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THE NATURAL GAS INDUSTRY IN CANADA

Output of natural gas in Canada in 1941 totalled 43,495,555 thousand cubic feet as compared with 41,232,125 thousand cubic feet in the previous year. This production includes only the natural gas consumed for industrial and domestic purposes and does not take into account the waste gas burned in the Turner Valley field.

Wells in New Brunswick produced 653,542 thousand cubic feet compared with 616,041 thousand cubic feet in 1940. Approximately 6,400 consumers in Moncton and Hillsborough were supplied with gas from wells in the Stony Creek field, near Moncton. There were 40 wells in operation in this province at the end of 1941.

Ontario's output dropped 9 per cent to 11,828,703 thousand cubic feet from the 1940 production of 13,053,403 thousand cubic feet. Developments in this province in 1941 were summarized by Mr. A. R. Crozier, Acting Commissioner of Gas for Ontario, as follows:

"The decrease in the volume of natural gas produced may be accounted for by the depletion of the gas fields and the failure of exploratory drilling to develop new sources of supply, rather than by any lack of demand for natural gas. In fact, the industrial demand increased steadily throughout the year, and only through the enforcement of restrictive measures was it possible to prevent general and widespread shortages. In controlling the demand for natural gas, every effort was made to extend to essential war industries adequate and uninterrupted supplies of gas. This was only made possible by strict control and, in many instances, reduction of domestic and commercial consumption. Regulations were enacted which prohibited the supplying of gas service to new homes. Many domestic and commercial consumers voluntarily discontinued the use of natural gas for heating purposes.

"As a result of the steadily increasing demand for natural gas by the many essential war industries and the lack of adequate reserves, steps were taken early in the year to provide for additional supplies of gas by the construction of artificial gas plants at strategic points in Southwestern Ontario. The first of these plants came into operation late in the year and a second, early in 1942; a third was in the process of construction by the end of 1941. It is interesting to note that at the two artificial gas plants already in operation, for the first time in Canada, liquid propane, a by-product derived in the refining of petroleum, was mixed with air and introduced directly into natural and artificial gas lines to supplement the respective gases. This method of supplementing the available supply of natural and artificial gases, while costly, has proved to be entirely satisfactory. Thus extensive and widespread shortages of gas were averted and Ontario's production of essential materials of war maintained.

"Drilling operations for the year were of a disappointing nature and while new supplies were brought in, there were no major fields developed. Although the larger gas companies were quite active and carried out much exploratory development, the smaller companies, syndicates and operators were forced to greatly restrict operations owing to wartime difficulties of obtaining funds for exploration.

"With the exception of the Malahide and Declute gas fields, other fields showed a normal decline both in productive capacity and rock pressures. The Malahide and Declute fields dropped off very sharply early in the spring when water

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encroached, with the result that the available reserves of natural gas were considerably reduced. Several wells were completed in Lake Erie in front of the Tilbury field and while the open flow of these wells was not large, the rock pressure was higher than the average pressure of the operating wells in the field. However, owing to the cost of protecting producing wells in the lake against ice flows and wave action, some doubt exists as to whether it is economically sound to continue lake drilling.

There were 205 operating, distributing and drilling firms active in the natural gas industry in Ontario during 1941. These firms reported a total capital investment of \$51,529,641; employment was furnished by this industry to 1,529 salaried employees and wage-earners.

Saskatchewan produced 106,168 thousand cubic feet of natural gas in 1941 compared with 100,773 thousand cubic feet in the preceding year. The 1941 output was used principally to supply customers in Lloydminster.

Natural gas production in Alberta totalled 30,905,440 thousand cubic feet in 1941 compared with 27,459,808 thousand cubic feet in 1940. These figures include only the natural gas consumed for industrial and domestic purposes and do not take into account the waste gas burned in the Turner Valley field.

The Turner Valley field is the largest natural gas producing area in Canada; this field is located about 35 miles southwest of Calgary. Industrial and domestic users consumed 23,635,361 thousand cubic feet of Turner Valley gas in 1941; in the previous year, 2,448,402 thousand cubic feet were used. Approximately 25,500 consumers in Calgary, Lethbridge and the districts were served with this gas in 1941; in addition, a considerable quantity was used in the field for drilling purposes.

Approximately 2,700 customers in the city of Medicine Hat were supplied with gas from the Medicine Hat field. The total consumption of gas in this city was 2,596,735 thousand cubic feet as against 2,325,176 thousand cubic feet in 1940. The Redcliffe field, located about 2 miles west of Medicine Hat, supplied industrial and domestic users with 522,734 thousand cubic feet of gas in 1941 compared with 636,408 thousand cubic feet in the previous year.

Edmonton obtains its supply of gas from the Viking field, which is situated about 80 miles southwest of the city. In 1941 gas was supplied by this field to 13,200 customers in Edmonton and to over 600 users outside the city. Twenty-one wells were in operation in the Viking field in 1941.

In Alberta, on December 31, 1941 there were 104 wells producing natural gas only, compared with 95 wells in 1940. Capital employed by this industry in Alberta in 1941 was \$28,166,141 compared with \$26,967,981 in 1940. The industry employed 511 people who received salaries and wages totalling \$757,528.

It was estimated that at Fort Norman in the Northwest Territories some 1,500 thousand cubic feet of natural gas were used for power purposes.

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Table 1 - PRODUCTION OF NATURAL GAS IN CANADA, BY PROVINCES, 1940 and 1941

Province	1 9 4 0		1 9 4 1	
	M cu.ft.	Value	M cu.ft.	Value
		\$		\$
New Brunswick .....	616,041	300,543	653,542	317,437
Ontario .....	13,053,403	7,745,834	11,828,703	7,140,130
Manitoba .....	600	180	...	...
Saskatchewan .....	100,773	30,232	106,168	51,850
Alberta .....	27,459,808	4,923,469	30,905,440	5,175,364
Northwest Territories ..	1,500	335	1,500	335
<b>CANADA .....</b>	<b>41,232,125</b>	<b>13,000,593</b>	<b>43,495,353</b>	<b>12,665,116</b>

Table 2 - NATURAL GAS PRODUCTION IN ONTARIO, BY FIELDS, 1940 and 1941

County	Field	1 9 4 0	1 9 4 1
		M cu.ft.	M cu.ft.
Essex .....	Kingsville .....	2,902,079	52,418
	(Tilbury .....		2,433,968
	(Declute .....		1,482,136
Kent .....	(Dover .....	381,837	341,516
	(Chatham .....		165,010
	(Dawn .....		1,661,500
Lambton .....	(Oil Springs .....	2,276,346	8,249
Middlesex .....	Mosa .....	21,444	...
Oxford .....	Brownsville (x) .....	1,056,260	220,077
Elgin .....	Bayham .....		
Elgin .....	(Bayham .....	81,358	71,692
	(Malahide .....	608,860	2,497,447
Norfolk .....	Norfolk .....	432,510	421,717
Lincoln .....	Lincoln .....	2,101,759	1,962,524
Haldimand .....	Haldimand .....		
Wentworth .....	Wentworth .....		
Welland .....	Welland .....	267,567	274,059
Brant .....	Onondaga .....	151,193	182,360
Prince Edward .....	Hollowell .....	1,000	...
Wells in surface drift ..	Harwich and Howard Tps.	14,000	14,000
Private wells .....	.....	60,000	60,000
<b>TOTAL PRODUCED .....</b>		<b>13,053,403</b>	<b>11,828,703</b>

(x) Dereham Twp. .... 809,745 M cu.ft.; Bayham Twp. ... 226,515 M cu.ft.--1940  
 Dereham Twp. .... 173,841 M cu.ft.; Bayham Twp. ... 41,236 M cu.ft.--1941

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Table 3 - PRODUCTION OF NATURAL GAS IN CANADA, BY MONTHS, 1940 and 1941

	New Brunswick	Ontario	Saskatchewan	Alberta	CANADA
	M cu.ft.	M cu.ft.	M cu.ft.	M cu.ft.	M cu.ft.
<b>1940</b>					
January .....	71,185	1,730,177	17,704	3,485,847	5,504,963
February .....	71,358	1,579,351	13,270	3,066,065	4,730,094
March .....	64,050	1,508,733	12,104	2,717,257	4,502,194
April .....	62,193	1,258,643	8,603	2,297,109	3,626,598
May .....	55,039	905,366	3,272	1,704,056	2,667,783
June .....	41,885	614,294	3,512	1,447,711	2,107,452
July .....	29,563	549,816	2,744	1,494,832	(a) 2,077,515
August .....	25,519	530,219	2,407	1,464,604	(a) 2,023,099
September .....	30,624	654,629	2,407	1,554,648	(a) 2,222,858
October .....	40,351	902,348	6,970	2,034,180	2,983,839
November .....	58,481	1,268,786	14,641	2,994,311	4,336,269
December .....	66,005	1,551,041	15,139	3,219,228	4,849,461
<b>TOTAL .....</b>	<b>616,041</b>	<b>13,053,403</b>	<b>100,773</b>	<b>27,459,808</b>	<b>41,232,125</b>
<b>1941</b>					
January .....	74,894	1,509,538	15,555	3,676,525	5,276,512
February .....	75,410	1,527,606	15,969	3,251,619	4,870,604
March .....	67,366	1,502,902	12,810	3,126,234	4,709,312
April .....	68,388	1,043,122	8,054	2,255,692	3,375,256
May .....	54,786	750,636	5,146	2,133,067	2,943,635
June .....	48,085	580,811	3,589	1,655,319	2,287,804
July .....	31,263	472,538	2,272	1,645,758	(a) 2,152,139
August .....	28,310	489,661	2,765	1,665,552	(a) 2,186,988
September .....	34,862	586,490	6,233	2,062,352	(a) 2,690,437
October .....	46,953	782,291	7,166	2,473,227	3,309,637
November .....	60,318	1,205,817	11,801	3,104,149	4,382,085
December .....	62,707	1,377,491	14,808	3,855,946	5,310,952
<b>TOTAL .....</b>	<b>653,342</b>	<b>11,828,703</b>	<b>106,168</b>	<b>30,905,440</b>	<b>43,495,353</b>

(a) Includes production from Fort Norman, Northwest Territories.

Table 4 - CAPITAL EMPLOYED IN THE NATURAL GAS INDUSTRY IN CANADA, BY PROVINCES, 1940 and 1941

	Ontario	Alberta	(x) CANADA
	\$	\$	\$
<b>1940</b>			
Capital Employed as Represented by--			
Cost of lands, buildings, plant, machinery and tools .....	43,032,620	24,367,282	69,212,643
Cost of supplies and stock on hand.	625,281	215,341	863,730
Cash, trading and operating accounts and bills receivable .....	7,865,881	2,385,258	10,411,393
<b>TOTAL .....</b>	<b>51,523,782</b>	<b>26,967,881</b>	<b>80,487,766</b>

Table 4 - CAPITAL EMPLOYED IN THE NATURAL GAS INDUSTRY IN CANADA, BY PROVINCES, 1940 and 1941 - (Concluded)

	Ontario	Alberta	(x) CANADA
	\$	\$	\$
<u>1 9 4 1</u>			
Capital Employed as Represented by -			
Cost of lands, buildings, plant, machinery and tools .....	43,727,294	25,435,809	70,587,671
Cost of supplies and stock on hand.	875,541	282,838	1,181,581
Cash, trading and operating accounts and bills receivable .....	6,926,006	2,449,494	9,511,289
<b>TOTAL .....</b>	<b>51,528,641</b>	<b>28,166,141</b>	<b>81,280,541</b>

(x) Includes data for New Brunswick and Saskatchewan.

Table 5 - EMPLOYEES, SALARIES AND WAGES IN THE NATURAL GAS INDUSTRY IN CANADA, BY PROVINCES, 1940 and 1941

Province	Average Number of Employees				Salaries and Wages		
	Salaried		Wage- earners	TOTAL	Salaries	Wages	TOTAL
	Male	Female					
<u>1 9 4 0</u>							
New Brunswick..	12	9	74	95	35,899	82,625	118,524
Ontario .....	498	146	898	1,542	353,116	878,374	1,831,490
Saskatchewan ..	2	...	10	12	1,974	6,934	8,908
Alberta .....	99	45	396	540	227,847	561,971	789,818
<b>CANADA .....</b>	<b>611</b>	<b>200</b>	<b>1,378</b>	<b>2,189</b>	<b>1,218,836</b>	<b>1,529,904</b>	<b>2,748,740</b>
<u>1 9 4 1</u>							
New Brunswick..	13	8	91	112	39,603	109,874	148,977
Ontario .....	591	152	786	1,529	1,065,265	864,760	1,930,025
Saskatchewan ..	1	1	7	9	3,000	2,465	5,465
Alberta .....	247	46	218	511	551,691	205,637	757,328
<b>CANADA .....</b>	<b>852</b>	<b>207</b>	<b>1,102</b>	<b>2,161</b>	<b>1,659,559</b>	<b>1,182,236</b>	<b>2,841,795</b>

Table 6 - NATURAL GAS PIPELINE MILEAGE IN CANADA, 1940 and 1941

	ACTUAL MILES OF MAIN				MILES OF EQUIVALENT 3" MAINS			
	Gathering and transmission		Distribution		Gathering and transmission		Distribution	
	1940	1941	1940	1941	1940	1941	1940	1941
New Brunswick	20	20	62	65	36	36	77	73
Ontario .....	2,259	2,289	2,660	2,690	3,891	3,919	2,628	2,675
Saskatchewan.	...	...	8	8	...	...	6	6
Alberta .....	636	670	590	613	2,099	2,178	1,151	1,073
<b>CANADA ...</b>	<b>2,915</b>	<b>2,979</b>	<b>3,320</b>	<b>3,376</b>	<b>6,026</b>	<b>6,133</b>	<b>3,842</b>	<b>3,827</b>

Table 7 - SALES OF MANUFACTURED GAS, NUMBER OF CUSTOMERS AND MILEAGE OF PIPE LINES,  
1 9 4 1

Areas	Number of customers	No. of active meters	GAS SALES		Mileage of pipe lines	Approximate population served by mains
			M cu.ft.	\$		
Eastern provinces	205,141	232,269	5,278,970	5,737,406	1,000	1,633,000
Ontario .....	220,432	208,610	9,472,855	7,951,774	2,041	1,309,219
Western provinces	68,360	72,610	2,179,609	2,199,543	865	571,050
TOTAL .....	493,933	513,489	16,931,434	15,888,723	3,906	3,513,269

