THIRTY-SIXTH ANNUAL REPORT

OF THE

ONTARIO DEPARTMENT OF MINES

1927

PART IV

PROVINCE OF ONTARIO
DEPARTMENT OF MINES

HON. CHAS. MCCREA, *Minister of Mines* THOS. GIBSON, *Deputy Minister*

THIRTY-SIXTH ANNUAL REPORT

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ONTARIO DEPARTMENT OF MINES

BEING

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Natural Gas in 1926

AND

Petroleum in 1926

By

R. B. Harkness, Commissioner of Natural Gas

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NATURAL GAS IN 1926

By R. B. Harkness

General

The total production of natural gas in Ontario in 1926 was 7,776,496 thousand cubic feet with a value of $4,415,918. This is an increase of 507,837 thousand cubic feet over the 1925 production. The number of wells in operation is 2,126, and the number of producing wells drilled, 86. The total open flow of these was 13,996 thousand cubic feet. The comparison by fields is given below.

TABLE I—NATURAL GAS PRODUCTION BY FIELDS IN 1925 AND 1926

County	Field	1925	1926
		M cu. ft.	M cu. ft.
Essex	Kingsville	4,966,207	5,365,423
Kent	Tilbury		
	Dover	126,687	159,136
Lambton	Dawn	50,913	14,937
	Oil Springs		
Middlesex	Crumlin	2,030	.....
Elgin	Bayham	140,231	36,794
Lincoln	Lincoln		
Haldimand	Haldimand	1,544,348	1,782,950
Wentworth	Wentworth		
Norfolk	Norfolk		
Brant	Onondaga	979	12,275
Welland	Welland	294,843	276,259
Bruce	Amabel	650	650
Wells in surface drift	Howard and Sarnia	70,386	68,072
Private wells	.....	60,000	60,000
Total	.....	7,257,274	7,776,496

The winter of 1926-27 was milder than the average winter in the western peninsula of Ontario, consequently there was no excessive use of gas during short periods as in past winters. The demand was moderate but steady, and on the whole greater than last year; this was because during the mild weather gas heaters or grates would be lighted to warm up the houses and save the considerable amounts of coal which would be consumed in forcing the furnace fires. The use of coal instead of gas for central heating, supplemented by gas heaters or grates to increase the temperature in certain rooms, is becoming more general, particularly as the removal of hydrogen sulphide from the gas supplied from the Kent (Tilbury) field has made possible the use of grates and heaters. The gas companies have made a great effort to encourage the use of coal furnaces and the restriction of gas to the supplementary heaters. In past winters the large, centrally heated houses had much larger service lines than the average dwelling and consequently always had gas when very little or none at all would pass through the small service lines, but the use of the gas grate and the increase

in natural gas rates has caused the owners of most of these large buildings to use coal in their furnaces instead of gas. On the other hand some smaller houses are being heated entirely by gas under thermostatic control. One company has tried out a unit designed for use in a garage and reports it as successful, inexpensive, and economical.

The improvements in the gas fields and along the transmission lines has had its effect. The work of cleaning out the accumulated salt and paraffin from the gas wells in the Tilbury field by exploding a charge of dynamite in the bottom of the well, which was begun in 1924, is being continued and has brought to life many wells that were thought to be exhausted. Connecting all transmission lines at the point where the gas from the wells is purified has made the distribution of gas more flexible, and sudden demands from any quarter can be met more easily than in past years.

The educational work in the elimination of waste and the unnecessary use of gas in the household and the sale of improved stoves and other appliances has produced excellent results and, coupled with the intensive search for leaks in the pipe lines and distribution plants, has made available a great quantity of gas that in past years was wasted.

The use of gas for power purposes, for baking, and in fact for all industrial purposes is slightly on the increase; most of the requests for an increased allotment of gas is based on a business expansion which is in line with the general prosperity of the country. New permits granted are for the same purposes as in the past.

Considerable success has been attained in extending the present gas fields, especially in North Cayuga township, Haldimand county, and in Dawn township, Lambton county.

A study of soil corrosion in wrought-iron and steel pipe has led to the use of corrosion-arresting materials for coating and wrapping pipes that are buried underground.

Work of the Year

The work of the employees of the Department consisted mainly of inspections of wells being drilled or plugged, defective wells, low-pressure distributing plants and high-pressure mains, and checking the measurements of gas and the leakage of all pipe lines. A number of defunct gas companies left wells that required considerable attention and gas lines that were wasting their assets.

A number of inspections of the premises of free consumers were made following a complaint or a request for an allotment greater than was allowed under Order No. 26;[1] this inspection was extended to as many other premises affected by this order as time permitted.

Low-pressure plants inspected during the year were as follows:—

Aylmer (2)	Fenwick	Port Dover	Tilbury
Bridgeburg	Galt	Ridgeway	Thorold
Caledonia (2)	Hagersville	Simcoe	Woodstock
Courtright	Leamington (2)	St. Catharines	Windsor
Canfield	Niagara Falls	St. George	Welland
Dunnville	Pelham	Sombra	Wallaceburg
Essex	Paris	Sarnia	

[1]Ont. Dept. Mines, Vol. XXXV, pt. 5, p. 4.

The annual survey of the rock pressures and open flow of gas wells was undertaken during the summer months. Many of the small companies who had no one on their staffs experienced in the use of the open flow meter were instructed in its use. This meter and the pressure gauges were loaned to any one requiring them. The annual survey of the wells drilled into a gas horizon in the surface drift was made. This survey by the Department is the outcome of an agreement between a group of property owners residing between the towns of Ridgetown and Blenheim, who sell their surplus gas to the company that distributes gas in Ridgetown. The Commissioner of Natural Gas is named as an arbitrator between these owners, in order that each may be protected against the other allowing the pressure in his wells to decline to a point where water may enter and ruin the gas field. Under the agreement two of these wells were disconnected from the pipe line, and one was refused the privilege of selling gas.

A thorough inspection of all industries using gas was carried out, and many were found to be using more than was permitted. These cases were adjusted according to the needs of the industries, a new allotment being given where needed; this adjustment is necessary owing to the fluctuation in supply and demand in industry.

A few more samples of gas were collected and sent to the Mines Branch in Ottawa for analysis, particularly for their helium content.

One complaint of gas shortage was received from the village of Highgate; it was found that water had entered the pipes through a broken service line and frozen, thereby stopping the flow of gas. Temporary repairs relieved the situation.

Analysis of Gas Consumption

Tables II and III give details which show everything of interest concerning the gas consumed in Ontario. By comparing these tables with those published in previous years, the history of prices and quantity consumed can be traced from year to year. It will be found of interest to note the changes in the ratio of gas used to the price charged from year to year.

TABLE II—GAS CONSUMPTION IN TOWNS AND CITIES, 1926

Town or city	Population	No. of consumers		Quantity consumed, M cu. ft.			Distance from gas field	Net rate per M cu. ft.
		Pay	Free	Pay	Free	Industrial		
							miles	
Aylmer	2,300	681	....	32,925	.....	.....	16	$0.90–$1.10
Bartonville	300	49	....	2,102	.....	.....	18	.60
Belle River	800	162	....	17,921	.....	671	29	.55– .85
Belmont	350	60	....	749	.....	.....	9	.90
Binbrook	100	13	....	2,300	.....	.....	1	.25– .40
Blenheim	1,560	533	1	61,936	157	1,010	20	.50– .75
Brantford	30,190	3,351	5	89,736	1,853	7,775	140	.80
Bridgeburg and Fort Erie	4,221	955	5	33,579	3,279	.....	8	.70
Brigden	300	156	....	14,399	.....	1,711	30	.50– .75
Cainsville	400	53	....	2,756	.....	.....	4	.80
Caledonia	1,326	520	....	57,807	.....	.....	7	.60
Canfield	200	30	....	3,168	.....	.....	1	.40
Cayuga	752	207	1	22,525	62	438	6	.60
Chatham	15,600	3,550	....	533,046	.....	.....	22	.50– .75
Chippawa	1,100	121	....	3,635	.....	.....	5	.40– .70
Comber	608	144	....	16,590	.....	1,687	19	.50– .75
Cottam	300	84	....	10,901	.....	586	35	.40– .55
Courtland	400	45	....	2,839	.....	107	3	.60– .85
Courtright	441	123	1	14,090	200	140	49	.50– .75
Crystal Beach	252	69	....	4,053	.....	.....	1	.70
Delhi	750	246	....	20,013	.....	1,056	4	.60
Dorchester	360	96	....	7,972	.....	.....	95	.60– .75
Dresden and Tupperville	1,450	487	1	57,299	99	503	30	.50– .75
Dundas	5,000	1,016	2	36,930	565	1,174	172	.70
Dunnville	3,705	973	3	114,334	786	14,523	7	.40– .60
Dutton	825	243	3	28,744	106	701	52	.55– .70
Echo Place	200	122	....	6,466	.....	.....	3	.80
Eden	88	26	....	1,822	.....	.....	11	.60
Essex	1,600	473	1	66,266	114	4,758	33	.50– .85
Fairground	40	16	....	709	.....	.....	1	.60
Fenwick	164	86	....	5,444	.....	.....	18	.75
Fingal	460	46	1	4,424	82	992	71	.55– .70
Fisherville	72	54	....	6,668	.....	455	2	.45– .50
Fonthill	740	191	....	8,576	.....	.....	25	.95–1.20
Galt	13,222	974	1	42,389	242	4,615	147	.80
Grimsby	1,910	12	....	350	.....	.....	14	1.25
Hagersville	1,200	391	....	39,617	.....	.....	13½	.60
Hamilton	121,000	426	....	19,605	.....	412,030	47	.75–1.00
Hamilton West	.....	114	....	2,220	.....	.....	47	.75
Hepworth	330	20	....	650	.....	.....	1	.60
Highgate	410	118	1	14,283	119	.....	32	.50– .65
Ingersoll	5,000	949	1	52,181	284	1,166	100	.80
Jarvis	500	194	....	23,702	.....	.....	9	.60
Kingsville	3,500	711	1	113,113	298	3,396	30	.40– .55
Lake Shore	.....	293	....	6,789	.....	.....	16	.70
Lambeth	475	94	....	5,697	.....	.....	84	.60– .75
Leamington	4,200	1,387	....	222,541	.....	3,768	20	.50
Lyndoch	151	42	....	3,414	.....	1,756	2	.60
Mabee	82	10	....	757	.....	.....	1	.60
Merlin	350	154	1	19,973	306	1,283	2	.50– .75
Nelles	55	25	....	2,411	.....	444	1	.50
Niagara Falls	15,400	2,533	....	40,527	.....	.....	11	.75
Oil Springs	500	116	....	8,952	.....	.....	2	.75
Paris	4,345	472	1	18,798	192	1,523	179	.80
Petrolia	2,836	743	....	99,507	.....	.....	60	.55– .80
Port Burwell	700	241	....	17,595	.....	.....	3	.60
Port Colborne and Humberstone	5,500	1,501	....	78,756	.....	9,274	5	.60– .95
Port Dover	1,575	521	....	51,414	.....	632	1	.60
Port Rowan	640	254	....	19,843	.....	.....	1	.60
Ridgetown	2,000	640	1	75,025	308	665	28	.50– .75
Ridgeway	700	205	....	11,906	.....	.....	1	.70

TABLE II—GAS CONSUMPTION IN TOWNS AND CITIES, 1926—*Continued*

Town or city	Population	No. of consumers		Quantity consumed, M cu. ft.			Distance from gas field	Net rate per M cu. ft.
		Pay	Free	Pay	Free	Industrial		
							miles	
Rodney	676	237	1	27,505	124	490	40	$0.55–$0.70
Ruthven	438	47	....	7,438	.....	.....	25	.40– .55
St. Ann	90	29	....	1,076	.....	.....	7	.90
St. Catharines	22,000	3,896	3	199,517	674	7,741	35	.60– .75
St. George	569	111	....	4,699	.....	173	148	.80
St. Williams	319	99	....	6, 71	.....	836	1	.60
Sarnia	15,176	4,203	1	388,386	1,102	.....	69	.55– .80
Selkirk	585	135	1	13,176	96	2,592	1	.60
Shedden	409	83	....	7,705	.....	.....	63	.55– .70
Shetland	80	19	....	1,555	.....	.....	3	.40
Simcoe	4,000	1,493	3	201,514	421	14,224	20	.60
Smithville	332	170	....	6,571	.....	.....	6	.80
Sombra and Port Lambton	2,000	191	....	17,896	.....	625	45	.55– .80
Stevensville	423	31	....	1,915	.....	.....	1	.70
Straffordville	215	81	....	8,197	.....	224	6	.60
Tecumseh	1,200	238	....	28,111	.....	.....	50	.55– .80
Thorold	7,624	703	....	34,939	.....	.....	35	.60– .75
Tilbury	2,000	411	1	46,033	194	499	17	.50– .75
Tillsonburg	3,086	940	1	82,320	322	1,815	16	.60– .85
Vienna	284	78	1	4,914	48	54	1	.60– .80
Vittoria	260	74	....	5,650	.....	.....	3	.60
Wallaceburg	4,530	1,043	1	133,414	197	108,735	27	.50– .75
Wallacetown	254	50	1	4,648	23	622	60	.55– .70
Welland	8,646	2,181	1	88,922	236	.....	3	.70
Wellandport	141	30	1	608	250	.....	3	.70– .75
West Lorne	818	222	3	25,567	211	660	49	.55– .70
Wheatley	647	236	....	26,213	.....	1,039	12	.50– .65
Windsor (Border Cities)	60,625	9,129	1	1,067,394	279	13,930	44½	.55– .80
Woodstock	10,196	1,579	1	68,735	317	2,423	110	.80
Total	.....	55,860	52	4,796,328	13,546	635,521	.....	.....

TABLE III—GAS CONSUMPTION IN TOWNSHIPS, 1926

Township	Population	No. of consumers		Quantity consumed, M cu. ft.			Net rate per M cu. ft.
		Pay	Free	Pay	Free	Industrial	
ESSEX:							
Gosfield, North	2,190	125	4	15,966	543	.....	$0.40–$0.55
Gosfield, South	2,301	248	2	41,682	472	52,753	.40– .50
Maidstone	2,099	68	7	7,166	1,693	766	.55– .80
Rochester	1,951	194	7	18,811	2,197	1,133	.55– .80
Sandwich, South	1,423	78	.....	9,412	.....	757	.55– .80
Sandwich, West	2,764	12	.....	1,970	.....	.....	.55– .80
Sandwich, East	1,090	215	.....	25,723	.....	.....	.55– .80
Mersea	3,835	280	2	50,052	340	53,457	.40– .50
Tilbury, North	1,788	17	2	1,502	456	72	.50– .75
Tilbury, West	1,543	20	.....	1,455	.....	.....	.50– .75
LAMBTON:							
Enniskillen	2,666	68	.....	6,371	.....	986	.55– .80
Moore	3,215	318	.....	28,419	.....	2,346	.50– .75
Sombra	2,857	48	.....	5,130	.....	307	.50– .75
Sarnia	2,540	5	8	500	2,447	.....	.45
Euphemia	1,385	.....	8	.....	2,000	.....	.45
Dawn	2,317	37	4	4,251	1,115	.....	.40– .65
KENT:							
Raleigh	3,671	644	28	79,673	8,102	573	.40– .65
Tilbury, East	2,914	220	82	25,314	23,638	4,171	.40– .65
Romney	1,500	103	38	12,915	9,748	.....	.40– .65
Harwich	4,372	415	9	44,362	4,881	.....	.50– .65
Orford	1,870	21	3	3,742	296	.....	.50– .65
Howard	2,768	182	4	23,070	971	.....	.50– .65
Chatham	4,935	81	.....	9,776	.....	1,222	.50– .75
Camden	2,078	9	.....	669	.....	.....	.50– .75
Dover	3,606	382	1	48,648	146	1,515	.40– .65
ELGIN:							
Aldborough	2,837	27	1	2,958	408	.....	.55– .70
Dunwich	2,522	58	.....	6,191	.....	.....	.55– .70
Southwold	3,510	108	.....	9,720	.....	1,584	.55– .70
Malahide	2,953	49	3	2,009	412	.....	.80
Bayham	3,112	76	16	3,924	2,944	.....	.60– .80
MIDDLESEX:							
Westminster	6,122	127	.....	13,612	.....	.....	.60– .85
Dorchester, North	3,056	26	.....	1,693	.....	.....	.50– .85
NORFOLK:							
Middleton	2,037	5	6	476	1,013	.....	.60
Walsingham, South	1,781	7	7	896	1,227	.....	.60
Walsingham, North	1,424	5	4	667	664	.....	.60
Charlotteville	2,512	4	4	483	691	.....	.60
Windham	3,005	2	3	208	395	.....	.60
Woodhouse	1,964	161	13	15,952	2,201	.....	.60
Townsend	3,694	32	.....	3,813	.....	.....	.60
BRANT:							
Onondaga	1,017	53	16	3,241	3,006	.....	.50– .80
Dumfries, South	2,532	7	.....	445	.....	.....	.80
Brantford	7,220	7	.....	327	.....	.....	.80
Burford	3,833	2	.....	385	.....	.....	.80
OXFORD:							
Oxford, West	1,810	18	.....	1,571	.....	.....	.80
Oxford, East	1,724	10	.....	668	.....	.....	.80
HALDIMAND:							
Canborough	902	83	43	6,837	8,303	.....	.40– .60
Moulton	1,628	137	45	10,505	8,935	.....	.30– .60
Seneca	1,561	132	52	13,202	8,188	.....	.60
Cayuga, North	1,309	51	20	4,503	3,804	.....	.40– .60
Cayuga, South	509	60	19	4,079	3,656	.....	.60

TABLE III—GAS CONSUMPTION IN TOWNSHIPS, 1926—*Continued*

Township	Population	No. of consumers		Quantity consumed, M cu. ft.			Net rate per M cu. ft.
		Pay	Free	Pay	Free	Industrial	
HALDIMAND—*Continued*							
Rainham	1,690	150	28	13,036	4,882	541	$0.50–$0.60
Sherbrooke	277	51	11	4,346	1,772	.....	.50– .60
Dunn	796	123	11	9,970	2,780	.....	.60
Walpole	3,042	287	51	28,073	8,583	926	.45– .60
Oneida	1,287	66	11	6,733	2,154	.....	.40– .60
LINCOLN:							
Caistor	1,220	47	3	4,851	518	130	.60
Gainsborough	2,091	13	.....	391	.....	.....	.75
Grimsby	2,236						.75
Louth	2,548	9	.....	572	.....	.....	.75
Grantham	4,175	15	1	949	217	.....	.75
WELLAND:							
Wainfleet	2,357	119	37	6,822	6,872	.....	.40– .75
Humberstone	2,047	126	48	7,574	8,010	.....	.70– .80
Bertie	3,298	113	68	6,912	11,705	.....	.70
Pelham	2,359	57	7	3,608	1,922	.....	.75
Thorold	3,369	5	1	390	217	3,615	.85
Willoughby	865	29	29	1,735	4,916	.....	.70
Crowland	3,748	59	23	4,635	4,688	.....	.70– .80
Stamford	4,896	173	3	4,742	513	.....	.70
WENTWORTH:							
Binbrook	1,098	72	23	8,688	4,062	847	.50
Glanford	1,417	121	10	17,173	1,645	629	.50
Barton	7,658	1,087	2	86,917	250	16,561	.60– .75
Ancaster	4,524	53	.....	4,290	.....	.....	.70
Saltfleet	4,682	23	.....	1,842	.....	26	.60
Total	.....	7,835	828	799,193	170,548	144,917	.....

SUMMARY	M cu. ft.
Total distribution	6,560,053
Used by private well owners	74,000
Used by companies for all purposes	41,735
Leakage on transmission lines	534,324
Leakage in distribution plants	305,921
Leakage on rural lines	41,482
Leakage or loss on purchased gas	218,981
Total amount of gas produced	7,776,496

Leakage

Tables IV, V, and VI show the leakage that is measured from both high and low pressure pipe lines. The high-pressure lines have been put so far as possible under the heading of transmission lines, and the lower pressure under distributing lines, rural and urban. The urban distributing plants, however, carry a lower pressure than the rural lines.

The gas that passes through the majority of transmission lines in Welland, Haldimand, and Norfolk counties has never yet been measured, mainly on account of the small percentage of the pipe line that lies outside the gas field. It is possible to measure the gas through these lines after they pass outside the gas fields, and an inquiry is now being made into the practicability of doing so. If the unmeasured leakage were added, it would probably increase the leakage total by at least 25 per cent.

TABLE IV—LEAKAGE IN DISTRIBUTION PLANTS, 1926

Cities and towns	Company	Equivalent miles of 3-inch pipe in distribution plants	Volume received	Volume delivered	Leakage for year		Average No. of consumers	Leakage per consumer	Pressure distribution plants, ounces per per sq. in.
					Actual	Allowable			
			M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.		cu. ft.	
Belle River	Union Natural Gas Co	3.25	20,291	18,590	1,701	650	162	10,500	6
Belmont	Ontario Salt Co	.67	1,695	969	726	134	60	12,100	6
Blenheim	Union Natural Gas Co	11.1	68,391	60,233	8,158	2,225	523	15,306	5
Brantford	Brantford Gas Co	91.53	115,807	99,412	16,395	18,306	3,261	5,013	4–5
Brigden	Union Natural Gas Co	3.4	18,261	16,108	2,153	680	156	13,801	5
Chatham	Chatham Gas Co	54.5	548,023	533,046	14,977	10,900	3,650	4,103	5
Comber	Union Natural Gas Co	2.75	19,378	18,275	1,103	550	144	7,659	6
Courtright	Union Natural Gas Co	2.8	14,753	14,447	306	575	123	2,488	5
Dresden	Union Natural Gas Co	12	65,143	58,595	6,548	2,400	487	13,445	4
Dundas	Dominion Natural Gas Co	11.83	46,640	38,887	7,753	2,366	1,034	7,498	4–5
Dunnville	Dominion Natural Gas Co	13.17	128,721	117,815	10,906	2,634	984	11,083	5
Eden	Dominion Natural Gas Co	.48	1,986	1,940	46	96	48	958	5
Essex	Union Natural Gas Co	7.4	74,005	71,121	2,884	1,475	473	6,097	5
Fenwick	United Gas Companies	2.9	8,541	6,667	1,874	418	98	19,122	5–6
Galt	Dominion Natural Gas Co	30.59	53,540	47,289	6,251	6,118	1,008	6,201	4–5
Hagersville	Dominion Natural Gas Co	7.24	49,620	39,617	10,003	1,448	389	25,714	5–6
Ingersoll	Dominion Natural Gas Co	22.14	54,921	51,923	2,998	4,428	913	3,283	5
Kingsville	Southern Ontario Gas Co	14.59	125,057	115,425	9,632	2,918	737	13,069	5–6
Leamington	Corp. Town of Leamington	25.47	256,177	226,309	29,868	5,094	1,316	22,696	6–10
Merlin	Union Natural Gas Co	2.85	25,126	22,931	2,195	575	154	14,253	6
Paris	Dominion Natural Gas Co	13.54	27,115	20,697	6,418	2,708	487	13,178	5
Petrolia	Petrolia Utilities, Ltd	26.5	110,878	99,507	11,371	5,300	740	15,366	6
Port Burwell	Dominion Natural Gas Co	3.83	13,569	11,224	2,345	766	141	16,631	5
Ridgetown	Union Natural Gas Co	19.7	87,575	78,072	9,503	3,540	640	14,848	5
St. Catharines	United Gas Companies	52.98	214,351	206,873	7,478	10,596	3,914	1,911	4
St. George	Dominion Natural Gas Co	2.11	5,785	4,766	1,019	422	113	9,017	5
Sarnia	Union Natural Gas Co	90	451,874	389,475	62,399	18,000	4,200	14,857	5
Shedden and Fingal	Southern Ontario Gas Co	5.15	13,102	12,585	517	1,030	130	3,977	6–7
Simcoe	Dominion Natural Gas Co	29.26	212,723	209,810	2,913	5,852	1,702	1,124	4–5
Sombra	Union Natural Gas Co	2	9,344	9,192	152	400	86	1,767	5
Straffordville	Dominion Natural Gas Co	1.34	9,286	8,421	865	268	81	10,679	5–6
Thorold	United Gas Companies	10.97	39,523	34,939	4,584	2,194	752	6,096	5
Tilbury	Union Natural Gas Co	8.5	50,106	47,012	3,094	1,700	411	7,528	5
Vienna	Dominion Natural Gas Co	1.04	1,926	1,278	648	208	17	38,117	6
Wallaceburg	Wallaceburg Gas Co	22	147,361	139,030	8,331	4,400	1,047	7,957	6
Windsor	Windsor Gas Co	151.5	1,120,297	1,081,603	38,694	30,300	8,430	4,590	4
Woodstock	Dominion Natural Gas Co	47.81	80,596	71,483	9,113	9,562	1,579	5,771	4–5
Total					305,921				

TABLE V—LEAKAGE ON RURAL LINES, 1926

Township	Equivalent feet of 3-inch pipe in all rural lines	Volume received	Volume delivered	Leakage for year		Average No. of consumers	Leakage per consumer	Average pressure on pipe lines	
				Actual	Allowable			Low pressure	High pressure
		M cu. ft.	M cu. ft.				cu. ft.	ozs.	lbs.
Chatham	7,587	6,409	6,189	220	288	49	4,489	7	3
Dover	108,539	49,558	43,551	6,007	4,025	316	19 000	6	7
Enniskillen	7,541	9,142	7,783	1,359	284	40	33,975	7	6
Harwich	108,731	45,241	42,246	2,995	4,120	421	7,114	7	4½
Howard	16,403	11,691	11,407	284	620	92	3,087	7	4
Moore	21,972	16,704	15,011	1,693	832	200	8,465	6	4½
Raleigh	102,600	50,336	43,619	6,717	3,862	322	20,860	7	6½
Raleigh (Blake system)	67,531	27,428	12,560	14,868	2,588	127	117,071	14	20–40
Rochester	30,652	27,201	24,608	2,593	1,163	168	15,434	7	7
Sandwich, East	1,596	6,805	6,441	364	60	51	7,137	6	.....
Sandwich, South	4,089	3,488	3,379	109	156	32	3,406	8	10
Sandwich, West	2,508	3,687	3,631	56	96	35	1,600	7	.....
Sombra	3,042	1,023	900	123	116	16	7,687	6	.....
Tilbury, East	35,130	32,789	29,242	3,547	1,330	180	19,705	7	5½
Muirkirk line	4,963	1,824	1,277	547	188	22	24,864	8	.....
Total	420,284	293,326	251,844	41,482	19,728	2,071	.....	.....	.....

TABLE VI—LEAKAGE IN TRANSMISSION LINES, 1926

Transmission line	Size of pipe line	Equivalent miles of 3-in. pipe	Volume received	Volume delivered	Actual leakage	Average pressure on pipe lines
			M cu. ft.	M cu. ft.	M cu. ft.	lbs. per sq. in.
Dundas to Hamilton	6-inch	7.6	721,068	639,249	81,819	15
Gas field to Sarnia and Petrolia	6-, 8-, 10-, 12-in.	.....	1,169,228	1,108,828	60,400	40–80
Dunnville to St. Catharines	8-inch	57.1	247,548	217,844	29,704	40
Gas field to Kingsville	6-, 10-inch	84.5	1,120,571	1,038,642	81,929	50–80
Gas field to Hamilton	10-, 12-inch	626	989,936	898,158	91,778	50–110
Gas field to Chatham	8-inch	40.5	637,462	594,812	42,650	30–75
Gas field to Windsor	8-, 10-inch	227.8	1,500,465	1,378,431	122,034	30–120
Gas field to Ridgetown	6-inch	54	270,752	249,304	21,448	30–80
Gas field (Dunn Tp.) to Dunnville	4-inch	4.6	12,831	10,269	2,562	5–20
Total	.....	.....	.....	.....	534,324	.....

Gas Wells and Their Production

The number of gas wells reported in the year 1926 and the quantity of gas that these wells delivered is shown in Table VII. These quantities are arrived at by adding the measured leakage to the total sold to consumers; but, as stated previously, in the Norfolk, Haldimand, and Welland fields, the wells are scattered, and it is not practical to measure the gas until it is collected into a main pipe line. There is, therefore, probably a hundred miles of pipe line on which no leakage is measured. As this cannot be measured with any accuracy, it is not considered.

It will be noted that there is an increase in the production of the Tilbury field and the Haldimand-Norfolk field. This is due to a general increase in the business of the gas companies. The improvement in appliances and in general service has created a greater demand for gas.

The photograph shows the results of an explosion of natural gas in the cellar of the home of Mr. D. M. Lee, on the outskirts of the city of Paris. A leakage of gas from an outside source found its way up a drain-pipe into the cellar, and a match ignited it. The house was practically a total wreck, as can be seen in the photograph; the brick veneer was completely demolished; fortunately there were no serious casualties.

TABLE VII—GAS WELLS AND THEIR PRODUCTION, 1926

County	Township	No. of wells producing	No. of wells abandoned	Wells drilled			Production	Rock pressure, lbs. per sq. in.	Acres under lease	Rental paid
				No. dry	No. producing	Open flow				
						M cu. ft.	M cu. ft.			
Essex	Gosfield, South	14			4	354		295	1,110	$215
	Mersea	3						253	534	714
Kent	Romney	105	2		5	1,179	5,365,423	285	12,856	18,694
	Tilbury, East	135	2		2	267		257	12,770	23,572
	Raleigh	15	3					282	1,820	2,904
	Harwich							17		
	Howard							9		
	Dover	7			1	662	159,136	425	6,729	7,130
Lambton	Dawn	6		2	1	1,500	330	700	10,905	8,813
	Enniskillen	3					8,952	130	730	
	Euphemia	6					3,555			
	Sarnia	19					2,100	71	2,000	
Middlesex	Dorchester, North	3						54	200	
Elgin	Bayham	42	1				36,794	174		
	Malahide	2						237		
Norfolk	Houghton	3		1				365		
	Middleton	27	5	4	3	273		396		
	Walsingham, South	15			2	88		409		
	Walsingham, North	5	2	1				448		
	Windham	4						212		
	Charlotteville	16						270		
	Woodhouse	50	5	2	1	147		239		
Haldimand	Townsend	1		1				240		
	Walpole	154	1	1	9	1,145		224		
	Rainham	109	5	2	17	2,513		224		
	Cayuga, North	80	6	3	17			187		
	Cayuga, South	58	5		6		1,782,950	179		

	Oneida	25	3					130		
	Seneca	129	7					120	155,811	51,079
	Canborough	136	7	1				116		
	Dunn	20	1	3	7			173		
	Moulton	103	6					103		
	Sherbrooke	13	1					153		
Wentworth	Binbrook	46	3					70		
	Glanford	21	3					61		
	Ancaster			1						
Lincoln	Caistor	36			1	26		101		
	Gainsborough	2	1	2				121		
Welland	Wainfleet	41	1					121		
	Humberstone	94	2					60		
	Crowland	49	2		2	8	276,259	104		
	Willoughby	36						20		
	Bertie	89	3		1	8		87		
Brant	Brantford			1	1	5				
	Onondaga	30	1		1	9	12,275	87	500	200
	Tuscarora			1						
Bruce	Amabel	2					650	125	800	
Peel	Caledon	3						50	1,000	150
Perth	Logan			1						
Surface wells	Howard, Harwich, Sarnia	69		8	5	5,812	14,000[1] 49,731[2] 4,341	69		
Private wells[3]		300[4]					60,000[4]	300		
Total		2,126	78	35	86	13,996	7,776,496			

[1]This gas is not metered and therefore must be estimated. The wells are owned by private individuals, and the gas is used for their domestic purposes.

[2]This gas is sold to the Union Natural Gas Company, and it was used in Ridgetown and Sarnia.

[3]Principally Haldimand, Norfolk, and Welland counties.

[4]Estimated.

Licenses Issued in 1926

The Natural Gas Conservation Act, 1921, and the Well Drillers' Act, 1925, provide that all operations connected with natural gas and the drilling of oil wells shall be carried on under license. Tables VIII, IX, X, XI, and XII list the names of those to whom these licenses were issued in 1926.

TABLE VIII—OPERATORS LICENSED TO LEASE AND PROSPECT FOR NATURAL GAS, 1926

License No.	Name	Address
237	Blain, E. B.	684 Main St. E., Hamilton, Ont.
225	Central Development Co	Chatham, Ont.
234	Colchester Oil and Gas Co.	Toronto, Ont.
222	Dominion Natural Gas Co.	518 Jackson Bldg., Buffalo, N.Y.
226	Fisherville Gas Co., Nos. 3 and 4	Fisherville, Ont.
235	Heitbohmer, F	Stratford, Ont.
240	Hertell, H. W.	c/o Y. M.C.A.,Brantford, Ont.
229	Hoover and May	Selkirk, Ont.
223	Industrial Natural Gas Co.	St. Catharines, Ont.
239	McKillop, Wm.	Hepworth, Ont.
227	McQuillan, M. W.	Dunnville, Ont.
238	McWilliams, D. B.	Toronto, Ont.
219	Medina Natural Gas Co.	Chatham, Ont.
242	Newton, Roy	Petrolia, Ont.
228	Patterson, W. C.	Dunnville, Ont.
220	Peoples Oil and Gas Co.	Chatham, Ont.
233	Petrol Oil and Gas Co.	Toronto, Ont.
241	South Sarnia Properties, Ltd.	Sarnia, Ont.
221	Southern Ontario Gas Co.	518 Jackson Bldg., Buffalo, N.Y.
230	Union Natural Gas Co.	Chatham, Ont.
231	Union Natural Gas Co.	Chatham, Ont.
232	Union Natural Gas Co.	Chatham, Ont.

TABLE IX—OPERATORS LICENSED TO DRILL OR BORE FOR NATURAL GAS, 1926

License No.	Name	Address
206	Barr, R. L.	Sarnia, Ont.
194	Featherstone, C. W.	Dunnville, Ont.
195	Featherstone, C. W.	Dunnville, Ont.
196	Featherstone, C. W.	Dunnville, Ont.
197	Featherstone, C. W.	Dunnville, Ont.
198	Featherstone, C. W.	Dunnville, Ont.
192	Hoover, A. E.	Selkirk, Ont.
193	Hoover, A. E.	Selkirk, Ont.
181	Industrial Natural Gas Co.	St. Catharines, Ont.
199	Jasperson, B.	Kingsville, Ont.
201	Kiser Bros.	Chatham, Ont.
202	Kiser Bros.	Chatham, Ont.
189	Lauer, D.	Tillsonburg, Ont.
185	McCutcheon, T. J.	Dunnville, Ont.
186	McCutcheon, T. J.	Dunnville, Ont.
187	McCutcheon, T. J.	Dunnville, Ont.
188	McCutcheon, T. J.	Dunnville, Ont.
190	McLister, J. J.	Dunnville, Ont.
203	McKillop, Wm.	Hepworth, Ont.
182	Snively, F. L.	90 Melrose Ave., Hamilton, Ont.
183	Snively, F. L.	90 Melrose Ave., Hamilton, Ont.
184	Snively, F. L.	90 Melrose Ave., Hamilton, Ont.
205	Smith, Luke	Oakville, Ont.
200	Spence and Stratton	7607 Second Blvd., Detroit, Mich.
207	South Sarnia Properties, Ltd.	Sarnia, Ont.
191	Union Natural Gas Co.	Chatham, Ont.

TABLE X—OPERATORS LICENSED TO PRODUCE NATURAL GAS, 1926

License No.	Name	Address
355	Attercliffe Gas Co	Wellandport, Ont.
338	Azoff Gas Co	c/o Scott McNinch, Canboro', Ont.
356	Bennett, J. B	Ridgetown, Ont.
343	Bertie Natural Gas Co	Ridgeway, Ont.
351	Canboro Gas and Oil Co	Selkirk, Ont.
334	Coleman, J. A	Wellandport, Ont.
341	Dominion Natural Gas Co	518 Jackson Bldg., Buffalo, N.Y.
332	Dunn Natural Gas Co	Dunnville, Ont.
346	Erie Gas and Oil Syndicate	Fisherville, Ont.
342	Fisherville Gas Co., Nos. 1, 3, and 4	Fisherville, Ont.
337	Industrial Natural Gas Co	St. Catharines, Ont.
333	Jasperson, B	Kingsville, Ont.
335	Medina Natural Gas Co	Chatham, Ont.
357	Midfield Natural Gas Co	Hamilton, Ont.
354	Niece, Hosea, and Son	Lowbanks, Ont.
344	Oil Springs Oil and Gas Co	Oil Springs, Ont.
350	Patterson, W. C	Jamestown, N.Y.
348	Petrol Oil and Gas Co	Toronto, Ont.
336	Pilkington Bros	Thorold, Ont.
353	Nelles Corners Syndicate	J. O. Schweyer, R.R. 2, Hagersville. Ont.
340	Southern Ontario Gas Co	518 Jackson Bldg., Buffalo, N.Y.
358	Sterling Natural Gas Co	Port Colborne ,Ont.
352	Sundy Gas Co	Dunnville, Ont.
349	Union Natural Gas Co	Chatham, Ont.
339	United Gas Companies	St. Catharines, Ont.
345	Yager, J. J	Selkirk, Ont.

TABLE XI—OPERATORS LICENSED TO DISTRIBUTE NATURAL GAS, 1926

License No.	Name	Address
285	Bertie Natural Gas Co	Ridgeway, Ont.
275	Brantford Gas Co	Brantford, Ont.
282	Canfield Natural Gas Co	Canfield, Ont.
281	Central Pipe Line Co	Chatham, Ont.
280	Chatham Gas Co	Chatham, Ont.
274	Coleman, J. A	Wellandport, Ont.
276	Dominion Natural Gas Co	518 Jackson Bldg., Buffalo, N.Y.
271	Dunn Natural Gas Co	Dunnville, Ont.
286	Fisherville Gas Co., Nos. 1 and 3	Fisherville, Ont.
288	Fonthill-Ridgeville Gas Co	Hamilton, Ont.
272	Industrial Natural Gas Co	Thorold, Ont.
283	Leamington Corporation	Leamington, Ont.
278	Manufacturers Gas Co	Hamilton, Ont.
289	Midfield Natural Gas Co	Hamilton, Ont.
284	Oil Springs Oil and Gas Co	Oil Springs, Ont.
270	Petrolia Utilities, Ltd	Petrolia, Ont.
277	Southern Ontario Gas Co	518 Jackson Bldg., Buffalo, N.Y.
290	Sterling Natural Gas Co	Port Colborne, Ont.
287	Union Natural Gas Co	Chatham, Ont.
273	United Gas Companies	St. Catharines, Ont.
279	Windsor Gas Co	Windsor, Ont.

TABLE XII—OPERATORS LICENSED TO OPERATE PIPE LINES, 1926

License No.	Name	Address
58	Central Pipe Line Co	Chatham, Ont.
60	Dominion Natural Gas Co	518 Jackson Bldg., Buffalo, N.Y.
59	Southern Ontario Gas Co	518 Jackson Bldg., Buffalo, N.Y.
62	Union Natural Gas Co	Chatham, Ont.
61	United Gas Companies	St. Catharines, Ont.

Logs of Wells

The following logs of oil and gas wells drilled in Ontario in 1926 are given on the pages following. They show the formation, total depth, and occurrences of gas, oil, and water as reported by the drillers.

These logs are on file in the office of the Natural Gas Commissioner, and they give the length of casing used as well as other information regarding the texture of formations. In many cases samples of drill cuttings are available to the public. The source of the information for the logs that follow is the company or the person whose name appears at the top of each log.

Abbreviations

Tp.	Township.
Con.	Concession.
Pt.	Part.
N. ½	North half.
E. ½	East half.
W. ½	West half.
S. ½	South half.
NE. ¼	Northeast quarter.
SE. ¼	Southeast quarter.
20 E. ½	East half of lot 20.
T.R.	Talbot Road.
S.T.R.	South of the Talbot Road.
N.T.R.	North of the Talbot Toad.
E.S.C.R.	East of Stoney Creek Road.
S.S.C.R.	South of Stoney Creek Road.
N.D.R.	North of Dundas Road.
N.F.R.	North of Forks Road.
S.F.R.	South of Forks Road.
R.R.	River Range.
E.F.C.	East of Fairchild Creek.

Brant County

Log No. 1.—Robert Devereaux, Brantford
Lot D, Brantford Highway, Brantford tp.

Completed May 19, 1926.
Open flow: 2,000 cu. ft.

Formation	Thickness, ft.
Surface	125
Brown line	50
Niagara	225
Grey shale	30
Clinton	20
Red Medina	25
Blue shale	45
White Medina	16
Red shale	50
Total depth	586

Gas at 530 feet.

Log No. 2.—Robert Devereaux, Brantford
Lot D, Brantford Highway, Brantford tp.

Completed March 19, 1926.
Open flow: 5,000 cu. ft.

Formation	Thickness, ft.
Surface	125
Salina	50
Guelph-Niagara	225
Rochester	30
Clinton	20
Cabot Head	20
Grimsby	10
Manitoulin	40
Whirlpool	16
Queenston	70
Total depth	606

Gas at 530 feet.

Log No. 3.—Dominion Natural Gas Co., Buffalo, N.Y.
Lot 12, con. III, E.F.C., Onondaga tp.

Completed January 2, 1927.
Open flow: 8,000 cu. ft.
Rock pressure: 155 lbs.

Formation	Thickness, ft.
Surface	96
White lime	49
Niagara	225
Grey shale	40
Clinton	25
Red Medina	25
Blue shale	45
White Medina	20
Red shale	40
Total depth	565

Log No. 4.—Petrol Oil and Gas Co., Toronto
Lot 13, con. III, Tuscarora tp.

Completed October 27, 1926.
Open flow: 1,584 cu. ft.

Formation	Thickness, ft.
Surface	6
Clay	70
Gravel	6
Shale	18
Grey lime	171
Niagara	264
Cabot Head shale	49
Green shale	6
Clinton	12
Red Medina	21
Grey shale	43
White Medina	12
Red shale	597
Grey shale	720
Utica	155
Trenton	677
Potsdam	54
Granite	..
Total depth	2,881

Gas at top of Clinton, 602 feet.

LOT No. 5.—SENATOR E. MICHENER, TORONTO
Lot 13, con. III, Tuscarora tp.

Completed February 12, 1926.

Formation	Thickness, ft.
Surface	82
Guelph and Niagara	453
Rochester	55
Clinton	12
Cabot Head shale	21
Grey shale	43
Whirlpool sandstone	12
Queenston	324
Total depth	1,002

Gas at 590 feet.

Essex County

LOG No. 6.—ORLEY SMITH, KINGSVILLE
Lot 7 E. ½, N.F.R., Gosfield S. tp.

Completed October 9, 1926.
Open flow: 75,000 cu. ft.
Rock pressure: 345 lbs.
6¼-in. casing, approximately 5 feet.
Gas at 635, 840, 850, 875, and 935 feet.

LOG No. 7.—BON JASPERSON, KINGSVILLE
Lot 7 E. ½, con. I, Gosfield S. tp.

Completed June 22, 1926.
Open flow: 69,000 cu. ft.
Rock pressure: 300 lbs.
6¼-in. casing, approximately 5 feet.
Gas at 640 and 848 feet.

LOG No. 8.—BON JASPERSON, KINGSVILLE
Lot 7 W. ½, con. I, Gosfield S. tp.

Completed February 25, 1926.
Open flow: 50,000 cu. ft.
6¼-in. casing, approximately 5 feet.
Gas at 680, 700, 725, and 880 feet.

LOG No. 9.—BON JASPERSON, KINGSVILLE
Lot 7, S.F.R., Gosfield S. tp.

Completed August 11, 1926.
Open flow: 60,000 cu. ft.
6¼-in. casing, approximately 5 feet.
Gas at 650, 840, and 855 feet.

Haldimand County

LOG No. 10.—DOMINION NATURAL GAS CO., BUFFALO, N.Y.
Lots 6 and 7, Dockstaeder tract, Canborough tp.

Completed October 13, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	105
Lime and shale	180
Niagara	220
Shale	57
Clinton	27
Red Medina	42
Grey shale	58
White Medina	12
Red shale	5
Total depth	706

LOG No. 11.—DOMINION NATURAL GAS CO., BRANTFORD
Lot 25, con. I, S.T.R., Cayuga N. tp.

Completed May 11, 1926.
Open flow: 750,000 cu. ft.
Rock pressure: 290 lbs.

Formation	Thickness, ft.
Surface	37
Lime and shale	243
Niagara	235
Shale	50
Clinton	19
Total depth	584

Gas at 570 feet.

LOG No. 12.—DOMINION NATURAL GAS CO., BRANTFORD
Lot 26, con. I, S.T.R., Cayuga N. tp.

Completed August 10, 1926.
Open flow: 60,000 cu. ft.
Rock pressure: 317 lbs.

Formation	Thickness, ft.
Surface	45
Lime and shale	242
Niagara	235
Shale	45
Clinton	32
Red Medina	40
Grey shale	55
White Medina	17
Red shale	6
Total depth	717

Gas at 579 and 621 feet.

LOG No. 13.—DOMINION NATURAL GAS CO., BRANTFORD
Lot 14, con. II, S.T.R., Cayuga N. tp.

Completed August 12, 1926.

Formation	Thickness, ft.
Surface	40
Lime and shale	245
Niagara	220
Shale	62
Clinton	29
Red Medina	36
Grey shale	68
White Medina	12
Red shale	10
Total depth	722

LOG No. 14.—DOMINION NATURAL GAS CO., BRANTFORD
Lot 7, con. III, Cayuga N. tp.

Completed May 7, 1926.
Open flow: 29,000 cu. ft.
Rock pressure: 352 lbs.

Formation	Thickness, ft.
Surface	70
Lime and shale	220
Niagara	210
Shale	66
Clinton	25
Red Medina	42
Grey shale	57
White Medina	13
Red shale	6
Total depth	709

Gas at 575 and 616 feet.

Log No. 15.—Dominion Natural Gas Co., Brantford

Lot 13, con. II, S.T.R., Cayuga N. tp.

Completed July 6, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	70
Lime and shale	225
Niagara	225
Shale	60
Clinton	26
Red Medina	43
Grey shale	59
White Medina	12
Red shale	4
Total depth	724

Log No. 16.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 5, con. III, Cayuga N. tp.

Completed December 16, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	55
Lime and shale	210
Niagara	220
Shale	50
Clinton	30
Red Medina	43
Shale	58
White Medina	12
Big red shale	11
Total depth	689

Log No. 17.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 27, con. I, S.T.R., Cayuga N. tp.

Completed October 11, 1926.
Open flow: 204,000 cu. ft.
Rock pressure: 365 lbs.

Formation	Thickness, ft.
Surface	43
Lime and shale	242
Niagara	235
Shale	48
Clinton	32
Red Medina	40
Grey shale	52
White Medina	14
Red shale	5
Total depth	711

Gas at 598 and 620 feet.

Log No. 18.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 27, con. I, S.T.R., Cayuga N. tp.

Completed July 12, 1926.
Open flow: 230,000 cu. ft.
Rock pressure: 317 lbs.

Formation	Thickness, ft.
Surface	45
Lime and shale	240
Niagara	235
Shale	47
Clinton	32
Red Medina	40
Grey shale	55
White Medina	16
Red shale	5
Total depth	715

Gas at 576 feet.

Log No. 19.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 27, con. I, S.T.R., Cayuga N. tp.

Completed November 10, 1926.
Open flow: 80,000 cu. ft.
Rock pressure: 330 lbs.

Formation	Thickness, ft.
Surface	38
Lime and shale	262
Niagara	230
Shale	48
Clinton	30
Red Medina	40
Shale	52
White Medina	12
Big red shale	3
Total depth	715

Gas at 585 feet.

Log No. 20.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 28, con. I, S.T.R., Cayuga N. tp.

Completed December 6, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	44
Lime and shale	241
Niagara	225
Shale	46
Clinton	30
Red Medina	40
Grey shale	48
White Medina	12
Big red shale	1
Total depth	687

Log No. 21.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 24, con. I, S.T.R., Cayuga N. tp.

Completed September 8, 1926.
Open flow: 34,000 cu. ft.
Rock pressure: 307 lbs.

Formation	Thickness, ft.
Surface	60
Lime and shale	230
Niagara	235
Shale	50
Clinton	32
Red Medina	40
Grey shale	52
White Medina	14
Red shale	3
Total depth	716

Gas at 604 feet.

Log No. 22.—A. Mehlenbacher, Cayuga.

Lot 37 S. ½, S.E. cor., con. II, S.T.R., Cayuga N. tp.

Completed February 12, 1926.
Open flow: 59,000 cu. ft.
Rock pressure: 370 lbs.

Formation	Thickness, ft.
Surface	22
Lime and shale	356
Niagara	280
Shale	40
Clinton	20
Red Medina	35
Grey shale	55
White Medina	20
Total depth	828

Gas in Clinton and Red Medina.

LOG NO. 23.—DOMINION NATURAL GAS CO., DUNNVILLE

Lot 25, con. I, S.T.R., Cayuga N. tp.

Completed June 11, 1926.
Open flow: 116,000 cu. ft.

Formation	Thickness, ft.
Surface	43
Lime and shale	244
Niagara	235
Shale	50
Clinton	32
Red Medina	40
Grey shale	52
White Medina	13
Red shale	4
Total depth	713

Gas at 601 feet.

LOG NO. 24.—SOUTH CAYUGA GAS AND OIL SYNDICATE, CAYUGA

Lot 24 S. ½, Fradenburg tract, Cayuga S. tp.

Completed December 7, 1926.
Open flow: 33,000 cu. ft.
Rock pressure: 235 lbs.

Formation	Thickness, ft.
Surface	88
Lime and shale	317
Niagara	206
Shale	55
Clinton	35
Red Medina	38
Grey shale	55
White Medina	15
Red shale	3
Total depth	812

Gas at 671 and 731 feet.

LOG NO. 25.—SOUTH CAYUGA GAS AND OIL SYNDICATE

Lot 23 E. pt., Fradenburg tract, Cayuga S. tp.

Completed September 27, 1926.
Open flow: 45,000 cu. ft.
Rock pressure: 232 lbs.

Formation	Thickness, ft.
Surface	88
Lime and shale	310
Niagara	194
Shale	50
Clinton	35
Red Medina	45
Grey shale	60
White Medina	18
Red shale	3
Total depth	803

Gas at 650 and 697 feet.

LOG NO. 26.—SOUTH CAYUGA GAS AND OIL SYNDICATE, CAYUGA

Lot 23 E. centre, Fradenburg tract, Cayuga S. tp.

Completed September 1, 1926.
Open flow: 74,000 cu. ft.
Rock pressure: 230 lbs.

Formation	Thickness, ft.
Surface	80
Lime and shale	312
Niagara	211
Shale	40
Clinton	32
Red Medina	40
Grey shale	55
White Medina	10
Red shale	5
Total depth	785

Gas at 650 and 675 feet

LOG NO. 27.—SOUTH CAYUGA GAS AND OIL SYNDICATE, CAYUGA

Lot 24 N.W. ¼, Fradenburg tract, Cayuga S. tp.

Completed July 30, 1926.
Open flow: 27,000 cu. ft.
Rock pressure: 230 lbs.

Formation	Thickness, ft.
Surface	87
Lime and shale	313
Niagara	211
Shale	42
Clinton	32
Red Medina	35
Grey shale	67
White Medina	18
Total depth	805

Gas in Red Medina.

LOG NO. 28.—A. E. MEADOWS AND SON, CAYUGA

Lot 25 N. ½, con. IV, Cayuga S. tp.

Completed June 19, 1926.
Open flow: 25,000 cu. ft.
Rock pressure: 225 lbs.

Formation	Thickness, ft.
Surface	40
Gravel	67
Lime and shale	243
Niagara	260
Shale	66
Clinton	33
Red Medina	38
Grey shale	53
White Medina	22
Total depth	822

Gas in Clinton and Red Medina.

LOG NO. 29.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 1, con. V, Rainham tp.

Completed July 31, 1926.
Open flow: 272,000 cu. ft.

Formation	Thickness, ft.
Surface	11
Flint	90
Lime and shale	374
Niagara	250
Shale	40
Clinton	30
Red Medina	35
Shale	56
White Medina	12
Big red shale	5
Total depth	903

Gas at 785 and 806 feet.

LOG NO. 30.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 4, con. IV, Rainham tp.

Completed July 21, 1926.
Open flow: 55,000 cu. ft.
Rock pressure: 410 lbs.

Formation	Thickness, ft.
Surface	14
Flint	71
Lime and shale	370
Niagara	240
Shale	63
Clinton	25
Red Medina	35
Shale	55
White Medina	19
Big red shale	17
Total depth	909

Gas at 760 and 797 feet.

Log No. 31.—Dominion Natural Gas Co., Brantford

Lot 5, con. IV, Rainham tp.

Completed December 10, 1926.
Open flow: 252,000 cu. ft.
Rock pressure: 390 lbs.

Formation	Thickness, ft.
Surface	11
Flint	90
Lime and shale	368
Niagara	250
Shale	45
Clinton	27
Red Medina	35
Shale	60
White Medina	15
Red shale	35
Total depth	936

Gas at 774, 801, and 894 feet.

Log No. 32.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 4, con. IV, Rainham tp.

Completed September 3, 1926.
Open flow: 89,000 cu. ft.
Rock pressure: 410 lbs.

Formation	Thickness, ft.
Surface	9
Flint	72
Lime and shale	375
Niagara	237
Shale	61
Clinton	25
Red Medina	40
Shale	50
White Medina	21
Red shale	33
Total depth	923

Gas at 756, 799, and 880 feet.

Log No. 33.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 2, con. V, Rainham tp.

Completed October 9, 1926.
Open flow: 440,000 cu. ft.
Rock pressure: 430 lbs.

Formation	Thickness, ft.
Surface	10
Flint	79
Lime and shale	371
Niagara	236
Shale	65
Clinton	25
Red Medina	36
Shale	56
White Medina	22
Red shale	9
Total depth	909

Gas at 765, 795, and 806 feet.

Log No. 34.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 2, con. V, Rainham tp.

Completed January 6, 1926.
Open flow: 280,000 cu. ft.
Rock pressure: 420 lbs.

Formation	Thickness, ft.
Surface	9
Flint	91
Lime and shale	362
Niagara	228
Shale	65
Clinton	30
Red Medina	35
Shale	60
White Medina	20
Red shale	52
Total depth	952

Gas at 775, 785, and 898 feet.

Log No. 35.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 1, con. V, Rainham tp.

Completed October 29, 1926.
Open flow: 185,000 cu. ft.
Rock pressure: 455 lbs.

Formation	Thickness, ft.
Surface	14
Flint	80
Lime and shale	377
Niagara	250
Shale	45
Clinton	27
Red Medina	37
Shale	60
White Medina	15
Shale	7
Total depth	912

Log No. 36.—Dominion Natural Gas Co., Buffalo, N.Y.

Lots 1 and 2, con. V, Rainham tp.

Completed November 22, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	14
Flint	72
Lime and shale	371
Niagara	243
Shale	61
Clinton	25
Red Medina	40
Shale	52
White Medina	17
Shale	11
Total depth	906

Log No. 37.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 2, con. V, Rainham tp.

Completed April 19, 1926.
Open flow: 17,000 cu. ft.

Formation	Thickness, ft.
Surface	19
Flint	90
Lime and shale	368
Niagara	236
Shale	60
Clinton	29
Red Medina	35
Shale	58
White Medina	20
Red shale	2
Total depth	917

Gas at 822 and 854 feet.

Log No. 38.—Dominion Natural Gas Co., Dunnville

Lot 3, con. IV, Rainham tp.

Completed June 12, 1926.
Open flow: 272,000 cu. ft.
Rock pressure: 430 lbs.

Formation	Thickness, ft.
Surface	2
Flint	83
Lime and shale	372
Niagara	240
Shale	62
Clinton	25
Red Medina	35
White shale	55
White Medina	20
Red shale	11
Total depth	905

Gas at 752, 779, and 793 feet.

LOG NO. 39.—RAINHAM GAS AND OIL SYNDICATE, FISHERVILLE

Lot 5 SW. ¼, con. III, Rainham tp.

Completed May 14, 1926.
Open flow: 23,000 cu. ft.
Rock pressure: 415 lbs.

Formation	Thickness, ft.
Surface	34
Flint	86
Lime and shale	420
Niagara	200
Shale	55
Clinton	28
Red Medina	36
Grey shale	55
White Medina	12
Red shale	10
Total depth	936

Gas in Clinton and Red Medina.

LOG NO. 40.—RAINHAM GAS AND OIL SYNDICATE, FISHERVILLE

Lot 4 SE. ¼, con. III, Rainham tp.

Completed July 7, 1926.
Open flow: 132,000 cu. ft.
Rock pressure: 420 lbs.

Formation	Thickness, ft.
Surface	11
Flint	130
Lime and shale	379
Niagara	200
Shale	50
Clinton	30
Red Medina	35
Grey shale	57
White Medina	12
Total depth	904

Gas in Clinton and Red Medina.

LOG NO. 41.—RAINHAM GAS AND OIL SYNDICATE, FISHERVILLE

Lot 4 SE. ½, con. III, Rainham tp.

Completed August 24, 1926.
Open flow: 140,000 cu. ft.
Rock pressure: 425 lbs.

Formation	Thickness, ft.
Surface	9
Flint	130
Lime and shale	361
Niagara	175
Shale	85
Clinton	30
Red Medina	40
Grey shale	65
White Medina	13
Total depth	908

Gas in Clinton and Red Medina.

LOG NO. 42.—RAINHAM GAS AND OIL SYNDICATE, FISHERVILLE

Lot 7 S. ½, con. V, Rainham tp.

Completed March 4, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	16
Flint	104
Lime and shale	465
Niagara	110
Shale	45
Clinton	30
Red Medina	40
Grey shale	67
White Medina	3
Total depth	880

LOG NO. 43.—RAINHAM GAS AND OIL SYNDICATE, FISHERVILLE

Lot 2 E. ½ of S. ½, con. III, Rainham tp.

Completed October 20, 1926.
Open flow: 46,000 cu. ft.
Rock pressure: 410 lbs.

Formation	Thickness, ft.
Surface	20
Flint	140
Lime and shale	355
Niagara	227
Shale	45
Clinton	25
Red Medina	40
Grey shale	48
White Medina	12
Red shale	6
Total depth	918

Gas in Clinton and Red Medina.

LOG NO. 44.—RAINHAM GAS AND OIL SYNDICATE, FISHERVILLE

Lot 3 S. ½, con. III, Rainham tp.

Completed September 22, 1926.
Open flow: 138,000 cu. ft.
Rock pressure: 425 lbs.

Formation	Thickness, ft.
Surface	11
Flint	135
Lime and shale	354
Niagara	215
Shale	45
Clinton	25
Red Medina	40
Grey shale	68
White Medina	12
Total depth	905

Gas in Clinton and Red Medina.

LOG NO. 45.—RAINHAM GAS AND OIL SYNDICATE, FISHERVILLE

Lot 3 N. ½, con. II, Rainham tp.

Completed November 24, 1926.
Open flow: 78,000 cu. ft.
Rock pressure: 410 lbs.

Formation	Thickness, ft.
Surface	15
Flint	140
Lime and shale	355
Niagara	220
Shale	45
Clinton	25
Red Medina	40
Grey shale	69
White Medina	12
Red shale	6
Total depth	927

Gas in Clinton and Red Medina.

LOG NO. 46.—RAINHAM GAS AND OIL SYNDICATE, FISHERVILLE

Lot 6 S. ½, con. III, Rainham tp.

Completed April 7, 1926.
Open flow: 58,000 cu. ft.
Rock pressure: 350 lbs.

Formation	Thickness, ft.
Surface	38
Flint	92
Lime and shale	420
Niagara	170
Shale	50
Clinton	30
Red Medina	35
Grey shale	70
White Medina	12
Red shale	3
Total depth	920

Gas in Clinton and Red Medina.

LOG NO. 47.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 15, con. VIII, Walpole tp.

Completed December 17, 1926.
Open flow: 25,000 cu. ft.
Rock pressure: 408 lbs.

Formation	Thickness, ft.
Surface	13
Flint	68
Lime and shale	366
Niagara	299
Shale	40
Clinton	28
Red Medina	29
Shale	56
White Medina	12
Shale	4
Total depth	915

Gas at 801 and 819 feet.

LOG NO. 48.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 24, con. VI, Walpole tp.

Completed September 21, 1926.
Open flow: 82,000 cu. ft.
Rock pressure: 445 lbs.

Formation	Thickness, ft.
Surface	14
Flint	93
Lime and shale	384
Niagara	255
Shale	25
Clinton	25
Red Medina	35
Shale	52
White Medina	12
Red shale	5
Total depth	900

Gas at 789, 812, and 823 feet.

LOG NO. 49.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 13, con. VIII, Walpole tp.

Completed May 19, 1926.
Open flow: 65,000 cu. ft.
Rock pressure: 390 lbs.

Formation	Thickness, ft.
Surface	5
Flint	85
Lime and shale	368
Niagara	299
Shale	21
Clinton	28
Red Medina	30
Shale	56
White Medina	18
Red shale	2
Total depth	912

Gas at 788 feet.

LOG NO. 50.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 17, con. VIII, Walpole tp.

Completed February 12, 1926.
Open flow: 21,000 cu. ft.
Rock pressure: 808 lbs.

Formation	Thickness, ft.
Surface	18
Flint	68
Lime and shale	389
Niagara	293
Shale	28
Clinton	25
Red Medina	30
Shale	54
White Medina	12
Red shale	4
Total depth	921

Gas at 808 feet.

LOG NO. 51.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 8 SW. ¼ con. VIII, Walpole tp.

Completed July 3, 1926.
Open flow: 314,000 cu. ft.
Rock pressure: 493 lbs.

Formation	Thickness, ft.
Surface	14
Flint	70
Lime and shale	370
Niagara	286
Shale	44
Clinton	27
Red Medina	25
Blue shale	58
White Medina	20
Red shale	43
Total depth	957

Gas at 801 and 822 feet.

LOG NO. 52.—DOMINION NATURAL GAS CO., BRANTFORD

Lots 23 and 24, con. VI, Walpole tp.

Completed February 11, 1926.
Open flow: 221,000 cu. ft.
Rock pressure: 445 lbs.

Formation	Thickness, ft.
Surface	12
Flint	86
Lime and shale	372
Niagara	250
Shale	55
Clinton	30
Red Medina	30
Blue shale	58
White Medina	12
Red shale	5
Total depth	910

Gas in Clinton and Red Medina.

LOG NO. 53.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 24, con. V, Walpole tp.

Completed April 22, 1926.
Open flow: 332,000 cu. ft.
Rock pressure: 440 lbs.

Formation	Thickness, ft.
Surface	16
Flint	95
Lime and shale	365
Niagara	250
Shale	50
Clinton	27
Red Medina	35
Blue shale	56
White Medina	13
Red shale	6
Total depth	913

Gas at 790 and 821 feet.

LOG NO. 54.—DOMINION NATURAL GAS CO., BUFFALO, N.Y.

Lot 24, con. V, Walpole tp.

Completed June 16, 1926.
Open flow: 60,000 cu. ft.
Rock pressure: 490 lbs.

Formation	Thickness, ft.
Surface	19
Flint	100
Lime and shale	370
Niagara	250
Shale	40
Clinton	27
Red Medina	35
Blue shale	60
White Medina	15
Red shale	7
Total depth	923

Gas at 824 feet.

LOG NO. 55.—DOMINION NATURAL GAS CO., BUFFALO, N.Y.
Lot 12, con. VIII, Walpole tp.

Completed October 16, 1926.
Open flow: 25,000 cu. ft.
Rock pressure: 385 lbs.

Formation	Thickness, ft.
Surface	11
Flint	71
Lime and shale	373
Niagara	322
Shale	23
Clinton	27
Red Medina	25
Shale	40
White Medina	17
Red shale	2
Total depth	911

Gas at 818 feet.

LOG NO. 56.—DOMINION NATURAL GAS CO., BUFFALO, N.Y.
Lot 13 NW, ¼, con. VIII, Walpole tp.

Completed August 20, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	12
Flint	66
Lime and shale	378
Niagara	295
Shale	25
Clinton	28
Red Medina	30
Shale	60
White Medina	12
Red shale	3
Total depth	909

Kent County

LOG NO. 57.—UNION NATURAL GAS CO., CHATHAM
Lot 24, con. IX, Dawn tp.

Completed December 13, 1926.
Open flow: 1,500,000 cu. ft.

Formation	Thickness, ft.
Surface	63
Shale	92
Soap	5
Shale	105
Soap	125
Lime shells	20
Soap	45
Big brown lime	495
Sharp sand	100
Brown lime	160
Blue lime	70
Brown lime	297
Total depth	1,577

Gas at 1,562 to 1,572 feet.

LOG NO. 58.—UNION NATURAL GAS CO., CHATHAM
Lot 26, con. V, Dawn tp.

Completed September 10, 1926.
Dry hole.

Formation	Thickness, ft.
Clay	64
Black shale	111
Soap and lime shells	225
Grey lime	50
Light brown lime	485
Dark brown lime	145
Formation—*Continued*	Thickness, ft.
Lime with gypsum	55
Dark brown lime	75
Blue shale	40
Light brown lime	55
Salt	200
Brown lime	200
Light lime	5
Hard dark brown lime	50
Brown lime	20
Shaly lime	25
Grey lime	43
Brown lime	102
Grey shale	35
Shaly lime	10
Brown shale	5
Lime	15
Red and brown shale	50
Shaly lime	10
Grey lime	40
Grey shale	15
Red shale	6
Total depth	2,136

Gas at 1,655 feet.

LOG NO. 59.—UNION NATURAL GAS CO., CHATHAM
Lot 22, con. VIII, Dawn tp.

Completed July 23, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	58
Lime shells and soap	327
Big lime	335
Sharp sand and lime	300
Hard grey lime	140
Grey lime with gypsum	35
Blue lime	100
Brown lime with hard shells	200
Light brown lime	50
Salt	155
Brown lime	225
Black shale	25
Sandy brown lime	20
Blue lime and gypsum	15
Light brown lime	15
Light brown lime and shale	5
Light brown lime	20
Blue lime	70
Grey shale and shells	40
Grey shale	5
Red shale	15
Blue shale	7
Lime	3
Grey shale and lime shells	70
Grey lime	35
Shaly lime	5
Red shale	2
Total depth	2,277

LOG NO. 60.—UNION NATURAL GAS CO., CHATHAM
Lot 2, con. III, Dover W. tp.

Completed May 17, 1926.

Formation	Thickness, ft.
Clay and gravel	80
Soap and shells	175
Big lime	1,668
Gypsum	958
Green shale	20
Lime shell	8
Red shale	102
Grey lime	55
Red and blue shales	222
Blue lime	50
Blue shale	331
Brown shale	85
Trenton	249
Total depth	4,003

Gas at 2,803, 2,806, and 2,860 feet.

Log No. 61.—Southern Ontario Gas Co., Buffalo, N.Y.
Lot 193, con. I, Romney tp.

Completed December 7, 1926.
Open flow: 97,000 cu. ft.
Rock pressure: 460 lbs.

Formation	Thickness, ft.
Surface	170
Quick sand	32
Soap	52
Dark grey lime	76
Light grey lime	180
Sharp sand	100
Water sand	160
Brown lime	275
Light grey lime	155
Dark grey lime	165
Total depth	1,365

Gas at 1,220, 1,330, and 1,346 feet.

Log No. 62.—Southern Ontario Gas Co., Buffalo, N.Y.
Lot 192, con. I, Romney tp.

Completed July 27, 1926.
Open flow: 271,000 cu. ft.
Rock pressure: 460 lbs.

Formation	Thickness, ft.
Surface	176
Gravel and shale	15
Soap stone	37
Grey lime	132
Brown lime	240
Water sand	170
Brown lime	70
Grey lime	535
Total depth	1,375

Gas at 1,235, 1,275, and 1,353 feet.

Log No. 63.—Southern Ontario Gas Co., Buffalo, N.Y.
Lot 193, S.T.R., Romney tp.

Completed October 5, 1926.
Open flow: 313,000 cu. ft.
Rock pressure: 460 lbs.

Formation	Thickness, ft.
Drift clay	185
Gravel	5
Soap stone	42
Brown lime	228
Grey lime	150
Sharp sand	20
Water sand	145
Grey lime	580
Total depth	1,355

Gas at 175, 1,220, 1,254, and 1,335 feet.

Log No. 64.—Southern Ontario Gas Co., Buffalo, N.Y.
Lot 194, S.T.R., Romney tp.

Completed November 12, 1926.
Open flow: 382,000 cu. ft.
Rock pressure: 460 lbs.

Formation	Thickness, ft.
Drift clay	170
Gravel	25
Soap stone	45
Light grey lime	300
Sharp sand	90
Light grey lime	155
Grey lime	566
Total depth	1,351

Gas at 1,216, 1,253, 1,323, and 1,336 feet.

Log No. 65.—Southern Ontario Gas Co., Brantford
Con. II, Gore A, Romney tp.

Completed June 2, 1926.
Open flow: 42,000 cu. ft.
Rock pressure: 250 lbs.

Formation	Thickness, ft.
Surface	134
Grey lime	176
Dark lime	90
Sharp sand	200
Water sand	50
Brown lime	55
Grey lime	70
Brown lime	25
Grey lime	120
Grey and brown lime	70
Grey lime	388
Total depth	1,378

Gas at 1,205, 1,345, and 1,365 feet.
Surface gas at 175 feet.

Log No. 66.—Southern Ontario Gas Co., Brantford
Lot 2, con. XV, Tilbury E. tp.

Completed July 10, 1926.
Open flow: 215,000 cu. ft.
Rock pressure: 235 lbs.

Formation	Thickness, ft.
Drift clay	150
Brown shale	23
Soapstone	142
Light grey lime	225
Dark grey lime	60
Sharp sand	120
Water sand	80
Dark grey lime	260
Blue lime	120
Light grey lime	182
Total depth	1,262

Gas at 1,254, 1,310, and 1,345 feet.

Log No. 67.—Union Natural Gas Co., Chatham
Lot 175, T.R., Tilbury E. tp.

Completed October 29, 1926.

Formation	Thickness, ft.
Surface	175
Lime shell	5
Soap	73
Light brown lime	787
Sharp sand	560
Dark brown lime	195
Light brown lime	145
Total depth	1,940

Gas at 1,235, 1,335, and 1,375 feet.

Lambton County

Log No. 68.—Senator Michener, Toronto
Lot 1 W. ½, con. X, Brook tp.

Completed April 3, 1926.

Formation	Thickness, ft.
Surface	56
Shale	90
Top rock	50
Top soap	120
Middle lime	30
Lower soap	55
Lower lime	107
Total depth	508

LOG NO. 69.—SOUTH SARNIA PROPERTIES, LIMITED, SARNIA

Block 107, Indian Reserve, Sarnia tp.

Completed June 12, 1926.

Formation	Thickness, ft.
Surface	104
Sand	11
Total depth	115

LOG NO. 70.—GEORGE STEEL, SARNIA

Lot 6, con. III, Sarnia tp.

Completed October, 1926.

Formation	Thickness, ft.
Surface	100
Top rock	45
Top soap	120
Middle lime	18
Lower soap	45
Lower lime	65
Total depth	393

Norfolk County

LOG NO. 71.—MEDINA NATURAL GAS CO., CHATHAM

Lot 13 W. ½, con. I, Houghton

Completed April 21, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	288
Lime	172
Flint	160
Lime	60
Shale	390
Niagara	228
Shale	55
Clinton	24
Red Medina	15
Shale	76
White Medina	12
Red shale	6
Total depth	1,486

Gas in Clinton.

LOG NO. 72.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 33, con. III, Middleton tp.

Completed June 22, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	223
Grey and brown lime	152
Flint	60
Sharp sand	90
Lime and shale	380
Niagara	235
Grey shale	40
Clinton	27
Red Medina	5
Red and blue shale	83
White Medina	8
Red shale	5
Total depth	1,308

Gas at 1,205 feet.

LOG NO. 73.—DOMINION NATURAL GAS CO., BRANTFORD

Lot 17, con. III, S.T.R., Middleton tp.

Completed April 23, 1926.
Open flow: 94,000 cu. ft.
Rock pressure: 550 lbs.

Formation	Thickness, ft.
Surface	231
Lime and shale	154
Flint	135
Lime and shale	328
Grey lime	119
Niagara lime	212
Shale	59
Clinton	21
Red shale	43
Total depth	1,302

Gas at 1,248 feet.

LOG NO. 74.—DOMINION NATURAL GAS CO., BUFFALO, N.Y.

Lot 23 N. ½, con. III, S.T.R., Middleton tp.

Completed September 25, 1926.
Open flow: 7,000 cu. ft.

Formation	Thickness, ft.
Surface	225
Brown and grey lime	150
Flint	125
Lime and slate	450
Niagara	200
Slate	45
Clinton	24
Red Medina	18
Slate	54
White Medina	24
Red shale	10
Total depth	1,325

Gas at 1,195 feet.

LOG NO. 75.—DOMINION NATURAL GAS CO., BUFFALO, N.Y.

Lot 39, con. II, Middleton tp.

Completed December 29, 1926.
Open flow: 12,000 cu. ft.

Formation	Thickness, ft.
Surface	215
Brown lime	145
Flint	465
Niagara	275
Slate	65
Clinton	21
Red Medina	5
Grey shale	83
White Medina	6
Red shale	10
Total depth	1,290

Gas at 1,175 feet.

LOG NO. 76.—DOMINION NATURAL GAS CO., BUFFALO, N.Y.

Lot 25, con. IV, S.T.R., Middleton tp.

Completed June 28, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	231
Lime and shale	154
Flint	125
Lime and shale	453
Niagara	202
Shale	55
Clinton	20
Shale	63
Total depth	1,303

Log No. 77.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 29, con. III, Middleton tp.

Completed November 5, 1926.
Open flow: 37,000 cu. ft.
Rock pressure: 560 lbs.

Formation	Thickness, ft.
Surface	234
Flint and sharp sand	151
Flint	150
Lime and slate	230
Black lime	145
Niagara	240
Shale	53
Clinton	22
Blue shale	43
Total depth	1,268

Gas at 1,214 feet.

Log No. 78.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 30, con. III, S.T.R., Middleton tp.

Completed September 8, 1926.
Open flow: 142,000 cu. ft.
Rock pressure: 560 lbs.

Formation	Thickness, ft.
Surface	220
Lime	152
Flint	148
Lime and shale	380
Niagara	240
Shale	50
Clinton	26
Blue shale	49
Total depth	1,265

Gas at 1,201 and 1,216 feet.

Log No. 79.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 15, con. XIV, Townsend tp.

Completed July 28, 1926.
Open flow: 6,000 cu. ft.

Formation	Thickness, ft.
Surface	62
Flint	95
Lime and shale	390
Niagara	251
Black lime	50
Shale	25
Clinton	38
Red Medina	33
Grey shale	50
White Medina	7
Red shale	6
Total depth	1,007

Log No. 80.—Dominion Natural Gas Co., Brantford

Lot 14, con. A, Walsingham S. tp.

Completed May 8, 1926.
Open flow: 29,000 cu. ft.
Rock pressure: 510 lbs.

Formation	Thickness, ft.
Surface	277
Lime	183
Flint	100
Sharp sand	40
Lime and shale	370
Niagara	253
Shale	49
Clinton	27
Red Medina	33
Grey shale	8
Total depth	1,340

Gas at 1,297 feet.

Log No. 81.—Dominion Natural Gas Co., Brantford

Lots 9 and 10, con. 8, S. Big Creek, Walsingham S. tp.

Completed February 19, 1926.
Open flow: 59,000 cu. ft.
Rock pressure: 530 lbs.

Formation	Thickness, ft.
Surface	305
Lime	185
Flint	100
Sand	30
Lime and shale	380
Niagara	254
Shale	64
Clinton	29
Red Medina	46
Shale	5
Total depth	1,397

Gas at 1,330, 1,357, and 1,366 feet.

Log No. 82.—Dominion Natural Gas Co., Brantford

Lot 19 S.W. ¼, con. XIV, Walsingham N. tp.

Completed March 24, 1926.
Dry hole.

Formation	Thickness, ft.
Surface	207
Grey and brown shale	258
Flint	150
Lime and shale	375
Niagara	160
Grey shale	55
Clinton	25
Red and blue shale	89
White Medina	9
Red shale	6
Total depth	1,334

Log. No. 83.—Dominion Natural Gas Co., Brantford

Lot 16, con. VI, Woodhouse tp.

Completed September 22, 1926.
Open flow: 6,000 cu. ft.

Formation	Thickness, ft.
Surface	55
Flint	90
Lime and shale	370
Niagara	260
Black lime	33
Shale	51
Clinton	25
Red Medina	25
Grey shale	64
White Medina	12
Red shale	6
Total depth	991

Gas at 874 feet.

Log No. 84.—Dominion Natural Gas Co., Buffalo, N.Y.

Lot 14, con. VI, Woodhouse tp.

Completed November 15, 1926.
Open flow: 142,000 cu. ft.
Rock pressure: 460 lbs.

Formation	Thickness, ft.
Surface	80
Flint	100
Lime and shale	376
Niagara	250
Black lime	50
Shale	30
Clinton	24

LOG. NO. 84—*Continued*

Formation	Thickness, ft.
Red Medina	40
Grey shale	48
White Medina	12
Red shale	30
Total depth	1,040

Gas at 888, 901, and 1,006 feet.

LOG NO. 85.—DOMINION NATURAL GAS CO., BUFFALO, N.Y.

Lot 12, con. VI, Woodhouse tp.

Completed December 28, 1926.
Open flow: 7,000 cu. ft.

Formation	Thickness, ft.
Surface	86
Flint	84
Lime and shale	370
Niagara	310
Shale	42
Clinton	25
Red Medina	40
Grey shale	53
White Medina	15
Red shale	2
Total depth	1,027

Gas at 907 feet.

Welland County

LOG NO. 86.—PROVINCIAL NATURAL GAS CO., NIAGARA FALLS

Lot 7, Broken front, Crowland tp.

Completed November 15, 1926.
Open flow: 8,400 cu. ft.
Rock pressure: 200 lbs.

Formation	Thickness, ft.
Top of Clinton	317
Top of Red Medina	347
Top of White Medina	432
Thickness of White Medin	12
Pocket of red shale	56
Depth of well	500

LOG NO. 87.—PROVINCIAL NATURAL GAS CO., NIAGARA FALLS

Lot 6, Broken front, Crowland tp.

Completed November 17, 1926.
Open flow: 8,000 cu. ft.
Rock pressure: 200 lbs.

Formation	Thickness, ft.
Top of Clinton	310
Top of Red Medina	342
Top of White Medina	425
Thickness of White Medina	13
Pocket of red shale	45
Depth of well	483

Section of Onondaga limestone, three-quarters natural size, in the quarry of the St. Marys Cement Company at St. Marys, Ont. A seepage of oil was observed and traced to this band of porous limestone in the face of the quarry. Only the granular or more porous part of the limestone is impregnated, possibly on account of the fact that the oil moving toward the surface loses some of the more volatile portions and the more viscous residue can find its way only into the larger pores.

PETROLEUM IN 1926

By R. B. Harkness

General

The quantity of oil produced in Ontario during the year 1926 was 136,971 barrels, and the value $376,822; this is less than for the year 1925 by 7,268 barrels, but an increase in value of $7,668, owing to the increased price of crude oil.

The decline in production is not quite so serious as it was in the year 1925, owing chiefly to the production from the wells drilled at Thamesville; but the increased price also stimulated operation. Plugging off the oil in the Dover and Romney gas wells seriously reduced the production. There is no apparent hope of improving the production of oil from the present fields unless some radical change is made in the methods now in use. Some effort in this direction has been made in past years by a group headed by the Petroleum Reclamation Company. H. B. Smith of Oak Avenue, Windsor, tried out a patented method of heating the fluid in the well electrically; he reports a small increase in the oil production, but it was not sufficient to pay the cost of operation. The salts in the underground water proved to be a great handicap, as they damaged the insulation on cables. The cost of upkeep made the experiment prohibitive, and there was no assurance that the increased production would be maintained. The patentee claimed that the heated fluid would circulate through the rock, but there was no lateral circulation apparent.

The Oil Producers Association at Petrolia investigated the possibility of using a flood of water containing certain chemicals that were known to wash the oil from rock; this has been a success in the Bradford oil field in New York state but has never been tried in Ontario. No doubt it would improve the flow of oil temporarily, although it might be a doubtful benefit;[1] for if mining were ever resorted to, great volumes of water would have to be removed.

Each spring brings a water menace to the oil-field operations. The casing in the older wells is invariably thin, and the pressure of flood water is sufficient to cause the casing to collapse or move the packer from its seat and allow a flood of water to enter the oil field. This water may come from any one of fifty wells, and only by perseverance and co-operation on the part of the operators are leaks found and the ingress of water stopped. Flooding was particularly serious in the spring of 1926, and one leak affected five properties.

A comparison of Table I in this report with the same table for last year shows that exploratory work is keeping up to the past year and that the wells abandoned are ten less than in 1925.

[1]Ont. Dept. Mines, Vol. XXXV, pt. 5, p. 52.

In the report of petroleum production for the year 1925, an attempt was made to show that more oil could be produced from these fields by sinking shafts and draining the oil into tunnels. Considerable interest was aroused at the time; but the quantity of oil underground was unknown and the results obtained in other fields were so various that no one has yet done the necessary preliminary work to obtain evidence to support this theory. The character of the rock container is of vital importance, and unless it is known, the quantity of oil underground cannot be determined. A band of oil-impregnated rock from the same horizon in the Onondaga limestone as that in which the oil is found in Lambton county, was discovered in a quarry of the St. Marys Cement Company at St. Marys, Ont. This sample appears to be similar in every detail to the rock which contains the oil in Lambton.

The Ranney Oil Mining Company of New York is testing the Bothwell oil field with a diamond-drill, but no reports have been given out regarding the results. Three holes are being drilled.

TABLE I—OIL WELLS AND THEIR PRODUCTION, 1926

Field	Wells			Wells drilled		Production[1]		Gain or loss in 1926		Average production per well per year
	Operating	Not operating	Abandoned	Producing	Dry			Gain	Loss	
						bbls.	gals.	bbls.	bbls.	bbls.
Petrolia and Enniskillen	1,102	1,001	80	2	....	55,485	3	2,320[2]	.....	50.3
Oil Springs	1,097	85	46	....	....	38,349	34	.....	786	34
Moore tp	84	29	5	....	....	2,437	27	.....	5,758[2]	29.2
Sarnia tp	103	30	19	....	1	1,889	27	.....	16	18.3
Plympton tp	23	20	3	3	3	1,046	28	.....	378	45.4
Bothwell	249	44	.....	....	....	25,382	3	.....	860	101.9
Dover West tp	2	.....	2	....	....	958	27	.....	1,999	479
Raleigh tp	.....	15	7	....	....	676	13	676	.....	.....
Onondaga tp	8	25	.....	....	....	361	6	100	.....	361
Mosa tp	77	21	.....	2	....	7,868	1	.....	529	102.1
Thamesville	6	.....	.....	4	5	2,376	8	2,087	.....	198
Euphemia tp	.....	117	.....	....	....	.....	....	.....	39	.....
Dunwich tp	.....	100	.....	....	....	139	12	.....	861	1
Dawn tp	.....	40	.....	....	....	.....	....	.....	.....	.....
Romney tp	.....	.....	1	....	....	.....	....	.....	1,235	.....
Brooke tp	1	1	.....	....	1	.....	....	.....	.....	.....
Belle River	.....	25	.....	....	....	.....	....	.....	.....	.....
Other fields[3]	.....	.....	.....	....	2	.....	....	.....	.....	.....
Total	2,752	1,553	163	11	12	136,971	14	5,183	12,451	.....
								Net loss 7,268		

[1]Production figures are furnished by the Imperial Oil Company, which purchases 99 per cent. of the output of Canadian wells. They state the value to be $376,822.

[2]The gain in the Petrolia field, and the excessive loss in the Moore field, is explained by the adjustment in book records. A collecting station that handles most of the oil from the Petrolia field happens to be in Moore township, hence a gain in Moore township in 1925, and a loss in 1926 in the readjustment.

[3]One in Logan township and one in Adelaide township.

TABLE II—OIL PRODUCED IN ONTARIO BY FIELDS, 1919 TO 1926

Field	1919	1920	1921	1922	1923	1924	1925	1926
	bbls.	bbls.	bbls.	bbls.	bbls.	bbls.	bbls.	bbls.
Petrolia and Enniskillen	70,087	65,082	68,484	64,935	64,159	60,916	53,166	55,485
Oil Springs	45,245	39,388	40,967	43,214	39,090	41,320	39,137	38,349
Moore tp	4,029	7,036	7,536	7,275	4,790	4,483	8,195	2,438
Sarnia tp	4,259	3,495	4,069	3,224	2,387	2,068	1,905	1,890
Plympton tp	560	531	481	695	872	525	1,424	1,047
Bothwell	29,425	25,563	26,877	25,681	27,665	26,700	26,243	25,382
Tilbury East tp	1,660	623	1,003	127	1,950	.....	.....	.....
Dover West tp	16,705	12,171	7,473	5,482	5,618	3,898	2,957	959
Raleigh tp	.....		3,320	663	302	783	887	676
Onondaga tp	197	341	566	489	237	456	261	361
Mosa tp	45,860	24,063	10,764	11,959	10,319	8,862	8,397	7,868
Thamesville	801	1,131	1,319	384	567	.....	289	2,376
Euphemia tp	.....	.....	.....	.....	.....	.....	39	.....
Dunwich tp	1,272	837	.....	387	594	1,351	1,001	139
Dawn tp	.....	.....	.....	217	.....	.....	.....	.....
Romney tp	.....	.....	.....	.....	849	2,955	1,235	.....
Total	220,100	181,750	172,859	164,732	159,399	154,317	144,249	136,971
Value	$632,789	$724,145	$466,716	$466,587	$395,300	$390,423	$369,154	$376,822
Average price	$2.87½	$3.98½	$2.68½	$2.65	$2.47	$2.51¼	$2.56	$2.73

Price of Crude Petroleum

The following prices are published through the kindness of the Imperia Oil Company of Sarnia and show the fluctuations in the market price of oil in Ontario. The prices follow those of the United States very closely, as the price of imported oil controls the market. The variation of the prices as between fields is due to the specific gravity of the oil. The lighter oil, or that containing most gasoline, commands the highest price.

1926	Fluctuation	Price
January 1	.....	$2.38
February 1	Increase 30 cents	2.63
May 17	Increase 40 cents	2.88
November 17	Decrease 12 cents	2.61
December 31	Decrease 2 cents	2.61

The price of crude petroleum from the Oil Springs is 7 cents higher than the above prices. The price of oil from the remainder of the fields, where most of the production is secured, is the same as Petrolia crude; some of the smaller fields have a slightly lower quality, and the price paid for it is a few cents less than Petrolia crude.

Exploratory Work

The year 1926 has not seen any great activity in exploration work, and the results of the deep wells begun in 1925 have been discouraging.

The well on lot 20, concession III, Logan township, drilled into the pre-Cambrian, was a dry hole; so also was the well drilled on lot 13, concession III, Tuscarora township. A small gas well was completed at Bond lake, lot 64,

concession I, Whitchurch township, but water troubles at about the gas horizon in the Trenton limestone have given it a temporary set-back.

The University of Toronto has started a well in lot 4, concession I, Caledon township, in the hope of expanding the helium-bearing gas field.

In Lambton county, Dr. Blain has had some success in the vicinity of Aberarder, Plympton township, so also has Samuel Lucas in lot 18, concession IV, Plympton. The Enniskillen, Mosa, and Thamesville fields have each had a few new wells drilled with the greatest success at Thamesville. A well was drilled in lot 16, concession II, Adelaide, and on lot 15, concession II, Metcalfe.

Site of original oil well at Oil Springs, drilled in 1861 and now filled in. The well, about 4 feet square, was dug 65 feet to the top of the rock and then drilled to a depth of about 225 feet. John Scott, veteran inspector, is facing the camera.

A well has been started on St. Joseph's island in Lake Huron, but is closed down during the winter months. This well is about a hundred miles distant from the nearest well (Manitoulin island). The formations to be penetrated are much the same as on Manitoulin, and oil may be found in the Trenton limestone.

Refining Operations

Four refineries were in operation in Ontario in 1926; one was closed down during the year, and one new plant (McColl Bros.) commenced operations at the first of the year. This is solely a cracking plant, turning out gasoline, kerosene, and a distillate used as fuel oil. It is modern in every way.

PETROLEUM REFINERIES, 1926

Company	Location of refinery	Head office address	Days operated
British American Oil Co., Ltd.	Foot of Cherry St., Toronto	Royal Bank Bldg., Toronto	365
Canadian Oil Companies, Ltd.	Petrolia	Excelsior Life Bldg., Toronto	300
Great Lakes Oil Co., Ltd	Wallaceburg	Wallaceburg	Not operating, 1926
Imperial Oil Refineries, Ltd.	Sarnia	Sarnia	365
McColl Bros	Foot of Cherry St., Toronto	114 Don Esplanade, Toronto	304

Table III gives a comparative summary of the operations in Ontario refineries for the years 1922-26, inclusive. These products added to the imported refined products, Table IV, represent the consumption of petroleum products in Ontario, a total of approximately $37,000,000 at retail prices. These tables are prepared from information furnished by the Dominion Bureau of Statistics, Ottawa.

TABLE III—PETROLEUM REFINING OPERATIONS, 1922-26

Schedule	Unit of measure	1922	1923	1924	1925	1926
Canadian crude produced	Gallons	5,756,602	5,598,985	5,401,102	5,024,770	4,693,999
	Value	$466,587	$395,301	$390,424	$367,524	$376,822
Imported crude distilled	Gallons	152,888,816	138,527,971	151,381,481	161,895,295	183,347,749
	Value	$13,834,118	$11,141,952	$11,575,058	$13,056,823	$16,940,505
Canadian crude distilled	Gallons	5,612,645	5,837,827	5,123,683	4,859,148	5,017,500
	Value	$462,346	$450,467	$394,398	$358,245	$422,159
Percentage of total		3.54	4.04	3.27	2.92	2.66
PRODUCTS:						
Illuminating oil	Gallons	36,650,134	33,175,063	28,816,322	18,677,629	8,088,787
	Selling value	$4,077,350	$3,758,185	$3,055,188	$2,222,569	$1,268,377
Lubricating oil	Gallons	14,556,150	11,584,423	12,011,116	13,297,275	16,025,753
	Selling value	$2,558,278	$2,107,530	$2,009,732	$2,364,320	$3,540,786
Benzine, naphtha and gasoline	Gallons	59,223,186	50,884,894	61,493,214	73,083,022	84,936,377
	Selling value	$13,920,089	$8,739,670	$9,392,837	$11,032,134	$14,983,322
Still gas	M cu. ft		374,687	524,737	431,713	630,325
	Value		$131,745	$172,555	$167,869	$256,935
Gas and fuel oil	Gallons	34,508,790	35,727,265	36,702,043	46,064,129	1,196,661
	Selling value	$2,510,427	$2,367,050	$2,494,858	$2,947,378	$3,182,770
Paraffin wax and candles	Lbs	12,063,768	10,484,436	9,112,143	15,502,029	9,858,490
	Selling value	$329,147	$484,416	$551,434	$734,322	$648,303
Tar and grease	Lbs	8,186,013	10,612,588	10,325,835	9,301,674	11,260,882
	Selling value	$265,150	$222,675	$187,544	$177,474	$221,826
Acid oil	Gallons		1,126,370	1,350,450	1,858,176	711,970
	Value		$62,006	$61,748	$85,761	$35,823
Acid and petroleum coke	Short tons	38,016[1]	31,505[1]	36,200[1]	31,501[1]	45,774[1]
	Value	$263,034	$249,425	$226,005	$212,085	$265,481
Miscellaneous	Value			$29,261	$1,596	$2,978
Total value of refined products		$23,923,475	$18,122,702	$18,181,162	$19,945,508	$24,404,801
Employees	Average No.	1,393	1,515	1,603	2,165	2,241
	Wages	$2,018,765	$2,265,307	$2,453,082	$2,702,034	$2,876,150
Capital invested					$4,300,000	$5,836,357

NOTE.—Gallons refer to Imperial gallons.
[1]These years, the British American Oil Co. undoubtedly reported their coke in pounds instead of tons.

Petroleum and Refined Products Imported

Table IV shows the quantity and value of crude oil and its refined products imported into Ontario during the years 1925 and 1926. It is practically all imported from the United States. The information is furnished by the Dominion Bureau of Statistics, Ottawa.

TABLE IV—PETROLEUM AND REFINED PRODUCTS IMPORTED IN 1925 AND 1926

	1925		1926	
	Imperial gallons	Value	Imperial gallons	Value
CRUDE PETROLEUM:				
Gas oils between 0.775 and 0.8235 specific gravity	12,803	$2,482	30,723	$6,769
Petroleum 0.790 specific gravity or heavier for refining	184,632,857	11,274,102	184,595,902	12,228,044
Total	184,645,650	$11,276,584	184,626,625	$12,234,813
REFINED PETROLEUM:				
Gasoline lighter than 0.725 specific gravity (casing head gasoline)	34,679,524	$5,035,236	30,237,083	$4,197,210
Gasoline heavier than 0.725 specific gravity	10,436,435	1,436,065	7,344,583	1,064,787
Kerosene and other illuminating oils	2,908,759	249,011	2,260,129	251,048
Lubricating and other oils	4,124,186	1,254,658	5,040,924	1,522,662
Fuel oil 0.8235 specific gravity and heavier	(1)	(1)	8,295,190	603,735
Total	52,148,904	$7,974,970	53,177,913	$7,639,442
PETROLEUM PRODUCTS:				
Axle grease.....lbs.	2,231,926	$138,669	2,742,347	$164,504
Vaseline, toilet and medicinal petroleum	.....	128,291	.....	106,883
Paraffin wax.....lbs.	1,279,225	101,979	2,004,585	136,552
Paraffin wax candles.....lbs.	142,923	30,307	236,986	50,867
Other petroleum products.....gals.	883,267	160,431	1,143,428	213,265
Total	.....	$559,677	.....	$672,071
Total value	.....	$19,811,231	.....	$20,546,326

1 Included in petroleum for refining.

Total net value of petroleum and refined products imported in 1926	$20,546,326
Duty paid on the above in 1926, calculated on the existing tariff schedule	1,300,794
Sales tax at 4 per cent	821,853
Freight, approximately	6,724,160
Total value delivered in Ontario	$29,393,133

A comparison of this total with the value of the products of our Ontario refineries shows that over 34 per cent. of refined petroleum products consumed in Ontario or passing through Ontario is imported, but this compared with the years 1924 and 1925 shows the effect of an additional refinery in Ontario. There was a reduction of 7,534,289 gallons of gasoline in the imports. It is apparent that there is room for still more refineries in Ontario.

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