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CANADA

DOMINION BUREAU OF STATISTICS

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THE PETROLEUM REFINING INDUSTRY  
IN CANADA IN 1918

Advance Chapter of  
"Chemicals and Allied Products in Canada in 1918"

Prepared under the direction of

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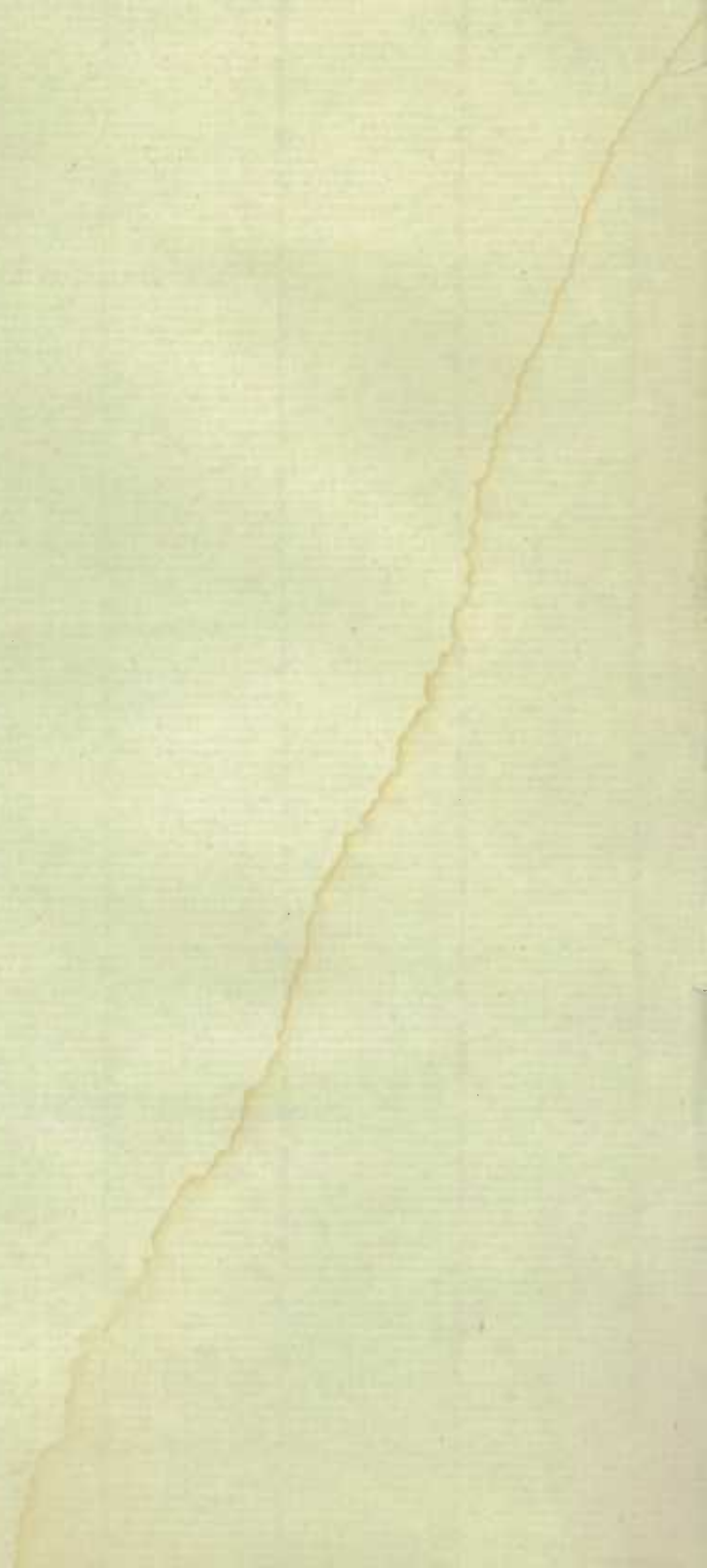
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Ottawa  
1921

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THE PETROLEUM REFINING INDUSTRY

IN CANADA IN 1918

Ten petroleum refineries were operated in Canada in 1918. Three of these were located in Ontario; three in Alberta; and one in each of the provinces of Nova Scotia, Quebec, Saskatchewan and British Columbia.

The total capital employed in these ten plants at the end of the year amounted to \$35,745,410, of which \$23,535,257 represented land, buildings, fixtures, machinery and tools. Cash, trading and operating accounts, and bills receivable amounted to \$407,408, while materials on hand, stocks in process, finished products, fuel and miscellaneous supplies on hand were valued at \$11,802,745.

EMPLOYEES, SALARIES AND WAGES

The average number of wage-earners engaged in these refineries was 2,938. Wages paid allowed a per capita payment of \$1,175, or a total sum of \$3,451,642. The salaried employees numbered 272. The average payment to these was \$1,366, the total sum having been \$371,676, of which \$91,459 went to officers, superintendents and managers.

The following table shows the distribution of the working staff on December 15, 1918. The works sub-total (3060) in the table is somewhat larger than the average number of wage-earners (2938) mentioned above, due to the fact that the number on the pay-roll increased to some extent in December, the month in which distribution was made.

TABLE I-DISTRIBUTION OF NORMAL WORKING STAFF

	<u>1918</u>	
<u>SALARIED EMPLOYEES:</u>	<u>Male</u>	<u>Female</u>
Officers, superintendents and managers.....	27	1
Clerks, stenographers, salesmen and other salaried employees.....	189	55
<b>OFFICE SUB-TOTAL.....</b>	<b><u>216</u></b>	<b><u>56</u></b>
 <u>WAGE-EARNERS, receiving per week:</u>		
Less than \$10.....	3	11
\$10, but less than \$15.....	76	6
\$15, but less than \$20.....	848	..
\$20, but less than \$25.....	788	1
\$25. and over.....	1327	..
<b>WORKS SUB-TOTAL.....</b>	<b><u>3042</u></b>	<b><u>18</u></b>
 <b>GRAND TOTAL.....</b>	 <b>3258</b>	 <b>74</b>

The following statistics were prepared at Chicago in

1925. These figures were based on figures for the

district, and are in accordance with the figures of the

Department of Public Health.

The total number of cases is 1,000.

The total number of deaths is 100.

The total number of recoveries is 900.

The total number of cases is 1,000.

The total number of deaths is 100.

The total number of recoveries is 900.

Value of 100,000.

THE UNIVERSITY OF CHICAGO

The average number of cases is 100.

The average number of deaths is 10.

The average number of recoveries is 90.

The average number of cases is 100.

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The average number of cases is 100.

The average number of deaths is 10.

The average number of recoveries is 90.

TABLE I - SUMMARY OF RESULTS

Year	Number of Cases	Number of Deaths	Number of Recoveries
1924	1,000	100	900
1925	1,000	100	900
1926	1,000	100	900
1927	1,000	100	900
1928	1,000	100	900
1929	1,000	100	900
1930	1,000	100	900
1931	1,000	100	900
1932	1,000	100	900
1933	1,000	100	900
1934	1,000	100	900
1935	1,000	100	900
1936	1,000	100	900
1937	1,000	100	900
1938	1,000	100	900
1939	1,000	100	900
1940	1,000	100	900
1941	1,000	100	900
1942	1,000	100	900
1943	1,000	100	900
1944	1,000	100	900
1945	1,000	100	900
1946	1,000	100	900
1947	1,000	100	900
1948	1,000	100	900
1949	1,000	100	900
1950	1,000	100	900
1951	1,000	100	900
1952	1,000	100	900
1953	1,000	100	900
1954	1,000	100	900
1955	1,000	100	900
1956	1,000	100	900
1957	1,000	100	900
1958	1,000	100	900
1959	1,000	100	900
1960	1,000	100	900
1961	1,000	100	900
1962	1,000	100	900
1963	1,000	100	900
1964	1,000	100	900
1965	1,000	100	900
1966	1,000	100	900
1967	1,000	100	900
1968	1,000	100	900
1969	1,000	100	900
1970	1,000	100	900
1971	1,000	100	900
1972	1,000	100	900
1973	1,000	100	900
1974	1,000	100	900
1975	1,000	100	900
1976	1,000	100	900
1977	1,000	100	900
1978	1,000	100	900
1979	1,000	100	900
1980	1,000	100	900
1981	1,000	100	900
1982	1,000	100	900
1983	1,000	100	900
1984	1,000	100	900
1985	1,000	100	900
1986	1,000	100	900
1987	1,000	100	900
1988	1,000	100	900
1989	1,000	100	900
1990	1,000	100	900
1991	1,000	100	900
1992	1,000	100	900
1993	1,000	100	900
1994	1,000	100	900
1995	1,000	100	900
1996	1,000	100	900
1997	1,000	100	900
1998	1,000	100	900
1999	1,000	100	900
2000	1,000	100	900

FUEL

The total cost of fuel used in the refineries, exclusive of any supplied to employees, was \$3,242,796. Of this sum, the larger portion, or \$1,721,642, was given as the value of oil and gasoline used; \$1,425,850 for 247,423 tons of bituminous coal of various grades; and the balance or \$95,304 for petroleum coke and natural gas.

The following table shows the source, kind, quantity and cost at the works of all the fuel used during the year.

Table 2, FUEL USED.

Kind	Unit of Measure	CANADIAN		FOREIGN	
		Quantity	Cost at Works	Quantity	Cost at Works
Bituminous coal, slack..	Short tons	16,725	\$72,252	211,127	\$1,222,474
" " lump...	"	...	...	8,088	\$ 56,616
" " run of mine	"	1,214	\$ 9,402	10,269	\$ 65,106
Gas (natural).....	1000 cu.ft.	186,783	\$22,241	...	...
TOTAL.....			\$103,895		\$1,344,196

Kind	Unit of Measure	Quantity	Assigned Value
Petroleum Coke, produced chiefly from imported crude oil.....	Short tons	19,880	\$ 73,063
Gasoline produced chiefly from imported crude oil.....	Gals.	15,891	\$ 4,092
Oil (fuel) produced from imported crude oil.. (chiefly).....	"	21,623,649	\$1,717,550
TOTAL.....			\$1,794,705
GRAND TOTAL.....			\$3,242,796.

MATERIALS USED

According to reports from the refineries 262,641,149 gallons of crude oil was received at the works of which 12,258,184 gallons was from Canadian wells, and 250,382,965 gallons, imported. The total cost of oil received at the works was \$23,708,658, of which \$22,789,762 was paid for the imported oil and \$918,896 for the product of Canadian wells.

The consumption of oil reported showed 261,742,274 gallons of crude oil as having been used at the works. Of the total quantity 10,050,783 gallons was from Canadian wells and 251,691,491 gallons from the United States. The imported oil cost \$21,890,862, and the product of Canadian wells, \$882,230.

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The following table shows the kind, quantity and cost at the works of all the materials used during the year:

TABLE 3-MATERIALS USED

<u>KIND</u>	<u>Unit of Measure</u>	<u>Quantity</u>	<u>Value</u>
Crude oil, product of Canadian wells	Gals.	10,050,783	\$ 882,230
" " imported.....	"	251,691,491	21,890,862
Sulphuric Acid.....	lbs.	38,224,856	408,482
Caustic Soda.....	"	1,993,251	45,782
Litharge.....	"	97,319	11,886
Sulphur.....	"	52,302	2,234
Other materials (value only).....			843,942
Cooperage stock (value only).....			369,157
<b>TOTAL.....</b>			<b>\$24,454,575</b>

PRODUCTS

The total production, according to reports to the Bureau of Statistics, had a selling value at the refineries of \$37,866,907. Of this sum, \$19,247,402, or 50.8% was the value of 72,169,916 gallons of gasoline and motor oils; \$7,130,301, or 18.8% was the value of 56,220,066 gallons of illuminating oils, and \$6,629,980, or 17.5%, of 84,784,278 gallons of fuel and gas oil and tar.

The following table shows the total production of the various commodities, with their selling values at the refineries:

TABLE 4-PRODUCTS.

<u>KIND</u>	<u>Unit of Measure</u>	<u>Quantity</u>	<u>Selling Value at the Works</u>
Gasoline and motor oils....	Gals.	72,169,916	\$ 19,247,402
Benzene, benzoline and other petroleum spirits.....	"	1,530,867	384,901
Illuminating oils.....	"	56,220,066	7,130,301
Lubricating oils.....	"	14,401,703	2,571,367
Wax and candles.....	lbs.	13,490,528	1,136,311
Fuel and gas oil and tar....	Gals.	84,784,278	6,629,980
Grease.....	lbs.	7,435,605	525,274
All other products, including asphalt and petroleum coke.....			241,371
<b>TOTAL.....</b>			<b>\$37,866,907</b>

The following table shows the distribution of the value of all the land in the State of New York, according to the year 1886.

TABLE SHOWING THE DISTRIBUTION OF THE VALUE OF ALL THE LAND IN THE STATE OF NEW YORK, ACCORDING TO THE YEAR 1886.

CLASS OF LAND.	Area in Acres.	Value in Dollars.	Value per Acre.
Improved Land	1,000,000	\$1,000,000,000	\$1,000
Unimproved Land	5,000,000	\$500,000,000	\$100
Water	1,000,000	\$1,000,000,000	\$1,000
Total	7,000,000	\$2,500,000,000	\$357

The following table shows the distribution of the value of all the land in the State of New York, according to the year 1886.

TABLE SHOWING THE DISTRIBUTION OF THE VALUE OF ALL THE LAND IN THE STATE OF NEW YORK, ACCORDING TO THE YEAR 1886.

The total value of the land in the State of New York, according to the year 1886, was \$2,500,000,000. This value is distributed among the various classes of land as follows:

- Improved Land: \$1,000,000,000
- Unimproved Land: \$500,000,000
- Water: \$1,000,000,000

The following table shows the distribution of the value of all the land in the State of New York, according to the year 1886.

CLASS OF LAND.	Area in Acres.	Value in Dollars.	Value per Acre.
Improved Land	1,000,000	\$1,000,000,000	\$1,000
Unimproved Land	5,000,000	\$500,000,000	\$100
Water	1,000,000	\$1,000,000,000	\$1,000
Total	7,000,000	\$2,500,000,000	\$357

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Unimproved Land	5,000,000	\$500,000,000	\$100
Water	1,000,000	\$1,000,000,000	\$1,000
Total	7,000,000	\$2,500,000,000	\$357



MISCELLANEOUS EXPENSES

The miscellaneous expenditures chargeable against production and sales amounted to \$2,129,825 during the year. Of this sum \$859,197 or 43.4% was paid for repairs to buildings and machinery.

The following table gives the miscellaneous expenditures for the year:

TABLE 5-MISCELLANEOUS EXPENDITURES

Rent of offices, works and machinery.....	\$ 11,700
Rent of power.....	13,581
Insurance (premium for year only).....	14,837
(Internal Revenue, War, etc.....)	36,574
Taxes-(Provincial and Municipal.....)	25,073
Royalties, use of patents, etc.....	177,204
Advertising expenses.....	3,755
Travelling expenses.....	17,078
Repairs to buildings and machinery.....	859,197
All other sundry expenses (not including fuel costs, materials used, salaries and wages).....	37,970,776
	<u>\$2,129,825</u>

IMPORTS AND EXPORTS

The total value of imports of petroleum and petroleum products in 1918 was \$13,127,178, of which \$13,359,636 was paid for 229,010,561 gallons of crude oil imported by oil refiners to be refined in their own factories.

Exports of crude coal oil or kerosene in 1918 were 270,302 gallons valued at \$28,415, and of refined oil \$1,946,967 gallons valued at \$206,675. There was also an export of naphtha or gasoline of 91,229 gallons valued at \$28,778.

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