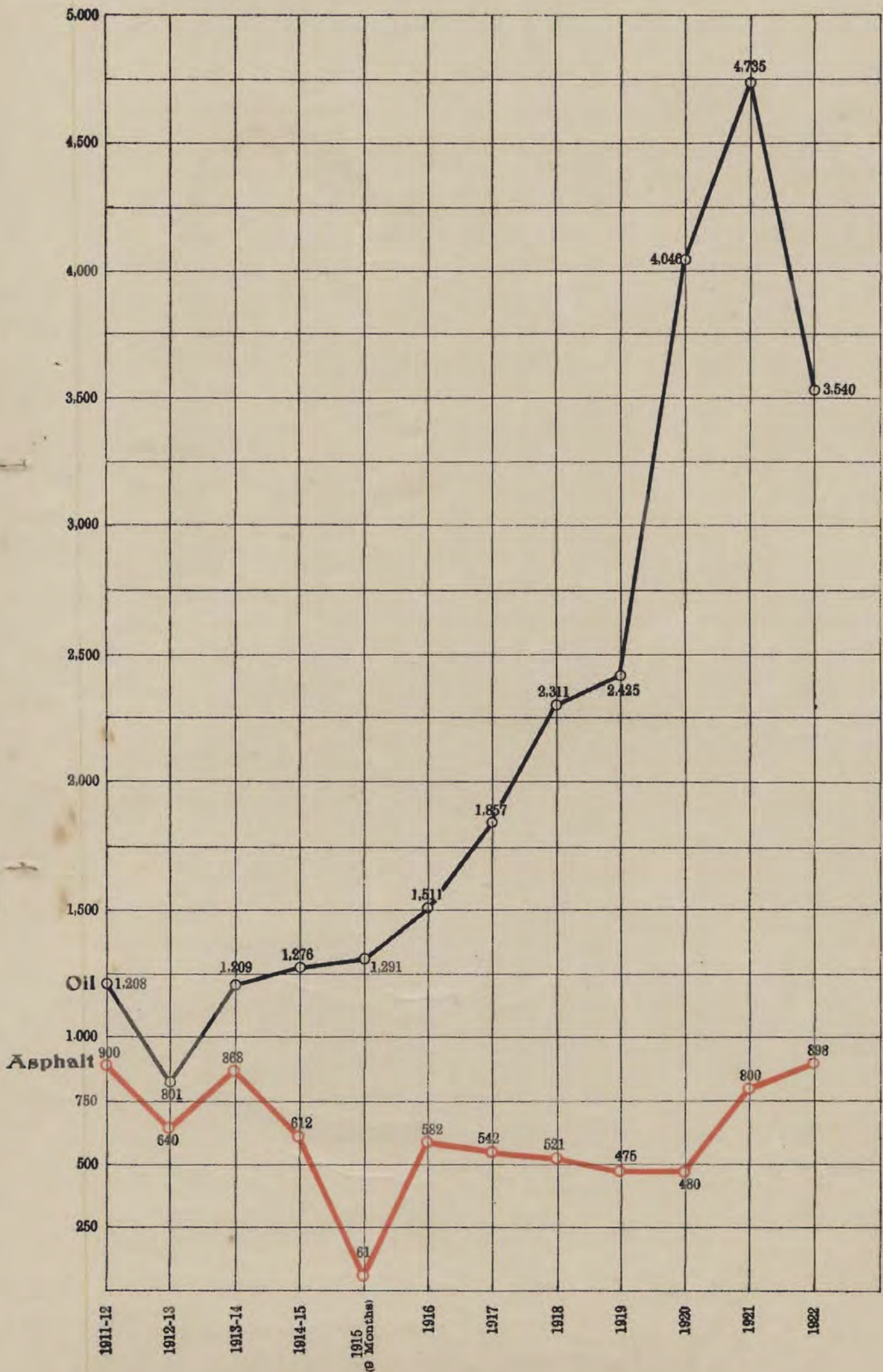


“ C ”

Curve showing yearly output of Asphalt from the Colony in Tons from 1st April, 1911, to 31st December, 1922.

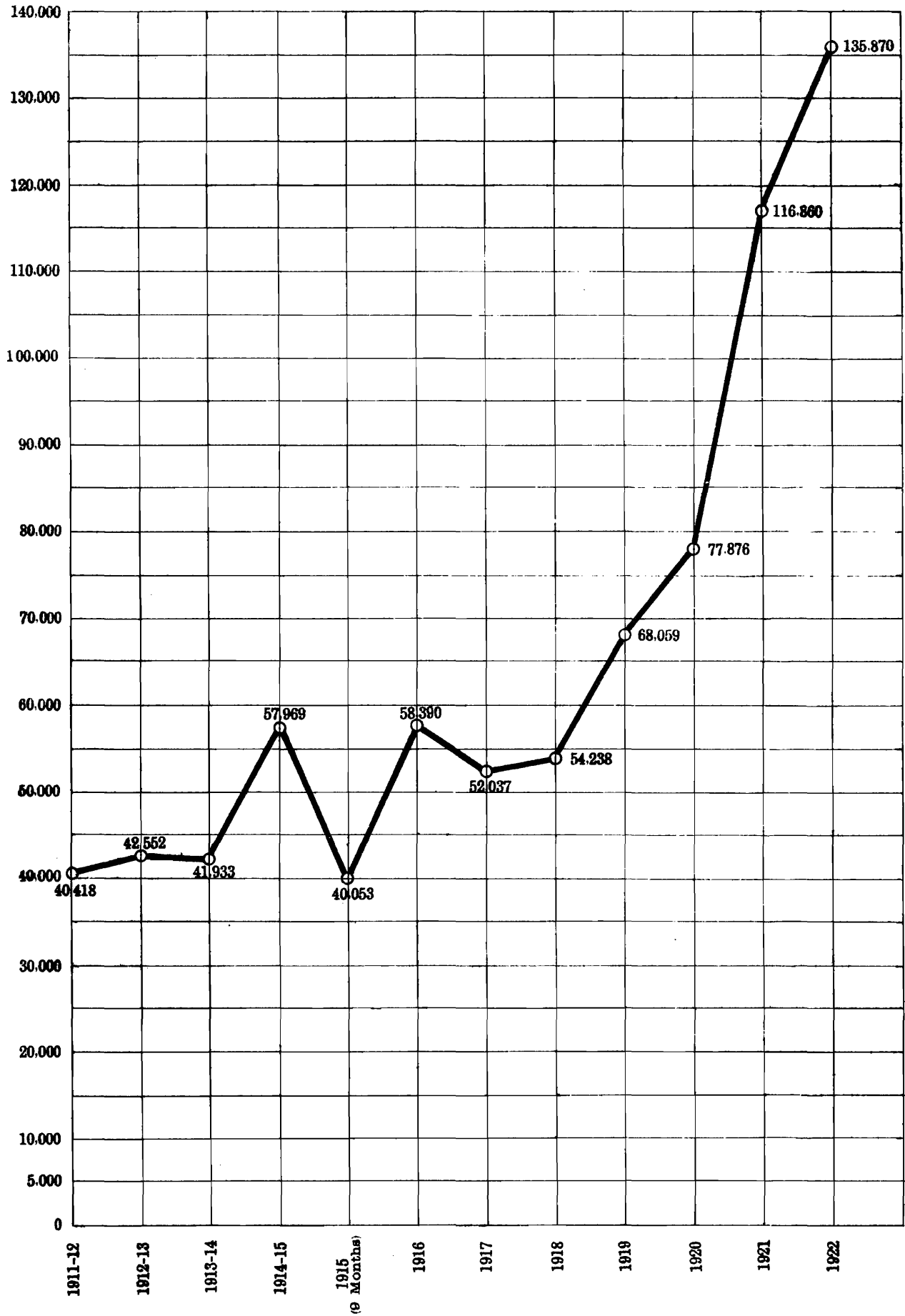


Curve showing comparison of daily average number of persons employed in the Oil and Asphalt Industries of the Colony from 1st April, 1911, to 31st December, 1922.



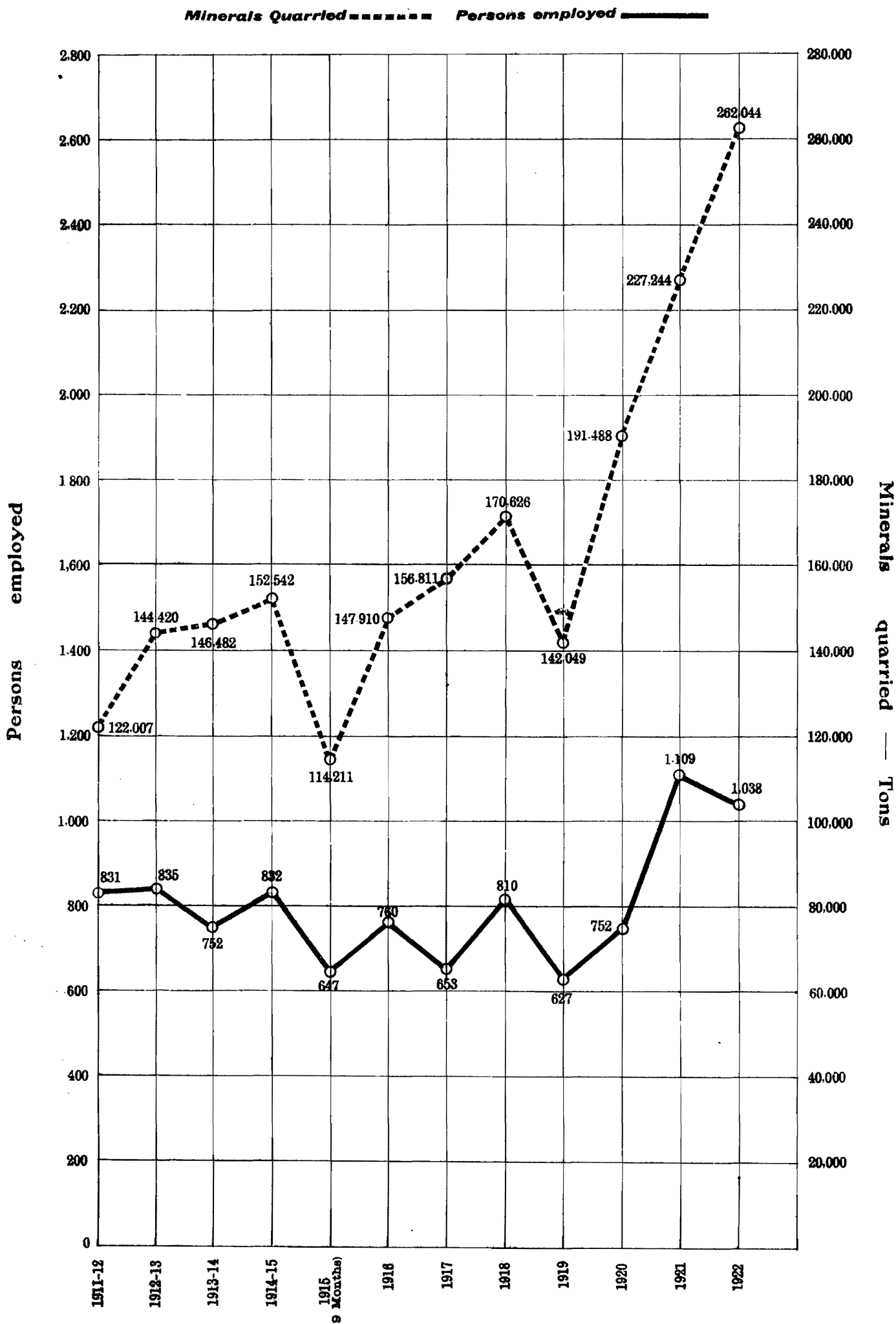
“ E ”

Curve showing yearly total number of feet drilled in the Colony from 1st April, 1911, to 31st December, 1922.



“ F ”

Curve showing the yearly total quantity of Minerals quarried and a comparison of the daily average number of persons employed in Quarries in the Colony from 1st April, 1911, to 31st December, 1922.



**Report of the Acting Sub-Intendant of Crown Lands for the year ended
31st December, 1922.**

HON'BLE ACTING COLONIAL SECRETARY.

SIR,

I have the honour to forward for the information of His Excellency the Governor the Annual Report on the Settlement of Crown Lands for the year ended 31st December, 1922.

2. OFFICIAL DUTIES.—On the 27th March, 1922, Mr. R. R. Thompson, O.B.E., the Director of Lands and Mines and Sub-Intendant of Crown Lands was granted vacation leave to proceed to the United Kingdom, and the following arrangements were made to carry on the duties of his dual appointment :—

Mr. A. P. Catherall, Assistant Director of Lands and Mines, was appointed to act as Director in control of Mines and

Mr. G. E. L. Guppy, Deputy Sub-Intendant of Crown Lands, was appointed to act as Sub-Intendant of Crown Lands in control of the Crown Lands and Survey Branches of the combined Departments.

Mr. Thompson did not resume duties but resigned his appointment whilst in England as from the 30th September, and the acting arrangements mentioned above were continued to the 31st December, 1922, and are still in force.

3. The total number of petitions for Crown Lands received during the year was 225, as compared with 295 for 1921 and 774 for 1920. 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	45
St. David	12
Caroni	72
St. Andrew	46
Victoria	12
Nariva-Mayaro	18
St. Patrick	6
Tobago	12
St. Clair	2
Total	225

4. Of the 225 petitions 100 were for Village Lots. 2 for St. Clair Lots. 75 were for parcels of 5 acres, 36 for parcels from 6 to 10 acres, and 12 for parcels from 11 to 50 acres.

5. The total amount received on account of Land Sales was £3,574 2s. 7d., as against £4,833 1s. 7d., for 1921. The average for the previous 5 years 1916 to 1920 was at the rate of £12,820 13s. 7d., per annum.

6. The Revenue realised from the Sale of Crown Lands is the lowest recorded, but this, to a great extent, is due to the more accessible of the fertile lands in the Northern Division having already been taken up, and the temporary withholding from sale of the Crown Lands in the Central and Southern Districts.

7. The "Completed" Land Sales for the year shew a total of 254 Grants issued comprising 1,133 acres, 0 roods, 11 perches and 98 Village Lots, as against 2,614 acres, 0 roods, 18 perches and 99½ Village Lots for 1921. The average for the previous 5 years 1916 to 1920 was at the rate of 613 Grants, comprising some 5,722 acres and 165 Village Lots per annum.

8. The amount actually received for these "Completed" Land Sales was £4,336 8s. 11d., as against £7,435 15s. 7½d., for 1921. The average for the previous 5 years 1916 to 1920 was at the rate of £12,501 3s. 8d., per annum.

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

County.	No. of Grants.	Acreage.			Lots.
		A.	R.	P.	
St. George	47	213	0	04	12
St. David	16	38	3	10	10
Caroni	77	470	0	15	32
St. Andrew	51	244	1	36	14
Victoria	8	12	3	13	2
Nariva-Mayaro	15	..	..	38	18
St. Patrick	6	4	0	05	5
St. Clair	2	—	—	—	2
Tobago	32	149	2	10	3
Totals	254	1,133	0	11	98

10. The number of Grants issued to East Indians during the year was 50 comprising 335 acres 1 rood 29 perches and 15 Village Lots, as compared with 63 comprising 351 acres 1 rood and 25 perches and 15 Village Lots in 1921. The average for the previous 5 years 1916 to 1920 was at the rate of 180, comprising 1,035 acres and 75 Village Lots per annum.

11. I attach as Appendix "C" a Table shewing the distribution of lands in Trinidad and Tobago. It will be seen that approximately 117,031 acres of Crown Lands North of Latitude 10 degrees 26 minutes 36 seconds are available for sale in Trinidad and about 6,050 acres in Tobago. Appendix "C I" shews approximately how much of this 117,031 acres is situate in each of the Wards and Counties of Trinidad lying North of Latitude 10 degrees 26 minutes 36 seconds.

12. The question is under consideration of whether it is possible to open up for sale certain areas of lands situate South of Latitude 10 degrees 26 minutes 36 seconds as it is thought that the time is approaching when this may be done without unduly interfering with the development of the Mineral resources of the Colony, and if this is accomplished it is hoped that the demand for land which has arisen in the Southern Division since the releasing for sale in 1917 and 1918 of some 5,000 acres of land situate in the Wards of Naparima, Savana Grande, La Brea, Guapo and Cedros, will be more than satisfied.

13. The usual comparative statement Appendix "A" shewing the "Completed" Land Sales in respect of the years 1920, 1921 and 1922 is appended.

14. The Forfeitures for Default of payment of Lands and Buildings Taxes for 1921 recorded in 1922 were 43 in number, which is more than the total for the two previous years (32)—(See Appendix "B").

15. The heavy decline in the market value of Cocoa and Coconuts and other agricultural produce, as well as short crops, has to a large measure contributed to the above-mentioned increase in the number of forfeitures during 1922.

16. 25 regrants of Forfeited Lands were issued during 1922, for details of which see Appendix B.I.

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

	£	s.	d.
Export Duty	44,448	3	0
Royalty on Asphalt shipped	14,971	4	1
Royalty on Asphalt shipped locally	16	15	8
Total	59,436	2	9

as compared with £39,711 6s. 4d., for 1921 and £47,707 16s. 1d., for 1920, and it is most satisfactory to record this considerable increase of Revenue from the Asphalt Industry in 1922, as compared with £39,711 6s. 4d., for 1921, and an average of £36,460 14s. 0d., for the 5 previous years—1916 to 1920.

18. St. Clair Lots. One lot of land reserved for Government purposes was released for sale and divided into two smaller lots and sold.

19. Notwithstanding the trade and agricultural depression which continued during the whole of 1922 the demand for more building sites in and around Port-of-Spain is more evident than ever, and the time has come I think for the Government

to seriously consider the feasibility of releasing for sale such portions of the remaining Crown Lands in the vicinity of Port-of-Spain as are not actually required for Government purposes as indicated in my report for 1921. See para. 14, page 8 of Council Paper 36 of 1922.

20. The number of applications received for Licenses to explore and prospect for oil during the year was 9. See Appendix "E."

A mining lease was issued to the Apex (Trinidad) Oilfields Limited.

21. To meet the demand of the peasant proprietors and other residents in the country districts the following work in connection with New Villages and Village Extensions has been undertaken.

New Villages.

(a) A new village in the Ward of Charuma, County of Nariva (named Liberts-ville in memory of the late Warden, Mr. C. N. Libert) was laid out in the Crown Reserve at the 24½ mile of the Naparma-Mayaro Road, and 56 lots were surveyed and opened for sale.

(b) In the New Village of Valencia 44 lots were surveyed and laid out in 1921, but as the question of re-defining and locating the lots of the old Village, of which no plan existed, arose, the lots in the New Village were not opened for sale until the latter part of 1922.

(c) The question of opening a New Village near the Brothers Railway Station in the Ward of Charuma, County of Nariva, has been under consideration, and it is hoped that the necessary formalities will be completed and the village laid out and the Lots opened for sale early in 1923.

Village Extensions.

(a) 70 New Village Lots were laid out at Mairao Village at the 16th mile of the Naparima-Mayaro Road in the Ward of Ortoire, County of Victoria.

(b) 37 Lots of the Old Village of Valencia near the 21¾ mile of the Eastern Main Road in the Ward of Valencia, County of St. Andrew were re-surveyed and laid out.

(c) 69 New Lots were laid out in the Siparia Village at the 11th mile of the San Fernando-Siparia-Erin Road in the Ward of Siparia, County of St. Patrick.

(d) 97 New Lots were laid out in the Fonrose Village at the 19th mile of the Naparima-Mayaro Road in the Ward of Charuma, County of Nariva.

22. LAND REGISTER.—Mr. E. C. M. Stone who undertook the compilation of the Land Register in July, 1921, has found the work more difficult than anticipated, and I fear that it will not be completed until after the end of the first quarter of 1923.

23. REVENUE AND EXPENDITURE.—REVENUE. Exclusive of Licenses to cut Timber £11,134 1s. 7d., Royalty on Asphalt or Pitch £14,987 19s. 9d., and Royalty on Oil £19,020 12s. 6d., the accrued Revenue of this office during 1922 was £12,941 as against £6,166 for 1921 and an average of £14,112 per annum for the previous 5 years 1916 to 1920.

EXPENDITURE. Exclusive of the salary of the Director of Lands and Mines and Sub-Intendant of Crown Lands—£1,000 to £1,200—the Expenditure for 1922 was

Salaries	£ 1,307 14 3
Bonus	480 9 8
	<hr/>
Other Charges	£ 1,788 3 11
	575 14 9½
	<hr/>
Total	£ 2,363 18 8½

which together with the Expenditure of the Survey Branch of

Salaries	£ 2,433 3 2
Other Charges	2,268 14 5
	<hr/>
	4,701 17 7

gives a Grand Total of £ 7,065 16 3½ as against £8,595 14s. 7d., for 1921. It is not possible to compare the Expenditure with that for the previous 5 years as the Forest Department was then part of the Crown Lands Department.

24. STAFF.—On the 1st October, 1922, Mr. St. Clair Ashby, the 2nd Clerk, was promoted and his post still remains vacant. There was no other change in the Establishment.

I must record my satisfaction at the manner in which the staff as a whole performed their duties, and a good deal of overtime was put in during the latter part of the year in order that the work should be kept up to date.

25. The Annual Report of the Crown Surveyor for the year 1922 is appended and much interesting matter will be found in it, illustrating the more technical side of a considerable portion of the work that is performed and recorded in the Crown Lands Office.

I have the honour to be,

Sir,

Your obedient Servant,

G. L. GUPPY,
Acting Sub-Intendant of Crown Lands.

APPENDIX "A"—CROWN LANDS.

Return showing the number of Grants and the acreage sold in each County for the years 1920, 1921 and 1922.

County.	1920.					1921.					1922.				
	No. of Grants	Acreage Sold.			Lots.	No. of Grants	Acreage Sold.			Lots.	No. of Grants	Acreage Sold.			Lots.
		A.	R.	P.			A.	R.	P.			A.	R.	P.	
St. George ..	129	1,002	0	32	12	103	633	1	26	11½	47	213	0	04	12
St. David ..	87	459	0	21	23	79	193	1	39	54	16	38	3	10	10
Caroni ..	147	1,030	0	11	23	70	454	0	03	12	77	470	0	15	32
St. Andrew ..	185	1,409	0	20	12	125	969	2	03	12	51	244	1	36	14
Victoria ..	24	63	2	20	10	10	47	1	29	3	8	12	3	13	2
Nariva ..	42	11	3	02	40	2			21	1	15			38	18
St. Patrick ..	2	7	3	16	..	2			30	2	6	4	0	05	5
Tobago (Ward) ..	56	181	3	16	1	72	315	3	27	3	32	149	2	10	3
St. Clair (Port-of-Spain) ..	17	..	..	..	17	1	..	..	..	1	2	..	..	..	2
Totals ..	689	4,165	2	18	141	464	2,614	0	18	99½	254	1,133	0	11	98
Total amount realized ..	..	..	£17,460	7s.	9d.	..	£7,435	15s.	7½d.	..	..	£4,336	8s.	11d.	..

APPENDIX "B"—CROWN LANDS.

County.	1919.		1920.		1921.	
	No. forfeited.	No. since sold or re-granted.	No. forfeited.	No. since sold or re-granted.	No. forfeited.	No. since sold or re-granted.
St. George ..	2	2	6	Nil	9	2
St. David ..	Nil	Nil	Nil	Nil	Nil	Nil
Caroni ..	9	2	7	Nil	15	3
St. Andrew ..	2	Nil	4	Nil	10	4
Victoria ..	Nil	Nil	Nil	Nil	2	Nil
Nariva-Mayaro ..	Nil	Nil	Nil	Nil	Nil	Nil
St. Patrick ..	Nil	Nil	Nil	Nil	Nil	Nil
Tobago (Ward) ..	2	2	Nil	Nil	7	Nil
Totals ..	15	6	17	..	43	9

APPENDIX "B1"—CROWN LANDS.

Re-grants issued during the year 1922.

1	in respect of land forfeited in 1893.
1	do. do. 1897.
1	do. do. 1908.
1	do. do. 1911.
1	do. do. 1914.
1	do. do. 1915.
3	do. do. 1916.
3	do. do. 1917.
1	do. do. 1919.
3	do. do. 1920.
9	do. do. 1921.
Total ..	25

APPENDIX "C."

Approximate Distribution of Lands in Trinidad and Tobago.

TRINIDAD.		
Crown Lands available for sale above line 10 degrees 26 minutes 36 seconds	117,031	acres.
Mining Lease ..	104,509	do.
Prospecting License ..	78,400	do.
Exploration License ..	190,411	do.
Forest Reserves—Total Area 206,506 less 124,833 (included in Oil Concessions above)	81,673	(not included in Oil Concessions).
Alienated and other lands ..	619,654	
Total ..	1,191,678	Acres or 1,826 sq. miles.
TOBAGO.		
Crown Lands available for sale ..	6,050	acres.
Forest Reserves ..	9,776	do.
Alienated and other lands ..	57,387	do.
Total ..	73,213	Acres or 114.40 sq. miles.

APPENDIX "C."

Approximate area of Crown Lands in each Ward and County available for sale North of Latitude 10 degrees 26 minutes 36 seconds and in Tobago.

County.	Ward.		Area.
St. David	Toco .. ..	.. ..	14,229
St. Andrew	Manzanilla .. ..	.. ..	282
	Matura .. ..	.. ..	20,026
	Tamana .. ..	.. ..	2,846
	Valencia .. ..	.. ..	15,210
	Turure .. ..	.. ..	5,838
St. George	Blanchisseuse .. ..	.. ..	29,108
	Tacarigua .. ..	.. ..	1,588
	St. Ann's .. ..	.. ..	2,209
	Diego Martin .. ..	.. ..	7,125
	Arima .. ..	.. ..	5,195
Caroni	Cunupia .. ..	.. ..	7,392
	Chaguanas .. ..	.. ..	3,041
	San Rafael .. ..	.. ..	2,827
	Montserrat .. ..	.. ..	115
			117,031
Tobago (Ward) .. ..	.. ..	.. ..	6,050
Total			123,081

APPENDIX "D."

Statement shewing Crown Lands alienated from 1910-11 to 1922 also number of Crown Grants issued.

Year.	No. of Grants and Leases.	Acreage.			No. of Lots.
		A.	R.	P.	
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
1922	*254	1,133	0	11	98
Total	6,051	35,584	3	38	1,675

*7 Leases—Lands at St. Clair, 1919.

17 Leases—Lands at St. Clair, 1920

2 Leases—Lands at St. Clair, 1922.

APPENDIX "E."

(a) Applications for Prospecting Licenses, 1922.

No.	Name of Company.	Date of Application.
1	Kern Trinidad Oilfields Limited	8th April, 1922.
2	Trinidad Petroleum Development Company Limited	24th April, 1922.
3	Trinidad Leaseholds Limited	28th March, 1922.
4	M. Hamel Smith	3rd May, 1922.
5	Trinidad Leaseholds Limited	23rd May, 1922.
6	M. Hamel Smith	9th June, 1922.

(b) Applications for Exploration Licenses, 1922.

No.	Name of Company.	Date of Application.
1	Trinidad Petroleum Development Company Limited	13th January, 1922.
2	do. do. do.	15th March, 1922.
3	do. do. do.	26th September, 1922.

Report of the Crown Surveyor on the working of the Survey Branch of the Lands and Mines Department for the year ended 31st December, 1922.

ACTING SUB-INTENDANT,

I have the honour to submit the Annual Report of the Survey Branch of the Lands and Mines Department for the year 1922.

A.—Triangulation.

No New Triangulation was carried out by this Department during the year.

B.—Topographical.

No special Topographical surveys were undertaken, but a certain amount of topographical information was obtained in traverses along roads, rivers, &c., made in order to control the plotting of boundary lines on the cadastral sheets. As in former years this work has been included under heading C.—Cadastral.

C.—Cadastral.

During the year 164 orders were prepared for the surveys of Crown Lands petitioned for, as well as 77 orders for special surveys, making a total of 241 orders.

In addition 38 survey orders, issued in 1921 were completed during 1922.

The total area of Crown Lands surveyed during the year for oil concessions amounted to 13,178 acres. The orders for these surveys were given to Contract Surveyors who were paid by the Oil Companies interested.

These surveys have all been connected to the trigonometrical framework.

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

Petition and other surveys	..	..	11,120 chains
Surveys of Oil Concessions	..	..	5,225 do.
			16,345 chains or 204·3 miles

In addition 88 miles of accurate traverse surveys were run along roads and existing boundaries to control the plotting of the alienated lands on the Cadastral Sheets.

Nearly all of the Crown Grants contained in Sheets K4 and K9 have been controlled and plotted in their correct positions.

Of the 46 Special Orders executed by the Staff the following are given as examples :—

1. Re-surveys of roads and certain boundary lines in sections K4 and K9 in order to control the surveys of the alienated lands within these sections.
2. Survey of 70 lots at Mairo Village.
3. Re-survey of 37 old lots at Valencia Village surveyed in 1884.
4. Survey of Crown Traces in south west portion of E20, N. W. portion of E25, and S. E. portion of E19 in order to control cadastral detail.
5. Survey of the Cumuto River from the crossing of the Cumuto road in a westerly direction to the S. E. corner of Heirs of Llanos in sheet E10.
6. Survey of the eastern boundary of El Carmen Estate and south-western boundaries of J. F. Wallen and C. Jacelon.
7. Survey to control the cadastral detail between Martin's Road and Freeport-Todd's road.
8. Survey of a canal reserve through the Oropuche Lagoon.

9. Survey to determine the boundaries of the Crown and the extent of an alleged encroachment in the Ward of La Brea.
10. Survey of an encroachment on Crown Lands west of La Retraite Estate—Moruga Ward.
11. Survey to determine the boundaries of the Crown and El Regalo Estate—Ward of San Rafael.
12. Re-survey of the lots from Real Street to Camps Street, San Juan Village.
13. Survey of 69 Village Lots south of Siparia Village.
14. Survey necessary to define the boundaries of Crown Lands in the vicinity of Lands of Kesiah Exeter—San Juan.
15. Survey of Savary Trace and Trace connecting Savary to Hercules Trace—Wards of Chaguanas and Cunupia.
16. Survey of 96 Village Lots in Fonrose Village.

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.—New and improved copies of the following 26 Ward Maps were prepared from the material at our disposal, and ferro-gallic prints were made of all of them :—

C6, E7, E8, E23, E25, F2, F6, F7, F12, F16, F17, H8, H13, H18,
H19, H23, I1, I6, I22, J3, J4, J5, J8, K8, L2, L8.

73 of the Ward Maps used by the Wardens were plotted up to date.

Plans.—1,016 Grant, Lease and Survey Plans, were made in connection with petitions, as well as numerous tracings for the use of Surveyors in the field.

A great deal of work was plotted on Trigonometrical Sheets K4, K9, E10 and E19.

A new Map of section K, scale 1 in 50,000, was prepared and photographic reductions made of 58 sheets in sections E, H, F, I, L, K, J and G for the preparation of a general map on that scale.

The number of plans dealing with transactions under the Real Property Ordinance checked and certified by the Crown Surveyor during the year amounted to 662.

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	1,707	14	8½
Travelling Expenses	535	16	8
Office Contingencies	25	3	0½
	4,701	17	7

General Remarks.

An Ordinance to provide for the qualification and control of Land Surveyors was passed in the Legislative Council on the 5th of May, 1922, and became law as from the 1st day of February, 1923.

Rules and regulations under this new Ordinance were also made by the Governor in Executive Council on the 23rd November, 1922.

At an examination of the Pupil Surveyors held on the 18th, 19th and 20th December, Mr. F. De Gange, who had just completed three years pupilage, passed satisfactorily, and has obtained his license to practice as a Land Surveyor.

Through the courtesy of the Director of the Department of Terrestrial Magnetism of the Carnegie Institution, two observers Messrs. J. W. Green and J. T. Howard, who are engaged on Magnetic Work throughout the West Indies and South America, took observations for the diurnal variation in declination of the Magnetic Needle at the Savannah Referring Mark, on three separate days after proving by observations that the Referring Mark is free from any influence from the Electric Cars. In addition a large number of observations were taken by them in five widely separated parts of the Island in order to test the accuracy of our Isogonic Chart.

The results of these observations agree in a remarkable manner with our charted values for these places.

Mr. Green has promised to let me have a report on the result of his observations.

J. W. MACGILLIVRAY,
Crown Surveyor.

15th March, 1923.