

H. A. Lang

CANADA
DEPARTMENT OF MINES AND RESOURCES

MINES AND GEOLOGY BRANCH
BUREAU OF GEOLOGY AND TOPOGRAPHY

GEOLOGICAL SURVEY

MEMOIR 240

PALÆOZOIC GEOLOGY OF THE
WINDSOR-SARNIA AREA, ONTARIO

BY

J. F. Caley

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Palæozoic Geology of the Windsor-Sarnia Area, Ontario

CHAPTER I

INTRODUCTION

GENERAL STATEMENT

The Windsor-Sarnia area comprises all that part of the peninsula of southwestern Ontario lying between Lakes Huron and Erie and west of longitude 82 degrees. It includes all of Essex county and the western two-thirds of Kent and Lambton counties and has a total land area of about 1,850 square miles.

The last geological map¹ of the area was published in 1918 and since then much additional information has been made available, particularly through drilling for natural gas and petroleum. Accordingly, the author was assigned to field work in the area in 1941 for the purpose of revising the existing geological map and to report, so far as possible, on all phases of the bedrock geology. As the bedrock is nearly everywhere concealed by glacial drift it can be studied only by means of drill samples. The information so obtained furnishes additional structural and stratigraphical data and enables certain geological contacts to be placed more accurately than was formerly possible. The value of such a study is evident from the fact that the gas, oil, salt, gypsum, and much of the road metal and structural materials used in southwestern Ontario occur in association with the Palæozoic rocks of the area.

Only where Sydenham River has cut through the glacial deposits and on the shore of Lake Huron at Kettle Point were natural outcrops seen. Quarrying has also exposed various thicknesses of limestone in Essex county. All streams and the shores of Lakes Erie, Huron, and St. Clair were traversed and all outcrops were located. Natural gas and oil wells were located and their elevations determined, and these data, together with information obtained from drillers' logs and from detailed examination of well cuttings, were used as a basis for the preparation of subsurface structure maps covering most of the area.

HISTORICAL SKETCH

Prior to the establishment of the Canadian Geological Survey, considerable geological work had been done by the New York State Survey. For the most part, the succession worked out by its geologists was traced across the border into Canada and many of the stratigraphic names used in New York State have become a part of the literature of the Palæozoic geology of Ontario.

One of the earliest geological accounts of southern Ontario was by Alexander Murray², who in 1843 examined the country between Georgian Bay and Lake Erie. He divided the Palæozoic rocks there into ten divisions, which he correlated with existing divisions in New York State.

The Reports of Progress of the Geological Survey for the years between 1843 and 1863 contain accounts of the rocks present in the Ontario peninsula.

¹Geol. Surv., Canada, Dept. of Mines, Map 1715 (1918).

²Murray, A.: Geol. Surv., Canada, Rept. of Prog. 1843, pp. 51-91.

In 1863 Logan's "Geology of Canada" was published, giving a summary of the work of the Geological Survey from its beginning (1842). Throughout the remainder of the century additional geological work was done in the Ontario peninsula, results of which appear in the Reports of Progress and Annual Reports of the Survey for that period. During that period, however, no basic changes were made in Logan's interpretation of the stratigraphy. More recent work in the area has dealt with the rock formations according to the system to which they belong, the Silurian and Devonian representatives having been investigated somewhat independently.

In 1912, the Geological Survey commenced a revision of the Silurian geology of the Ontario peninsula under direction of M. Y. Williams, and this work resulted in publication of Memoir 111, in 1919.¹

The Devonian rocks of the Windsor-Sarnia area were investigated by Alexander Murray² in 1848, and he adopted the subdivisions from the New York State classification. For many years this nomenclature was followed by subsequent workers who recognized, however, that the classification was not sufficiently detailed.

In 1911 Rev. Thomas Nattress³ published an account of the Detroit River beds of Essex county and concluded that they are of Devonian and not Silurian age, as previously considered. The following year there appeared by the same author⁴ an account of the geology of the Detroit River area. This describes the Devonian rocks exposed in the "Dry Cut" of the Livingstone Channel of Detroit River under construction at that time.

In 1915 Stauffer⁵ published an account of the Devonian rocks of southwestern Ontario, which contains the latest and most detailed classification of the Devonian rocks in the Windsor-Sarnia area. In 1916, the same author⁶ discussed the relative age of the Detroit River series. He states that all divisions of the series contain Devonian faunal elements, and that this is most marked in the Amherstburg dolomite and least in the overlying Lucas dolomite. He then concludes that "to maintain that such a fauna as that found in the Amherstburg dolomite is Silurian is more impossible than to find a place for it among the recognized Devonian formations".

Numerous contributions to the knowledge of Devonian palæontology in this part of Ontario have been made also by Nicholson, Rominger, Whiteaves, Parks, Fritz, and others.

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⁴Nattress, Rev. T.: 21st Rept. Ont. Bur. Mines, pt. 1, 1912, pp. 281-289.

⁵Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, 1915.

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CHAPTER II

GENERAL CHARACTER OF THE AREA

The Windsor-Sarnia area occupies the extreme western part of the St. Lawrence physiographic region. It is bordered on the north and south by Lakes Huron and Erie respectively, and St. Clair River, Lake St. Clair, and Detroit River each forms part of its western boundary. From the east boundary of the area to within a few miles of Point Pelee, the Lake Erie shoreline consists of almost continuous cliffs of boulder clay rising abruptly from lake level (572 feet) to an altitude averaging 625 feet above sea-level. From here to Detroit River, the shore for the most part is low and more sandy, although steep cliffs of glacial till averaging about 50 feet in height are present between Leamington and Kingsville. The shore of Lake St. Clair is very low and in places stony. A delta at the mouth of St. Clair River forms an extensive area of swampy land. From Point Edward to Errol, the Lake Huron shore is low and sandy, but from Errol to the mouth of Shashawandah Creek it rises steeply from lake-level (581 feet) to an average elevation of about 625 feet above sea-level and consists chiefly of clay and sand. The remainder of this shoreline, that is, the area of Kettle Point, is again low, with almost flat-lying shale forming the point.

The area as a whole is characterized by a general lack of relief. Across Lambton and Kent counties from Lake Huron, the surface rises to a maximum elevation of about 750 feet above sea-level at about the latitude of the city of Sarnia. This part of the area is drained generally north and northwestward into Lake Huron by a few small creeks. From this maximum elevation, the land slopes gently southward to a minimum of about 580 feet in the region of Lake St. Clair. From there, it again rises to about 650 feet above sea-level at the shore of Lake Erie, where it falls as an abrupt cliff to the level of the lake (572 feet). This region is drained generally southwestward into Lake St. Clair by Thames River, Sydenham River, Bear Creek, and their tributaries. These are slow-flowing, sluggish streams with average gradients of only a few feet a mile.

The land surface of Essex county rises gradually from Lake St. Clair (576 feet) to an average altitude of 625 feet above sea-level in the central part of the county. From there it falls southward to the level of Lake Erie. In the vicinity of Leamington, this plain-like topography is interrupted by irregular morainic hills that attain an elevation of about 725 feet above the sea. Essex county is drained by a number of small creeks flowing north, west, and south from the centre of the county into Lake St. Clair, Detroit River, and Lake Erie respectively.

The entire region has been glaciated and the bedrock is covered by a variable thickness of drift. These superficial deposits control the topography, so that the present surface in no way reflects the structure of the underlying bedrock. The thickness of the overburden varies greatly from place to place, with a maximum of 244 feet shown by one boring in Sarnia township. The following table, compiled from drilling records at hand, indicates the minimum and maximum thickness of drift encountered in the townships specified.

Township	Thickness of drift	
	Minimum	Maximum
	Feet	Feet
Anderdon.....	11	53
Camden.....	45	128
Camden Gore.....	27	77
Chatham.....	33	117
Chatham Gore.....	55	114
Colchester South.....	70	110
Colchester North.....	60	93
Dawn.....	30	120
Dover East.....	57	102
Dover West.....	16	102
Enniskillen.....	31	185
Gosfield South.....	45	128
Malden.....	8	99
Maidstone.....	95	109
Mersea.....	44	152
Moore.....	99	195
Plympton.....	70	185
Rochester.....	144	.....
Romney.....	113	202
Raleigh.....	57	210
Sarnia.....	47	244
Sandwich West.....	58	102
Sombra.....	52	109
Tilbury East.....	96	189
Tilbury West.....	95	146
Tilbury North.....	120	122

The Windsor-Sarnia area is one of the most densely settled parts of Canada and is, therefore, easy of access. Three main highways traverse the area in an east-west direction and are connected by north-south highways at convenient intervals, so that almost all major centres are on paved roads. In addition, a grid of secondary gravel roads bounds most of the concessions.

The principal industry is agriculture and most of the area is under cultivation. Tobacco growing occupies an important place in that industry, especially in Kent and Essex counties. Production of natural gas and oil forms an important industry, particularly in Kent and Lambton counties. In the Detroit River region limestone is quarried for flux, lime, and crushed stone, and there is also an important production of salt from brine. Considerable manufacturing is carried on at such centres as Windsor, Chatham, Sarnia, Kingsville, Leamington, Wallaceburg, and Tilbury.

CHAPTER III

STRATIGRAPHY

GENERAL STATEMENT

The entire area is underlain by Palæozoic sedimentary strata, the Ordovician, Silurian, and Devonian systems being represented. The sediments rest upon the uneven surface of Precambrian igneous and metamorphic rocks that outcrop along the north shore of Lake Huron as part of the Canadian Shield. The thickness of the sedimentary strata varies from place to place within the area. The deepest boring for which samples are available is in Enniskillen township. This well shows 4,080 feet of Palæozoic beds, of which 872 feet are Devonian, 1,554 feet Silurian, and 1,634 feet Ordovician. Below the Ordovician, 20 feet of basal sand, shale, and limestone were penetrated. Wells in Camden Gore township indicate an additional 200 feet of Devonian beds lying stratigraphically above those encountered in the foregoing well.

The lower half of the Ordovician section consists essentially of limestone and dolomitic limestone with some thin zones and partings of dark grey shale (Trenton and older limestones). These strata are overlain by shales, commonly black and bituminous at the base (Billings formation) and grey and greenish grey, with an increasing number of limestone beds toward the top (Meaford-Dundas), the whole followed by the characteristic red shales of the Queenston formation. The Ordovician rocks are everywhere overlain by Silurian formations and are, therefore, known only from drill samples.

The oldest Silurian rocks are grey limestones and grey, greenish, and reddish shales with thin calcareous bands (Medina formation). These are overlain by a thin veneer of grey dolomite (Clinton), which in some wells is difficult to identify and in others is apparently absent. Succeeding beds are grey, limy shales and grey and buff dolomites (Niagaran) that are overlain in turn by grey, calcareous shale, shaly dolomite, and brown dolomite, with gypsum, anhydrite, and, in places, beds of salt (Salina formation). The uppermost Silurian rocks are buff and brown dolomite (Bertie-Akron), and like those of Ordovician age are everywhere concealed, and thus are known only from well outtings.

Devonian strata consist in ascending order generally of dolomitic limestones and limestones, with chert and small, though variable, quantities of sand at the base or at one or more other horizons (Norfolk formation). Overlying beds comprise a series of grey and bluish, soft shale with minor quantities of limestone (Hamilton formation), followed in the eastern part of the area by the dominantly black shale of the Kettle Point formation.

The Palæozoic strata of the Windsor-Sarnia area have not been subjected to severe deformative forces, although subsurface work indicates the presence of faults in some localities. The area forms part of a broad regional syncline directly related to the Cincinnati Arch and the Michigan Basin.

In the work an effort was made to map lithological units and to define the formations in reference to types of sedimentation and geological history rather than solely to their contained faunas. Consequently, only those divisions that can be separated lithologically appear on the accompanying map.

TABLE OF FORMATIONS

System	Formation	Thickness
		Feet
Devonian and (?)Mississippian	Kettle Point	0—290+
Devonian	Hamilton	110—330
	Norfolk and pre-Norfolk	374—726
	Bertie-Akron ¹	60—397
	Salina ¹	480—1,438
Silurian	Guelph ¹ Lockport ¹ }	79—500
	Rochester ¹	10—50
	Clinton ¹	2—25
	Medina ¹	140—180
	Queenston ¹	130—350
	Meaford ¹ Dundas ¹ }	200—610
Ordovician	Billings ¹	104—270
	Trenton and older Palæozoic limestones ¹	832—990
Ordovician or older	Basal beds	0—26+

¹Subsurface formations.

DESCRIPTIONS OF FORMATIONS

SUBSURFACE FORMATIONS

The Silurian and older formations are everywhere in this area overlain by younger rocks and can, therefore, be seen only in well cuttings. With the exception of the Trenton and older Palæozoic limestones, each of the pre-Devonian formations has been traced westward from its outcrop area by means of boring samples. The formational names are defined in earlier reports¹ by the author, and the formations are identified in the Windsor-Sarnia area solely on a basis of lithology.

Only a few wells penetrate the entire sedimentary succession. The following logs prepared from well cuttings illustrate the lithology of all the subsurface as well as overlying exposed formations in the area.

Log of Prairie Gas and Oil Company, Limited, L. Bruette Well No. 5

Location: lot 5, Front con., Raleigh tp.

Elevation: 581 feet.

¹Caley, J. F.: Geol. Surv., Canada, Mem. 224, 1940; Mem. 226, 1941; Mem. 237, 1943.

Formation	Depth	Thickness	Lithology
	Feet 0-290	Feet 290	No samples.
Norfolk	290-450	160	Limestone: light buff, finely crystalline; trace pyrite at 300 to 310, 350 to 410 feet. <i>Protosalvinia</i> at 400, 430, and 450 feet; crinoid columns at 440 to 450 feet.
Pre-Norfolk	450-490	40	Sand: fine, rounded and subangular, with some larger frosted grains.
	490-670	180	Magnesian limestone: buff to brown, fine-grained; black carbonaceous streaks throughout; trace of gypsum 540 to 580 feet.
	670-840	170	Magnesian limestone: buff, finely crystalline; 1 per cent light grey chert throughout; black carbonaceous streaks 740 to 800 feet.
	840-920	80	Magnesian limestone: buff, finely crystalline; few frosted sand grains at 840 and 900 feet; trace glauconite at 850, 880, 900 feet; 25 per cent grey chert.
Bertie-Akron	920-1,060	140	Dolomite: buff and brown, fine-grained; some fine porosity at 970 feet.
Salina	1,060-1,090	30	Dolomite: brownish grey, fine-grained; equal amount grey, shaly dolomite; trace gypsum throughout.
	1,090-1,180	90	Dolomitic shale: dark greenish grey; trace gypsum throughout; 25 per cent brown dolomite at 1,170 to 1,180 feet.
	1,180-1,210	30	Dolomite: brownish grey, fine-grained; trace gypsum throughout.
	1,210-1,220	10	Dolomitic shale: dark greenish grey; trace gypsum.
	1,220-1,240	20	Dolomite: brownish grey, fine-grained; trace gypsum.
	1,240-1,250	10	Dolomitic shale: dark greenish grey; 25 per cent brown dolomite; trace gypsum.
	1,250-1,340	90	Dolomite: brownish grey, fine-grained; trace dark grey limy shale throughout; trace gypsum throughout.
	1,340-1,380	40	Dolomitic shale: dark greenish grey; trace gypsum throughout.
	1,380-1,420	40	Dolomite: brownish grey, fine-grained; 40 per cent dark greenish grey shale; trace gypsum throughout.
	1,420-1,440	20	Dolomitic shale: dark greenish grey; trace brown dolomite.
	1,440-1,460	20	Salt; 10 per cent brown dolomite at 1,460 feet.
	1,460-1,530	70	Dolomite: brownish grey, fine-grained; trace gypsum.
	1,530-1,580	50	Shaly dolomite: grey, fine-grained; 5 per cent dark grey shale at 1,560 to 1,580 feet.
	1,580-1,590	10	Gypsum: 10 per cent dark grey, limy shale.
	1,590-1,620	30	Dolomite: brownish grey, fine-grained; 40 per cent gypsum at 1,600 feet.
Guelph-Lockport	1,620-1,700	80	Dolomite: grey and buff, crystalline; some fine porosity at 1,690 feet.
	1,700-1,880	180	Dolomite: brownish grey, finely crystalline; trace pyrite at 1,710 feet.
	1,880-1,910	30	Dolomite: light grey, crystalline; trace pyrite at 1,890 to 1,910 feet.
Rochester	1,910-1,928	18	Shale: calcareous, dark grey.
Clinton	1,928-1,935	7	Dolomite: grey, finely crystalline; trace pyrite; trace glauconite.
Medina	1,940-1,960	20	Shale: red; small amount green shale.
	1,960-1,980	20	Shale: green; small amount red shale.
	1,980-2,030	50	Shale: greenish grey; trace of reddish impure limestone; trace red shale.
	2,030-2,080	50	Dolomite: grey, crystalline; 10 per cent greenish grey shale; little reddish shale at 2,070 feet.
	2,080-2,090	10	Shaly dolomite: greenish grey, crystalline; much greenish limy shale.
Queenston	2,090-2,250	160	Shale: red; trace green shale throughout; trace grey dolomite at 2,220 feet.
	2,250-2,270	20	Shale: greenish grey, limy; equal amount red shale.
	2,270-2,320	50	Shale: red; 40 per cent greenish grey shale.
	2,320-2,330	10	Shale: greenish grey; 20 per cent red shale.
	2,330-2,360	30	Shale: red; 40 per cent green shale.
	2,360-2,380	20	Shale: green; 5 per cent red shale.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Meaford-Dundas	2,380-2,500	120	Shale: greenish grey; little grey crystalline limestone at 2,390 to 2,410, 2,440 to 2,500 feet.
	2,500-2,600	100	Shale: greenish grey.
	2,600-2,750	150	Shale: dark greenish grey; trace of grey crystalline limestone at 2,610, 2,670, and 2,710 feet.
Billings	2,750-2,800	50	Shale: dark grey.
	2,800-2,870	70	Shale: dark grey to black; trace pyrite at 2,870 feet.
Trenton and older Palaeozoic limestone	2,870-2,945	75	Magnesian limestone: brownish grey, crystalline; trace dark grey shale at 2,920 and 2,935 feet.
	2,945-3,035	90	Magnesian limestone: grey and brownish grey, crystalline; trace dark grey shale and shaly limestone throughout.
	3,035-3,095	60	Magnesian limestone: grey, finely crystalline; 1 per cent dark grey limy shale; trace pyrite at 3,090 feet.
	3,095-3,175	80	Limestone: brownish grey, finely crystalline; trace dark brown to black shale throughout.
	3,175-3,190	15	Limestone: brownish grey, finely crystalline; 50 per cent dark brown to black, bituminous limestone and shale.
	3,190-3,245	55	Limestone: brownish grey, finely crystalline; 30 per cent dark brown and black bituminous shale and limestone.
	3,245-3,255	10	Shale: calcareous, black; 15 per cent grey limestone; trace pyrite.
	3,255-3,275	20	Limestone: brownish grey, crystalline; 1 per cent green shale; trace pyrite at 3,275 feet.
	3,275-3,290	15	Limestone: brownish grey, crystalline; trace black shale at 3,286 feet; trace grey chert at 3,290 feet.

Log of Prairie Gas and Oil Company, Limited, Thomas No. 6 Well

Location: lot 5, Front con., Dover tp.

Elevation: 581 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-300	300	No samples.
Norfolk	300-420	120	Limestone: buff, finely crystalline; traces of pyrite at 320, 350, 380, 410 feet.
	420-430	10	Limestone: buff, crinoidal; trace of chert.
	430-470	40	Limestone: buff, fine-grained and crinoidal; little chert throughout.
Pre-Norfolk	470-490	20	Sand: medium-grained, rounded, some larger frosted grains; little crinoidal limestone.
	490-610	120	Magnesian limestone: buff, fine-grained; black carbonaceous streaks; few frosted sand grains at 550 to 560 feet; trace selenite 570 to 600 feet.
	610-620	10	No sample.
	620-710	90	Magnesian limestone: brownish grey, finely crystalline; trace selenite; trace sulphur at 650 feet.
	710-840	130	Magnesian limestone: brownish grey, finely crystalline; little cherty limestone throughout.
	840-930	90	Magnesian limestone: buff, finely crystalline; much chert throughout; trace of glauconite 900 to 920 feet.
Bertie-Akron	930-1,110	180	Dolomite: buff and brown, fine-grained; trace selenite 990 to 1,010 feet; trace gypsum 1,050 to 1,090 feet.
Salina	1,110-1,150	40	Shaly dolomite: grey; trace gypsum.
	1,150-1,190	40	Dolomitic shale: greenish grey; trace gypsum throughout.
	1,190-1,240	50	Shaly dolomite: grey; some brown dolomite; trace gypsum throughout.

Formation	Depth	Thickness	Lithology
Salina	Feet	Feet	
	1,240-1,290	50	Dolomite: brownish grey, fine-grained; trace of grey limy shale throughout; little gypsum.
	1,290-1,310	20	Dolomitic shale: grey and greenish grey; trace gypsum.
	1,310-1,370	60	Dolomite: brownish grey, fine-grained; trace grey limy shale throughout; trace pyrite at 1,360 feet.
	1,370-1,480	110	Dolomitic shale: grey to greenish; trace brown dolomite in most samples; trace gypsum throughout.
	1,480-1,560	80	Dolomite: brownish grey, fine-grained; some black carbonaceous streaks; trace gypsum 1,480 to 1,520 feet; trace pyrite 1,510 to 1,540 feet.
	1,560-1,600	40	Shaly dolomite: grey, fine-grained; trace red shale at 1,580 feet; little gypsum at 1,600 feet.
Guelph-Lockport	1,600-1,610	10	Gypsum; little brown dolomite and grey shale.
	1,610-1,640	30	Dolomite: buff, fine-grained; trace gypsum.
	1,640-1,680	40	Dolomite: grey, crystalline.
	1,680-1,790	110	Dolomite: buff, crystalline.
Rochester	1,790-1,880	90	Dolomite: buff and brownish grey, crystalline.
	1,880-1,920	40	Dolomite: light grey, crystalline.
	1,920-1,940	20	Shale: calcareous, dark grey; trace pyrite; trace grey dolomite at 1,940 feet.
Medina	1,940-1,960	20	Shale: green; equal amount red shale; trace grey dolomite.
	1,960-1,980	20	Shale: red; minor amount green shale.
	1,980-1,990	10	Shale: green; minor amount red shale; trace grey dolomite.
	1,990-2,020	30	Shale: greenish grey; trace red shale.
	2,020-2,040	20	Shale: grey; minor amount grey dolomite; trace red and green shale.
	2,040-2,100	60	Dolomite: grey, crystalline; small amount green shale throughout; trace pyrite at 2,100 feet.
	2,100-2,110	10	Shale: calcareous, greenish grey; trace grey dolomite.
Queenston	2,110-2,180	70	Shale: red; trace greenish grey, sandy shale throughout.
	2,180-2,260	80	Shale: red; minor amount green, calcareous shale.
	2,260-2,270	10	Magnesian limestone; much red and green shale.
	2,270-2,300	30	Shale: green and red in equal amounts; trace grey dolomite.
	2,300-2,340	40	Shale: red; minor amount green shale; trace pink gypsum 2,320 to 2,340 feet.
	2,340-2,360	20	Shale: green; minor amount red shale; trace pink gypsum.
	2,360-2,390	30	Shale: red; little green shale.
Meaford-Dundas	2,390-2,470	80	Shale: green; trace grey limestone throughout; trace pyrite at 2,410 feet.
	2,470-2,480	10	No sample.
	2,480-2,600	120	Shale: greenish grey; trace grey limestone throughout; trace pyrite at 2,600 feet.
	2,600-2,690	90	Shale: medium to dark grey; trace grey limestone at 2,640 feet.
	2,690-2,770	80	Shale: dark grey to greenish.
Billings	2,770-2,870	100	Shale: dark grey to black.
Trenton and older Palaeozoic limestone	2,870-2,939	69	Magnesian limestone: brownish grey, finely crystalline; trace pyrite at 2,928 feet.
	2,939-2,985	46	Magnesian limestone: brownish grey, crystalline; trace grey shale 2,955 to 2,965 feet.
	2,985-3,005	20	No samples.
	3,005-3,080	75	Magnesian limestone: grey, crystalline; trace dark grey shale 3,065 to 3,075 feet.
	3,080-3,240	160	Magnesian limestone: brownish grey, crystalline; small amount dark grey to black shale throughout.
	3,240-3,250	10	Shale: dark grey and greenish grey; trace greenish grey, fine sandstone and pyrite.
	3,250-3,255	5	Shale: grey; equal amounts greenish shale and grey magnesian limestone; trace fine grey sandstone; trace pyrite.
	3,255-3,274	19	Magnesian limestone: brownish grey, crystalline; trace greenish shale.

Log of Rosslyn No. 1 Well

Location: lot 5, con. X, Tilbury West tp.

Elevation: 610 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-105	105	No samples.
Norfolk	105-180	75	Limestone: light buff, fine-grained; trace chert at 140 to 150, 170 to 180 feet; <i>Protosalvinia</i> .
Pre-Norfolk	180-190	10	Sand: fine, unconsolidated.
	190-290	100	Magnesian limestone: brownish grey, finely crystalline; black bituminous streaks.
	290-340	50	Magnesian limestone: brown, finely crystalline.
	340-480	140	Magnesian limestone: brownish grey, finely crystalline and granular; trace chert in most samples with mostly chert 470 to 480 feet.
	480-490	10	Magnesian limestone: brownish grey, fine-grained; 25 per cent chert.
Bertie-Akron	490-600	110	Dolomite: buff and brownish, fine-grained; trace dolitic dolomite 550 to 560 feet; fine porosity 590 to 600 feet.
Salina	600-660	60	Dolomite: brownish grey, fine-grained; little dark grey, shaly dolomite in most samples; trace gypsum.
	660-760	100	Dolomitic shale: grey; little brown dolomite in most samples; trace gypsum throughout.
	760-900	140	Dolomite: brownish grey, fine-grained; trace grey, dolomitic shale throughout; trace gypsum throughout.
	900-982	82	Dolomitic shale: grey and greenish; little brown dolomite; 1 per cent red, limy shale at 910 to 920 feet; trace gypsum.
	982-1,100	118	Dolomite: brownish grey, fine-grained; trace gypsum in many samples.
	1,100-1,110	10	Gypsum: 1 per cent brown dolomite.
	1,110-1,140	30	Dolomite: brownish grey, fine-grained.
Guelph-Lockport	1,140-1,300	160	Dolomite: grey, crystalline.
	1,300-1,640	340	Dolomite: light grey, crystalline.
Rochester	1,640-1,680	40	Shaly dolomite: dark grey, crystalline.
Medina	1,680-1,712	32	Shale: red; minor amount green shale.
	1,712-1,730	18	Shale: green; trace red shale and grey dolomite.
	1,730-1,778	48	Shale: grey and greenish grey; minor amount grey dolomite.
	1,778-1,832	54	Dolomite: grey, crystalline; little greenish grey shale in most samples.
	1,832-1,838	6	Dolomitic shale: greenish grey; little grey dolomite.
Queenston	1,838-1,970	132	Shale: red; trace green shale in each sample.
	1,970-2,072	102	Shale: red; 20 per cent green shale.
Meaford-Dundas	2,072-2,230	158	Shale: greenish grey; little grey limestone 2,102 to 2,224 feet.
	2,230-2,422	192	Shale: grey.
Billings	2,422-2,500	78	Shale: dark grey.
	2,500-2,572	72	Shale: dark grey to black.
Trenton and older Palaeozoic limestone	2,572-2,693	121	Limestone: brownish grey, crystalline.
	2,693-2,903	210	Limestone: brownish grey, crystalline; minor amount dark grey, shaly limestone.
	2,903-2,925	22	Limy shale: dark grey.
	2,925-3,050	125	Limestone: brownish grey, fine-grained.
	3,050-3,140	90	Limestone: grey, fine to dense.
	3,140-3,322	182	Limestone: brownish grey, fine-grained; little dark grey shale 3,170 to 3,216 feet.
	3,322-3,402	80	Limestone: brownish grey, fine-grained; 10 per cent dark grey and greenish shale 3,340 to 3,346 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Basal beds	3,402-3,408	6	Limestone: brownish grey, crystalline; equal amount dark grey and greenish shale; trace greenish grey, fine sandstone.
	3,408-3,418	10	Limestone: brownish grey, crystalline; equal amount grey and greenish sandstone and green shale.
	3,418-3,423	5	Sand; traces of green and grey shale.

Log of A. E. Conliffe No. 1 Well

Location: lot 6, con. I, Chatham tp.

Elevation: 598 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-381	381	No samples.
Norfolk	381-405	24	Limestone: light buff, fine-grained; little chert 386 to 400 feet; <i>Protosalvinia</i> throughout.
	405-425	20	Limestone: light buff, fine-grained; few clear quartz grains throughout; few frosted grains at base.
	425-435	10	No samples.
Pre-Norfolk	435-445	10	Magnesian limestone: brown, fine-grained; black carbonaceous streaks.
	445-460	15	No samples.
	460-470	10	Magnesian limestone: buff, fine-grained; <i>Protosalvinia</i> at 470 feet.
	470-520	50	No samples.
	520-535	15	Magnesian limestone: buff, fine-grained; black bituminous streaks; trace sulphur 525 to 535 feet.
	535-585	50	Limestone: buff, fine-grained; black bituminous streaks; fine porosity 565 to 585 feet.
	585-660	75	Limestone: brownish grey, finely crystalline; little chert throughout; trace gypsum at 625 feet.
	660-750	90	Limestone: brownish grey, sandy; much chert 710 to 750 feet; trace glauconite 735 to 750 feet.
	750-755	5	Sandstone: calcareous, grey; 5 per cent chert; trace glauconite.
	755-765	10	Limestone: arenaceous, grey; 5 per cent chert; trace glauconite.
	765-770	5	Sandstone: calcareous, grey; few frosted sand grains.
Norfolk	770-775	5	Limestone: arenaceous, grey; 5 per cent chert; trace glauconite.
	775-805	30	Limestone: grey, finely crystalline; 15 per cent chert; trace glauconite.
Bertie-Akron	805-915	110	Dolomite: buff, fine-grained; fine porosity at 820 to 855 feet; few black bituminous streaks.
Salina	915-955	40	Dolomite: brownish grey, fine-grained; some grey, dolomitic shale; trace gypsum.
	955-970	15	Dolomite: brownish grey, fine-grained; much dark grey, dolomitic shale; 25 per cent gypsum at 970 feet.
	970-990	20	Dolomitic shale: grey; 5 per cent gypsum.
	990-1,000	10	Dolomitic shale: greenish grey; trace pink gypsum.
	1,000-1,070	70	Dolomitic shale: grey; some brown dolomite; trace gypsum.
	1,070-1,215	145	Dolomite: brown, fine-grained; minor amount grey, limy shale at 1,075 to 1,085, 1,130 to 1,150, 1,190 to 1,215 feet; trace gypsum throughout.
	1,215-1,270	55	Dolomitic shale: greenish grey; trace red shale at 1,230 feet; brown dolomite at 1,255 feet; trace gypsum throughout.
	1,270-1,300	30	Dolomite: brown, fine-grained; trace gypsum.
	1,300-1,470	170	Salt: little brown dolomite at 1,320, 1,340, 1,375, 1,465 to 1,470 feet.
	1,470-1,480	10	Dolomite: buff, fine-grained; trace gypsum and salt.
	1,480-1,485	5	Salt.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Salina	1,485-1,565 1,565-1,595 1,595-1,650	80 30 55	Dolomite: brownish grey, fine-grained; trace gypsum. Shaly dolomite: grey, fine-grained; little grey, dolomitic shale; 50 per cent gypsum at 1,590 to 1,595 feet. Dolomite: buff, fine-grained; 5 per cent gypsum 1,605 to 1,615 feet; trace pyrite 1,620 to 1,630 feet.
Guelph-Lockport	1,650-1,665 1,665-1,715 1,715-1,795 1,795-1,815 1,815-1,835 1,835-1,890	15 50 80 20 20 55	Dolomite: grey, crystalline. Dolomite: buff, granular; fine porosity 1,700 to 1,705 feet. Dolomite: brownish grey, fine-grained; finely porous at 1,720 to 1,725 and 1,745 to 1,750 feet; trace pyrite at 1,760 to 1,765 feet. Dolomite: buff, finely crystalline. Dolomite: grey, finely crystalline. Dolomite: light grey, crystalline; trace pyrite 1,835 to 1,860 feet; finely porous 1,870 to 1,880 feet.
Rochester	1,890-1,915	25	Shale: calcareous, dark grey; trace pyrite.
Clinton	1,915-1,930	15	Dolomite: medium to dark grey, crystalline.
Medina	1,930-1,965 1,965-1,975 1,975-2,030 2,030-2,085 2,085-2,090	35 10 55 55 5	Shale: red; minor amount green shale; trace greenish grey, fine sandstone at 1,945 to 1,955 and 1,960 to 1,965 feet. Shale: green; little red shale and greenish grey, fine sandstone. Shale: greenish grey; trace grey dolomite 1,985 to 1,995 feet; trace red, impure limestone 2,010 to 2,020 feet; 50 per cent grey, crystalline dolomite at 2,025 to 2,030 feet. Dolomite: grey, crystalline; 10 per cent greenish grey shale. Shale: calcareous, greenish grey.
Queenston	2,090-2,230 2,230-2,240 2,240-2,260 2,260-2,275 2,275-2,380	140 10 20 15 105	Shale: red; 5 per cent green shale; trace greenish grey, calcareous sandstone at 2,090 to 2,095 feet. Limestone: shaly, greenish and red; little red shale. Shale: red; 10 per cent green shale. Shale: calcareous, red. Shale: red; 15 per cent green shale; trace pink gypsum at 2,315 to 2,345 feet.
Meaford-Dundas	2,380-2,385 2,385-2,560 2,560-2,745	5 175 185	Magnesian limestone: grey, fine-grained; some grey, impure limestone. Shale: greenish grey; trace grey, crystalline limestone 2,385 to 2,470, 2,490 to 2,505, and 2,520 to 2,535 feet. Shale: grey; trace pyrite at 2,710 to 2,715 feet.
Billings	2,745-2,805 2,805-2,880	60 75	Shale: dark grey. Shale: dark grey to black.
Trenton and older Palaeozoic limestone	2,880-2,930 2,930-3,070 3,070-3,100 3,100-3,190 3,190-3,300 3,300-3,390 3,390-3,455 3,455-3,495 3,495-3,690 3,690-3,780	50 140 30 90 110 90 65 40 195 90	Limestone: brownish grey, crystalline; trace dark grey shale. Limestone: brownish grey, finely crystalline; trace dark grey shale 3,035 to 3,055 feet. Limestone: light buff, finely crystalline; trace green shale at 3,075 to 3,080 feet. Limestone: brownish grey, finely crystalline; trace dark grey, limy shale throughout. Limestone: brownish grey, finely crystalline; 5 per cent dark grey, limy shale. Limestone: brownish grey, fine-grained; little altered bentonite 3,310 to 3,325 feet; 50 per cent grey and greenish shale at 3,300 to 3,305 feet. Limestone: brown, dense. Limestone: dark brownish grey, dense. Limestone: dark brownish grey, fine to dense. Limestone: dark brownish grey, fine-grained; trace dark grey shale 3,690 to 3,705, 3,745 to 3,755, 3,775 to 3,780 feet; trace greenish grey shale 3,725 to 3,735 feet.
Basal beds	3,780-3,802	22	Sand: grey, fine-to coarse-grained; some angular quartz; little dark grey shale; little glauconite.
Precambrian	3,802-3,812	10	Quartz; feldspar; mica; chlorite.

Log of Erie Petroleum, F. Dawson Well No. 1

Location: lot 194, con. T.R.N., Romney tp.

Elevation: 631 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-275	275	No samples.
Norfolk	275-350	75	Limestone: light buff, finely crystalline; <i>Protosalvinia</i> 320 to 345 feet.
	350-390	40	Limestone: magnesian, buff, finely crystalline; crinoidal 380 to 390 feet; trace chert throughout.
Pre-Norfolk	390-400	10	Limestone: magnesian, grey, granular.
	400-510	110	Limestone: magnesian, light buff, finely crystalline; black bituminous streaks.
	510-540	30	Limestone: magnesian, buff, finely crystalline; trace chert.
	540-590	50	Limestone; sandy, grey, finely granular; 2 per cent chert.
	590-620	30	Limestone: magnesian, buff, finely crystalline; 2 per cent chert.
	620-630	10	Chert; little buff limestone.
	630-660	30	Limestone: magnesian, buff, finely crystalline; 50 per cent chert; trace glauconite at 635 to 640 feet.
	660-670	10	Chert; little grey, sandy limestone.
	670-680	10	Limestone: magnesian, buff, finely crystalline; 25 per cent chert; 25 per cent sand.
Bertie-Akron	680-740	60	Dolomite: buff, fine-grained; some porosity at 730 to 735 feet.
	740-850	110	Dolomite: brownish grey, fine-grained, few black bituminous streaks 760 to 840 feet.
Salina	850-905	55	Dolomite: brownish grey, fine-grained; trace gypsum.
	905-990	85	Dolomite: brownish grey; trace gypsum throughout.
	990-1,125	135	Dolomite: buff, fine-grained; few black bituminous streaks; 25 per cent grey, limy shale 995 to 1,020 feet; trace gypsum in most samples.
	1,125-1,150	25	Shaly dolomite: grey; little buff dolomite; trace gypsum.
	1,150-1,205	55	Dolomite: grey; little buff dolomite; trace gypsum.
	1,205-1,360	155	Dolomite: buff and brownish grey, fine-grained; little grey, limy shale; trace green shale at 1,225 to 1,235 feet.
Guelph-Lockport	1,360-1,440	80	Dolomite: medium grey, crystalline; finely porous 1,360 to 1,400 feet.
	1,440-1,520	80	Dolomite: medium to light grey, granular; finely porous.
	1,520-1,630	110	Dolomite: brown, finely crystalline.
	1,630-1,685	55	Dolomite: grey, crystalline; some fine porosity 1,650 to 1,685 feet.
	1,685-1,730	45	Dolomite: light grey, crystalline; finely porous; trace selenite 1,700 to 1,720 feet.
Rochester	1,730-1,750	20	Limy shale: dark grey; little grey, shaly limestone.
Clinton	1,750-1,765	15	Dolomite: dark grey, finely crystalline.
Medina	1,765-1,780	15	Shale: red; some green shale and grey limestone.
	1,780-1,825	45	Shale: greenish grey; trace red shale.
	1,825-1,840	15	Unreliable samples.
	1,840-1,845	5	Shale: grey.
	1,845-1,855	10	Mixture of grey limestone, greenish grey, red, and grey shale.
	1,855-1,865	10	Shale: grey and greenish grey; 25 per cent grey dolomite; trace red shale.
	1,865-1,870	5	Dolomite: grey, finely crystalline; little greenish grey and red shale.
	1,870-1,875	5	Shale: grey; 25 per cent grey dolomite.
	1,875-1,920	45	Dolomite: grey, crystalline; 15 per cent greenish grey shale 1,875 to 1,895 feet; 50 per cent green, limy shale at 1,915 to 1,920 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Queenston	1,920-2,130 2,130-2,190	210 60	Shale: red; little green shale in most samples. Shale: red; 15 per cent green shale; trace gypsum 2,130 to 2,150 feet.
Meaford-Dundas	2,190-2,205 2,205-2,220 2,220-2,250 2,250-2,310 2,310-2,600	15 15 30 60 290	Shale: greenish grey; trace red shale. Limestone: grey, crystalline; equal amount of greenish grey shale; trace red shale. Shale: dark greenish grey; 15 per cent grey, impure dolomite. Shale: dark greenish grey. Shale: grey; trace grey, impure limestone at 2,330 to 2,370 feet and 2,450 to 2,470 feet.
Billings	2,600-2,690 2,690-2,750	90 60	Shale: dark grey to black. Shale: black.
Trenton and older Palaeozoic limestones	2,750-2,780 2,780-2,880 2,880-2,920 2,920-3,000 3,000-3,070 3,070-3,100 3,100-3,110 3,110-3,210 3,210-3,310 3,310-3,340 3,340-3,440 3,440-3,470 3,470-3,570 3,570-3,595 3,595-3,610 3,610-3,645	30 100 40 80 70 30 10 100 100 30 100 30 100 25 15 35	Limestone: magnesian, brownish grey, crystalline. Limestone: brownish grey, finely crystalline. Limestone: brownish grey, finely crystalline; little dark brown, shaly limestone. Limestone: shaly, brown, finely crystalline. Limestone: brownish grey, finely crystalline; 10 per cent dark grey, limy shale. Limestone: shaly, brownish grey, finely crystalline; trace metabentonite at 3,100 feet. Limy shale: dark grey; trace metabentonite. Limestone: buff, fine-grained; trace green shale 3,115 to 3,120 feet; trace pyrite 3,120 to 3,140 feet. Limestone: magnesian, brownish grey, dense. Limestone: buff, fine-grained. Limestone: brownish grey, fine-grained; trace black bituminous shale 3,380 to 3,410 feet. Limestone: brown, dense. Limestone: brown, fine-grained; trace green shale 3,530 to 3,540 feet. Limestone: grey, finely crystalline; 10 per cent grey and greenish shale. Dolomite: sandy, light grey. Dolomite: light grey, crystalline.
Basal beds	3,645-3,669	24	Quartz: angular, clear; little light grey dolomite.

QUEENSTON AND OLDER FORMATIONS

The basal beds represent the sediments of the initial encroachment of the sea over the Precambrian land surface. They differ somewhat in lithology and thickness from place to place, and include arkose, sandstone, shale, limestone, and arenaceous dolomite. A well in Tilbury East township penetrated 35 feet of these deposits without reaching the Precambrian, and one in Dover East township entered the Precambrian after passing through 20 feet of 'arkose'.

No satisfactory criteria have been found by which the well cuttings representing the thick series of dominantly calcareous rock between the basal beds and the Billings formation can be subdivided. The series includes the Trenton and probably part of the Black River group. It is undifferentiated and is logged as a single unit under the name Trenton and older Palaeozoic limestones. The rock is essentially grey, brownish grey, and brown. It is a crystalline, partly dense and partly magnesian limestone, with small though variable quantities of dark grey shale. Some wells also show small amounts of green shale and traces of chert in the lower part of the section.

The Billings formation rests on the Trenton and is overlain by the Dundas formation. It occupies the stratigraphic position of the 'Utica' and is logged under that term by the drillers. The formation is characteristically black

bituminous shale in its lower part, becoming dark grey toward the top. It grades upward into the Dundas shale. The contact is placed where the shale becomes more grey than black. In most of the wells examined this position seems to coincide roughly with a complete disappearance of bituminous matter, and above this horizon small proportions of calcareous rock are in many cases present in the samples. The base of the Billings is in sharp contact with Trenton limestone. Sproule¹ reports an erosional interval at the top of the Cobourg formation (Upper Trenton) in the Georgian Bay region and on Manitoulin Island. This feature is not recognizable in well cuttings from the Windsor-Sarnia area, but the abrupt change from grey crystalline limestone to black bituminous shale suggests that it may be represented.

The Dundas formation is typically a grey shale with occasional thin limestone bands in the upper part. It grades upward into the Meaford formation, which is also dominantly shale, characteristically grey and greenish grey, and with scattered thin crystalline limestone bands that apparently increase in thickness and number toward the top of the formation. No definite line of division can be made in well cuttings between the Dundas and Meaford formations. They form a single lithological unit and have, therefore, been logged together under the term Meaford-Dundas.

The Queenston formation represents the youngest Ordovician strata in the area. It is typically a dark red clay shale with green bands and mottlings. The green colouring, thought to be due to bleaching by percolating waters charged with organic acids in solution, is noticeable throughout the formation. Traces of calcareous rock have been seen also in samples from some wells. The base of the Queenston is readily recognizable and is placed at the lowest occurrence of the typical red shale. This shale is underlain fairly abruptly by the dark greenish grey shale and grey limestone of the Meaford.

The following table summarizes the thickness in feet of the Ordovician formations in the townships indicated:

Formation	Townships							
	Raleigh	Dover E.	Tilbury W.	Tilbury E.	Chat-ham	Ennis-killen	Romney	Dawn
Queenston.....	290	280	234	275	290	291	270	290
Meaford-Dundas.....	370	380	350	480	365	280	410	350
Billings.....	120	100	150	120	135	104	150	110
Trenton and older Pal- æozoic limestones.....	887	990	830	914	900	959	895	920
Basal beds.....	10+	20	21+	26+	22	20	24+	20

MEDINA FORMATION

As proposed in a previous report² the Medina formation comprises all strata between the Queenston below and the Clinton formation above. In the Niagara peninsula, where it is exposed, the formation consists of three members, which, in ascending order, are the Whirlpool sandstone, Manitoulin dolomite, and Cabot Head shale, the last member comprising two facies known as the Grimsby and Thorold sandstones.

¹Sproule, J. C.: Contributions to the Study of the Ordovician of Ontario and Quebec; Geol. Surv., Canada, Mem. 202, p. 99 (1936).

²Caley, J. F.: Geol. Surv., Canada, Mem. 224, pp. 25-26 (1940).

The Whirlpool sandstone has not been recognized in samples from any of the wells examined either in the Windsor-Sarnia area or in the adjoining area¹ to the east. In both areas the Queenston shale is overlain directly by the Manitoulin member. This consists of grey, crystalline dolomite, most samples of which contain small quantities of greenish grey shale. In the few wells that penetrate this member in the Windsor-Sarnia area, the lower 5 to 10 feet consists of greenish, limy shale or shaly dolomite with lesser amounts of grey dolomite. This rests on the red Queenston shale and the contact marks the Ordovician-Silurian boundary. In the Niagara peninsula the contact is disconformable², and in view of the fairly abrupt change in lithology at this horizon in the Windsor-Sarnia area, an interval of non-deposition is probably represented there also.

The Cabot Head member overlies the Manitoulin and forms the upper part of the Medina formation. It consists of greenish grey, green, red, and grey shale with small amounts of reddish impure limestone and grey dolomite. Traces of green, sandy shale were also seen in samples from one well. The bryozoa *Helapora fragilis*, which is restricted to the Cabot Head member, has also been observed.

The Manitoulin-Cabot Head contact is gradational and, in general, cannot be placed exactly in well cuttings. As the member where it is exposed³ typically contains red shales, its presence in wells is recognized chiefly by this feature. The contact is thus considered to be below the lowest red shale and above the first occurrence of rock consisting mainly of grey, crystalline dolomite. However, in view of the gradational character of the contact, the Medina formation is logged as a single unit.

Neither the Grimsby nor the Thorold facies of the Cabot Head member has been recognized in well cuttings from the Windsor-Sarnia area.

The following logs prepared from well samples illustrate the lithology of the Medina formation in the townships specified. The presence of the two members is indicated wherever possible by a division based purely on lithology. The logs also show the general lithological similarity and thickness of the Medina wherever it has been penetrated.

Township	Formation	Depth Feet	Thickness Feet	Lithology	Member
Tilbury W.	Medina	1,680-1,712	32	Shale: red; minor amount of green shale.	Cabot Head
		1,712-1,730	18	Shale: green; trace of red shale and grey dolomite.	
		1,730-1,778	48	Shale: grey and greenish grey; minor amount of grey dolomite.	
		1,778-1,832	54	Dolomite: grey, crystalline; little greenish grey shale in most samples.	Manitoulin
		1,832-1,838	6	Dolomitic shale: greenish grey; little grey dolomite.	
Chatham	Medina	1,930-1,965	35	Shale: red; minor amount of green shale; trace of greenish grey, sandy shale at 1,945 to 1,955 and 1,960 to 1,965 feet.	Cabot Head
		1,965-1,975	10	Shale: green; little red shale and greenish grey, sandy shale.	
		1,975-2,030	55	Shale: greenish grey; trace of grey dolomite at 1,985 to 1,995 feet; trace red, impure limestone at 2,010 to 2,020 feet; 50 per cent grey dolomite at 2,025 to 2,030 feet.	

¹Caley, J. F.: Geol. Surv., Canada, Mem. 237, p. 18 (1943).

²Caley, J. F.: Geol. Surv., Canada, Mem. 224, p. 23 (1940).

³Caley, J. F.: Geol. Surv., Canada, Mem. 224, p. 32 (1940).

Township	Formation	Depth Feet	Thickness Feet	Lithology	Member
Chatham		2,030-2,085	55	Dolomite: grey, crystalline; 10 per cent greenish grey shale.	Manitoulin
Dover	Medina	1,940-1,960	20	Shale: green; equal amount red shale; trace grey dolomite.	Cabot Head
		1,960-1,980	20	Shale: red; minor amount green shale.	
		1,980-1,990	10	Shale: green; minor amount red shale; trace grey dolomite.	
		1,990-2,020	30	Shale: greenish grey; trace red shale.	
		2,020-2,040	20	Shale: grey; minor amount grey dolomite; trace red and green shale.	Manitoulin
		2,040-2,100	60	Dolomite: grey, crystalline; small amount green shale throughout; trace pyrite at 2,100 feet.	
Raleigh	Medina	2,100-2,110	10	Shale: calcareous, greenish grey; trace grey dolomite.	Cabot Head
		1,940-1,960	20	Shale: red; small amount green shale.	
		1,960-1,980	20	Shale: green; small amount red shale.	
		1,980-2,030	50	Shale: greenish grey; trace reddish, impure limestone; trace red shale.	Manitoulin
		2,030-2,080	50	Dolomite: grey, crystalline; 10 per cent greenish grey shale; little red shale at 2,070 feet.	
Sarnia	Medina	2,080-2,090	10	Shaly dolomite: greenish grey, crystalline; much green, limy shale.	Cabot Head
		2,633-2,670	37	Shale: red; minor amount green shale; trace pyrite at 2,633 to 2,638 feet.	
		2,670-2,706	36	Shale: green; minor amount red shale; trace grey dolomite.	
		2,706-2,724	18	Shale: greenish grey; little red shale; bryozoa and brachiopod fragments.	Manitoulin
		2,724-2,769	45	Dolomite: grey, crystalline; little green shale at 2,724 to 2,759 feet.	
		2,769-2,783	14	Shale: greenish grey.	
		2,783-2,790	7	Dolomite: grey, crystalline.	
Enniskillen	Medina	2,790-2,795	5	Shale: greenish grey.	Cabot Head
		2,305-2,310	5	Shale: red and green.	
		2,310-2,380	70	Shale: greenish grey; some red, limy shale and grey, shaly dolomite near the base; some bryozoa fragments.	Manitoulin
		2,380-2,417	37	Dolomite: grey, crystalline; some greenish shale in most samples.	
		2,417-2,446	29	Shaly dolomite: greenish grey; some green, limy shale.	
Romney	Medina	1,765-1,780	15	Shale: red; some green shale and grey dolomite.	Cabot Head
		1,780-1,825	45	Shale: greenish grey; trace red shale.	
		1,825-1,840	15	Unreliable samples.	
		1,840-1,845	5	Shale: grey.	
		1,845-1,855	10	Mixture of grey limestone, greenish grey, red, and grey shale.	
		1,855-1,865	10	Shale: grey and greenish grey; 25 per cent grey dolomite; trace red shale.	Manitoulin
		1,865-1,870	5	Dolomite: grey, crystalline; little greenish grey and red shale.	
		1,870-1,875	5	Shale: grey; 25 per cent grey dolomite.	
		1,875-1,920	45	Dolomite: grey, crystalline; 15 per cent greenish grey shale at 1,875 to 1,895 feet; 50 per cent green, limy shale at 1,915 to 1,920 feet.	

CLINTON FORMATION

The Clinton formation occupies a position between the Medina formation below and the Rochester above. It consists of grey, crystalline dolomite or dolomitic limestone and is lithologically similar wherever it has been drilled. Because only a small percentage of the wells drilled in the Windsor-Sarnia area reach this horizon the exact distribution of the Clinton cannot be stated. Samples of a few wells, notably in Dover, Tilbury West, and Sombra townships, apparently contain no Clinton strata. It is possible, therefore, that the formation is locally absent in the western part of the area.

The Clinton is typically well defined in cuttings from both the red and green Medina shale below and the grey Rochester shale above. However, in a few of the wells examined, the calcareous nature of the Rochester and the grey colour of both formations make it difficult to place an exact boundary between them. In such wells they are separated purely on composition. The following table gives the thickness present in the townships specified.

County	Township	Thickness
		Feet
Lambton.....	Enniskillen.....	2-5
Lambton.....	Sombra.....	5-7
Lambton.....	Dawn.....	4-11
Lambton.....	Sarnia.....	3
Kent.....	Romney.....	15
Kent.....	Tilbury East.....	30
Kent.....	Chatham.....	15
Kent.....	Raleigh.....	2-10
Kent.....	Dover East.....	10-25

ROCHESTER FORMATION

The Rochester formation overlies the Clinton and is succeeded by the Lockport dolomite. As in the case of the Clinton formation, the Rochester is penetrated by only a small number of the wells drilled. Where drilled, it consists of dark grey, calcareous shale and shaly dolomite and is readily separable in well cuttings from the overlying grey, crystalline dolomite of the Lockport formation. The following table gives the thickness of the Rochester in the townships specified:

County	Township	Thickness
		Feet
Lambton.....	Enniskillen.....	41-54
Lambton.....	Sombra.....	25-50
Lambton.....	Dawn.....	47
Lambton.....	Sarnia.....	24
Kent.....	Romney.....	40
Kent.....	Tilbury East.....	10-20
Kent.....	Chatham.....	25
Kent.....	Raleigh.....	18-42
Kent.....	Dover East.....	10-25
Essex.....	Gosfield South.....	10
Essex.....	Colchester South.....	11+

GUELPH AND LOCKPORT FORMATIONS

Although the Guelph and Lockport formations were mapped separately in the Niagara peninsula, no satisfactory criteria were found upon which the two could be separated in well samples. They were, therefore, logged as a single

unit under the term Guelph-Lockport¹. This method of logging was also found necessary in the adjoining area² to the east. In the Windsor-Sarnia area the same conditions of sedimentation prevail. The two formations as seen in wells are essentially similar lithologically and form a unit that cannot be subdivided. The usage cited above is, therefore, continued.

The Guelph-Lockport beds occupy a position between the Rochester shale below and the Salina formation above. They consist of a succession of crystalline, finely crystalline, and granular dolomite beds that are commonly grey and buff in the upper part (Guelph) and light grey to nearly white towards the base (Lockport).

The lower contact is easily recognized in well cuttings, the change from light grey, crystalline (Lockport) dolomite to dark grey, limy shale (Rochester) being fairly abrupt.

The upper limit of the Guelph-Lockport is not always easy to place. It will be discussed with the overlying Salina formation.

The following table indicates the thickness of the Guelph-Lockport in the townships specified.

County	Township	Thickness Feet
Lambton.....	Enniskillen.....	79-95
Lambton.....	Dawn.....	90-278
Lambton.....	Sarnia.....	82
Lambton.....	Sombra.....	110-170
Kent.....	Camden Gore.....	161-192+
Kent.....	Chatham.....	190-240
Kent.....	Dover East.....	190-295
Kent.....	Raleigh.....	280-300
Kent.....	Tilbury East.....	310-470
Kent.....	Romney.....	325-470
Essex.....	Tilbury West.....	480-500
Essex.....	Gosfield South.....	379
Essex.....	Colchester South.....	371-404+

SALINA FORMATION

This formation everywhere overlies the Guelph-Lockport beds and is succeeded by the Bertie-Akron series. As seen in well cuttings, the Salina exhibits in general alternations of grey and brown zones, each of which presents a lithology peculiar to itself. The brown zones consist of fine-grained to dense dolomite and the grey zones vary from argillaceous dolomite to dolomitic shale. The formation as a whole is, therefore, more or less calcareous, the nearest approach to true shale being some thin zones of grey and greenish grey, argillaceous rock observed in wells from Romney, Camden Gore, Dawn, Sombra, Sarnia, Anderdon, and Plympton townships, and traces of red shale up to 5 feet thick in wells from Romney, Anderdon, and Sarnia townships. Traces of white gypsum (anhydrite and gypsum are not differentiated) are present throughout most of the formation, and in most wells examined it forms a zone up to 10 feet thick commonly within the lower 30 feet of the formation (See Figure 1). Wells from Enniskillen, Dawn, Sarnia, Sombra, Raleigh, Tilbury East, Romney, and Anderdon townships show thicknesses of salt aggregating as much as 540 feet (See Figure 1). The salt may occur in from one to six separate beds in a single well, and individual beds range from about 5 to 200 feet in thickness. Although at least one well from each of the foregoing townships is known to have encountered

¹Caley, J. F.: Geol. Surv., Canada, Mem. 224, pp. 60, 72 (1940); Mem. 226, pp. 26, 29 (1941)

²Caley, J. F.: Geol. Surv., Canada, Mem. 237, p. 21 (1943).

salt, it does not follow that this mineral is present in every well in any given township. For instance, cuttings of some wells from Dawn, Sombra, Raleigh, Tilbury East, and Romney townships have been examined in which no salt was drilled.

The base of the Salina is not everywhere easy to locate in well samples. In all wells examined there was found to be a recognizable change in texture usually a short distance below the lowest occurrence of gypsum, and in most wells this change coincided with a change in colour. The contact with the underlying Guelph formation is placed at this change. Typically, the lower 50 to 150 feet of the Salina is brown or brownish grey, fine-grained to dense dolomite with traces of gypsum throughout and, commonly, a single bed of gypsum up to 10 feet thick within the lower 30 feet. Below, the Guelph dolomite is typically grey and distinctly crystalline or even granular, and, though it may contain traces of selenite, white gypsum is rarely present. In some wells, however, the coincidence of the disappearance of gypsum with change in texture and colour is not so evident. In such wells there may be a considerable thickness of brownish or buff, crystalline dolomite below the lowest gypsum and above the typical grey, crystalline Guelph dolomite. In such wells the base of the Salina is placed where a distinct change in texture is recognizable even though this change may not also mark a corresponding change from brown to grey.

The top of the Salina is readily recognizable in most wells. It is placed above the highest occurrence of gypsum or anhydrite, usually associated with brownish dolomite and grey, shaly dolomite. This horizon is overlain by buff and brown, fine-grained dolomite with, in some wells, black bituminous streaks, and which represents the Bertie-Akron series.

The following table illustrates the contacts of the Salina as well as the lithology of the Salina and Bertie-Akron formations. The table is based on examination of one well from each of the townships specified.

Township	Depth	Thickness	Lithology	Formation
	Feet	Feet		
Romney	680-740	60	Dolomite: buff, fine-grained; porous at 730 to 735 feet.	Bertie-Akron
	740-850	110	Dolomite: brownish grey, fine-grained; few black bituminous streaks.	
	850-905	55	Dolomite: brownish grey, fine-grained; trace gypsum.	Salina
	905-990	85	Dolomitic shale: grey; trace gypsum throughout.	
	990-1,125	135	Dolomite: buff, fine-grained; 25 per cent grey, limy shale 995 to 1,020 feet; trace gypsum in most samples.	
	1,125-1,150	25	Shaly dolomite: grey; little buff dolomite; trace gypsum.	
	1,150-1,205	55	Dolomitic shale: grey; little buff dolomite; trace gypsum.	
	1,205-1,360	155	Dolomite: buff, fine-grained; little grey, limy shale; trace green shale 1,225 to 1,235 feet.	
	1,360-1,440	80	Dolomite: medium grey, crystalline; finely porous 1,360 to 1,400 feet.	Guelph-Lockport
Tilbury West	490-600	110	Dolomite: buff and brownish, fine-grained; trace oolitic dolomite 550 to 560 feet; fine porosity 590 to 600 feet.	Bertie-Akron
	600-660	60	Dolomite: brownish grey, fine-grained; little grey, shaly dolomite in most samples; trace gypsum.	Salina
	660-760	100	Dolomitic shale: grey; little brown dolomite in most samples; trace gypsum throughout.	

Township	Depth	Thickness	Lithology	Formation
	Feet	Feet		
Tilbury West	760-900	140	Dolomite: brownish grey, fine-grained; trace grey, dolomitic shale throughout; trace gypsum throughout.	
	900-982	82	Dolomitic shale: grey and greenish; little brown dolomite; 1 per cent red, limy shale at 910 to 920 feet; trace gypsum.	
	982-1,100	118	Dolomite: brownish grey, fine-grained; trace gypsum in many samples.	
	1,100-1,110	10	Gypsum; 1 per cent brown dolomite.	
	1,110-1,140	30	Dolomite: brownish grey, fine-grained.	
	1,140-1,300	160	Dolomite: grey, crystalline.	Guelph-Lockport
Chatham	805-915	110	Dolomite: buff, fine-grained; fine porosity at 820 to 855 feet; few black bituminous streaks.	Bertie-Akron
	915-955	40	Dolomite: brownish grey, fine-grained; some grey, dolomitic shale; trace gypsum.	Salina
	955-970	15	Dolomite: brownish grey, fine-grained; much dark grey, limy shale: 25 per cent gypsum at 970 feet.	
	970-990	20	Dolomitic shale: grey; 5 per cent gypsum.	
	990-1,000	10	Dolomitic shale: greenish grey; trace pink gypsum.	
	1,000-1,070	70	Dolomitic shale: grey; some brown dolomite; trace gypsum.	
	1,070-1,215	145	Dolomite: brown, fine-grained; minor amount grey, limy shale at 1,075 to 1,085, 1,130 to 1,150, and 1,190 to 1,215 feet; trace gypsum throughout.	
	1,215-1,270	55	Dolomitic shale: greenish grey; trace red shale at 1,230 feet; brown dolomite at 1,255 feet; trace gypsum throughout.	
	1,270-1,300	30	Dolomite: brown, fine-grained; trace gypsum.	
	1,300-1,470	170	Salt: little brown dolomite at 1,320, 1,340, 1,375, and 1,465 to 1,470 feet.	
	1,470-1,480	10	Dolomite: buff, fine-grained; trace gypsum and salt.	
	1,480-1,485	5	Salt.	
	1,485-1,565	80	Dolomite: brownish grey, fine-grained; trace gypsum.	
	1,565-1,595	30	Shaly dolomite: grey, fine-grained; little grey, dolomitic shale; 50 per cent gypsum at 1,590 to 1,595 feet.	
	1,595-1,650	55	Dolomite: buff, fine-grained; 5 per cent gypsum at 1,605 to 1,615 feet; trace pyrite 1,620 to 1,630 feet.	
	1,650-1,665	15	Dolomite: grey, crystalline.	Guelph-Lockport
	1,665-1,715	50	Dolomite: buff, granular; fine porosity at 1,700 to 1,705 feet.	
Dover	930-1,110	180	Dolomite: buff and brown, fine-grained; trace selenite at 990 to 1,000 feet.	Bertie-Akron
	1,110-1,150	40	Shaly dolomite: grey; trace gypsum	Salina
	1,150-1,190	40	Dolomitic shale: greenish grey; trace gypsum throughout.	
	1,190-1,240	50	Shaly dolomite: grey; some brown dolomite; trace gypsum throughout.	
	1,240-1,290	50	Dolomite: brownish grey, fine-grained; trace grey, limy shale throughout; little gypsum.	
	1,290-1,310	20	Dolomitic shale: grey and greenish grey; trace gypsum.	
	1,310-1,370	60	Dolomite: brownish grey, fine-grained; trace grey, limy shale throughout; trace pyrite at 1,360 feet.	
	1,370-1,480	110	Dolomitic shale: grey to greenish; trace brown dolomite in most samples; trace gypsum throughout.	
	1,480-1,560	80	Dolomite: brownish grey, fine-grained; some black bituminous streaks; trace gypsum at 1,480 to 1,520 feet; trace pyrite at 1,510 to 1,540 feet.	

Township	Depth	Thickness	Lithology	Formation
	Feet	Feet		
Dover	1,560-1,600	40	Shaly dolomite: grey, fine-grained; trace red shale at 1,580 feet; little gypsum at 1,600 feet.	Guelph-Lockport
	1,600-1,610	10	Gypsum; little brown dolomite and grey shale.	
	1,610-1,640	30	Dolomite: buff, fine-grained; trace gypsum.	
	1,640-1,680	40	Dolomite: grey, crystalline.	
Mersea	430-540	110	Dolomite: buff, fine-grained.	Bertie-Akron
	540-590	50	Dolomite: buff, fine-grained; some grey, shaly dolomite in most samples; trace gypsum.	Salina
	590-680	90	Dolomitic shale: grey; trace gypsum throughout.	
	680-810	130	Dolomite: brownish grey, fine-grained; trace dark grey, dolomitic shale in many samples; trace gypsum in most samples.	
	810-900	90	Dolomitic shale: grey and greenish grey; trace gypsum throughout.	
	900-1,040	140	Dolomite: brownish grey, fine-grained; 30 per cent gypsum at 1,020 to 1,030 feet.	Guelph-Lockport
	1,040-1,060	20	Dolomite: grey, crystalline.	
Tilbury North	680-800	120	Dolomite: buff and brownish grey, fine-grained; trace oolitic dolomite at 720 to 725, 750 to 755, and 770 to 780 feet.	Bertie-Akron
	800-850	50	Dolomite: brownish grey, fine-grained; little grey, shaly dolomite at 820 to 825 feet; trace gypsum.	Salina
	850-870	20	Shaly dolomite: grey, fine-grained; 5 per cent dark grey, dolomitic shale; trace gypsum.	
	870-940	70	Dolomitic shale: greenish grey; little grey, shaly dolomite; trace gypsum throughout.	
	940-1,105	165	Dolomite: brownish grey, fine-grained; 2 per cent dark grey, dolomitic shale 940 to 1,025 feet; trace grey, shaly dolomite 1,040 to 1,070 feet; trace gypsum in most samples.	
	1,105-1,210	105	Dolomitic shale: greenish grey; brown dolomite at 1,195 to 1,200 feet; trace gypsum in most samples.	
	1,210-1,320	110	Dolomite: brownish grey, fine-grained; trace gypsum at 1,210 to 1,265 feet.	
	1,320-1,325	5	Gypsum; little grey, dolomitic shale.	
	1,325-1,335	10	Dolomite: brownish grey, fine-grained.	
	1,335-1,345	10	Gypsum.	
	1,345-1,360	15	Dolomite: brownish grey, fine-grained; trace gypsum.	
	1,360-1,405	45	Dolomite: medium grey, crystalline.	Guelph-Lockport
	1,405-1,415	10	Dolomite: buff, crystalline.	
	1,415-1,450	35	Dolomite: light grey, crystalline.	
Dawn	1,161-1,242	81	Dolomite: buff and grey, fine-grained; oolitic at 1,203 feet; some fine porosity 1,209 to 1,215 feet.	Bertie-Akron
	1,242-1,247	5	Dolomite: brownish grey, fine-grained; 2 per cent dark grey, shaly dolomite.	Salina
	1,247-1,262	15	Shaly dolomite: grey, fine-grained; 40 per cent brown dolomite; trace dark grey shale; trace gypsum at 1,252 feet.	
	1,262-1,313	51	Dolomite: brownish grey, fine-grained; grey, shaly dolomite at 1,289 feet; dolomitic shale 1,295 to 1,301 feet.	
	1,313-1,400	87	Dolomitic shale: dark greenish grey; trace pink gypsum throughout; 50 per cent dolomite at 1,400 feet.	
	1,400-1,537	137	Dolomite: brownish grey, fine-grained; trace gypsum in most samples; from trace to 25 per cent dark grey, dolomitic shale.	

Township	Depth	Thickness	Lithology	Formation
	Feet	Feet		
Dawn	1,537-1,596	59	Dolomitic shale; greenish grey; trace gypsum throughout; little brown dolomite.	
	1,596-1,612	16	Dolomite: brownish grey, fine-grained; some grey, shaly dolomite; trace gypsum.	
	1,612-1,618	6	Dolomitic shale: greenish grey; trace pyrite.	
	1,618-1,742	124	Dolomite: brownish grey, fine-grained; trace grey shale 1,618 to 1,630 feet; trace gypsum 1,630 to 1,642 feet.	
	1,742-1,757	15	Shaly dolomite: grey; trace dark grey, dolomitic shale.	
	1,757-1,886	129	Dolomite: brownish grey, fine-grained; trace dark grey, dolomitic shale 1,762 to 1,777 and 1,846 to 1,880 feet; 10 per cent gypsum 1,767 to 1,777 feet; 25 per cent gypsum at 1,886 feet.	
	1,886-1,965	79	Dolomite: buff, finely crystalline.	Guelph-Lockport
	1,965-2,021	56	Dolomite: light grey, crystalline; some fine porosity at 2,021 feet.	
	2,021-2,031	10	Dolomite: medium grey, crystalline.	
Malden	321-401	80	Dolomite: buff, fine-grained; black bituminous streaks; trace oolitic dolomite at 353 to 359 and 389 to 398 feet.	Bertie-Akron
	401-410	9	Sample missing.	
	410-471	61	Dolomite: buff and grey, fine-grained.	
	471-499	28	Dolomite: brownish grey, fine-grained; little grey, shaly dolomite; trace gypsum.	Salina
	499-587	88	Dolomitic shale: grey; little brown dolomite in lower 24 feet; little gypsum throughout.	
	587-746	159	Dolomite: buff and brown, fine-grained; 50 per cent grey, shaly dolomite 669 to 675 feet; 25 per cent shaly dolomite in lower 20 feet; trace gypsum throughout.	
	746-795	49	Dolomitic shale: grey; little brown dolomite in most samples; trace gypsum.	
	795-801	6	Gypsum: 20 per cent grey, dolomitic shale.	
	801-818	17	Dolomitic shale: grey; 10 per cent brown dolomite; trace gypsum.	
	818-854	36	Dolomite: brownish grey, fine-grained; 5 per cent grey, dolomitic shale; trace gypsum.	
	854-866	12	Gypsum: 20 per cent greenish grey shale.	
	866-957	91	Dolomite: brownish grey and buff, finely crystalline; 50 per cent gypsum 866 to 880 feet.	
	957-975	18	Gypsum: 20 per cent brown dolomite.	
	975-1,016	41	Dolomite: buff, finely crystalline; little gypsum in most samples.	
	1,016-1,022	6	Dolomite: buff and grey, granular.	Guelph-Lockport
Sarnia	985-1,080	95	Dolomite: buff, fine-grained; trace gypsum 1,038 to 1,068 feet.	Bertie-Akron
	1,080-1,150	70	Dolomite: brownish grey, fine-grained; trace gypsum 1,080 to 1,088, 1,115 to 1,120 feet.	Salina
	1,150-1,180	30	Shaly dolomite: grey, fine-grained; greenish shale 1,165 to 1,170 feet; trace gypsum throughout.	
	1,180-1,205	25	Dolomite: brownish grey, fine-grained.	
	1,205-1,250	45	Dolomitic shale: grey; trace gypsum throughout.	
	1,250-1,255	5	Shale: red; trace green shale.	
	1,255-1,290	35	Shale: greenish grey; trace gypsum throughout.	
	1,290-1,318	28	Dolomitic shale: grey; trace gypsum throughout.	
	1,318-1,404	86	Salt: grey, shaly dolomite 1,344 to 1,350 feet; trace greenish shale 1,365 to 1,375 and 1,396 to 1,404 feet.	
	1,404-1,412	8	Shale: greenish grey; trace gypsum.	

Township	Depth	Thickness	Lithology	Formation
	Feet	Feet		
Sarnia	1,412-1,427	15	Dolomite; brownish grey, fine-grained; trace gypsum.	
	1,427-1,435	8	Dolomitic shale; greenish grey; little gypsum.	
	1,435-1,480	45	Salt; little green shale 1,435 to 1,440 feet.	
	1,480-1,510	30	Dolomite: brownish grey, fine-grained; trace gypsum.	
	1,510-1,520	10	Salt.	
	1,520-1,540	20	Dolomite: brownish grey, fine-grained; trace gypsum.	
	1,540-1,605	65	Salt.	
	1,605-1,615	10	Dolomite: brown, fine-grained; 50 per cent greenish shale; little gypsum.	
	1,615-1,620	5	Gypsum.	
	1,620-1,630	10	Samples missing.	
	1,630-1,635	5	Gypsum.	
	1,635-1,695	60	Dolomite: brownish grey, fine-grained; 35 per cent gypsum 1,625 to 1,695 feet.	
	1,695-1,745	50	Salt.	
	1,745-1,760	15	Dolomite: brownish grey, fine-grained; little gypsum.	
	1,760-1,806	46	Shale: greenish grey; 15 per cent gypsum.	
	1,806-1,814	8	Gypsum; little brown dolomite.	
	1,814-1,820	6	Dolomite: brownish grey, fine-grained.	
	1,820-1,845	25	Shale: greenish grey; trace gypsum.	
	1,845-1,873	28	Salt.	
	1,873-1,882	9	Dolomite: brownish grey, fine-grained.	
	1,882-1,890	8	Salt.	
	1,890-1,898	8	Dolomite: brownish grey, fine-grained.	
	1,898-2,096	198	Salt.	
	2,096-2,101	5	Dolomite: brownish grey, fine-grained.	
	2,101-2,120	19	Salt.	
	2,120-2,215	95	Dolomite: brownish grey, fine-grained; 25 per cent gypsum 2,146 to 2,150 feet.	
	2,215-2,268	53	Shaly dolomite: grey; 25 per cent gypsum 2,260 to 2,268 feet.	
	2,268-2,276	8	Gypsum.	
	2,276-2,360	84	Salt.	
	2,360-2,417	57	Dolomite: brown, fine-grained; trace pyrite 2,395 to 2,410 feet.	
	2,417-2,498	81	Dolomite: grey, fine-grained; little dark grey shale 2,462 to 2,492 feet; trace pyrite 2,435 to 2,462 feet.	
	2,498-2,505	7	Gypsum.	
	2,505-2,518	13	Dolomite: buff, fine-grained; 60 per cent gypsum.	
	2,518-2,576	58	Dolomite: grey, crystalline; trace pyrite 2,527 to 2,538 feet.	Guelph-Lockport

The Salina formation shows some variation in thickness both in wells within a given township and in wells more widely spaced throughout the area. It is suggested that the more local variation may be due, in part at least, to difficulty in placing the lower boundary. Also, the presence of variable thicknesses of salt in wells from some localities accounts for much of the local variation in total thickness of the formation. This feature is illustrated in the following table:

County	Township	Thickness	Thickness of salt	Thickness without salt
		Feet	Feet	Feet
Lambton.....	Enniskillen.....	1,003	233	770
Lambton.....	Enniskillen.....	971	258	713
Lambton.....	Enniskillen.....	1,129	478	651
Lambton.....	Dawn.....	687	78	609
Lambton.....	Dawn.....	960	270	690
Lambton.....	Dawn.....	830	220	610
Lambton.....	Dawn.....	870	235	635
Lambton.....	Dawn.....	890	210	680
Lambton.....	Dawn.....	855	235	620
Lambton.....	Dawn.....	880	165	715
Lambton.....	Dawn.....	920	255	665
Lambton.....	Dawn.....	655	15	640
Lambton.....	Dawn.....	677	10	667
Lambton.....	Dawn.....	644	0	644
Lambton.....	Sarnia.....	1,438	541	897
Lambton.....	Sombra.....	945	285	660
Lambton.....	Sombra.....	855	240	615
Kent.....	Camden Gore.....	648	0	648
Kent.....	Chatham.....	735	175	560
Kent.....	Dover East.....	560	0	560
Kent.....	Raleigh.....	550	10	540
Kent.....	Raleigh.....	668	150	518
Kent.....	Raleigh.....	585	92	493
Kent.....	Raleigh.....	550	20	530
Kent.....	Raleigh.....	490	10	480
Kent.....	Tilbury East.....	685	95	590
Kent.....	Romey.....	530	10	520
Essex.....	Tilbury West.....	540	0	540
Essex.....	Tilbury North.....	560	0	560
Essex.....	Mersea.....	500	0	500
Essex.....	Gosfield South.....	600	0	600
Essex.....	Colchester South.....	554	0	554
Essex.....	Malden.....	545	0	545
Essex.....	Anderdon.....	620	107	513
Essex.....	Anderdon.....	640	180	460

Notwithstanding the local variation indicated by the foregoing figures, and after deducting the total thickness of salt from each well, there appears to be a general thickening of the formation northward across the area from a minimum of 460 feet in Anderdon township to a maximum of 897 feet in Sarnia township.

For correlation of the Salina formation the reader is referred to the Palaeozoic Geology of the Brantford Area, Ontario; Geol. Surv., Canada, Mem. 226, p. 43 (1941), by J. F. Caley.

BERTIE-AKRON SERIES¹

The Bertie-Akron series overlies the Salina formation and constitutes the youngest Silurian strata in the Windsor-Sarnia area. These rocks occupy the stratigraphic position of the Bertie-Akron as it is developed in areas² to the east: it is not divisible there, nor in the present area, and, therefore, the method of logging it as a single unit is continued.

As seen in well cuttings, these youngest Silurian rocks are a lithologically uniform series of buff, brownish grey, and brown, fine-grained dolomite with, in some wells, black bituminous streaks. Traces and small quantities of oolitic dolomite have been observed in some wells, and traces of selenite are not uncommon. The details of this lithology are shown in foregoing logs illustrating the contacts of the Salina formation.

¹For history and present use of the term Bertie-Akron See Geol. Surv., Canada, Mem. 224, p. 78 (1940); Mem. 237, pp. 34, 35 (1943).

²Caley, J. F.: Palaeozoic Geology of the Toronto-Hamilton Area, Ontario; Palaeozoic Geology of the Brantford Area, Ontario; Palaeozoic Geology of the London Area, Ontario; Geol. Surv., Canada: Mem. 224 (1940); Mem. 226 (1941); Mem. 237 (1943).

The lower contact of the Bertie-Akron series is referred to in the description of the Salina formation. It is placed above the highest occurrence of gypsum in that formation, which is associated with brown dolomite and grey, shaly dolomite.

The upper contact of the series is at the Silurian-Devonian boundary, and is described with the overlying Devonian rocks.

The thickness of the Bertie-Akron shows much local variation, due, doubtless, to erosion prior to desposition of the overlying Devonian. The following are thicknesses indicated by well logs in the townships specified.

County	Township	Thickness
		Feet
Lambton.....	Enniskillen.....	102-173
Lambton.....	Dawn.....	60-205
Lambton.....	Sarnia.....	95
Lambton.....	Sombra.....	72-115
Kent.....	Camden Gore.....	76-238
Kent.....	Chatham.....	92-259
Kent.....	Dover East.....	143-180
Kent.....	Raleigh.....	48-275
Kent.....	Tilbury East.....	77-318
Kent.....	Romney.....	82-300
Essex.....	Tilbury North.....	60
Essex.....	Tilbury West.....	120-130
Essex.....	Mersea.....	120-205
Essex.....	Gosfield South.....	92-160
Essex.....	Colchester South.....	134-395
Essex.....	Malden.....	120-162
Essex.....	Anderdon.....	130-150
Essex.....	Sandwich West.....	110

In Michigan and Ohio the Silurian rocks above the Salina have been called the Bass Island series¹. The term was proposed for the Lower Monroe division of Grabau's² restricted use of the original Monroe beds of Lane³ and the name was taken from the group of islands of the same name in western Lake Erie. As thus defined, the Bass Island occupies a position between the Salina formation below and the Sylvania sandstone above. In Ohio the Sylvania is placed in the Devonian by Carman⁴ and described by him as resting disconformably upon the Bass Island series. The Bass Island thus occupies a like stratigraphic position with the Bertie-Akron of the Windsor-Sarnia area.

The name Bertie-Akron is here used rather than Bass Island, as the post-Salina Silurian in the Windsor-Sarnia area is known only from drilling samples; palæontological material is entirely lacking; and the strata are a westward continuation, with an essentially similar lithology, of the Bertie-Akron of the Niagara peninsula.

Chadwick's statement⁵, when discussing the Cayugan Waterlimes of western New York, that "it is claimed that the name Bertie should either be retained in the primitive sense covering the entire series inclusive of the Akron, or else be restricted to the cement bed here called the Buffalo, a name said to be pre-occupied", merits consideration. As the Akron dolomite cannot be individually distinguished, and as Chapman's original use of the term Bertie⁶ apparently included all the Silurian rocks above the Salina, it seems worth pointing out that the post-Salina Silurian strata of the Windsor-Sarnia area might properly be designated by the term Bertie formation.

¹Grabau, A. W.: Geol. Soc. Amer., vol. 19, 1908, p. 554.

²Grabau, A. W.: Science, N.S., vol. 27, p. 622 (1908).

³Lane, A. C.: Mich. Geol. Surv., vol. 5, pt. 2, pp. 26-28.

⁴Carman, J. E.: Geol. Soc. Amer., vol. 47, pp. 253-266 (1936).

⁵Chadwick, G. H.: Geol. Soc. Amer., vol. 28, p. 173 (1917) (abstract).

⁶Chapman, E. J.: Minerals and Geology of Canada, p. 190 (1864).

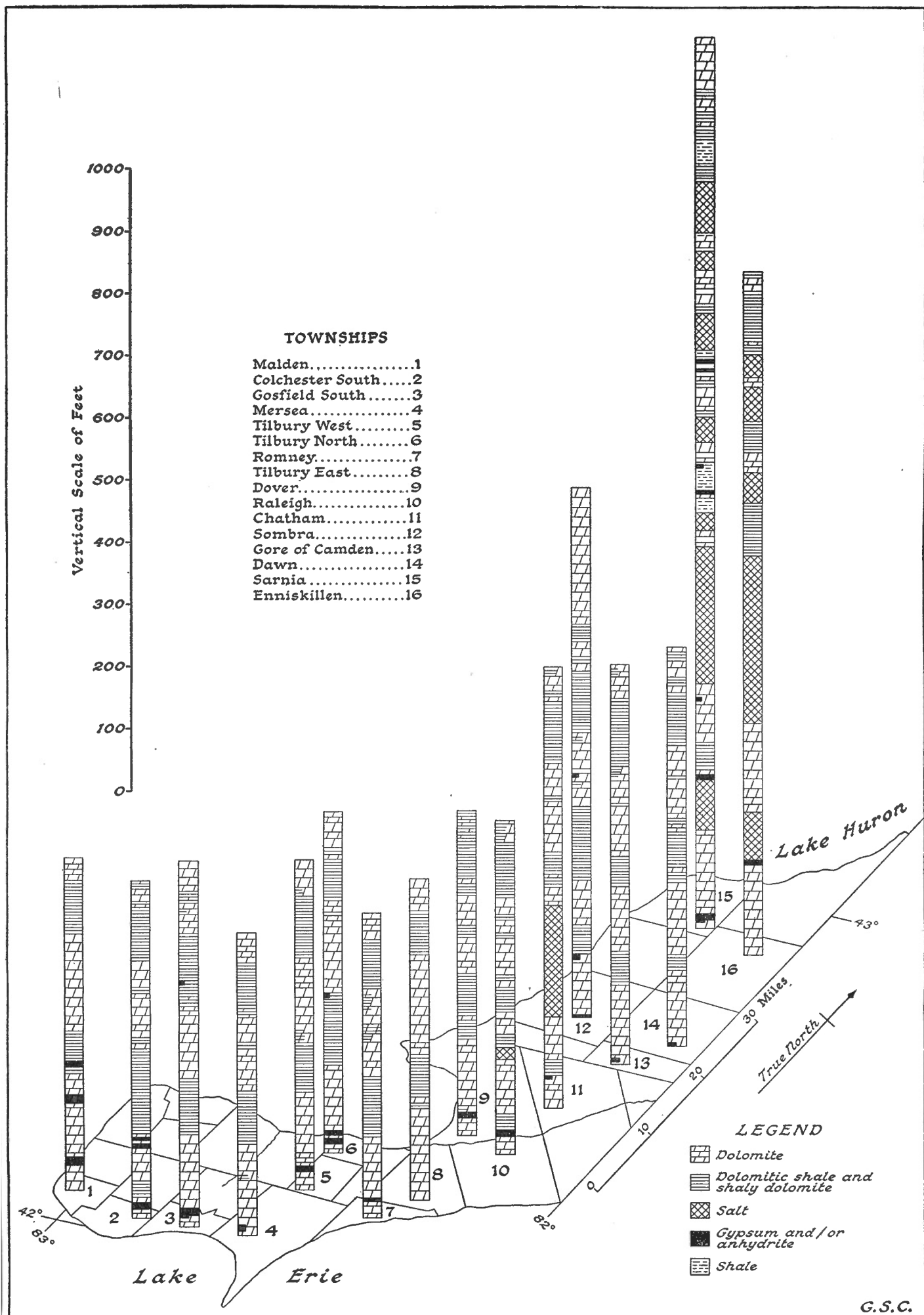


Figure 1. Columnar sections of the Salina formation, showing its total thickness and lithology, and the thickness of salt and gypsum in the townships specified.

OUTCROPPING FORMATIONS

GENERAL STATEMENT

Outcropping strata in the Windsor-Sarnia area are confined to the Devonian system, and consist of the Norfolk, Hamilton, and Kettle Point formations. Of these only the Norfolk and Kettle Point beds can be seen, the Hamilton being everywhere concealed by glacial overburden. Exposures of the other two formations are rare and exhibit only a small part of the respective formations, so that recourse to drilling samples is necessary in studying the entire Devonian section.

NORFOLK AND PRE-NORFOLK BEDS

Historical Review. When mapping the Brantford area¹ the pre-Hamilton Devonian was represented as a single unit under the term Norfolk formation. The term was used to designate the rocks previously mapped as Delaware and Onondaga, together with any underlying Devonian strata of the same general character that were conformable with them. The term was adopted because it was impossible to separate the Delaware and Onondaga in well cuttings and also because of the failure to recognize with certainty the presence of Detroit River strata, either in wells or at the outcrop, as separate from the overlying Onondaga. The Norfolk as thus defined constitutes a lithological unit that is readily delimited and, therefore, suitable for mapping purposes. This method of mapping the pre-Hamilton Devonian was continued westward into the London area².

Outside the present area, and also typically exposed at the Brunner Mond quarry at Amherstburg, is a series of rocks somewhat similar to the Onondaga and containing a fauna that "if considered by itself would probably be pronounced a Schoharie or Onondaga fauna without a moment's hesitation although there is considerable Siluric element"³. These rocks were named the Detroit River series by Grabau⁴ and are reported to underlie unconformably the Dundee⁵ (Onondaga).

In 1895 A. C. Lane⁶ proposed the term Monroe beds for the rocks in southeastern Michigan included between the Dundee (Onondaga) above and the lowest gypsiferous beds below. This term embraced everything from the top of the Niagara to the base of the Dundee (in ascending order, the Salina, Bass Island, Sylvania, and Detroit River). Prosser⁷ used the term Monroe for rocks occupying the same stratigraphic position in western Ohio, but divided them into a lower member, the Tymochtee, and an upper member, the Lucas limestone, separated by the Sylvania sandstone of Orton. In 1908, Grabau⁸ removed the Salina rocks from the Monroe. In the same year a more detailed classification of the Monroe was proposed⁹. This classification¹⁰ has been in general use in Ohio and Michigan since that time. It is as follows:

C. Upper Monroe

or		Feet
Detroit River series.....	Lucas dolomite	200+
	Amherstburg dolomite	20
	Anderdon limestone.....	35-50
	Flat Rock dolomite.....	40-100

¹Caley, J. F.: Geol. Surv., Canada, Mem. 226, p. 49 (1941).

²Caley, J. F.: Geol. Surv., Canada, Mem. 237 (1943).

³Grabau, A. W., and Sherzer, W. H.: Mich. Geol. and Biol. Surv., Pub. 2, p. 217 (1909).

⁴Grabau, A. W.: Bull. Geol. Soc. Amer., vol. 19, p. 555 (1908).

⁵Grabau, A. W., and Sherzer, W. H.: Op. cit., p. 27.

⁶Lane, A. C.: Geol. Surv., Mich., vol. 5, pt. 2, pp. 26-28 (1895).

⁷Prosser, C. S.: Jour. of Geol., vol. 8, pp. 538-541 (1903).

⁸Grabau, A. W.: Science, N.S. vol. 27, p. 622 (1908).

⁹Lane, A. C., Prosser, C. S., Sherzer, W. H., Grabau, A. W.: Bull. Geol. Soc. Amer., vol. 19, pp. 553-556 (1908).

¹⁰Grabau, A. W., and Sherzer, W. H.: Mich. Geol. Surv., Pub. 2, p. 27 (1909).

Disconformity

B. Sylvania sandstone and dolomites.

Feet

Disconformity

A. Lower Monroe

or		
Bass Island series.....	Raisin River dolomite.....	200
	Put-in-Bay dolomite.....	100
	Tymochtee shale	90
	Greenfield dolomite	100

For many years the Monroe was considered to be Silurian. Grabau and Sherzer¹, and later Sherzer², placed it in the Silurian, although the Devonian aspect of the faunas of the Anderdon and Amherstburg members of the Detroit River series was clearly emphasized. Grabau³ states that the fauna of the Lucas dolomite is "throughout a Siluric fauna". He also states that the most characteristic feature of the fauna of the Flat Rock, Amherstburg, and Anderdon beds is its Devonian element. But, "the position of this fauna beneath 200 to 250 feet of the Lucas dolomite with a Siluric fauna forces us to consider this as Siluric"⁴.

According to Stauffer⁵, some doubt exists as to the stratigraphic sequence of the subdivisions of the Detroit River series as well as to the age of the entire series. He states that all divisions of the Detroit River series contain Devonian faunal elements, and makes it clear that the fauna of the Amherstburg dolomite is a Devonian fauna closely related to that of the Onondaga. Williams⁶ places the Detroit River series in the Devonian on faunal evidence, as also does Carman⁷ in Ohio and Newcombe⁸ in Michigan.

At the Amherstburg quarry there are physical conditions that have been interpreted⁹ as positive evidence of a disconformity at the base of the Onondaga. Below this disconformity the rock is considered to belong to the Detroit River series¹⁰. The present writer has examined this quarry and agrees that an interval of erosion is indicated. Fossils collected from the quarry face above the disconformity have been identified by A. E. Wilson of the Geological Survey as of undoubted Onondaga age. Fossils collected from below the disconformity and from a small quarry located $1\frac{1}{2}$ miles to the south are numbered among the typical Detroit River fauna. The coral *Cladopora cryptodens* was found above and below the disconformity. This indicates a beginning of the Onondaga influence before the time interval occurred. Elsewhere in southwestern Ontario, and notably on Maitland River and on the Lake Huron shore near Goderich, are rocks enclosing faunas that contain a preponderance of Onondaga forms and yet include the genus *Prosserella*, which is generally regarded as a typical Detroit River form. The presence of this genus implies that the emergence before Onondaga time, suggested at the Amherstburg quarry, was probably of minor duration.

A division of the pre-Hamilton Devonian into an upper and lower part seems possible in samples from some wells in the Windsor-Sarnia area. In descending order the rock is typically buff limestone containing some chert in the lower part and small resinous spores (*Protosalvinia*) throughout. This is underlain by buff and brownish magnesian limestone, chert-free at the top, but

¹Grabau, A. W., and Sherzer, W. H.: Mich. Geol. and Biol. Surv., Pub. 2 (1909).

²Sherzer, W. H.: Mich. Geol. and Biol. Surv., Pub. 12 (1911).

³Grabau, A. W.: Mich. Geol. and Biol. Surv., Pub. 2, p. 221 (1909).

⁴Grabau, A. W.: Op. cit., p. 217.

⁵Stauffer, C. R.: Bull. Geol. Soc. Amer., vol. 27, pp. 72-77 (1916).

⁶Williams, M. Y.: Geol. Surv., Canada, Mem. 111, pp. 18-22 (1919).

⁷Carman, J. E.: Jour. of Geol., vol. 35 (1927).

⁸Newcombe, R. B.: Mich. Geol. and Biol. Surv., Pub. 38 (1933).

⁹Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, p. 279 (1915); Geol. Soc. Amer., vol. 27, pp. 75-76 (1916).

¹⁰Stauffer, C. R.: Bull. Geol. Soc. Amer., vol. 27, p. 75 (1916).

becoming cherty in the lower part, the chert commonly constituting the greater part of the rock at and near the base. Traces of sand in the form of rounded and sub-rounded, frosted grains occur at the base of the upper and lower chert horizons. The lower sand is usually associated with glauconite.

A study of insoluble residues of these rocks made recently by Crombie¹ has shown the upper sand to be invariably present, and although in the residues it is detected over a considerable vertical range, it is concentrated at an horizon that appears to be constant throughout the area studied. Where traced eastward from Kent county, it is the horizon of the Oriskany sandstone that outcrops in the Niagara peninsula.

The lower sand, being at the base of the Devonian, occupies the position of the Sylvania of Ohio. Although the Sylvania sand is often coarser than the Oriskany, Crombie states that "stratigraphic position and the glauconite frequently associated with the Sylvania are the best criteria for distinguishing Sylvania and Oriskany sandstones". He further suggests that as *Protosalvinia* is always present in the upper (Onondaga) chert and has rarely been seen in the lower (Detroit River) chert, its presence or absence may assist in identifying the cherty limestone and chert horizons at the outcrop.

It thus appears that, chiefly on a basis of insoluble residues, the pre-Hamilton Devonian in well cuttings is separable, at an upper horizon of rounded sand, into two generally similar appearing series of strata. This sand appears to be at the horizon of the Oriskany sandstone, in which case the underlying Devonian strata would represent the Detroit River series. The succession between the Detroit River and the base of the Hamilton is not divisible, even on the basis of insoluble residues.

Comparing the well cuttings with the exposed rock at the Amherstburg quarry, it seems reasonable to place the Oriskany sand horizon in the wells below the disconformity in the quarry. Admitting a disconformity there, the lower part of the quarry section must, by definition, include the Detroit River series and is pre-Norfolk. The Norfolk formation is thus here restricted to the Delaware-Onondaga part of the pre-Hamilton Devonian.

In view of the difficulty in placing the base of the Norfolk in well cuttings without the aid of insoluble residues, the method of mapping the pre-Hamilton Devonian as a unit, which was adopted for the Brantford and London areas, has been continued. However, as the presence of pre-Norfolk Devonian strata immediately underlying the drift is suspected in the southern part of Essex county, it is indicated by placing an approximate contact on the map.

Distribution. The Norfolk and pre-Norfolk beds include all the pre-Hamilton Devonian strata in the Windsor-Sarnia area. They have an areal extent of about 675 square miles, constitute the uppermost bedrocks throughout almost all of Essex county, including Pelee Island, and are elsewhere overlain by younger Palaeozoic rocks.

Natural outcrops of these rocks occur only on Pelee Island. However, they have been exposed by quarrying on the island and in the vicinity of Amherstburg.

Lithology. As seen at the quarries near Amherstburg, the Norfolk and pre-Norfolk rocks consist of grey, brownish grey, and drab, coarsely crystalline to dense limestone and magnesian limestone in fairly even beds from a few inches to 8 feet thick, the thicker beds being at the base of the Norfolk formation. Styliolitic bedding surfaces appear in the upper part of the formation, and thin, dark, wavy lines, probably representing bituminous material, can be seen on the

¹Crombie, G. P.: A Study of Insoluble Residues of the Palaeozoic Rocks of Southwestern Ontario; Ph.D. Thesis, Dept. Geol., Univ. of Toronto, 1943 (unpub.).

lower face of the Brunner Mond quarry. Fossils are present, though not common, and are more numerous in the upper part of this quarry. The following sections illustrate this lithology.

- I. Section at quarry of Brunner Mond Canada, Limited, Amherstburg. This quarry is about $1\frac{1}{2}$ miles northeast of Amherstburg. It is roughly semicircular with a working face over one-third mile in length. The following section was measured near the northeast end of the workings.

	Feet	Inches
Glacial overburden	5	
<i>Norfolk Formation (Onondaga)</i>		
17. Limestone: magnesian, brownish grey, fine-grained, with uneven bedding surfaces	1	0
16. Chert: light grey, in an irregular zone along the bedding plane....	0	2
15. Limestone: magnesian, grey, coarsely crystalline, in two layers with even bedding planes. Some disseminated pyrite seen on fresh surface; some small corals	3	0
14. Limestone: magnesian, brownish, semi-crystalline, hard, in beds from 8 to 14 inches thick with uneven surfaces and stylolitic at the top	4	6
13. Limestone: magnesian, grey, crystalline, hard, in beds about 14 inches thick	4	6
12. Limestone: magnesian, brownish grey, medium-grained, in beds 2 to 8 feet thick. Vugs up to 4 inches in diameter filled with calcite are common	12	0
11. Limestone: magnesian, brownish grey to brown, medium-grained, in beds 4 to 8 feet thick with stylolitic bedding surfaces. Small vugs lined with calcite crystals and dogtooth spar are numerous...	12	0

Disconformity

Pre-Norfolk Beds (Detroit River)

10. Limestone: high calcium, grey, fine to dense, in a single bed that breaks into blocks with conchoidal faces; no fossils observed.....	1	6
9. Limestone: high calcium, grey, semi-crystalline, in a single irregular bed with stylolitic upper surface. Some corals and brachiopods observed	1	6
8. Limestone: grey, semi-crystalline; upper 1.5 feet composed almost entirely of stromatoporoids; lower part a single bed with profusion of corals— <i>Cladopora cryptodens</i> , <i>Cystiphyllum</i> sp., <i>Clathrodictyon variolare</i>	4	9
7. Limestone: high calcium, grey to brownish, dense; in two beds with even surfaces and numerous thin, dark, wavy lines (bituminous) showing on quarry face. No fossils observed	3	0
6. Limestone: high calcium, grey to brownish, dense to semi-crystalline, in a single bed. Some crinoid columns and one small brachiopod observed	2	4
5. Limestone: high calcium, grey to cream coloured, dense. No fossils observed	3	0
4. Limestone: high calcium, grey, dense; in two beds of equal thickness that break conchoidally	3	0
3. Limestone: high calcium, grey; in two beds, an upper of 8 inches that is semi-crystalline and a lower that is hard and dense in texture. No fossils observed	4	0
2. Limestone: high calcium, grey, fine-grained to dense, in a single bed with sharp even bedding surfaces	2	6
1. Limestone: high calcium, grey, semi-crystalline, with small vugs lined with calcite crystals. Lower part of bed covered with talus at base of quarry face	2	0
Total thickness	64	9

According to Goudge¹, the high calcium limestone is underlain by brown dolomite exposed in a pit near the northeast edge of the quarry.

¹Goudge, M. F.: Dept. Mines and Resources, Bur. Mines Pub. 781, p. 217 (1938).

That part of the section lying above the disconformity, that is, the upper 37 feet, is essentially a grey and brownish grey, coarsely crystalline and medium-grained, magnesian limestone, the lower 24 feet of which is in massive beds up to 8 feet thick. Fossils are not plentiful, and although a few brachiopods were observed in the lower massive beds, most of the fossils collected are from the upper 14 feet of the quarry face (intervals 13 to 17). These include: *Zaphrentis* sp., *Heliophyllum* sp. cf. *H. corniculum* (Lesueur), *Favosites hemisphericus* Yandell and Shumard, *Cladopora cryptodens* Billings, *Fenestella* sp., *Stropheodonta concava* Hall, *S. demissa* (Conrad), *S. sp.*, *Leptaena rhomboidalis* (Wilckens), *Rhipidomella semele* Hall, *R. vanuxemi* Hall, *Chonetes acutiradiatus* Hall, *C. lineatus* Hall, *Productella spinulicosta* Hall, *Atrypa reticularis* (Linnaeus), *A. spinosa* Hall, *A. sp.* (very fine), *Tentaculites scalariformis* Hall, and *Proetus crassimarginatus* Hall.

This fauna, identified by A. E. Wilson of the Geological Survey, is considered of undoubted Onondaga age.

The 27 feet of rock below the disconformity is essentially grey to brownish, dense, high calcium limestone in even beds from 1.5 to 3 feet thick, and is lithologically distinguishable from the magnesian limestone above. Fossils are rare except in interval 8, which is composed largely of stromatoporoids and corals.

The upper magnesian limestone (Onondaga) is not desired by the present quarry operators and has been stripped off, exposing the surface of the underlying, pre-Norfolk, high calcium limestone (Detroit River). This surface is gently undulating, and is partly covered with a veneer of sandstone (Oriskany?) from $\frac{1}{8}$ to $\frac{1}{2}$ inch thick. The sand fills small cracks that extend several feet into the underlying rock. The cracks, thought to represent jointing, vary from a fraction of an inch to 2 inches in width, and extend laterally as much as 10 feet. They have not been observed passing into the overlying rock. In places the cracks are filled with brownish sandy limestone of the overlying Onondaga, which is distinct from the lower dense grey limestone. Large, loosely coiled gasteropods, with a core of dense limestone and with the brownish sandy limestone filling between the whorls, are seen on the undulating surface of the Detroit River rock. Blocks showing angular pieces of the lower dense limestone incorporated in the brownish magnesian limestone were also seen. This indicates the presence of a basal conglomerate. At one place, where the actual contact could be observed, the lower few inches of the Onondaga brownish magnesian limestone (38.06 per cent MgCO_3)¹ is quite sandy and rests directly on the grey, dense, high calcium limestone (0.79 per cent MgCO_3)¹ with sharp styliolitic contact surface.

The foregoing accumulation of observed evidence points to a disconformity, with the Onondaga deposited on the eroded surface of the Detroit River series.

- II. Section at quarry of Industrial Construction Company, Limited. This quarry is at the northeast corner of lot 22, Malden township, about $1\frac{1}{2}$ miles east of Amherstburg. It was opened about 1935 for production of crushed stone, but was abandoned and partly filled with water so that only about 5 feet of rock was exposed when visited by the writer in 1941. However, Goudge² describes about 10 feet of rock visible when he visited the quarry. According to him "the top 3 feet is fine-grained, mottled grey to buff, high calcium limestone, the next 3 feet consists of interbedded, fine-grained, magnesian limestone and calcium limestone, mostly buff and brown in colour, and the bottom 4 feet exposed is soft, buff, porous, fine-grained dolomite, the lowest bed of which contains many crystals of calcite and is somewhat argillaceous".

¹Goudge, M. F.: Op. cit., p. 222.

²Goudge, M. F.: Op. cit., p. 219.

The following beds were exposed at this quarry when visited by the writer.

	Feet	Inches
5. Limestone: grey, semi-crystalline, hard, with some poorly preserved brachiopods, bryozoa, and corals. <i>Cylindrohelium?</i> sp., <i>Prosserella lucasi</i> ; <i>P. cf. modestoides depressa</i> , <i>P. cf. subtransversa</i>	1	0
4. Limestone: grey, dense; in places a single bed, but appears as two beds at others, with minute cavities filled with calcite. Closely resembles the high calcium limestone seen at Brunner Mond quarry. <i>Cylindrohelium?</i> sp., <i>Cyathophyllum</i> sp., <i>Prosserella modestoides</i> , <i>P. subtransversa</i> , <i>P. subtransversa alta</i>	1	6
3. Limestone: light grey, dense; with small calcite filled cavities similar to interval 4. <i>Prosserella lucasi</i> , <i>P. modestoides</i> , <i>P. cf. subtransversa</i> , <i>P. unilamellosa</i>	0	6
2. Limestone: grey with brownish cast, semi-crystalline; in broken beds 4 to 8 inches thick. <i>Cladopora cf. cryptodens</i> , <i>Cyathophyllum</i> sp., <i>Syringopora</i> sp., <i>Prosserella lucasi</i> , <i>P. subtransversa</i> , <i>Dalmanites</i> sp.	1	2
1. Limestone: brown, dense, with tabular branching cavities filled with calcite. No fossils observed	0	8
Total thickness	4	10

The fossils identified above are regarded as representative of the typical Detroit River fauna. The beds are believed to underlie the horizon of the disconformity at the Brunner Mond quarry, and are, therefore, pre-Norfolk.

The following quarry sections exposed on Pelee Island are taken from Goudge¹, who has made chemical analyses of the rock. The fossils listed indicate the Onondaga age of the strata and are taken from the work of Stauffer².

III. Section exposed at Wm. McCormick quarry, Pelee Island.

2 inches to 1½ feet.....Soil.

5 feet.....Thinly bedded, fine-grained, soft, dull-lustred, light brown limestone.

9 feet 10 inches.....Usually one solid bed of harder, fine-grained, light brown limestone through which are some dark-coloured bands abounding in fossils. This massive bed is an horizon marker and is generally known as the "Bottom Rock".

6 feet.....Soft, dull-lustred, grey-brown, fine-grained, magnesian limestone, the lower 3 feet of which is in one solid bed and the upper 3 feet in beds from 4 inches to 1 foot in thickness. Numerous fossils and irregular streaks of calcite characterize this stone, which is at the lowest geological horizon observed on the island.

The following fossils are from this quarry:

Foraminifera

Calcisphaera robusta Williamson

Anthozoa

Acervularia rugosa Milne-Edwards and Haime

Crepidophyllum archiaci Billings

Cystiphyllum vesiculosum Goldfuss

Eridophyllum vernuillianum Milne-Edwards and Haime

Favosites pleurodictyoides Nicholson

Favosites polymorphus Goldfuss

Favosites turbinatus Billings

Heliophyllum corniculum (Lesueur)

Heliophyllum halli Milne-Edwards and Haime

Syringopora tabulata Milne-Edwards and Haime

Zaphrentis gigantea Lesueur

Zaphrentis prolifica Billings

¹Goudge, M. F.: Dept. of Mines and Resources, Bur. Mines Pub. 781, pp. 220-221 (1938)

²Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, pp. 207-211 (1915).

*Hydrozoa**Stromatoporella granulata* Nicholson*Bryozoa**Cystodictya gilberti* (Meek)*Fenestella parallela* Hall*Brachiopoda**Athyris vittata indianaensis* Stauffer*Atrypa reticularis* (Linnaeus)*Chonetes hemisphericus* Hall*Chonetes mucronatus* Hall*Nucleospira concinna* Hall*Productella spinulicosta* Hall*Rhipidomella vanuxemi* Hall*Schizophoria propinqua* Hall*Spirifer acuminatus* (Conrad)*Spirifer gregarius* Clapp*Spirifer manni* Hall*Stropheodonta demissa* (Conrad)*Stropheodonta hemispherica* Hall*Stropheodonta perplana* (Conrad)*Pelecypoda**Paracyclas elliptica* Hall*Gasteropoda**Euryzone lucina* (Hall)*Platyceras carinatum* Hall*Platyceras* sp.*Pleuronotus decewi* (Billings)*Pteropoda**Tentaculites scalariformis* Hall*Trilobita**Coronura diurus* (Green)*Proetus rowi* (Green)

IV. Section exposed at Capt. John McCormick quarry, Pelee Island.

0-6 inches.....Soil.

6 feet.....Light brown, fine-grained, soft, dull-lustred limestone in beds 2 to 4 inches thick. Fossils are plentiful.

1 foot 9 inches.....Dark grey-brown, semi-crystalline, porous, fossiliferous limestone, sometimes in one bed. Numerous crystals of secondary calcite impart a coarse-grained appearance. Bituminous matter is commonly present in small cavities.

2 feet.....Blue-brown, soft limestone in beds 2 to 4 inches thick.

8 feet 9 inches.....Light brown, soft, massive, fine-grained limestone, usually in two beds, but with lines of weakness at intervals.

7 feet.....Massive, light brown, soft, fine-grained limestone, usually in one bed.

The fauna from this quarry is essentially similar to that listed above from Section III.

Norfolk and Pre-Norfolk Strata in Well Cuttings. In boring samples this series of rocks appears as light buff and cream coloured, finely crystalline limestone and cherty limestone passing downward into buff and brown coloured magnesian limestone that is chert free in its upper part, but contains chert in increasing quantity downward until, at and near the base, chert may constitute the greater part of the rock (See Figure 2). In some wells, notably in Lambton county, the upper cherty horizon may be absent. At the base of the upper cherty zone, most wells show small though variable quantities of sand as rounded

and sub-rounded frosted grains typically embedded in the limestone (See Figure 2). Insoluble residue studies¹ have shown that, although the sand can be detected over a considerable vertical range, there is invariably a concentration at one horizon. A similar sand, with which glauconite is commonly associated, is also present at the base of the series. The lower part of the series may also be arenaceous to varying degrees. Above the upper embedded sand horizon, small, circular, resinous-appearing "spores" (*Protosalvinia*) are common, but they are rare below. However, black bituminous films and streaks are common below this horizon, but rarely occur above it. One well in Plympton township penetrates 5 feet of gypsum about 330 feet above the base of the Devonian, and traces and small quantities of this mineral were also seen in wells from Raleigh and Sandwich West townships. In Essex county, and particularly in Malden, Anderton, and Sandwich West townships, incoherent sands, in beds from 5 to 75 feet thick, may occur in wells at more than one horizon from 110 to 172 feet above the top of the Silurian. Elsewhere, the limestone of this zone may be strongly arenaceous.

Although all the above characters were not observed in every well examined, the Norfolk and pre-Norfolk strata as a unit consist of an upper part composed of light buff, finely crystalline limestone, commonly with 'spores' and with embedded sand grains and some chert at the base, and a lower part, buff or brownish in colour and usually magnesian, containing black bituminous streaks toward the top and much chert toward the base. Sand, with associated glauconite, is common at the bottom and in some wells (Essex county) beds of sand up to 75 feet thick may be present at one or more horizons 110 to 172 feet above the base of the Devonian.

In attempting to correlate the well sections with the rock exposed at the Amherstburg quarry, it seems reasonable to place the upper zone of embedded sand below the disconformity indicated at the quarry. In view of the disconformable relations, the part of the well sections above the upper sand would be Norfolk (Onondaga and Delaware) and the part below would be pre-Norfolk (Detroit River). According to this interpretation, there appears to be an area in the southern part of Essex county where pre-Norfolk strata lie immediately beneath the glacial drift.

In Michigan and Ohio, the initial Devonian sediment is typically a basal deposit of sandstone known as the Sylvania sandstone. The name was given by Orton² to the well-defined sandstone of Lucas county that was originally part of Newberry's³ twofold division of the Oriskany, but which Orton recognized as being not at the base of the Corniferous, but well down in the Waterlime of Upper Silurian age. In 1903, Prosser⁴ made the Sylvania the middle member of the Monroe beds of Lane⁵, and in the more complete classification of 1908⁶, when the Monroe was given a threefold division, the Sylvania was retained as its middle unit.

The Sylvania typically consists of a white quartz sand that is commonly incoherent and is considered by Grabau and Sherzer⁷ to be æolian in origin. However, it may grade into dolomitic sandstone and cherty limestone and may even occur as two or more beds of sandstone separated by sandy limestone. In Michigan, Newcombe⁸ states that "the thickness is usually 100 feet

¹Crombie, G. P.: Op. cit.

²Orton, E.: Ohio Geol. Surv., vol. 6, pp. 18-20 (1888).

³Newberry, J. S.: Ohio Geol. Surv., vol. 1, pt. 1, pp. 140-141 (1873).

⁴Prosser, C. S.: Jour. Geol., vol. II, pp. 530-541 (1903).

⁵Lane, A. C.: Geol. Surv., Michigan, vol. 5, pt. 2, pp. 26-28 (1895).

⁶Lane, A. C., Prosser, C. S., Sherzer, W. H., Grabau, A. W.: Bull. Geol. Soc. Amer., vol. 19, pp. 553-556 (1908).

⁷Grabau, A. W., Sherzer, W. H.: Mich. Geol. and Biol. Surv., Pub. 2, pp. 81-86 (1910).

⁸Newcombe, R. B.: Mich. Geol. Surv., Pub. 38, p. 42 (1933).

or less, but locally over 250 feet", and "the sandstone may be replaced entirely by white cherty and siliceous dolomite and is not easily recognized in wells".

In northwestern Ohio, Carman¹ finds the Sylvania resting with sharp disconformable contact on the Bass Island series. The formation is pure sandstone in its lower half, grading upward through alternations of dolomitic sandstone and arenaceous dolomite into the Detroit River formation. The upper limit of the Sylvania is conformable and Detroit River fossils have been found to within 2 feet of its base and beneath 25 feet of sandstone. Carman, therefore, considers it to be a part of the Detroit River series and Devonian in age. It has two phases, "first, a probably æolian deposit, which has great development in southeastern Michigan and is only slightly developed in northwestern Ohio, and second, a re-worked and water laid phase which is the dominant type in northwestern Ohio and which may show all graduations to pure dolomite".²

In the Windsor-Sarnia area, as already intimated, most wells show some sand with associated glauconite at the base of the Devonian. This rests disconformably on the Silurian and is, therefore, the horizon of the Sylvania sandstone. Crombie³ finds a gradation of this sand upward into typical Detroit River cherty limestone, and frosted quartz grains embedded in the limestone and chert may persist, though in decreasing amount, well up in the Detroit River beds. In Anderdon and Sandwich townships, 60 to 75 feet of pure quartz sand, with its base 110 to 172 feet above the base of the Devonian, is present. This sand is separated from the Silurian by the chert-bearing magnesian limestone that forms the lower part of the pre-Norfolk series and which may be quite arenaceous. The sand is essentially similar to that quarried at Rockwood in Michigan, where it is called Sylvania. If, in the foregoing townships, the base of the pure sand is interpreted as the base of the Devonian, the underlying 110 to 172 feet of cherty limestone would become Bertie-Akron (Bass Island). However, nowhere else has the writer seen chert and sand in the Bertie-Akron, nor is it reported from the type area of the Bass Island series. For this reason, and in view of the known disconformity at the base of the Devonian, the similarity of this cherty limestone to the lower Detroit River elsewhere in the area, and the presence of cherty limestone in the Sylvania of Michigan, the 110 to 172 feet of cherty limestone is here placed in the Devonian.

From the above discussion it is seen that the lower part of the Devonian section in the Windsor-Sarnia area contains sand and sandy limestone that in character and position closely resembles the Sylvania sandstone of Michigan and Ohio. This material grades upward into typical Detroit River strata and cannot be precisely separated from it. Therefore, though the presence of Sylvania is recognized it is included, as in northwestern Ohio, in the pre-Norfolk or Detroit River series.

The following sections, compiled from well cuttings, illustrate in condensed form the lithology of the Norfolk formation and pre-Norfolk beds.

Section I, Lambton County, Moore Township⁴

Norfolk Formation

Feet

65 Limestone: grey, finely crystalline; trace of pyrite; *Protosalvinia*.

Pre-Norfolk

70 Magnesian limestone: buff, finely granular.

100 Magnesian limestone: buff, finely crystalline; trace of gypsum; trace of sulphur.

¹Carman, J. F.: Bull. Geol. Soc. Amer., vol. 47, pp. 253-266 (1936).

²Carman, J. F.: Op cit., p. 264.

³Crombie, G. P.: Unpublished Thesis, 1943.

⁴Partial section.

- Feet
 5 Gypsum; little buff dolomite.
 40 Magnesian limestone: buff, fine-grained; trace of sulphur.

Section 2, Lambton County, Plympton Township

Norfolk Formation

- 95 Limestone: light buff, fine-grained; *Protosalvinia*.
 30 Samples missing.

Pre-Norfolk

- 30 Magnesian limestone: brownish grey, finely crystalline; trace gypsum at base.
 20 Samples missing.
 75 Magnesian limestone: buff and brownish grey, finely crystalline; trace gypsum at base.
 60 Magnesian limestone: brownish grey, finely crystalline; black bituminous streaks; 40 per cent gypsum near base.
 5 Gypsum; 5 per cent buff dolomite.
 85 Magnesian limestone: buff, finely crystalline; black bituminous streaks.
 80 Magnesian limestone: brownish grey, finely crystalline; black bituminous streaks.
 115 Magnesian limestone: brownish grey, finely crystalline; little chert and cherty limestone throughout.
 35 Magnesian limestone: buff, finely crystalline; 40 per cent chert.
 20 Magnesian limestone: buff, finely crystalline; 25 per cent chert; few frosted sand grains and trace of glauconite near base.

Section 3, Lambton County, Sombra Township

Norfolk Formation

- 95 Limestone: light buff, finely crystalline; *Protosalvinia*; some erinoidal limestone; trace of pyrite near base.
 35 Limestone: light grey, finely crystalline; black bituminous streaks; few frosted sand grains at base.

Pre-Norfolk

- 85 Limestone: light buff, finely crystalline; black bituminous streaks; trace selenite at base.
 55 Limestone: brownish grey, finely crystalline; black bituminous streaks; some fine porosity.
 70 Magnesian limestone: brownish grey, finely crystalline; some fine porosity; trace gypsum.
 40 Magnesian limestone: brownish grey, finely crystalline; little chert throughout.

Section 4, Lambton County, Dawn Township

Norfolk Formation

- 77 Limestone: light buff, finely crystalline; *Protosalvinia*; trace of pyrite near base.
 11 Samples missing.
 30 Limestone: buff, fine-grained; trace pyrite.

Pre-Norfolk

- 43 Limestone: buff, finely crystalline; few sand grains at top and base; some fine porosity.
 102 Limestone: buff to brown, finely crystalline; some black bituminous streaks; trace gypsum.
 108 Magnesian limestone: buff to brown, finely crystalline; black bituminous streaks; some fine porosity.
 174 Magnesian limestone: brownish grey, finely crystalline; 30 per cent chert in lower 40 feet.
 6 Chert: grey; 25 per cent magnesian limestone.
 12 Magnesian limestone: grey, finely crystalline; 40 per cent chert.
 18 Chert; 40 per cent grey, magnesian limestone.
 60 Magnesian limestone: brownish grey, finely crystalline; many sand grains at base; 40 per cent chert in upper part.

Section 5, Lambton County, Sarnia Township

Pre-Norfolk

- Feet
 50 Magnesian limestone: buff and brown, finely crystalline; black bituminous streaks; trace of chert.
 20 Magnesian limestone: brown, granular; trace of chert.
 25 Cherty limestone: light buff.
 45 Magnesian limestone: buff, finely crystalline; little chert throughout.
 10 Chert: light grey; some buff, magnesian limestone.
 50 Magnesian limestone: buff, finely crystalline; little chert throughout.
 10 Chert: light grey; some buff, magnesian limestone.
 10 Magnesian limestone: light buff; much chert.
 10 Chert: light grey; some grey, magnesian limestone; trace of glauconite.

Section 6, Kent County, Tilbury East Township

Norfolk Formation

- 96 Limestone: light buff, finely crystalline; *Protosalvinia*.
 48 Limestone: light buff, finely crystalline; traces of chert throughout.

Pre-Norfolk

- 104 Magnesian limestone: buff, fine-grained; black bituminous streaks; little sand in the upper 18 feet.
 42 Magnesian limestone: brownish grey, fine-grained; black bituminous streaks; trace of gypsum near top.
 77 Magnesian limestone: brownish grey, fine-grained; trace of chert; trace of gypsum.
 72 Magnesian limestone: sandy, light buff, granular; little grey chert throughout; trace of glauconite near base.
 102 Magnesian limestone: buff, finely crystalline; minor amount of chert throughout; few sand grains with glauconite in lower 60 feet.

Section 7, Kent County, Camden Gore

Norfolk Formation

- 72 Limestone: light buff, fine-grained; *Protosalvinia*; trace pyrite near base.

Pre-Norfolk

- 6 Sand; 25 per cent light buff limestone.
 24 Limestone: light buff, fine-grained; 30 per cent frosted sand.
 24 Limestone: light buff, fine-grained; 2 per cent sand at the base.
 42 Limestone: brownish grey, fine-grained; black bituminous streaks; some fine porosity.
 70 Magnesian limestone: buff, fine-grained; black bituminous streaks; some fine porosity.
 132 Magnesian limestone: brown, finely crystalline; trace of gypsum near base; cherty limestone at base.
 30 Magnesian limestone: brownish grey, finely crystalline; 2 per cent cherty limestone.
 36 Magnesian limestone: brownish grey, fine-grained; 2 per cent cherty limestone.
 36 Magnesian limestone: buff, finely crystalline; 25 per cent grey chert; trace of glauconite and frosted sand grains in lower 12 feet.

Section 8, Kent County, Romney Township

Norfolk Formation

- 85 Limestone: grey and buff, fine-grained; *Protosalvinia*; trace of pyrite.
 26 Limestone: buff, finely crystalline; trace of chert.
 27 Magnesian limestone: buff, fine-grained; black bituminous streaks; trace of chert in upper part.

Pre-Norfolk

- 21 Magnesian limestone: buff, fine-grained; few frosted sand grains embedded in rock.
 150 Magnesian limestone: buff and brownish grey, finely crystalline; black bituminous streaks; traces of chert in lower 60 feet.
 12 Chert; some brown limestone; trace of pyrite.
 36 Magnesian limestone: sandy, brownish grey; little chert; few frosted sand grains at base.

Section 9, Kent County, Raleigh Township

Norfolk Formation

Feet

- 160 Limestone: light buff, finely crystalline; *Protosalvinia*.

Pre-Norfolk

- 40 Sand: fine, rounded and subangular, with some larger frosted grains.
 180 Magnesian limestone: buff to brown, fine-grained; black bituminous streaks.
 170 Magnesian limestone: buff, finely crystalline; 1 per cent light grey chert; black bituminous streaks.
 80 Magnesian limestone: buff, finely crystalline; few frosted sand grains at top and near the base; trace glauconite near base; 25 per cent chert.

Section 10, Essex County, Malden Township

Pre-Norfolk

- 45 Magnesian limestone: brown, finely crystalline; few black bituminous streaks.
 18 Magnesian limestone: brown, finely crystalline; 10 per cent sand and sandy limestone.
 11 Calcareous sandstone; little incoherent sand.
 5 Magnesian limestone; 25 per cent sand.
 11 Sand; little brown magnesian limestone.
 15 Magnesian limestone: brownish grey, sandy.
 10 Unreliable samples.
 16 Sandstone: calcareous, loosely cemented; trace of chert.
 42 Magnesian limestone: grey, fine-grained; 5 per cent grey cherty limestone; trace pyrite.
 29 Magnesian limestone: grey, fine-grained; some sandy limestone; 5 per cent chert.
 11 Sandy limestone: grey, fine-grained; 3 per cent chert.
 49 Dolomite: brownish grey, fine-grained; little chert.

Section 11, Essex County, Anderdon Township

Pre-Norfolk

- 65 Magnesian limestone: brown and buff, finely crystalline; black bituminous streaks; some fine porosity.
 85 Magnesian limestone: brown, finely crystalline; black bituminous streaks; some fine porosity.
 75 Sand: incoherent; trace calcareous sandstone at the base.
 10 Calcareous sandstone: buff.
 25 Magnesian limestone: buff, finely crystalline; 40 per cent calcareous sandstone; trace of chert at base.
 5 Sand; trace buff limestone.
 65 Magnesian limestone: brownish grey, fine-grained; 20 per cent chert.
 45 Magnesian limestone: brownish grey, finely crystalline; 5 per cent chert; trace of glauconite.

Section 12, Essex County, Sandwich Township

Pre-Norfolk

- 10 Magnesian limestone: brownish grey, finely crystalline; 10 per cent chert.
 50 Samples missing.
 40 Limestone: light buff, finely crystalline; few black bituminous fragments.
 60 Magnesian limestone: brown, finely crystalline; some fine porosity.
 140 Magnesian limestone: buff and brown, finely crystalline; few black bituminous streaks.
 90 Magnesian limestone: buff, finely crystalline; black bituminous streaks; 25 per cent gypsum in upper 5 feet.
 10 Samples missing.
 10 Sand: incoherent.
 30 Magnesian limestone: brownish grey, finely crystalline.
 60 Sand: incoherent, medium- to fine-grained.
 10 Samples missing.
 10 Sand: incoherent, fine- to medium-grained.
 120 Magnesian limestone: brownish grey, finely crystalline; little chert throughout.

Section 13, Essex County, Tilbury North Township

Norfolk Formation

Feet

- 75 Limestone: buff, fine-grained; *Protosalvinia*.
- 40 Limestone: light buff, finely crystalline; some crinoidal limestone; little chert throughout.
- 20 Limestone: light buff, crystalline.

Pre-Norfolk

- 20 Sandstone: loosely cemented; grey, fine-grained.
- 185 Magnesian limestone: buff, finely crystalline; few black bituminous streaks; some fine porosity.
- 55 Magnesian limestone; brownish grey, granular; trace cherty limestone.
- 125 Magnesian limestone: brownish grey, finely crystalline; little chert throughout.
- 30 Magnesian limestone: buff, fine-grained; 5 per cent chert; few sand grains and trace of glauconite near base.

Section 14, Essex County, Gosfield South Township

Pre-Norfolk

- 115 Limestone: light buff, finely crystalline; crinoidal near top; few sand grains; some black bituminous streaks.
- 15 Limestone: brownish grey, finely crystalline; black bituminous streaks.
- 25 Samples missing.
- 50 Limestone: brownish grey, finely crystalline; few black bituminous streaks.
- 95 Limestone: buff, crystalline; trace of chert.

Section 15, Essex County, Mersea Township

Pre-Norfolk

- 50 Magnesian limestone: buff, finely crystalline; few black bituminous fragments.
- 70 Magnesian limestone: light buff, finely crystalline; few black bituminous streaks.
- 80 Magnesian limestone: brownish grey, finely crystalline; trace of chert in lower 50 feet.
- 60 Magnesian limestone: brownish grey, granular; trace of chert.
- 40 Magnesian limestone: light buff, granular; 10 per cent chert; trace glauconite.
- 20 Sand: incoherent, rounded and subangular grains; 15 per cent brown limestone; trace chert.
- 10 Magnesian limestone: brownish grey, finely crystalline; 10 per cent chert; few sand grains.

Section 16, Essex County, Tilbury West Township

Norfolk Formation

- 75 Limestone: light buff, fine-grained; trace chert in lower 40 feet; *Protosalvinia*.

Pre-Norfolk

- 10 Sand: incoherent, fine-grained.
- 150 Magnesian limestone: brownish grey, finely crystalline.
- 140 Magnesian limestone: brownish grey, finely crystalline and granular; little chert throughout; mostly chert in lower 10 feet.
- 10 Magnesian limestone: brownish grey, fine-grained; 25 per cent chert.

Delimitation and Thickness. Treating the Norfolk and pre-Norfolk beds as a unit, the lower limit is at the Silurian-Devonian contact. It is readily recognized in well cuttings, and is placed at the horizon marked by the fairly abrupt disappearance of chert, sandy limestone, and embedded sand grains with associated glauconite below which the Silurian is invariably represented by brownish, finely crystalline dolomite.

In the Niagara peninsula¹ and the Brantford area², this contact is disconformable and has been described from exposures. In the Windsor-Sarnia area and in the adjoining London area³ to the east, this contact is everywhere concealed and the relationship of the Silurian to the Devonian is, therefore, not observable. However, the appreciable local variation in thickness of the Bertie-Akron, together with the widespread presence of sand grains and glauconite at the base of the overlying Devonian beds point to the probability that the disconformity separating the two systems in areas to the east is present also throughout the Windsor-Sarnia area.

In Lambton and Kent counties, where the series is overlain by younger rocks, the upper contact is with soft grey Hamilton shale. This contact is likewise not exposed, but is easily spotted in well cuttings. It is placed at the horizon at which soft grey shale disappears and below which the cuttings are grey to light buff, fine-grained limestone. In some wells the lower few feet of the shale is calcareous, and includes a thin zone of grey, argillaceous limestone.

The Norfolk-pre-Norfolk contact has already been described as very difficult to recognize without the aid of insoluble residue work. It is apparently disconformable and is placed at or near the base of the upper chert horizon and just above the occurrence of frosted sand grains embedded in the limestone. In wells in which the upper chert is absent and the sand is not seen except on digestion of the limestone, added difficulty is experienced. In general, however, the pre-Norfolk commonly is brownish and magnesian and contains black bituminous streaks, whereas the Norfolk is commonly light buff, contains 'spores', and only rarely has the black streaks.

The entire section of Norfolk and pre-Norfolk beds is nowhere exposed, and only in Lambton and Kent counties, where these beds are overlain by younger rocks, is the total thickness obtainable from borings. The following table gives the total thickness in the townships specified. Measurements marked with an asterisk are thought to represent only pre-Norfolk strata.

County	Township	Thickness
		Feet
Lambton.....	Moore.....	280
Lambton.....	Plympton.....	650
Lambton.....	Sombra.....	380
Lambton.....	Dawn.....	541
Lambton.....	Enniskillen.....	577
Kent.....	Tilbury East.....	541
Kent.....	Camden Gore.....	472
Kent.....	Romney.....	407
Kent.....	Raleigh.....	630
Kent.....	Chatham.....	688
Kent.....	Dover.....	581
Essex.....	Malden.....	262*
Essex.....	Anderdon.....	375*
Essex.....	Sandwich.....	640*
Essex.....	Tilbury North.....	550
Essex.....	Gosfield South.....	300*
Essex.....	Mersea.....	330*
Essex.....	Tilbury West.....	385

Fauna and Correlation. The fauna of the Norfolk formation is the combined faunas of the Onondaga and Delaware formations. Stauffer⁴ has reported on the fossils of each of the above rock assemblages, and a check-list appears

¹Caley, J. F.: Geol. Surv., Canada, Mem. 224 (1940).

²Caley, J. F.: Geol. Surv., Canada, Mem. 226 (1941).

³Caley, J. F.: Geol. Surv., Canada, Mem. 237 (1943).

⁴Stauffer, C. R.: Geol. Surv., Canada, Mem. 34 (1915).

in the above reference. Some fossils collected by the writer from the quarry at Amherstburg have been identified by A. E. Wilson of the Geological Survey, and appear with the description of the rocks concerned. Stauffer¹ concludes that the fauna of the Ontario Delaware is transitional between that of the Onondaga and Hamilton formations. From an analysis of the Onondaga fauna of the Toronto-Hamilton area² the writer placed the enclosing rocks at about the time of the Onondaga of New York, the Columbus of Ohio, and the Dundee of Michigan. As the Norfolk formation includes strata somewhat younger than typical Onondaga, and as its upper limit is the base of the Hamilton, it is considered to represent about the time of the Onondaga and Marcellus of New York, the Dundee and perhaps part of the Traverse of Michigan, and the Columbus and Delaware of Ohio.

Fossils collected from pre-Norfolk rocks at the quarries near Amherstburg are found among the typical Detroit River fauna. As these rocks are thought to underlie disconformably the Onondaga, they are here correlated with the Detroit River series of Michigan and Ohio.

HAMILTON FORMATION

Definition. The term Hamilton group was introduced by Vanuxem³ and included shales and sandstones typically exposed at Hamilton, Madison county, New York. In 1842 the same author defined the Hamilton group as including "all the masses between the upper shales of Marcellus and the Tully limestone," and stated that "it consists of shale, slate and sandstone, with endless mixtures of these materials. It commences near the Hudson and extends to Lake Erie"⁴. In Ontario Logan⁵ was unable to distinguish either the Marcellus shales or the Tully limestone, and so included all the strata between the Corniferous (Onondaga) limestone and the Genesee shale (Huron) in the Hamilton formation. Stauffer⁶ used the term Hamilton in Ontario for the rocks between the Delaware below and the Genesee above. This usage corresponds to that of Logan, as the Delaware was included in the Corniferous by that author. In the present report, the term Hamilton is used to comprise the same strata as the Hamilton of both Logan and Stauffer. It occupies a position between the Norfolk formation below and the Kettle Point formation above.

Distribution. The Hamilton formation has an areal extent of about 210 square miles, and the outcrop area is almost entirely confined to Lambton and Kent counties. In general the formation forms a northwest-trending belt perhaps 10 miles wide crossing the area from Lake Erie to Lake St. Clair. In addition, several irregular-shaped areas from 4 to 50 square miles in extent occur within the general outcrop area of the overlying Kettle Point formation, where, due to structural causes, Hamilton strata immediately underlie the glacial drift.

Nowhere within the Windsor-Sarnia area are Hamilton rocks known to outcrop and their presence is, therefore, known only from drilling results.

Lithology. In drill samples, the Hamilton formation appears as a thick succession of dominantly grey, fossiliferous shale, with minor amounts of grey, crystalline limestone indicating the presence of thin limestone beds at several horizons. Typically, the limestone occurs at the top and throughout the upper 50 feet; about 60 or 80 feet above the base; and in the lower few feet of the formation. Also, small though variable quantities of calcareous material are likely to be present almost anywhere in the section (See Figure 2).

¹Stauffer, C. R.: Op. cit., p. 214.

²Caley, J. F.: Geol. Surv., Canada, Mem. 224 (1940).

³Vanuxem, L.: Geol. Surv., N.Y., 4th Ann. Rept., p. 380 (1840).

⁴Vanuxem, L.: Geol. of N.Y., vol. 3, p. 150 (1842).

⁵Logan, Sir Wm. E.: Geology of Canada, 1863, p. 382.

⁶Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, p. 7 (1915).

Stauffer¹ has described the Hamilton formation in four divisions, although he states that these are probably not of great importance. They are, in ascending order: the Olentangy shale, 60 to 70 feet thick; the Widder beds, 50 feet thick; the Petrolia shale, 100 to 130 feet thick; and the Ipperwash limestone, 40 feet thick. This subdivision, as indicated by outcrops in the adjoining area to the east, is discussed in the report on that area².

In many wells from the Windsor-Sarnia area, subdivision of the Hamilton is not possible owing to frequent limestone intercalations, but in other wells the foregoing subdivisions are generally recognizable. The following table illustrates the subsurface lithology where the entire formation is present. Where the subdivisions are recognizable, the respective names are inserted.

County	Township	Depth	Thickness	Lithology
Lambton	Moore	Feet	Feet	
		400-460	60	<i>Ipperwash</i> Limestone: grey, crystalline; minor amount of grey shale; some crinoid columns and brachiopod fragments.
		460-490	30	<i>Petrolia</i> Shale: grey; trace of grey limestone; trace of pyrite.
		490-647 647-650	157 3	Samples missing. Shale: grey.
Lambton	Plympton	155-180	25	<i>Ipperwash</i> Shale: greenish grey; little grey, crystalline limestone throughout; crinoid columns and bryozoa at 180 feet.
		180-205	25	Limestone: grey, crystalline, fossiliferous.
		205-295	90	<i>Petrolia</i> Shale: grey, fossiliferous.
		295-325	30	Shale: greenish grey; trace of pyrite.
		325-333	8	Limestone: grey, crystalline, fossiliferous.
		333-385	52	Shale: grey.
	Sombra	385-395	10	<i>Widder</i> Limestone: grey, crystalline; little grey shale.
		395-448	53	<i>Olentangy</i> Shale: grey, fossiliferous.
		448-460	12	Limestone: grey, crystalline; some grey shale.
		275-305	30	Shale: grey; minor amount of grey limestone; bryozoa, ostracods.
		305-310	5	Limestone: grey, fine-grained; some grey shale; crinoid columns.
		310-320	10	Shale: grey.
	Dawn	320-330	10	Limestone: grey, crystalline; some grey shale.
		330-390	60	Shale: grey; trace of grey limestone in most samples; bryozoa at 380 to 385 feet.
		390-470	80	Shale: grey; some ostracods and tentaculites.
		279-309	30	Limestone: grey, crystalline; 30 per cent grey shale; crinoid columns, bryozoa, and brachiopod fragments at 303 to 309 feet.
		309-339	30	Shale: grey; 50 per cent grey limestone at 327 feet; bryozoa and brachiopod fragments at 321 to 339 feet.

¹Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, pp. 1-11 (1915)

²Caley, J. F.: Geol. Surv., Canada, Mem. 237, pp. 51-56 (1943).

County	Township	Depth	Thickness	Lithology
		Feet	Feet	
Lambton	Dawn	339-345	6	Limestone: grey, crystalline; trace grey shale.
		345-510	165	Shale: grey; trace of grey limestone at 363 to 381, 411, 447 feet.
		510-520	10	Limestone: grey, shaly; 50 per cent grey shale; trace of pyrite.
Kent	Camden Gore	290-330	40	<i>Upperwash</i> Limestone: grey, crystalline; 50 per cent grey shale at 320 feet; crinoid columns and trace of pyrite throughout.
		330-350	20	<i>Petrolia</i> Shale: grey, fossiliferous.
		350-360	10	Limestone: grey, crystalline; trace grey shale.
		360-460	100	Shale: grey; fossiliferous; trace pyrite at 390 feet.
		460-480	20	<i>Widder</i> Limestone: grey, fine-grained; trace grey shale; trace pyrite.
		480-500 500-506	20 6	<i>Olentangy</i> Shale: grey; fossiliferous. Limestone: shaly, grey; some grey shale; trace pyrite.

Delimitation and Thickness. The Hamilton beds everywhere rest upon the Norfolk formation. The actual contact is nowhere exposed and can, therefore, be studied only in well cuttings. As thus seen, it is commonly fairly sharp and easily recognizable. It is placed where the soft, grey, fossiliferous shale completely disappears and the underlying samples are light buff, finely crystalline limestone. In those wells where the lower few feet of the shale contain much limestone, this is commonly much darker in colour and quite argillaceous, and so is easily separable from the typical Norfolk limestone below.

The upper contact of the Hamilton is likewise not exposed in the Windsor-Sarnia area. In well cuttings the formation is easily separable from overlying Kettle Point strata on a lithological basis, as the latter formation consists, commonly, of nearly black bituminous shale, with a profusion of spores, whereas the upper Hamilton is grey fossiliferous limestone and shale. So far as can be seen in well samples, this contact is conformable. However, the apparent irregularity in the occurrence in some wells of green shale in the lower part of the Kettle Point formation, together with considerable local variation in thickness of the Hamilton, may be taken as suggestive of disconformable relations at the top of this formation.

The following table, compiled from well samples, gives the thickness of the Hamilton formation in the townships specified:

County	Township	Thickness
		Feet
Lambton.....	Dawn.....	206-286
Lambton.....	Enniskillen.....	230-255
Lambton.....	Plympton.....	267-305
Lambton.....	Sombra.....	195-230
Lambton.....	Moore.....	250
Kent.....	Camden.....	210-296
Kent.....	Camden Gore.....	216-330
Kent.....	Chatham.....	180-276
Kent.....	Dover East.....	185-210
Kent.....	Raleigh.....	80-177

Fauna and Correlation. Fossils from outcrops of Hamilton rocks in the adjoining area to the east have been studied by various workers, such as Whiteaves¹, Grabau², Stauffer³, and Parks⁴, and fossil lists may be found in their reports. In addition, Fritz⁵ and Turner⁶ have recently described a number of ostracods from well cuttings from Lambton and Kent counties.

The fauna is typically a Hamilton fauna, and the enclosing rocks are, therefore, contemporaneous with the Hamilton of New York State. The Hamilton of Ontario is also correlated with at least part of the Traverse group of Michigan. According to Stauffer⁷, it is more closely related to the Michigan deposits than to those of New York. Many of the ostracods described by Turner⁸ from well cuttings of the Ontario Hamilton are known also from the Silica shale of Ohio, and from the Bell shale and the Traverse group of Michigan. Most of these ostracods are typical Middle Devonian forms and their presence indicates equivalency of the enclosing beds.

KETTLE POINT FORMATION

Definition. The name 'Kettle Point' was proposed by the writer⁹ for black, fissile shales that overlie the Hamilton formation and form the youngest Palaeozoic rocks in the adjoining area to the east. The beds are typically exposed within the Windsor-Sarnia area at Kettle Point on Lake Huron, and all the post-Hamilton Palaeozoic rocks in this area are here described as Kettle Point beds. They were previously called Huron¹⁰ and Port Lambton¹¹ beds and mapped under those names.

Distribution. The Kettle Point beds have an areal extent of about 960 square miles. They are confined to Lambton and Kent counties where, except for a relatively small area in the extreme southwest part of Kent and several small isolated areas in Lambton county, they underlie the drift.

Outcrops occur at only two localities and expose only a few feet of rock. Black shale forms the bed of Sydenham River about 5½ miles east of Dresden, on lot 6, con. XI, Camden Gore tp., where at low water it is seen to extend for about 100 feet. The other outcrop is at Kettle Point, where a section of the shale about 12 feet thick is exposed.

Lithology. As seen at the type locality the Kettle Point beds consist of about 12 feet of thin-bedded to laminated, paper-thin weathered, dark grey to black shale that is rusty coloured and even greenish along some of the bedding planes. A profusion of small amber-coloured spore cases (*Protosalvinia huronensis*) are present, and small pyrite concretions are not uncommon. The entire outcrop is characterized by spherical concretions (kettles) from 8 inches to several feet in diameter. The 'kettles' are composed of radiating fibres of impure carbonate of lime extending from an amorphous shaly centre and occurring in zones divided by concentric amorphous bands. The shale bedding curves above and below the concretions, indicating that they "grew" after deposition of the sediments. Daly¹² has discussed in some detail the probable mode of forma-

¹Whiteaves, J. F.: Contributions to Canadian Palaeontology, vol. 1, pt. 5, pp. 412-418 (1885-89).

²Grabau, A. W., and Shimer, W. H.: Bull. Geol. Soc. Amer., vol. 13, pp. 180-185 (1902).

³Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, pp. 229-237 (1915).

⁴Parks, W. A.: University of Toronto Studies, Geol. Ser. 39, pt. 1 (1936).

⁵Fritz, M. A.: Bull. Geol. Soc. Amer., vol. 50, pp. 79-88 (1939).

⁶Turner, M. C.: Bull. of Amer. Pal., vol. 25, No. 88, p. 7 (1939).

⁷Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, p. 214 (1915).

⁸Turner, M. C.: Op. cit., p. 7.

⁹Caley, J. F.: Geol. Surv., Canada, Mem. 237, p. 59 (1943).

¹⁰Kindle, E. M.: Geol. Surv., Canada, Sum. Rept. 1912, p. 287.

¹¹Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, pp. 13 and 215 (1915).

¹²Daly, R. A.: Jour. of Geol., vol. 8, pp. 135-150 (1900).

tion of the 'kettles'. At the top of this exposure, detached pieces of what appears to have been a 1-foot, irregular bed of hard, greenish grey, calcareous and sandy rock can be seen protruding at several places.

The following flora and fauna¹ are from these dark shales.

Plant

Knorria sp.

²*Lepidodendron primaevum* Rodgers

Protosalvinia huronensis (Dawson)

Pseudobornia inornatus (Dawson)

Brachiopoda

Lingula ligea Hall

Lingula spatulata Vanuxem

Vermes

²*Polygnathus coronatus* Hinde

²*P. dubius* Hinde

²*P. immersus* Hinde

P. palmatus Hinde

²*P. (?) serratus* Hinde

²*Prioniodus ponderi* Hinde

Pisces

Dinichthys sp.

Rhadinichthys sp.

Stenosteus sp.

About 5½ miles above Dresden, Sydenham River flows over bedrock for about 100 feet. This is dark grey to black, platy to laminated shale with some thin lighter bands and a few doubtful 'spores'. No 'kettles', pyrite concretions, or fossils could be found. Otherwise, this rock is essentially similar to that seen at the type locality.

In well cuttings the Kettle Point beds are typically dark brownish to black, bituminous shale with many amber-coloured spore cases in most samples (See Figure 2). Many wells, notably in Plympton, Sombra, Dawn, Chatham, and Camden Gore townships, exhibit green and greenish grey shale up to 20 feet thick interbedded with the typical black shale. These green beds do not appear to be at the same horizon in different wells, and they may be absent. In the adjoining area to the east³ one well is known in which the green shale rests directly on the Hamilton formation.

Hunt⁴ describes arenaceous green and black shale overlying the black slate at Kettle Point. Stauffer⁵ states that "the wells in Moore township show the presence of these greenish shales associated with greenish sandstones in the uppermost Devonian", and proposes to call them "the Port Lambton beds from their occurrence in wells at that place". No recent drilling has been done in the vicinity of Port Lambton and no reliable samples are available from the early drilling done there. It is not known, therefore, whether the green beds referred to by Stauffer are later than, and separable from, the typical black beds at Kettle Point. Stauffer wrote further, "the Port Lambton beds do not outcrop within the province unless the uppermost layers at Kettle Point, Kingston Mills, and Alvinston belong to them".⁶ In view of the occurrence of green beds at several horizons within the post-Hamilton shales, as seen in many wells within the Sarnia area, Stauffer's Port Lambton beds are here included and mapped with the Kettle Point formation.

¹Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, p. 184 (1915).

²Collected by G. J. Hinde.

³Caley, J. F.: Geol. Surv., Canada, Mem. 237, p. 62 (1943).

⁴Hunt, T. S.: Geol. Surv., Canada, Rept. Prog. 1863-1866, p. 242.

⁵Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, p. 12 (1915).

⁶Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, p. 275 (1915).

The following sections illustrate the lithology of the Kettle Point beds:

Section 1, Kent County, Gore of Camden

- Feet
 180 Shale: black, bituminous, trace of green shale; *Protosalvinia* throughout.
 20 Shale: green; 20 per cent black shale.
 50 Shale: black; trace of pyrite; *Protosalvinia*.

Section 2, Lambton County, Plympton Township

- 35 Shale: black; trace of pyrite at the base; *Protosalvinia* throughout.
 40 Shale: black; little green shale throughout.

Section 3, Lambton County, Sombra Township

- 80 Shale: black; *Protosalvinia* throughout.
 35 Shale: black; some green shale in lower 5 feet.
 130 Shale: black; trace of pyrite in most samples.

Section 4, Lambton County, Dawn Township

- 84 Shale: black; 20 per cent green shale at base; *Protosalvinia* throughout.
 130 Shale: black; little greenish grey shale at the base; trace of pyrite in most samples;
Protosalvinia throughout.

Section 5, Lambton County, Moore Township

- 130 Shale: black; *Protosalvinia*.
 70 Shale: black; trace of green shale throughout; *Protosalvinia*.

Section 6, Lambton County, Dawn Township¹

- 10 Shale: greenish grey.
 70 Shale: black, bituminous.
 20 Shale: greenish grey.
 60 Shale: black, bituminous.
 20 Shale: greenish grey.
 30 Shale: black, bituminous.

Section 7, Kent County, Chatham Township¹

- 45 Shale: black, bituminous.
 20 Shale: greenish grey.
 49 Shale: black, bituminous.

Delimitation and Thickness. The Kettle Point beds constitute the youngest bedrock in the area, and are nearly everywhere overlain by glacial drift. The lower contact is nowhere exposed. As seen in well cuttings, it is fairly sharp, the change from black bituminous shale to the grey limestone and shale of the Hamilton formation occurring without apparent gradation.

Positive evidence of unconformable relations at this contact has not been observed in well cuttings. However, as indicated in discussing the upper contact of the Hamilton formation, the appreciable local variation in thickness of that formation, together with the irregularity in occurrence of green shales in the lower part of the Kettle Point beds, may be taken as indicative of an interval of erosion at the close of Hamilton time.

¹From logs by C. S. Evans, Union Gas Company of Canada, Limited.

The thickest exposed section of Kettle Point strata is at the type locality, where about 12 feet of the shale can be seen. The following table gives the thickness from well cuttings in the townships specified:

County	Township	Thickness
		Feet
Kent.....	Raleigh.....	40
Kent.....	Harwich.....	77
Kent.....	Dover East.....	39
Kent.....	Chatham.....	215
Kent.....	Camden Gore.....	290
Kent.....	Camden.....	162
Lambton.....	Enniskillen.....	155
Lambton.....	Sombra.....	270
Lambton.....	Plympton.....	76
Lambton.....	Dawn.....	280
Lambton.....	Moore.....	200

Age and Correlation. The Kettle Point beds occupy the same general position as the Antrim shale of Michigan. The two deposits in their type exposures are essentially similar lithologically and both contain spherical concretions (kettles) and an abundance of spore cases. Newcombe¹ states that "a concretionary zone near the base of the Antrim is probably nearly equivalent to a like zone observed at Kettle Point, Ontario". He² considers the lower part of the Antrim to be Upper Devonian, but places the upper part of the formation in the Mississippian. The present writer points out that in wells in the west part of Moore and Sombra townships the uppermost post-Hamilton beds are probably in areas of low structure and may, therefore, be somewhat younger than the typical black shales at Kettle Point. It is thus possible that these highest beds in the Windsor-Sarnia area are later than Devonian and of the same age as the upper Antrim of Michigan.

According to Stauffer³, *Lingula spatulata* occurs in the Genesee and Portage of New York. *Polygnathus dubius* and *P. palmatus* occur in the Genesee of New York and *Polygnathus truncatus* and *Prioniodus panderi* occur in the Hamilton of New York.

¹Newcombe, R. B.: A.A.P.G., vol. 16, p. 156 (1932).

²Newcombe, R. B.: Geol. Surv., Michigan, Pub. 38, p. 49 (1933).

³Stauffer, C. R.: Geol. Surv., Canada, Mem. 34, p. 227 (1915).

CHAPTER IV

STRUCTURAL GEOLOGY

Bedrock in the Windsor-Sarnia area is nearly everywhere overlain by a mantle of glacial drift, which produces a topography that does not reflect the attitude of the underlying strata. Exposures are small and widely separated. The rocks are locally almost flat-lying, and in the absence of exposed key horizons that might be used for structural determination it will be clear that little structural data is available from surface mapping alone. Drilling records provide the most reliable structural data and constitute practically the sole source of information on local and detailed structures.

Very little information is available on the topography of the Precambrian surface upon which the Palæozoic sediments rest. Few wells reach the Precambrian rocks, and these are so widely separated that they do little more than indicate the general character of the Precambrian surface. This surface is apparently undulating, with little relief, and appears to slope generally northward across Kent and Lambton counties at an average rate of perhaps 8 feet a mile. It is known to be at an elevation of 3,473 feet below sea-level in Enniskillen township and to the west; in Moore township a well was drilled to 3,830 feet below sea-level without reaching granite. The Palæozoic sediments are 4,270 feet thick at one place in Moore township, and at least 3,600 feet thick near Lake Erie. The following table summarizes the available information regarding wells penetrating the entire sedimentary succession in the Windsor-Sarnia area.

The Palæozoic formations do not appear to have suffered any severe deformation, and wherever seen at the surface they are horizontal or nearly so. The area occupies a position on the northeast extension of the Cincinnati arch and the structure of the Ontario rocks is, in part at least, related to this more regional uplift. However, a study of the few scattered wells that penetrate the Trenton formation indicates the presence of a relatively broad saddle or trough trending northwest and crossing the Windsor-Sarnia area in Kent and Lambton counties. This trough is, therefore, transverse to the regional trend of the Cincinnati arch. Northeast from the Windsor-Sarnia area, the Trenton formation again rises gradually to its outcrop area in the Georgian Bay and Lake Simcoe districts.

The areal distribution of the outcropping formations reflects, in a general way, the broad, trough-like structure indicated by the top of the Trenton formation. The youngest rocks (Kettle Point) occupy most of Lambton and Kent counties, whereas the next underlying formations are seen to have their outcrop areas to the west in Essex county, and to the east in the adjoining London area. A broad syncline, of which the Windsor-Sarnia area occupies the centre and west limb, is thus seen to occupy the region from the city of London, on the east, to Essex county, on the west.

The sedimentary succession above the Trenton indicates considerable variation in the thickness of the shales between it and the base of the Queenston formation, ranging from a maximum of 610 feet in Tilbury East township to a minimum of 200 feet in Dover township. The overlying Queenston also ranges from 130 to 350 feet in thickness. Of the Silurian formations, the Medina is

Lot	Con- cession	Township	Surface elevation	Depth of well	Thickness of drift	Thickness of sediments	Elevation of Pre- cambrian surface (datum sea-level)	Remarks
6	1	Chatham.....	Feet 598	Feet 3,812	Feet 75	Feet 3,727	-3,204	Drilled 10 feet into Precambrian.
6	14	Chatham.....	587	3,725	70	3,645	-3,128	Drilled 10 feet into Precambrian.
194	T.R.N.	Romney.....	631	3,669	(?)	(?)	-3,083	Drilled almost to Precambrian.
184	T.R.N.	Romney.....	633	3,659	165	3,489	-3,021	Drilled 5 feet into Precambrian.
17	7	Dover East.....	582(?)	3,813	79	3,730	-3,227	Drilled 4 feet into Precambrian.
174	T.R.N.	Tilbury East.....	636	3,770	170	3,600	.....	Precambrian not reached; drilled 26 feet into basal sand.
1	3	Tilbury East.....	578	3,740	96	3,639	-3,157	Drilled 5 feet into Precambrian.
1	2	Tilbury East.....	578	3,750	95	3,630	-3,147	Drilled 25 feet into Precambrian.
1	7	Mersea.....	652	3,355	121	3,234	.....	Precambrian not reached; drilled 10 feet into basal sand.
14	2	Maldstone.....	602	3,516	100	3,396	-2,894	Drilled 20 feet into Precambrian.
23	Front	Moore.....	600	4,430	160	4,270	.....	Precambrian not reached.
14	10	Enniskillen.....	627	4,124	20(?)	4,080	-3,473	Drilled 24 feet into Precambrian.
19	1	Dawn.....	626	3,869	60	3,795	-3,229	Drilled 14 feet into Precambrian.
26	6	Dawn.....	656	3,939	100	3,800	-3,244	Drilled 39 feet into Precambrian.
30	9	Dawn.....	665	3,913	60	3,840	-3,235	Drilled 20 feet into Precambrian.

relatively uniform, but the Guelph-Lockport beds vary from 79 feet in Ennis-killen to a maximum of 500 feet in Tilbury West township. Extensive though irregular deposits of salt are partly responsible for a great variation in thickness of the Salina formation. In Sarnia township over 1,400 feet of Salina, with 540 feet of salt, is present, whereas one well in Romney township shows only 530 feet of Salina beds, including 10 feet of salt. The youngest Silurian formation (Bertie-Akron) ranges from 60 to 395 feet in thickness. Among the Devonian formations the pre-Hamilton succession of limestones range from 375 to over 700 feet in thickness.

Some unconformities are known to be present in the sedimentary succession of the Windsor-Sarnia area, and it is possible that much of the aforesaid variation in formational thickness is due to erosion during these and other intervals of emergence. With the possible exception of the basal beds no Cambrian rocks are known in the area, so that a long period elapsed between Precambrian and Ordovician time, during much of which at least no deposition occurred.

In the Brantford area¹ the Ordovician-Silurian contact is disconformable. This horizon is not exposed within the Windsor-Sarnia area, but studies of well samples present little evidence in support of conformable relations. In view of the variable thickness of the Queenston and the abrupt change from grey, shaly dolomite of the Medina formation to the typical red Queenston shale, as seen in well cuttings, it seems reasonable to suppose that the disconformity observed in the Brantford area extends westward into the Windsor-Sarnia area.

The top of the Silurian is also an erosion surface. Elsewhere² in southwestern Ontario, where this contact is exposed, there is evidence of an erosional interval. The horizon is not exposed in the Windsor-Sarnia area, but the considerable variation in thickness of the Bertie-Akron formation, and the presence of glauconite and sand at the base of the overlying limestone, as seen in well samples, points to an erosional interval between the Silurian and Devonian systems.

At the Brunner Mond quarry near Amherstburg there is evidence of an interval of non-deposition within the lower part of the Devonian system. It is here that the Norfolk formation is seen to rest upon pre-Norfolk (Detroit River) beds with apparent disconformity. This horizon is identified in some wells by the presence of sand grains embedded in the limestone.

One result of the foregoing facts is that local structures on Norfolk strata, which contain the main oil-bearing zone in Ontario, do not necessarily conform with minor folds in the Trenton, although, regionally, the two are essentially parallel. The Guelph formation is the most important natural gas producer in the area. It is known that where considerable thicknesses of salt are present in the Salina, local folds in overlying Devonian beds are not necessarily reflected on top of the Guelph. It thus appears that local structures that may be outlined by drilling only into Devonian strata cannot be assumed to persist to the Trenton nor to any intervening horizon. It is, therefore, probable that each gas and oil horizon presents a separate problem so far as oil or gas structures are concerned.

Detailed study and correlation of well samples, particularly from Lambton and Kent counties, shows presence of local folds and reversals of dip superimposed on the regional, synclinal structure. Such local folds have been outlined on the Norfolk and Guelph formations, and are apparently sufficient to play a leading part in the accumulation of both oil and gas. Structure contours have been drawn on the top of both of the foregoing formations, and on the top of the Trenton in Dover West township, and are shown on the structure diagram accompanying this report. They are discussed in the following chapter on Economic Geology.

¹Caley, J. F.: Geol. Surv., Canada, Mem. 226, p. 61 (1941).

²Caley, J. F.: Geol. Surv., Canada, Mem. 224, p. 81 (1940); Mem. 226, pp. 47-62 (1941).

CHAPTER V

ECONOMIC GEOLOGY

The economic products derived from the Palæozoic formations of the Windsor-Sarnia area are all of the non-metallic type. The more important of these are lime, for chemical uses from the high calcium limestone at Amherstburg; road metal and concrete aggregate from the magnesian limestones and dolomite; building stone and stone for engineering purposes, from the limestones; salt; and natural gas and oil.

STRUCTURAL MATERIALS

LIMESTONE

Limestone from the Windsor-Sarnia area has not been used as building material in recent years, but it was used for this purpose in the past. The producing localities were at Amherstburg and on Pelee Island, where the rock was obtained from the Norfolk formation. For a detailed account of limestone for building purposes, the reader is referred to Bureau of Mines, Ottawa, Publication No. 733, 1933, by M. F. Goudge.

CRUSHED STONE

Crushed stone for road metal and concrete aggregate is quarried near Amherstburg, and similar use was made of rock quarried on Pelee Island some years ago. In both cases the rock thus utilized is Devonian limestone of the Norfolk formation. Except on Pelee Island, this rock does not outcrop within the Windsor-Sarnia area, but it is very near the surface in the vicinity of Amherstburg where it has been exposed by quarrying.

LIME

The Devonian limestones of southwestern Ontario are used extensively for making lime. In the Windsor-Sarnia area, commercial production is entirely from the quarry of Brunner Mond, Canada, Limited, near Amherstburg. The high calcium limestone that forms the upper part of the pre-Norfolk (Detroit River) beds is quarried chiefly for the manufacture of lime for chemical use. Elsewhere in the Windsor-Sarnia area these rocks are less accessible in that they are concealed by glacial drift or are overlain by younger Palæozoic rocks. For chemical analyses of these rocks the reader is referred to Bureau of Mines, Publication 781, 1938, by M. F. Goudge.

SALT

Salt is among the most important and valuable products of the Palæozoic rocks of southwestern Ontario. During 1943 about 594,889 tons, valued at \$3,356,870, was recovered from brine wells in Ontario¹. This constitutes about 86 per cent of the total Canadian output in that year.

¹Dominion Bureau of Statistics.

Salt was discovered in Ontario in 1866 when a company was formed at Goderich for the purpose of drilling for oil. The first well was drilled on the north side of Maitland River a short distance above the bridge at Goderich, but instead of striking oil, a bed of rock salt was encountered at a depth of 964 feet. The salt was interstratified with rock, but aggregated 30 feet in thickness. This initial discovery was immediately followed by further drilling in the valley near the town, and by 1872 several producing wells were in operation. At the same time salt was found at Clinton and Seaforth.

Since its discovery in 1866, salt has been produced at other localities such as Amherstburg, Sandwich, Windsor, Sarnia, Elarton, Parkhill, Courtright, Exeter, Brussels, Hensall, Wingham, and Kincardine. However, in 1942, operations were carried on only at Goderich, Elarton, Windsor, Sarnia, and Amherstburg. Only the last three lie within the area of this report.

Throughout most of the Windsor-Sarnia area, a considerable number of the wells drilled for oil and natural gas have passed through the salt-bearing formation, thereby furnishing data on the approximate area underlain by salt. On this basis the salt appears to underlie almost all of Lambton county, much of Dover, Harwich, and Camden Gore townships, and smaller parts of Raleigh, Chatham, and Romney townships, Kent county, and Sandwich and the north half of Anderdon townships, Essex county.

The salt does not form a continuous sheet or bed beneath the foregoing area. A well in lot 25, con. X, Sombra tp., passed through 228 feet of salt, whereas, in the same township, a well on lot 30, con. V, penetrated the entire Salina formation without encountering any salt. Also, in Tilbury East township, a well on lot 15, con. V, shows no salt, but one drilled on lot 1, con. III, passed through 95 feet of the mineral. Even local variations have been noted within the general salt basin in the Dawn and Dover gas fields, where on a single lot some wells penetrate the entire salt-bearing formation without encountering salt and others show considerable thicknesses of the mineral. However, drilling records do point to considerable continuity of the salt beds and suggest that within the general salt basin there are only a few relatively small areas where wells penetrating the salt-bearing formation have not encountered salt.

Salt is everywhere associated with the Salina formation. It commonly forms several beds separated by variable thicknesses of dolomite or limy shale. From one to ten separate beds are known. Single beds range from 5 to 270 feet in thickness, and their aggregate known thickness reaches a maximum of 593 feet in Sarnia township. The beds are apparently lenticular in form, the thickness of a single bed varying greatly from well to well. The presence of detached lenses is indicated by the local absence of salt in some wells.

In drilling, the first salt is commonly encountered between 350 and 450 feet below the top of the Salina formation, although it is known within the upper 150 feet of the formation in a few places. Small quantities of gypsum are commonly present above and below the salt, and in most wells occurs as a bed up to 10 feet thick near the base of the Salina formation.

The following table summarizes the geological characters of the salt deposits, their depth below the surface, position within the Salina formation, and number and thickness of the beds.

Lot	Con- cession	Township	County	Depth of salt	Depth of salt below top of Salina	Thickness of Salina	Thickness of salt	Remarks
14	10	Enniskillen.....	Lambton.....	Feet 1,194 1,252 1,400 1,533 1,613 1,943	Feet 145 201 349 482 562 892	Feet 1,129	Feet 34 34 41 42 184 92	Six salt horizons.
1 Petrolia		Enniskillen.....	Lambton.....	1,180 1,365	..... .....	..... .....	105 140	With shale. With shale.
1 Courtwright		Moore.....	Lambton.....	1,630	.....	.....	22	
18	1	Enniskillen.....	Lambton.....	1,325	.....	.....	500	
6	7	Enniskillen.....	Lambton.....	1,260 1,650 1,695 1,965	..... ..... ..... .....	..... ..... ..... .....	40 70 145 70	Four salt horizons.
2 Oil Springs		Enniskillen.....	Lambton.....	1,252 1,350 1,763	..... ..... .....	..... ..... .....	13 270 37	Three salt horizons.
23	R.R.	Moore.....	Lambton.....	1,726 1,820 1,878	..... ..... .....	..... ..... .....	17 30 239	Three salt horizons.
30	5	Sombra.....	Lambton.....	.....	.....	950	.....	No salt.
25	10	Sombra.....	Lambton.....	1,442 1,798	379 735	912	204 24	Two salt horizons.
22	6	Sombra.....	Lambton.....	1,410 1,450 1,790	370 410 710	945	10 200 50	Three salt horizons.
20	1	Dawn.....	Lambton.....	.....	.....	644	.....	No salt.
22	2	Dawn.....	Lambton.....	1,570 1,760	355 545	655	60 20	Two salt horizons.
13	2	Dawn.....	Lambton.....	1,400 1,705	385 690	880	165 30	Two salt horizons.

¹Geol. Surv., Canada, Ann. Rept. 1903, pt. S, p. 228.

²Ont. Dept. Mines, 34th Ann. Rept., pt. 2, p. 49 (1925).

Lot	Con- cession	Township	County	Depth of salt	Depth of salt below top of Salina	Thickness of Salina	Thickness of salt	Remarks
7	3	Sarnia.....	Lambton.....	Feet 1,318 1,435 1,510 1,540 1,695 1,845 1,882 1,898 2,101 2,276	Feet 238 355 430 460 615 765 802 818 1,021 1,196	Feet 1,438	Feet 86 45 10 65 50 28 8 198 19 84	Ten salt horizons.
15	5	Tilbury East.....	Kent.....	.....	.....	524	.....	No salt.
1	3	Tilbury East.....	Kent.....	1,340 1,425	450 535	635	20 75	Two salt horizons.
180	S.T.R.	Romney.....	Kent.....	.....	.....	504	.....	No salt.
5	Front	Raleigh.....	Kent.....	1,440	380	560	20	.....
14	15	Raleigh.....	Kent.....	.....	.....	500	.....	No salt.
5	Front	Dover.....	Kent.....	.....	.....	530	.....	No salt.
6	Front	Dover.....	Kent.....	1,400 1,410	376 386	532	5 10	Two salt horizons.
6	1	Chatham.....	Kent.....	1,300 1,480	385 565	735	170 5	Traces of brown dolomite at several horizons.
18	11	Chatham.....	Kent.....	.....	.....	639	.....	No salt.
21	1	Anderdon.....	Essex.....	1,050	500	653+	45	Salina not entirely penetrated.
29	1	Anderdon.....	Essex.....	1,105	530	625+	185	Salina not entirely penetrated.
Windsor		Sandwich.....	Essex.....	1,040 1,100 1,280 1,420	180 240 420 560	630+	50 80 50 70	Four salt horizons. Salina formation not en- tirely penetrated.

It is seen that vast quantities of salt underlie much of the Windsor-Sarnia area. Using a specific gravity figure of 2.125 as determined by Hunt¹ for specimens of rock salt from Goderich, a bed of salt 1 foot thick will contain about 1,850,880 tons (2,000 pounds) for each square mile. The average thickness of salt shown in the above table is about 85 feet. With at least 1,000 square miles of the Windsor-Sarnia area underlain by salt, there seems little likelihood of the supply being exhausted in the foreseeable future.

The salt is produced by evaporation of artificial brine. The brine from the first well drilled in 1866 at Goderich was analysed by Hunt, who reported² the following results.

	In 1,000 parts by weight	In 100 parts of solid residue
Chloride of sodium.....	259.000	99.018
Chloride of calcium.....	0.432	0.165
Chloride of magnesium.....	0.254	0.097
Sulphate of lime.....	1.882	0.720
	261.568	100.000

An analysis by the same author of rock salt taken from the core of the Attrill well at Goderich gave the following results³.

	Per cent
Chloride of sodium.....	99.687
Chloride of calcium.....	0.032
Chloride of magnesium.....	0.095
Sulphate of lime.....	0.090
Insoluble in water.....	0.017
Moisture.....	0.079
	100.000

The following typical analysis of salt from the Western Salt Company plant at Courtright is given by Cole⁴. (Operations at this centre were discontinued several years ago.)

	Per cent
Insoluble matter.....	0.002
Calcium sulphate.....	0.871
Calcium chloride.....	0.076
Magnesium chloride.....	0.003
Sodium chloride.....	99.044
	99.996

For a detailed account of salt recovery, methods of manufacture, uses, etc., the reader is referred to Mines Branch, Department of Mines, Ottawa, Publication No. 716, 1930, by L. H. Cole.

PETROLEUM AND NATURAL GAS

GENERAL STATEMENT

Petroleum is a complex mixture of hydrocarbons, chief among which are the paraffins and naphthenes. A small amount of inorganic material is also present and this may or may not be in combination with the hydrocarbon

¹Hunt, T. Sterry: Geol. Surv., Canada, Rept. of Prog. 1876-77, p. 236.

²Hunt, T. Sterry: Geol. Surv., Canada, Rept. of Prog. 1863-66, p. 269.

³Hunt, T. Sterry: Geol. Surv., Canada, Rept. of Prog. 1876-77, p. 233.

⁴Cole, L. H.: Mines Branch, Dept. of Mines, Pub. 716, p. 39 (1930).

molecule. Natural gas is nearly always associated with oil, and the two together form a continuous series of hydrocarbons ranging from solids to light gases. The chief constituent hydrocarbons in natural gas are methane (CH_4) and ethane (C_2H_6), although varying quantities of propane (C_3H_8) and butane (C_4H_{10}) may be present as gases. In addition, there may be certain gaseous impurities such as nitrogen (N), carbon dioxide (CO_2), and hydrogen sulphide (H_2S), as well as traces of oxygen (O), hydrogen (H), and carbon monoxide (CO).

In oil and gas fields, natural gas is classified as "dry" or "wet" according to the quantity of gasoline vapours present, and "sweet" or "sour" according to the absence or presence of hydrogen sulphide. If much hydrogen sulphide is present it must be removed before the gas is used commercially. The "dry" gas is the usual natural gas of commerce, and it commonly occurs in reservoirs separate from oil reservoirs.

Both natural gas and oil occur in commercial quantity within the Windsor-Sarnia area. In general, the gas and oil are produced in separate fields from different geological horizons. However, there are fields in which both oil and gas are produced in commercial quantity from the same general zone.

There are several producing and abandoned oil fields within the area. The producing fields are among the oldest in Ontario, including the Petrolia and Oil Springs fields. Most of the present oil production is from the upper part of the Norfolk formation (Devonian), with some from the Trenton (Ordovician), and a small quantity from the Guelph formation (Silurian). The abandoned oil fields, with the exception of the Romney and Sarnia pools, produced from either the lower Salina or upper Guelph formations. The Romney and Sarnia pools were shallow Devonian fields, with production from high in the Norfolk formation. In those fields yielding both oil and gas, production is from the Trenton (West Dover field) and the Salina and Guelph formations (Dawn field). The natural gas fields include one of the most prolific producing fields (Tilbury field) so far discovered in Ontario. The entire production is from the Guelph and Salina formations, with the former perhaps yielding the greater volume.

During 1943, about 132,492 barrels of oil valued at \$311,356 were produced in Ontario. Of this total, about 82,743 barrels, or 62.4 per cent, came from within the area covered by this report. In the same year, Ontario produced 7,914,408 M cubic feet of natural gas, of which about 4,583,098 M cubic feet or 57.9 per cent came from fields within the Windsor-Sarnia area.

GENERAL SUBSURFACE STRUCTURE

Within the Windsor-Sarnia area the wells have been drilled to test different horizons in different localities. In the north part of Lambton county most wells reach only into the Norfolk formation, which holds the main oil-yielding reservoir. In the southern part of Lambton, and in Essex and most of Kent counties, the Guelph, which there holds the chief gas-producing zones, is the main objective of drilling, and only a few wells penetrate below it. In a small part of Dover West township, Kent county, the wells test the Trenton formation, which there yields gas and oil.

In Kent and Lambton counties, the Norfolk formation constitutes the most widespread horizon upon which subsurface structure contours can be drawn. Reliable cuttings are available for only a small number of the wells that reach the Guelph. As the top of the Guelph cannot be recognized with assurance in drillers' logs, data for contouring on this formation are insufficient except at a few restricted localities. Samples for many of the older wells that reach only

into the Norfolk formation were not available and the drillers' logs of these wells had to be relied upon in computing elevations of the Hamilton-Norfolk contact. However, as this is a shale-limestone contact and easily recognized by the drillers, reasonable assurance can be placed upon their recordings of its depth.

In Essex county, where the Norfolk immediately underlies the drift, a deeper horizon must be used for structure contouring. As most of the wells in this county reach the Guelph, the top of this formation was used wherever sufficient data are available.

The accompanying diagram shows structure contours drawn on the Norfolk formation throughout Lambton and most of Kent counties, and on the Guelph formation in Essex county. Contours on the Norfolk show a number of local undulations forming gentle rolls, narrow troughs, and low domes. For the most part these local structures have an east-west trend, but near Lake Erie, in Romney, Tilbury East, and Raleigh townships, the general trend is more nearly northwest. Closures vary from about 20 to over 60 feet, and dips on the flanks are gentle and range from 40 to perhaps 200 feet a mile.

In Essex county, contours on the Guelph formation, together with information from isolated wells, indicate a regional north dip of about 25 feet a mile across the county. Locally, in Gosfield South township, a small elongate dome is present with about 50 feet of closure. The south flank of this fold dips into Lake Erie at about 120 feet a mile. The north flank dips at about half that rate and flattens to the regional average of about 25 feet a mile within a few miles of the crest of the fold.

The foregoing local structures have, in general, formed sites for accumulation of oil and gas, and fields have, therefore, been developed on them. The Petrolia and Oil Springs fields are the oldest oil fields in Ontario. They contain a great number of shallow wells and these are too closely spaced to be represented individually on the accompanying diagram. Their structure has, therefore, been generalized, and the limits of the fields outlined as shown.

Fracturing and faulting are suggested at more than one locality by the occurrence of producing wells in very narrow zones.

The subsurface structure is described in more detail in the subsequent discussion of the individual fields.

OIL AND GAS FIELDS

Lambton County

Oil Springs Field. This field occupies lots 16 to 19, cons. I and II, Ennis-killen tp., and has an area of about 2 square miles. In 1858, exploration of the tarry seepages long known to occur along Black Creek began when, at the village of Oil Springs, wells 40 to 60 feet deep were dug to a gravel bed overlying the bedrock. A heavy oil, much more fluid than the tarry material seen at the surface, was encountered in the gravel beds. This oil was utilized as a lubricant without previous treatment. About 1861, drilling into the bedrock was started and many flowing wells were quickly brought in. Initial flows of 2,000 and 5,000 barrels a day were not uncommon, and one well is reported to have flowed 7,500 barrels a day. These early flowing wells were dug to the bedrock and cribbed with wood before drilling was started. Except for a few wooden tanks of about 150 barrels capacity, no storage facilities were available, and when it was found impossible to control the gushing wells much oil escaped into Black Creek and found its way to Lake St. Clair, where it is said to have formed a layer inches deep over the surface of the water.

Nearly all the wells are shallow, with depths ranging from 350 to 400 feet. Main production is from the Norfolk (Big Lime)¹, the reservoir being a porous limestone 100 to 130 feet below the top of the formation. The thickness of the oil-bearing zone is from 5 to 10 feet². According to Williams³, the oil from the early 'gushers' came from a 'mud vein' or 'crevice' about 7 to 11 feet below the top of the Delaware limestone (Norfolk formation).

The Oil Springs field has produced continuously since its discovery, and is at present one of the main oil-producing fields of Ontario. No estimate can be made of the flush production, as much of the oil from the early large producers was lost. Harkness⁴ estimates that 7,475,630 barrels of oil were recovered from this field to the end of 1927. Production from 1928 to 1943 inclusive was about 496,745 barrels, making a total recovery of about 7,972,375 barrels to the end of 1943. The production for 1942 was 27,368 barrels from seven hundred and eighty-four operating wells: this indicates an average yield per well of about 35 barrels for that year.

The structure of the Oil Springs field is an eccentric dome that is slightly elongate in a northwest direction and with the apex near the northeast margin. The total closure is not more than 60 feet. Accumulation is directly related to the structural high. Production is apparently fairly even over the dome except at the northwest side, which appears to be barren at elevations that are productive elsewhere⁵.

During 1913 and 1914 several deeper wells were drilled on lots 18 and 19, concession II. Some of these struck gas in the upper part of the Guelph formation at depths of 1,850 to 1,950 feet. Williams⁶ states that two of these wells had initial volumes of 20,000,000 cubic feet of gas a day, but the flow rapidly decreased. Other Guelph tests were discouraging, and a few Trenton tests met with no success. In 1941 a well drilled on lot 18, con. I, Enniskillen tp., obtained an initial flow of about 800,000 cubic feet from the Guelph at a depth of 1,925 feet.

Natural gas production from the Guelph formation in the Oil Springs field is not usually recorded separately, but is included with that of the Dawn field. However, it is very small, being only 9,779,000 cubic feet in 1943.

The following well log shows the stratigraphy in this field.

Location: Oil Springs, lot 18, con. II, Enniskillen tp.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-220	220	Samples missing.
Norfolk	220-350 350-370	130 20	Limestone : buff; <i>Protosalvinia</i> . Dolomitic limestone: brown, granular.
Pre-Norfolk	370-570 570-810	200 240	Limestone and dolomitic limestone: grey, granular, and fine-grained; traces of gypsum. Dolomite: grey, buff, and brownish, fine-grained and granular; some cherty dolomite and chert; little sand and glauconite at the base.
Bertie-Akron	810-880 880-890 890-900	70 10 10	Dolomite: grey and buff, fine-grained. Dolomite: grey and buff, fine-grained; trace dolomitic shale. Dolomite: buff, fine-grained.

¹Term used by drillers for the calcareous succession comprising the Norfolk formation.

²Harkness, R.B.: Ont. Dept. of Mines, 37th Ann. Rept., pt. 5, p. 53 (1928).

³Williams, M.Y.: Geol. Surv., Canada, Sum. Rept. 1918, pt. E, p. 34.

⁴Harkness, R.B.: Ont. Dept. of Mines, 37th Ann. Rept., pt. 5, p. 54 (1928).

⁵Williams, M.Y.: Geol. Surv., Canada, Sum. Rept. 1918, pt. E, p. 34.

⁶Williams, M.Y.: Geol. Surv., Canada, Sum. Rept. 1918, pt. E, p. 35.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Salina	900- 915	15	Dolomite: grey; some shaly dolomite; trace gypsum.
	915-1,005	90	Dolomite: buff, fine-grained.
	1,005-1,045	40	Shaly dolomite: grey; trace pink gypsum.
	1,045-1,065	20	Dolomite: buff, dense; some gypsum.
	1,065-1,150	85	Dolomite: buff, fine; some grey dolomitic shale; little gypsum.
	1,150-1,210	60	Dolomite: buff, fine-grained.
	1,210-1,220	10	Salt.
	1,220-1,225	5	Shaly dolomite: buff; some salt.
	1,225-1,250	25	Dolomite: buff, fine-grained.
	1,250-1,300	50	Dolomitic shale: grey.
	1,300-1,485	185	Salt.
	1,485-1,490	5	Dolomite: brown, fine; some salt.
	1,490-1,590	100	Samples missing.
	1,590-1,625	35	Limestone: brown.
	1,625-1,645	20	Dolomite: buff, finely granular.
	1,645-1,680	35	Limestone: brownish grey, dense; some shaly limestone; little gypsum.
	1,680-1,740	60	Samples missing.
	1,740-1,750	10	Limestone: dark brownish grey, dense; some limy shale.
	1,750-1,780	30	Samples missing.
	1,780-1,790	10	Dolomite: buff, granular; some dark grey shaly dolomite.
	1,790-1,800	10	Salt.
	1,800-1,810	10	Samples missing.
	1,810-1,820	10	Limestone: light grey.
	1,820-1,940	120	Dolomite: brown, fine-grained.
	1,940-1,950	10	Gypsum.
Guelph-Lockport	1,950-1,970	20	Dolomite: buff, crystalline.
	1,970-2,000	30	Dolomite: grey, crystalline.
	2,000-2,065	65	Dolomite: light grey, coarsely crystalline.
Rochester	2,065-2,085	20	Shaly dolomite and dolomitic shale: grey.
Medina	2,085-2,115	30	Shale: grey; some red shale and grey dolomite.
	2,115-2,125	10	Shale: red.
	2,125-2,150	25	Shale: grey.
	2,150-2,170	20	Dolomite: grey, crystalline; some grey shaly dolomite.
Queenston	2,170-2,180	10	Shale: red.
	2,180-2,280	100	Samples missing.
	2,280-2,300	20	Shale: red.
	2,300-2,390	90	Samples missing.
	2,390-2,400	10	Shale: red.
	2,400-2,470	70	Samples missing.
	2,470-2,480	10	Shale: red; some greenish grey shale.
Meaford-Dundas	2,480-2,500	20	Samples missing.
	2,500-2,505	5	Shale; grey; some grey dolomitic shale.
	2,505-2,770	265	Samples missing.
Billings	2,770-2,870	100	Shale: grey, bituminous.
	2,870-2,900	30	Samples missing.
	2,900-2,910	10	Shale: brown, bituminous.
Trenton	2,910-3,025	115	Limestone: grey.

Petrolia Oil Field. The Petrolia field occupies lots 1 to 19, cons. IX to XIV, Enniskillen tp., and small parts of the adjoining townships of Moore, Sarnia, and Plympton. At its maximum it comprised some 20,000 acres¹, but at present less than half that area is being operated. The field was discovered about 1862, when oil was encountered in a well being dug for water. The first flowing well was drilled in 1865, after which development was very rapid. By 1890, two thousand five hundred wells had been drilled in this field. Most of the several

¹Harkness, R. B.: Ont. Dept. of Mines, 37th Ann. Rept., pt. 5, p. 55 (1923).

thousand wells in the Petrolia field were drilled before the turn of the present century, and for a great number of these no reliable records are now available.

Nearly all the wells are shallow, between 380 and 550 feet, with an average depth of perhaps 470 feet. In general, no oil was found below a depth of 500 feet. Production is from 115 to 130 feet below the top of the Norfolk formation (Big Lime). The thickness of the oil-bearing zone appears to vary in different parts of the field. In the central and eastern part, which is the most productive, it ranges from 5 to 13 feet and is a porous limestone¹. The northwestern part of the field is the least productive. There, "the oil is reported by the drillers to occur in 'fissures' or 'crevices' in the rock. These 'crevice' wells haven't a long life, but when closed down for a short time appear to accumulate oil, for, when they are again pumped, the production is temporarily restored. At present these wells are operated intermittently, but those in the central and eastern part of the field are operated for at least a few hours each day of the year".²

Originally much gas under considerable pressure must have accompanied the oil, as many wells are reported to have flowed as much as 1,000 barrels a day. However, so far as is known, all this gas was allowed to escape, and the wells soon ceased flowing and had to be pumped.

This field has been in operation continuously since its discovery. It has been the largest oil producer in Ontario and continues to lead all other Ontario fields in production. The estimated production up to 1926 was 15,090,700 barrels: production for the period 1926 to 1943 inclusive was 1,018,243 barrels, making a total of 16,108,943 barrels to the end of 1943. In 1941, the field produced 54,583 barrels from about six hundred and forty-six wells. Production for 1942 was 51,917 barrels.

During the years 1936 to 1941, at least thirty-five wells were drilled within the limits of the field. Ten of these were either dry or encountered only "shows" of oil and the remainder are reported as small producing oil wells with initial yields between $\frac{1}{2}$ barrel and 3 barrels a day. Production is from the Norfolk formation at depths between 400 and 450 feet below the surface.

The structure at the east-central part of the field is a dome with about 40 feet of closure and occupying lots 8 to 19, cons. IX to XIII, Enniskillen tp. Accumulation is directly related to the structural 'high', and at the east part of the field production is confined to the upper 40 feet of the dome. Westward from the dome, however, production appears to cross the structure contours and to extend about 120 feet down the dip from the highest part. This may be due to increased porosity or permeability induced by a zone of fracture.

The following well log illustrates the stratigraphy of this field.

Log of MacIntosh Oil and Gas Company, Well No. 1

Location: lot 14, con. X, Enniskillen tp.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-20	20	Samples missing.
Kettle Point.....	20-60	40	Shale: dark grey to black, bituminous.
Hamilton	60-100	40	Limy shale: grey; some shaly limestone.
	100-200	100	Samples missing.
	200-251	51	Limy shale: grey; some grey, shaly limestone.
	251-315	64	Limy shale: dark grey and greenish grey; little grey, shaly limestone.

¹Harkness, R. B.: Op. cit., p. 57 (1928).

²Harkness, R. B.: Op. cit.

Formation	Depth Feet	Thickness Feet	Lithology
Norfolk	315-416	101	Limestone: light buff, finely crystalline; traces of pyrite.
Pre-Norfolk	416-440 440-457 457-802 802-892	24 17 345 90	Limestone: dolomitic, brown, finely granular. Limestone: dolomitic, light buff, finely crystalline. Limestone: dolomitic, brownish grey, finely crystalline; traces of gypsum throughout. Limestone: dolomitic, grey, finely crystalline; some grey, cherty limestone and chert.
Bertie-Akron	892-1,051	159	Dolomite: grey and brownish grey, finely crystalline.
Salina	1,051-1,061 1,061-1,081 1,081-1,169 1,169-1,174 1,174-1,192 1,192-1,196 1,196-1,228 1,228-1,247 1,247-1,252 1,252-1,286 1,286-1,316 1,316-1,365 1,365-1,400 1,400-1,441 1,441-1,451 1,451-1,462 1,462-1,500 1,500-1,510 1,510-1,525 1,525-1,533 1,533-1,595 1,595-1,613 1,613-1,797 1,797-1,873 1,873-1,943 1,943-2,020 2,020-2,025 2,025-2,096 2,096-2,164	10 20 88 5 18 4 32 19 5 34 30 49 35 41 10 11 38 10 15 8 62 18 184 176 70 77 5 71 68	Limy shale: dark grey; gypsum. Dolomite: brown, fine; traces of gypsum. Limy shale: dark greenish grey; traces of gypsum throughout. Dolomite: brown, fine-grained. Limy shale: greenish grey; some brown, fine dolomite. Salt; some dolomitic shale. Salt. Dolomite: buff, fine-grained; little grey, limy shale and traces of gypsum. Shale: greenish grey; some salt. Salt. Salt; minor amount of dolomitic shale. Limy shale: greenish grey; minor amount of brownish grey, fine dolomite; traces of gypsum throughout. Dolomite: light buff, finely crystalline; some greenish, limy shale; trace of gypsum. Salt. Salt; small amount of greenish shale. Shale: greenish grey; some salt and gypsum. Limy shale: greenish grey; trace of gypsum. Mixture limy shale, brownish dolomite, and salt. Limy shale: greenish grey. Salt and shale. Salt. Salt; minor amount of grey dolomite. Salt. Limestone: brown, finely crystalline; trace of gypsum. Limestone: dark brownish grey, finely crystalline; zones of grey, limy shale. Salt. Gypsum. Dolomite: dark brownish grey, finely crystalline. Limestone: dark grey, finely crystalline; some greenish, limy shale near base.
Guelph-Lockport	2,164-2,180 2,180-2,193 2,193-2,259	16 13 66	Dolomite: brownish and light grey, finely crystalline. Dolomite: brownish grey, finely crystalline. Dolomite: light grey, granular.
Rochester	2,259-2,305	46	Shale: dark grey; little grey dolomite.
Medina	2,305-2,310 2,310-2,380 2,380-2,417 2,417-2,446	5 70 37 29	Shale: green and red. Shale: greenish grey; some red, limy shale and grey, shaly dolomite near base. Dolomite: grey, finely crystalline; some greenish grey, limy shale. Grey and greenish limy shale and shaly dolomite.
Queenston	2,446-2,737	291	Shale: red; some green mottlings.
Meaford-Dundas	2,737-2,856 2,856-3,017	119 161	Shale: greenish grey; some grey, crystalline limestone at several horizons. Shale: grey.
Billings	3,017-3,121	104	Shale: dark grey, bituminous.
Trenton and older Palaeozoic limestones	3,121-3,163 3,163-3,330	42 167	Dolomitic limestone: brownish grey, finely crystalline; some dark grey shale. Limestone: brownish grey, finely crystalline; fossiliferous.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Trenton and older Palaeozoic limestones	3,330-3,532	202	Limestone: grey, crystalline; some thin, greenish grey, limy shale zones.
	3,532-3,562	30	Limestone: brownish grey, crystalline; much dark grey, limy shale.
	3,562-3,614	52	Shaly limestone: grey; some grey, limy shale.
	3,614-3,724	110	Limestone: brown and buff, finely crystalline.
	3,724-3,813	89	Limestone: dark brown, dense.
	3,813-3,865	52	Limestone: light brown, crystalline.
	3,865-4,009	144	Limestone: brown, dense.
	4,009-4,080	71	Limestone: brown and brownish grey, dense; some grey, limy shale.
Basal beds	4,080-4,100	20	Greenish and grey, coarse-grained sandstone with brown limestone, grey shale, and biotite.
Precambrian	4,100-4,124	24	Biotite granite.

The Petrolia and Oil Springs fields are remarkable for their long life. The combined production for 1942 was 79,196 barrels from approximately one thousand five hundred operating wells, or an average of nearly 53 barrels a well. Combined production in 1943 was 72,578 barrels.

The early wells in these fields apparently ceased flowing within a short time after completion. When this occurred, a number of wells were connected by a 'jerker line' system to a central power station and operated simultaneously. Some wells had relatively short lives, but after a short period of 'rest' again accumulated oil and production was restored for a time. Such wells are pumped intermittently. The remainder, which form a majority of the total number, are pumped a few hours daily.

In 1925, Harkness¹ writes that "there is sufficient salt water (about 3 barrels per well per day) in parts of the Petrolia field and more in Oil Springs, either with the oil or reaching it from above or below, to have the effect of a partial flood".

No quantitative data are available regarding either the porosity or permeability of the reservoir rocks in these fields. The fact that it has been possible to pump as many as eighty wells simultaneously from a central power unit suggests that these two characters of the reservoir are at least uniform beneath the area thus operated. It may be that the long life of so many of the wells in these fields is in some manner related to a condition of low permeability that retards the movement of oil to the wells.

Reference to the accompanying structure diagram will show a depression on the 'Big Lime' in the area between Petrolia and Oil-Springs fields. During the years 1937 to 1941, several widely spaced wells were drilled in this region. Although some of these encountered small 'shows' of oil, only one, on lot 29, concession VIII, is reported to be commercial. This well had an initial yield of 4 barrels a day.

For further accounts of the Petrolia and Oil Springs fields the reader is referred to the following reports, upon which much of the foregoing account is based.

Harkness, R. B.: Empire Mining and Metallurgical Congress III, Petroleum, pp. 82-85 (1927).

— Ont. Dept. of Mines, 35th Ann. Rept., pt. 5, pp. 49-63 (1926).

— Ont. Dept. of Mines, 37th Ann. Rept., pt. 5, pp. 52-57 (1928).

Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1918, pt. E, pp. 31-35.

Clapp, E. G.: Canada, Dept. of Mines, Mines Branch, Pub. 291, pp. 179-181 (1915).

Hume, G. S.: Geol. Surv., Canada, Econ. Geol. Ser., No. 9, pp. 36-40 (1932).

Malcolm, W.: Geol. Surv., Canada, Mem. 81, pp. 79-83 (1915).

¹Harkness, R. B.: Ont. Dept. of Mines, 35th Ann. Rept., pt. 5, p. 57 (1926).

Moore Oil Field. This field forms a western extension of the main Petrolia field, and occupies lots 1 to 5, cons. VIII to XII, Moore tp. The field was discovered about 1904. Development was rapid, the several hundred wells having been completed during the ensuing 4 years. In 1915, there were about two hundred¹ wells still producing in this field.

The wells are 470 to 500 feet deep. According to Williams,² the oil-bearing strata are 57 to 83 feet below the top of the Delaware limestone (Norfolk formation). This is somewhat higher in the formation than at Petrolia, where the main producing horizon is 115 to 130 feet below the top of the Norfolk. Although the general elevation of the top of this formation is 80 feet lower than in the main Petrolia field, the difference in elevation of the oil-bearing strata in the two pools is perhaps only half that figure.

So far as is known the Moore field has produced continuously since its discovery, but no production figures are available for the years 1911 to 1917, inclusive. To the end of 1943, about 360,572 barrels of oil are known to have been recovered. Peak production was in 1905, with a yield of 93,815 barrels. Production in 1943 was about 332 barrels. In 1942, the pool produced 806 barrels from twelve operating wells, a yield of about 67 barrels a well. The initial yield of some of the best wells was 40 to 100 barrels a day.

Available well records indicate that gas accompanied the oil in most wells. However, some wells did encounter gas at levels higher than the oil.

During the years 1934 and 1935, four wells were drilled within the Moore field. Of these, one was dry and three had initial yields of $\frac{1}{2}$, 1, and 2 barrels of oil a day respectively. There has been no further drilling in this field.

The general structure, as shown on the accompanying structure diagram, is a northwest-trending elongate dome with about 20 feet of closure. Williams³ states that the oil occurs on terraces and small domes.

The stratigraphy is essentially similar to that of the main Petrolia field, as illustrated by the log of MacIntosh Oil and Gas Company well No. 1. The following table of well logs shows the drillers' interpretation of the stratigraphy of the Moore field.

Location	Lot 4, con. VIII	Lot 2, con. X	Lot 5, con. X	Lot 1, con. IX	Lot 4, con. X	Lot 2, con. XI	Lot 4, con. XII	Lot 2, con. VIII
	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
Glacial drift.....	125	149	150	142	150	160	153	103
Black shale (Kettle Point).....								7
Top rock	90	55	50	48	62	40	55	90
Upper soap	120	120	122	142	120	125	120	119
Middle lime	15	15	13	18	13	18	15	15
Lower soap	35	47	45	48	50	50	45	43
Big lime (Norfolk).....	85	99	96	72	69	97	124	113
Total depth.....	470	485	476	470	464	490	512	490
Depth to big lime.....	385	386	380	398	395	395	388	377
Oil at.....	404	390 410 435	460	413 430 447	422	425 463	445 450	445
Gas at.....	404	390		413 430 447	422	463	445	445
Water at.....	125		145	154		172		103

¹Clapp, E. G.: Canada, Dept. of Mines, Mines Branch, Pub. 291, p. 183 (1915).

²Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1918, pt. E, p. 32.

³Williams, M. Y.: Op. cit.

Plympton-Sarnia Oil Field. This field lies in the southwest part of Plympton township, and extends northwestward into Sarnia township. At the closest point it is less than 2 miles from the north boundary of the main Petrolia field. The field was opened before the turn of the present century. The wells range from 400 to 550 feet in depth and the oil occurs about 100 feet below the top of the Norfolk formation.

Considerable quantities of gas occurred in this field. It was largely wasted, although a small volume was used in gas engines and as a domestic fuel. By about 1918 the field had greatly deteriorated, and operations were being carried on chiefly by farmers during slack times¹.

The field was developed on a low anticline trending northwest from near the main Petrolia structure. A small dome with less than 20 feet of closure appears to be present at the northern end of the anticline. This dome occupies lots 1 to 6, con. VI, Sarnia tp., and was apparently the point of accumulation for a small oil pool discovered about 1898.

Plympton Township. Outside the old Plympton-Sarnia field at least forty-five wells have been drilled. Most of these penetrate only into the Norfolk formation and range from 435 to 695 feet in depth. So far as is known, none of these wells encountered gas or oil in commercial quantity, although many had shows of gas and a few had shows of oil. A well on lot 18, con. IV, Plympton tp., is reported to have had an initial yield of $\frac{1}{2}$ barrel of oil and 20,000 cubic feet of gas a day. In 1935 a well on lot 22, con. IX, penetrated the Salina formation, reaching a depth of 1,850 feet. Shows of oil and gas were encountered in the Norfolk formation. In 1940, a well drilled on lot 3, con. V, reached the Queenston formation, and a small show of gas was encountered in the Guelph formation at a depth of 2,610 feet.

Sarnia Township. The southeastern part of Sarnia township, comprising lots 1 to 9, cons. I to III, forms an extension of the main Petrolia field. This district contains several hundred wells, about two hundred of which were still producing in 1915 after some 25 years of operation.

Production for the period 1917 to 1942 was about 45,500 barrels. In 1921, production was 4,069 barrels from one hundred and eleven operating wells, but by 1942, this had declined to 236 barrels from fifteen wells.

During the years 1921 to 1923, at least eighteen wells were drilled on lots 8 to 19, cons. VII and VIII, Sarnia tp. Most of these obtained natural gas with initial yields ranging from 10 M to 255 M cubic feet a day. Production is from the Norfolk formation at depths of 30 to 100 feet below the top.

In 1925, gas production from Sarnia township was 2,100 M cubic feet from seventeen wells. In 1942 it had declined to 800 M cubic feet from thirteen wells. During the same period, the rock pressure had declined from about 71 to 35 pounds a square inch. Structurally, accumulation appears to be related to a low open ridge or nose on the general west-dipping surface of the Norfolk formation.

The following log of a well on lot 13, con. VII, Sarnia tp., completed from drillers' records, is typical of the stratigraphic succession in this region.

Formation	Description	Thickness	Depth
		Feet	Feet
Surface.....	Glacial drift.....	126	126
	Upperwash (top rock).....	74	200
Hamilton	Petrolia (upper soap).....	165	365
	Widder (middle lime).....	5	370
	Olentangy (lower soap).....	65	435
Norfolk.....	Grey limestone.....	90	525

Gas: 35,000 cubic feet a day at a depth of 525 feet.

Rock pressure: 88 pounds a square inch.

Drilled: 1923.

¹Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1918, pt. E, p. 33 (1918).

Florence Oil Field. In 1897, oil was found on lot 19, con. XIII, Dawn tp., near the village of Florence, and a small field in lots 18 to 20, cons. XII and XIII, was immediately developed.

Production was from 80 to 90 feet below the top of the Norfolk formation at depths ranging from 317 to 325 feet. Eleven producing wells were drilled before the close of 1897¹. At least one of these had an initial yield of 30 barrels a day, but production declined rapidly and the field was apparently abandoned many years ago.

During 1938 and 1939, four wells were drilled on lots 17, 18, and 19, con. XIII, and lot 19, con. XII, within the limits of the old field. Of these, one was a dry hole, two were reported as small producing oil wells, and the fourth had an initial yield of 15 barrels a day. Production was from the upper part of the Norfolk formation, at depths of 319 to 321 feet.

The Florence field was developed on a low, northwest-trending, elongate dome having 20 feet of closure. The structure is about 2 miles long and $\frac{1}{4}$ mile wide. Dips on the flanks are about 80 feet a mile on the south and perhaps 100 feet a mile on the north.

According to Williams², oil was discovered on lot 30, con. XIII, Dawn tp., about 4 miles north of the Florence field. The quantity of oil recovered was insignificant.

The following log of a well drilled on lot 19, con. XII, compiled from drillers' records, indicates the stratigraphic succession in the Florence district.

Formation	Description	Thickness	Depth
		Feet	Feet
Surface.....	Glacial drift.....	35	35
Hamilton	(Ippeewash (top rock)).....	19	54
	Petrolia (upper soap).....	133	187
	Widder (middle lime).....	14	201
	(Olenangy (lower soap)).....	24	225
Norfolk.....	Grey limestone.....	125	350

Oil at 319 feet.

Dawn Gas and Oil Field. As now (1944) developed, the Dawn field is an east-west trending area about 11 miles long and averaging less than a mile in width. It occupies lots 23 to 25, cons. I to XIV, Dawn tp. A south-trending extension from the west end of the main field occupies lots 18 to 20, con. I. The field was discovered in 1921, when a well on lot 24, con. V, came in with an initial gas flow of 177,400 cubic feet a day and had a rock pressure of 775 pounds a square inch³. The gas was struck in the Salina formation at 1,615 and 1,750 feet below the surface. By the end of 1922, a total of fifteen wells had been drilled, five of which were producers⁴. In 1930, another productive area was discovered on lots 18 to 20, con. I, about 4 miles southwest of the discovery well. Two years later oil in commercial quantity was discovered on lots 24 and 25, con. II. The production was obtained from near the base of the Salina formation and from the upper part of the underlying Guelph, at depths of 1,813 to 1,955 feet. The Dawn field constitutes one of the main gas-producing areas of Ontario, but oil production from it has greatly declined, being 126 barrels in 1943.

Most of the wells within the present limits of the Dawn field are between 1,600 and 2,290 feet deep and do not penetrate below the Guelph-Lockport beds.

¹Ont. Bur. Mines, 7th Ann. Rept., p. 19 (1897).

²Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1918, pt. E, p. 35.

³Ont. Dept. of Mines, 31st Ann. Rept., pt. 5, pp. 28 and 49 (1922).

⁴Ont. Dept. of Mines, 32nd Ann. Rept., pt. 5, p. 6 (1923).

Production is from three general zones; two in the lower part of the Salina, and one in the upper part of the Guelph formation. Each of these may include several pay-streaks separated by non-productive intervals. The position of the two productive zones in the Salina formation seems to vary with reference to the top of the Guelph. The upper zone is as much as 320 feet, and the lower one as little as 5 feet, above the Guelph. Most of this variation appears to be due to the presence or absence of thick salt beds, or to relatively abrupt changes in the thicknesses of these beds from place to place. As indicated elsewhere in this report, the Salina formation in Dawn township ranges in thickness from 644 to 960 feet, and the contained salt beds from zero to 270 feet. The lowest producing horizon may be almost anywhere within the upper 100 feet of the Guelph formation.

Of the three general producing zones mentioned above, the highest yields only gas; the intermediate yields some gas and most of the oil; and the lowest horizon yields a little oil and more gas than the two Salina horizons combined. Initial yields of gas range from a few thousand to a million cubic feet a day, although several wells had much higher yields and a few are reported to have come in with yields of over 20 million cubic feet a day. The average initial yield of seven producing wells drilled during 1942 and 1943 was about 436 M cubic feet a day. To the end of 1943, the Dawn field had produced about 15,000,000 M cubic feet of gas; production for 1942 was 1,516,702 M cubic feet from thirty-four wells, or about 45,000 M cubic feet for each well. Production in 1943 was 1,092,293 M cubic feet. Initial yields of oil are from 1 to 25 barrels a day and one well is reported to have come in with 50 barrels a day. Peak production was in 1933 when 8,079 barrels¹ of oil were recovered from five operating wells. This is a daily average of about 4 barrels for each well. Production in 1943 was 126 barrels of oil.

The structure of the Dawn field is difficult to determine. Contours on top of the Guelph formation are not entirely satisfactory, as reliable samples for many of the earlier wells are not available, and the Salina-Guelph contact is not determinable from drillers' logs. Also, not all wells reach to the top of the Guelph formation. However, the surface of the Guelph shows a series of elongate domes having an east-west trend and apparently separated by narrow, shallow troughs (See Figure 3). Closure on these domes is from 20 to 100 feet, and dips range from 80 to 400 feet a mile. Offset to the south about 2 miles from the west end of the main field is another dome occupying lots 18 to 20, con. I. This structure has 200 feet of closure and rises at a rate of about 800 feet a mile.

The Guelph-Lockport beds are known to vary from 90 to 278 feet in thickness. The more pronounced and restricted variations may be due to reefs that are built much higher than the adjacent strata, thus producing great local increases in thickness of the formation. Although the wells located on the highest part of the localized domes at the west end of the Dawn field do not pass completely through the Guelph-Lockport succession, it seems more logical to attribute these domes to reef structures than to folding of the beds.

Structure contours on top of the Guelph do not coincide with those drawn at the base of the Guelph-Lockport beds, nor with contours drawn on top of the Norfolk formation (Big Lime). Contours on the 'Big Lime' indicate structural 'lows' or depressions above high places on the surface of the Guelph. There is thus a divergence of structure between these two horizons. This may result from several causes. The long, narrow form of the main producing area is strongly suggestive of faulting. Faulting has not been detected in any of the well cuttings examined, but if present, could result in apparent variations in

¹Ont. Dept. of Mines, 43rd Ann. Rept., pt. 5, p. 53 (1934).

thickness of a formation in the case of wells that pass through the fault where it intersects the formation. Leaching of salt by waters circulating along a fracture zone might result in a settling of the overlying strata. Also, changes in thickness of the salt may be produced by flowage under differential pressure. This, too, might be followed by a subsidence of the beds overlying the salt-bearing formation.

There are places where structural 'highs' on the Norfolk formation seem to be related to thick deposits of salt in the deeper, Salina beds. These 'highs', on the other hand, are not always reflected on top of the Guelph formation, which may show a depression below a 'high' on the Norfolk formation. This may indicate that in areas underlain by salt, the Norfolk is likely to be 'high' where unusual thicknesses of salt occur in the Salina beds, and conversely, that the Guelph is apt to be 'high' where salt beds in the overlying Salina are thin. However, it is strongly emphasized that available data are inadequate as a basis for interpreting the foregoing as a general rule. Thus, it should not be taken for granted that a structural 'high' on the 'Big Lime', which is underlain by a thick salt section, will necessarily be above a 'low' on the Guelph formation.

Accumulation in the Dawn field is controlled largely by structure and most of the producing wells are located fairly high on the several domes that constitute the field. In general, the largest producers are highest on the structure, although during recent years commercial production of gas has been obtained as much as 140 feet below the crest.

The following logs, prepared from well samples, illustrate the stratigraphic succession in this field.

Log of Union Gas Company No. 98 Well

Location: lot 20, con. I, Dawn tp.

Elevation: 621 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-10	10	No samples.
	10-65	55	Surface material.
Kettle Point	65-149	84	Shale: black; <i>Protosalvinia</i> throughout; traces of greenish grey shale at 89 to 107 feet and 119 to 131 feet; 20 per cent green shale at 143 feet.
	149-279	130	Shale: black; <i>Protosalvinia</i> throughout; trace of greenish grey shale at 267 to 279 feet; trace of pyrite in most samples.
Hamilton	279-309	30	Limestone: grey, crystalline; 30 per cent grey shale; crinoid columns, Bryozoa, and Brachiopod fragments 303 to 309 feet.
	309-339	30	Shale: grey; 50 per cent grey limestone at 327 feet; crinoid columns, Bryozoa, and Brachiopod fragments at 321 and 339 feet.
	339-345	6	Limestone: grey, crystalline; trace grey shale.
	345-510	165	Shale: grey; trace grey limestone at 363 to 381, 411, 447 feet; Tentaculites, Ostracoda, Bryozoa, and Brachiopod fragments 463 to 510 feet.
	510-520	10	Limestone: grey, shaly; 50 per cent grey shale; trace pyrite.
Norfolk	520-597	77	Limestone: light buff, finely crystalline; <i>Protosalvinia</i> at 538 and 591 feet; trace pyrite 531 and 573 feet.
	597-608	11	No samples.
	608-643	35	Limestone: buff, fine-grained; few frosted sand grains 638 to 643 feet; trace pyrite 608 and 623 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Pre-Norfolk	643-681	38	Limestone: buff, finely crystalline; some fine porosity at 653 feet; few sand grains at 681 feet.
	681-783	102	Limestone: buff to brown, finely crystalline; 6 per cent gypsum at 699 to 705 feet; trace selenite and black carbonaceous streaks 729 to 777 feet.
	783-891	108	Magnesian limestone: buff to brown; finely crystalline; black carbonaceous streaks; some fine porosity at 789 to 801, 837 to 849, 873 to 891 feet.
	891-1,065	174	Magnesian limestone: brownish grey, finely crystalline; trace cherty limestone 897 to 957 feet; 2 per cent chert with dolomite crystals 969 to 1,017 feet; 30 per cent chert 1,023 to 1,065 feet.
	1,065-1,071	6	Chert: grey; 25 per cent magnesian limestone.
	1,071-1,083	12	Magnesian limestone: grey, finely crystalline; 40 per cent chert.
	1,083-1,101	18	Chert; 40 per cent grey, magnesian limestone.
	1,101-1,161	60	Magnesian limestone: brownish grey, finely crystalline; 40 per cent chert 1,101 to 1,149 feet; many sand grains 1,155 to 1,161 feet; trace pyrite 1,161 feet.
Bertie-Akron	1,161-1,242	81	Dolomite: buff and grey, fine-grained; oolitic at 1,203 feet; some fine porosity 1,209 to 1,215 feet.
Salina	1,242-1,247	5	Dolomite: brownish grey, fine-grained; 2 per cent dark grey, shaly dolomite.
	1,247-1,262	15	Shaly dolomite: grey, fine-grained; 40 per cent brown dolomite; trace dark grey shale; trace gypsum at 1,252 feet.
	1,262-1,313	51	Dolomite: brownish grey, fine-grained; grey, shaly dolomite at 1,289 feet; dolomitic shale 1,295 to 1,301 feet.
	1,313-1,400	87	Dolomitic shale: dark greenish grey; trace pink gypsum throughout; 50 per cent dolomite at 1,400 feet.
	1,400-1,537	137	Dolomite: brownish grey, fine-grained; trace of gypsum in most samples; 5 per cent gypsum at 1,527 feet; from trace to 25 per cent dark grey, dolomitic shale.
	1,537-1,562	25	Dolomitic shale: greenish grey; trace gypsum throughout.
	1,562-1,596	34	Dolomitic shale: grey and greenish; trace gypsum throughout; some brownish grey dolomite.
	1,596-1,612	16	Dolomite: brownish grey, fine-grained; some grey, shaly dolomite; trace gypsum.
	1,612-1,618	6	Dolomitic shale: greenish grey; trace pyrite.
	1,618-1,742	124	Dolomite: brownish grey and brown, fine-grained; trace grey shale 1,618 to 1,630 and 1,742 feet; trace gypsum 1,636 to 1,642 feet.
	1,742-1,757	15	Shaly dolomite: grey; trace dark grey, dolomitic shale.
	1,757-1,886	129	Dolomite: brownish grey, finely crystalline; trace dark grey, dolomitic shale 1,762 to 1,777 and 1,844 to 1,880 feet; 10 per cent gypsum at 1,767 to 1,777 feet; 25 per cent gypsum at 1,886 feet.
Guelph-Lockport	1,886-1,965	79	Dolomite: buff, finely crystalline.
	1,965-2,021	56	Dolomite: light grey, crystalline; some fine porosity at 2,021 feet.
	2,021-2,031	10	Dolomite: medium grey, crystalline.
Rochester	2,031-2,035	4	Shale: calcareous, dark grey.

Log of Union Gas Company No. 61 Well

Location: lot 23, con. II, Dawn tp.

Elevation: 621 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-69	69	Glacial drift.
Kettle Point	69-245	176	Shale: black, bituminous; <i>Protosalvinia</i> .
Hamilton	245-315	70	Limestone: grey, crystalline, fossiliferous; some grey, limy shale.
	315-425	110	Shale: grey.
	425-440	15	Limestone: grey, shaly; some grey, limy shale.
	440-475	35	Shale: grey; some grey, limy shale.
Norfolk	475-555	80	Limestone: grey, finely crystalline, crinoidal; <i>Protosalvinia</i> near base.
Pre-Norfolk	555-580	25	Limestone: light grey, fine-grained; some black bituminous streaks.
	580-585	5	Dolomitic limestone: light buff, fine-grained; 15 per cent sand.
	585-625	40	Dolomitic limestone: light buff, finely crystalline.
	625-630	5	Dolomitic limestone: buff, fine-grained; about 30 per cent sand.
	630-640	10	Dolomitic limestone: buff, fine-grained; 10 per cent sand.
	640-655	15	Dolomite: buff, fine-grained.
	655-690	35	Dolomite: buff, fine-grained; few black bituminous streaks.
	690-695	5	Dolomite: light grey, fine-grained.
	695-780	85	Dolomite: grey and light buff, fine-grained, finely porous; trace of selenite.
	780-790	10	Dolomitic limestone: light buff, medium-grained.
	790-835	45	Dolomite: brown, finely crystalline.
	835-950	115	Dolomite: brown, medium-grained; much cherty dolomite and chert; 50 per cent coarse sand at 945 to 950 feet.
Bertie-Akron	950-980	30	Dolomite: grey, fine-grained.
	980-1,040	60	Dolomite: light buff and grey, fine-grained.
Salina	1,040-1,045	5	Dolomite and shaly dolomite: grey; 20 per cent gypsum.
	1,045-1,055	10	Dolomite: buff, fine-grained; 25 per cent gypsum.
	1,055-1,070	15	Shaly dolomite: grey; trace gypsum.
	1,070-1,085	15	Dolomite: buff, fine-grained.
	1,085-1,225	140	Shaly dolomite and dolomitic shale: grey; some buff dolomite; trace gypsum.
	1,225-1,335	110	Dolomite: buff, fine-grained; little grey, shaly dolomite; trace gypsum.
	1,335-1,390	55	Shaly dolomite: grey; some grey, dolomitic shale; little gypsum.
	1,390-1,395	5	Shaly dolomite: grey; 35 per cent gypsum.
	1,395-1,435	40	Dolomite: grey; much grey, dolomitic shale; trace gypsum.
	1,435-1,615	180	Salt.
	1,615-1,625	10	Dolomite: brown, fine-grained; trace gypsum.
	1,625-1,640	15	Dolomitic limestone and limestone: grey, fine-grained.
	1,640-1,670	30	Dolomitic limestone: brownish grey, fine-grained.
	1,670-1,745	75	Dolomitic limestone: dark brownish grey, fine-grained; some grey limestone.
	1,745-1,770	25	Dolomitic limestone: grey and brownish, fine-grained; some limy shale; trace gypsum.
	1,770-1,805	35	Salt.
	1,805-1,815	10	Gypsum.
	1,815-1,825	10	Dolomite: brown, fine-grained.
	1,825-1,835	10	Dolomite: brown, fine-grained and granular.
	1,835-1,845	10	Dolomitic limestone: grey, fine-grained.
	1,845-1,850	5	Dolomite: grey, fine-grained.
	1,850-1,870	20	Dolomite: brown, fine-grained.

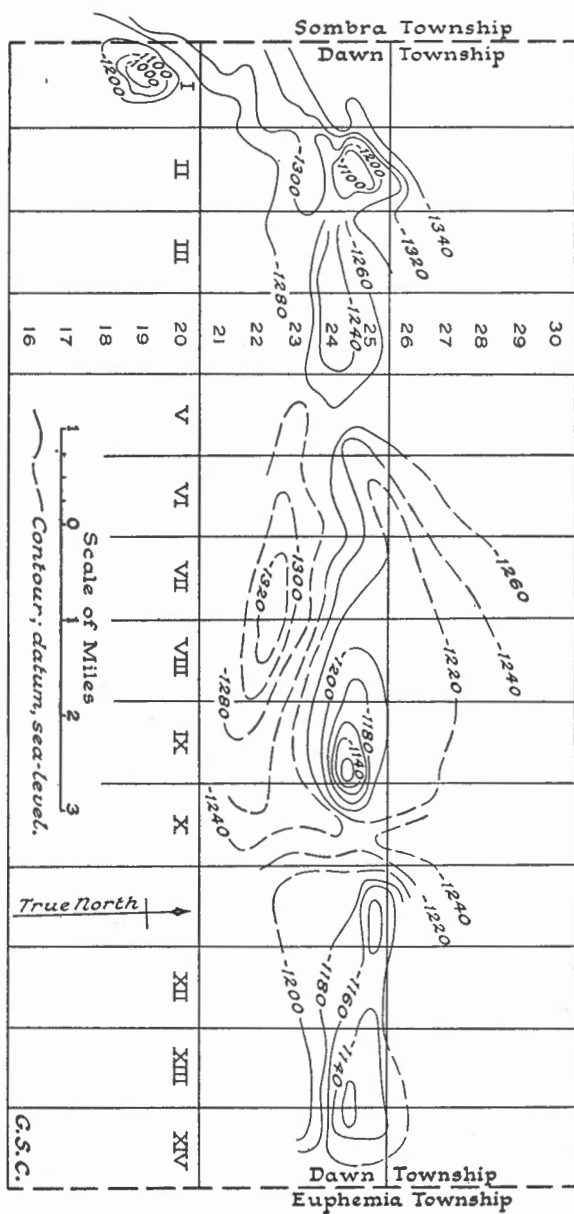
Formation	Depth	Thickness	Lithology
	Feet	Feet	
Salina	1,870-1,875	5	Dolomite: brownish grey, fine-grained; some dense dolomitic limestone.
	1,875-1,910	35	Dolomitic limestone: dark grey and grey, dense; some brown dolomite.
	1,910-1,930	20	Dolomitic limestone: dark grey, fine-grained; some grey, limy shale.
Guelph	1,930-1,990	60	Dolomite: grey and light grey, crystalline.

Log of Union Gas Company No. 59 Well

Location: lot 24, con. II, Dawn tp.

Elevation: 627 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-69	69	Glacial drift.
Kettle Point	69-252	183	Shale: black, bituminous.
Hamilton	252-265	13	Limestone: grey, crystalline.
	265-325	60	Shale: grey; some grey, shaly limestone.
	325-385	60	Shale: grey.
	385-425	40	Shale: grey, limy.
	425-440	15	Limestone: grey, shaly; some grey, limy shale.
	440-470	30	Shale: grey, fossiliferous.
	470-476	6	Limy shale and shaly limestone: grey.
Norfolk	476-560	84	Limestone: light buff, finely crystalline; crinoidal.
Pre-Norfolk	560-580	20	Limestone: light buff, dense; 10 per cent sand.
	580-620	40	Dolomitic limestone: buff and brown, fine-grained; 10 per cent sand.
	620-650	30	Dolomitic limestone: light grey, fine-grained; some black streaks.
	650-805	155	Dolomitic limestone: light buff, fine-grained; little gypsum at the top; little chert at the base.
	805-850	45	Dolomite: brown, granular; 20 per cent chert.
	850-965	115	Dolomite: brownish grey, granular; some cherty dolomite; chert throughout; 20 per cent sand at 955 to 965 feet.
Bertie-Akron	965-990	25	Dolomite: light buff, fine-grained.
	990-1,015	25	Dolomite: buff and brown, fine-grained.
	1,015-1,070	55	Dolomite: light grey to buff, fine-grained.
Salina	1,070-1,080	10	Shaly dolomite: grey; some grey, dolomitic shale.
	1,080-1,100	20	Dolomite: light buff, fine-grained.
	1,100-1,190	90	Shaly dolomite: grey, fine-grained; some grey, dolomitic shale and brown dolomite; trace of gypsum.
	1,190-1,225	35	Dolomite: light brown, fine-grained; some grey dolomite.
	1,225-1,230	5	Shaly dolomite: grey, fine-grained; some grey, dolomitic shale.
	1,230-1,330	100	Dolomite: light brown, fine-grained; some grey, shaly dolomite; 40 per cent gypsum at 1,320 to 1,330 feet; trace gypsum throughout.
	1,330-1,425	95	Shaly dolomite and dolomitic shale: grey, fine-grained; brown dolomite at 1,380 to 1,425 feet; trace gypsum at 1,330 to 1,380 feet.
	1,425-1,540	115	Salt; some dolomitic shale at 1,430, 1,450, 1,480, and 1,500 feet; 70 per cent gypsum at 1,520 to 1,530 feet.
	1,540-1,555	15	Dolomite: brown, fine-grained.
	1,555-1,580	25	Dolomite: brownish grey, fine-grained.
	1,580-1,610	30	Dolomite: brownish grey and dark grey, fine-grained.
	1,610-1,640	30	Shaly dolomite and dolomitic shale: grey; trace gypsum at 1,610 to 1,625 feet; 60 per cent gypsum at 1,625 to 1,640 feet.
	1,640-1,645	5	Dolomite: brown, fine-grained; 50 per cent gypsum.
Guelph	1,645-1,670	25	Dolomite: light brown, medium-grained.



Kent County

Chatham Gas Field. The Chatham gas field occupies lots 5 to 19, cons. IX to XIII, in the northern part of Chatham township. A small productive area is also present in lot 23, con. VII. Natural gas in commercial quantity appears to have been discovered in this region about 1936, when a well drilled in lot 8, con. XII, obtained an initial yield of 250 M cubic feet a day from the Salina formation at a depth of 1,460 feet. Three other wells were drilled to the Guelph formation during the same year, but none of these attained production. The discovery was followed by the drilling of eleven wells in 1937, and by the end of 1943 about sixty-two wells had been drilled, about twenty-five of which obtained gas in commercial quantity.

The wells in the Chatham field range from 1,470 to 2,135 feet in depth. Most of them end in the Guelph formation, but a few reach only into the Salina. Production is from both of these formations. The main producing zone in the Salina is within the lower 50 feet of the formation. However, gas is also found from 100 to over 200 feet above the top of the Guelph. In places both of these producing zones contain more than one pay-streak. Much of the Guelph production is from the upper 60 feet of the formation, but it may also come from well over 100 feet. Several pay-streaks are usually present in the Guelph formation.

Initial yields range from about 40 M to 600 M cubic feet a day. Two wells had initial yields of 2,000 M and 6,000 M respectively, but the average for the field is around 200 M cubic feet a day. Production for 1942 from Chatham township was 1,127,281 M cubic feet¹. This had declined to 311,029 M cubic feet in 1943.

Many of the wells in this field encountered shows of oil within the upper 15 feet of the Guelph formation, and a few within the lower 60 feet of the Salina.

As contoured on top of the Guelph formation, the structure of the Chatham field appears to be an easterly trending, elongate dome about 5 miles long and 2 to 3 miles wide (See Figure 4). The south flank is steep and terrace-like, with a maximum dip of about 300 feet a mile. The north flank shows a much more gentle slope of about 50 feet a mile. Closure is approximately 100 feet.

This structure does not appear to be present on the higher Norfolk formation. Contours on the top of the Norfolk indicate a low dome with less than 20 feet of closure occupying lots 10 to 13, cons. IX and X, immediately south of the steep 'terrace' on the Guelph, and a gentle north dip of about 100 feet a mile directly above the steep, south-dipping 'terrace' on this formation. There is thus a divergence in structure between the Norfolk and Guelph formations. This divergence is thought to have resulted from a combination of factors rather than from any single cause. No salt has been seen in samples from any of the wells in this field, nor has any definite indication of faulting been observed. However, there is considerable variation in thicknesses of the formations from the Salina to the Norfolk, inclusive. The Bertie-Akron shows the greatest range, varying from 92 to 259 feet, and there is thought to have been a period of erosion before the overlying Devonian beds were deposited. The Salina varies from 480 to 675 feet in thickness, and the Norfolk-Pre-Norfolk succession from 445 to 688 feet. As stated elsewhere, it also seems likely that a disconformity is present between the Norfolk and pre-Norfolk (Detroit River) beds. It is, therefore, probable that these stratigraphic irregularities, together have resulted in the structural divergence shown by the contours on the Guelph and Norfolk formations respectively.

¹ Dominion Bureau Statistics Metallurgical and Chemical Branch.

Accumulation of gas in the Chatham field is controlled largely by structure. However, not all the wells located at the highest part of the structure are productive, and there is some irregularity in the distribution of producers and dry holes. Also, at the west end of the field, production is obtained 120 to 140 feet below the crest of the structure, whereas elsewhere dry holes occur at higher levels. It is apparent that porosity must be an important factor in gas accumulation and that favourable structure with unfavourable porosity may result in small or non-productive wells.

During 1938 and 1939, four shallow wells were drilled immediately south of the main gas field in lot 12, con. IX, Chatham tp. Depths are from 405 to 420 feet and reach only into the Norfolk formation. Two of these wells were non-productive and the other two are reported as being small producing oil wells. Production is from the Norfolk formation at 85 and 107 feet respectively below the top of the formation. Structurally, these wells are on a very low dome in the Norfolk.

In 1937 and 1938, about nine shallow wells were drilled into the Norfolk formation on lots 6 to 9, cons. I and II, near Thames River. Depths are from 412 to 514 feet. Several of these wells obtained small shows of oil and gas at 46 to 90 feet below the top of the Norfolk, but none was commercial. Structure contours on top of the Norfolk indicate a gentle south dip at about 50 feet a mile.

Two wells in Chatham township penetrate the entire sedimentary succession. A dry hole drilled on lot 6, con. XIV, in 1936, penetrated 10 feet into the Precambrian, reaching a depth of 3,725 feet. Another deep well drilled on lot 6, con. I, in 1940, also penetrated 10 feet into the Precambrian and reached a depth of 3,812 feet. This well obtained a small show of oil at 450 feet, about 12,000 cubic feet of gas at 1,100 feet, and a show of oil at 3,340 feet.

The following log illustrates the stratigraphic succession in the Chatham gas field.

Log of Union Gas Company Well No. 2

Location: lot 5, con. XIII, Chatham tp.

Elevation: 583 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-60	60	Glacial drift.
Kettle Point	60-190	130	Shale: black, bituminous.
Hamilton	190-230	40	Limestone: grey, crystalline; some grey, shaly limestone.
	230-295	65	Shale: grey; some grey, limy shale.
	295-340	45	Shale: grey; some grey, limy shale.
	340-345	5	Limestone: grey, shaly.
	345-365	20	Shale: grey.
	365-390	25	Limestone: grey, shaly.
	390-400	10	Shale: grey, limy.
Norfolk	400-500	100	Limestone: light buff, medium-grained: <i>Protosalvinia</i> at 480 to 500 feet; trace of sand at the base.
Pre-Norfolk	500-515	15	Limestone: buff, dense; little sand.
	515-575	60	Limestone: buff, fine-grained; 40 per cent sand at the top; 5 per cent sand at 525-575 feet.
	575-695	120	Dolomitic limestone: buff, fine-grained; some black streaks.
	695-715	20	Dolomitic limestone: brownish grey, finely crystalline; trace gypsum at the base.
	715-755	40	Dolomitic limestone: brownish grey, finely crystalline.
	755-780	25	Dolomitic limestone: buff, finely crystalline.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Pre-Norfolk	780-1,060	280	Dolomitic limestone: brownish grey, finely crystalline; some chert; little sand at the base.
	1,060-1,082	22	Dolomitic limestone: buff; chert throughout; 40 per cent sand.
Bertie-Akron	1,082-1,150	68	Dolomite: light buff, fine-grained.
	1,150-1,170	20	Dolomite: brown, granular.
	1,170-1,200	30	Dolomite: buff, fine-grained.
	1,200-1,215	15	Dolomite: grey, fine-grained.
	1,215-1,250	35	Dolomite: light buff, fine-grained.
Salina	1,250-1,275	25	Dolomite: buff and grey, fine-grained; trace gypsum at base.
	1,275-1,300	25	Dolomite: buff, fine-grained.
	1,300-1,325	25	Shaly dolomite: grey and buff; little gypsum.
	1,325-1,420	95	Shaly dolomite: grey; some gypsum.
	1,420-1,425	5	Dolomite: buff, fine-grained.
	1,425-1,430	5	Shaly dolomite: grey, fine-grained; little gypsum.
	1,430-1,470	40	Dolomite: buff, fine-grained; little gypsum.
	1,470-1,495	25	Shaly dolomite: grey and buff, fine-grained; trace gypsum.
	1,495-1,505	10	Dolomite: buff; trace gypsum.
	1,505-1,525	20	Dolomite: buff; some grey, shaly dolomite; little gypsum.
	1,525-1,550	25	Dolomite: buff, fine-grained; little gypsum.
	1,550-1,570	20	Shaly dolomite: buff and grey; little gypsum.
	1,570-1,665	95	Dolomitic shale: grey; little gypsum throughout.
	1,665-1,715	50	Dolomite: buff, fine-grained.
	1,715-1,800	85	Shaly dolomite: buff and grey, fine-grained.
	1,800-1,805	5	Gypsum.
	1,805-1,890	85	Dolomite: buff, fine-grained; some gypsum and grey shale.
	1,890-1,895	5	Dolomite: buff; 25 per cent gypsum.
Guelph-Lockport	1,895-1,930	35	Dolomite: light grey to buff, coarsely crystalline.
	1,930-2,040	110	Dolomite: light grey to buff, crystalline.
	2,040-2,095	55	Dolomite: light grey, coarsely crystalline.
Rochester	2,095-2,130	35	Dolomitic shale: grey.
Medina	2,130-2,135	5	Shale: red and green.

Gore of Camden. About forty shallow wells have been drilled in lots 1 to 6, cons. XIII and XIV, at the east end of this township. These wells range from 285 to 619 feet in depth and do not penetrate below the Devonian. Most of the wells are non-productive, although several had small shows of gas and oil in the upper part of the Norfolk formation. Available records show that three wells had initial yields of $\frac{1}{2}$, 16, and 25 barrels of oil a day respectively. The producing zone is within the upper 40 feet of the Norfolk formation.

These wells are located at the west end of the Bothwell-Thamesville oil region¹. Contours on the Norfolk show a west-plunging nose dipping at 60 to 80 feet a mile.

During the years 1939 to 1943, about eleven deeper wells were drilled in lots 3 to 10, cons. II to XII. Most of these penetrate the Guelph formation; three do not reach below the Salina. Depths are from 1,522 to 1,879 feet. Most are either dry or had only shows of gas and oil. Four wells had initial yields of 75 M to 221 M cubic feet of gas a day. The productive zone is in the lower part of the Salina formation, and small shows of oil occur near the top of the Guelph formation.

Structure contours on top of the Guelph show a dome, with about 60 feet of closure, occupying lots 5 to 10, cons. VIII to XII. The distribution of pro-

¹ Geol. Surv., Canada, Mem. 237, pp. 89-90 (1943).

ducing wells and dry holes on this structure is irregular. The producers are well below the crest of the dome, and the highest part of the structure is occupied by a non-productive well. It thus appears that porosity is equally as important as structure in controlling accumulation. The following log illustrates the stratigraphic succession at this locality.

Log of Union Gas Company Well No. 102 Dawn

Location: lot. 10, con. IX, Camden Gore tp.

Elevation: 615 feet.

Formation	Depth Feet	Thickness Feet	Lithology
	0-10	10	No samples.
	10-40	30	Surface material and black shale.
Kettle Point	40-220	180	Shale: black: <i>Protosalvinia</i> throughout; trace green shale at 120 to 200 feet; trace pyrite 120 and 150 to 160 feet.
	220-240	20	Shale: green; 2 per cent black shale; trace pyrite.
	240-290	50	Shale: black; <i>Protosalvinia</i> ; trace pyrite.
Hamilton	290-330	40	Limestone: grey, crystalline; 50 per cent grey shale at 320 feet; trace glauconite at 310 feet; crinoid columns and traces of pyrite throughout.
	330-350	20	Shale: grey; crinoid columns and brachiopod fragments.
	350-360	10	Limestone: grey, crystalline; trace grey shale.
	360-460	100	Shale: grey; brachiopod fragments; trace pyrite at 390 feet.
	460-480	20	Limestone: grey, fine-grained; trace grey shale; trace pyrite.
	480-500	20	Shale: grey; crinoid columns and brachiopod fragments.
	500-506	6	Limestone: impure, grey; some grey shale; trace pyrite.
Norfolk	506-578	72	Limestone: light buff, fine-grained; <i>Protosalvinia</i> at 554 feet; trace pyrite at 542 feet; 50 per cent frosted sand at 578 feet.
Pre-Norfolk	578-584	6	Sand; 25 per cent light buff limestone.
	584-608	24	Limestone: light buff, fine-grained; 30 per cent frosted sand.
	608-632	24	Limestone: light buff, fine-grained; 2 per cent sand at 632 feet.
	632-674	42	Limestone: brownish grey, fine-grained; some fine porosity 650 to 668 feet; black carbonaceous streaks at 620 and 674 feet.
	674-744	70	Magnesian limestone: buff, fine-grained; black carbonaceous streaks; some fine porosity at 702 feet; trace selenite at 732 to 744 feet.
	744-876	132	Magnesian limestone: brown, finely crystalline; some fine porosity at 822 feet; trace gypsum at 846 to 852 feet; trace selenite 858 to 864 feet; grey cherty limestone at 876 feet.
	876-906	30	Magnesian limestone: brownish grey, finely crystalline; 2 per cent grey, cherty limestone.
	906-942	36	Magnesian limestone: brownish grey, fine-grained; 2 per cent grey, cherty limestone; trace selenite at 942 feet.
	942-978	36	Magnesian limestone: buff, finely crystalline; 25 per cent grey chert; trace glauconite and few frosted sand grains at 966 to 978 feet.
	978-990	12	No samples.
Bertie-Akron	990-1,062	72	Magnesian limestone: buff, finely crystalline; trace selenite at 990 and 1,008 feet.
Salina	1,062-1,082	20	Dolomite: buff, fine-grained; 50 per cent grey, shaly dolomite at 1,074 feet; trace dark grey shale 1,074 to 1,086 feet; trace gypsum 1,068 to 1,074 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Salina	1,082-1,110	18	Dolomite: grey, fine-grained.
	1,110-1,152	42	Dolomitic shale: dark grey; some buff dolomite and traces of gypsum throughout.
	1,152-1,224	72	Shale: greenish grey; trace buff dolomite 1,206 to 1,218 feet; trace gypsum throughout.
	1,224-1,284	60	Dolomite: brownish grey, fine-grained; 25 per cent greenish, dolomitic shale; trace gypsum throughout; 50 per cent grey, dolomitic shale at 1,284 feet.
	1,284-1,374	90	Dolomite: brownish grey, fine-grained; 2 per cent greenish grey, limy shale 1,284 to 1,332 feet; 40 per cent greenish grey, limy shale 1,356 to 1,374 feet; trace gypsum from 1,338 to 1,374 feet.
	1,374-1,422	48	Dolomitic shale: greenish grey; trace gypsum throughout; trace brown dolomite 1,398 to 1,422 feet.
	1,422-1,524	102	Dolomite: brownish grey, fine-grained; trace of gypsum throughout; trace greenish grey shale 1,422 to 1,464 feet.
	1,524-1,578	48	Shaly dolomite: grey, fine-grained; 10 per cent grey, dolomitic shale 1,548 to 1,578 feet; trace gypsum 1,554 to 1,560 feet.
	1,578-1,713	135	Dolomite: buff and brownish grey, fine-grained; 15 per cent dark grey, dolomitic shale; 10 per cent gypsum 1,596 to 1,608 feet; some dark grey, dolomitic shale 1,673 to 1,696 feet; 50 per cent gypsum 1,701 to 1,713 feet.
Guelph-Lockport	1,713-1,735	22	Dolomite: grey, crystalline.
	1,735-1,824	89	Dolomite: buff, finely crystalline.
	1,824-1,858	34	Dolomite: light grey, crystalline; trace pyrite at 1,841 to 1,852 feet.
	1,858-1,879	21	Dolomite: medium grey, crystalline.

Camden Township. During the years 1938 to 1942, several wells from 340 to 492 feet deep were drilled in cons. I and II, Camden tp. Although some of these encountered shows of oil in the upper beds of the Norfolk formation, only two wells had initial yields of oil of commercial quantity. The producing zone in these two wells is 10 and 16 feet respectively below the top of the Norfolk formation, and the reported initial yields were 10 barrels a day from each well.

In addition to the foregoing shallow wells, four deeper wells were drilled during 1942 in concessions 3, 4, and 5. Three of these penetrated the Guelph formation and the remaining well reached only into the Salina. Depths are from 1,328 to 1,810 feet. Two of the wells struck small shows of gas in the Salina formation, but none was commercial.

Declute Gas Field. The Declute field is in the southern part of Raleigh township and as developed in 1943 occupied lots 138 to 147, Talbot Road Survey, and lots 13 to 17, con. XV, Raleigh tp. Gas in the field was first obtained in 1929 when the Union Natural Gas Company deepened an old well on lot 147, Talbot Road North¹, and obtained an initial open flow exceeding 5,000 M cubic feet of gas a day. Production was from the upper part of the Guelph formation, and the original reservoir pressure was 656 pounds a square inch. From 1929 to 1943, inclusive, about sixty-five wells were drilled within the present limits of the field.

The wells range from 1,441 to 1,786 feet in depth and do not penetrate below the Guelph-Lockport beds. The principal gas zone is from 1,500 to 1,580 feet below the surface and is within the upper 60 feet of the Guelph. There may be several pay-streaks within the general producing zone, which is known to be 50 feet thick in one well. Individual pay-streaks reach a thickness of

¹Ont. Dept. of Mines, 39th Ann. Rept., pt. 5, p. 5 (1930).

50 feet, although in general their thickness appears to be less than half of that. There is also a smaller productive zone within the lower 80 feet of the Salina formation.

Initial open flows in this field range from 140 M to 24,000 M cubic feet a day (thirty wells). Most of the wells came in with over 1,000 M cubic feet, and five had open flows of 10,000 M cubic feet or more. Approximately 14,000,000 M cubic feet of gas had been recovered to the end of 1943. Peak production was in 1940 with 2,717,192 M cubic feet; production for 1943 was 475,567 M cubic feet.

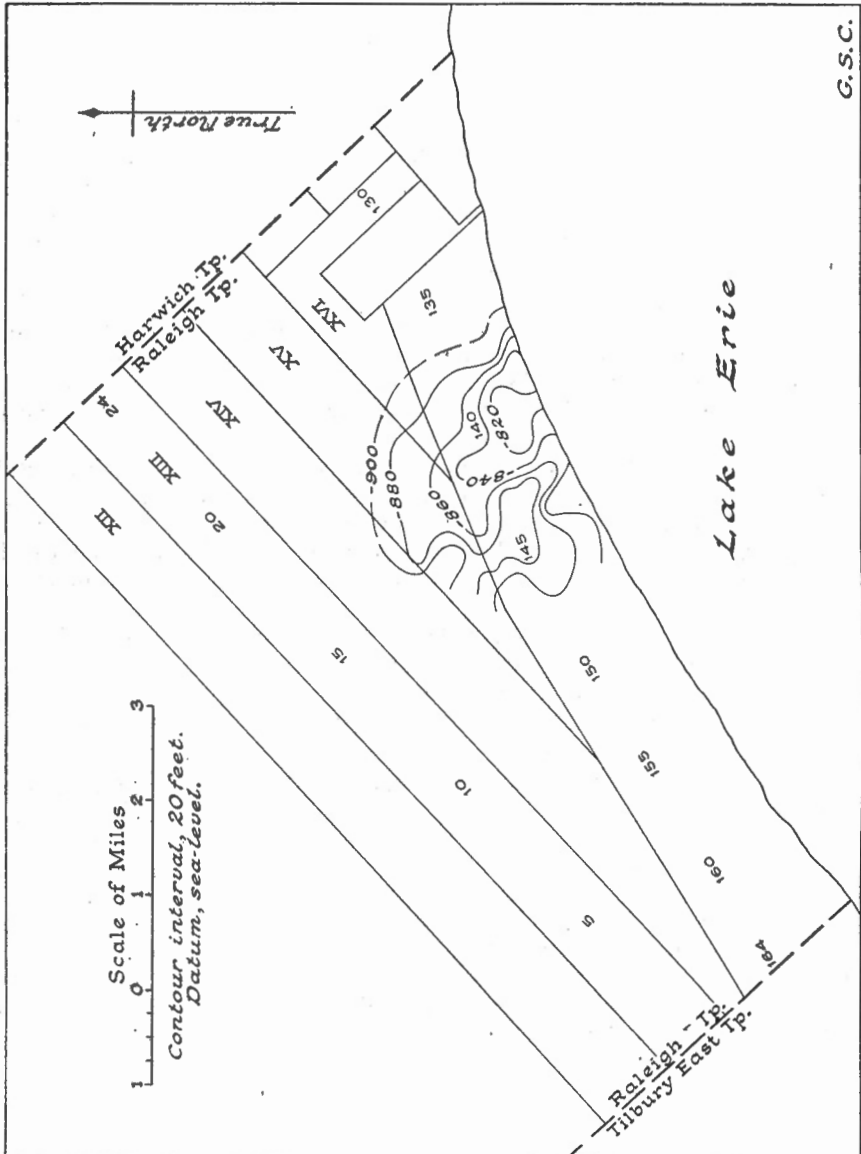


Figure 5. Declute gas field, showing structure contours drawn on top of the Guelph formation.

The Declute field appears to be divided into two parts by several dry holes on lot 144, Talbot Road Survey. Whether this apparent division is due to faulting or to lack of permeability is not known. Contours on the Guelph forma-

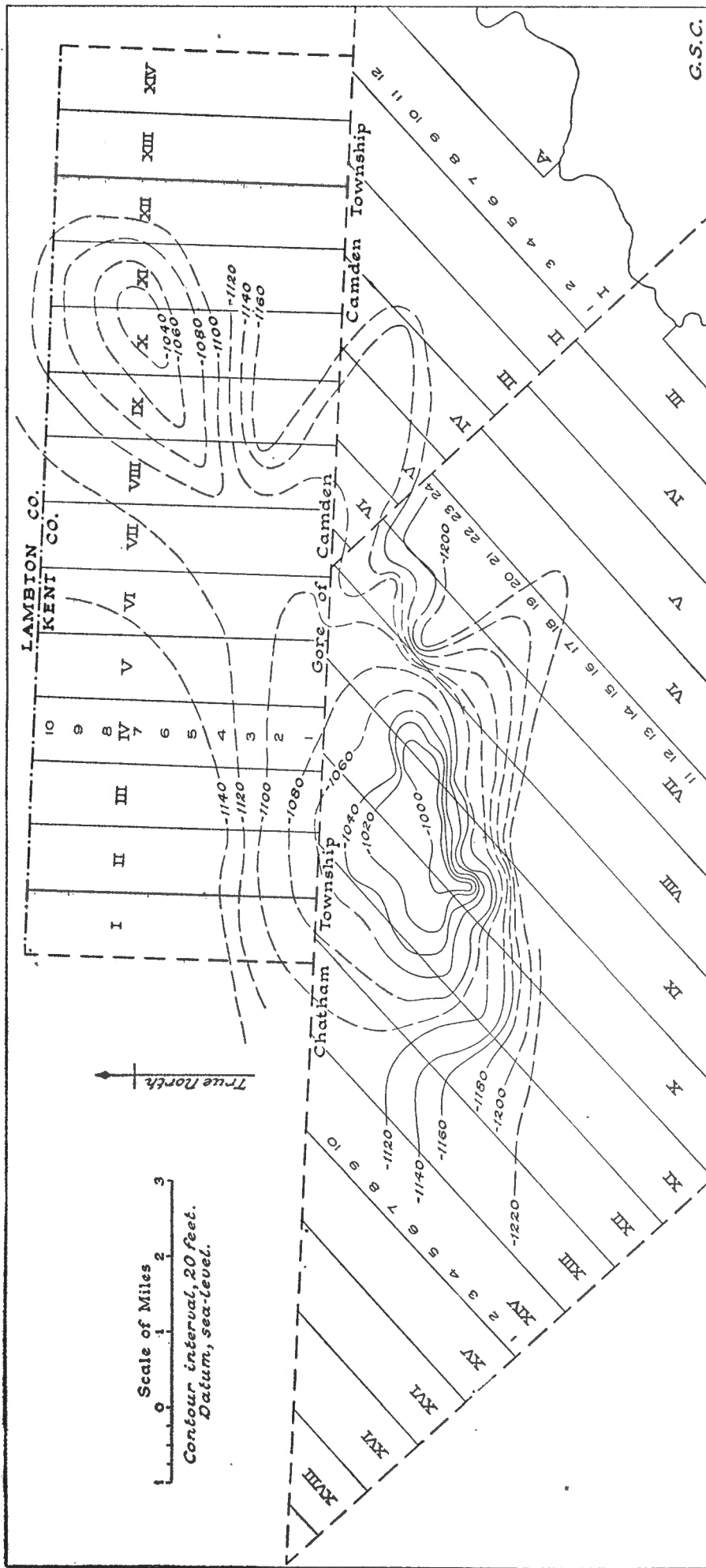


Figure 4. Chatham gas field and Gore of Camden, showing structure contours drawn on top of the Guelph formation.

tion indicate the presence of an irregular, northwest-trending anticlinal fold east of lot 144, its axis being beneath lot 141 (*See Figure 5*). This structure closes to the north and whether it also closes to the south beneath Lake Erie to form an elongate dome is not known. The flanks have maximum dips of about 160 feet a mile. A shallow trough with its axial area occupying lots 143 and 144 is present immediately west of the anticlinal fold. It is in this structural low that the dry holes dividing the field are situated.

Contours on the Norfolk formation also show an anticlinal roll. However, the axis of this structure is some distance west of the axis of the fold in the Guelph formation. The east flank of the Norfolk fold is thus above the west flank of the deeper Guelph fold, resulting in some divergence of structure between the two horizons. It is thought that this divergence is due chiefly to variation in thickness of the intervening formation.

Structure appears to have played a leading part in the gas accumulation, and except on the Lake Erie side the field is practically limited by dry holes. If the structure extends under the lake and closes to the south there is some possibility that drilling under the lake would extend the field in that direction.

Outside the Declute field and occupying lots 16 to 24, cons. VIII to XIV, Raleigh tp., at least twenty wells have been drilled to the Guelph formation during the period 1917 to 1939. Depths range from 1,386 to 1,890 feet. Although seven of these wells obtained initial open flows of gas ranging from 35 to 546 M cubic feet a day from the upper Guelph beds, no commercial field has resulted. Structure contours on the Norfolk formation in this region show a dome with 40 feet of closure occupying lots 16 to 24, cons. IX to XII. This structure extends southward to the lake as an anticlinal fold.

In 1902 a well drilled to a depth of 420 feet on lot 18, con. XII, Raleigh tp., came in with an initial flow of 1,000 barrels of oil a day¹. However, production settled to about 24 barrels a day by pumping and the well had a life of about a year. The oil was struck in the Norfolk formation at a depth of 360 feet. Subsequent drilling in this vicinity resulted in a few small producers, but failed to find another large well.

About 1907, a small, shallow field in lots 23 and 24, cons. VIII and A, Raleigh tp., known as the Kipp field², was producing oil. The oil zone was in the Norfolk formation at depths from 360 to 400 feet. Nine wells were pumping at that time, and the recovery was about 150 barrels a month. The field was abandoned several years ago.

Tilbury Gas Field. This field is in the southwestern part of Kent county. It occupies the eastern part of Romney township, the central and southern part of Tilbury East township, and a small part of western Raleigh township. It is roughly triangular in outline, with the base extending along Lake Erie from lot 193, Romney township, to lot 160, Raleigh township, a distance of $9\frac{1}{2}$ miles, and with the apex in lot 12, Middle Road South, Tilbury East township, about 6 miles north of the lake shore. The area is about 16,900 acres.

Gas was first found in 1906, following discovery of oil in lot 10, North Middle Road, Tilbury East township, in 1905. Development was rapid and by 1909 the land limits of the field were fairly well known. Available records exist

¹Ont. Dept. of Mines, 37th Ann. Rept., pt. 5, p. 61 (1928).

²Ont. Dept. of Mines, 16th Ann. Rept., p. 104 (1907).

for about three hundred wells within the field, most of which were drilled prior to 1929. Since then comparatively little drilling has been done, although during the 5 years 1939 to 1943 at least twenty wells have been drilled. Most of the wells are between 1,225 and 1,460 feet deep and do not penetrate below the Guelph-Lockport beds. Gas is found between 1,070 and 1,409 feet below the surface. Production comes from three principal zones, but many wells have four pay-streaks, and a considerable number indicate five, six, or seven.

The highest of the three main gas horizons is near the base of the Salina formation. The reservoir rock is fine- to dense-textured dolomite, usually containing small, though variable, quantities of calcium sulphate. Yields from this horizon are commonly small and in many wells little more than shows of gas are encountered. The second producing zone is near the top of the Guelph formation and is as much as 80 feet below the productive Salina zone. The reservoir rock is light buff and grey, crystalline dolomite. This horizon usually yields gas in commercial quantity, and in some wells constitutes the lowest productive zone. The third and lowest gas-bearing zone is also in Guelph, and in places is more than 100 feet below the one above. The reservoir rock is grey, crystalline dolomite, essentially similar to that of the upper Guelph zone. Some of the largest initial yields are from this horizon, but it commonly carries much water, and in many wells has been plugged off.

Each of the two gas-bearing zones in the Guelph contains more than one pay-streak, and such streaks may also be present in the intervals between the main producing zones. Thus, the several pay-streaks are irregularly distributed throughout a vertical thickness of 200 feet. They appear to be lens-like in form, and are, therefore, difficult to correlate from well to well.

During the earlier development of the field wells with large initial open flow capacities were common. One well had an open flow of 7,000 M cubic feet a day and many had capacities between 3,000 M and 5,000 M cubic feet. However, the more recently drilled wells have much lower open flows. For example, twelve wells drilled during 1938 and 1939 had initial open flows ranging from 114 M to 537 M cubic feet a day. Greatest annual production was in 1917 when 15,284,875 M cubic feet was withdrawn. Since then the annual production has gradually declined to 2,445,565 M cubic feet, in 1943. Total production of the field to the end of 1943 was about 199,240,237 M cubic feet.

According to Mickle (1918), the original rock pressure in the Tilbury field was 590 pounds a square inch. In the summer of 1941 the average pressure for the whole field was calculated to be about 164 pounds a square inch. This indicates a decline of 426 pounds, during which time approximately 192,832,675 M cubic feet of gas was withdrawn.

Harkness (1937) states that bottom water is present throughout the Tilbury field, salt water being present in the lowest productive zone. This condition became serious in 1917, when compressors were introduced. However, this practice was immediately stopped, pumps were placed on all wet wells and the water was brought under control. Also, many wells that some years ago were pumped 24 hours a day have been plugged back to shut off the water and are now pumped only intermittently. In some wells the pressure has been reduced to 100 pounds a square inch without water flooding.

The structure of the Guelph formation in the Tilbury field is difficult to portray. Cuttings for only thirty-eight of the total number of wells are available, and of these, cuttings for six are incomplete or are unreliable. Elevations on the top of the Guelph are, therefore, impossible to determine except in the comparatively few wells for which reliable samples are available. Also it was impossible to place the Salina-Guelph contact in drillers' logs with assurance.

However, as the Hamilton-Norfolk contact is readily recognized by drillers, their recordings of its depth furnish reliable data for calculation of elevations on this contact.

Contours drawn on the Norfolk show a broad elongate dome trending north-west and extending from the lake to a point north of Stevens. Closure of about 50 feet is indicated. Dips are gentle, averaging 70 feet a mile on the southwest flank and 40 feet a mile on the opposite side. A second, smaller dome, with perhaps 40 feet of closure, is present at the extreme northern part of the field.

A detailed study of depth of production in the Guelph, correlated with depth of production in those wells for which cuttings are available, was used as a basis for contouring the top of the Guelph formation. Approximate results thus obtained indicate that, in general, structure on this horizon roughly simulates that on the Norfolk formation above. It thus appears that accumulation in this field is related to a broad high on the Guelph, and that the largest wells are generally at the highest parts of the structure.

Recent studies regarding extension of the Tilbury field beneath Lake Erie have been made by the writer. After application of the rock pressure-production decline and the porosity-pressure methods, the following conclusions were reached:

- (1) About 37½ per cent of the total withdrawal has come from outside the land limits of the field.
- (2) Most of this has migrated from beneath the lake.
- (3) The distance of this migration depends to a great extent upon the permeability of the reservoir rock, and this permeability cannot be predicted. However, from a geological viewpoint, a considerable area, extending perhaps several miles from shore, beneath Lake Erie, can be considered as a potential gas field.

References: Mickle, G. R.: Ont. Bur. Mines, 27th Ann. Rept., pt. 1, pp. 53-57 (1922).

Wyer, S. S.: Ont. Dept. Mines, 31st Ann. Rept., pt. 5, pp. 28-34 (1922).

Harkness, R. B.: Ont. Dept. Mines, 46th Ann. Rept., pt. 5, p. 81 (1937).

The following log illustrates the stratigraphic succession in the Tilbury field.

Log of Union Gas Company R. J. Burgess No. 1 Well

Location: lot 15, con. V, Tilbury East tp.

Elevation: 581 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-10 10-135	10 125	No samples. Surface drift.
Hamilton	135-185 185-205 205-220	50 20 15	Shale: grey; fossiliferous. Limestone: grey, crystalline; fossiliferous. Shale: grey; equal amount grey limestone; trace pyrite.
Norfolk	220-316 316-382	96 66	Limestone: light buff, finely crystalline; <i>Protosalvinia</i> . Limestone: light buff, finely crystalline; trace chert throughout; little sand 364 to 382 feet.
Pre-Norfolk	382-468 468-510	86 42	Magnesian limestone: buff, fine-grained; black bituminous streaks. Magnesian limestone: brownish grey, fine-grained; black bituminous streaks; trace gypsum 480 to 486 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Pre-Norfolk	510-588	78	Magnesian limestone: brownish grey, fine-grained; trace chert; trace gypsum 528 to 534 feet.
	588-660	72	Magnesian limestone: light buff, granular; little grey chert throughout; trace glauconite 642 to 648 feet.
	660-762	102	Magnesian limestone: buff, finely crystalline; minor amount chert throughout; few sand grains 702 to 732 feet; trace glauconite 690 to 732 feet.
Bertie-Akron	762-882	120	Dolomite: buff and brownish grey, fine-grained; fine porosity 762 to 786 feet.
Salina	882-933	51	Dolomite: brownish grey, fine-grained; little gypsum throughout.
	933-987	54	Dolomitic shale: grey; trace gypsum throughout.
	987-1,005	18	Shaly dolomite: grey; fine-grained; trace brown dolomite; trace gypsum.
	1,005-1,166	161	Dolomite: brownish grey, fine-grained; minor amount of grey, shaly dolomite and dolomitic shale; trace gypsum throughout.
	1,166-1,256	90	Dolomitic shale: grey; trace red shale at 1,196 to 1,202 feet; brown dolomite 1,238 to 1,250 feet; gypsum throughout.
Guelph-Lockport	1,256-1,406	150	Dolomite: brownish grey, fine-grained; little gypsum throughout.
	1,406-1,418	12	Dolomite: brown, fine-grained.
	1,418-1,460	42	Dolomite: grey, crystalline.

Fletcher Oil Field. This abandoned oil field lies immediately north of the Tilbury gas field. It extends north from lots 7 to 12, North Middle Road, Tilbury East township, a short distance into the adjoining township of Raleigh, crossing the township boundary in cons. V and VI, Raleigh tp. According to Williams¹, the field covered about 5,000 acres in Tilbury East township and 600 acres in Raleigh township.

The discovery well was drilled in 1905 on the John Kerr farm on lot 10, North Middle Road, Tilbury East township. According to Coste², gas was struck at 1,360 and 1,375 feet, oil and gas at 1,385 feet, and oil at 1,410 and 1,430 feet. After shooting, the well started to flow at the rate of 40 barrels of oil a day, with a strong gas flow of about 500 M cubic feet a day. By 1907 many wells had been drilled, most of which were producers. In general, much salt water and gas accompanied the oil in this field. The largest well flowed at a rate of 1,500 barrels of fluid a day, 1,200 barrels of which was salt water and 300 oil³.

Williams⁴ states that the oil came from the buff-coloured dolomite at the top of the Guelph formation, or at the base of the Salina, and the gas from the oil zone and from the overlying shales and dolomites of the Salina formation. No reliable drill cuttings from this field are now available and no comparison of the producing horizons with those of other fields can, therefore, be made. It is believed that the invasion of the oil- and gas-bearing strata by salt water from lower beds hastened the end of this field as an oil producer.

The structure of the Fletcher field is not readily determinable owing to lack of data. No complete set of samples is available from any well in this field, and the top of the Guelph formation cannot be determined from drillers' logs with sufficient accuracy. It is probable that the structure is an extension of that of the Tilbury gas field to the south and that, as in the Tilbury field, the

¹Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1919, pt. E, p. 11.

²Coste, E.: Jour. Can. Min. Inst., vol. 10, p. 77 (1907).

³Coste, E.: Op. cit., p. 78.

⁴Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1919, pt. E, p. 11.

structures on the Guelph and on the Norfolk formation above are roughly parallel. It thus appears that the Fletcher field is down the northeast flank of the broad general high that forms the Tilbury gas field.

Glenwood Oil Field. This field is in lot 10, con. XIV, Tilbury East tp., about 4 miles south of the Fletcher field, and is also abandoned. Williams¹ in 1919 stated that seven wells in lot 10, con. XIV, were producing oil and gas, the oil production being small. He continues: "The records of four of the wells indicate that the productive horizon varies from 1,385 to 1,408 feet below the surface or 752 to 776 feet below sea-level, the dip being to the north. The structure of the Onondaga (Norfolk) limestone in this area appears to be a narrow terrace or nose extending to the northeast from the higher structure to the south and west; but sufficient data are not available to indicate the structure of the oil-bearing strata. The area around the oil pool has been extensively drilled, and the pool is, in consequence, clearly outlined. Although descriptive logs of these wells are not at hand, the correspondence between these wells and those of the field to the north would indicate that the gas horizon is at the top of the Guelph dolomite. The gas and oil evidently come from the same horizon. In general this little pool is closely related to the Fletcher field."

Peak production from Tilbury East township was in 1907 when 411,588 barrels² of oil were recovered. By 1938, however, this had declined to 206 barrels³.

Wheatley Oil Pool. This small field in lot 11, con. II, Romney tp., was opened between 1902 and 1904, and in the latter year each of four principal wells were yielding an average of about 10 barrels of oil a day.

The oil was found in the upper part of the Guelph formation at depths of 1,290 to 1,300 feet below the surface⁴. Production for 1904 was reported at about 4,490 barrels, but by 1906 it had declined to 775 barrels. The field has been abandoned for many years.

No reliable log is available for this field, but according to Corkill⁵ about 400 feet of salt called by the drillers the "big salt" was encountered.

Romney Shallow Field. This is in lots 21 and 24, cons. IV and V, Romney tp., and the main activity appears to have been along the road separating the two concessions. The discovery well was drilled in 1906 and the field was abandoned in 1910. The oil was encountered within the upper 30 feet of the Norfolk formation at drilling depths of 200 to 270 feet. According to Malcolm⁶, production amounted to 49,783 barrels in 1907, 11,165 in 1908, and 1,082 in 1909. Several of the earlier wells had initial yields exceeding 1,000 barrels⁷ a day.

Williams⁸ considers the reservoir to be a crevice rather than porous rock.

There is not sufficient data to give a detailed account of the structure of this field. Contours on the Norfolk formation, based on a few scattered wells in the general vicinity, show the field to be on an east-dipping nose. This structure rises gradually for at least a mile to the west of the field where it attains an elevation almost equal to that of the highest part of the Tilbury gas field.

¹Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1919, pt. E, p. 13.

²Ont. Dept. of Mines, vol. 24, pt. 2, p. 10 (1915).

³Ont. Dept. of Mines, 48 Ann. Rept., pt. 5, p. 64 (1939).

⁴Malcolm, W.: Geol. Surv., Canada, Mem. 81, p. 76 (1915).

⁵Corkill, E. T.: Ont. Bur. Mines, 14th Ann. Rept., p. 111 (1905).

⁶Malcolm, W.: Geol. Surv., Canada, Mem. 81, p. 73 (1915).

⁷Coste, E.: Jour. Can. Min. Inst., vol. 10, p. 84 (1907).

⁸Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1919, pt. E, p. 10.

The following table¹ shows the oil production from Tilbury East and Romney townships from 1906 to 1914:

Year	Production
	Barrels
1906.....	106,992
1907.....	411,588
1908.....	201,283
1909.....	124,003
1910.....	63,057
1911.....	48,707
1912.....	44,727
1913.....	26,824
1914.....	18,530

The following production figures are compiled from the annual reports of the Ontario Natural Gas Commissioner.

Township	Year	Production
		Barrels
Dover West }.....	1916	16,297
Tilbury East }		
Tilbury East.....	1917	10,041
Tilbury East.....	1918	25,228
Tilbury East.....	1919	1,660
Tilbury East.....	1920	623
Tilbury East.....	1921	1,003
Tilbury East.....	1922	127
Tilbury East.....	1923	1,950
Tilbury East.....	1924-1926	No record
Tilbury East.....	1927	60
Tilbury East.....	1928	736
Tilbury East.....	1929	138
Tilbury East.....	1930	149
Tilbury East.....	1931-1936	No record
Tilbury East.....	1937	2,471
Tilbury East.....	1938	206

Much of the foregoing information regarding the Fletcher, Glenwood, Wheatley, and Romney oil pools is based on the following reports:

- Corkill, E. T.: Ont. Bur. Mines, 14th Ann. Rept., p. 111 (1905).
 Coste, E.: Jour. Can. Min. Inst., vol. 10, pp. 77-84 (1907).
 Knight, C. W.: Ont. Bur. Mines, 16th Ann. Rept., p. 100 (1907).
 Knight, C. W.: Ont. Bur. Mines, 24th Ann. Rept., pt. 2, pp. 9-12 (1915).
 Malcolm, W.: Geol. Surv., Canada, Mem. 81, pp. 74-76 (1915).
 Harkness, R. B.: Ont. Dept. Mines, 37th Ann. Rept., pt. 5, p. 61 (1928).
 Hume, G. S.: Geol. Surv., Canada, Econ. Geol. Ser., No. 9, pp. 48-51 (1932).

At least five deep wells, three of which penetrate the entire sedimentary succession, have been drilled in Romney township. One of these, the No. 6 Shanks, on lot 188, North Talbot Road, struck oil at a depth of 3,560 feet. It had an initial 'gush', and flowed at a rate of 150 barrels a day², after which 16 barrels of oil a day³ was pumped for well over a year. Reports do not make quite clear whether this oil came from the limestone of the Trenton group or from the basal arkose. Harkness⁴ states that it was struck at a depth

¹Ont. Dept. Mines, 24th Ann. Rept., pt. 2, p. 12 (1915).

²Ont. Dept. Mines, 33rd Ann. Rept., pt. 5, p. 99 (1924).

³Harkness, R. B.: Empire Mining and Metallurgical Congress, pt. 3, p. 95 (1927).

⁴Harkness, R. B.: Ont. Dept. Mines, 33rd Ann. Rept., pt. 5, p. 98 (1924).

of 848 feet below the top of the Trenton. As the thickness of the Trenton group is 890 and 895 feet, respectively, in two wells drilled on lots 184 and 194, North Talbot Road, it seems probable that the No. 6 Shanks well had not reached the basal arkose when the oil was encountered. In the remaining four deep wells, the Trenton was unproductive, although small shows of oil were reported in those drilled on lot 19, con. III, and on lot 21, con. IV, respectively.

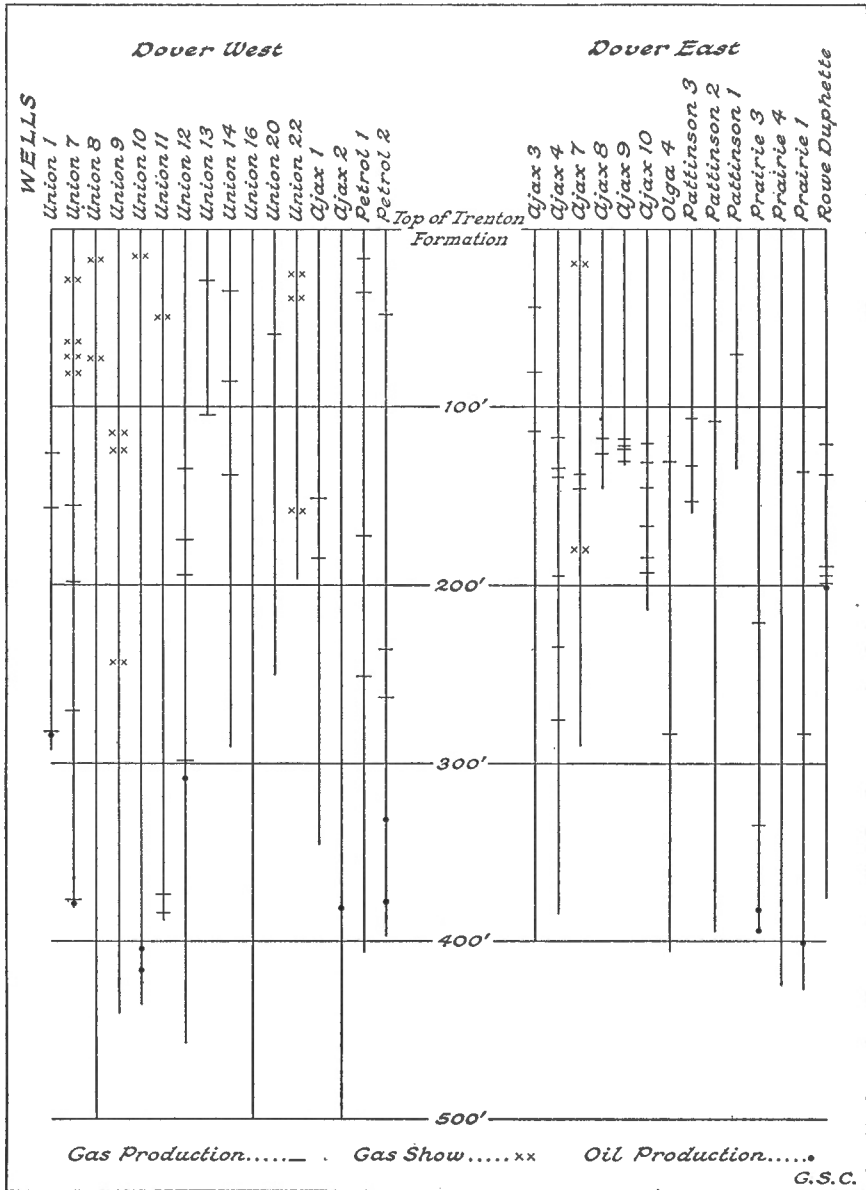


Figure 6. Dover gas and oil field, showing production depths below top of the Trenton formation.

Dover Gas and Oil Field. This field is in Dover West township and the adjoining parts of Dover East and Raleigh townships. The discovery well was

drilled in 1917 on lot 3, con. III, Dover West tp., and a heavy flow of gas was struck at a depth of 3,165 feet, or 282 feet below the top of the Trenton formation. This gas, together with lighter flows from depths of 3,010 and 3,040 feet, gave an open flow of 6,000 M cubic feet a day, with a rock pressure of 1,250 pounds a square inch¹. Oil was present with the gas. In 1919, eight wells were producing gas and oil in commercial quantities. Subsequent drilling in this vicinity resulted in a relatively high percentage of failures for a time, but by 1935 the trend of the field had been determined, and in that year ten productive wells and two dry holes were drilled. Five more producers were drilled during the period 1938 to 1940.

The wells are 3,000 to 3,800 feet deep, with the top of the Trenton between 2,780 and 2,950 feet below the surface. Production is from the Trenton limestone. The field is of particular interest as it represents the **only commercially important Trenton field in Ontario**, and as the production is from a structural 'low'.

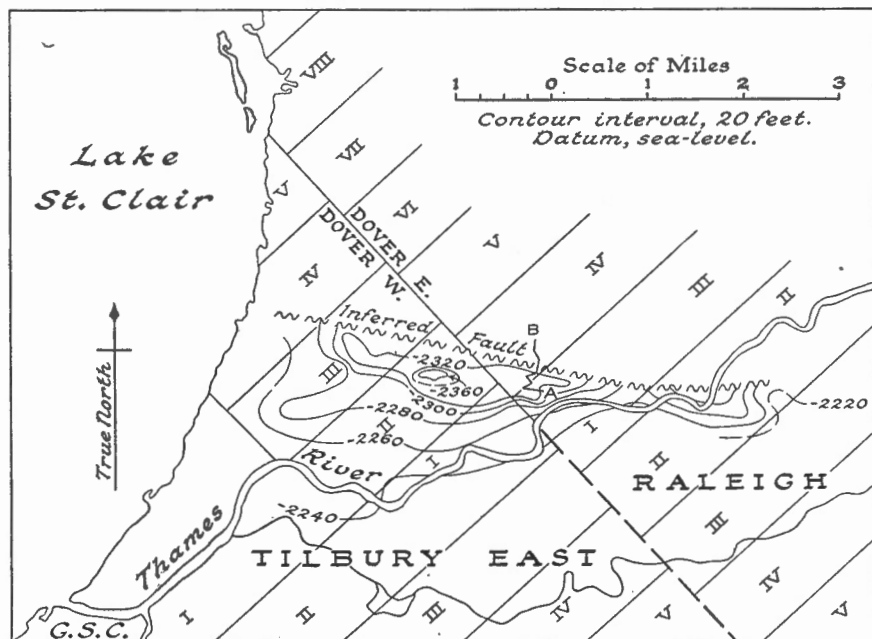


Figure 7. Dover gas and oil field, showing structure contours drawn on top of the Trenton formation.

The field contains no generally continuous gas-bearing or oil-bearing porous zone (Figure 6). Gas occurs at levels irregularly distributed throughout the upper 400 feet of the Trenton formation, and productive zones cannot be correlated from well to well. However, it appears that the main production is from 100 to 200 feet below the top of the formation. The oil occurs below the gas, but although it is known as high as 200 feet, most of the production is from 300 to 425 feet below the top of the Trenton. This irregularity of productive levels suggests fracturing of the reservoir rock and indicates a lack of continuous porosity. The long and extremely narrow form of the productive area of the field strongly suggests faulting.

At least ten wells had initial open flows from 3,000 M to 7,000 M cubic feet of gas a day, and initial yields for twenty-five other wells were from 50 M to over 2,000 M cubic feet a day. Initial yields of oil were from 4 to 100 barrels, and one well came in with 200 barrels a day.

¹Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1911, pt. E, p. 25.

Structure contours drawn on the Trenton formation show that the Dover field occupies a structural 'low', or what appears to be a faulted syncline, and that production is practically limited to its axial area (See Figure 7). This accumulation of oil and gas at the bottom of a syncline suggests that little or no water is present, and an examination of drilling records indicates that in general this is the case. However, water was encountered in some wells, but according to Williams¹ "is not definitely associated with oil or gas and as it was not struck in the nearby wells it appears to have been confined to rock channels which are not connected with the oil accumulation".

Figure 8 gives an interpretation of the structure across the east end of the field as based on well cuttings. The inferred fault dips south so that the wells cut the fault plane at progressively deeper horizons as they are located farther south across the field. So far as is known the fracture zone is either developed only in the Trenton or is sealed at higher levels.

Contours drawn on the Norfolk formation indicate a narrow depression or syncline roughly parallel to that on the Trenton below.

In an attempt to extend the Dover field eastward a hole was drilled on lot 7, con. III, Raleigh tp. This hole was completed in March 1944 and was drilled to a depth of 3,275 feet. It entered the Trenton at about 2,850 feet from the surface and was unproductive. Nothing is known of the possible eastern extension of the inferred fault from the present productive limit of the field. However, it is noted that wells of the Olga Gas, Limited, on lots 18, 19, and 20, cons. VIII and IX, Raleigh tp., about 8 miles to the east, lie on the projected line of the Dover fault. These wells obtained gas fairly low in the Guelph formation, and it is suggested that faulting might be a factor in accumulation here. There are several dry holes at the west end of the Dover field, but so far as available data are concerned there is no apparent reason why the fracture zone or fault should not continue to Lake St. Clair.

The following table, compiled from reports of the Ontario Natural Gas Commissioner, shows the gas and oil production of the Dover field.

Year	Natural gas	Petroleum
	M cubic feet	Barrels
1917.....	165,525	8,000*
1918.....	468,798	20,000*
1919.....	470,806	16,705
1920.....	835,079	12,000
1921.....	275,351	7,473
1922.....	212,188	5,482
1923.....	187,342	5,618
1924.....	199,770	3,898
1925.....	126,687	2,957
1926.....	159,136	958
1927.....	189,438	602
1928.....	178,273	773
1929.....	366,224	715
1930.....	459,112	457
1931.....	338,422	891
1932.....	275,958	453
1933.....	252,694	763
1934.....	363,344	558
1935.....	935,446	13,117
1936.....	842,362	15,536
1937.....	636,552	10,498
1938.....	509,677	8,801
1939.....	433,496	15,037
1940.....	381,837	11,856
1941.....	341,516	9,819*
1942.....	310,261	8,494*
1943.....	220,133	9,376*

¹Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1919, pt. E, p. 17.

*Estimated.

[†]Includes Raleigh and Tilbury East townships.

The log of Prairie Gas and Oil Company, Limited, well on lot 5, Front con., Dover tp., in Chapter II of this report illustrates the stratigraphic succession in the Dover field.

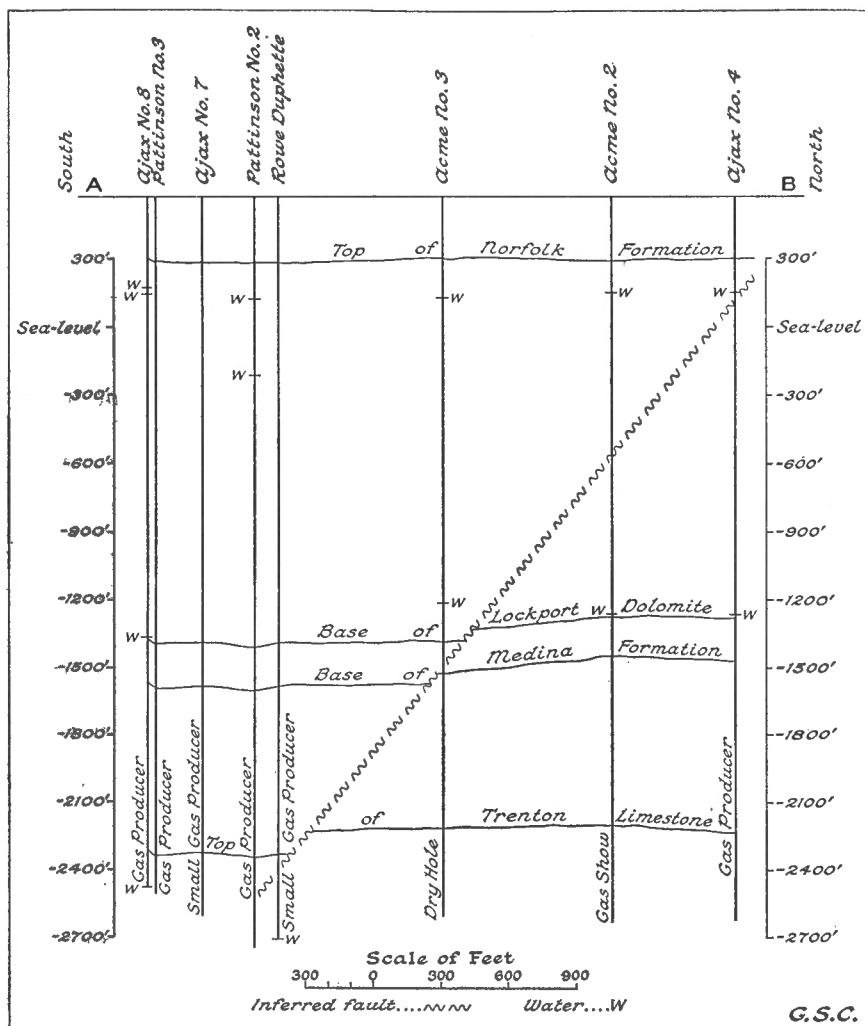


Figure 8. Vertical section along A-B (Figure 7) through east end of Dover field, showing offset of beds along inferred fault.

Essex County

Mersea (Leamington) Oil Field. This field, abandoned many years ago, is in Mersea township northeast of the town of Leamington. The field has a north trend and is about 8 miles long and from $\frac{1}{2}$ to 1 mile wide.

Oil was discovered in this region in 1902, when a well drilled on lot 238, Talbot Road Survey, struck oil in the upper part of the Guelph dolomite at a depth of 1,074 feet¹. No large producers were found until 1905, when some large flowing wells were brought in, the largest being the Hickey No. 4, which started with a flow of 1,200 barrels a day, maintained this rate for 3 days, and

¹Ont. Dept. Mines, 14th Ann. Rep., p. 90 (1905).

then gradually diminished to 200 barrels a day. Another, the Jackson well, had an initial flow of 400 barrels a day after shooting, but within a few days fell off to 100 barrels a day¹. By 1905, twenty-one wells, eighteen of which were producers, had been drilled in this field by the Leamington Oil Company.

The following is the production record from 1906 to 1910, as given by the supervisor of petroleum bounties².

Year	Production
	Barrels
1906.....	39,655
1907.....	6,135
1908.....	9,334
1909.....	5,929
1910.....	141

According to Harkness³, about 235,175 barrels of oil were sold from the Leamington oil field from 1903 to 1911, inclusive.

Williams⁴ states that the oil-bearing horizon is probably in the lower part of the Salina formation. Unfortunately, no reliable cuttings of the strata penetrated in this field are available. However, samples of the Dominion Natural Gas Company well drilled just east of the field, on lot 233, Talbot Road Survey, and of the Rosslyn well on lot 5, con. X, Tilbury West tp., immediately north of the field, are at hand. The first of these wells was drilled to a depth of 1,065 feet without reaching the Guelph. This well encountered a show of gas at 1,030 feet in the Salina formation. The Rosslyn well was drilled to a depth of 3,426 feet, ending in the basal arkose. The Guelph was reached at 1,140 feet, gas occurred at 1,064, 1,130, and 1,169 feet, and oil at 1,169 feet (9 barrels in 5 days). It thus appears that gas occurs in both the Salina and Guelph and that the show of oil was in the Guelph formation.

Drillers' records report water in some of the Mersea wells just below the productive horizon, and it is pointed out that water is much more common in the Guelph than in the Salina throughout Kent and Essex counties. In the absence of definite data from wells within the field, and chiefly on a basis of the two foregoing wells, it seems probable that oil production was mainly from near the top of the Guelph and that some gas occurred near the base of the Salina formation.

Stewart and Evans⁵ have contoured the top of the Guelph on a basis of the depth of the main productive horizon, which they consider is about 40 feet below the top of the formation. This interpretation is given on the accompanying structure map. The structure as noted by Hume⁶ appears to be a long, narrow anticline with some suggestion of faulting.

The stratigraphic succession immediately north of this field is shown by the log of the Rosslyn well, which may be found in Chapter II of this report.

Kingsville (Leamington) Gas Field. This field embraces a narrow strip bordering Lake Erie and extending from Kingsville eastward to the town of Leamington. It also includes those wells in which production was obtained in cons. 1 and A, Mersea tp., north of Point Pelee, and is thus about 10 miles long and from about $\frac{1}{2}$ mile to 2 miles wide.

¹Malcolm, W.: Geol. Surv., Canada, Mem. 81, p. 66 (1915).

²Malcolm, W.: Op. cit.

³Harkness, R. B.: Ont. Dept. of Mines, 37th Ann. Rept., pt. 5, p. 61 (1928).

⁴Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1919, pt. E, p. 14.

⁵Stewart, J. S., and Evans, C. S.: Manuscript.

⁶Hume, G. S.: Geol. Surv., Canada, Econ. Geol. Ser. No. 9, p. 58 (1932).

Gas was first encountered in the field in 1889 with the drilling of Coste No. 1 well on the northwest corner of lot 7, con. I, eastern division, Gosfield South tp., the flow being 10,000 M cubic feet a day in the upper part of the Guelph formation at a depth of 1,020 feet. The rock pressure was 460 pounds a square inch¹. Drilling progressed, and in 1893 there were eight wells with a capacity of 42,000 M cubic feet a day². This gas supplied Kingsville, Ruthven, and Leamington, and a pipe-line was laid to supply Sandwich, Windsor, and Walkerville about 35 miles distant. In 1894 the pipe-line was extended to Detroit, and gas was later supplied to Toledo. In 1896, the production of the field is said to have been 25,550,000 M cubic feet³. Four years later production had declined to 3,000,000 M cubic feet. This was from fifty-two wells and represented the output from the entire field, exclusive of that from private and municipally owned wells. There were at that time at least ninety-five wells in the field, comprising 52 producers, 21 abandoned, and 22 dry holes. This rapid decrease in production caused much concern regarding the life of the field, and in October 1901 an Order-in-Council was passed revoking the licence of occupation by virtue of which the gas was exported, and the supply to Detroit, accordingly, ceased⁴. At the time the quantity supplied to Detroit was about 1,500,000 M cubic feet a year, or one-half the production of the field. The exportation of gas to Toledo was discontinued in July 1900⁵.

In 1903, the Kingsville field rather suddenly ceased to produce⁶. This was due to flooding by salt water from beds below the gas horizon into which many of the wells had been drilled. The water was under considerable pressure. The original rock pressure was 460 pounds and when the field ceased producing it was about 310 pounds a square inch.

The wells are from 900 to 1,100 feet deep and production was from the upper part of the Guelph formation. Many wells had initial capacities of several million cubic feet a day. Besides the Coste No. 1 well, which had an initial flow of 10,000 M cubic feet a day, a well on lot 6, con. I, Gosfield South tp., struck 6,422 M cubic feet at a depth of 1,030 feet; one on lot 7, con. I, had an open flow of 5,877 M cubic feet at a depth of 900 to 955 feet; one, on lot 8, con. I, had a flow of 5,700 M cubic feet at a depth of 965 to 990 feet; and a well on lot 9, con. I, came in with 7,000 M cubic feet at a depth of 950 feet. The best wells were apparently in the south part of the field near the lake. The following table⁷ shows the production from 1890 to 1903.

Year	Production (Mc.)
1890.....	100,000
1891.....	100,000
1892.....	267,594
1893.....	433,500
1894.....	768,916
1895.....	2,230,000
1896.....	2,500,000
1897.....	2,800,000
1898.....	3,000,000
1899.....	3,000,000
1900.....	3,100,000
1901.....	2,000,000
1902.....	1,100,000
1903.....	600,000

¹Coste, E.: Jour. Can. Min. Inst., vol. III, p. 68 (1900).

²Hume, G. S.: Geol. Surv., Canada, Econ. Geol. Ser., No. 9, p. 68 (1932).

³Ont. Bur. Mines, vol. 10, p. 19 (1901).

⁴Ont. Bur. Mines, vol. 11, p. 44 (1902).

⁵Ont. Bur. Mines, vol. 10, p. 19 (1900).

⁶Ont. Dept. Mines, 37th Ann. Rept., pt. 5, p. 60 (1928).

⁷Ont. Dept. Mines, 37th Ann. Rept., pt. 5, p. 61 (1928).

Perhaps fifty wells have been drilled in the Kingsville field since it became flooded in 1903. In general, care has been taken to avoid penetrating the salt water horizon below the gas. Some of these wells had small initial flows, but so far as is known no wells with large open flows comparable to those drilled during the early years of development have since been brought in.

At least ten wells were drilled in this field during the period 1935 to 1942, inclusive, but only small gas flows were obtained. Depths are from 914 to 1,060 feet. Main production is from the upper few feet of the Guelph formation, although in some gas was also obtained in the Salina formation. The gas-bearing strata lie at depths of 820 to 990 feet, and the open flow capacities were from 13 M to 75 M cubic feet a day. The original rock pressures of these recent wells were from 250 to 395 pounds a square inch. One well is reported to have struck salt water at a depth of 1,035 feet.

The Kingsville field continues to yield gas in commercial quantity, although present production is small when compared with that prior to 1903. In recent years annual production figures for this field have been included with those of the Tilbury field, but production¹ for 1942 and 1943 was 32,419 M and 28,732 M cubic feet, respectively.

The structure of the Kingsville field is imperfectly known. The main part of the field is concentrated in lots 6 to 12, con. I, eastern division, Gosfield South tp. Contours drawn there on the Guelph formation show a west-trending elongate dome with 40 feet of closure. The north flank dips at about 75 to 80 feet a mile. The opposite side is much steeper, dipping into the lake at perhaps double that rate. The field appears to be high on the north flank of a west-trending anticline, the south limb of which is below the waters of Lake Erie.

The following log is typical of the stratigraphic succession in the southern part of Gosfield township.

Log of Glenwood Natural Gas Company Well

Location: lot 3, con. V, Gosfield South tp.

Elevation: 635 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	5-70	65	Surface drift.
Norfolk	70-185	115	Limestone: light buff, finely crystalline; crinoidal at 85 to 90 feet; few sand grains at 90 to 95 feet; few black bituminous streaks 125 to 185 feet.
Pre-Norfolk	185-200	15	Limestone: brownish grey, finely crystalline; few black bituminous streaks.
	200-225	25	No samples.
	225-275	50	Limestone: brownish grey; finely crystalline; few black bituminous streaks.
	275-370	95	Limestone: light buff, crystalline; trace chert 350 to 370 feet.
Bertie-Akron	370-510	140	Dolomite: buff, fine-grained; finely porous 380 to 385 feet; few black bituminous streaks; trace selenite 390 to 400 feet.
Salina	510-595	85	Dolomite: buff and brownish grey, fine-grained; grey, shaly dolomite at 575 to 580 feet.
	595-645	50	Dolomite: brownish grey, fine-grained; little grey, dolomitic shale in most samples; trace gypsum throughout.

¹Ontario Natural Gas Commissioner.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
Salina	645-715	70	Dolomitic shale: grey; trace gypsum throughout.
	715-730	15	Dolomitic shale: greenish grey; trace brown dolomite; trace gypsum.
	730-750	20	Dolomitic shale: grey; trace brown dolomite and gypsum.
	750-880	130	Dolomite: brownish grey, fine-grained; little grey, dolomitic shale; trace gypsum 750 to 790, 815 to 825, 865 to 870 feet.
	880-940	60	Dolomitic shale: grey and greenish; trace brown dolomite in most samples.
	940-965	25	Dolomitic shale; grey-brown dolomite throughout; trace gypsum.
	965-1,085	120	Dolomite: brownish grey, fine-grained; trace gypsum in many samples; 10 per cent green shale 990 to 995 feet.
	1,085-1,095	10	Gypsum; trace brown dolomite.
Guelph-Lockport	1,095-1,110	15	Dolomite: brown, fine-grained; 20 per cent gypsum.
	1,110-1,130	20	Dolomite: brown, finely crystalline; trace green shale at 1,125 to 1,130 feet.
	1,130-1,140	10	Dolomite: grey, crystalline.

Belle River Oil Field. A small, shallow oil field in Rochester township south of Belle River was in production during the period 1913 to 1918, inclusive, and about 2,200 barrels of oil were recovered from twenty-five wells between the years 1913 and 1918¹. Production was from the Norfolk formation at depths of 110 to 120 feet below the surface². The limestone here immediately underlies the drift. The oil was heavy and 'dead', with much sulphur, and was sold at prices considerably less than those obtained for Oil Springs and Petrolia oil.

Pelee Island. The following are notes by J. S. Stewart of the Geological Survey, who visited Pelee Island in 1936.

"The first wells were drilled on Pelee Island, about 1895, and a small production of oil was obtained. Shipping the oil was expensive and difficult, and with high operating costs and small production, development was apparently unprofitable and the wells were abandoned.

"The writer was fortunate in meeting Mr. Jack Nichols, a driller who worked on many of the early wells and who is now in charge of the Pelee Syndicate wells drilled in 1935. Mr. Nichols accompanied him for two days, showed him the location of the old wells, and gave him the information the Geological Survey has on depth and production.

"As the land on Pelee Island is not subdivided according to any regular plan, it was necessary to allot each well on the accompanying sketch a number for reference purposes (See Figure 9). These wells were located and their elevations obtained by plane-table and alidade. The locations are accurate to within a few feet with reference to road intersections. Distances between road intersections, as shown on some detailed maps compiled from old plans, are in places quite inaccurate, especially in a north-south direction across the big marsh.

"The following tabulated description of the wells is arranged according to numbers assigned arbitrarily to the wells. Elevations are to the nearest foot, and are referred to a datum of 570 feet, the level of Lake Erie on July 1, 1936.

¹Harkness, R. B.: Ont. Dept. Mines, 37th Ann. Rept., pt. 5, p. 59 (1928).

Clapp, F. G.: Canada, Dept. Mines, Mines Branch, Pub. 291, vol. 2, p. 137 (1915).

"The production given is the daily capacity of the well when first drilled. All wells are abandoned except those of Pelee Petroleum Syndicate, Nos. 27 and 28, drilled in 1935."

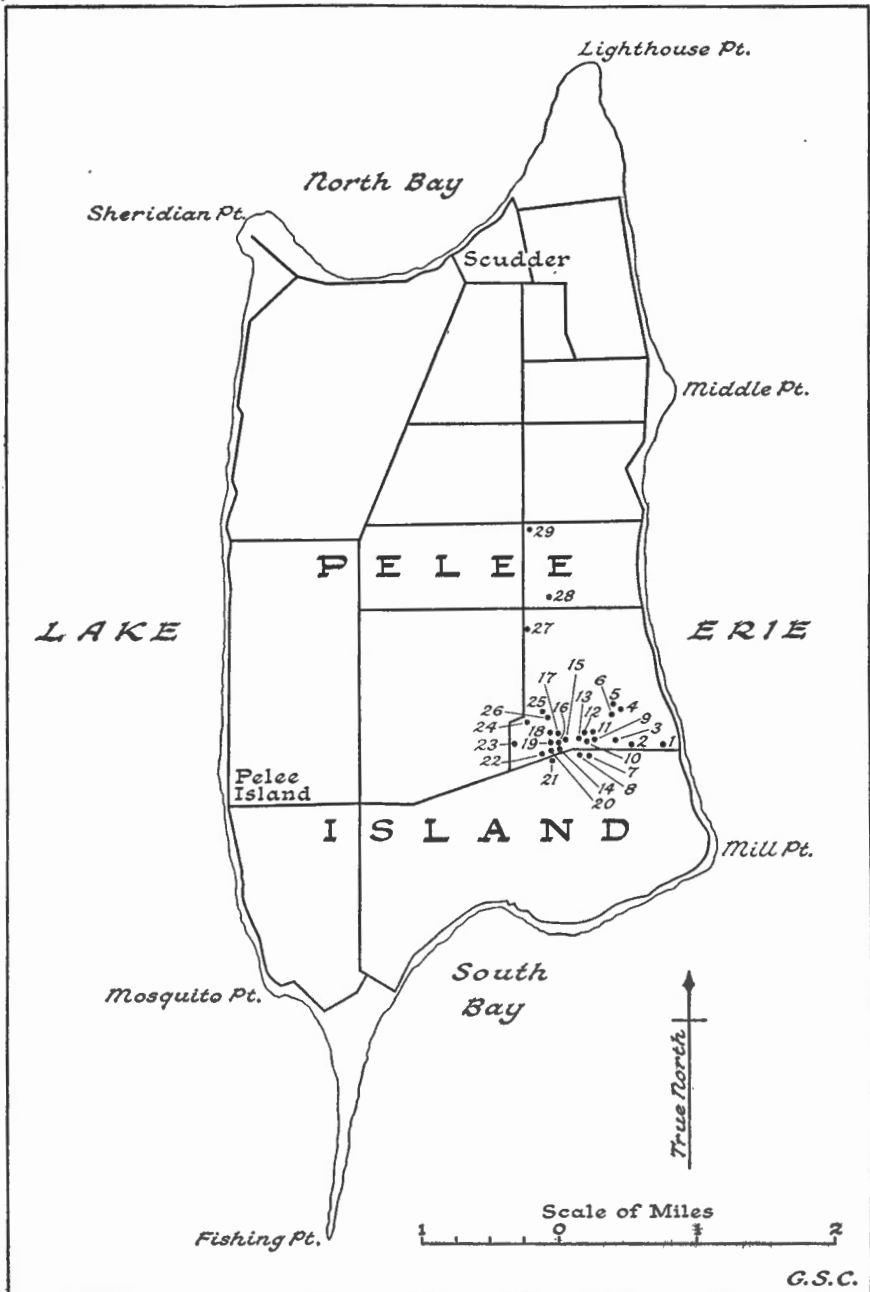


Figure 9. Pelee Island, showing positions of wells.

Descriptions of Wells

Well number	Property owner	Elevation	Depth	Initial result and yield
		Feet	Feet	
1	Dieffenbach.....	582	740	A little oil and gas.
2	Jakie Rinkel.....	590	740	Oil and gas in small amount.
3	Jakie Rinkel.....	589	740	Oil and gas in small amount.
4	Archie McEwen.....	585	740	Three to 4 barrels of oil and considerable gas.
5	Archie McEwen.....	585	740	Seven to 8 barrels of oil and less gas than in No. 4 well.
6	Archie McEwen.....	585	740	Seven to 8 barrels of oil and less gas than in No. 4 well.
7	Lewis.....	592	740	A little gas only.
8	Chas. Roper.....	590	745	Seven barrels of oil; almost no gas.
9	Elizabeth Finlay.....	589	750	Not much oil or gas.
10	Elizabeth Finlay.....	587	750	About 6 barrels of oil. This well flows occasionally and the oil is pumped and used locally (1936).
11	Elizabeth Finlay.....	587	750	A little oil and gas.
12	Elizabeth Finlay.....	589	750	Five barrels of oil and a little gas.
13	Elizabeth Finlay.....	586	2,100	Good show of oil and gas at about 735 feet. Small show of oil and gas at 2,000 feet.
14	Albert Glen.....	581	740	Tools lost in hole and well abandoned.
15	Albert Glen.....	581	740	Three barrels of oil and very little gas.
16	Albert Glen.....	582	750	Five to 6 barrels of oil and considerable gas; drilled into salt water.
17	Albert Glen.....	580	745	Five to 6 barrels of oil and considerable gas.
18	Robley Wilson.....	578	750	Five barrels of oil and a little gas; salt water at bottom.
19	Robley Wilson.....	572	750	Five barrels of oil and a little gas; salt water at bottom.
20	Robley Wilson.....	583	740	Six barrels of oil.
21	Thos. Henderson.....	583	870	Nine barrels of oil and a little gas.
22	Robley Wilson.....	585	750	Dry hole.
23	Theo Rinkel.....	585	764	Good show of gas at 735 feet; drilled into salt water at 764 feet.
24	T. Henderson.....	573	740	Five barrels of oil and a little gas.
25	T. Henderson.....	573	870	Nine barrels of oil and a little gas.
26	Robley Wilson.....	575	740	A little oil and gas reported.
27	Peter Fast Peele Petroleum Syndicate No. 2	568.5	904	Plugged back to 887 feet. Very small show of oil at 861 feet. Hole full of salt water in 1936 and an attempt was being made to pump off the water.
28	Chas. Growas Peele Petroleum Syndicate No. 1			Oil at 883 and 885 feet; small flow of gas at 805 feet; big flow of gas at 878 feet. Big flow of salt water at 889 feet. Well plugged back to 888 feet. This well flows 2 to 3 barrels of oil a day and yields sufficient gas to run engine for pumping water from No. 2 well.
29	M. Stiefwater.....	576		Well abandoned and no information available.

"Although the Pelee Island wells are concentrated within a small area, almost every well drilled in this southeast part of the island showed some oil or gas, and along the lake near the southeast corner of the island the soil filling joint cracks in the outcropping limestone is saturated with oil.

"No logs of these old wells are available, and the log that follows is from a well drilled in 1935. The top of the Guelph is at 855 feet and the main oil and gas horizon, at 878 feet, is, accordingly, in the upper part of the Guelph formation. This is the same general horizon that yields most of the gas and oil in Essex and Kent counties.

"The old wells, Nos. 1 to 26, a mile south of Pelee Petroleum Syndicate wells, struck oil and gas at depths of 740 to 760 feet, and as the region is flat the difference in depth cannot be attributed to surface elevation. Two alternative explanations are suggested. Difference in depth may be due to structure, or the deeper wells may produce from a different stratigraphic horizon. As the deeper wells, Nos. 27 and 28, penetrated all oil and gas horizons above the

Guelph without encountering appreciable shows, it seems unlikely that the shallower wells, which reach production at 740 to 760 feet, obtain their gas and oil from a higher horizon such as the Salina formation, as suggested by Williams¹. Thus, it appears that difference in depth of the producing horizon is due to a northward dip of the strata, or to faulting with downthrow on the north side. If, as is suspected, the oil-bearing horizon is the same in all the wells, then a dip of 120 to 130 feet a mile in a northerly direction is indicated. This amount of dip is not inconsistent with the pronounced southeast dip observed on the coast near the southeast part of the island, and indicates an anticlinal fold trending generally westward. An east-west fracture zone, produced by faulting without appreciable vertical displacement, may have allowed oil and gas to escape upward into the Salina formation in the more southerly group of wells."

Log of Pelee Petroleum Syndicate, Limited, No. 1 Well

Location: lot 3-4, Pelee Island.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	0-30	30	No samples.
Norfolk	30-60	30	Limestone: light buff, finely crystalline.
Pre-Norfolk	60-150	90	Magnesian limestone: brownish grey, finely crystalline; black bituminous streaks 100 to 150 feet; trace dolomite at 140 to 150 feet; some fine porosity 100 to 150 feet.
	150-170 170-240	20 70	No samples. Magnesian limestone: brown, finely crystalline; some fine porosity 190 to 240 feet; trace chert 190 to 210 feet; black bituminous streaks 230 to 240 feet.
Bertie-Akron	240-250	10	Magnesian limestone: buff, finely crystalline; few bituminous streaks.
	250-270	20	No samples.
	270-300	30	Magnesian limestone: brown and buff, finely crystalline; trace gypsum 270 to 280 feet.
Salina	300-320	20	Magnesian limestone; brownish grey, fine-grained.
	320-340	20	No sample.
	340-360	20	Dolomite: buff, fine-grained.
	360-380	20	No samples.
	380-420	40	Dolomite: brownish grey, fine-grained; 10 per cent gypsum.
	420-480	60	Shaly dolomite: grey; some brown dolomite; trace gypsum.
	480-500	20	Dolomite: brown, fine-grained; 2 per cent gypsum.
	500-510	10	Shaly dolomite: grey; trace brown dolomite; trace gypsum.
	510-585	75	Dolomite: brownish grey, fine-grained; little grey, dolomitic shale in most samples; trace gypsum throughout.
	585-590	5	Shaly dolomite: grey; little brown dolomite; trace gypsum.
	590-630	40	Dolomite: buff, fine-grained; little grey, dolomitic shale in most samples; trace gypsum.
	630-690	60	Dolomitic shale: greenish grey; little buff dolomite in most samples; trace gypsum throughout.
	690-715	25	Dolomite: buff, fine-grained; trace gypsum.
	715-725	10	Shaly dolomite: grey; some grey, dolomitic shale; trace dolomite.
	725-745	20	Dolomite: brownish grey, fine-grained; 25 per cent gypsum.
	745-750	5	Gypsum; little brown dolomite.
	750-760	10	Dolomite: brownish grey, fine-grained; trace gypsum.

¹Williams, M. Y.: Geol. Surv., Canada, Sum. Rept. 1919, pt. E, p. 15.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	760-770	10	Shaly dolomite: grey; 10 per cent brown dolomite.
	770-815	45	Dolomite: grey and brownish grey, fine-grained.
	815-820	5	Gypsum; trace brown dolomite.
	820-825	5	Dolomite: brown, finely crystalline.
	825-830	5	Gypsum; 15 per cent brown dolomite.
	830-855	25	Dolomite: brownish grey, finely crystalline; trace gypsum.
Guelph-Lockport	855-890	35	Dolomite: grey, crystalline; trace green, calcareous shale at 855 to 860 feet.

Colchester and Malden Townships. Perhaps fifty wells were drilled in the southwest part of Essex county between 1885 and the end of 1943. Although most of these penetrate the Guelph formation, and at least two were drilled into the Trenton, no commercial field has been disclosed.

During the period 1939 to 1943, inclusive, about twenty-two holes were drilled in Colchester and Malden townships. Depths are from 966 to 2,250 feet. Several of the wells encountered shows of gas and oil in the upper part of the Guelph and the lower part of the Salina formations, but so far as is known only three obtained production in commercial quantity. These wells are in Malden township, and had initial open flows of 65 M, 112 M, and 147 M cubic feet of gas a day at depths of from 833 to 970 feet below the surface. One well has been abandoned. Original rock pressures were from 400 to 450 pounds a square inch.

Contours on the Guelph formation indicate a general north dip averaging about 40 feet a mile across the two townships. Whether this structure represents the north limb of an anticlinal fold, whose crest is somewhere beneath Lake Erie, is not known. However, wells drilled at the highest part of the Guelph, that is, near the lake shore, were unproductive.

The following log shows the stratigraphic sequence in this part of Essex county.

Log of Volcanic Gas and Oil Company, J. Bondy No. 1 Well

Location: lot 83, con. I, Colchester South tp.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	1-48	47	Surface drift.
	48-70	22	Magnesian limestone mixed with surface drift.
	70-87	17	Magnesian limestone: buff, fine-grained; some surface material.
Bertie-Akron	87-127	40	Dolomite: buff, fine-grained; trace of surface gravel.
	127-214	87	Dolomite: buff, fine-grained; few black bituminous streaks; oolitic from 157 to 193 feet; some fine porosity 169 to 187 feet.
	214-219	5	No sample.
	219-225	6	Dolomite: brownish grey, fine-grained; trace oolitic dolomite.
	225-297	72	Dolomite: buff, fine-grained.
Salina	297-333	36	Dolomite: brownish grey, fine-grained; minor amount grey, shaly dolomite.
	333-430	97	Shaly dolomite: grey, fine-grained; minor amount brown dolomite 333 to 344 feet; trace gypsum.
	430-577	147	Dolomite: brownish grey, fine-grained; little grey, shaly dolomite; trace gypsum throughout.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	577-607	30	Dolomitic shale: greenish grey; little brown dolomite; trace gypsum.
	607-719	112	Dolomitic shale: grey; little brown dolomite throughout; trace gypsum throughout.
	719-725	6	Gypsum; 10 per cent greenish shale.
	725-737	12	Dolomite: brownish, fine-grained; 40 per cent gypsum.
	737-791	54	Dolomite: brownish grey, fine-grained; trace gypsum.
	791-821	30	Shaly dolomite: grey; trace gypsum throughout.
	821-827	6	Dolomite: brownish grey, fine-grained; 5 per cent gypsum.
	827-833	6	Gypsum.
	833-851	18	Dolomite: buff, fine-grained; trace gypsum.
Guelph-Lockport	851-878	27	Dolomite: light buff, finely crystalline; finely porous.
	878-890	12	Dolomite: medium grey, crystalline.
	890-924	34	Dolomite: light grey, crystalline.
	924-978	54	Dolomite: brownish grey, crystalline; trace greenish grey shale 930 to 936, 942 to 948 feet.
	978-1,012	34	Dolomite: brownish grey, finely crystalline; trace greenish grey, limy shale 984 to 996 feet.
	1,012-1,095	83	Dolomite: brown, finely crystalline; trace selenite at 1,018 to 1,024, 1,042 to 1,047 feet.
	1,095-1,222	127	Dolomite: light grey, crystalline.
Rochester	1,222-1,233	11	Shale: calcareous, grey.

Log of Volcanic Gas and Oil Company Bush No. 1 Well

Location: lot 36, Con. 4, Malden tp.

Elevation: 580 feet.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	1-59	58	Surface drift.
Pre-Norfolk	59-104	45	Magnesian limestone: brown, finely crystalline; finely porous; few black bituminous streaks 59 to 61, 76 to 79 feet.
	104-122	18	Magnesian limestone: brown, finely crystalline; 10 per cent sand and sandy dolomite; trace pyrite.
	122-133	11	Calcareous sandstone; little unconsolidated sand.
	133-138	5	Magnesian limestone; 25 per cent sand.
	138-149	11	Sand: little brown, magnesian limestone.
	149-164	15	Magnesian limestone: brownish grey, sandy.
	164-174	10	Unreliable sample: mixture shale, sand, chert.
	174-190	16	Sandstone: loosely cemented, calcareous; trace chert.
	190-232	42	Magnesian limestone: grey, fine-grained; 5 per cent grey, dolomitic chert; trace pyrite.
	232-261	29	Magnesian limestone: grey, fine-grained; little sandy dolomite; 5 per cent chert.
	261-272	11	Sandy dolomite: grey, fine-grained; 3 per cent chert.
	272-321	49	Dolomite: brownish grey, fine-grained; little chert in most samples.
Bertie-Akron	321-401	80	Dolomite: buff, fine-grained; black bituminous streaks: trace oolitic dolomite at 353 to 359, 389 to 398 feet.
	401-410	9	No sample.
	410-471	61	Dolomite: buff and grey, fine-grained.
Salina	471-499	28	Dolomite: brownish grey, fine-grained; little grey, shaly dolomite; trace gypsum.
	499-587	88	Dolomitic shale: grey; little brown dolomite in lower 24 feet; little gypsum throughout.
	587-640	53	Dolomite: brown, fine-grained; little grey, dolomitic shale 587 to 616 feet; trace gypsum throughout.

Formation	Depth	Thickness	Lithology
	Feet	Feet	
	640-651	11	Dolomite: grey; fine-grained; trace gypsum.
	651-705	54	Dolomite: brown, fine-grained; 50 per cent grey, shaly dolomite 669 to 675 feet; trace gypsum in most samples.
	705-746	41	Dolomite: buff, fine-grained; 25 per cent grey, shaly dolomite in lower 20 feet; trace gypsum.
	746-795	49	Dolomitic shale: grey; little brown dolomite in most samples; trace gypsum.
	795-801	6	Gypsum: 20 per cent grey, dolomitic shale.
	801-818	17	Dolomitic shale: grey; 10 per cent brown dolomite; trace gypsum.
	818-854	36	Dolomite: brownish grey, fine-grained; 5 per cent grey, dolomitic shale; trace gypsum.
	854-866	12	Gypsum: 20 per cent greenish grey shale.
	866-957	91	Dolomite: brownish grey and buff, finely crystalline; 50 per cent gypsum 866 to 880 feet.
	957-975	18	Gypsum: 20 per cent brown dolomite.
	975-1,016	41	Dolomite: buff, finely crystalline: little gypsum in most samples.
Guelph-Lockport	1,016-1,022	6	Dolomite: buff and grey, granular.

COMPOSITION OF CRUDE PETROLEUM¹ AND NATURAL GAS²

The following tables, compiled from the references given above, indicate the quality of crude oil and the general composition of natural gas from the main producing fields within the Windsor-Sarnia area.

Field	Formation	Methane CH ₄	Ethane C ₂ H ₆	Propane C ₃ H ₈	Carbon dioxide CO ₂	Oxygen O	Helium He	Hydrogen sulphide H ₂ S
Tilbury.....	Guelph.....	88.32	4.47	1.53	0.00	0.16	0.17	0.00
Gosfield South.....	Guelph.....	87.6	7.3	.....	.....	.....	0.15	0.3
Declute.....	Guelph.....	86.68	5.00	1.94	0.00	0.32	0.23	0.67
Dawn.....	Guelph.....	87.50	4.59	2.00	0.00	0.15	0.20	0.00
Dover.....	Trenton.....	88.89	4.97	1.72	0.49	0.32	0.17	0.00

¹Rosewarne, P. V., Chantler, H. McD., and Swinnerton, A. A.: Analyses of Canadian Crude Oils, Naphthas, Shale Oil, and Bitumen; Dept. Mines, Canada, Mines Branch, Pub. 765 (1936).

²Harkness, R. B.: Natural Gas Fields of Ontario; Am. Assoc. Pet. Geol., June 1935, p. 85.

Field	Location	Owner or operator	Well number	Depth	Formation	Date	Sulphur % (b)	Gravity	
								Specific	A.P.I. (a)
Oil Springs.....	Lot. 18, con II, Ennis-killen.	Fairbank Estate.....	Fairbank No. 157.....	Feet 390	Norfolk.....	1927	0.71	0.845	36.0
Petrolia.....	Lot 11, con. XI, Ennis-killen.	E. Kelly.....	Kelly No. 2.....	465	Norfolk.....	1927	0.82	0.855	34.0
Dover.....	Lot 1, con. XI, Dover West.	Petrol Oil and Gas Com-pany.	.....	3,280	Trenton.....	1927	0.16	0.826	39.8
Dover.....	Prairie Siding.....	Petrol Oil and Gas Com-pany.	Composite sample.....	3,000- 3,300	Trenton.....	1927	0.13	0.836	37.8
Tilbury.....	Glenwood, Kent county	.....	Composite sample.....	.....	Guelph.....	1927	0.49	0.844	36.1

(a) Gravity—American Petroleum Institute degrees.

(b) Per cent weight of original crude.

OIL POSSIBILITIES

Three general stratigraphic zones have proved productive in the Windsor-Sarnia area. These are, in order of importance: the upper part of the Devonian, Norfolk formation; within the upper 425 feet of the Ordovician, Trenton formation; and in the Silurian system, above and below the Salina-Guelph contact.

Oil was discovered in the Norfolk formation as early as 1859, and since then this has been the chief productive formation in Ontario. About 90 per cent of the oil being recovered from the Windsor-Sarnia area is from this formation and comes entirely from the Petrolia and Oil Springs fields. Outside these fields, particularly in Sarnia, Plympton, Gore of Camden, Camden, and Chatham townships, this formation has been tested by many shallow wells. Shows of oil and gas were obtained in several of these and a few came in with initial yields of a few barrels a day, but no additional fields have been disclosed.

Commercial production from the Norfolk is everywhere associated with definite structural 'high's'. Structure is, therefore, the chief controlling factor in accumulation. In general, the oil collected at and near the highest part of a structure, but some came from as much as 60 feet below the crests of the folds. Not all 'high's' have been productive of oil, but few commercial wells are located where structure contours do not at least suggest the presence of a reversal, or an appreciable variation in magnitude, of the regional dip.

Throughout Essex county the Norfolk formation directly underlies glacial drift and, therefore, lacks the relatively impervious cover considered necessary for the accumulation of any oil that the formation may contain. For this reason, and because the oil-bearing strata elsewhere are relatively close to the top of the formation, it does not appear probable that oil in commercial quantity will be found in the Devonian rock of this county.

In Kent and Lambton counties, however, the Norfolk is overlain by younger Palaeozoic strata that can prevent the escape of any oil that may be present. In view of the very considerable quantity of oil already recovered from the Devonian rocks of Lambton county, its general association with structural 'high's', and the fact that there are appreciable areas in these counties that have not been tested adequately and in which favourable structures may occur, the untested areas afford some encouragement for exploration. Unfortunately there is insufficient geological information to outline any further structures within these areas. Other methods, such as test drilling or geophysical surveying, may be of assistance, however, in the further prospecting of the Norfolk formation.

It must be remembered that initial yields of wells producing from the Norfolk formation are commonly small, and that in some of the more recently drilled wells production has lasted for only a short time. However, these factors are to some extent offset by the shallow depth of production and the consequent low cost of drilling.

Prospects of oil production from the Trenton formation are more speculative. A considerable number of wells have penetrated this formation at widely separated localities throughout most of the Ontario peninsula, but only in the Dover field has production been of economic importance, although shows and small quantities of oil have been obtained at several other places. Aside from the Dover field, only the most general and regional information is available regarding the structure of the Trenton formation in the Windsor-Sarnia area. Wells penetrating this formation are widely spaced, and at best indicate only a regional northward slope averaging about 22 feet a mile. Structural closure that might afford conditions favourable for accumulation has not been recognized.

It will be recalled that in the Dover field production is from the trough of a syncline with which faulting is believed to be associated. Accumulation of oil under such conditions is thought to depend largely upon the absence of water in the reservoir rock. It was stated that although water was encountered in some Trenton wells, it probably occurred in channels or fractures not directly connected with the oil. Also, production in this field is apparently from several disconnected levels rather than from a continuous porous horizon.

Such an occurrence of oil necessitates the consideration of 'lows' where these are free of water, as well as 'highs' in searching for oil in the Trenton formation. Although available geological data are not sufficient to localize any structures, either anticlinal or synclinal, on the Trenton formation, it is noted that the Precambrian surface in the general area of Moore township is at least 400 feet lower than it is immediately east and south. Such a depression may be reflected in the initial Palaeozoic sediments, in which case it would produce conditions favourable for the accumulation of oil in the absence of water. A well on lot 16, con. I, Moore tp., drilled in 1929, is reported to have encountered a show of oil in the Trenton at a depth of 3,690 feet below the surface.

Though the Trenton formation is known to contain oil and gas, it is not possible on a basis of available geological data to indicate particular localities where conditions are favourable. Consequently, prospecting this formation becomes something of a venture, especially in view of the depth to the formation and the resulting high cost of drilling.

The Salina-Guelph zone has yielded oil in commercial amount at several localities within the Windsor-Sarnia area. Some of these, such as Mersea, Wheatley, Glenwood, and Fletcher, have been abandoned and present oil production from this zone is confined mainly to a few wells in the Dawn field. Although a great number of drill holes have penetrated the Guelph-Lockport succession outside the foregoing localities, oil production here has been relatively small and short lived. So far as is known oil accumulation is controlled largely by structure, the producing wells being closely associated with 'highs' on the Guelph formation or, as in the case of the Mersea field, with a possible fault as well.

In the northern third of the area, most of the wells do not penetrate below the Devonian formations. Thus, the underlying Silurian zone has not been tested adequately, even though the few wells that reach it have been unproductive. Nothing is known of the detailed structure of the Guelph in this part of the area, and no one locality can be recommended as offering better prospects than another.

In view of the quantity of oil already recovered from the Salina-Guelph zone, and the fact that these formations underlie the entire area and are everywhere sufficiently buried, they must be considered as potential reservoir rocks. However, only a few of the great number of wells penetrating this zone have encountered oil and it has proved much more important as a source for gas.

GAS POSSIBILITIES

In the Sarnia area natural gas has proved much more important, in point of value, than oil. In 1943, the retail value of gas produced from this part of Ontario was about \$3,700,000 as compared with about \$194,000 for oil. Almost all the gas being produced in this area is from two horizons, the Salina-Guelph and the Trenton. In addition, small volumes have been recovered from the Norfolk formation, particularly in Sarnia and Enniskillen townships. The Salina-Guelph zone produces by far the greatest quantity, having yielded about 95 per cent of the total gas recovered from this area in 1942. The fields producing from this zone are, in order of importance, the Tilbury, Dawn, Chatham, Declute, and Kingsville.

In these fields structure is the chief factor controlling accumulation. However, detailed study of the distribution of dry holes and productive wells shows that porosity and permeability are also essential factors. Not all structural 'highs' on the Guelph formation have been found productive, and production has been obtained where structural closure is not apparent. Also, there are instances of productive wells located structurally lower than dry holes. It follows, that in prospecting this horizon, even areas in which structural closure is not suspected should not be overlooked.

The Guelph formation underlies the entire area. It is everywhere overlain by rock capable of acting as a retainer against escape of any gas that might be present. Drilling has already resulted in the recovery of important quantities of gas. Thus, the Guelph formation must be considered as a potential source of gas wherever it has not been tested.

Most of the wells north of the Dawn field do not penetrate below the Devonian formation and have not, therefore, tested the Salina-Guelph zone. The few wells that have been drilled deep enough have so far proved unproductive. However, these tests were not sufficient to rule out possibilities of production in this part of the area. Detailed structure of the Guelph formation here is not known. In the south part of Enniskillen township, between the Oil Springs and Petrolia fields, the formation dips about 38 feet a mile north 50 degrees west, the highest known point being on lot 25, con. V, Enniskillen tp. No structure can be defined and available geological information is, therefore, inadequate as a basis for recommending prospective drilling sites.

In Kent and Essex counties several important fields produce gas from the Salina-Guelph zone. Although a great number of wells have been drilled here, most of them are concentrated within the limits of the several fields. There are, consequently, intervening areas of considerable extent that have not been adequately tested. Unfortunately, wells in these intervening areas are, in general, too widely spaced to furnish data upon which to define possible structures.

Elsewhere it was stated that the more pronounced and local variations in thickness of the Guelph-Lockport unit may be due to development of reefs, and the structural closure mapped at the west end of the Dawn field may be due, in part at least, to this circumstance. Reefs may occur anywhere, but drilling constitutes the only geological means of detecting them. So far no reefs have been recognized outside the present fields.

Recent detailed study of the Tilbury gas field has disclosed that: about 37½ per cent of the total withdrawal has come from outside the land limits of the field; most of this gas has migrated from beneath the lake; and the distance of this migration depends largely upon the permeability of the reservoir rock. Permeability cannot be predicted; but from a geological viewpoint, a considerable

area beneath Lake Erie must be considered as a potential source of gas. A well completed late in 1943 in the lake about 5,900 feet off shore opposite lot 183, Romney township, is reported to have encountered about 630,000 cubic feet of gas a day, mostly from near the top of the Guelph formation. This initial open flow is roughly double that of the highest so far obtained in lake wells 800 feet from shore in this vicinity.

To summarize, the Salina-Guelph zone underlies the whole of the Windsor-Sarnia area, and is everywhere sufficiently covered by younger rocks capable of preventing escape of any gas that might be present. Important fields have already been developed from this zone. In these fields accumulation is controlled largely by structure and by conditions of porosity and permeability. This zone must be considered as potential wherever suitable conditions of porosity and structure prevail. North of the Dawn field, most wells penetrate only the Devonian rocks; the Salina-Guelph zone is, therefore, largely untested. However, the few wells that are deep enough are insufficient to localize any structures. It is, therefore, not possible to recommend any particular drilling locations. In Kent and Essex counties there are extensive areas, outside the several fields, in which the wells are too widely spaced to properly test the Salina-Guelph zone. Also, this drilling is not adequate to outline any structures. Under these conditions, it is impossible to recommend any particular locality for testing. So far as is known, all the untested localities are of equal promise.

Regarding future prospects of gas production from the Trenton formation, the remarks already made about oil in this formation apply equally to natural gas.

CHAPTER VI

WELL RECORDS

The following table of well records was prepared by J. S. Stewart of the Geological Survey from field work conducted by him, and brought up to date (1943) by the writer. The records do not include all wells known to have been drilled in the area. For example, during the early development of some of the old fields many wells were drilled for which no records were kept. For many wells, particularly among those drilled prior to establishment of the Ontario Natural Gas Commission, complete information is not available, and there are many wells, particularly dry holes and abandoned wells in which the casing has been pulled, for which the location and elevation are not now obtainable. Some of the names of the farm owners given in the tables may now be incorrect. The yield given is the initial yield, in thousands of cubic feet (Mcf.) a day for natural gas wells, and in barrels a day for oil wells.

The following abbreviations are used:

E.B.D.	East Baldoon road.
E.D.	Eastern Division.
I.R.	Indian Reserve.
L.E.	Lake Erie.
N.M.R.	North Middle road.
N.T.R.	North Talbot road.
R.R.	River road.
R.F.	River front.
S.M.R.	South Middle road.
S.T.R.	South Talbot road.
W.	West.
W.B.R.	West Baldoon road.

5	2	.....	900 ft. N. of S. road. 900 ft. W. of E. line	.....	1,030	.....	.....	.....	128	Show of gas at 985 ft.
20	2	Glenwood Natural Gas Co.	NW. Corner.....	1922	575	.....	.....	Dry	105	Show of gas at 980 ft.
6	3	James Peat and Sons.	.....	.....	.....	.....	960	Guelph.	50	Water at 275 ft.
9	4	E. Leason.	NW. Corner.....	1905	627	.....	1,045	150 Mcf.	.....	Oil producer, now abandoned.
9	4	E. Leason.	1,300 ft. S. of N. road. 200 ft. E. of W. line	1905	635	.....	.....	.....	.....	Abandoned.
9	4	E. Smith.	.....	.....	.....	.....	.....	.....	.....	4 oil producers abandoned.
10	4	Jackson.	.....	1905	.....	.....	.....	.....	.....	4 oil producers abandoned.
18	4	Glenwood Natural Gas Co.	.....	1921	574	1,007	Norfolk.	22 Mcf.	75	Salt water at 990 ft.
7	5	Brunner.	SE. Corner.	1905	625	1,100	.....	Dry	.....	Show of oil.
7	5	Brunner.	SE. Corner.	1905	627	1,100	.....	Dry	.....	Show of gas.
8	5	G. Roach.	SW. Corner.	1905	627	.....	.....	.....	.....	Abandoned oil well.
8	5	G. Roach.	SW. Corner.	1905	629	.....	.....	.....	.....	Abandoned oil well.
9	5	G. Martin.	SW. Corner.	1905	628	.....	.....	.....	.....	.....
9	5	G. Martin.	SW. Corner.	1905	628	.....	.....	.....	.....	.....
9	5	Leamington and Detroit Oil Co. E. Smith	.....	1905	.....	.....	.....	.....	.....	5 abandoned oil wells.
10	5	Leamington and Detroit Oil Co. Wm. Dresser	.....	1905	.....	.....	.....	.....	.....	9 oil wells abandoned.
10	5	E. Brown.	NE. Corner.	1906	628	.....	.....	.....	.....	3 producing oil wells abandoned.
13	5	Shilson.	300 ft. N. of S. road. 100 ft. E. of W. line	1905	607	1,110	.....	Dry	88	Water at 400 ft.
14	5	C. Wilkinson.	250 ft. N. of S. road. 250 ft. W. of E. line	1905	604	.....	.....	Dry	.....	.....
14	5	James Peat and Sons.	1,800 ft. N. of S. road. 700 ft. E. of W. line	.....	.....	1,145	1,065	.....	77	Water at 77, 573, and 1,140 ft. Gas at 1,065 ft.
9	6	S. Leslie.	NE. Corner.	1910	630	1,080	.....	Dry	.....	.....
9	6	A. Bell.	SE. Corner.	1906	631	.....	.....	Dry	.....	.....
10	6	H. Kiff A. Wilkinson No. 1.	3,000 ft. N. of S. road. 250 ft. E. of W. line	1938	631	1,069	Norfolk.	7 Mcf.	90	Fresh water at 92 ft. Sulphur water at 471 and 513 ft. Salt water at 1,064 ft.

Wells in Mersea Township, Essex County—Continued

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing forma- tion	Yield Mcf. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
10	6	G. Levi.....	.....	1905	632	.....	.....	.....	.....	.....	.....	.....	9 oil producers abandoned.
10	6	A. Wilkinson.....	500 ft. N. of S. road. 700 ft. W. of E. line	1906	629	1,082	.....	.....	.....	Dry	.....	.....	.....
10	6	A. Wales.....	800 ft. N. of S. road. 500 ft. E. of W. line	1905	630	.....	.....	.....	.....	Dry	.....	.....	.....
11	6	Healey.....	SW. Corner	1905	625	1,076	.....	.....	.....	.....	.....	.....	3 oil wells abandoned.
11	6	S. Leslie.....	NW. Corner	.....	628	1,070	.....	.....	.....	.....	.....	.....	Abandoned.
1	7	Imperial Oil, Ltd.....	200 ft. S. of N. road. 800 ft. W. of E. line	1921	641	3,358	.....	.....	.....	Dry	.....	121	.....
7	7	Hope.....	1,300 ft. N. of S. road. 300 ft. W. of E. line	.....	632	.....	.....	.....	.....	Dry	.....	.....	.....
9	7	B. McMullen.....	NE. Corner	1910	620	.....	.....	.....	.....	.....	.....	.....	Show of oil.
9	7	B. McMullen.....	SE. Corner	1910	626	.....	.....	.....	.....	.....	.....	.....	Show of gas.
10	7	J. Read.....	.....	1906	.....	.....	.....	.....	.....	.....	.....	.....	9 oil producers abandoned.
10	7	Douglas.....	.....	1906	.....	.....	.....	.....	.....	.....	.....	.....	3 oil producers abandoned.
10	7	Povee Gas and Oil Syndicate. W. N. Reid No. 2.....	1,510 ft. S. of N. line. 412 ft. E. of W. line	1938	632	1,061	Norfolk...	1,048	Guelph...	26 Mcf.	280	91	Fresh water at 93 ft. Sulphur water at 385 ft. Salt water at 1,059 ft. 1 bbl. of oil per day.
10	7	Povee Gas and Oil Syndicate. W. N. Reid No. 1.....	900 ft. S. of N. line. 200 ft. E. of W. line	1937	632	1,075	"	1,040- 1,057	Salina...	198 Mcf.	315	100	Water at 98 and 471 ft.
11	7	Cromarty.....	NW. Corner	1906	620	1,075	.....	.....	.....	.....	.....	.....	Abandoned.
11	7	Cromarty.....	1,800 ft. S. of N. road 200 ft. E. of W. line	1906	618	.....	.....	.....	.....	.....	.....	.....	Abandoned.
8	8	C. Read.....	500 ft. N. of S. road 400 ft. E. of W. line	1905	623	1,100	.....	.....	.....	Dry	.....	.....	.....

8	8	A. Jones.....	500 ft. N. of S. road. 500 ft. W. of E. line.....	1905	624	1,080	.....	.....	Dry	.....	.....	Show of gas.
9	8	J. Bryden.....	1,500 ft. N. of S. line. 300 ft. E. of W. line.....	1905	622	.....	.....	.....	Dry	.....	.....	Show of oil.
9	8	E. Read.....	SE. Corner.....	1906	625	1,070	.....	.....	Dry	.....	.....	Show of gas.
10	8	B. Stoneman.....	1,750 ft. N. of S. road. 1,000 ft. W. of E. line.....	1906	622	1,075	.....	.....	Dry	.....	.....	2 producing oil wells abandoned.
9	9	.....	.....	.....	.....	1,125	.....	.....	Dry	.....	.....	3 wells.
19	9	O. Coulter.....	.....	1906	.....	.....	.....	.....	.....	.....	.....	3 wells.
19	9	Whaley.....	.....	1906	.....	1,100	.....	.....	.....	.....	.....	.....
8-10	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
220	N.T.R.	.....	.....	.....	.....	.....	.....	.....	Dry	.....	.....	.....
224	N.T.R.	.....	.....	.....	.....	.....	.....	.....	Dry	.....	.....	.....
233	N.T.R.	Simpson.....	600 ft. W. of E. road. 4,000 ft. N. of Talbot road.....	1905	608	.....	.....	.....	Dry	.....	.....	.....
238	N.T.R.	E. J. Williams.....	.....	1905	.....	.....	.....	.....	.....	.....	.....	4 wells dry.
239	N.T.R.	Ontario Natural Gas Co.....	2,300 ft. S. of N. road. 400 ft. W. of E. line.....	1905	612	2,896	.....	.....	Dry	.....	89	Show of oil at 2,594 ft.
240	N.T.R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Several oil wells abandoned.
243	N.T.R.	H. Kiff L. Wilkinson No. 1.....	790 ft. E. of W. road. 850 ft. S. of NW. Corner.....	1939	621	1,028	Norfolk...	940	9 Mcf. Salina.....	275	50	Fresh water at 53 and 81 ft. Sulphur water at 446 ft.
227	S.T.R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
233	S.T.R.	Dominion Natural Gas Co., Ltd L. Emerson.....	1,000 ft. S. of Talbot road 600 ft. W. of E. line.....	1942	580	1,065	Norfolk...	.....	Dry	.....	100	Black water at 200 ft. Show of gas at 725 and 1,030 ft.
234	S.T.R.	Beaver Oil and Gas Co..... W. G. Coulson.....	1,000 ft. N. of S. road. 300 ft. E. of W. line.....	1908	.....	1,019	.....	1,017	50 Mcf.	135	.....	.....
236	S.T.R.	Bon Jasperson.....	400 ft. N. of S. road. 500 ft. W. of E. line.....	1905	589	.....	.....	.....	Dry	.....	.....	.....
237	S.T.R.	Learnington Oil Co.....	NW. Corner.....	1905	597	.....	.....	.....	Dry	.....	.....	.....
237	S.T.R.	Learnington Oil Co.....	1,500 ft. S. of N. road. 500 ft. W. of E. line.....	1905	.....	.....	.....	.....	Dry	.....	.....	.....
237	S.T.R.	Learnington Oil Co.....	1,400 ft. N. of S. road. 700 ft. E. of W. line.....	1905	586	.....	.....	.....	Dry	.....	.....	Show of gas.

Wells in Mersea Township, Essex County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcd. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
238	S.T.R.	Learnington Oil Co.		1905									7 producing oil wells abandoned.
2	A									Dry			
3	A									Dry			
4	A												Show of gas.
7	A												Several producing gas wells.
9	A												2 wells, show of gas.
10	A									Dry			
15	A	Glenwood Natural Gas Co. J. E. Glander	NW. Corner	1919	577	1,100		900-945	Guelph	60 Mcd.	450	140	
15	A	Glenwood Natural Gas Co. A. L. Bowman	SE. Corner	1922	574	995		890-912	Salina Guelph	10 Mcd.		85	
18	A	Dominion Natural Gas Co., Ltd.	2,100 ft. S. of N. road, 500 ft. W. of E. road	1915	565					Dry			Show of gas.
19-21	A												7 wells abandoned.
10	B												3 wells abandoned.
20	B												2 wells dry.
13	C		NW. Corner							Dry			
22	C		In Lake Erie							Dry			

Wells in Gosfield South Township, Essex County

1	1 E.D.	Ontario Natural Gas Co.	35 ft. NE. of Père Marquette Station, Kingsville	1892	907	1,038						80	
1	1 E.D.	Bon Jasperson No. 2	Lansdowne Ave., Kingsville	1924	597	1,020				12 Mcd.	350	72	

1	1 E.D.	Bon Jasperson No. 7.....	Kingsville.....	1924	606	.....	.....	.....	750-Salina 925 Guelph	15 Mcf.	300	.....
1	1 E.D.	Bon Jasperson No. 8.....	Victoria St., Kingsville...	1925	605	.....	.....	.....	715- 925 "	10 Mcf.	300	75
2	1 E.D.	Bon Jasperson No. 1.....	1,000 ft. N. of lake shore. 200 ft. E. of W. line.....	1923	596	1,005	.....	.....	915- 1,005 "	30 Mcf.	275	95
2	1 E.D.	Bon Jasperson No. 3.....	700 ft. N. of lake shore. 800 ft. E. of W. line.....	1923	597	920	.....	.....	715- 910 "	20 Mcf.	350	68
2	1 E.D.	Bon Jasperson No. 9.....	1,700 ft. N. of lake shore. 50 ft. W. of E. line.....	1929	605	1,000	.....	.....	.....	10 Mcf.	250	.....
3	1 E.D.	Bon Jasperson No. 6.....	50 ft. off shore. 200 ft. E. of W. line.....	1924	570	1,000	.....	.....	710-Salina 910 Guelph	15 Mcf.	300	.....
3	1 E.D.	Standard Oil Co.....	1,800 ft. N. of lake shore. 300 ft. W. of E. line.....	1890	614	1,000	.....	.....	.....	Dry	.....	.....
4	1 E.D.	Ontario Natural Gas Co.....	2,000 ft. S. of N. road. 250 ft. E. of W. line.....	1900	634	280	.....	.....	.....	Dry	.....	.....
4	1 E.D.	Citizen's Well No. 2.....	900 ft. S. of N. road. 200 ft. W. of E. line.....	1900	637	1,100	.....	.....	.....	Dry	.....	.....
6	1 E.D.	Glenwood Natural Gas Co.....	4,200 ft. N. of S. road. 800 ft. W. of E. line.....	1920	630	1,020	.....	.....	.....	Dry	.....	86
6	1 E.D.	Citizen's Well No. 5.....	2,600 ft. S. of N. road. 50 ft. W. of E. line.....	1900	645	1,100	.....	.....	.....	Dry	.....	.....
6	1 E.D.	Standard Oil Co.....	4,000 ft. S. of N. road. 50 ft. W. of E. line.....	.....	628	1,100	.....	.....	.....	Dry	.....	.....
6	1 E.D.	Ontario Natural Gas Co.....	1,400 ft. S. of N. road. 600 ft. E. of W. line.....	1905	638	2,400	.....	.....	.....	Dry	.....	.....
6	1 E.D.	Bon Jasperson.....	N.E. Corner.....	1932	647	1,015	.....	.....	940-Salina 993 Guelph	5 Mcf.	.....	105
7	1 E.D.	Ontario Natural Gas Co.....	500 ft. N. of Redwing. 650 ft. E. of W. line.....	1900	632	.....	.....	.....	.....	Dry	.....	Fresh water at 105 and 115 ft. Salt water at 1,015 ft.
7	1 E.D.	Ontario Natural Gas Co.....	N.E. Corner.....	1895	651	1,100	.....	.....	.....	Dry	.....	Show of gas.
7	1 E.D.	Ontario Natural Gas Co.....	N.E. Corner.....	1895	649	1,100	.....	.....	.....	Dry	.....	Show of oil.
7	1 E.D.	Ontario Natural Gas Co.....	3,000 ft. N. of S. road. 25 ft. W. of E. line.....	1900	640	.....	.....	.....	.....	Dry	.....	Show of gas.
7	1 E.D.	Ontario Natural Gas Co.....	50 ft. off shore. 200 ft. E. of W. line.....	1900	570	.....	.....	.....	.....	Dry	.....	Show of gas.
7	1 E.D.	Ontario Natural Gas Co.....	500 ft. N. of highway No. 18 900 ft. E. of W. line.....	1900	630	1,100	.....	.....	.....	Dry	.....	.....

Wells in Gosfield South Township, Essex County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
7	1 E.D.	Ontario Natural Gas Co.	3,800 ft. S. of N. road. 500 ft. E. of W. line	1900	635	1,060				Dry			Show of gas.
7	1 E.D.	Ontario Natural Gas Co.	4,200 ft. S. of N. road. 700 ft. W. of E. line	1900	638					Dry			Show of gas.
7	1 E.D.	Bon Jasperson No. 1.	700 ft. N. of lake shore. 10 ft. W. of E. line	1931	627	949		825-945	Salina Guelph	50 Mcf.	300		
7	1 E.D.	Bon Jasperson No. 2.	50 ft. N. of highway No. 18 750 ft. E. of W. line	1933	629	928		847-923	"	50 Mcf.	275	87	Fresh water at 86 ft. Mineral water at 375 and 455 ft.
7	1 E.D.	Bon Jasperson No. 10.	3,200 ft. S. of N. road. 450 ft. E. of W. line	1925	638	1,100		920-976	"	30 Mcf.	285	107	Water at 988 ft.
7	1 E.D.	Bon Jasperson No. 11.	1,400 ft. S. of N. road. 800 ft. E. of W. line	1926	645	1,092		680-880	"	50 Mcf.	350	112	
7	1 E.D.	Bon Jasperson No. 12.	3,000 ft. S. of N. road. 1,000 ft. E. of W. line	1926	641	901		640-848	"	69 Mcf.	300		
7	1 E.D.	Bon Jasperson No. 13.	700 ft. N. of lake shore. 700 ft. E. of W. line	1926	617	860		650-855	"	60 Mcf.		90	
7	1 E.D.	Bon Jasperson No. 14.	200 ft. N. of highway No. 18 900 ft. W. of E. line	1926	636	935		840-935	"	75 Mcf.	345		
7	1 E.D.	Bon Jasperson No. 16.	1,500 ft. S. of highway No. 18 1,000 ft. W. of E. line	1927	620	940		650-750	"	50 Mcf.	350	87	
7	1 E.D.	Citizen's Well No. 3.	600 ft. S. of highway No. 18 100 ft. E. of W. line	1900	622	1,065		980	Guelph	Dry			Salt water at 1,085 ft. Show of gas at 980 ft.
7	1 E.D.	Citizen's Well No. 4.	800 ft. S. of N. road. 1,000 ft. E. of W. line	1900	648	1,100				Dry			
7	1 E.D.	E. Coote No. 1.	NW Corner	1890	648								
7	1 E.D.	Bon Jasperson N. R. Sellers No. 2.	2,050 ft. S. of N. road. 1,350 ft. E. of W. road	1941	634	967		1,017		10,000 Mcf.		120	
								940-960	Guelph	25 Mcf.	270	110	

7	1 E.D.	Bon Jasperson..... H. C. Riach.....	400 ft. S. of railway. 30 ft. E. of W. road.....	1889	645	1,004	.....	720- 1,001	Salina Guelph	42 Mcf.	395	110	Fresh water at 110 and 140 ft. Sulphur water at 200 ft.
7	1 E.D.	Bon Jasperson..... H. Harris.....	950 ft. E. of W. road..... 800 ft. S. of N. road.....	1940	642	994	.....	720- 990	"	35 Mcf.	350	117	
7	1 E.D.	Bon Jasperson..... H. Harris.....	1,400 ft. S. of N. line..... 1,050 ft. E. of W. line.....	1941	.....	945	.....	.....	.....	15 Mcf.	.....	.....
7	1 E.D.	Bon Jasperson..... A. A. Holbeck No. 4.....	950 ft. W. of E. line..... In Lake Erie.....	1886	570	910	.....	600- 901	Salina Guelph	20 Mcf.	285	45	Fresh water at 45 ft.
8	1 E.D.	Bon Jasperson..... S. E. Ferris No. 1.....	500 ft. E. of W. line..... In Lake Erie.....	1935	570	914	Pre- Norfolk	810- 898	Salina	76 Mcf.	325	45	Fresh water at 45 ft.
8	1 E.D.	Bon Jasperson..... A. Summers Estate No. 1.....	1,900 ft. E. of W. line..... In Lake Erie.....	1935	570	923	.....	640- 920	Salina Guelph	40 Mcf.	300	55	Fresh water at 55 ft.
8	1 E.D.	Bon Jasperson..... George Sabele.....	1,800 ft. N. of highway No. 18 24 ft. E. of W. line.....	1942	.....	930	.....	912- 925	.....	13 Mcf.	250	128	Fresh water at 100 and 128 ft. Sulphur water at 140 ft.
8	1 E.D.	Bon Jasperson No. 16.....	1,000 ft. N. of highway No. 18 20 ft. E. of W. line.....	1927	642	2,935	.....	.....	.....	.....	.....	116	Show of oil at 2,360 ft.
8	1 E.D.	Bon Jasperson No. 17.....	300 ft. N. of highway No. 18 500 ft. W. of E. line.....	1927	638	930	.....	725- 935	Salina Guelph	76 Mcf.	350	.....
8	1 E.D.	Bon Jasperson No. 18.....	1,000 ft. N. of highway No. 18 250 ft. E. of W. line.....	1927	646	907	.....	745- 907	"	30 Mcf.	.....	.....
8	1 E.D.	Bon Jasperson No. 19.....	50 ft. N. of highway No. 18 10 ft. W. of E. line.....	1927	635	940	.....	880- 935	"	100 Mcf.	350	.....
8	1 E.D.	Bon Jasperson No. 20.....	1,200 ft. N. of highway No. 18 700 ft. W. of E. line.....	1928	644	954	.....	747- 950	"	50 Mcf.	300	120	
8	1 E.D.	A. Simmers.....	500 ft. S. of highway No. 18 900 ft. E. of W. line.....	1928	634	.....	.....	.....	.....	Dry	.....	.....
9	1 E.D.	Ontario Natural Gas Co.....	1,300 ft. N. of highway No. 18 500 ft. E. of W. line.....	1895	642	1,050	.....	.....	.....	Dry	.....	.....
9	1 E.D.	Union Natural Gas Co.....	800 ft. S. of highway No. 18 200 ft. W. of E. line.....	1900	637	.....	.....	.....	.....	Dry	.....	.....
9	1 E.D.	Union Natural Gas Co.....	300 ft. S. of highway No. 18 200 ft. W. of E. line.....	1900	638	.....	.....	.....	.....	Dry	.....	.....

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
9	1 E.D.	Standard Oil Co.	600 ft. S. of highway No. 18 700 ft. E. of W. line	1900	636					Dry			Show of gas.
9	1 E.D.	Standard Oil Co.	700 ft. S. of highway No. 18 600 ft. W. of E. line		639					Dry			Show of gas.
9	1 E.D.	Standard Oil Co.	600 ft. N. of highway No. 18 200 ft. E. of W. line	1905	640					Dry			Show of gas.
9	1 E.D.	Bon Jasperson	660 ft. N. of highway No. 18 700 ft. W. of E. line	1935	639	955		715-931	Salina Guelph	50 Mcf.	300	125	Fresh water at 126 ft. Salt water at 955 ft.
9	1 E.D.	Bon Jasperson	400 ft. N. of highway No. 18 600 ft. E. of W. line	1934	640	930	Pre-Norfolk	650-925	"	75 Mcf.	250	116	Fresh water at 117 ft. Mineral water at 318 ft.
9	1 E.D.	Bon Jasperson	2,000 ft. N. of highway No. 18 450 ft. E. of W. road	1937	642	1,060		941-949	Guelph	20 Mcf.	325	120	Fresh water at 120 ft. Mineral water at 175 and 530 ft.
10	1 E.D.	Standard Gas Co.	1,050 ft. S. of highway No. 18 300 ft. W. of E. line	1900	630					Dry			Show of gas.
10	1 E.D.	Standard Gas Co.	1,300 ft. N. of highway No. 18 1,000 ft. E. of W. line	1900	649					Dry			
10	1 E.D.	Standard Gas Co.	700 ft. N. of highway No. 18 800 ft. E. of W. line	1900	644					Dry			
10	1 E.D.	H. C. Fuller	400 ft. S. of highway No. 18 1,000 ft. E. of W. line	1900	636	1,050				Dry			Show of gas.
10	1 E.D.	Ontario Natural Gas Co.	700 ft. S. of highway No. 18 100 ft. E. of W. line	1900	636					Dry			Show of gas.
11	1 E.D.	Standard Gas Co.	400 ft. N. of highway No. 18 500 ft. E. of W. line	1900	634					Dry			

11	1 E.D.	Standard Gas Co.....	500 ft. S. of highway No. 18 700 ft. E. of W. line	1900	630				Dry			
11	1 E.D.	G. R. Mills.....										
11	1 E.D.	Standard Gas Co.....	1,400 ft. S. of highway No. 18 900 ft. E. of W. line	1900	634	1,050			Dry			
11	1 E.D.	T. R. Mills.....										
11	1 E.D.	Standard Gas Co.....	1,000 ft. N. of highway No. 18 700 ft. W. of E. line	1900	640	1,050						Gas producer.
11	1 E.D.	H. Adams.....										
11	1 E.D.	Standard Gas Co.....	600 ft. S. of highway No. 18 350 ft. W. of E. line	1895	633	1,050						Gas producer.
12	1 E.D.	A. Mills.....										
12	1 E.D.	Ontario Natural Gas Co.....	350 ft. N. of highway No. 18 250 ft. W. of E. line	1895	634				Dry			
12	1 E.D.	Standard Oil Co.....	500 ft. N. of highway No. 18 300 ft. E. of W. line	1895	638	1,050			Dry			Show of gas.
12	1 E.D.	Standard Oil Co.....	1,800 ft. S. of highway No. 18 700 ft. E. of W. line	1895	629				Dry			
12	1 E.D.	Standard Oil Co.....	1,050 ft. N. of highway No. 18 600 ft. W. of E. line	1895	640				Dry			
12	1 E.D.	Standard Oil Co.....	500 ft. N. of highway No. 18 400 ft. W. of E. line	1895	634				Dry			
13	1 E.D.	Standard Oil Co.....	1,200 ft. N. of highway No. 18 750 ft. W. of E. line	1895	628				Dry			
5	2 E.D.	Ontario Natural Gas Co.....	1,000 ft. S. of N. road..... 250 ft. E. of W. line	1895	651				Dry			
5	2 E.D.	Ontario Natural Gas Co.....	1,300 ft. N. of S. road..... 200 ft. E. of W. line	1895	644	1,095			Dry		117	
6	2 E.D.	Citizen's Well No. 1.....	SE. Corner.....	1889	648	1,126			Dry			Salt water at 1,100 ft. Show of gas at 750 ft
7	2 E.D.	Ontario Natural Gas Co.....	1,000 ft. N. of S. road..... 100 ft. E. of W. line	1895	651				Dry			
7	2 E.D.	Ontario Natural Gas Co.....	2,000 ft. N. of S. road..... 700 ft. E. of W. line	1895	654				Dry			
7	2 E.D.	Bon Jesperson.....	50 ft. N. of S. road..... 1,200 ft. E. of W. line	.....	649				Dry			
11	2 E.D.	Ontario Natural Gas Co.....	250 ft. S. of highway No. 2 750 ft. E. of W. line	1900	665	1,025	Pre-Norfolk		Dry		110	

Wells in Gosfield South Township, Essex County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield in Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
12	5 E.D.	Ontario Natural Gas Co.....	2,200 ft. S. of N. road..... 350 ft. E. of W. line	1895	642	.....	.....	.....	.....	Dry	.....	.....	.....
19	5 E.D.	Ontario Natural Gas Co.....	NW. Corner.....	1895	650	.....	.....	.....	.....	Dry	.....	.....	.....
1	1 W.D.	Bon Jasperson.....	MacLean St., Kingsville....	1924	594	953	.....	.....	.....	Dry	.....	.....	Fresh water at 68 ft. Sulphur water at 165 ft. Salt water at 450 ft.
1	1 W.D.	Bon Jasperson.....	Town of Kingsville.....	1923	583	920	.....	720- 920	Salina Guelph	20 Mcf.	300	55	Fresh water at 55 ft. Mineral water at 200 and 450 ft.
9	1 W.D.	Bon Jasperson.....	580 ft. S. of N. road..... 400 ft. W. of E. line	1923	614	1,030	.....	720- 930	"	18 Mcf.	.....	.....	.....
18	1 W.D.	Petrolia Gas Co.....	NW. Corner.....	1905	587	.....	.....	.....	.....	Dry	.....	.....	.....
21	1 W.D.	Bon Jasperson.....	2,500 ft. S. of highway No. 18 60 ft. W. of E. line	1937	587	1,042	Pre- Norfolk	.....	.....	Dry	.....	62	Fresh water at 25 and 65 ft. Salt water at 1,035 ft.
2	1 W.D.	Bon Jasperson.....	2,100 ft. S. of N. road..... 50 ft. W. of E. line	1937	586	1,042	.....	.....	.....	Dry	.....	.....	.....
32	1 W.D.	Dominion Natural Gas Co., Ltd.	SE. Corner.....	1917	584	2,225	.....	.....	.....	.....	.....	.....	.....
32	1 W.D.	Petrolia Gas Co.....	NE. Corner.....	.....	587	1,230	.....	.....	.....	Dry	.....	.....	.....
32	1 W.D.	Olga Gas and Oil Co. Commu- nity well	SW. Corner.....	1930	575	2,603	.....	.....	.....	Dry	.....	90	.....
32	1 W.D.	Stover.....	6,300 ft. S. of N. road..... 200 ft. E. of W. line	1930	575	.....	.....	.....	.....	Dry	.....	.....	.....
G.	2 W.D.	Bon Jasperson.....	SE. Corner.....	1932	624	1,114	.....	743- 763	Salina	2 Mcf.	.....	100	Fresh water at 80 and 105 ft. Black water at 1,095 ft.
3	5 W.D.	Glenwood Natural Gas Co..... M. J. Mallott No. 1.....	800 ft. N. of S. road..... 600 ft. E. of W. line	1923	635	1,139	.....	.....	.....	Dry	.....	70	.....

Wells in Tilbury North Township, Essex County

9	1	.....	NW. Corner.....	.....	1,600	.....	.....	.....	.....	.....
6	3	Volcanic Gas and Oil Co., Ltd. J. Reaume No. 1.....	900 ft. W. of E. line..... 100 ft. N. of highway No. 2	1937	593	.....	Norfolk	.....	Dry	.....
7	3	Sovereign Oil Co. Markham No. 1.....	NW. Corner.....	1915	588	.....	.....	.....	.....	120 Gas at 1,200 ft.
7	3	Sovereign Oil Co. Markham No. 2.....	1,700 ft. S. of N. road..... 935 ft. E. of W. road	1915	588	.....	.....	.....	Dry	.....
22	3	.....	2,400 ft. N. of S. road..... 400 ft. E. of W. line	.....	.....	.....	.....	.....	Dry	.....

Wells in Colchester South Township, Essex County

61	1	.....	2,700 ft. S. of N. road..... 300 ft. W. of E. line	.....	641	.....	.....	.....	Dry	.....
64	1	Provincial Natural Gas and Fuel Co. Dr. T. McCormack	8,200 ft. S. of N. road..... 200 ft. W. of E. line	1905	632	.....	.....	.....	.....	110 Salt water at 910 and 1,232 ft. Show of oil and gas at 2,150 ft.
78	1	Southern Ontario Gas Co.....	1,800 ft. S. of lake road..... 150 ft. E. of W. line	1914	593	.....	.....	.....	.....	90 Water at 830 ft. Show of oil at 2,140 ft. Show of gas at 2,295 ft.
83	1	Volcanic Gas and Oil Co. J. Bondy.....	934 ft. S. of lake road..... 125 ft. E. of W. line	1940	.....	1,233	Pre-Norfolk	.....	Dry	79 Fresh water at 73 ft. Salt water at 900 ft.
89	1	Volcanic Gas and Oil Co. G. Pidgeon.....	2,173 ft. N. of lake road..... 110 ft. W. of E. line	1940	598	1,270	"	.....	Dry	70 Fresh water at 84 and 89 ft. Salt water at 918, 940, and 1,016 ft. Show of oil at 874 ft. Show of gas at 955 ft.
1	2	Drake and Walker..... Hood No. 2.....	390 ft. W. of E. line..... 25 ft. S. of N. line	1940	630	1,132	"	.....	Dry	95 Fresh water at 98 ft. Salt water at 972 and 1,119 ft.
18	2	Eagle Oil and Gas Co.....	SE. Corner.....	1923	594	2,250	"	.....	Dry	72 Salt water at 1,078 ft. Show of gas at 905 ft.
3	3	Drake, Coste and Walker..... R. Kimball No. 1.....	350 ft. W. of E. road..... 1,140 ft. S. of N. line	1940	624	1,078	"	.....	Dry	85 Fresh water at 58 and 107 ft. water at 129 and 220 ft.
	3	Volcanic Gas and Oil Co. Roy Her.....	2,590 ft. E. of W. road..... 1,750 ft. N. of S. road	1941	612	1,075	"	.....	Dry	106 Salt water at 1,075 ft.

Wells in Colchester South Township, Essex County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
7	5	Drake and Walker..... W. Deslippe No. 1.....	800 ft. E. of W. line..... 600 ft. S. of N. line	1939	615	1,015	Pre-Norfolk	.....	.....	Dry	.....	87	Fresh water at 55 ft. Salt water at 240 and 1,010 ft. Show of oil at 985 and 991 ft.
9	5	H. Walker.....	2,000 ft. S. of N. road..... 200 ft. W. of E. line	1895	605	.....	.....	.....	.....	Dry	.....	.....	.....
10	5	Walkers Marsh.....	150 ft. S. of N. road..... 1,200 ft. E. of W. line	1895	611	.....	.....	.....	.....	.....	.....	.....	.....
8	6	Walkers Marsh.....	400 ft. N. of S. road..... 600 ft. E. of W. line	1895	601	1,230	.....	.....	.....	Dry	.....	87	Show of gas and oil.
8	6	Walkers Marsh.....	2,000 ft. N. of S. road..... 400 ft. W. of E. line	1895	599	.....	.....	.....	.....	Dry	.....	.....	.....
10	6	Walkers Marsh.....	S.E. Corner.....	1895	603	.....	.....	.....	.....	Dry	.....	87	.....
10	6	Walkers Marsh.....	500 ft. N. of S. road..... 900 ft. E. of W. line	1895	605	.....	.....	.....	.....	Dry	.....	.....	.....
10	6	.....	S.E. Corner.....	.....	611	1,154	.....	.....	.....	Dry	.....	93	.....

Wells in Tilbury West Township, Essex County

6	5	J. Peat and Sons.....	2,250 ft. S. of N. road..... 525 ft. W. of E. road	.....	.....	1,312	Norfolk	.....	.....	Dry	.....	146	Water at 1,312 ft. Show oil at 335 ft. Show gas at 325 to 370 ft.
7	5	J. Peat and Sons.....	1,250 ft. N. of S. road..... 900 ft. E. of W. road	.....	.....	1,241	"	.....	.....	.....	.....	146	Water at 303 ft. Oil at 1,206 to 1,236 ft. Abandoned.
7	5	Comber Syndicate No. 2.....	2,250 ft. S. of N. road..... 1,000 ft. E. of W. road	1915	601	1,280	"	.....	.....	.....	.....	120	Oil at 1,213 ft. Abandoned.
5	8	Volcanic Gas and Oil Co., Ltd. R. R. Hiser No. 1.....	750 ft. W. of Mich. Can. R. R. Hiser No. 1..... 130 ft. N. of S. line	1937	593	1,700	"	.....	.....	Dry	.....	114	Sulphur water at 275 ft. Salt water at 1,230 ft.

6	8	SE. Corner.....				Dry	Two dry wells.
3	10						
5	10	E. Coste and Co. M. J. Keck No. 1.....	300 ft. N. of S. road. 700 ft. W. of E. line	1922	610	3,423	98 Sulphur water at 210, 1,375, and 1,672 ft. Salt water at 3,423 ft. Oil: 3 bbls. in 5 days at 1.69 ft. Gas at 1,064, 1,130, 1,163, and 1,825 ft.
7	11		2,000 ft. S. of N. road. 800 ft. E. of W. road			1,228	95 Abandoned oil pro- ducer.
4	S.M.R.	SW. Corner.....					Show of oil and gas.
6	S.M.R.	SW. Corner.....					Show of gas.

Wells in Sandwich Township, Essex County

10	1	Canadian Steel Corporation..... Brunner Mond Co.....	300 ft. N. of S. line..... 700 ft. E. of railway	1914	575	760	Norfolk	58 Sulphur water at 250 ft.
		Town of Sandwich..... Canadian Salt Co. No. 4	Cor. Sandwich and Pro- spect Ave.	1921	573	1,600	"	90 Salt well.
		Windsor Salt Co.....				1,490	"	90 Salt well.
		Windsor Salt Co. No. 7.....		1926	575	1,605	"	Salt well. Water at 135 and 200 ft.
		Canadian Industries Ltd., No. 10		1928	572	1,600	"	Salt well. Sulphur water at 125 and 225 ft.
		Canadian Industries Ltd., No. 11		1929	572	1,600	"	95 Salt well. Water at 210 and 245 ft.
		Canadian Industries Ltd., No. 13		1929	576	1,612	"	95 Salt well. Water at 120 ft.
		Canadian Industries Ltd., No. 15		1930	576	1,600	"	90 Salt well.
		Canadian Industries Ltd., No. 16		1930	586	1,598	"	102 Salt well.

Wells in Malden Township, Essex County

6	1	Captain Hackett No. 1.....	NW. Corner.....		563			
5	1	Captain Hackett No. 2.....	1,000 ft. S. of N. road. 100 ft. W. of river road		573			

Wells in Malden Township, Essex County—Concluded

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing forma- tion	Yield Mcf. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
5	1	Captain Hackett No. 3.....	1,050 ft. S. of N. road.. 200 ft. E. of river road..	.....	583	.....	.....	.....	.....	.....	.....	.....	.....
5	1	Captain Hackett No. 4.....	850 ft. S. of N. road.. 1,450 ft. E. of river road..	.....	576	.....	.....	.....	.....	.....	.....	.....	.....
7	1	Parks.....	500 ft. N. of S. line..... 3,250 ft. E. of W. line	1890	577	1,004	.....	.....	.....	Dry	.....	30	Show gas at 937 ft.
14	2	Volcanic Gas and Oil Co., Ltd.. L. M. Beaudoin No. 1	350 ft. W. of E. road.. 60 ft. N. of highway No. 13	1940	576	984	Pre- Norfolk	897- 970	Salina Guelph	65 Mcf.	400	37	Fresh water at 37 ft. Sulphur water at 260 ft. Salt water at 910 ft. Black water at 984 ft.
21	2	Calwell Grove.....	100 ft. S. of N. line..... 2,400 ft. E. of W. line	1890	589	1,418	.....	.....	.....	Dry	.....	8	.....
33	3	Garwood No. 1.....	620 ft. S. of N. line..... 150 ft. W. of E. line	1940	576	966	Pre- Norfolk	.....	Salina	112 Mcf.	.....	46	Fresh water at 30 ft. Salt water at 83 and 915 ft.
33	3	Darnstaetter and Willits.. Garwood No. 2.....	745 ft. S. of N. line..... 150 ft. W. of E. line	1940	572	967	"	838 950	"	147 Mcf.	450	45	Gas at 844 ft. Abandoned. Fresh water at 54 ft. Sulphur water at 232 ft.
Knapp Island	3	Darnstaetter and Willits.. W. G. A. Reid No. 1.....	350 ft. E. of W. line..... 350 ft. S. of N. line	1940	574	991	"	.....	.....	Dry	.....	58	Fresh water at 45 ft. Sulphur water at 343 ft. Salt water at 875 and 990 ft.
36	4	Volcanic Gas and Oil Co., Ltd.. No. 13 F. Brush No. 1.....	911 ft. N. of highway No. 13 100 ft. E. of W. road	1940	580	1,022	"	.....	.....	Dry	.....	48	Fresh water at 61 ft. Sulphur water at 385 and 445 ft. Salt water at 975 and 1,022 ft.
56	4	H. B. Smith.. Big Creek Club No. 1.....	300 ft. N. of lake bank.. 6,300 ft. W. of front road	1938	514	1,280	.....	.....	.....	Dry	.....	54	Sulphur water at 249 and 332 ft. Salt water at 830 and 865 ft.
52	5	F. Coste.. Mrs. E. Wright No. 1	1,538 ft. W. of E. line..... 35 ft. N. of S. line	1941	.....	420	Pre- Norfolk	.....	.....	Dry	.....	60	Show oil at 725 to 755 ft. Fresh water at 80 ft. Sulphur water at 410 to 415 ft.
53	5	Drake and Walker..... M. Gibb.....	350 ft. E. of W. road.. 1,180 ft. S. of highway No. 13	1941	587	358	"	.....	.....	Dry	.....	60	Fresh water at 49 ft.

48	5	A. A. Darnstaetter..... F. Miller No. 1.....	1,910 ft. S. of highway No. 18 380 ft. W. of E. road	1940	590	236	Pre- Norfolk	.....	Dry	.....	60	Fresh water at 54 ft.
53	5	Drake, Walker, Coste and Willits F. Miller No. 2.....	880 ft. S. of highway No. 18 1,600 ft. W. of E. road	1941	591	1,003	"	.....	Dry	.....	67	Fresh water at 80 ft. Salt water at 1,003 ft. Show gas at 809 and 870 ft.
68	6	Drake and Walker..... S. Langlois.....	730 ft. W. of E. road..... 50 ft. N. of highway No. 18	1941	596	1,137	"	.....	Dry	.....	66	
80	7	G. Brown Syndicate..... V. Rabineau.....	260 ft. W. of centre line..... 360 ft. S. of N. line	1941	612	1,129	Pre- Norfolk	.....	Dry	.....	78	Fresh water at 79 and 185 ft. Salt water at 1,127 ft.
83	7	Drake and Walker..... J. Parks No. 1.....	3,500 ft. N. of S. road..... 500 ft. E. of W. road	1941	609	1,098	"	.....	Dry	.....	87	Fresh water at 50 and 87 ft. Salt water at 1,089 ft.
86	8	Drake and Walker..... Mrs. W. French No. 1.....	560 ft. E. of W. road..... 60 ft. N. of S. road	1939	620	1,119	"	.....	Dry	.....	99	Fresh water at 65 and 99 ft. Salt water at 957 ft. Black salt water at 1,119 ft.
87	8	Drake and Walker..... A. Wilde No. 1.....	2,330 ft. N. of S. road..... 750 ft. E. of W. road	1942	.....	1,074	.....	.....	Dry	.....	82	Fresh water at 96 ft. Black water at 447 ft. Salt water at 987 ft.
Knap- Island	.....	Drake and Walker..... John Gibb No. 1.....	1,794 ft. S. of highway No. 18 500 ft. W. of 4th con. road projected S. to Big Creek marsh	1944	.....	988	.....	.....	Dry	.....	42	Show of gas at 652 ft.

Wells in Colchester North Township, Essex County

10	4										5 wells.
16	6			1,750 ft. N. of S. road. 200 ft. W. of E. road				1,144	Dry		93
17	7	Union Gas Co. of Canada, Ltd.	NW. Corner			598		1,175	Dry		65
18	7		SE. Corner					1,175	Dry		
20	8		SE. Corner						Dry		
19	9		SE. Corner		1885	654		1,135	Dry		
20	S.M.R.	Bon Jasperson	1,675 ft. S. of N. road. 200 ft. W. of E. road		1929	617		1,268	Dry		60
											Water at 720 ft.

Wells in Anderdon Township, Essex County

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
7	1	Canadian Steel Corporation. Brunner Mond Co.	200 ft. S. of N. line. 1,900 ft. W. of E. line.	1914	607	2,555	Norfolk	.....	.....	Dry	.....	11	Salt water at 1,291, 1,325, 1,350, 2,445, 2,530, and 2,565 ft. Gypsum beds at 502, 520, 570, 625, and 633 ft. Show of gas at 1,450 ft. Show of oil at 2,369 and 2,494 ft.
29	1	Canadian Steel Corporation.	100 ft. N. of S. road. 500 ft. W. of river road	1914	577	1,388	"	.....	.....	Dry	.....	48	Fresh water at 90 ft. Sulphur water at 195 and 1,360 ft.
29	1	Canadian Steel Corporation.	100 ft. N. of S. road. 1,000 ft. W. of river road	.....	578	1,200	"	.....	.....	Dry	.....	.....	.....
29	1	Canadian Steel Corporation.	100 ft. N. of S. road. 1,500 ft. W. of river road	.....	576	1,200	"	.....	.....	Dry	.....	.....	.....
29	1	Canadian Steel Corporation.	100 ft. N. of S. road. 2,000 ft. W. of river road	.....	575	1,200	"	.....	.....	Dry	.....	50	Salt at 992 ft.
29	1	Canadian Steel Corporation.	100 ft. S. of N. road. 500 ft. W. of river road	.....	578	1,200	"	.....	.....	Dry	.....	53	Salt at 1,000 ft.
29	1	Canadian Steel Corporation.	100 ft. S. of N. road. 1,000 ft. W. of river road	1921	576	1,200	"	.....	.....	Dry	.....	50	Salt at 1,007 ft.
29	1	Canadian Steel Corporation.	1,000 ft. E. of highway No. 18 800 ft. S. of N. road	1941	583	1,200	Pre-Norfolk	.....	.....	Dry	.....	53	Fresh water at 80 ft. Salt water at 1,000 ft.
5	8	Drake and Walker. Rodgers No. 1.	360 ft. N. of S. line. 300 ft. W. of E. line	1942	605±	1,253	Norfolk	.....	.....	Dry	.....	34	Sulphur water at 181 ft. Salt water at 1,148 and 1,202 ft.

Wells in Rochester Township, Essex County

19	1	Hickey Oil Co. Mrs. Chevalier.	450 ft. N. of S. line. 3,650 ft. W. of E. road	1905	605	1,487	.....	.....	.....	Dry	.....	.....	.....
28	2	J. Mitchell.	400 ft. S. of N. line. 2,000 ft. E. of W. line	1903	617	1,330	Norfolk	.....	.....	Dry	.....	144	Salt water at 1,325 ft.

Wells in Maidstone Township, Essex County

14	2	Bon Jasperson.....	730 ft. N. of S. line..... 1,030 ft. W. of E. road	1934	602	3,516	.....	.....	Dry	.....	100	Mineral water at 105 ft. Salt water at 1,407, 1,448, and 3,000 ft. Gas at 1,379 ft. Oil at 1,380 to 1,385 ft.
12	6	.....	.....	.....	.....	1,465	.....	.....	Dry	.....	95	Water at 275 ft. Salt water at 1,300 ft.
3	N.M.R.	Bon Jasperson..... A. Potter.....	1,000 ft. E. of W. line..... 400 ft. N. of S. road	1932	626	1,450	Norfolk	.....	Dry	.....	108	Fresh water at 100 and 225 ft. Salt water at 1,453 ft. Show oil at 1,280 to 1,295 ft.
283	N.T.R.	Hill.....	Town of Essex.....	1936	636	110	.....	.....	Dry	.....	102	Water well.

Wells in Chatham Township, Kent County

6	1	E. P. Rowe..... A. E. Conliffe No. 1	600 ft. S. of highway No. 2 300 ft. W. of E. line	1940	598	3,312	Kettle Point	.....	Dry	.....	75	Sulphur water at 360 and 475 ft. Gas at 1,100 ft. Oil at 3,340 ft.
6	1	E. P. Rowe..... H. Stewart No. 1.....	1,100 ft. W. of E. road..... 30 ft. N. of S. road	1938	595	412	"	.....	Dry	.....	77	Fresh water at 77 ft. Show gas at 238 to 364 ft. Show oil at 386, 393, and 404 ft.
7	1	E. P. Rowe..... J. Slater No. 1.....	40 ft. E. of W. road..... 1,600 ft. N. of S. road	1938	599	108	"	.....	Dry	.....	67	Show gas at 63 ft.
7	1	E. P. Rowe..... W. Slater No. 1.....	65 ft. E. of centre line... 200 ft. N. of river	1938	599	441	"	.....	Dry	.....	72	Fresh water at 72 ft. Show gas at 123 and 403 ft.
7	1	E. P. Rowe..... A. Rosseel No. 1.....	200 ft. E. of W. line..... 400 ft. S. of N. line	1938	595	431	"	.....	Dry	.....	67	Fresh water at 66 ft. Salt water at 353 and 431 ft. Show oil at 350 and 431 ft. Show gas at 288, 295, 318, and 372 ft.
7	1	E. P. Rowe..... A. Rosseel No. 2.....	200 ft. E. of W. line..... 1,000 ft. S. of N. line	1938	599	453	"	.....	Dry	.....	73	Fresh water at 73 ft. Show gas at 406 ft. Show oil at 253 to 264 ft.

Wells in Chatham Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. or sq. in.	Thickness of drift in feet	Remarks
8	1	E. P. Rowe. G. Warnock No. 1.....	330 ft. E. of W. line..... 50 ft. N. of river	1938	589	446	Kettle Point	.....	.....	Dry	.....	68	Fresh water at 51 and 89 ft. Black salt water at 436 ft. Show gas at 294 to 300, and 402 ft. Show oil at 364 to 378 ft.
9	1	E. P. Rowe. R. Batton No. 1.....	40 ft. E. of W. line..... 100 ft. N. of river	1938	587	493	"	.....	.....	Dry	.....	59	Fresh water at 59 ft. Salt water at 403 and 480 ft. Show gas at 126, 350, 357, and 444 ft.
10	1	L. Smith.....	800 ft. N. of S. road..... 1,000 ft. E. of W. line	1931	.....	93	"	.....	.....	.....	.....	66	.....
10	1	E. P. Rowe. G. McKinlay No. 1.....	100 ft. N. of river..... 200 ft. W. of $\frac{1}{2}$ lot line	1937	587	438	"	.....	.....	Dry	.....	70	Fresh water at 70 ft.
2	2	L. Smith.....	SE. Corner.....	1930	.....	74	"	.....	.....	.....	.....	.....	.....
9	2	E. P. Rowe. F. Weaver.....	50 ft. N. of S. road..... 50 ft. W. of E. road	1937	601	514	"	.....	.....	Dry	.....	67	Fresh water at 67 and 104 ft. Show oil at 387 ft.
1	3	.....	500 ft. N. of S. road..... 1,000 ft. E. of W. road	.....	592	.....	.....	.....	.....	.....	.....	.....	.....
9	3	E. P. Rowe. J. Jinks No. 1.....	200 ft. N. of $\frac{1}{2}$ lot line..... 60 ft. E. of W. line	1937	596	161	Kettle Point	.....	.....	Dry	.....	60	Fresh water at 80 ft.
10	4	.....	2,200 ft. N. of S. road..... 400 ft. E. of W. road	.....	.....	115	"	.....	.....	.....	.....	.....	.....
14	4	L. Smith.....	2,300 ft. N. of S. road..... 800 ft. E. of W. line	1931	.....	92	"	.....	.....	.....	.....	66	.....
18	5	Union Gas Co. of Canada, Ltd., No. 68 W. E. Hunter	517 ft. E. of W. line..... 700 ft. S. of N. road	1942	606	1,820	"	.....	.....	Dry	.....	85	Fresh water at 87 ft. Sulphur water at 674 ft. Salt water at 1,810 ft.

19	6	F. Ogilvie, Northcott No. 1.....	400 ft. N. of S. line, 400 ft. E. of W. line	1936	604	1,800	"	.....	Dry	.....	33	Fresh water at 45 ft. Show oil at 551 and 1,680 ft. Show gas at 1,580 and 1,680 ft.
19	6	Union Gas Co. of Canada, Ltd., No. 62 L. Shaw	1,870 ft. N. of S. road, 275 ft. W. of E. line	1942	603	1,925	"	.....	Dry	.....	60	Fresh water at 60 ft. Sulphur water at 550 ft. Show gas at 1,580 to 1,585 ft.
1	7	.....	2,000 ft. N. of S. road, 100 ft. E. of W. line	1914	.....	595	.....	.....	.....	.....	.....	.....
21	7	Union Gas Co. of Canada, Ltd., No. 40 M. H. Cowan	96 ft. N. of S. road, 392 ft. E. of W. line	1941	600	1,890	"	.....	Dry	.....	62	Fresh water at 55 ft. Sulphur water at 560 ft.
22	7	Union Gas Co. of Canada, Ltd., No. 51 A. and R. A. McFadden	600 ft. W. of E. line, 525 ft. S. of N. road	1942	600	1,080	"	.....	Dry	.....	50	Abandoned. Sulphur water at 545 ft.
23	7	Union Gas Co. of Canada, Ltd., No. 50 R. and V. Mortier	1,180 ft. S. of N. road, 250 ft. E. of W. line	1942	601	1,725	"	1,677-Salina 1,683	43 Med.	.....	54	Salt water at 1,719 ft. Show gas at 1,584 to 1,590 ft.
23	7	Union Gas Co. of Canada, Ltd., No. 53 E. and J. Lang	1,527 ft. E. of W. line, 180 ft. S. of N. road	1942	603	1,732	"	.....	Dry	.....	50	Sulphur water at 547 ft. Salt water at 1,728 ft. Show gas at 1,267 to 1,273 ft., 1,556 to 1,561 ft. Show oil at 1,267 to 1,273 ft.
23	7	Union Gas Co. of Canada, Ltd., No. 48 R. and V. Mortier	865 ft. S. of N. road, 865 ft. W. of E. line	1941	601	1,710	"	1,544 1,550 1,602 1,652	Salina 193 Med.	790	48	Fresh water at 45 ft. Sulphur water at 540 ft. Salt water at 1,704 ft.
23	7	Union Gas Co. of Canada, Ltd., No. 44 R. and V. Mortier	70 ft. S. of N. road, 437 ft. E. of W. line	1941	601	1,624	"	1,550 1,573 1,595 1,613	Guelph 6,377 Med.	850	47	Fresh water at 45 ft. Sulphur water at 537 ft.
21	8	Union Gas Co. of Canada, Ltd., No. 56 E. R. Pelling	850 ft. S. of N. road, 150 ft. E. of W. line	1942	598	1,783	"	.....	Dry	.....	66	Sulphur water at 566 ft. Salt water at 1,775 ft. Show oil at 1,583 to 1,589 and 1,769 to 1,775 ft.
22	8	Union Gas Co. of Canada, Ltd., No. 60 A. Stephens	460 ft. E. of W. line, 53 ft. N. of S. road	1942	601	1,817	"	.....	Dry	.....	51	Fresh water at 50 ft. Sulphur water at 466 ft. Salt water at 1,806 to 1,817 ft.
22	8	Union Gas Co. of Canada, Ltd., No. 46 D. D. Dunlop	635 ft. N. of S. road, 275 ft. W. of E. property line	1941	601	1,833	"	.....	Dry	.....	48	Sulphur water at 557 ft. Salt water at 1,821 ft.
23	8	Union Gas Co. of Canada, Ltd., No. 47 R. E. Cready	3,015 ft. W. of E. road, 245 ft. N. of S. road	1941	603	1,886	"	.....	Dry	.....	51	Sulphur water at 548 ft. Salt water at 1,803 ft.

Wells in Chatham Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
3	9	L. Smith.....	800 ft. S. of N. road, 700 ft. W. of E. line	1931	.....	67	Kettle Point	.....	.....	.....	.....	.....	.....
12	9	Dr. Luke Smith, M. McFadden No. 1.....	625 ft. E. of W. road, 1,380 ft. S. of N. road	1938	586	405	Hamilton	380	Norfolk	.....	.....	45	Fresh water at 52 ft. Salt water at 405 ft. Small oil producer.
12	9	Dr. Luke Smith, M. McFadden No. 2.....	10 ft. E. of W. road, 1,400 ft. S. of N. road	1938	584	420	"	.....	.....	Dry	.....	52	Sulphur water at 420 ft. Salt water at 395 ft.
12	9	Dr. Luke Smith, M. McFadden No. 3.....	25 ft. E. of W. road, 1,980 ft. S. of N. road	1939	586	415	"	415	Norfolk	.....	.....	52	Small producing oil well. Oil at 295 and 415 ft.
12	9	Dr. Luke Smith, Gleason and McFadden No. 1	1,475 ft. S. of N. road, 350 ft. W. of E. road	1939	585	420	"	.....	.....	Dry	.....	45	Fresh water at 50 ft. Sulphur water at 421 ft. Show oil at 405 ft.
16	9	Union Gas Co. of Canada, Ltd., No. 49	880 ft. S. of N. road, 175 ft. W. of E. line	1941	600	1,722	Kettle Point	.....	.....	Dry	.....	110	Sulphur water at 500 ft. Salt water at 1,710 to 1,716 ft.
17	9	Union Gas Co. of Canada, Ltd., No. 35 T. Bissell	731 ft. E. of W. line, 100 ft. S. of N. road	1941	595	1,628	"	1,590 1,596	Guelph	325 Mcf.	720	117	Fresh water at 57 ft. Sulphur water at 480 ft. Show oil at 1,596 to 1,602 ft.
18	9	Union Gas Co. of Canada, Ltd., No. 43 W. S. Clapp	385 ft. S. of N. road, 280 ft. W. of E. road	1941	598	1,626	"	1,515 1,626	Salina Guelph	5 Mcf.	.....	45	Fresh water at 45 ft. Sulphur water at 502 ft. Salt water at 1,619 to 1,626 ft.
18	9	Union Gas Co. of Canada, Ltd., No. 37 S. and B. M. Clapp	1,115 ft. S. of N. road 75 ft. E. of W. line	1941	600	1,861	"	1,458 1,551	"	47 Mcf.	.....	80	Sulphur water at 507 ft. Show oil at 1,546 ft.
19	9	Union Gas Co. of Canada, Ltd., No. 32 W. S. Clapp	400 ft. N. of centre line 75 ft. E. of W. road	1941	595	1,803	"	.....	.....	Dry	.....	57	Fresh water at 57 ft. Sulphur water at 500 ft. Salt water at 1,780 ft. Show gas at 1,426 and 1,542 ft.
2	10	L. Smith.....	NW. Corner.....	1931	.....	82	"	.....	.....	.....	.....	.....	.....
5	10	L. Smith.....	SW. Corner.....	1931	.....	56	"	.....	.....	.....	.....	.....	.....
6	10	L. Smith.....	SE. Corner.....	1931	.....	66	"	.....	.....	.....	.....	45	.....

7	10	L. Smith.....	890 ft. S. of N. road, 1,000 ft. W. of E. line	1931	.....	62	"	.....	.....	.....	47	
10	10	Union Gas Co. of Canada, Ltd., No. 65 W. J. Latimer	1,200 ft. N. of S. road, 50 ft. W. of E. line	1942	585	1,854	"	.....	Dry	.....	44	
12	10	Union Gas Co. of Canada, Ltd., A. C. Arnold No. 1.....	556 ft. E. of W. line, 350 ft. N. of S. road	1940	587	412	Hamilton	404- 408	Norfolk	.....	45	Salt water at 410 ft. Small producing oil well.
12	10	Union Gas Co. of Canada No. 21 R. Myers Estate.....	416 ft. N. of S. line, 40 ft. W. of E. road	1939	589	1,862	Kettle Point	.....	Dry	.....	47	Fresh water at 47 ft. Sulphur water at 460 and 485 ft. Salt water at 1,400 and 1,856 ft. Show oil at 395 ft.
13	10	Union Gas Co. of Canada, Ltd., No. 20 McCreary and Hart	1,100 ft. S. of N. road, 510 ft. E. of centre line	1939	588	1,864	"	1,560	Guelph	140 Mcf.	50	Fresh water at 50 ft. Sulphur water at 445 and 520 ft. Salt water at 1,655 and 1,860 ft. Show oil at 1,575 and 1,670 ft. Sulphur water at 485 ft. Salt water at 1,674 ft. Show gas at 1,445 to 1,465 and 1,601 ft. Show oil at 1,384 ft.
13	10	Union Gas Co. of Canada, Ltd., No. 27 McCreary and Hart	1,475 ft. E. of W. road, 50 ft. S. of N. road	1940	589	1,714	"	.....	Dry	.....	54	Fresh water at 55 and 85 ft. Sulphur water at 500 ft. Salt water at 1,860 ft.
13	10	Union Gas Co. of Canada, Ltd., No. 61 W. T. and J. B. McCreary	2,036 ft. S. of N. line, 760 ft. W. of E. line	1942	588	1,869	"	.....	Dry	.....	55	Fresh water at 55 and 85 ft. Sulphur water at 500 ft. Salt water at 1,860 ft.
13	10	Union Gas Co. of Canada, Ltd., No. 52 R. C. and R. J. Latimer	859 ft. S. of N. road, 400 ft. E. of W. road	1942	587	1,727	"	1,592- 1,596	Salina	36 Mcf.	55	Fresh water at 42 ft. Salt water at 721 ft.
14	10	Union Gas Co. of Canada, Ltd., No. 22 C. Irwin No. 1	2,180 ft. S. of N. road, 525 ft. E. of W. line	1940	590	1,786	"	.....	Dry	.....	56	Fresh water at 85 and 156 ft. Sulphur water at 440 ft. Salt water at 1,630 ft. Show gas at 1,000 ft.
14	10	Union Gas Co. of Canada, Ltd., No. 55 C. Irwin No. 2	1,250 ft. S. of N. road, 470 ft. E. of W. line	1942	588	1,641	"	.....	Dry	.....	60	Fresh water at 59 ft. Sulphur water at 486 ft. Salt water at 1,033 ft. Show gas at 1,463 to 1,469 ft.
15	10	Union Gas Co. of Canada, Ltd., No. 57 A. Britton	1,720 ft. S. of N. road, 60 ft. W. of E. line	1942	590	1,535	"	1,573- 1,583	Guelph	.....	50	Sulphur water at 432 ft.
15	10	Union Gas Co. of Canada, Ltd., No. 63 M. J. Otis	831 ft. S. of N. road, 470 ft. W. of E. line	1942	590	1,638	"	.....	Dry	.....	55	Fresh water at 55 ft. Sulphur water at 490 ft. Show gas at 1,427, 1,534, and 1,536 ft.

Wells in Chatham Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
15	10	Union Gas Co. of Canada, Ltd., No. 39 A. Britton	1,008 ft. S. of N. road..... 1,200 ft. E. of W. line	1942	590	1,628	Kettle Point	.....	.....	Dry	.....	55	Sulphur water at 430 ft. Show gas at 1,411 to 1,417 and 1,536 to 1,542 ft. Show oil at 1,589 to 1,595 ft.
15	10	Union Gas Co. of Canada, Ltd., No. 42 L. Squires	1,825 ft. N. of S. road..... 700 ft. E. of W. line	1941	590	1,640	"	1,472 1,480 1,590	Salina	60 Mcf.	.....	52	Sulphur water at 425 ft. Salt water at 1,638 to 1,640 ft.
16	10	Union Gas Co. of Canada, Ltd., No. 44 J. Mitrovic	700 ft. N. of S. road..... 690 ft. W. of E. line	1942	595	1,674	"	.....	.....	Dry	.....	64	Sulphur water at 465 ft. Salt water at 1,668 ft. Show gas at 1,470 to 1,476 ft. Show oil at 1,650 to 1,655 ft.
16	10	Union Gas Co. of Canada, Ltd., No. 46 J. Mitrovic	1,570 ft. N. of S. road..... 925 ft. W. of E. line	1941	591	1,599	"	1,428 1,537 1,587 1,595	Salina Guelph	165 Mcf. 86 Mcf.	715	59	Sulphur water at 490 ft.
17	10	Union Gas Co. of Canada, Ltd., No. 45 J. Squires	720 ft. N. of S. road..... 310 ft. E. of W. line	1941	593	1,595	"	1,528 1,534 1,540 1,562	"	2,015 Mcf.	810	82	Fresh water at 65 ft. Sulphur water at 460 ft.
17	10	Union Gas Co. of Canada, Ltd., No. 39 Solomon and Richardson	1,140 ft. N. on centre lot line 260 ft. E. of centre line 90°	1941	596	1,621	"	1,541 1,547	Salina	198 Mcf.	715	100	Fresh water at 95 ft. Sulphur water at 500 ft. Salt water at 1,620 ft.
17	10	Union Gas Co. of Canada, Ltd., No. 30 Solomon and Richardson	200 ft. W. of E. line..... 80 ft. N. of S. road	1941	599	1,613	"	1,529 1,592	Guelph	654 Mcf.	.....	55	Fresh water at 55 ft. Sulphur water at 490 and 544 ft.
17	10	Union Gas Co. of Canada, Ltd., No. 33 J. Squires	1,680 ft. N. of S. road..... 115 ft. E. of W. line	1941	592	1,660	"	.....	.....	Dry	.....	85	Fresh water at 80 ft. Sulphur water at 500 ft. Salt water at 1,618 to 1,624 ft.
18	10	Union Gas Co. of Canada, Ltd., No. 34	1,565 ft. N. of S. road.....	1941	* 599	1,673	"	.....	.....	Dry	.....	60	Fresh water at 58 ft. Sulphur water at 500 ft.

Wells in Chatham Township, Kent County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
10	12	Union Gas Co. of Canada, Ltd., No. 28 P. W. Carter.....	1,105 ft. S. of N. road..... 40 ft. E. of W. line	1940	585	1,471	Kettle Point	1,460 1,465 1,468	Guelph	459 Mcf.	730	5	Sulphur water at 515 and 550 ft.
10	12	Union Gas Co. of Canada, Ltd., No. 28 R. G. Carter.....	400 ft. S. of N. road..... 45 ft. E. of W. property line	1940	587	1,625	"	1,442 1,463 1,585 1,592	"	346 Mcf.	705	60	Sulphur water at 516 ft. Salt water at 1,450 and 1,495 ft.
10	12	Union Gas Co. of Canada, Ltd., No. 29 P. W. Carter.....	1,600 ft. S. of N. road..... 100 ft. W. of E. property line	1941	586	1,590	"	1,444 1,580	"	398 Mcf.	715	65	Fresh water at 60 ft. Sulphur water at 602 ft.
10	12	Union Gas Co. of Canada, Ltd., No. 31 J. Richardson.....	50 ft. S. of blind line..... 50 ft. E. of W. line	1941	584	1,600	"	1,460 1,596	"	309 Mcf.	.....	60	Sulphur water at 507 ft.
10	12	Union Gas Co. of Canada, Ltd., No. 7 McCallum No. 1.....	85 ft. N. of S. road..... 65 ft. W. of E. line	1937	585	1,833	"	1,438 1,455	Salina	219 Mcf.	750	55	Fresh water at 55 ft. Sulphur water at 507 and 590 ft. Salt water at 1,670 and 1,805 ft. Show oil at 1,675 ft.
11	12	Union Gas Co. of Canada, Ltd., No. 8 C. Davis No. 1	N.E. Corner.....	1937	588	1,718	"	.....	.....	Dry	.....	60	Fresh water at 60 ft. Salt water at 1,625 ft. Show gas at 1,593 ft.
12	12	Union Gas Co. of Canada, Ltd., No. 11 D. McCallum No. 1.....	2,350 ft. N. of S. road..... 1,100 ft. W. of E. road	1937	588	1,840	"	.....	.....	Dry	.....	50	Show gas at 1,442, 1,465, and 1,578 ft. Show oil at 1,690 ft.
13	12	Union Gas Co. of Canada, Ltd., No. 11	SW. Corner.....	1931	.....	188	"	.....	.....	.....	.....	69	.....
17	12	Union Gas Co. of Canada, Ltd.	750 ft. N. of S. road..... 750 ft. E. of W. line	1930	.....	76	"	.....	.....	.....	.....	59	.....
5	13	Union Gas Co. of Canada, Ltd., O. Dudley No. 1.....	2,200 ft. N. of S. road..... 1,000 ft. E. of W. line	1935	583	2,015	"	.....	.....	Dry	.....	70	Fresh water at 70 ft. Sulphur water at 515 ft. Show oil at 1,620 and 1,740 ft.
5	13	Union Gas Co. of Canada, Ltd., O. Dudley No. 2.....	1,250 ft. N. of S. road..... 50 ft. E. of W. line	1936	583	2,135	"	.....	.....	Dry	.....	65	Fresh water at 60 ft. Salt water at 520 and 2,075 ft.

6	13	Union Gas Co. of Canada, Ltd., No. 4 R. Ewing.....	2,250 ft. N. of S. road..... 100 ft. W. of E. road	1936	585	1,845	"	.....	Dry	.....	80	Fresh water at 60 ft. Sulphur water at 525 ft. Salt water at 1,470 ft. Show gas at 1,455 ft. Show oil at 1,470 ft.
7	13	Union Gas Co. of Canada, Ltd., E. Young	NW. Corner.....	1931	.....	126	"	.....	.....	.....	64	
8	13	Union Gas Co. of Canada, Ltd., No. 14 Johnston Estate	SE. Corner.....	1937	583	1,850	"	1,444 Salina 1,450	417 Mcf.	750	60	Sulphur water at 515 ft. Salt water at 1,500, 1,740, and 1,835 ft.
9	13	Union Gas Co. of Canada, Ltd., No. 13 Brown No. 1.....	1,250 ft. N. of S. road..... 1,000 ft. W. of E. line	1937	586	1,732	"	1,459 1,465 1,470	698 Mcf.	750	60	Fresh water at 95 ft. Salt water at 1,470 ft.
9	13	Union Gas Co. of Canada, Ltd., No. 16 C. Fritz.....	40 ft. S. of N. line..... 70 ft. E. of W. line	1937	585	1,745	"	1,460	93 Mcf.	750	62	Sulphur water at 519 ft. Salt water at 1,425 and 1,734 ft.
10	13	Union Gas Co. of Canada, Ltd., No. 12 Eagleson No. 1	SW. Corner.....	1937	587	1,737	"	1,450 Salina 1,599	484 Mcf.	750	60	Sulphur water at 515 ft. Salt water at 480 ft. Show oil at 1,712 ft.
10	13	Union Gas Co. of Canada, Ltd., No. 15 S. Ewing No. 1.....	1,650 ft. N. of S. road..... 587 ft. W. of E. line	1937	585	1,748	"	1,475 1,600	171 Mcf.	750	60	Fresh water at 60 ft. Sulphur water at 550 ft. Salt water at 1,485 ft.
11	13	Union Gas Co. of Canada, Ltd., No. 3 E. McCallum No. 1	NW. Corner.....	1931	.....	128	"	.....	.....	.....	63	
6	14	Union Gas Co. of Canada, Ltd., No. 3 E. McCallum No. 1	SW. Corner.....	1936	587	3,725	"	.....	Dry	.....	70	Sulphur water at 525 ft. Salt water at 1,520 and 1,845 ft.
7	13	Union Gas Co. of Canada, Ltd., No. 72 J. Moore.....	1,100 ft. S. of N. road..... 75 ft. E. of centre line	1944	584	1,737	"	.....	Dry	.....	70	Sulphur water at 555 ft. Salt water at 1,489 and 1,731 ft. Show of gas at 1,464 ft.
8	13	Union Gas Co. of Canada, Ltd., No. 70 R. Ewing	2,400 ft. N. of S. road..... 75 ft. E. of W. line	1943	583	1,471	"	1,461 Salina	406 Mcf.	578	65	Fresh water at 60 ft. Sulphur water at 517 ft.
8	13	Union Gas Co. of Canada, Ltd., No. 71 A. Cochran.....	1,180 ft. S. of N. road..... 50 ft. E. of centre line	1944	585	1,519	"	.....	Dry	.....	70	Fresh water at 85 and 115 ft. Sulphur water at 535 and 580 ft. Salt water at 1,485 and 1,491 ft. Show of gas at 1,462 and 1,474 ft.
8	13	Union Gas Co. of Canada, Ltd., No. 74 M. Morrison.....	1,200 ft. N. of S. road..... 50 ft. E. of centre line	1944	583	1,481	"	.....	.....	.....	91	Producing gas well.
2	14	Union Gas Co. of Canada, Ltd., No. 73 E. Harper.....	1,114 ft. E. of W. line..... 55 ft. S. of N. road	1944	581	3,700	"	.....	Dry	.....	70	

Wells in Dover Township, Kent County

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
1	1	Universal.....	100 ft. S. of N. line. 1,000 ft. E. of W. line	1921	577	3,305	Hamilton	2,927 3,105	Trenton	80 Mcf.	900	97	Show of oil at 325 ft.
1	1	Inland Oil and Gas Co.....	SE. Corner	1922	576		"						
4	1	Central Development.....	NE. Corner										
5	1	Union Gas Co. of Canada, Ltd.	NE. Corner		577	3,240	"			Dry		85	Fresh water at 75 and 169 ft.
1	2	Central Pipe Line Co., Ltd. J. Jubenville No. 4		1935	578	3,414	"	2,950 3,172	Trenton			83	Sulphur water at 200 and 255 ft. Salt water at 304 and 1,933 ft. Show oil at 3,342 ft.
1	2	Union Gas Co. of Canada, Ltd.	2,000 ft. S. of N. road 100 ft. E. of W. line	1922	574	3,774	"					16	
1	2	Petrol Oil and Gas Co.....	1,200 ft. N. of S. line. 1,020 ft. W. of E. line	1920	577	3,311	"	3,285 2,920	Trenton	16 bbls, 600 Mcf.		93	
1	2	Petrol Oil and Gas Co.....	1,100 ft. N. of S. line. 690 ft. W. of E. line	1920	577	3,300		2,912 3,165	"	1,200 Mcf.		79	Oil at 3,235 to 3,280 ft.
1	2	Petrol Oil and Gas Co.....	420 ft. N. of S. line. 800 ft. W. of E. line		577	3,500	Hamilton			Dry			
1	2	Vacuum Oil and Gas Co.....	2,000 ft. N. of S. line. 750 ft. W. of E. line		575								Abandoned.
2	2	Ajax Oil and Gas Co., Ltd.....	NW. Corner.....	1928	575	3,225	Hamilton	2,905 3,145	Trenton	245 Mcf.	485	85	Salt water at 455, 1,745, and 1,980 ft.
2	2	Ajax Oil and Gas Co., Ltd.....	1,300 ft. S. of N. road 500 ft. W. of E. line	1928	574	3,348	"	2,972 3,185	"	75 Mcf.	630	82	Salt water at 450, 1,710, and 1,960 ft. Abandoned.
2	2	Union Gas Co. of Canada, Ltd.	820 ft. S. of N. road 1,080 ft. W. of E. line	1922	575	3,340	"			Dry			
3	2	Union Gas Co. Test No. 2.....	260 ft. S. of N. road 410 ft. W. of E. line	1929	575	316	Kettle Point					70	
3	2	Union Gas Co. Test No. 4.....	600 ft. S. of N. road 680 ft. W. of E. line	1929	575	291						72	

3	2	Union Gas Co. of Canada, Ltd., 1,340 ft. S. of N. road..... 500 ft. W. of E. line	1918	575	3,330	Hamilton				75	Show gas at 3,005, 3,015, and 3,145 ft.
4	2	Central Development Co.....									
1	3	Union Gas Co. of Canada, Ltd., No. 2			3,770	Hamilton			Dry	75	Show gas at 2,905 ft.
2	3	Union Gas Co. of Canada, Ltd., No. 7	1918	576	3,277	"		Trenton	3,000 Mcf.	70	Oil at 3,200 to 3,275 ft., abandoned.
2	3	Union Gas Co. of Canada, Ltd., No. 10	1919	575	3,315	"		"	200 Mcf. 20 bbls.	92	Abandoned.
2	3	Union Gas Co. of Canada, Ltd., No. 12	1919	576	3,358	"		"	500 Mcf.	75	Salt water at 3,358 ft. Show oil at 3,210 ft., abandoned.
2	3	Union Gas Co. of Canada, Ltd., No. 14	1919	577	3,186	"		"	2,500 Mcf.	85	
2	3	Union Gas Co. of Canada, Ltd., No. 20	1926	577	3,050	"		"	661 Mcf.	80	Fresh water at 78 ft. Sulphur water at 375 ft. Salt water at 520, 1,654, and 1,893 ft.
2	3	Union Gas Co. of Canada, Ltd., No. 21	1929	577	3,700	Kettle Point			Dry	78	Fresh water at 78 ft. Salt water at 370, 1,640, and 1,800 ft. Show gas at 2,935 ft.
2	3	Union Gas Co. of Canada, Ltd., No. 22	1929	577	3,095	Hamilton		Trenton	100 Mcf.	70	Fresh water at 90 ft. Salt water at 410, 900, 1,690, 1,920, 3,068, and 3,090 ft., aban- doned.
3	3	Union Gas Co. of Canada, Ltd., No. 1	1917	575	3,175			"	6,000 Mcf.		Abandoned.
3	3	Union Gas Co. of Canada, Ltd., No. 8	1918	577	3,560	Hamilton			Dry	85	Gas at 2,895, 2,910, and 2,965 ft. Oil at 3,350 ft., aban- doned.
3	3	Union Gas Co. of Canada, Ltd., No. 11	1919	576	3,285	Kettle Point			Dry	100	Show oil at 2,916 to 3,085 ft. Show gas at 3,270 to 3,280 ft.
3	3	Union Gas Co. of Canada, Ltd., No. 13	1919	575	3,000	Hamilton		Trenton	7,700 Mcf.	65	
3	3	Union Gas Co. of Canada, Ltd., No. 15		578	3,540				Dry		
3	3	Union Gas Co. of Canada, Ltd., No. 19	1925	577	3,774	Hamilton			Dry	86	Fresh water at 102 ft. Salt water at 340, 365, 1,660, and 3,745 ft.

Wells in Dover Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield of Mcd. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
3	3	Union Gas Co. Test No. 1.....	2,110 ft. N. of S. road..... 220 ft. E. of W. line	1929	577	267	Kettle Point	.....	.....	.....	.....	82	
3	3	Union Gas Co. Test No. 8.....	500 ft. N. of S. road..... 100 ft. E. of W. line	1929	575	280	.....	.....	.....	.....	.....	75	
3	3	Union Gas Co. Test No. 9.....	1,550 ft. N. of S. road..... 1,180 ft. E. of W. line	1929	575	283	.....	.....	.....	.....	.....	75	
4	3	Union Gas Co. of Canada, Ltd., No. 3	50 ft. N. of S. road..... 800 ft. W. of E. line	.....	577	3,275	Hamilton	.....	.....	Dry	.....	78	
4	3	Union Gas Co. Test No. 3.....	2,500 ft. N. of S. road..... 90 ft. W. of E. line	1929	577	283	.....	.....	.....	.....	.....	84	
4	3	Union Gas Co. Test No. 5.....	2,950 ft. N. of S. road..... 450 ft. W. of E. line	1929	577	281	.....	.....	.....	.....	.....	82	
4	3	Union Gas Co. Test No. 6.....	3,350 ft. N. of S. road..... 760 ft. W. of E. line	1929	576	282	.....	.....	.....	.....	.....	82	
4	3	Union Gas Co. Test No. 7.....	3,725 ft. N. of S. road..... 1,080 ft. W. of E. line	1929	576	281	.....	.....	.....	.....	.....	83	
5	3	Olga Gas and Oil Co. No. 3.....	2,000 ft. N. of S. road..... 1,000 ft. W. of E. line	1929	576	3,313	Hamilton	.....	.....	Dry	.....	.....	Salt water at 900 ft.
7	3	Union Gas Co. of Canada, Ltd., No. 5	SE. Corner	.....	576	.....	.....	.....	.....	.....	.....	.....
4	4	Union Gas Co. of Canada, Ltd., No. 8	1,000 ft. N. of S. road..... 640 ft. E. of W. line	1923	576	3,728	Kettle Point	.....	.....	Dry	.....	96	Fresh water at 85 ft. Salt water at 650 and 1,600 ft.
5	4	R. L. Pattinson No. 4.....	1,000 ft. N. of S. road..... 500 ft. E. of W. line	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	5	Symmes.....	SE. Corner	.....	578	.....	.....	.....	.....	Dry	.....	.....
7	R.F.	E. P. Rowe..... B. Bradley No. 1.....	2,682 ft. W. of E. road..... 97 ft. N. of Thames River	1941	.....	118	Hamilton	.....	.....	.....	.....	102	Gas at 100 and 113 ft.
7	R.F.	E. P. Rowe..... B. Bradley No. 2.....	86 ft. N. of Thames River 962 ft. W. of E. road	1941	.....	302	"	.....	.....	Dry	.....	102	Salt water at 297 ft.

7	R.F.	B. Bradley No. 4.....	1,392 ft. W. of E. road..... 300 ft. N. of Thames River	1941	184	"	.....	Dry	.....	101	Show gas at 109 ft.
7	R.F.	E. P. Rowe..... B. Bradley No. 3	.....	1941	268	"	.....	Dry	.....	102	Salt and sulphur water at 235, 260, and 265 ft.
2	2	Ladd and Knight..... E. Jubenville.....	2,050 ft. S. of N. road..... 50 ft. W. of E. line	1937	574	Hamilton	.....	Dry	.....	70	Fresh water at 235 ft. Sulphur water at 405 ft. Salt water at 425, 1,835, and 1,953 ft. Show gas at 3,115 and 3,123 ft.
12	2	Massey.....	1,960 ft. N. of river road..... 300 ft. W. of E. line	.....	2,324	.....	.....	Dry	.....	.....	.....
1	3	Petrol Oil and Gas Co., Ltd., No. 4	NW. Corner.....	1920	576	3,065	.....	Dry	.....	.....	.....
1	3	Central Pipe Line Co., Ltd., J. Sterling No. 2	NE. Corner.....	1935	577	3,069	Hamilton	2,940-Trenton 3,064	4,000 Mcf.	76	Fresh water at 68 and 478 ft. Salt water at 612, 853, and 1,025 ft.
1	3	Ajax Oil and Gas Co., Ltd., No. 8	540 ft. S. of N. road..... 40 ft. W. of E. line	1934	577	3,037	"	.....	.....	82	Salt water at 395, 422, and 1,935 ft.
1	3	Ajax Oil and Gas Co., Ltd., No. 11	300 ft. W. of E. line..... 240 ft. S. of N. road	1935	575	3,109	"	2,940-Trenton 2,985	408 Mcf.	75	Salt water at 1,920 and 3,109 ft.
2	3	Olga Gas and Oil Co., No. 4....	320 ft. S. of N. road..... 1,000 ft. W. of E. line	1930	575	3,200	"	2,820- 3,070	200 Mcf.	60	Salt water at 460 ft., abandoned.
2	3	Prairie Gas and Oil Co., Ltd., M. Stephens No. 1.....	1,500 ft. S. of N. road..... 750 ft. W. of E. line	.....	.....	.....	.....	.....	.....	.....	.....
2	3	Prairie Gas and Oil Co., Ltd., M. Stephens No. 2.....	2,200 ft. S. of N. road..... 450 ft. W. of E. line	1935	577	3,731	Hamilton	.....	Dry	102	Show gas at 3,531 ft.
2	3	Prairie Gas and Oil Co., Ltd., M. Stephens No. 3.....	1,000 ft. S. of N. road..... 900 ft. E. of W. line	1935	578	3,292	"	2,940-Trenton 3,227 3,260- 3,292	300 Mcf. 100 bbls.	75	Fresh water at 42 ft.
2	3	Raleigh Development Synd. No. 1	1,600 ft. S. of N. road..... 800 ft. W. of E. line	1933	577	3,301	"	3,012- 3,170 3,275- 3,290	635 Mcf. 4 bbls.	96	Salt water at 420 and 1,705 ft.
2	3	Prairie Gas and Oil Co., Ltd., M. Stephens No. 4.....	500 ft. E. of W. line..... 600 ft. S. of N. road	1935	575	3,315	"	3,030	624 Mcf.	89	Fresh water at 85 ft. Salt water at 1,955 ft.

Wells in Dover Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing forma- tion	Yield McF. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
3	3	F. H. Stover and Son No. 1....	3,540 ft. S. of N. road.... 780 ft. E. of W. line	1934	577	.....	Hamilton	.....	.....	3,000 Mcf.	.....	.....
3	3	F. H. Stover and Son No. 2....	4,425 ft. S. of N. road.... 330 ft. W. of E. line	1935	579	3,250	"	.....	.....	Dry	.....	79	Fresh water at 79 ft. Sulphur water at 360 ft.
3	3	F. H. Stover and Son No. 3....	2,670 ft. S. of N. road.... 880 ft. E. of W. line	1935	576	3,203	"	2,911- 2,917	Trenton	500 Mcf.	1,175	87	Sulphur water at 400 ft. Salt water at 1,525 ft.
3	3	Ajax Oil and Gas Co., Ltd., No. 9	3,100 ft. S. of N. road.... 560 ft. E. of W. line	1934	576	2,978	"	2,966- 2,970 2,977- 2,978	"	(?)	1,180	87	Fresh water at 87 ft. Sulphur water at 275, 390, 850, and 965 ft. Producing gas well.
4	3	Olga Gas and Oil Co.....	800 ft. S. of N. road.... 1,000 ft. W. of E. line	1929	577	3,365	.....	2,220- 3,270	"	50 Mcf.	.....	.....	Salt water at 1,815 ft.
5	3	Midwal Oil and Gas Co., Ltd., C. Peltier No. 1	SE. Corner.....	1935	581	3,265	Hamilton	.....	.....	.....	.....	79	Fresh water at 79 ft. Sulphur water at 437 and 452 ft. Salt water at 1,620 ft. Gas at 1,549, 1,574, 1,610, and 3,240, ft. Fresh water at 65 ft. Black water at 450 ft. Show oil at 3,225 ft.
5	3	Prairie Gas and Oil Co., Ltd., H. C. Thomas No. 1	102 ft. S. of river road on W. line; thence 260 ft. at 90 degrees	1938	581	3,274	Kettle Point	2,930 3,137	Trenton	7,500 Mcf.	960	70	
1	4	Ajax Oil and Gas Co., Ltd., No. 3	1,880 ft. N. of S. road.... 570 ft. E. of W. line	1928	575	3,290	Hamilton	2,900- 3,005	"	300 Mcf.	1,180	80	Abandoned.
1	4	Ajax Oil and Gas Co., Ltd., No. 7	50 ft. N. of S. road.... 400 ft. W. of E. line	1934	577	3,181	"	2,910- 3,114	"	400 Mcf.	.....	70	
1	4	Ajax Oil and Gas Co., Ltd., H. Sterling Noy.....	400 ft. N. of S. road.... 1,000 ft. E. of W. line	1935	582	3,130	"	3,115- 3,120	"	1,243 Mcf.	870	75	Fresh water at 40 ft. Salt water at 415 ft.
1	4	Central Pipeline Co., Ltd., J. Sterling No. 1.....	150 ft. N. of S. road.... 1,100 ft. E. of W. line	1935	581	3,025	"	2,989	"	6,000 Mcf.	810	76	Sulphur water at 433 ft.
1	4	Ladd and Knight.....	450 ft. N. of S. road.... 400 ft. W. of E. line	1935	577	3,309	"	3,023	"	4,000 Mcf.	810	76	Sulphur water at 445 ft. Salt water at 790 ft.
1	4	Ajax Oil and Gas Co., Ltd., W. R. Jubenville No. 2.....	385 ft. E. of W. road.... 1,050 ft. N. of S. road	1940	582	3,200	"	2,916- 3,070	"	250 Mcf.	300	83	Fresh water at 85 ft. Black water at 845 and 440 ft. Salt water at 1,114 and 1,910 ft.

2	4	Acme Gas and Oil Co., Ltd., No. 12, 720 ft. N. of S. road, 520 ft. E. of W. line	1929	575	3, 198	"	.....	Dry	.....	75	Show gas at 3,040 ft.
2	4	Acme Gas and Oil Co., Ltd., No. 2, 1,100 ft. N. of S. road, 700 ft. E. of W. line	1930	578	3, 195	"	.....	Dry	.....	73	Salt water at 435 and 1,840 ft.
2	4	Acme Gas and Oil Co., Ltd., No. 3, 400 ft. N. of S. road, 800 ft. E. of W. line	1930	576	3, 180	"	.....	Dry	.....	74	Salt water at 445 and 1,780 ft.
2	4	Ajax Gas and Oil Co., Ltd., No. 4, 1,430 ft. N. of S. road, 400 ft. W. of E. line	1929	577	3, 190	"	3, 075-3, 085	Trenton	1, 216	80	Salt water at 425 and 1,850 ft.
2	4	E. P. Rowe.....	1935	578	3, 275	"	3, 023-3, 100	"	825	73	Fresh water at 70 ft. Oil at 3,100 ft. Salt water at 560 ft.
3	4	Ajax Oil and Gas Co., Ltd., No. 5, 1,580 ft. N. of S. road, 1,070 ft. W. of E. line	1929	578	3, 190	"	.....	Dry	.....	75	Show gas at 3,250 ft.
3	4	Ajax Oil and Gas Co., Ltd., No. 6, 750 ft. N. of S. road, 220 ft. E. of W. line	1929	576	3, 149	"	.....	Dry	.....	78	Show gas at 2,952 ft. Salt water at 435 and 1,850 ft.
11	4	W. C. Bowman.....	1920	580	3, 332	Kettle Point	.....	10 Mcf. 5 bbls.	.....	75	.....
2	5	Central Development Co., No. 2, 2,760 ft. N. of S. road, 150 ft. W. of E. line	1917	576	635	.....	.....	Dry	.....	.....	.....
17	7	E. Coste and Co., Ltd., No. 7, 1,000 ft. N. of S. road, 800 ft. W. of E. line	1924	582	3, 813	Kettle Point	3, 325	Trenton	60 Mcf.	79	Fresh water at 75 ft. Sulphur water at 408 ft. Salt water at 880 ft. Plugged.
17	7	.....	.....	583	.....	.....	.....	.....	.....	.....	.....
7	8	.....	.....	580	.....	.....	.....	Dry	.....	.....	.....
16	8	.....	.....	582	.....	.....	.....	Dry	.....	.....	.....
17	8	.....	.....	583	.....	.....	.....	.....	.....	.....	.....
9	9	.....	.....	581	.....	.....	.....	Dry	.....	.....	.....
16	9	.....	.....	584	.....	.....	.....	Dry	.....	.....	.....
13	10	.....	.....	583	.....	.....	.....	Dry	.....	.....	.....
16	10	.....	.....	582	.....	.....	.....	.....	.....	.....	.....
16	10	.....	.....	583	.....	.....	.....	Dry	.....	.....	.....
18	10	.....	.....	583	.....	.....	.....	Dry	.....	.....	.....
19	10	.....	.....	584	.....	.....	.....	Dry	.....	.....	.....
12	11	Dr. Luke Smith.....	1931	580	71	Kettle Point	.....	Dry	.....	.....	.....

Wells in Dover Township, Kent County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
19	11	Dr. Luke Smith.....	NE. Corner.....	1931	582	278	Hamilton	.....	.....	.....	.....	71	
20	11	Dr. Luke Smith.....	SE. Corner.....	.....	584	.....	.....	.....	.....	Dry	.....	.....
20	11	Dr. Luke Smith.....	NW. Corner.....	.....	583	68	Hamilton	.....	.....	Dry	.....	.....
20	11	Dr. Luke Smith.....	2,000 ft. S. of N. road 200 ft. E. of W. line	.....	583	461	"	.....	.....	.....	.....	57	
14	12	Dr. Luke Smith.....	SE. Corner.....	1931	.....	71	.....	.....	.....	.....	.....	66	
16	12	.....	SW. Corner.....	.....	580	.....	.....	.....	.....	Dry	.....	.....	Two wells.
13	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Two wells.
16	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
18	13	Dr. Luke Smith.....	2,200 ft. N. of S. road, 900 ft. E. of W. line	.....	578	70	Hamilton	.....	.....	.....	.....	70	
20	13	Dr. Luke Smith.....	NE. Corner.....	.....	581	72	"	.....	.....	Dry	.....	67	
24	13	Dr. Luke Smith.....	.....	.....	583	72	Kettle Point	.....	.....	Dry	.....	.....
24	14	Dr. Luke Smith.....	NW. Corner.....	.....	582	.....	Hamilton	.....	.....	Dry	.....	.....	Several wells.
16-18	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
34	W.B.R.	Dr. Luke Smith.....	SE. Corner.....	1931	580	293	Hamilton	.....	.....	.....	.....	64	
35	W.B.R.	Dr. Luke Smith.....	SW. Corner.....	1931	581	60	"	.....	.....	.....	.....	68	
28	B.R.E.	Union Gas Co. of Canada, Ltd., No. 17 Brown.....	75 ft. N. of S. road, 50 ft. W. of E. line	1937	583	1,897	Kettle Point	.....	.....	Dry	.....	68	Fresh water at 65 ft. Sulphur water at 925 ft. Salt water at 1,835 and 1,876 ft. Show gas at 145 to 150 ft.
4	R.R.	Knight, Dobie, Stover and Rawlings J. A. Johnson	250 ft. S. of river road in center of Johnson farm.	.....	582	3,250	Hamilton	.....	.....	Dry	.....	77	Fresh water at 60 ft. Sulphur water at 925 ft. Salt water at 1,690 and 3,160 ft. Show oil at 2,990 ft.

Wells in Raleigh Township, Kent County

4	R.R.	Ajax Oil and Gas Co., Ltd. J. A. Johnson No. 1.....	200 ft. N. of river road... 135 ft. W. of E. line	1939	579	3, 261	"	.....	Dry	.....	71	Show oil at 3,250 ft.
6	Front con-	Union Gas Co. of Canada, Ltd. W. G. Boley	1,925 ft. N. of river road on W. road 660 ft. E. at 90 degrees	1941	577	1, 638	Kettle Point	.....	Dry	.....	76	Fresh water at 65 ft. Salt water at 425 and 460 ft. Salt water at 1,630 ft. Show of gas at 1,585 to 1,590 ft.
3	R.R.	Ajax Oil and Gas Co., Ltd. Johnson No. 2	.....	1936	574	3, 312	Hamilton	.....	1 Mcf.	645	91	Salt water at 530 and 1,081 ft. Gas at 2,989, 3,004, 3,008, 3,016, and 3,032 ft.
1	1	Perdue.....	1,000 ft. S. of N. line... 1,000 ft. E. of W. line	.....	.....	334	Hamilton	.....	Dry	.....	90	Salt water at 330 ft. Show of oil at 185 ft.
7	1	Prairie Gas and Oil Co., Ltd. Rozell No. 1	3,100 ft. S. of N. road... 500 ft. E. of W. road	1937	577	300	Kettle Point	.....	Dry	.....	71	Fresh water at 70 ft.
2	2	Eureka Oil and Gas Co.....	50 ft. S. of N. road... 800 ft. E. of W. line	1920	.....	.....	Hamilton	225- 250	75 bbls.	.....	.....	.....
4	2	W. J. Hussey.....	.....	1921	580	400	"	.....	Dry	.....	60	.....
4	2	W. J. Hussey.....	.....	1921	580	500	"	.....	Dry	.....	85	.....
4	2	E. P. Rowe..... L. Bruette	SE. Corner.....	1937	581	3, 247	Kettle Point	2, 944- 3, 223	4,000 Mcf.	1,200	75	Fresh water at 75 ft. Black water at 480 and 1,710 ft. Show of oil at 3,223 ft.
5	2	E. P. Rowe..... L. Bruette No. 1	NW. Corner.....	1935	580	3, 281	Hamilton	3, 261	"	.....	80	Fresh water at 80 ft. Black water at 450 and 1,670 ft. Oil producer.
5	2	E. P. Rowe..... L. Bruette No. 2	NW. Corner.....	1936	582	3, 281	"	.....	Dry	.....	80	Fresh water at 70 ft. Black water at 420 and 1,680 ft. Show of gas at 3,285 ft.
5	2	E. P. Rowe..... L. Bruette No. 4	75 ft. N. of railway.... 550 ft. W. of well No. 3	1938	583	3, 319	Kettle Point	2, 975- 3, 150	5,000 Mcf.	745	75	Fresh water at 52 ft. Black water at 480 ft. Salt water at 1,870, 3,165, and 3,319 ft. Show of oil at 336 and 3,319 ft.
5	2	Prairie Gas and Oil Co., Ltd. J. S. Thomas No. 2	500 ft. N. of railway.... 250 ft. E. of W. property line	1939	577	3, 283	"	3, 251	200 Mcf.	.....	77	Fresh water at 65 ft. Black water at 450 and 1,680 ft.

Wells in Raleigh Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield of Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
5	2	Knight, Rawlings and Stover... W. Johnson No. 1	1,750 ft. E. of prairie siding crossing 1,420 ft. N. at 90 degrees	1937	581	3,200	Kettle Point	2,920- 2,930	Trenton	900 Mcf.	1,100	70	Fresh water at 65 ft. Black water at 430 and 1,790 ft.
5	Front	Prairie Gas and Oil Co., Ltd. L. Brucette No. 5	470 ft. S. of N. road 420 ft. W. of E. line	1939	581	3,290	"	3,260- 3,268	"	60 bbls.	.....	83	Black water at 620, 1,675, and 1,793 ft. Show of gas at 2,965, 3,000, 3,134, and 3,260 ft.
6	2	E. P. Rowe. D. Crowe	728 ft. S. of N. line. 1,660 ft. E. of Johnson No. 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6	2	Prairie Gas and Oil Co., Ltd. Crowe No. 1	500 ft. N. of railway 200 ft. E. of W. line	1938	578	3,700	.....	.....	.....	Dry	.....	.....	Fresh water at 70 ft. Black water at 1,637 ft. Show of gas at 1,530 ft.
7	2	E. P. Rowe. O. J. Williams	1,350 ft. S. of railway 1,000 ft. E. of W. road	1940	577	3,230	.....	.....	.....	Dry	.....	67	Fresh water at 62 ft. Black water at 350 ft. Salt water at 460 ft.
6	3	E. P. Rowe. A. L. Little No. 1	1,563 ft. S. of railway 370 ft. W. of E. road	1942	.....	332	Kettle Point	.....	.....	Dry	.....	57	Fresh water at 60 ft. Show of oil at 275 to 280 ft.
7	3	Dominion Natural Gas Co., Ltd. O. Williams No. 1	513 ft. W. of E. line 1,000 ft. S. of N. line	1944	.....	3,273	.....	.....	.....	Dry	.....	65	Fresh water at 61 ft. Black water at 420, 665, and 1,805 ft.
7	3	E. P. Rowe. Oliver Williams	2,601 ft. S. of railway 50 ft. E. of W. road	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1-2	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Several wells. Some oil production.
18	8	Olga Gas and Oil Co., No. 5....	N.E. Corner of S. half....	1932	594	1,647	Hamilton	1,570- 1,637	Salina	380 Mcf.	720	96	Fresh water at 96 ft. Salt water at 450 ft.
19	8	Producers Gas Corporation No. 1	SW. Corner.....	1933	592	1,670	"	1,625- 1,660	Guelph	100 Mcf. 50 bbls.	900	87	Salt water at 1,655 ft.
19	8	Producers Gas Corporation No. 2	930 ft. N. of S. road 50 ft. E. of W. line	1933	592	1,670	"	.....	.....	Dry	.....	87	Salt water at 1,655 ft. Show of gas at 1,610 ft.
19	8	Olga Gas and Oil Co., No. 3....	700 ft. N. of S. road 1,000 ft. W. of E. line	1931	593	1,671	"	1,567- 1,645	Salina	1,000 Mcf.	720	94	Salt water at 510, 625, and 1,645 ft.

Wells in Raleigh Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing Mcf. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
1	12	Glenwood Natural Gas Co. No. 74	700 ft. S. of N. road 500 ft. W. of E. line	.....	625	.....	.....	.....	.....	.....	.....	Abandoned.
1	12	Glenwood Natural Gas Co.	600 ft. S. of N. road 900 ft. E. of W. line	.....	622	.....	.....	.....	.....	.....	.....	Abandoned.
1	12	Union Natural Gas Co. No. 173	2,100 ft. S. of N. road 900 ft. E. of W. line	1916	627	1,370	.....	1,250-Salina 1,368-Guelph	.....	362	.....	Abandoned.
2	12	Glenwood Natural Gas Co. No. 79	1,050 ft. N. of S. road 700 ft. E. of W. line	1917	628	1,368	Hamilton	1,240-Salina 1,280	650 Mcf.	.....	75	Abandoned.
2	12	Glenwood Natural Gas Co. No. 76	1,950 ft. S. of N. road 250 ft. E. of W. line	.....	625	.....	"	.....	.....	.....	.....	Abandoned.
2	12	Ajax Oil and Gas Co. Ben Pierce No. 1	360 ft. N. of S. line 360 ft. E. of W. line	1942	.....	1,362	"	.....	Dry	.....	138	Fresh water at 130 ft. Salt water at 1,380 and 1,380 ft.
3	12	Glenwood Natural Gas Co. No. 68	SE. Corner	.....	629	.....	"	.....	.....	.....	.....	Abandoned.
3	12	Southern Ontario Gas Co. No. 1	1,000 ft. N. of S. road 525 ft. E. of W. line	1933	627	1,353	"	1,253-Salina 1,346-Guelph	12 Mcf.	.....	135	Fresh water at 134 ft. Black water at 740 ft. Salt water at 1,352 ft.
4	12	Glenwood Natural Gas Co. No. 21	150 ft. N. of S. road 950 ft. W. of E. line	.....	629	.....	.....	.....	.....	.....	.....	Abandoned.
4	12	Glenwood Natural Gas Co. No. 61	3,200 ft. N. of S. road 100 ft. E. of W. line	.....	627	.....	.....	.....	Dry	.....	.....	Abandoned.
15	12	Southwestern Oil and Gas Lands	.....	.....	.....	350	.....	360 Norfolk	.....	.....	.....	.....
17	12	Union Natural Gas Co. No. 22	SE. Corner	1934	633	1,670	.....	.....	Dry	.....	177	Fresh water at 179 ft. Salt water at 237 ft. Show of gas at 197 and 1,070 ft. Show of oil at 255 and 287 ft.
1	13	Union Natural Gas Co. No. 187	SW. Corner	1918	638	1,395	.....	.....	Dry	.....	.....	Abandoned.
1	13	Union Natural Gas Co. No. 168	2,100 ft. N. of S. road 50 ft. E. of W. line	1916	636	1,384	.....	1,180-Salina 1,372	.....	450	.....	Abandoned.

1	13	Union Natural Gas Co.	1,900 ft. N. of S. road, 100 ft. W. of E. line	632						Abandoned.
1	13	Glenwood Natural Gas Co. No. 87	2,200 ft. N. of S. road, 100 ft. W. of E. line	632				Dry		
1	13	Glenwood Natural Gas Co. No. 1	2,250 ft. N. of S. road, 50 ft. E. of W. line	636	1,369	Hamilton	1,241- 1,365	Salina Guelph		Abandoned.
1	13	Glenwood Natural Gas Co. No. 69	NW. Corner	634				Dry		
2	13	Glenwood Natural Gas Co. No. 64	NW. Corner	631	1,382	Hamilton	1,372	Guelph	225	146
2	13	Glenwood Natural Gas Co. No. 82	NE. Corner	631						
2	13	Glenwood Natural Gas Co. No. 90	2,300 ft. N. of S. road, 800 ft. W. of E. line	635	1,360	Hamilton	1,353	Guelph	325 Mcf.	Salt water at 725 ft.
2	13	Glenwood Natural Gas Co. No. 11	SW. Corner	636						Abandoned.
2	13	Union Natural Gas Co. No. 107	2,100 ft. N. of S. road, 800 ft. W. of E. line	636	1,370		1,230- 1,350	Salina Guelph	490 Mcf.	Abandoned.
3	13	Glenwood Natural Gas Co. No. 89	2,300 ft. S. of N. road, 850 ft. W. of E. line	634				Dry		
3	13	Glenwood Natural Gas Co. No. 80	950 ft. S. of N. road, 50 ft. E. of W. line							
3	13	Glenwood Natural Gas Co. No. 86	250 ft. S. of N. road, 650 ft. W. of E. line	632						Abandoned.
4	13	Glenwood Natural Gas Co. No. 73	NE. Corner	629						
4	13	Barum	1,050 ft. S. of N. road, 200 ft. E. of W. line	632						
5	13	Glenwood Natural Gas Co. No. 76	2,000 ft. S. of N. road, 200 ft. W. of E. line	635						Abandoned.
8	13	Glenwood Natural Gas Co. No. 71	2,050 ft. N. of S. road, 100 ft. W. of E. line	635			1,300- 1,320	Salina	400 Mcf.	Abandoned.
6	13	Glenwood Natural Gas Co. No. 1	SW. Corner	634					Dry	Show of gas at 1,200 ft.
16	13	Dominion Natural Gas Co., Ltd. J. W. Knott No. 1	100 ft. S. of N. road, 400 ft. E. of W. line	1942	1,550	Kettle Point			Dry	Black water at 525 ft. Salt water at 880 and 1,048 ft.
17	13	Mowbray and Monroe J. Boyes No. 1	1,775 ft. N. of S. road, 100 ft. W. of E. line	1939	557	Hamilton			Dry	Salt water at 420 ft.
17	13	Union Gas Co. of Canada, Ltd., No. 28 S. W. Russell No. 1	850 ft. N. of S. road, 1,000 ft. W. of E. line	1935	1,820	"			Dry	Sulphur water at 335 and 585 ft. Salt water at 1,590 and 1,750 ft.

Wells in Raleigh Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
3	14	Glenwood Natural Gas Co. No. 6	350 ft. N. of S. road 850 ft. W. of E. line	1920	638	1,390	Hamilton	1,275-1,390	Salina Guelph	45 Mcf.	.....	.....	Abandoned.
3	14	Glenwood Natural Gas Co. No. 116	SW. Corner.....	.....	639	.....	.....	.....	.....	Dry	.....	.....	Fresh water at 155 ft. Show of gas.
14	14	Burchell Natural Gas and Oil Synd. W. A. Chrysler No. 1	.....	1936	.....	1,565	.....	1,430-1,530	Salina Guelph	.....	400	142	Fresh water at 160 ft. Sulphur water at 750 ft. Salt water at 1,560 ft.
15	14	Dominion Natural Gas Co. No. 8	60 ft. N. of S. road, 2,600 ft. E. of centre line	1930	642	2,065	Hamilton	.....	.....	Dry	.....	175	Sulphur water at 425 ft. Salt water at 1,775 and 1,790 ft. Show of oil at 300 and 1,567 ft. Show of gas at 1,215 ft.
16	14	Union Gas Co. of Canada, Ltd., No. 10	2,175 ft. N. of S. road, 50 ft. E. of W. line	1930	640	1,875	"	.....	.....	Dry	.....	177	Sulphur water at 720 ft. Salt water at 1,630 and 1,825 ft. Show of oil at 490 ft.
18	14	Union Gas Co. of Canada, Ltd., No. 29 S. W. Russell No. 2	N.E. Corner.....	1935	638	1,838	"	.....	.....	Dry	.....	170	Sulphur water at 445 and 740 ft. Salt water at 1,640 and 1,835 ft. Show of gas at 285, 1,065, and 1,605 ft.
12	15	Salina Gas Co., Ltd. A. Pepper No. 1.....	350 ft. N. of S. line, 350 ft. W. of E. line	1937	644	1,562	.....	.....	.....	Dry	.....	145	Fresh water at 140 ft. Sulphur water at 630 and 805 ft. Salt water at 1,562 ft. Show of oil at 1,562 ft.
13	15	Union Gas Co. of Canada, Ltd., No. 43 W. J. Seney No. 1.....	1,400 ft. W. of E. road, 50 ft. N. of Talbot road	1938	643	1,555	Hamilton	1,443-1,550	Salina Guelph	712 Mcf.	440	185	Fresh water at 170 ft. Sulphur water at 250 and 320 ft.
14	15	Union Natural Gas Co. No. 11	900 ft. S. of N. road, 475 ft. E. of centre line	1930	643	1,755	"	.....	.....	Dry	.....	180	Sulphur water at 650 ft. Salt water at 1,750 ft. Show of oil at 300 ft.

14	15	Kent Gas Co. W. J. Seney No. 1.	360 ft. N. of S. road 360 ft. W. of E. line	1940	645	1,557	"	1,536- 1,544	Guelph	31 Mcf.	.....	169	Sulphur water at 205 ft. Salt water at 310 and 1,645 ft.
14	15	Kent Gas Co. W. J. Seney No. 2.	350 ft. N. of S. road 752 ft. W. of E. line	1940	645	1,562	"	.....	.....	Dry	.....	193	Sulphur water at 205 ft. Black water at 310 ft. Salt water at 1,360 ft. Show of gas at 1,555 ft.
15	15	Union Gas Co. of Canada, Ltd., No. 12	1,500 ft. N. of S. road 1,000 ft. W. of E. line	1930	643	1,786	"	.....	.....	Dry	.....	140	Sulphur water at 425 and 820 ft. Salt water at 1,640 and 1,786 ft. Show of gas at 360 and 1,350 ft.
16	15	Union Gas Co. of Canada, Ltd., No. 17	760 ft. N. of S. road 850 ft. W. of E. line	1930	645	1,441	"	1,185- 1,425	Salina Guelph	632 Mcf.	710	185	Fresh water at 195 ft. Sulphur water at 790 ft.
16	15	Union Gas Co. of Canada, Ltd., No. 19	NW. Corner	1931	645	1,647	"	1,425	Salina	140 Mcf.	635	180	Sulphur water at 470 ft. Show of oil at 285 ft.
17	15	Union Gas Co. of Canada, Ltd., No. 40	75 ft. N. of S. road 40 ft. E. of W. line	1938	646	1,550	"	1,397- 1,550	Salina Guelph	3,000 Mcf.	520	182	Fresh water at 240 ft. Sulphur water at 405, 500, and 540 ft.
17	15	Union Gas Co. of Canada, Ltd., No. 25	1,000 ft. N. of S. road 525 ft. W. of E. line	1934	645	1,690	"	.....	.....	Dry	.....	175	Sulphur water at 555 and 620 ft. Salt water at 1,480, 1,590, and 1,680 ft. Show of gas at 1,045 and 1,575 ft. Show of oil at 1,595 ft.
17	15	Union Gas Co. of Canada, Ltd., No. 30	3,200 ft. S. of N. line 300 ft. E. of W. line	1936	644	1,612	.....	1,430- 1,580	.....	Dry	.....	.....	.....
20	15	Union Gas Co. of Canada, Ltd., No. 47	75 ft. S. of N. road 50 ft. E. of W. line	1939	644	1,681	Hamilton	.....	.....	Dry	.....	190	Sulphur water at 550 ft. Show of gas at 1,065 and 1,515 ft.
17	A	Producers Gas Corporation No. 2	SE. Corner	1933	592	1,727	"	.....	.....	Dry	.....	96	Salt water at 430 and 1,685 ft. Show of gas at 1,507 and 1,580 ft. Show of oil at 1,585 and 1,630 ft.
131	N.T.R.	Southern Ontario Gas Co. No. 1	12,000 ft. N. of Talbot road 100 ft. E. of W. line	1930	655	1,913	Kettle Point	1,520- 1,630	Salina Guelph	20 Mcf.	.....	160	Fresh water at 160 ft. Black water at 800 ft. Salt water at 1,913 ft. Show of oil at 1,630 ft. Abandoned.
135	N.T.R.	Gubb and Russel T. C. Warwick No. 1	SW. Corner	1937	649	1,640	.....	.....	.....	Dry	.....	185	Sulphur water at 530 ft.

Wells in Raleigh Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drill- ed	Alti- tude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing forma- tion	Yield Mcf. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
137	N.T.R.	F. S. Rawlings and Associates.. D. A. Gordon No. 1.....	32 ft. N. of Talbot road 182 ft. E. of W. line	1943	649	500	Hamilton	381	Norfolk	6 Mcf.	.....	200	Fresh water at 21 and 170 ft. Show of gas at 455 ft.
137	N.T.R.	F. S. Rawlings and Associates.. D. A. Gordon No. 2.....	200 ft. N. of Talbot road 75 ft. W. of E. line	1943	649	445	"	.....	.....	Dry	.....	200	Fresh water at 170 ft. Black water at 427 ft.
138	N.T.R.	Union Gas Co. of Canada, Ltd., No. 34 G. Fleming.....	350 ft. N. of Talbot road 350 ft. E. of W. road	1937	650	1,554	"	1,537- 1,553	Guelph	.....	575	195	Fresh water at 195 ft. Sulphur water at 285 and 535 ft. Salt water at 1,370 and 1,415 ft. Show of gas at 400 ft.
138	N.T.R.	Union Gas Co. of Canada, Ltd., No. 46 H. M. Fleming No. 1.....	716 ft. N. of Talbot road 316 ft. E. of W. road.....	1939	652	1,585	"	1,566- 1,581	"	Dry	.....	211	Fresh water at 10 ft. Sulphur water at 540 and 530 ft. Show of oil at 1,581 ft.
139	N.T.R.	Gas Producer's Syndicate..... G. L. Fardo No. 5.....	885 ft. N. of S. road..... 471 ft. W. of E. road	1939	652	1,542	"	1,410- 1,542	Salina- Guelph	3,000 Mcf.	475	183	Fresh water at 150 ft. Sulphur water at 355 ft. Salt water at 1,542 ft.
140	N.T.R.	Union Gas Co. of Canada, Ltd., No. 24	NW. Corner.....	1934	647	1,560	"	1,240- 1,560	"	4,772 Mcf.	679	202	Fresh water at 200 ft.
140	N.T.R.	Union Gas Co. of Canada, Ltd., No. 27 J. D. Benedict No. 1.....	1,500 ft. S. of N. road..... 350 ft. W. of E. line	1935	648	1,540	"	1,501- 1,540	Guelph	22,000 Mcf.	665	175	Sulphur water at 585 and 790 ft.
140	N.T.R.	Union Gas Co. of Canada, Ltd., No. 31 J. D. Benedict No. 3.....	2,750 ft. N. of S. road..... 550 ft. E. of W. line	1935	649	1,560	"	1,392- 1,555	Salina- Guelph	13,500 Mcf.	638	195	Fresh water at 190 ft. Sulphur water at 540 ft.
140	N.T.R.	Producers Gas Syndicate No. 1	N.E. Corner.....	1934	646	1,579	"	1,215- 1,562	"	1,700 Mcf.	.....	.....	Sulphur water at 510, 945, and 1,665 ft.
140	N.T.R.	Producers Gas Syndicate No. 2	1,385 ft. S. of N. road..... 250 ft. E. of centre line	1935	647	1,542	"	1,145- 1,542	"	5,500 Mcf.	635	180	Salt water at 522 and 560 ft.
140	N.T.R.	Producers Gas Syndicate No. 3	2,800 ft. S. of N. road..... 250 ft. E. of centre line	1935	648	1,539	"	1,400- 1,539	"	16 Mcf.	638	190	Sulphur water at 535 ft. Salt water at 796 ft.

140	N.T.R.	Gas Producers Co. G. L. Fardo No. 7	885 ft. N. of Talbot road 335 ft. E. of W. line	1940	650	1,533	"	1,398- 1,512	"	1,300 Mef.	210	Fresh water at 205 ft. Black water at 437 and 791 ft.
140	N.T.R.	Gas Producers Co. G. L. Fardo No. 8	740 ft. N. of Talbot road 337 ft. E. of W. line	1941	660	1,516	"	1,397- 1,513	"	1,250 Mef.	143	Fresh water at 190 ft. Salt water at 550 and 710 ft.
140	N.T.R.	Union Gas Co. of Canada, Ltd., No. 49 M. Benedict	1,800 ft. N. of Talbot road 332 ft. W. of E. line	1940	651	1,520	"	1,520	Guelph	1,518 Mef.	198	Fresh water at 195 ft. Sulphur water at 53 and 600 ft., 1,380 ft. Salt water at 1,380 ft. Show of oil at 540 ft.
141	N.T.R.	Union Gas Co. of Canada, Ltd., No. 43 NW. Corner	1934	646	1,538	"	"	1,558	"	8,000 Mef.	190	Fresh water at 185 ft. Sulphur water at 275 ft.
141	N.T.R.	Union Gas Co. of Canada, Ltd., No. 50 M. Lewthwaite	2,700 ft. N. of Talbot road 675 ft. E. of W. line	1940	649	1,520	"	1,520	"	3,688 Mef.	170	Fresh water at 170 ft. Sulphur water at 602 ft.
141	N.T.R.	Union Gas Co. of Canada, Ltd., No. 51 F. E. and L. A. Lewthwaite	1,280 ft. S. of N. road 680 ft. E. of W. line	1940	648	1,524	"	1,460- 1,524	Salina Guelph	528 Mef.	193	Sulphur water at 320, 445, and 645 ft.
141	N.T.R.	Union Gas Co. of Canada, Ltd., No. 52 F. E. and L. A. Lewthwaite	1,300 ft. N. of Talbot road 700 ft. W. of E. line	1940	650	1,520	"	1,517	Guelph	753 Mef.	205	Sulphur water at 505 ft.
142	N.T.R.	Union Gas Co. of Canada, Ltd., No. 15	1,650 ft. S. of N. road 90 ft. E. of W. line	1930	646	1,560	"	1,220- 1,555	Salina Guelph	7,900 Mef.	180	Fresh water at 180 ft. Sulphur water at 425 and 525 ft.
142	N.T.R.	Union Gas Co. of Canada, Ltd., No. 26	2,000 ft. S. of N. road 50 ft. W. of E. line	1934	646	1,551	"	1,215- 1,540	"	14,000 Mef.	182	Sulphur water at 450, 550, and 800 ft.
142	N.T.R.	Union Gas Co. of Canada, Ltd., No. 32 L. B. Little No. 1	2,300 ft. N. of S. road 500 ft. W. of E. line	1937	659	1,532	"	1,409- 1,532	"	24,500 Mef.	190	Sulphur water at 570 ft.
142	N.T.R.	Union Gas Co. of Canada, Ltd., No. 44 R. A. Moore Estate	707 ft. N. of Talbot road 50 ft. E. of centre line	1938	650	1,548	"	1,399- 1,475	Salina	353 Mef.	210	Fresh water at 205 ft. Sulphur water at 585 ft.
143	N.T.R.	Union Gas Co. of Canada, Ltd., No. 33 W. and B. Guyett No. 1	2,900 ft. N. of Talbot road 675 ft. W. of E. line	1937	646	1,570	"	1,475- 1,567	Salina Guelph	5,000 Mef.	180	Sulphur water at 500 ft.
143	N.T.R.	Union Gas Co. of Canada, Ltd., No. 45 M. Crawford No. 1	1,150 ft. N. of Talbot road 45 ft. W. of centre line	1939	648	1,555	"	1,538	Guelph	250 Mef.	185	Sulphur water at 540 and 890 ft. Salt water at 1,555 ft.
144	N.T.R.	Union Gas Co. of Canada, Ltd., No. 38 Ronson No. 1	1,440 ft. S. of N. road 85 ft. E. of W. road	1937	645	1,693	"	.....	.....	Dry	200	Fresh water at 185 ft. Sulphur water at 305 ft. Salt water at 1,540 and 1,637 ft. Show of gas at 1,551 ft.

Wells in Raleigh Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing forma- tion	Yield Mcft. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
144	N.T.R.	Union Gas Co. of Canada, Ltd., No. 37 Guyett No. 1.....	1,100 ft. N. of Talbot road 40 ft. E. of W. road	1937	647	1,773	Hamilton	.....	.....	Dry	.....	175	Sulphur water at 415 and 675 ft. Salt water at 1,745 ft. Show of gas at 265 and 295 ft.
144	N.T.R.	Union Gas Co. of Canada, Ltd., No. 38 F. E. Guyett No. 1.....	90 ft. N. of Talbot road 40 ft. W. of E. line	1938	650	1,538	"	.....	.....	Dry	.....	200	Fresh water at 195 and 230 ft. Sulphur water at 587 and 812 ft. Salt water at 1,580 ft. Show of gas at 1,580 ft.
144	N.T.R.	Union Gas Co. of Canada, Ltd., No. 5	3,730 ft. N. of Talbot road 60 ft. E. of W. line	1930	645	1,745	"	1,538	.....	325 Mcf.	605	195	Sulphur water at 305 ft. Salt water at 740 ft. Show of oil at 440 ft.
144	N.T.R.	Union Gas Co. of Canada, Ltd., No. 6	1,625 ft. N. of Talbot road 60 ft. W. of E. line	1930	649	1,595	"	.....	.....	Dry	.....	181	Salt water at 730, 815, and 1,595 ft. Show of gas at 1,430 and 1,569 ft.
144	N.T.R.	Union Gas Co. of Canada, Ltd., No. 18	800 ft. S. of N. road..... 200 ft. W. of E. line	1930	645	1,669	"	.....	.....	Dry	.....	182	Sulphur water at 200 and 310 ft. Salt water at 1,630 ft. Show of gas at 200 and 310 ft.
145	N.T.R.	Union Gas Co. of Canada, Ltd., No. 3	1,790 ft. N. of Talbot road 40 ft. W. of centre line	1929	651	1,590	"	1,522- 1,651	Guelph	457 Mcf.	643	200	Sulphur water at 305 ft. Salt water at 760 and 1,560 ft.
145	N.T.R.	Union Gas Co. of Canada, Ltd., No. 9	N.E. Corner.....	1930	643	1,553	"	1,430- 1,444	Salina Guelph	1,500 Mcf.	587	200	Fresh water at 198 ft. Sulphur water at 410 and 675 ft. Salt water at 1,573 ft.
146	N.T.R.	Union Gas Co. of Canada, Ltd., No. 39 J. Declute No. 1.....	2,800 ft. N. of Talbot road 50 ft. E. of W. line	1938	645	1,548	"	1,542	Guelph	2,664 Mcf.	430	190	Sulphur water at 300 and 667 ft.
146	N.T.R.	Union Gas Co. of Canada, Ltd., No. 41 N. Declute No. 1.....	1,240 ft. S. of N. road..... 36 ft. W. of centre line	1938	647	1,554	"	1,551	"	1,303 Mcf.	460	182	Fresh water at 175 ft. Sulphur water at 305 ft.
146	N.T.R.	Union Gas Co. of Canada, Ltd., No. 7	4,225 ft. N. of Talbot road 225 ft. W. of E. line	1930	644	1,565	"	1,410- 1,555	Salina Guelph	911 Mcf.	630	195	Sulphur water at 305 ft. Salt water at 720 ft.

146	N.T.R. Union Gas Co. of Canada, Ltd., No. 16	100 ft. N. of Talbot road 60 ft. W. of E. line	1930	648	1,570	"	1,530- 1,557	Guelph	388 Mcd.	620	207	Sulphur water at 290 ft. Salt water at 700 ft.
146	N.T.R. Union Natural Gas Co. No. 1.	2,000 ft. N. of Talbot road 650 ft. W. of E. line	1910	648	.....	.....	1,420- 1,557	.....	1,877 Mcd.	658	.....	Salt water at 1,658 ft.
146	N.T.R. Highbanks Oil and Gas Co. No. 1	SE. Corner	1930	648	1,565	Hamilton	1,423- 1,548	Salina Guelph	690 Mcd.	600	.....	.....
147	N.T.R. Union Gas Co. of Canada, Ltd., No. 42	2,500 ft. S. of N. road	1938	645	1,533	"	.....	.....	Dry	.....	180	Sulphur water at 620 ft. Salt water at 1,530 ft. Show of gas at 1,451 ft.
147	N.T.R. Union Gas Co. of Canada, Ltd., No. 2	300 ft. E. of centre road .. 40 ft. W. of centre line	1929	648	1,565	"	1,432- 1,561	Salina Guelph	5,000 Mcd.	656	195	Fresh water at 190 ft. Sulphur water at 610 and 710 ft.
147	N.T.R. Union Gas Co. of Canada, Ltd., No. 13	35 ft. N. of Talbot road 106 ft. W. of centre line	1930	648	1,574	"	1,425- 1,570	"	1,400 Mcd.	575	190	Sulphur water at 300 and 690 ft.
147	N.T.R. Union Gas Co. of Canada, Ltd., No. 14	350 ft. N. of Talbot road 50 ft. W. of E. line	1930	649	1,580	"	1,543	Guelph	160 Mcd.	603	180	Sulphur water at 570 and 770 ft.
147	N.T.R. Highbanks Oil and Gas Co. No. 2	SW. Corner	1930	649	1,589	"	1,438- 1,584	Salina Guelph	1,080 Mcd.	610	.....	.....
147	N.T.R. American Engineering Co. No. 1	SW. Corner	1930	648	1,560	"	1,420- 1,538	"	6,000 Mcd.	600	195	Fresh water at 195 ft. Salt water at 695 ft.
148	N.T.R. Union Gas Co. of Canada, Ltd., No. 4	1,640 ft. N. of Talbot road 485 ft. W. of E. line	1929	648	1,644	"	.....	.....	Dry	.....	193	Salt water at 710, 936, and 1,620 ft.
151	N.T.R. Burchell Natural Gas Syndicate Burke No. 1	SW. Corner	1936	646	1,545	"	1,479- 1,520	.....	Dry	.....	168	Show of gas at 1,469 ft. Show of oil at 1,516 ft.
158	N.T.R. Union Gas Co. of Canada, Ltd., No. 300	3,000 ft. N. of Talbot road	1938	641	1,480	Kettle Point	.....	.....	Dry	.....	168	Fresh water at 158 ft. Sulphur water at 550 ft. Salt water at 1,480 ft. Show of gas at 1,463 ft.
159	N.T.R. Union Gas Co. of Canada, Ltd., No. 288	75 ft. W. of centre line	1938	642	1,448	"	1,443	.....	146 Mcd. 3 bbla.	.....	158	Sulphur water at 560, 590, and 780 ft.
160	N.T.R. Union Gas Co. of Canada, Ltd., No. 286	75 ft. E. of W. line	1938	642	1,430	"	1,318- 1,425	Salina Guelph	259 Mcd.	490	156	Fresh water at 156 ft. Sulphur water at 525 and 765 ft. Salt water at 885 ft.
160	N.T.R. Union Gas Co. of Canada, Ltd., No. 287	255 ft. N. of Talbot road 125 ft. E. of W. line	1938	641	1,431	"	1,294- 1,528	"	118 Mcd.	337	157	Fresh water at 155 ft. Sulphur water at 465, 585, and 578 ft. Salt water at 1,428 ft. Show of oil at 1,423 ft.
161	N.T.R. Union Natural Gas Co. No. 43	1,700 ft. N. of Talbot road 200 ft. E. of centre line	1909	644	1,399	.....	1,260- 1,399	Salina	500 Mcd.	590	.....	.....
161	N.T.R. Union Gas Co. of Canada, Ltd., No. 310	2,800 ft. N. of Talbot road 200 ft. E. of W. line	1939	642	1,432	Kettle Point	1,290- 1,418	Salina Guelph	208 Mcd.	475	159	Fresh water at 154 ft. Sulphur water at 550 and 790 ft.

Wells in Raleigh Township, Kent County—Concluded

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing forma- tion	Yield McF. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
162	N.T.R.	Union Natural Gas Co. No. 105	900 ft. N. of Talbot road 350 ft. E. of W. line	.....	646	.....	.....	.....	.....	.....	.....	.....
162	N.T.R.	Union Natural Gas Co. No. 245	4,800 ft. N. of Talbot road 100 ft. E. of W. line	1923	641	1,411	Kettle Point	1,270- 1,400	Salina Guelph	66 Mcf.	425	146	Fresh water at 140 ft. Salt water at 500 and 1,411 ft.
163	N.T.R.	Union Natural Gas Co. No. 91	1,500 ft. N. of Talbot road 400 ft. E. of W. line	.....	641	.....	.....	.....	.....	500 Mcf.	.....	.....
163	N.T.R.	Union Natural Gas Co., No. 110	400 ft. S. of N. road..... 400 ft. W. of E. line	1913	645	1,397	.....	.....	Salina	800 Mcf.	599	.....
164	N.T.R.	Union Natural Gas Co., No. 103	2,000 ft. N. of Talbot road 600 ft. E. of W. line	1913	641	1,387	.....	.....	Salina Guelph	780 Mcf.	568	.....
164	N.T.R.	Union Natural Gas Co. No. 293	3,000 ft. S. of N. road..... 85 ft. W. of E. line	1928	640	1,430	Kettle Point	1,270- 1,430	"	398 Mcf.	385	150	Salt water at 765 and 1,410 ft.
164	N.T.R.	Union Gas Co. of Canada, Ltd., No. 309	470 ft. N. of Talbot road 470 ft. W. of E. line	1938	641	1,405	"	1,310- 1,380	"	157 Mcf.	228	155	Suphur water at 535, 700, and 1,405 ft.
137	S.T.R.	F. S. Rawlings and Associates. J. Pardo No. 1.....	350 ft. S. of Talbot road 50 ft. E. of W. line	1942	652	391	Hamilton	385- 389	Norfolk	130 Mcf. 10 bbls.	.....	196	Fresh water at 155 ft.
138	S.T.R.	F. S. Rawlings and Associates. A. C. Pardo No. 1.....	100 ft. N. of Lake Erie.. 400 ft. W. of E. line	1943	650	462	"	.....	.....	Dry	.....	195	Fresh water at 170 ft. Black water at 452 ft.
138	S.T.R.	Ajax Oil and Gas Co., Ltd. P. H. Flook No. 1	NW. Corner.....	1937	650	1,538	.....	1,475- 1,536	.....	17,000 Mcf.	500	195	Suphur water at 271 ft. Salt water at 530 ft.
138	S.T.R.	Lake Shore Syndicate..... A. Pardo No. 1.....	386 ft. S. of Talbot road 333 ft. W. of E. line	1940	653	1,550	Hamilton	.....	.....	Dry	.....	196	Fresh water at 190 ft. Suphur water at 455 ft. Salt water at 1,348 ft. Show of gas at 387 and 430 ft.
139	S.T.R.	Gas Producers Syndicate..... G. L. Pardo No. 4.....	250 ft. N. of lake shore.. 250 ft. W. of E. line	1938	652	1,564	"	1,458- 1,525	Salina Guelph	2,500 Mcf.	490	193	Suphur water at 340 ft. Salt water at 800 ft.
140	S.T.R.	Gas Producers Syndicate..... G. Pardo No. 6.....	350 ft. N. of lake shore.. 360 ft. W. of E. line	1940	651	1,530	"	1,400- 1,530	"	5,200 Mcf.	.....	172	Fresh water at 170 ft. Suphur water at 550 ft.
140	S.T.R.	Union Gas Co. of Canada, Ltd., No. 48 M. Benedict	190 ft. S. of Talbot road 350 ft. W. of centre line.	1939	652	1,521	"	1,400- 1,521	"	4,800 Mcf.	410	170	Fresh water at 160 ft. Suphur water at 540 and 625 ft.

Wells in Romney Township, Kent County

142	S.T.R.	Union Gas Co. of Canada, Ltd., No. 35 G. A. Edwards.....	607 ft. S. of Talbot road, 40 ft. W. of centre line of east half of lot	1937	651	"	1,565	1,415- 1,565	"	4,000 Mcf.	575	185	Sulphur water at 545 and 590 ft.
148	S.T.R.	Highbanks Oil and Gas Co., Ltd.	SW. Corner.....	1931	650	"	1,618			Dry		190	Salt water at 390 and 1,580 ft.
157	S.T.R.	Union Gas Co. of Canada, Ltd., No. 299	335 ft. S. of Talbot road, 250 ft. E. of W. line	1938	644	"	1,479			Dry		164	Sulphur water at 565 and 630 ft. Salt water at 1,473 ft. Show of gas at 1,433 ft.
161	S.T.R.	Union Natural Gas Co. No. 89..	260 ft. S. of Talbot road, 650 ft. E. of W. line	1912	642		1,424	1,310- 1,420	Salina	450 Mcf.	566		
164	S.T.R.	Union Gas Co. of Canada, Ltd., No. 308 Hughtson and Bragg No. 1....	335 ft. S. of Talbot road	1938	641	Estlin Point	1,438	1,293- 1,429	"	310 Mcf.	275	157	Fresh water at 150 ft. Sulphur water at 618 and 698 ft.
6	2	E. P. Rowe..... Orval Crowe No. 2.....	225 ft. E. of W. road 792 ft. S. of N. road..... 600 ft. E. of W. line	1943		"	3,309					78	Black water at 440 ft. Salt water at 1,584 ft. Show of gas at 1,531 ft.

25	2	Bon Jasperson No. 1.....	50 ft. N. of S. road..... 25 ft. W. of centre line	1928	624	Hamilton	1,400	1,265 1,400	Salina	50 bbls. 500 Mcf.	470	216	Fresh water at 180 ft. Black water at 600 ft.
25	2	Bon Jasperson No. 2.....	50 ft. N. of S. road..... 100 ft. E. of W. line	1928	623	"	1,423	1,415 1,375- 1,415	"	20 bbls. 50 Mcf.	470	193	Fresh water at 180 ft. Black water at 600 ft.
25	2	Bon Jasperson No. 3.....	50 ft. N. of S. road..... 100 ft. W. of E. line	1928	624	"	1,429	1,250- 1,400	"	100 Mcf.	470	179	Salt water at 1,429 ft.
30	2	Southern Ontario Gas Co. No. 13, 800 ft. S. of N. road..... 800 ft. E. of W. line	1915	634			1,390						
30	2	Southern Ontario Gas Co. No. 23, 900 ft. S. of N. road..... 900 ft. E. of W. line	1915	633			1,395						
30	2	Southern Ontario Gas Co. No. 3, 900 ft. S. of N. road..... 1,000 ft. E. of W. line		629									Abandoned.
30	2	Southern Ontario Gas Co. No. 4, 1,600 ft. S. of N. road..... 50 ft. E. of W. line	1923	629		Hamilton	1,406	1,145- 1,365	Salina	95 Mcf.	250	150	
30	2	Union Natural Gas Co. No. 130, 1,600 ft. N. of Talbot road 50 ft. W. of E. line	1914	634			1,390	1,180- 1,385	"	1,316 Mcf.	475		Abandoned.
30	2	Union Natural Gas Co. No. 136, 3,200 ft. N. of Talbot road 50 ft. W. of E. line	1914	630			1,400	1,160- 1,390	Salina	1,100 Mcf.	452		Abandoned.
30	2	Union Natural Gas Co. No. 138, 1,600 ft. S. of N. road..... 900 ft. W. of E. line	1914	630			1,400	1,185- 1,396	"	900 Mcf.	453		Abandoned.

Wells in Romney Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude feet above sea level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
30	2	Southern Ontario Gas Co. No. 137	1,700 ft. N. of Talbot road 60 ft. E. of centre line	1914	643	1,363				550 Mcf.	372		
14	3												Two wells.
19	3	E. Coste and Co. No. 3	2,000 ft. N. of S. road 200 ft. E. of W. line	1923	623	3,538	Hamilton	1,250 2,680 3,025	Salina Billings Trenton				Salt water at 630 and 1,400 ft.
21	3												1 well.
26	3	Union Natural Gas Co. No. 294	500 ft. N. of railway 760 ft. E. of W. line	1929	620	1,445	Hamilton	1,300	Salina			168	Fresh water at 165 ft. Salt water at 427 and 745 ft.
29	3	Southern Ontario Gas Co. No. 1	100 ft. N. of S. road 800 ft. E. of W. line	1913	626	1,402				700 Mcf.	500		
30	3	Union Natural Gas Co. No. 77	300 ft. N. of S. road 410 ft. W. of E. line	1909	628	1,400				850 Mcf.	565		
10	4												1 well.
15	4												1 well.
20	4	Southern Ontario Gas Co. E. Hall No. 1	1,000 ft. E. of W. line 1,300 ft. S. of N. line	1936	609	1,440	Hamilton			Dry		147	Black water at 220 and 240 ft. Salt water at 210 ft. Show of gas at 1,262 ft.
23	4	Bondy, O'Brient, Smith, P. Revord	87 ft. S. of N. road 42 ft. E. of W. line		605	252				Dry		147	Fresh water at 147 ft. Salt water at 250 ft.
28	4		SE. Corner		619								Abandoned.
30	4		100 ft. N. of S. road 900 ft. E. of W. line		620								Abandoned.
14	5												1 well.
21	5												1 well.
21	6	E. Coste and Co. No. 2	NE. Corner	1922	607	3,145	Hamilton			Dry		135	Fresh water at 135 ft. Salt water at 580, 772, 1,425, and 3,125 ft.

Wells in Romney Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
178	N.T.R.	Union Natural Gas Co. No. 255	3,334 ft. N. of Talbot road 485 ft. E. of W. line	1925	637	1,374	Hamilton	1,178- 1,322	Salina Guelph	270 Mcf.	.....	169	Salt water at 520 and 680 ft.
178	N.T.R.	Union Natural Gas Co. No. 179	4,800 ft. N. of Talbot road 350 ft. E. of W. line	1917	635	1,362	.....	1,260- 1,358	"	269 Mcf.	530	.....	Abandoned.
178	N.T.R.	Union Natural Gas Co. No. 41	2,400 ft. N. of Talbot road 1,600 ft. E. of W. line	1909	637	1,394	.....	1,145- 1,389	"	3,000 Mcf.	.....	.....	.....
178	N.T.R.	Southern Ontario Gas Co. No. 9	1,160 ft. N. of Talbot road 100 ft. W. of E. line	1930	638	1,349	Hamilton	.....	.....	Dry	.....	180	Fresh water at 180 ft. Black water at 560 ft. Salt water at 1,310 and 1,330 ft. Show of gas at 1,203 ft.
178	N.T.R.	Southern Ontario Gas Co. No. 4	750 ft. N. of Talbot road 500 ft. W. of E. line	.....	638	.....	.....	.....	.....	.....	.....	.....	Abandoned.
178	N.T.R.	Southern Ontario Gas Co. No. 5	2,450 ft. N. of Talbot road 550 ft. W. of E. line	.....	638	.....	.....	.....	.....	.....	.....	.....	Abandoned.
178	N.T.R.	Southern Ontario Gas Co. No. 2	2,800 ft. N. of Talbot road 200 ft. W. of E. line	.....	637	.....	.....	.....	.....	.....	.....	.....	.....
178	S.T.R.	Union Natural Gas Co. No. 40	450 ft. S. of Talbot road 200 ft. E. of W. line	1909	639	1,390	.....	1,212- 1,385	Salina Guelph	8,000 Mcf.	.....	.....	Abandoned.
178	S.T.R.	Southern Ontario Gas Co. No. 1	500 ft. S. of Talbot road 400 ft. W. of E. line	.....	641	.....	.....	.....	.....	.....	.....	.....	Abandoned.
178	S.T.R.	Southern Ontario Gas Co. No. 6	50 ft. S. of Talbot road 600 ft. W. of E. line	.....	639	.....	.....	.....	.....	.....	.....	.....	.....
178	T.R.	Southern Ontario Gas Co. No. 8	1,900 ft. S. of N. road 600 ft. W. of E. line	.....	635	.....	.....	.....	.....	.....	.....	.....	.....
178	T.R.	Southern Ontario Gas Co. No. 3	250 ft. S. of N. road 450 ft. W. of E. line	.....	634	.....	.....	.....	.....	.....	.....	.....	.....
179	N.T.R.	Union Natural Gas Co. No. 276	1,600 ft. S. of N. road 410 ft. E. of W. line	1927	636	1,360	Hamilton	1,200- 1,300	Salina Guelph	398 Mcf.	230	109	Fresh water at 169 ft. Salt water at 660 and 1,357 ft.
179	T.R.	Union Natural Gas Co. No. 278	2,930 ft. S. of N. road 530 ft. W. of E. line	1928	637	1,355	"	1,212- 1,340	"	1,353 Mcf.	217	172	Fresh water at 172 ft. Salt water at 670 ft.

179	N.T.R.	Union Gas Co. of Canada, Ltd., No. 306 R. William	320 ft. W. of E. line.....	1938	636	1,300	"	1,204- 1,294	Guelph	411 Mcf.	228	179	Sulphur water at 350 and 630 ft.
179	N.T.R.	Union Gas Co. of Canada, Ltd., No. 316 L. W. and M. A. Radmore	2, 275 ft. N. along W. line..	1942	635	1,372	"	.....	.....	160 Mcf.	115	172	Fresh water at 174 ft. Sulphur water at 357 and 625 ft.
179	N.T.R.	Union Natural Gas Co. No. 280	560 ft. E. at 90 degrees	1928	635	1,405	"	.....	Salina Guelph	423 Mcf.	208	178	Salt water at 425 and 710 ft.
179	N.T.R.	Union Natural Gas Co. No. 281	50 ft. S. of N. road.....	1928	634	1,360	"	.....	"	460 Mcf.	200	172	Salt water at 435 and 695 ft.
179	N.T.R.	Union Natural Gas Co. No. 218	250 ft. W. of E. line	1914	635	1,393	.....	.....	"	2,000 Mcf.	.....	.....	.....
179	N.T.R.	Union Natural Gas Co. No. 221	700 ft. S. of N. road.....	1917	638	1,340	.....	.....	"	1,800 Mcf.	.....	.....	.....
179	N.T.R.	Union Natural Gas Co. No. 219	1,600 ft. N. of Talbot road 100 ft. W. of E. line	1914	639	1,401	.....	.....	"	2,350 Mcf.	.....	.....	.....
180	N.T.R.	Union Gas Co. of Canada, Ltd., No. 303 B. Fletcher No. 9	1,250 ft. N. of Talbot road 250 ft. E. of W. line	1938	635	1,273	Hamilton	1,140- 1,264	"	623 Mcf.	200	172	Fresh water at 170 ft. Sulphur water at 390 ft. Show of gas at 939 and 1,060 ft.
180	N.T.R.	Union Gas Co. of Canada, Ltd., No. 304 B. Fletcher No. 10	700 ft. N. of Talbot road 650 ft. W. of E. road	1938	635	1,273	"	1,137- 1,254	"	537 Mcf.	165	175	Fresh water at 170 ft. Sulphur water at 405, 600, and 612 ft.
180	N.T.R.	Union Natural Gas Co. No. 274	2,660 ft. N. of Talbot road 625 ft. W. of E. line	1927	635	1,330	"	1,145- 1,247	"	954 Mcf.	230	168	Salt water at 615 and 1,330 ft.
180	N.T.R.	Union Natural Gas Co. No. 279	1,300 ft. S. of N. road.....	1928	639	1,308	"	1,145- 1,250	"	1,414 Mcf.	240	176	Fresh water at 170 ft. Salt water at 470 and 600 ft.
180	N.T.R.	Union Natural Gas Co. No. 208	1,690 ft. N. of Talbot road 305 ft. W. of E. line	1914	638	1,372	.....	.....	"	2,150 Mcf.	.....	.....	.....
180	N.T.R.	Union Natural Gas Co. No. 211	800 ft. N. of Talbot road 200 ft. E. of W. line	1917	638	1,382	.....	.....	"	1,280 Mcf.	.....	.....	.....
180	N.T.R.	Union Natural Gas Co. No. 209	3,350 ft. N. of Talbot road 50 ft. W. of E. line	1915	633	1,380	.....	.....	"	2,823 Mcf.	.....	.....	.....
180	N.T.R.	Union Natural Gas Co. No. 204	200 ft. S. of N. road.....	1909	637	1,378	.....	.....	"	4,000 Mcf.	.....	.....	.....
181	N.T.R.	Union Natural Gas Co. No. 246	290 ft. S. of N. road.....	1938	636	1,275	Hamilton	1,124- 1,378	"	1,555 Mcf.	200	174	Sulphur water at 460 and 574 ft.
181	N.T.R.	Union Gas Co. of Canada, Ltd., No. 305 G. E. Brown No. 3	3,250 ft. N. of Talbot road 150 ft. E. of W. line	1923	636	1,350	"	1,143- 1,254	"	582 Mcf.	253	165	Fresh water at 106 ft. Salt water at 560 and 703 ft.

Wells in Romney Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing Mcf. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
181	N.T.R.	Union Natural Gas Co. No. 23	300 ft. S. of N. road 100 ft. E. of W. line	1908	632	1,225	Hamilton	1,125- 1,220	2,500 Mcf.	.....	.....
181	N.T.R.	Union Natural Gas Co. No. 22	150 ft. S. of N. road 500 ft. E. of W. line	1908	631	.....	.....	1,120- 1,385	4,294 Mcf.	.....	.....
181	N.T.R.	Union Natural Gas Co. No. 180	1,650 ft. S. of N. road 100 ft. W. of E. line	1917	634	1,362	.....	1,130- 1,310	1,653 Mcf.	340	.....
181	N.T.R.	Union Natural Gas Co. No. 226	2,000 ft. S. of N. road 450 ft. W. of E. line	1917	634	1,350	.....	1,150- 1,380	2,463 Mcf.	.....	.....
181	N.T.R.	Union Natural Gas Co. No. 36	3,500 ft. S. of N. road 150 ft. W. of E. line	1909	635	1,255	.....	1,100- 1,245	7,000 Mcf.	.....	.....
181	N.T.R.	Union Natural Gas Co. No. 223	3,600 ft. S. of N. road 500 ft. W. of E. line	1909	635	1,408	.....	1,130- 1,408	7,540 Mcf.	.....	.....
182	N.T.R.	Union Natural Gas Co. No. 270	875 ft. N. of Talbot road 550 ft. E. of W. line	1927	635	1,255	Hamilton	1,158- 1,300	2,500 Mcf.	294	176	Fresh water at 172 ft. Salt water at 610 and 670 ft.
182	N.T.R.	Union Natural Gas Co. No. 238	2,850 ft. N. of Talbot road 550 ft. W. of E. line	1912	634	1,404	.....	1,150- 1,335	1,450 Mcf.	.....	.....
182	N.T.R.	Union Natural Gas Co. No. 240	1,700 ft. S. of N. road 100 ft. W. of E. line	1916	633	1,380	.....	1,140- 1,380	5,337 Mcf.	236	.....
182	N.T.R.	Union Natural Gas Co. No. 241	850 ft. S. of N. road 650 ft. W. of E. line	1917	632	1,385	.....	1,135- 1,385	1,600 Mcf.	.....	.....
182	N.T.R.	Union Natural Gas Co. No. 237	200 ft. S. of N. road 250 ft. W. of E. line	1908	631	1,430	.....	1,118- 1,400	4,000 Mcf.	.....	.....
183	N.T.R.	Union Gas Co. of Canada, Ltd., No. 307 Mrs. A. W. Byrum.....	100 ft. N. of Talbot road 300 ft. E. of W. line	1938	634	1,300	Hamilton	1,165- 1,270	457 Mcf.	160	175	Fresh water at 170 Sulphur water 540 and 605 ft.
183	N.T.R.	Union Natural Gas Co. No. 267	2,400 ft. N. of Talbot road 180 ft. W. of E. line	1927	633	1,316	"	1,155- 1,305	880 Mcf.	285	175	Fresh water at 170 ft. Salt water at 615 and 1,311 ft.
183	N.T.R.	Union Natural Gas Co. No. 298	2,450 ft. N. of Talbot road 100 ft. E. of W. line	1927	634	1,305	"	1,140- 1,300	275 Mcf.	290	179	Fresh water at 172 ft.
183	N.T.R.	Union Natural Gas Co. No. 299	1,155 ft. N. of Talbot road 310 ft. W. of E. line	1927	635	1,332	"	1,160- 1,321	2,000 Mcf.	241	170	Salt water at 680 ft.

183	N.T.R.	Union Natural Gas Co. No. 273	935 ft. N. of S. road..... 315 ft. E. of W. line	1927	632	1,296	"	1,153- 1,275	"	1,473 Mcf.	220	165	Fresh water at 160 ft. Salt water at 600 ft.
183	N.T.R.	Union Natural Gas Co. No. 212	100 ft. S. of N. road..... 250 ft. W. of E. line	1907	632	1,360	"	1,120- 1,360	"	7,000 Mcf.	.....	.....	.....
183	N.T.R.	Union Natural Gas Co. No. 214	1,600 ft. S. of N. road..... 150 ft. W. of E. line	1914	633	1,626	.....	1,160- 1,380	"	1,626 Mcf.	.....	.....	.....
184	N.T.R.	Union Natural Gas Co. No. 251	2,100 ft. S. of N. road..... 290 ft. E. of W. line	1924	633	3,659	Norfolk	1,125- 1,433	"	340 Mcf.	245	165	Fresh water at 160 ft. Salt water at 585, 1,356, 1,433, and 3,653 ft.
184	N.T.R.	Union Natural Gas Co. No. 271	710 ft. N. of Talbot road 600 ft. E. of W. line	1927	636	1,318	Hamilton	1,150- 1,305	"	285 Mcf.	272	175	Salt water at 705 and 1,318 ft.
184	N.T.R.	Union Natural Gas Co. No. 272	2,400 ft. N. of Talbot road 135 ft. E. of W. line	1927	634	1,324	Norfolk	1,152- 1,174	Salina	259 Mcf.	220	180	Fresh water at 173 ft. Salt water at 590 and 1,324 ft.
184	N.T.R.	Union Natural Gas Co. No. 275	770 ft. S. of N. road..... 670 ft. W. of E. line	1927	633	1,284	"	1,140- 1,275	Salina Guelph	564 Mcf.	217	165	Fresh water at 160 ft. Salt water at 595 ft.
184	N.T.R.	Union Natural Gas Co. No. 208	2,260 ft. N. of Talbot road 700 ft. W. of E. line	1908	634	1,420	.....	1,155- 1,365	"	2,500 Mcf.	.....	.....	Show of oil at 1,413 ft.
184	N.T.R.	Union Natural Gas Co. No. 205	100 ft. S. of N. road..... 100 ft. E. of W. line	1911	632	1,390	.....	1,145- 1,370	"	2,480 Mcf.	.....	.....	.....
184	Lake Erie	Glenwood Natural Gas Co. No. 3	200 ft. off shore..... 80 ft. E. of W. line	1913	582	1,345	Hamilton	1,220- 1,300	"	2,100 Mcf.	535	136	.....
185	N.T.R.	Union Natural Gas Co. No. 262	2,400 ft. N. of Talbot road 40 ft. E. of centre line	1927	634	1,340	Norfolk	1,140- 1,285	"	221 Mcf.	207	163	Fresh water at 158 and 170 ft. Salt water at 585 ft.
185	N.T.R.	Union Natural Gas Co. No. 277	1,540 ft. S. of N. road..... 260 ft. W. of E. line	1927	633	1,286	"	1,150- 1,277	"	427 Mcf.	240	157	.....
185	N.T.R.	Union Natural Gas Co. No. 38	150 ft. S. of N. road..... 150 ft. W. of E. line	1909	632	1,387	.....	1,140- 1,375	"	3,500 Mcf.	508	.....	.....
185	N.T.R.	Union Natural Gas Co. No. 43	2,500 ft. N. of Talbot road 400 ft. W. of E. line	1909	634	1,380	.....	1,145- 1,375	Salina Guelph	6,000 Mcf.	528	.....	Abandoned.
185	N.T.R.	Union Natural Gas Co. No. 159	980 ft. N. of Talbot road 200 ft. W. of E. line	1915	635	1,339	.....	1,134- 1,280	Salina	1,049 Mcf.	.....	.....	.....
185	N.T.R.	Southern Ontario Gas Co. No. 1	960 ft. S. of N. road..... 200 ft. E. of W. line	1930	631	1,295	Norfolk	1,128- 1,227	Salina Guelph	139 Mcf.	150	152	Black water at 310 and 500 ft. Salt water at 1,295 ft.
185	N.T.R.	Southern Ontario Gas Co. No. 4	1,550 ft. N. of Talbot road 600 ft. E. of W. line	1927	634	1,405	"	1,128- 1,285	"	328 Mcf.	330	187	Fresh water at 180 ft. Black water at 595 ft.
185	N.T.R.	Southern Ontario Gas Co. No. 21	600 ft. S. of N. road..... 600 ft. E. of W. line	.....	632	.....	.....	.....	.....	.....	.....	.....	Abandoned.

Wells in Romney Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drill- ed	Alti- tude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing forma- tion	Yield McF. or bbla.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
185	N.T.R.	Southern Ontario Gas Co. No. 1	2,300 ft. S. of N. road 450 ft. W. of E. line	1915	634	1,336	.....	1,140- 1,330	Salina Guelph	.....	.....	.....	.....
185	N.T.R.	Southern Ontario Gas Co. No. 6	3,100 ft. S. of N. road 100 ft. E. of W. line	1916	633	1,310	.....	.....	.....	.....	.....	.....	.....
185	N.T.R.	Glenwood Natural Gas Co. No. 1	3,250 ft. S. of N. road 600 ft. E. of W. line	.....	634	1,340	.....	.....	.....	.....	.....	.....	.....
185	N.T.R.	Glenwood Natural Gas Co. No. 4	500 ft. N. of Talbot road 450 ft. E. of W. line	.....	636	.....	.....	.....	.....	.....	.....	.....	.....
186	N.T.R.	Union Natural Gas Co. No. 132	1,280 ft. S. of N. road 55 ft. E. of W. line	1914	632	1,360	.....	1,120- 1,325	Salina Guelph	1,500 Mcf.	455	145	.....
186	N.T.R.	Union Natural Gas Co. No. 259	2,500 ft. N. of Talbot road 50 ft. W. of E. line	1925	633	1,320	Hamilton	1,140- 1,274	"	1,352 Mcf.	263	162	Fresh water at 155 ft.
186	N.T.R.	Union Natural Gas Co. No. 263	900 ft. N. of Talbot road 30 ft. W. of E. line	1927	636	1,287	Norfolk	1,145- 1,263	"	236 Mcf.	250	166	Fresh water at 164 ft. Salt water at 579 and 1,285 ft.
186	N.T.R.	Union Natural Gas Co. No. 264	850 ft. N. of Talbot road 50 ft. E. of W. line	1927	635	1,307	"	1,162- 1,300	"	313 Mcf.	275	165	Fresh water at 165 ft. Salt water at 590 ft.
186	N.T.R.	Union Natural Gas Co. No. 265	2,000 ft. N. of Talbot road 450 ft. E. of W. road	1927	634	1,333	"	1,156- 1,322	"	247 Mcf.	.....	155	Fresh water at 155 ft. Salt water at 610 and 730 ft.
186	N.T.R.	Union Natural Gas Co. No. 75	150 ft. S. of N. road 200 ft. W. of E. line	1910	630	1,391	.....	.....	.....	3,537 Mcf.	575	.....	Abandoned.
186	N.T.R.	Union Natural Gas Co. No. 104	2,700 ft. N. of Talbot road 100 ft. E. of W. line	1913	633	1,363	.....	1,168- 1,390	Salina Guelph	2,300 Mcf.	493	.....	.....
186	N.T.R.	Union Natural Gas Co. No. 131	1,700 ft. N. of Talbot road 50 ft. W. of E. line	1914	635	1,382	.....	1,100- 1,380	"	2,000 Mcf.	482	.....	Abandoned.
186	N.T.R.	Union Natural Gas Co. No. 133	2,200 ft. S. of N. road 50 ft. W. of E. line	1914	632	1,382	.....	1,130- 1,380	"	1,850 Mcf.	464	.....	Abandoned.
187	N.T.R.	Southern Ontario Gas Co. No. 10	800 ft. N. of Talbot road 50 ft. W. of E. line	1927	635	1,302	Norfolk	1,263- 1,290	"	328 Mcf.	267	175	Fresh water at 182 ft. Black water at 307 ft. Salt water at 595 ft.
187	Lake Erie	Wood and Pryor R. Dawson Estate No. 1.....	800 ft. off shore 350 ft. E. of W. line	1940	582	1,290	.....	1,284	Guelph	162 Mcf.	310	114	Fresh water at 133 ft. Black water at 570 and 541 ft.

187	N.T.R.	Southern Ontario Gas Co. No. 11	550 ft. S. of N. road..... 200 ft. E. of W. line	1927	630	1,341	Norfolk	1,183- 1,335	Salina Guelph	414 Mcf.	205	151	Black water at 675 ft.
187	N.T.R.	Southern Ontario Gas Co. No. 12	800 ft. N. of Talbot road 400 ft. E. of W. line	1930	634	1,379	"	1,175- 1,300	"	67 Mcf.	162	167	Black water at 240 and 690 ft. Salt water at 1,379 ft.
187	N.T.R.	Southern Ontario Gas Co. No. 7	900 ft. S. of N. road..... 50 ft. E. of W. line	.....	631	1,327	.....	.....	.....	.....	.....	.....	.....
187	N.T.R.	Southern Ontario Gas Co. No. 6	1,660 ft. S. of N. road..... 50 ft. W. of E. line	.....	632	1,322	.....	.....	.....	5,000 Mcf.	.....	.....	Abandoned.
187	N.T.R.	Southern Ontario Gas Co. No. 5	2,800 ft. S. of N. road..... 500 ft. W. of E. line	.....	633	.....	.....	.....	.....	.....	.....	.....	Abandoned.
187	N.T.R.	Southern Ontario Gas Co. No. 8	2,100 ft. N. of Talbot road 100 ft. E. of W. line	.....	634	1,345	.....	.....	.....	.....	.....	.....	Abandoned.
187	N.T.R.	Southern Ontario Gas Co. No. 4	2,100 ft. N. of Talbot road 50 ft. W. of E. line	.....	635	1,392	.....	.....	.....	.....	.....	.....	Abandoned.
187	N.T.R.	Southern Ontario Gas Co. No. 2	250 ft. N. of Talbot road 150 ft. E. of W. line	.....	635	.....	.....	.....	.....	.....	.....	.....	Abandoned.
187	N.T.R.	Southern Ontario Gas Co. No. 9	50 ft. N. of Talbot road 50 ft. W. of E. line	.....	636	1,358	.....	.....	.....	.....	.....	.....	Abandoned.
188	N.T.R.	Southern Ontario Gas Co. No. 6	325 ft. N. of Talbot road 475 ft. E. of W. line	1923	636	3,560	Norfolk	1,208- 1,378	Salina Guelph	500 Mcf.	.....	165	Fresh water at 165 ft. Salt water at 590, 1,389, and 1,440 ft. Show of oil at 3,560 ft. Abandoned.
188	N.T.R.	Southern Ontario Gas Co. No. 2	1,200 ft. N. of Talbot road 100 ft. W. of E. line	1914	634	.....	.....	1,185- 1,390	"	850 Mcf.	.....	.....	.....
188	N.T.R.	Southern Ontario Gas Co. No. 1	350 ft. N. of Talbot road 400 ft. W. of E. line	.....	634	.....	.....	.....	.....	.....	.....	.....	.....
188	N.T.R.	Southern Ontario Gas Co. No. 38	1,400 ft. N. of Talbot road 1,000 ft. E. of W. line	.....	633	.....	.....	.....	.....	.....	.....	.....	.....
189	N.T.R.	Southern Ontario Gas Co. No. 5	1,800 ft. N. of Talbot road 1,040 ft. E. of W. line	1923	632	1,381	Hamilton	1,210- 1,371	Salina Guelph	105 Mcf.	350	156	.....
189	N.T.R.	Southern Ontario Gas Co. No. 4	1,300 ft. N. of Talbot road 100 ft. W. of E. line	1918	633	1,388	.....	.....	.....	.....	.....	.....	.....
189	N.T.R.	Southern Ontario Gas Co. No. 3	700 ft. N. of Talbot road 1,000 ft. E. of W. line	1917	632	1,390	.....	.....	.....	.....	.....	.....	.....
190	N.T.R.	Southern Ontario Gas Co. No. 2	350 ft. N. of Talbot road 790 ft. E. of W. line	1919	632	1,360	Norfolk	1,180- 1,315	Salina Guelph	350 Mcf.	580	170	Black water at 750 ft. Salt water at 1,420 ft. Show of gas at 1,260 ft.
190	N.T.R.	Southern Ontario Gas Co. No. 3	920 ft. S. of N. road..... 1,000 ft. W. of centre line	1929	632	1,420	Hamilton	.....	.....	Dry	.....	166	Fresh water at 165 ft. Black water at 449 and 965 ft., abandoned.
190	N.T.R.	Southern Ontario Gas Co.	950 ft. S. of N. road..... 100 ft. W. of E. line	1929	632	1,375	Norfolk	1,210- 1,360	Salina Guelph	148 Mcf.	285	159	.....

Wells in Romney Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
190	N.T.R.	Southern Ontario Gas Co.	500 ft. N. of Talbot road 100 ft. W. of E. line	.....	632	.....	.....	.....	.....	.....	.....	.....	.....
190	N.T.R.	Bon Jasperson	2,400 ft. N. of Talbot road 100 ft. W. of E. line	1920	.....	1,380	.....	1,255- 1,386	Salina- Guelph	80 Mcf.	.....	.....	.....
191	N.T.R.	Southern Ontario Gas Co. No. 3	575 ft. N. of Talbot road 100 ft. E. of W. line	1927	631	1,393	Hamilton	1,265	Salina	Dry	.....	190	Black water at 310, 540, and 600 ft. Show of gas at 1,265 ft.
191	N.T.R.	Southern Ontario Gas Co. No. 4	800 ft. S. of N. road 75 ft. E. of W. line	1928	628	1,422	"	.....	.....	Dry	.....	20	Black water at 440 and 750 ft. Salt water at 1,422 ft. Show of gas at 1,282 ft.
191	N.T.R.	Southern Ontario Gas Co.	450 ft. N. of Talbot road 100 ft. W. of E. line	.....	633	.....	.....	.....	.....	.....	.....	.....	Abandoned.
192	N.T.R.	Southern Ontario Gas Co. No. 2	1,000 ft. N. of lake shore 150 ft. W. of centre line	1926	635	1,375	Hamilton	1,233- 1,353	Salina- Guelph	271 Mcf.	460	191	Fresh water at 176 ft. Salt water at 600 ft.
192	N.T.R.	Southern Ontario Gas Co. No. 3	2,800 ft. N. of lake shore 300 ft. W. of centre line	1928	627	1,368	"	1,298- 1,347	"	860 Mcf.	435	200	Black water at 300 and 685 ft.
192	N.T.R.	Southern Ontario Gas Co. No. 4	1,000 ft. S. of N. road 100 ft. E. of W. line	1928	627	1,390	"	1,280- 1,382	"	156 Mcf.	430	195	Black water at 310 and 640 ft.
192	N.T.R.	Southern Ontario Gas Co.	1,600 ft. N. of Talbot road 30 ft. W. of E. line	1928	627	1,405	"	1,265- 1,401	"	156 Mcf.	450	200	Black water at 460 and 740 ft.
193	N.T.R.	Southern Ontario Gas Co. No. 2	500 ft. N. of Talbot road 400 ft. W. of E. line	1926	633	1,365	"	1,220- 1,346	"	97 Mcf.	460	202	Fresh water at 170 ft. Salt water at 610 ft.
193	N.T.R.	Southern Ontario Gas Co. No. 3	2,500 ft. S. of N. road 700 ft. W. of E. line	1928	630	1,374	"	1,231- 1,352	"	2,800 Mcf.	440	192	Black water at 310 and 660 ft.
193	N.T.R.	Southern Ontario Gas Co. No. 4	1,250 ft. S. of N. road 75 ft. E. of centre line	1928	628	1,389	"	1,263- 1,385	"	313 Mcf.	465	195	Black water at 380 ft. Show of oil at 384 ft.
193	N.T.R.	Southern Ontario Gas Co. No. 2	2,400 ft. N. of Talbot road 100 ft. E. of W. line	1928	626	1,389	"	1,285- 1,375	"	17 Mcf.	465	189	Black water at 325 and 500 ft.
194	N.T.R.	Erie Petroleum Ltd. Francis Dawson No. 1	565 ft. N. of Talbot road 20 ft. W. of centre line	1943	631	3,669	.....	1,898	.....	25 Mcf.	.....	.....	Fresh water at 190 ft. Black water at 460 and 597 ft. Salt water at 3,568, 3,642, and 3,666 ft.

194	N.T.R.	Southern Ontario Gas Co. No. 2	650 ft. N. of Talbot road 50 ft. W. of E. line	1928	630	1,372	Hamilton	1,240- 1,365	Salina Guelph	185 Mcd.	420	200	Fresh water at 320 and 600 ft.
196	N.T.R.	Southern Ontario Gas Co. No. 1	1,500 ft. S. of N. road 200 ft. W. of E. line	1929	621	1,449	"	.....	.....	Dry	.....	175	Black water at 480 and 730 ft.
200	N.T.R.	Southern Ontario Gas Co. No. 1	200 ft. N. of Talbot road 50 ft. W. of E. line	1929	619	1,424	"	.....	.....	Dry	.....	.....	Black water at 520 and 715 ft.
207	T.R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Show of gas at 1,414 ft. Several wells. Oil and gas reported.
211	T.R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Nine wells. Four report oil.
212	T.R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	One well.
178	S.T.R.	Glenwood Natural Gas Co. No. 2	320 ft. off shore..... 100 ft. W. of E. line	1913	582	1,336	Hamilton	1,260- 1,336	Salina Guelph	2,750 Mcd.	648	124	Abandoned.
178	S.T.R.	Glenwood Natural Gas Co. No. 4	330 ft. off shore..... 540 ft. W. of E. line	1914	582	.....	"	1,130- 1,303	"	1,450 Mcd.	480	.....	Abandoned.
178	S.T.R.	Glenwood Natural Gas Co. No. 5	90 ft. off shore..... 160 ft. E. of W. line	1915	582	1,280	"	1,120- 1,245	"	3,000 Mcd.	470	118	Abandoned.
178	S.T.R.	Glenwood Natural Gas Co. No. 7	300 ft. off shore..... 480 ft. E. of W. line	1915	582	1,317	"	1,140- 1,310	"	1,310 Mcd.	440	156	Abandoned.
178	S.T.R.	Union Natural Gas Co. No. 283	200 ft. N. of lake shore. 50 ft. E. of W. line	1924	642	1,380	"	1,180- 1,380	"	6,000 Mcd.	.....	188	Salt water at 620, 650, and 1,380 ft.
179	S.T.R.	Union Natural Gas Co. No. 226	450 ft. S. of Talbot road 100 ft. E. of W. line	1915	643	1,394	.....	1,145- 1,375	"	1,000 Mcd.	.....	.....	Abandoned.
179	S.T.R.	Union Natural Gas Co. No. 217	550 ft. S. of Talbot road 460 ft. W. of E. line	1908	643	1,403	.....	1,160- 1,403	"	6,384 Mcd.	.....	.....	Abandoned.
180	S.T.R.	Union Natural Gas Co. No. 206	400 ft. S. of Talbot road 300 ft. W. of E. line	1912	640	1,402	.....	1,110- 1,402	"	3,090 Mcd.	.....	.....	.....
180	S.T.R.	Union Natural Gas Co. No. 210	350 ft. S. of Talbot road 100 ft. E. of W. line	1916	643	1,370	.....	1,120- 1,310	"	2,110 Mcd.	326	.....	.....
181	S.T.R.	Union Natural Gas Co. No. 60	300 ft. S. of Talbot road 200 ft. W. of E. line	1911	642	1,390	.....	1,060- 1,310	"	4,500 Mcd.	538	.....	.....
181	S.T.R.	Union Natural Gas Co. No. 224	350 ft. S. of Talbot road 450 ft. W. of E. line	1911	642	1,380	.....	1,070- 1,380	"	3,925 Mcd.	.....	.....	.....
181	S.T.R.	Union Natural Gas Co. No. 225	400 ft. S. of Talbot road 200 ft. E. of W. line	1915	641	1,396	.....	1,140- 1,396	"	1,000 Mcd.	385	.....	.....
182	S.T.R.	Union Natural Gas Co. No. 239	400 ft. S. of Talbot road 560 ft. W. of E. line	1914	640	1,407	.....	1,150- 1,400	"	1,000 Mcd.	.....	.....	.....
183	S.T.R.	Union Natural Gas Co. No. 213	400 ft. S. of Talbot road 150 ft. E. of W. line	1907	639	1,443	.....	1,160- 1,330	"	2,480 Mcd.	.....	.....	Show of oil at 1,417 ft.

Wells in Romney Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
183	S.T.R.	Union Natural Gas Co. No. 216	500 ft. S. of Talbot road 150 ft. W. of E. line	1917	640	1,338		1,100- 1,285		3,000 Mcf.			
183	S.T.R.	West Petroleums Ltd.	5,900 ft. off shore. 900 ft. E. of W. line	1943		1,285		1,249- 1,280	Salina Guelph	592 Mcf.	280	101	Fresh water at 137 ft. Black water at 515 and 590 ft.
184	S.T.R.	Union Natural Gas Co. No. 207	650 ft. S. of Talbot road 100 ft. E. of W. line	1913	639	1,397		1,140- 1,397	"	2,849 Mcf.	340		
185	S.T.R.	Union Natural Gas Co. No. 58	500 ft. S. of Talbot road 500 ft. W. of E. line	1911	639	1,387		1,140- 1,380	"	3,500 Mcf.	585		
185	S.T.R.	Southern Ontario Gas Co. No. 8	100 ft. S. of Talbot road 50 ft. E. of W. line	1927	637	1,302	Norfolk	1,140- 1,280	"	336 Mcf.	250	186	Fresh water at 186 ft. Black water at 210 ft. Salt water at 600 ft.
186	S.T.R.	Lake Erie Gas Co.		1941	585	1,258							
186	S.T.R.	Union Natural Gas Co. No. 205	540 ft. S. of Talbot road 40 ft. W. of E. line	1929	640	1,331	Norfolk	1,328	Guelph	410 Mcf.	278	190	Fresh water at 75 ft. Salt water at 376, 615, and 1,331 ft.
186	S.T.R.	Union Natural Gas Co. No. 74	1,550 ft. S. of Talbot road 200 ft. W. of E. line	1910	640	1,390				3,099 Mcf.	545		
186	S.T.R.	Union Natural Gas Co. No. 59	500 ft. S. of Talbot road 500 ft. E. of W. line	1911	639	1,345		1,100- 1,335	Salina Guelph	5,500 Mcf.	558		
186	S.T.R.	Union Natural Gas Co. No. 76	550 ft. S. of Talbot road 200 ft. E. of W. line	1911	638	1,390				3,500 Mcf.	575		
187	S.T.R.	Southern Ontario Gas Co. No. 1	500 ft. S. of Talbot road 150 ft. W. of E. line		638	1,378						168	
187	S.T.R.	Southern Ontario Gas Co. No. 3	550 ft. S. of Talbot road 200 ft. E. of W. line		638	1,375							
188	S.T.R.	Union Natural Gas Co. No. 206	615 ft. S. of Talbot road 60 ft. W. of E. line	1927	640	1,362	Norfolk	1,100- 1,336	Salina Guelph	1,325 Mcf.		172	Fresh water at 170 ft. Salt water at 620 ft.
188	S.T.R.	Union Natural Gas Co. No. 113	700 ft. S. of Talbot road 400 ft. W. of E. line	1913	640	1,401		1,200- 1,375	"	320 Mcf.	514		
188	S.T.R.	Union Natural Gas Co. No. 134	50 ft. S. of Talbot road 100 ft. W. of E. line	1914	636	1,392		1,185- 1,390	"	650 Mcf.	476		Abandoned.

188	S.T.R.	Southern Ontario Gas Co. No. 5	450 ft. S. of Talbot road 950 ft. E. of W. line	1923	639	1,382	Norfolk	1,190- 1,370	"	370 Mcf.	455	171	
188	S.T.R.	Southern Ontario Gas Co. No. 3	500 ft. S. of Talbot road 150 ft. E. of W. line	.....	637	.....	.....	.....	.....	.....	.....	.....	.....
189	S.T.R.	Southern Ontario Gas Co. No. 2	600 ft. S. of Talbot road 600 ft. E. of W. line	1915	637	1,402	.....	.....	.....	.....	.....	.....	.....
189	S.T.R.	Southern Ontario Gas Co. No. 1	500 ft. S. of Talbot road 700 ft. W. of E. line	1913	637	1,380	.....	.....	.....	.....	.....	.....	.....
190	S.T.R.	Southern Ontario Gas Co. No. 1	500 ft. N. of lake shore. 150 ft. W. of E. line	1919	637	1,379	Norfolk	1,170	Salina	360 Mcf.	.....	172	
190	S.T.R.	Southern Ontario Gas Co.	500 ft. S. of Talbot road 700 ft. E. of W. line	.....	637	.....	.....	.....	.....	.....	.....	.....	.....
190	S.T.R.	Southern Ontario Gas Co. No. 2	50 ft. S. of Talbot road 200 ft. E. of W. line	.....	634	.....	.....	.....	.....	.....	.....	.....	.....
191	S.T.R.	Southern Ontario Gas Co.	90 ft. N. of lake shore. 700 ft. E. of W. line	1923	634	1,375	Norfolk	1,160- 1,360	Salina Guelph	375 Mcf.	475	178	Black water at 425 ft.
191	S.T.R.	Southern Ontario Gas Co. No. 1	100 ft. N. of lake shore. 100 ft. W. of E. line	1923	637	1,285	"	1,145- 1,275	"	1,480 Mcf.	470	172	Water at 385 and 570 ft.
191	S.T.R.	Southern Ontario Gas Co. No. 2	50 ft. N. of lake shore. 485 ft. E. of W. line	1923	637	1,375	"	1,175- 1,350	"	475 Mcf.	460	190	
192	S.T.R.	Southern Ontario Gas Co. No. 1	60 ft. N. of lake shore. 450 ft. E. of W. line	1924	638	1,365	.....	1,195- 1,354	"	305 Mcf.	490	190	
192	S.T.R.	Southern Ontario Gas Co.	50 ft. N. of lakeshore... 215 ft. W. of E. line	1924	638	1,372	Norfolk	1,204- 1,360	"	270 Mcf.	470	.....	Salt water at 560 ft.
192	S.T.R.	Southern Ontario Gas Co.	50 ft. N. of lake shore. 75 ft. E. of centre line	1924	639	1,365	"	1,195- 1,355	"	388 Mcf.	.....	196	Black water at 340 and 425 ft.
193	S.T.R.	Southern Ontario Gas Co. No. 1	60 ft. N. of lakeshore... 385 ft. W. of E. line	1924	627	1,374	Hamilton	1,215- 1,364	"	171 Mcf.	490	180	Water at 440 and 570 ft.
193	S.T.R.	Southern Ontario Gas Co. No. 3	75 ft. N. of lake shore. 285 ft. W. of centre line	1926	626	1,355	"	1,220- 1,335	"	313 Mcf.	460	190	Water at 500 and 630 ft.
194	S.T.R.	Southern Ontario Gas Co. No. 1	75 ft. S. of Talbot road 200 ft. W. of E. line	1926	630	1,351	"	1,216- 1,336	"	383 Mcf.	460	195	Water at 540 and 630 ft.
194	S.T.R.	Southern Ontario Gas Co.	80 ft. N. of lake shore. 200 ft. W. of E. line	1927	627	1,381	"	1,270- 1,345	"	14 Mcf.	.....	194	Fresh water at 175 ft. Black water at 510 and 698 ft. Salt water at 1,381 ft.
178	Lake Erie	Dominion Natural Gas Co., Ltd., No. 11	800 ft. off shore..... 651 ft. E. of W. line	1941	585	1,279	"	1,156- 1,260	"	420 Mcf.	258	125	Black water at 390 and 600 ft.
179	Lake Erie	Glenwood Natural Gas Co. No. 8	280 ft. off shore..... 420 ft. E. of W. line	1916	582	1,295	"	1,110- 1,291	"	260 Mcf.	410	.....	Salt water at 1,295 ft.

Wells in Camden Gore Township, Kent County

A	2	E. F. Johnson..... H. E. Peers No. 1.....	100 ft. S. of N. line..... 120 ft. W. of E. road	1936	576	620	Kettle Point	.....	.....	Dry	.....	114	Fresh water at 14, 114, and 130 ft. Black water at 617 ft. Show of gas at 114 and 130 ft.
4	4	E. F. Johnson..... F. Bishop No. 1.....	30 ft. N. of S. road..... 500 ft. E. of railroad	1936	574	629	"	.....	.....	Dry	.....	114	Fresh water at 14, 114, and 130 ft. Black water at 629 ft.
29	4	Union Gas Co. of Canada, Ltd., No. 103 Dawn D. Runnings.....	1, 044 ft. S. of N. road..... 440 ft. W. of E. line	1940	596	1, 980	"	.....	.....	Dry	.....	55	Fresh water at 52 ft. Sulphur water at 610 and 645 ft.
1	1	G. E. Willis..... H. Dickson No. 1	.....	1940	.....	255	.....	.....	.....	Dry	.....	77	Fresh water at 9 and 55 ft.
4	2	Union Gas Co. of Canada, Ltd., No. 18 G. Lawrence No. 1.....	767 ft. S. of N. line..... 54 ft. W. of E. road	1939	595	1, 866	Kettle Point	.....	.....	Dry	.....	63	Sulphur water at 530 and 560 ft. Salt water at 1,765 and 1,863 ft.
2	3	Dr. Lake Smith.....	NE. corner of SW. $\frac{1}{4}$ of lot	1931	605	157	"	.....	.....	.....	.....	51	.....
2	4	.....	SE. Corner.....	.....	605	.....	.....	.....	.....	.....	.....	.....	.....
7	4	L. Lawson.....	NW. Corner.....	1936	604	720	Kettle Point	.....	.....	Dry	.....	57	.....
2	5	.....	700 ft. S. of N. line..... 2, 000 ft. W. of E. line	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	5	.....	200 ft. N. of S. line..... 1, 000 ft. W. of E. line	.....	605	.....	.....	.....	.....	Dry	.....	.....	.....
10	7	Union Gas Co. of Canada, Ltd., Mrs. A. Coke No. 1.....	75 ft. N. of S. line..... 50 ft. W. of E. line	1939	610	1, 835	Kettle Point	.....	.....	Dry	.....	45	Sulphur water at 535 ft. Salt water at 1,455 and 1,824 ft. Show oil at 1,624 to 1,630 ft.
3	8	Union Gas Co. of Canada, Ltd., No. 23 J. P. F. Williams.....	984 ft. N. of S. line..... 50 ft. W. of E. road.....	1940	606	1, 822	"	.....	.....	Dry	.....	30	Fresh water at 30 ft. Sulphur water at 500 ft. Salt water at 1,204 and 1,820 ft.
6	9	Union Gas Co. of Canada, Ltd., No. 129 R. and D. Adkin.....	1, 437 ft. S. of N. road..... 1, 018 ft. W. of E. road	1944	598	1, 630	"	.....	.....	Dry	.....	18	.....
10	9	Union Gas Co. of Canada, Ltd., No. 102 B. Sager No. 1.....	65 ft. S. of N. line..... 150 ft. W. of E. line	1939	615	1, 879	"	.....	.....	Dry	.....	42	Fresh water at 42 ft. Sulphur water at 610 and 660 ft. Salt water at 1,480 ft. Show oil at 1,509 to 1,616 ft. Show gas at 1,555 to 1,609 ft.

Wells in Camden Gore Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcd. or bbla.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
10	9	Crestmetal No. 1.....	850 ft. S. of N. road..... 1,800 ft. W. of E. line	.....	618	.....	.....	.....	.....	.....	.....	.....	.....
5	10	Union Gas Co. of Canada, Ltd., No. 130 J. E. and N. C. Snider.....	75 ft. E. of W. road..... 50 ft. S. of N. road	1944	612	1,765	.....	.....	.....	Dry	.....	.....	.....
6	10	Union Gas Co. of Canada, Ltd., No. 126 A. Tiffin.....	3,110 ft. W. along river road 225 ft. N. at 90° of N. limit of river road	1944	606	1,690	Kettle Point	.....	.....	.....	.....	.....	.....
6	10	Union Gas Co. of Canada, Ltd., No. 107 W. Skinner.....	1,476 ft. E. of W. road..... 112 ft. S. of river road	1941	616	1,722	"	1,445- 1,590	Salina	223 Mcd.	716	35	Fresh water at 95 and 125 ft. Sulphur water at 457 ft.
7	10	Union Gas Co. of Canada, Ltd., No. 109 R. and M. Emery.....	406 ft. S. of N. road..... 325 ft. W. of E. line	1942	611	1,883	"	.....	.....	Dry	.....	35	Sulphur water at 465 ft. Salt water at 1,821 ft. Show gas at 1,490 ft. Show oil at 1,629 to 1,635 ft.
6	11	Union Gas Co. of Canada, Ltd., No. 127 A. Hopper.....	44 ft. N. of S. road..... 87 ft. W. of projection of mid lot line in lot 5	1944	617	1,821	"	.....	.....	Dry	.....	58	.....
9	10	Union Gas Co. of Canada, Ltd., No. 105 A. Brooks.....	75 ft. W. of E. road..... 50 ft. N. of S. line	1941	623	1,809	"	.....	.....	Dry	.....	34	Fresh water at 34 ft. Sulphur water at 430 ft.
10	10	Union Gas Co. of Canada, Ltd., No. 104 A. Brooks.....	90 ft. S. of N. line..... 80 ft. E. of centre line	1941	617	1,781	"	.....	.....	Dry	.....	41	Sulphur water at 590 ft. Salt water at 1,635 ft. Gas at 1,462 and 1,599 ft.
5	11	Beattie and McGaffey..... B. Lloyd No. 1	NW. Corner.....	1936	615	343	"	.....	.....	Dry	.....	27	Fresh water at 24 ft.
6	11	Roy McGaffey..... Angus McDonald No. 2.....	400 ft. N. of S. road..... 600 ft. W. of E. line	1935	.....	365	"	.....	.....	Dry	.....	45	Fresh water at 40 and 80 ft.
5	12	Union Gas Co. of Canada, Ltd., No. 108 L. Tiffin.....	1,200 ft. S. of N. road..... 75 ft. E. of W. road	1941	612	1,691	"	.....	.....	Dry	.....	30	Sulphur water at 540 ft. Salt water at 1,669 to 1,675 ft.
6	12	Union Gas Co. of Canada, Ltd., No. 112 K. Orr.....	100 ft. E. of W. road..... 50 ft. S. of N. road	1942	616	1,522	"	.....	.....	Dry	.....	42	Fresh water at 60 ft. Sulphur water at 473 ft. Salt water at 1,270 ft.

8	12	Ogletree and Shaffer.....	1,200 ft. S. of N. line 2,200 ft. W. of E. line	1927	625	455	"	.....	Dry	28	Show oil at 445 to 455 ft.
1	13	Kent Oil Co. J. McDonald No. 1.....	1,310 ft. W. of E. road 1,825 ft. N. of S. road	1941	614	408	Hamilton	.....	.....	68	Fresh water at 60 ft. Fresh water at 43 ft.
1	13	Stanley and McCre J. McDonald No. 2.....	560 ft. N. of highway No. 21 450 ft. E. of W. line*	1942	.....	405	.....	.....	Dry	70	Fresh water at 50 ft.
1	13	Stanley and McCre J. McDonald No. 3.....	340 ft. W. of E. road* 181 ft. N. of highway No. 21	1942	.....	380	.....	.....	Dry	51	Fresh water at 52 ft. Salt water at 244 ft.
2	13	Stanley and McCre F. Cryderman No. 1.....	243 ft. W. of E. line* 201 ft. S. of N. line	1942	.....	388	Hamilton	.....	Dry	54	.....
2	13	Kent Oil Syndicate A. Wilcox No. 5.....	447 ft. W. of E. road* 1,279 ft. S. of N. line	1942	.....	405	"	.....	Dry	67	.....
2	13	Kent Oil Syndicate H. H. Wilcox No. 1.....	2,950 ft. N. of S. road 410 ft. W. of E. road	1941	616	310	"	298 Norfolk	60 bbls.	57	.....
2	13	Kent Oil Syndicate H. H. Wilcox No. 2.....	1,130 ft. N. of S. road* 400 ft. E. of W. road	1941	.....	391	.....	.....	Dry	60	Fresh water at 40 ft.
2	13	Kent Oil Syndicate H. H. Wilcox No. 3.....	379 ft. S. of N. line 1,233 ft. W. of E. road	1941	616	378	.....	300 Norfolk	4 bbl.	69	Fresh water at 63 ft.
2	13	Kent Oil Syndicate H. H. Wilcox No. 4.....	601 ft. W. of E. road 770 ft. S. of N. line	1942	616	395	Kettle Point	.....	Dry	69	Fresh water at 41 and 69 ft.
2	13	Patrick Fitzpatrick A. Lawrence.....	502 ft. W. of E. line* 109 ft. N. of S. line	1941	616	325	Hamilton	.....	Dry	52	Gas at 117 ft. Oil at 303 ft.
4	13	Eagle Oil and Gas Co. No. 4.....	NE. Corner	1925	622	619	"	.....	.....	52	Show gas at 112 ft.
4	13	Eagle Oil and Gas Co. No. 5.....	900 ft. S. of N. road 200 ft. W. of E. line	1925	620	619	"	.....	Dry	58	Show gas at 217 to 233 ft.
4	13	Eagle Oil and Gas Co. No. 6.....	SE. Corner	1925	623	385	"	.....	Dry	47	.....
4	13	Eagle Oil and Gas Co. No. 7.....	200 ft. N. of S. line 2,100 ft. E. of W. line	.....	624	393	.....	.....	Dry	57	Fresh water at 34 ft. Salt water at 312 ft.
4	13	Stanley and McCre J. McEwen No. 1.....	186 ft. S. of N. line* 555 ft. E. of W. road	1942	.....	400	Hamilton	.....	Dry	62	Fresh water at 42 ft. Salt water at 293 ft.
4	13	Stanley and McCre J. McEwen No. 2.....	190 ft. S. of N. line* 1,053 ft. E. of W. road	1943	.....	340	.....	.....	Dry	50	.....
5	13	Eagle Oil and Gas Co. No. 1.....	400 ft. N. of S. line 1,300 ft. E. of W. line	1927	623	353	Hamilton	.....	Dry	44	Show oil at 270 and 395 ft.
5	13	Eagle Oil and Gas Co. No. 2.....	400 ft. N. of S. line 2,200 ft. E. of W. line	1927	620	398	"	.....	Dry	44	.....
5	13	Eagle Oil and Gas Co. No. 3.....	300 ft. S. of N. road 1,000 ft. E. of W. line	.....	617	456	Kettle Point	.....	Dry	.....	.....

Wells in Camden Gore Township, Kent County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
5	13	Vacuum Gas and Oil Co. No. 1	250 ft. S. of N. road. 2,200 ft. W. of E. line	1927	623	333	Hamilton	.....	.....	Dry	.....	50	Show oil at 285 ft. Water at 306 ft.
5	13	Vacuum Gas and Oil Co. No. 2	700 ft. N. of S. line. 2,100 ft. W. of E. line	1927	621	391	"	.....	.....	Dry	.....	54	Show oil at 298, 336, and 378 ft., abandoned.
5	13	Vacuum Gas and Oil Co. No. 3	900 ft. S. of N. road. 1,800 ft. E. of W. line	1927	615	388	Kettle Point	.....	.....	Dry	.....	43	Show gas at 285 and 375 ft.
5	13	Ajax Oil and Gas Co., Ltd., No. 1	SE. Corner	1925	624	597	Hamilton	.....	Hamilton 580 Norfolk	25 bbls.	.....	40	Salt water at 400 ft.
5	13	Ajax Oil and Gas Co., Ltd., No. 3	600 ft. S. of N. road. 1,500 ft. W. of E. line	.....	621	.....	.....	.....	.....	.....	.....	.....	.....
5	13	Ajax Oil and Gas Co., Ltd., No. 4	200 ft. N. of S. line. 2,000 ft. W. of E. line	.....	621	.....	.....	.....	.....	.....	.....	.....	.....
5	13	Ajax Oil and Gas Co., Ltd., No. 5	200 ft. N. of S. line. 1,400 ft. W. of E. line	.....	621	.....	.....	.....	.....	.....	.....	.....	.....
5	13	Ajax Oil and Gas Co., Ltd., No. 6	850 ft. S. of N. road. 1,300 ft. W. of E. line	.....	621	.....	.....	.....	.....	.....	.....	.....	.....
5	13	Ajax Oil and Gas Co., Ltd., No. 7	250 ft. N. of S. road. 1,100 ft. W. of E. line	.....	629	.....	.....	.....	.....	.....	.....	.....	.....
5	13	Ajax Oil and Gas Co., Ltd., No. 9	100 ft. N. of S. line. 850 ft. W. of E. line	1927	620	389	Kettle Point	.....	.....	Dry	.....	30	.....
6	13	Ajax Oil and Gas Co., Ltd., No. 8	800 ft. S. of N. line. 2,000 ft. W. of E. line	1927	618	425	Hamilton	.....	.....	Dry	.....	45	.....
6	13	Ajax Oil and Gas Co., Ltd., No. 10	200 ft. N. of S. road. 1,500 ft. E. of W. line	1927	621	405	"	.....	.....	Dry	.....	.....	Show oil at 285 and 385 ft.
6	13	Ajax Oil and Gas Co., Ltd., No. 11	100 ft. N. of S. road. 2,400 ft. W. of E. line	.....	620	.....	.....	.....	.....	.....	.....	45	.....
1	14	Kent Oil Syndicate	344 ft. N. of highway No. 21*	1942	.....	385	Hamilton	.....	.....	Dry	.....	71	Fresh water at 50 ft.
1	14	F. Mason No. 2	401 ft. W. of town line	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	14	G. E. Willis	1,150 ft. E. of W. road	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	14	H. Dickson No. 1	960 ft. N. of S. road	1940	619	285	"	.....	.....	Dry	.....	77	Fresh water at 9 and 55 ft.

1	14	G. E. Willis..... H. Dickson No. 2.....	100 ft. E. of W. road..... 1,840 ft. N. of S. road.....	1941	617	406	"	.....	.....	75	Fresh water at 60 ft. Salt water at 400 ft.
1	14	G. E. Willis..... H. Dickson No. 3.....	380 ft. N. of S. line*..... 190 ft. E. of W. line.....	1941	615	399	"	.....	.....	65	Fresh water at 42 ft.
1	14	Kent Oil Syndicate..... F. Mason No. 1.....	211 ft. S. of W. line..... 987 ft. E. of W. line.....	1941	617	355	"	Dry	.....	72	Fresh water at 62 ft.
2	14	Kent Oil Syndicate..... A. Lawrence No. 3.....	1,279 ft. S. of N. road*..... 667 ft. E. of W. line.....	1942	.....	395	"	Dry	.....	61	Fresh water at 42 ft.
2	14	Kent Oil Syndicate..... A. Lawrence No. 2.....	680 ft. S. of N. line..... 21 ft. E. of W. line.....	1941	.....	370	"	.....	.....	70	Fresh water at 42 ft. Salt water at 298 ft.
2	14	Stanley and McCrie..... A. Lawrence No. 1.....	875 ft. E. of W. road..... 2,425 ft. N. of S. road.....	1941	614	305	"	298 303	Norfolk	68	.....
5	14	Vacuum Gas and Oil Co. No. 4.....	SW. Corner.....	1926	623	394	"	.....	.....	59	Show oil at 322 and 302 ft.
5	14	Vacuum Gas and Oil Co. No. 5.....	860 ft. N. of S. line..... 1,200 ft. E. of W. line.....	.....	624	.....	.....	.....	.....	.....	.....
6	10	Union Gas Co. of Canada, Ltd., No. 117 C. E. Arnold.....	117 ft. W. of E. line..... 100 ft. N. of river road.....	1943	612	1,687	Kettle Point	.....	221 Mcf.	31	.....

* Location from driller's application form, Natural Gas Commissioner's Office, Toronto.

Wells in Camden Township, Kent County

9	1	G. E. Willis..... Taylor Estate No. 1.....	150 ft. S. of N. line..... 168 ft. W. of E. line.....	1938	617	428	Hamilton	.....	.....	80	Fresh water at 60 ft. Show oil at 356 ft.
10	1	G. E. Willis..... Vanhorne No. 2.....	210 ft. E. of W. line..... 80 ft. S. of N. line.....	1938	617	384	"	.....	.....	81	Fresh water at 55 ft. Oil shows at 309, 336, and 359 ft.
10	1	G. E. Willis..... Vanhorne No. 3.....	1,360 ft. S. of N. road..... 560 ft. W. of E. line.....	1938	616	413	"	.....	.....	97	Fresh water at 60 ft.
5	2	M. Stanley..... A. Baxter No. 1.....	441 ft. N. of S. line..... 714 ft. W. of E. line.....	1938	.....	462	Kettle Point	.....	.....	68	Fresh water at 8 ft. Show oil at 388 ft.
8	2	.....	NW. Corner.....	.....	612	420	"	.....	.....	.....	.....
9	2	A. E. Roth..... D. Wallace No. 4.....	1,260 ft. NW. of NE. road..... 5,475 ft. NE. of NW. road.....	1938	620	418	.....	Norfolk	.....	128	Fresh water at 65 ft. Salt water at 338 to 343 ft.
9	2	A. E. Roth..... D. Wallace No. 5.....	900 ft. NW. of NE. road..... 5,070 ft. NE. of NW. road.....	1938	613	418	Hamilton	.....	.....	45	Fresh water at 95 ft. Salt water at 370 ft.
9	2	Dr. Goodheart..... D. Wallace No. 6.....	1,780 ft. NW. of NE. road..... 3,890 ft. NE. of NW. road.....	1939	609	400	Kettle Point	.....	.....	52	Fresh water at 60 ft. Black salt water at 338 ft.

Wells in Camden Township, Kent County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
9	2	E. A. Roth. D. Wallace No. 1.	510 ft. S. of N. line. 328 ft. W. of E. line	1938	616±	386	.....	308	Norfolk	10 bbls.	.....	70	Fresh water at 65 ft. Salt water at 308 ft.
9	2	E. A. Roth. D. E. Wallace No. 2.	405 ft. S. of N. line. 1,236 ft. W. of E. line	1938	616±	430	Hamilton	.....	.....	Dry	.....	112	Fresh water at 60 ft. Salt water at 480 ft.
9	2	E. A. Roth. D. E. Wallace No. 3.	40 ft. S. of N. line. 120 ft. W. of E. line	1938	616±	340	Kettle Point	312	Norfolk	10 bbls.	.....	70	Fresh water at 57 ft. Salt water at 312 ft.
10	2	Kent Oil Syndicate. W. Cryderman No. 1.	456 ft. N. of S. road. 435 ft. E. of W. line	1942	616±	395	Hamilton	.....	.....	Dry	.....	75	Fresh water at 57 ft.
10	2	Kent Oil Syndicate. W. Cryderman No. 2	.....	1942	616±	390	"	.....	.....	Dry	.....	75	Fresh water at 51 ft.
11	2	G. E. Willis. A. Park No. 1.	600 ft. N. of S. road. 200 ft. W. of E. line	1940	620	292	"	.....	.....	Dry	.....	68	Fresh water at 51 ft.
6	3	Union Gas Co. of Canada, Ltd., No. 68 H. W. Boyle.	489 ft. E. of W. line. 75 ft. S. of N. road	1942	612	1,869	Kettle Point	.....	.....	Dry	.....	58	Fresh water at 55 ft. Sulphur water at 335 ft. Salt water at 1,033 ft. Show oil at 335 to 341 ft. Show gas at 1,097 to 1,703 ft.
4	4	Union Gas Co. of Canada, Ltd., No. 67 H. Gibson.	775 ft. N. of S. road. 420 ft. W. of E. line	1942	606	1,328	"	.....	.....	Dry	.....	50	Sulphur water at 432 ft. Salt water at 1,011 and 1,097 ft.
5	4	Union Gas Co. of Canada, Ltd., No. 64 C. Ross.	47 ft. N. of S. road. 1,080 ft. E. of W. line	1942	606	1,797	"	.....	.....	Dry	.....	50	Show gas at 1,574 ft.
1	5	Union Gas Co. of Canada, Ltd., No. 58 C. W. Adkin.	1,200 ft. S. of N. road. 500 ft. E. of W. road	1942	605	1,810	"	.....	.....	Dry	.....	49	Fresh water at 48 ft. Sulphur water at 544 ft.
2	5	.....	NW. Corner	.....	.....	569	"	.....	.....	Dry	.....	.....	.....
6	A	.....	NE. Corner	.....	610	415	"	.....	.....	Dry	.....	.....	.....
16	B	A. R. Nelson. J. Daley No. 1.	100 ft. S. of N. line. 100 ft. W. of E. line	1937	615	445	Hamilton	.....	.....	Dry	.....	79	Fresh water at 8 and 45 ft. Salt water at 442 ft.

Town of Thamesville					613	385	Kettle Point						
"					615	443	Hamilton			Dry			Show oil at 340 ft., (Big Lime).
"					603	442	Kettle Point			Dry			Show oil at 359 to 431 ft. (Big Lime).
11	1	Stanley and McOrle, F. Houston No. 1.....	298 ft. W. of E. line..... 328 ft. S. of N. line	1943	615	422	Hamilton			Dry		81	Fresh water at 56 and 79 ft. Show of gas at 324 ft. Show of oil at 343 ft.

Wells in Tilbury East Township, Kent County

1	2	Jack Perdu..... R. C. Church No. 1.....	30 ft. S. of N. road..... 300 ft. E. of W. road.....	1935	582	279				Dry		96	Fresh water at 91 ft. Salt water at 276 ft.
3	2	Trudell.....	100 ft. S. of N. line..... 50 ft. W. of centre line	1918	578	3,290	Hamilton			Dry			
5	2		SW. Corner.....		580		"			Dry			
6	2	Central Development Co.....	NE. Corner.....		577		"						
1	3	Union Natural Gas Co. No. 6..	NE. Corner.....	1917	578	3,740	"			Dry			
4	3		1,600 ft. S. of N. road..... 600 ft. E. of W. line		582					Dry			
13	3		NE. Corner.....		578		Hamilton			Dry			
8	7	Union Gas Co. of Canada, Ltd. R. Farquharson	60 ft. S. of blind line... 60 ft. W. of E. line	1939	595	1,515				Dry		138	Fresh water at 120 ft. Superior water at 530 ft. Salt water at 1,510 ft.
19	7	Eugene Coste and Co.....	NE. Corner.....	1924	595	3,588	"			Dry		123	Fresh water at 125 ft. Salt water at 690, 766, and 838 ft.
1	8												4 wells.
2	8		SW. Corner.....		595	1,460	Hamilton	1,419- 1,435	Guelph				2 wells.
3	8											125	Fresh water at 95 ft. Salt water at 540 ft.
3	8	Jack Perdu..... J. Williams No. 1.....	500 ft. S. of N. road..... 1,600 ft. E. of W. road	1937	592	1,460	Hamilton	1,435	Guelph	50 Mcf. 7 bbls.			5 producing oil wells.
4	8												Abandoned.
5	8	Stover and Rawlings..... F. Campbell No. 1.....	1,200 ft. N. of S. road..... 500 ft. E. of W. line	1937	599	1,430	Hamilton	1,345	Guelph	20 Mcf.		127	

Wells in Tilbury East Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
2	9												5 producing oil wells.
3	9												5 producing oil wells.
4	9												3 producing oil wells.
4	9			1906					Salina Guelph	50 bbls.			
5	9	Marshal Oil Co.		1906	600		Hamilton			30 bbls.			3 wells, some oil production.
6	9	Drake and Walker T. Moffatt No. 1	700 ft. N. of S. road 50 ft. W. of E. line	1936	603	1,441	"	1,434	Guelph	30 Mcf. 7 bbls.	240	138	Fresh water at 133 ft. Salt water at 828 ft. Black water at 1,347 ft.
6	9	Drake and Walker T. Moffatt No. 2	80 ft. N. of S. road 1,710 ft. W. of road between lots 6 and 7	1937	602	1,454	"			Dry		170	Fresh water at 140 ft. Salt water at 371 and 1,452 ft. Show of oil and gas at 1,378 ft.
23	9			1907		270	"	250-270	Norfolk				6 wells.
3	10												18 wells.
4	10												1 well.
5	10												Abandoned.
10	10	Union Natural Gas Co. No. 202											Abandoned.
11	10	Union Natural Gas Co. No. 163	SE. Corner		612								
12	10	Union Natural Gas Co. No. 188	1,200 ft. N. of S. road 200 ft. W. of E. line	1918	611	1,400		1,235-1,390	Salina Guelph	155 Mcf.		148	
2	11												1 well.
8	11												2 wells abandoned.
9	11	Glenwood Natural Gas Co. No. 1	NW. Corner	1922	614	1,308	Hamilton	1,290-1,285	Salina	500 Mcf.		149	
9	11	Glenwood Natural Gas Co. No. 2	SW. Corner	1922	618	1,365	"	1,250-1,345	Salina Guelph	325 Mcf.		168	Abandoned.

9	11	Glenwood Natural Gas Co. No. 3	1,860 ft. S. of N. road. 100 ft. E. of W. line	1922	616	1,342	"	1,235- 1,335	"	1400 Mcf.	432	154	
9	11	Glenwood Natural Gas Co. No. 4	1,225 ft. N. of S. road. 100 ft. E. of W. line	1922	617	1,370	.....	1,240- 1,375	Guelph	117 Mcf.	.....	163	Abandoned.
10	11	Union Natural Gas Co. No. 109	1,100 ft. N. of S. road. 200 ft. E. of W. line	1921	618	1,408	Hamilton	1,340- 1,376	"	125 Mcf.	.....	155	Water at 375 and 700 ft.
10	11	Union Natural Gas Co. No. 200	100 ft. S. of N. road. 500 ft. W. of E. line	1921	613	1,359	"	1,200- 1,330	Salina- Guelph	325 Mcf.	310	151	Water at 678 ft.
10	11	Union Natural Gas Co. No. 201	1,600 ft. N. of S. road. 150 ft. W. of E. line	1922	615	1,400	.....	1,195- 1,365	"	112 Mcf.	325	.....
10	11	Union Natural Gas Co. No. 176	1,300 ft. S. of N. road. 200 ft. E. of W. line	1917	613	1,346	.....	1,195- 1,340	"	620 Mcf.	452	.....
11	11	Union Gas Co. of Canada, Ltd., No. 302	50 ft. N. of S. road. 500 ft. E. of W. line	1938	612	1,390	Hamilton	.....	.....	Dry	.....	152	Fresh water at 150 ft. Sulphur water at 350 and 675 ft. Salt water at 1,375 ft. Show of gas at 1,247 ft.
11	11	Union Natural Gas Co. No. 195	2,100 ft. S. of N. road. 800 ft. E. of W. line	1921	615	1,393	"	1,211- 1,375	Salina- Guelph	284 Mcf.	.....	150	Water at 350 and 700 ft.
11	11	Union Natural Gas Co. No. 178	50 ft. S. of N. road. 600 ft. E. of W. line	1917	612	1,331	.....	1,195- 1,315	"	520 Mcf.	460	.....
12	11	Union Natural Gas Co. No. 18	1,400 ft. N. of S. road. 100 ft. W. of E. line	1907	617	1,474	.....	1,320- 1,390	Guelph	1,000 Mcf.	.....	518	Abandoned.
14	11	Bon Jasperson No. 1	SW. Corner	1922	616	1,259	.....	1,225- 1,240	Salina- Guelph	90 Mcf.	.....	.....	Abandoned.
14	11	Bon Jasperson No. 2	SE. Corner	.....	617	.....	.....	.....	.....	.....	.....	.....	2 wells abandoned.
8	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 wells dry.
9	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10	12	Southern Ontario Gas Co. No. 1	900 ft. S. of N. road. 100 ft. W. of E. line	1923	619	1,367	Hamilton	1,257- 1,357	Salina- Guelph	120 Mcf.	350	155	
10	12	Southern Ontario Gas Co. No. 2	2,100 ft. S. of N. road. 145 ft. E. of W. line	1923	618	1,369	"	1,245- 1,360	"	138 Mcf.	345	156	
10	12	Southern Ontario Gas Co. No. 3	200 ft. N. of S. road. 200 ft. E. of W. line	1923	619	1,367	"	1,245- 1,345	"	145 Mcf.	410	161	Water at 400 and 510 ft.
10	12	Southern Ontario Gas Co. No. 4	1,000 ft. S. of N. road. 500 ft. E. of W. line	1931	618	1,375	"	1,250- 1,369	"	102 Mcf.	265	163	Fresh water at 100 ft. Black water at 525 and 700 ft.
10	12	Southern Ontario Gas Co.	SW. Corner	1931	619	1,382	"	1,228- 1,376	"	115 Mcf.	245	155	Black water at 500 and 725 ft.
11	12	Dominion Natural Gas Co., Ltd.	.....	1943	.....	1,295	.....	.....	.....	.....	.....	175	

Wells in Tilbury East Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing Mcf. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
11	12	Dominion Natural Gas Co., Ltd. Martin Seal No. 1.....	1,250 ft. N. of S. road.... 900 ft. W. of E. line	1943	.....	1,410	Hamilton	1,330- 1,355	Salina	93 Mcf.	158	Fresh water at 138 ft. Black water at 420, 700, and 775 ft.
11	12	Dominion Natural Gas Co., Ltd. M. Haskell No. 1	1,125 ft. S. of N. road.... 990 ft. E. of W. line	1943	.....	1,430	"	1,300- 1,420	Salina Guelph	24 Mcf.	155	Fresh water at 133 and 155 ft. Black water at 375, 390, 694, and 700 ft. Show of oil at 1,430 ft., abandoned.
12	12	Union Natural Gas Co. No. 165	1,200 ft. S. of N. road.... 150 ft. E. of W. line	.....	618	1,386	"	1,210- 1,380	"	200 Mcf.	470	.....
12	12	Union Natural Gas Co. No. 29	1,300 ft. N. of S. road.... 200 ft. E. of W. line	1907	618	1,455	"	1,215- 1,414	"	555 Mcf.	522	Oil at 1,395 ft.
13	12	Southern Ontario Gas Co. No. 1	SE. Corner.....	.....	619	.....	"	.....	.....	.....	.....	.....
13	12	Southern Ontario Gas Co. No. 4	1,250 ft. N. of S. road.... 200 ft. W. of E. line	.....	620	.....	"	.....	.....	.....	.....	.....
13	12	Southern Ontario Gas Co. No. 3	200 ft. N. of S. road.... 750 ft. E. of W. line	.....	618	.....	"	.....	.....	.....	.....	.....
13	12	John Troup.....	1,750 ft. S. of N. road.... 200 ft. W. of E. road	1921	618	1,384	"	.....	.....	85 Mcf.	145	Abandoned.
14	12	Union Natural Gas Co. No. 93..	SE. Corner.....	1912	618	1,390	"	1,160- 1,370	Salina Guelph	7,000 Mcf.	542	.....
14	12	Bon Jasperson.....	SW. Corner.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15	12	Bon Jasperson.....	SE. Corner.....	.....	618	.....	Hamilton	.....	.....	.....	.....	Abandoned.
9	13	Salina Gas Co. No. 5.....	800 ft. S. of N. road.... 375 ft. E. of W. road	1933	620	1,420	"	1,255- 1,365	Salina Guelph	6 Mcf.	285	Fresh water at 142 ft. Sulphur water at 385, 504, and 710 ft.
10	13	Glenwood Natural Gas Co. No. 1	900 ft. S. of N. road.... 1,650 ft. W. of E. road	1933	622	1,385	"	1,228- 1,345	"	34 Mcf.	250	Sulphur water at 540 and 700 ft. Salt water at 785 ft.
10	13	Glenwood Natural Gas Co. No. 2	NW. Corner.....	1933	621	1,401	"	1,228- 1,345	"	100 Mcf.	250	Sulphur water at 400 and 700 ft. Salt water at 785 ft.

10	13	Union Natural Gas Co. No. 100 SW Corner.....	624							Abandoned.
10	13	Salina Gas Co. No. 4.....	1933	1,380	Hamilton	1,224- 1,333	Salina Guelph	200 Mcf.	250	147 Fresh water at 147 ft. Sulphur water at 700 and 787 ft.
10	13	Salina Gas Co.....	1933	1,300	Hamilton	1,223- 1,344	"	122 Mcf.	275	150 Fresh water at 150 ft. Sulphur water at 385, 405, and 710 ft.
11	13	Union Natural Gas Co. No. 190 1,136 ft. N. of S. road, 400 ft. E. of W. line.....	1919	1,405	"	1,110- 1,332	"	160 Mcf.	335	151
11	13	Glenwood Natural Gas Co. No. 2 NW Corner.....	1922	1,367	"	1,250- 1,357	"	285 Mcf.	342	153
11	13	Glenwood Natural Gas Co. No. 37.....								
12	13	Union Natural Gas Co. No. 95.....	1912	1,391	"	1,280- 1,383	Salina Guelph	400 Mcf.	540	
12	13	Union Natural Gas Co. No. 102.....	1916	1,395	"	1,180- 1,380	"	350 Mcf.	424	
13	13	Union Natural Gas Co. No. 135 1,100 ft. N. of S. road, 700 ft. W. of E. line.....	1914	1,375		1,150- 1,381	"	6,000 Mcf.	490	
14	13	Union Natural Gas Co. No. 191 1,050 ft. N. of S. road, 1,000 ft. E. of W. line.....	1919	1,389	Hamilton	1,380	Guelph	450 Mcf.	353	153
14	13	Union Natural Gas Co. No. 193 1,050 ft. S. of N. road, 250 ft. W. of E. line.....	1919	1,385	"			338 Mcf.	356	153
15	13	Bon Jasperson No. 1.....	1919	1,380	"	1,185- 1,370	Salina Guelph	272 Mcf.		158
15	13	Bon Jasperson No. 2.....	1920	1,320	"	1,175- 1,320	"	70 Mcf.		
15	13	Bon Jasperson No. 3.....								
15	13	Hill No. 1.....								
15	13	Hill No. 2.....								
15	13	Hill No. 3.....								
15	13	Hill No. 4.....								
15	13	Hill No. 5.....								
16	13	.....							
2	14	Union Natural Gas Co. No. 164 150 ft. S. of N. road, 1,240 ft. W. of E. line.....	1916	1,374	Hamilton	1,225- 1,365	Salina Guelph	2,000 Mcf.	482	Abandoned.

Wells in Tilbury East Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
3	14	Union Natural Gas Co. No. 139	500 ft. of S. of N. road. 800 ft. W. of E. line	1914	630	1,405	.....	1,322	Guelph	100 Mcf.	536	.....
3	14	Union Natural Gas Co. No. 158	200 ft. N. of S. road. 900 ft. W. of E. line	1915	630	1,388	.....	1,245- 1,392	Salina Guelph	990 Mcf.	.....	.....	Abandoned.
4	14	Union Natural Gas Co. No. 86	SE. Corner	1910	630	.....	.....	.....	.....	2,000 Mcf.	567	.....	Abandoned.
5	14	Union Natural Gas Co. No. 185	250 ft. N. of S. road. 880 ft. W. of E. line	.....	630	1,488	Hamilton	.....	.....	Dry	.....	.....
7	14	Pattinson, Ladd and Kabana	SW. Corner	1934	631	1,377	"	1,252- 1,365	Salina Guelph	124 Mcf.	200	137	Fresh water at 134 ft. Salt water at 385 ft. Sulphur water at 478 ft.
8	14	Union Natural Gas Co. No. 198	120 ft. N. of S. road. 560 ft. E. of W. line	1917	630	1,370	"	1,215- 1,360	"	1,700 Mcf.	407	.....
8	14	Union Natural Gas Co. No. 112	410 ft. N. of S. road. 150 ft. W. of E. line	1913	629	1,406	"	1,280- 1,398	"	400 Mcf.	.....	.....
8	14	.....	1,000 ft. S. of N. road 750 ft. W. of E. line	.....	627	.....	.....	.....	.....	.....	.....	.....	Abandoned.
9	14	.....	250 ft. S. of N. road 900 ft. E. of W. line	.....	625	.....	Hamilton	.....	.....	.....	.....	.....	Abandoned.
9	14	Pattinson, Ladd and Ziegler	SW. Corner	1934	630	1,394	Kettle Point	1,220- 1,360	Salina Guelph	330 Mcf.	240	126	Fresh water at 120 ft. Salt water at 484 and 637 ft., abandoned.
10	14	Union Natural Gas Co. No. 174	1,600 ft. S. of N. road 100 ft. E. of W. line	1916	625	1,390	.....	1,220- 1,365	"	448 Mcf.	415	.....
10	14	Glenwood Natural Gas Co. No. 13	NE. Corner	.....	624	.....	.....	.....	.....	.....	.....	.....
11	14	Union Natural Gas Co. No. 90	SE. Corner	1912	629	1,370	Hamilton	1,160- 1,350	Salina Guelph	1,000 Mcf.	514	.....
11	14	Union Natural Gas Co. No. 175	SW. Corner	1917	629	1,330	"	1,130- 1,300	"	1,720 Mcf.	354	.....
11	14	Union Natural Gas Co. No. 61	1,700 ft. S. of N. road 200 ft. E. of W. line	1907	625	1,416	.....	1,210- 1,405	"	150 Mcf.	491	.....
12	14	Union Natural Gas Co. No. 22	200 ft. S. of N. road 500 ft. E. of W. line	1906	624	1,350	.....	.....	.....	4,500 Mcf.	528	.....

12	14	Union Natural Gas Co. No. 28.	1,900 ft. N. of S. road. 800 ft. E. of W. line	1903	628	1,380	.....	.....	3,500 Mcf.	.....	.....	.....
12	14	Union Natural Gas Co. No. 62.	1,950 ft. N. of S. road. 100 ft. W. of E. line	1907	627	1,415	.....	.....	100 Mcf.	478	.....	.....
12	14	Union Natural Gas Co. No. 63.	2,350 ft. N. of S. road. 100 ft. W. of E. line	1907	626	1,420	.....	.....	100 Mcf.	565	.....	Abandoned.
13	14	Union Natural Gas Co. No. 192	1,180 ft. S. of N. road. 900 ft. E. of W. line	1921	625	1,381	.....	.....	284 Mcf.	.....	162	Water at 625 ft.
14	14	Union Natural Gas Co. No. 189	1,000 ft. S. of N. road. 1,100 ft. W. of E. line	1919	623	1,375	.....	.....	478 Mcf.	310	163	.....
14	14	Union Natural Gas Co. No. 92	NE. Corner	1912	623	1,375	.....	.....	1,500 Mcf.	535	.....	.....
1	15	Union Natural Gas Co. No. 169	50 ft. S. of N. road. 1,180 ft. W. of E. line	.....	631	1,386	.....	.....	.....	.....	.....	.....
1	15	Union Natural Gas Co. No. 140	.....	.....	635	.....	.....	.....	.....	.....	.....	.....
1	15	Southern Ontario Gas Co. No. 1	70 ft. N. of S. road. 800 ft. E. of W. line	1925	638	1,368	.....	.....	121 Mcf.	375	146	Fresh water at 146 ft. Sulphur water at 450 and 580 ft., abandoned.
2	15	Southern Ontario Gas Co. No. 1	150 ft. N. of S. road. 200 ft. E. of centre line	1925	637	1,377	.....	.....	313 Mcf.	255	140	.....
2	15	Southern Ontario Gas Co. No. 2	1,200 ft. N. of S. road. 200 ft. W. of E. line	1926	636	1,362	.....	.....	215 Mcf.	235	150	.....
2	15	Union Natural Gas Co. No. 109	1,150 ft. S. of N. road. 100 ft. E. of W. line	1913	632	1,384	.....	.....	2,500 Mcf.	532	.....	.....
2	15	Union Natural Gas Co. No. 106	2,100 ft. S. of N. road. 150 ft. W. of E. line	1913	634	1,408	.....	.....	300 Mcf.	532	.....	.....
3	15	Union Natural Gas Co. No. 49	900 ft. S. of N. road. 400 ft. E. of W. line	1911	632	1,400	.....	.....	1,250 Mcf.	532	.....	.....
3	15	Union Natural Gas Co. No. 129	NE. Corner	1914	633	1,370	.....	.....	3,000 Mcf.	515	.....	.....
3	15	Southern Ontario Gas Co. No. 1	SE. Corner	1924	637	1,370	.....	.....	288 Mcf.	245	139	.....
3	15	Ralph Dawson No. 1	65 ft. N. of S. road. 675 ft. E. of W. line	1932	636	1,340	.....	.....	471 Mcf.	225	130	Fresh water at 135 ft. Black water at 675 ft.
3	15	Ralph Dawson No. 2	1,000 ft. N. of S. road. 700 ft. E. of W. line	1932	634	1,328	.....	.....	150 Mcf.	190	138	Fresh water at 135 ft. Black water at 600 ft. Salt water at 1,328 ft.
3	15	Romney Gas and Oil Co.	SE. 1/4 of NW. 1/4	1933	633	1,314	.....	.....	15 Mcf.	238	.....	Fresh water at 135 ft. Salt water at 680 and 1,313 ft.

Wells in Tilbury East Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
4	15	Union Natural Gas Co. No. 184	SE. Corner	1917	636	1,406	Hamilton	1,290-1,371	Salina Guelph	315 Mcf.	877		
4	15	Union Natural Gas Co. No. 122	1,000 ft. S. of N. road 200 ft. E. of W. line		632								
4	15	Union Natural Gas Co. No. 57	1,250 ft. S. of N. road 150 ft. W. of E. line		633								Abandoned.
4	15	Union Natural Gas Co. No. 65	2,100 ft. N. of S. road 200 ft. W. of E. line		633								
5	15	Southern Ontario Gas Co. No. 1	2,100 ft. S. of N. line 300 ft. W. of E. line	1933	633	1,415	Hamilton	1,249-1,287	Salina Guelph	33 Mcf.	365	138	Fresh water at 138 ft. Black water at 550 and 740 ft. Salt water at 1,415 ft.
5	15	Union Natural Gas Co. No. 99	1,300 ft. N. of S. road 200 ft. W. of E. line		634								
6	15	Union Natural Gas Co. No. 42	850 ft. S. of N. road 200 ft. W. of E. line		632								Abandoned.
6	15	Union Natural Gas Co. No. 142	SE. Corner		634								Abandoned.
7	15	Union Natural Gas Co. No. 252	2,120 ft. S. of N. road 100 ft. W. of E. line	1924	632	1,400	Hamilton	1,250-1,360	Salina Guelph	114 Mcf.	305	129	Salt water at 450, 500, and 730 ft.
7	15	Union Natural Gas Co. No. 64	SE. Corner		635								
8	15	Union Natural Gas Co. No. 160	1,500 ft. S. of N. road 300 ft. W. of E. line		634								
8	15	Union Natural Gas Co. No. 88	1,200 ft. S. of N. road 200 ft. E. of W. line		633								
8	15	Union Natural Gas Co. No. 141	50 ft. N. of S. road 1,000 ft. W. of E. line		637								
9	15	Union Natural Gas Co. No. 37	300 ft. N. of S. road 700 ft. E. of W. line		634								
9	15	Union Gas Co. of Canada, Ltd., No. 301 J. Phelps No. 1	225 ft. S. of N. line 600 ft. W. of E. line	1938	627	1,374	Hamilton	1,290-1,350	Salina Guelph	114 Mcf.	160	170	Fresh water at 140 ft. Sulphur water at 430, 495, and 655 ft.

10	15	Union Natural Gas Co. No. 181	1,200 ft. N. of S. road, 150 ft. W. of E. line	1917	632	1,400	"	1,210- 1,355	"	353 Mcf.	388	.....
10	15	.....	SW. Corner	.....	634	.....	.....	.....	.....	.....	.....	.....
11	15	Union Natural Gas Co. No. 175	600 ft. N. of S. road, 100 ft. E. of W. line	.....	632	.....	.....	.....	.....	.....	.....	.....
1	16	Union Natural Gas Co., No. 128	400 ft. N. of S. road, 50 ft. E. of W. line	.....	638	.....	.....	.....	.....	.....	.....	.....	Abandoned.
2	16	Ralph Dawson	SW. Corner	1933	638	1,510	Hamilton	1,290	Salina Guelph	36 Mcf.	430	148	Fresh water at 138 ft. Black water at 450 ft. Salt water at 1,510 ft.
4	16	Ralph Dawson	94 ft. S. of N. road, 410 ft. W. of E. road	1931	635	1,346	"	1,208- 1,319	"	139 Mcf.	175	157	Black water at 645 and 690 ft. Salt water at 1,346 ft.
5	16	Southern Ontario Gas Co. No. 1	SE. Corner	1924	636	1,353	"	1,240- 1,342	"	350 Mcf.	251	175	Black water at 400 ft.
5	16	Southern Ontario Gas Co. No. 2	40 ft. N. of S. road, 410 ft. E. of W. line	1924	634	1,407	"	.....	.....	Dry	.....	170	Fresh water at 177 ft. Black water at 410 ft. Show of gas at 1,204 ft.
1	N.M.R.	.....	200 ft. N. of S. road, 800 ft. W. of E. corner	.....	625	.....	.....	.....	.....	.....	.....	.....	Abandoned.
7	N.M.R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 wells.
10	N.M.R.	Union Natural Gas Co. No. 249	NE. Corner	1924	610	3,692	Hamilton	.....	.....	Dry	.....	138	Salt water at 410, 1,390, 1,600, and 3,640 ft.
11	N.M.R.	MacNamara Construction Co., Ltd.	100 ft. S. of N. road, 1,000 ft. E. of W. line	1937	604	1,435	"	1,380- 1,435	Guelph	50 Mcf. 12 bbls.	360	144	Fresh water at 130 ft. Salt water at 485, 750, and 1,390 ft.
11	N.M.R.	MacNamara Construction Co., Ltd.	350 ft. S. of N. road, 850 ft. E. of W. line	1937	605	1,448	"	1,256- 1,440	Salina Guelph	70 Mcf. 3 bbls.	360	140	Salt water at 510 and 1,396 ft.
11	N.M.R.	W. Reid No. 2	850 ft. E. of W. line	.....	610	.....	.....	.....	.....	6 bbls.	.....	.....	.....
11	N.M.R.	United Oil Co. No. 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	N.M.R.	Union Natural Gas Co. No. 123	SW. Corner	.....	604	.....	.....	.....	.....	.....	.....	.....	Abandoned.
12	N.M.R.	Union Natural Gas Co.	300 ft. S. of N. road, 750 ft. E. of W. line	.....	605	.....	.....	.....	.....	.....	.....	.....	.....
13	N.M.R.	.....	SW. Corner	.....	605	.....	.....	.....	.....	.....	.....	.....	.....
14	N.M.R.	.....	SE. Corner	.....	605	.....	.....	.....	.....	.....	.....	.....	Abandoned.
165	N.T.R.	Union Natural Gas Co. No. 66	3,200 ft. N. of Talbot road, 100 ft. W. of E. line	1910	639	1,409	.....	.....	.....	907 Mcf.	580	.....	.....
165	N.T.R.	Union Natural Gas Co. No. 117	1,200 ft. S. of N. road, 200 ft. E. of W. line	.....	638	1,385	Hamilton	1,250- 1,380	Salina Guelph	600 Mcf.	538	.....	Abandoned.

Wells in Tilbury East Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
165	N.T.R.	Union Natural Gas Co. No. 233	1,000 ft. N. of Talbot road 250 ft. W. of E. line	1928	641	1,390	.....	1,240- 1,375	Salina Guelph	509 Mcf.	343	158	Salt water at 675, 740, and 1,390 ft.
165	N.T.R.	Union Natural Gas Co. No. 236	2,350 ft. N. of Talbot road 260 ft. E. of W. line	1928	639	1,375	.....	1,245- 1,345	"	565 Mcf.	338	155	Salt water at 660, 720, and 745 ft.
165	N.T.R.	Union Natural Gas Co. No. 232	2,400 ft. N. of Talbot road 50 ft. W. of E. line	1928	639	1,400	.....	1,298- 1,370	"	61 Mcf.	368	151	Salt water at 700, 750, and 1,400 ft.
166	N.T.R.	Union Natural Gas Co. No. 234	2,325 ft. N. of Talbot road 600 ft. W. of E. line	1928	638	1,375	.....	1,245- 1,350	"	392 Mcf.	338	150	
166	N.T.R.	Union Natural Gas Co. No. 235	1,000 ft. N. of Talbot road 125 ft. W. of E. line	1928	639	1,385	.....	1,230- 1,348	"	98 Mcf.	380	150	Salt water at 540, 690, and 1,348 ft.
166	N.T.R.	Union Natural Gas Co. No. 231	2,920 ft. S. of N. road 100 ft. W. of E. line	1928	638	1,410	.....	1,250- 1,390	"	152 Mcf.	362	152	Fresh water at 150 ft. Salt water at 540, 680, and 700 ft.
166	N.T.R.	Union Natural Gas Co. No. 144	1,100 ft. S. of N. road 100 ft. E. of W. line	1914	638	1,386	.....	1,230- 1,381	"	600 Mcf.	531	.....	Abandoned.
167	N.T.R.	Union Gas Co. of Canada, Ltd., No. 313 Chas. Tompkins	73 ft. E. of centre line. 730 ft. N. of Talbot road	1941	640	1,422	Hamilton	1,239- 1,422	"	240 Mcf.	265	150	Fresh water at 150 ft. Sulphur water at 540 ft. Salt water at 1,404 ft.
167	N.T.R.	Union Natural Gas Co. No. 101	1,900 ft. N. of Talbot road 500 ft. W. of E. line	1913	638	1,387	.....	1,240- 1,376	"	600 Mcf.	549	.....
168	N.T.R.	Union Natural Gas Co. No. 256	800 ft. S. of N. road 1,500 ft. W. of E. line	1925	638	1,350	.....	1,210- 1,300	"	273 Mcf.	.....	145	Fresh water at 145 ft. Salt water at 570, 670, 870, and 1,360 ft.
168	N.T.R.	Union Natural Gas Co. No. 232	1,790 ft. N. of Talbot road 175 ft. W. of E. line	1928	639	1,362	Hamilton	1,225- 1,345	"	92 Mcf.	310	145	Salt water at 665 ft.
168	N.T.R.	Union Natural Gas Co. No. 237	2,400 ft. N. of Talbot road 265 ft. E. of W. line	1928	637	1,364	.....	1,225- 1,334	"	700 Mcf.	375	148	Salt water at 660, 745, and 1,360 ft.
168	N.T.R.	Union Natural Gas Co. No. 108	1,100 ft. N. of Talbot road 400 ft. E. of W. line	1913	638	1,411	.....	1,160- 1,409	"	1,000 Mcf.	546	.....
168	N.T.R.	Union Natural Gas Co. No. 143	2,600 ft. N. of Talbot road 100 ft. W. of E. line	1914	637	1,403	.....	1,240- 1,401	"	900 Mcf.	525	.....
169	N.T.R.	Union Natural Gas Co. No. 111	3,120 ft. N. of Talbot road 420 ft. W. of E. line	1913	637	1,402	Hamilton	1,260- 1,350	"	600 Mcf.	545	.....

Wells in Tilbury East Township, Kent County—Continued

Lot	Con.	Designation	Location	Year drilled	Attitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
174	N.T.R.	Union Natural Gas Co. No. 248	1,680 ft. N. of Talbot road 200 ft. E. of W. line	1924	636	3,770	Hamilton	1,219- 1,334	Salina Guelph	178 Mcf.	.....	170	Fresh water at 179 ft., Sulphur water at 580 ft., Salt water at 1,250, 1,550, 2,910, 3,738, and 3,760 ft.
174	N.T.R.	Union Natural Gas Co. No. 69	2,200 ft. S. of N. road 250 ft. E. of W. line	1910	636	1,305	.....	.....	.....	2,150 Mcf.	580	.....	.....
174	N.T.R.	Union Natural Gas Co. No. 229	3,900 ft. N. of Talbot road 300 ft. W. of E. line	1915	636	1,400	.....	.....	.....	1,000 Mcf.	.....	.....	.....
175	N.T.R.	Union Natural Gas Co. No. 56	2,700 ft. S. of N. road 300 ft. E. of W. line	1911	637	1,387	.....	1,160- 1,377	Salina Guelph	.....	535	.....	.....
175	N.T.R.	Union Natural Gas Co. No. 100	N.E. Corner.....	1912	637	1,392	.....	1,170- 1,365	"	611 Mcf.	545	.....	.....
175	N.T.R.	Union Natural Gas Co. No. 230	3,250 ft. S. of N. road 100 ft. W. of E. line	1915	637	1,400	.....	1,175- 1,400	"	.....	.....	.....	.....
175	N.T.R.	Union Natural Gas Co. No. 231	200 ft. N. of Talbot road 100 ft. W. of E. line	1915	638	1,390	.....	1,230- 1,390	"	991 Mcf.	.....	.....	.....
176	N.T.R.	Union Gas Co. of Canada, Ltd., No. 314 W. A. and J. W. Fruckembrod	2,500 ft. N. along E. line	1941	636	1,350	Hamilton	1,224- 1,338	"	366 Mcf.	250	176	Fresh water at 170 ft., Sulphur water at 47 and 680 ft.
176	N.T.R.	Union Gas Co. of Canada, Ltd., No. 315 A. Duyck.....	2,905 ft. N. of Talbot road 250 ft. E. of W. line	1942	635	1,375	"	.....	.....	.....	.....	169	.....
176	N.T.R.	Union Natural Gas Co. No. 247	1,300 ft. N. of Talbot road 600 ft. W. of E. line	1923	637	1,395	"	1,225- 1,360	Salina Guelph	251 Mcf.	275	180	Salt water at 685 and 1,393 ft.
176	N.T.R.	Union Natural Gas Co. No. 177	1,630 ft. S. of N. road 400 ft. E. of W. line	1917	636	1,390	"	1,200- 1,387	"	465 Mcf.	402	.....	.....
176	N.T.R.	Union Natural Gas Co. No. 82	SW. Corner.....	1909	637	1,393	.....	.....	.....	1,300 Mcf.	570	.....	.....
176	N.T.R.	Union Natural Gas Co. No. 170	2,500 ft. S. of N. road 50 ft. E. of W. line	1916	637	1,382	.....	1,160- 1,378	Salina Guelph	2,580 Mcf.	335	.....	.....
176	N.T.R.	Union Natural Gas Co. No. 227	3,600 ft. N. of Talbot road 50 ft. W. of E. line	1909	637	1,437	.....	1,170- 1,420	"	2,148 Mcf.	.....	.....	.....

177	N.T.R.	Union Natural Gas Co. No. 234	750 ft. N. of Talbot road; 400 ft. W. of E. line	1916	639	1,390	.....	1,210- 1,375	"	750 Mcf.	.....	179	Black water at 500 and 715 ft.
177	N.T.R.	Union Natural Gas Co. No. 235	3,500 ft. N. of Talbot road 450 ft. W. of E. line	1916	637	1,328	.....	1,155- 1,280	"	2,500 Mcf.	.....	.....	Abandoned.
177	N.T.R.	Union Natural Gas Co. No. 236	1,900 ft. N. of Talbot road 450 ft. W. of E. line	1916	637	1,393	.....	1,200- 1,398	"	650 Mcf.	.....	.....	.....
177	N.T.R.	Southern Ontario Gas Co. No. 6	1,350 ft. S. of N. road; 500 ft. E. of W. line	1930	635	1,365	Hamilton	1,240- 1,355	"	778 Mcf.	.....	200	Black water at 500 and 715 ft.
1	S.M.R.	Union Natural Gas Co. No. 55	SE. Corner.....	.....	630	.....	"	.....	.....	Dry	.....	.....	Abandoned.
10	S.M.R.	.....	NE. Corner.....	.....	610	.....	"	.....	.....	120 Mcf.	.....	.....	.....
11	S.M.R.	Glenwood Natural Gas Co. No. 2	1,900 ft. N. of S. road; 150 ft. E. of W. line	1921	613	1,354	"	.....	.....	.....	290	145	Abandoned.
11	S.M.R.	Glenwood Natural Gas Co. No. 3	600 ft. N. of S. road; 150 ft. E. of W. line	1922	614	1,355	"	1,210- 1,330	Salina Guelph.	160 Mcf.	280	150	Abandoned.
11	S.M.R.	Glenwood Natural Gas Co. No. 6	3,000 ft. N. of S. road; 150 ft. E. of W. line	1921	612	1,363	"	.....	.....	70 Mcf.	.....	147	Abandoned.
12	S.M.R.	Union Natural Gas Co. No. 194	2,000 ft. S. of N. road; 600 ft. E. of W. line	1921	609	1,346	"	1,160- 1,265	Salina Guelph	1,940 Mcf.	310	145	Fresh water at 145 ft.
12	S.M.R.	Union Natural Gas Co. No. 196	1,200 ft. S. of N. road; 600 ft. E. of W. line	1921	608	1,341	"	1,180- 1,305	"	781 Mcf.	293	145	Water at 330 ft.
12	S.M.R.	Union Natural Gas Co. No. 197	2,100 ft. S. of N. road; 200 ft. W. of E. line	1921	613	1,343	"	1,185- 1,310	"	373 Mcf.	.....	147	Water at 335 and 670 ft.
.....	S.M.R.	Union Natural Gas Co. No. 198	600 ft. S. of N. road; 200 ft. W. of E. line	1921	611	1,390	"	1,325- 1,377	Guelph	Dry	.....	155	Water at 465 and 1,330 ft.
12	S.M.R.	Union Natural Gas Co. No. 14.....	200 ft. S. of N. road; 700 ft. E. of W. line	.....	607	1,365	"	1,303- 1,325	Salina Guelph	500 Mcf.	415	.....	Show of gas.
12	S.M.R.	Ladd and Kabana.....	1,300 ft. N. of S. road; 800 ft. E. of W. line	1934	611	1,348	"	1,322	Guelph	100 Mcf.	200	146	.....
13	S.M.R.	Dominion Natural Gas Co. Ltd. S. Gardener No. 6.....	1,100 ft. N. of S. line; 1,025 ft. W. of E. line	1943	.....	1,303	"	1,240	Salina	23 Mcf.	405	138	Fresh water at 136 ft. Black water at 315, 330, and 680 ft. Show of gas at 1,190 and 1,240 ft.
13	S.M.R.	Dominion Natural Gas Co. Ltd. S. Gardener No. 7.....	1,100 ft. S. of N. road; 860 ft. E. of W. line	1943	.....	1,295	"	.....	.....	Dry	.....	137	Fresh water at 135 ft. Black water at 310, 325, and 675 ft. Salt water at 1,295 ft. Show of gas at 1,195 and 1,245 ft.
13	S.M.R.	Southern Ontario Gas Co. No. 1	NE. Corner.....	1919	607	1,285	"	1,070- 1,275	Salina Guelph.	2,000 Mcf.	475	167	Abandoned.

Wells in Tilbury East Township, Kent County—Concluded

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing forma- tion	Yield McF. or bbls.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
13	S.M.R.	Southern Ontario Gas Co. No. 2	2,200 ft. N. of S. road 200 ft. W. of E. line	1920	609	1,350	.....	.....	.....	700 Mcf.	.....	145	
13	S.M.R.	Southern Ontario Gas Co. No. 3	1,200 ft. N. of S. road 200 ft. W. of E. line	1920	610	1,365	Hamilton	.....	.....	225 Mcf.	.....	145	Abandoned.
13	S.M.R.	Southern Ontario Gas Co. No. 2	SE. Corner	1920	612	1,360	"	.....	.....	225 Mcf.	440	140	Abandoned.
13	S.M.R.	Southern Ontario Gas Co. No. 5	1,100 ft. S. of N. road 200 ft. W. of E. line	1921	608	1,318	"	.....	.....	250 Mcf.	.....	145	Abandoned.
14	S.M.R.	.....	NE. Corner	.....	605	.....	.....	.....	.....	.....	.....	.....	Abandoned.
A	S.M.R.	Union Natural Gas Co. No. 59	400 ft. N. of S. road 900 ft. E. of W. line	.....	632	.....	.....	.....	.....	.....	.....	.....	Abandoned.
B	S.M.R.	Union Natural Gas Co. No. 171	NE. Corner	.....	630	1,377	.....	1,260- 1,373	Salina Guelph	2,300 Mcf.	330	.....	Abandoned.
B	S.M.R.	Union Natural Gas Co. No. 166	NE. Corner	1916	630	1,375	.....	1,270- 1,373	"	.....	470	.....	Abandoned.
B	S.M.R.	Union Natural Gas Co. No. 58	400 ft. N. of S. road 600 ft. W. of E. line	.....	633	.....	.....	.....	.....	.....	.....	.....	Abandoned.
B	S.M.R.	Glenwood Natural Gas Co. No. 1	200 ft. N. of S. road 700 ft. E. of W. line	.....	631	.....	.....	.....	.....	.....	.....	.....	.....
165	S.T.R.	Union Natural Gas Co. No. 244	550 ft. S. of Talbot road 600 ft. E. of W. line	1922	640	1,410	.....	1,300- 1,390	Salina Guelph	465 Mcf.	435	.....	.....
166	S.T.R.	Union Natural Gas Co. No. 47	SW. Corner	1928	640	1,362	Hamilton	1,345	Guelph	1,000 Mcf.	.....	145	.....
167	S.T.R.	Union Natural Gas Co. No. 107	600 ft. N. of lake shore 100 ft. E. of W. line	1913	639	1,407	.....	1,280- 1,405	Salina Guelph	300 Mcf.	562	.....	.....
168	S.T.R.	Union Natural Gas Co. No. 289	400 ft. S. of Talbot road 70 ft. E. of W. line	1928	639	1,380	.....	1,235- 1,365	"	519 Mcf.	.....	158	Salt water at 540 and 650 ft.
170	S.T.R.	Union Natural Gas Co. No. 81	200 ft. N. of lake shore 100 ft. E. of W. line	1909	637	1,410	.....	.....	.....	.....	579	.....	.....
171	S.T.R.	Union Natural Gas Co. No. 261	SW. Corner	1927	642	1,383	Hamilton	1,233- 1,350	Salina Guelph	268 Mcf.	.....	139	Fresh water at 165 ft. Salt water at 690 ft.
171	S.T.R.	Union Natural Gas Co. No. 52	SE. Corner	1911	641	1,395	.....	1,240- 1,383	"	900 Mcf.	576	.....	.....

Wells in Dawn Township, Lambton County

172	S.T.R.	Union Natural Gas Co. No. 126	SW. Corner.....	1914	636	1,404	.....	1,230- 1,390	"	1,000 Mcf.	527	.....	.....
173	S.T.R.	Union Natural Gas Co. No. 127	SW. Corner.....	1914	636	1,372	Hamilton	1,230- 1,340	"	1,950 Mcf.	.....	.....	.....
173	S.T.R.	Southern Ontario Gas Co. No. 6	400 ft. S. of Talbot road 50 ft. E. of centre line	.....	635	.....	.....	.....	.....	.....	.....	.....	.....
174	S.T.R.	Union Natural Gas Co. No. 232	SW. Corner.....	1917	637	1,400	.....	1,225- 1,400	Salina Guelph	600 Mcf.	435	.....	.....
175	S.T.R.	Union Natural Gas Co. No. 260	SW. Corner.....	1926	638	1,940	Hamilton	1,235- 1,380	"	305 Mcf.	273	.....	Fresh water at 175 ft. Salt water at 680 ft.
177	S.T.R.	Union Natural Gas Co. No. 51	100 ft. S. of Talbot road 200 ft. E. of W. line	1911	640	1,401	"	1,220- 1,350	"	1,000 Mcf.	565	.....	.....
177	S.T.R.	Dominion Natural Gas Co., Ltd. Lake well No. 12.....	800 ft. from shore..... 350 ft. W. of E. line	1941	.....	1,345	"	.....	.....	Dry	.....	.....	Fresh water at 124 ft. Black water at 330, 615 and 1,345 ft. Show of gas at 1,100, 1,265, and 1,330 ft.
173	S.T.R.	Southern Ontario Gas Co. No. 1	300 ft. off shore..... 50 ft. W. of E. line	1913	582	1,348	"	1,150- 1,343	Salina Guelph	3,500 Mcf.	530	124	.....
177	S.T.R.	Dominion Natural Gas Co., Ltd.	800 ft. off shore 3,420 ft. E. of W. line	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

11	1	Union Gas Co. of Canada, Ltd., No. 88	50 ft. S. of centre line... 50 ft. E. of W. line	1931	599	2,188	Kettle Point	.....	.....	Dry	.....	50	Sulphur water at 480 and 605 ft.
18	1	Union Gas Co. of Canada, Ltd., No. 83	800 ft. S. of N. road... 500 ft. E. of W. line	1930	619	2,030	"	1,605- 1,670	Salina	247 Mcf.	700	60	Fresh water at 60 ft. Salt water at 545 and 1,815 ft.
18	1	Union Gas Co. of Canada, Ltd., No. 46	550 ft. N. of S. line..... 1,450 ft. E. of W. line	1930	625	2,046	"	1,783	Guelph	27 Mcf.	.....	55	Salt water at 573 ft.
19	1	Union Gas Co. of Canada, Ltd., No. 49	1,300 ft. N. of S. line..... 1,700 ft. E. of W. line	1930	622	1,794	"	1,805- 1,794	.....	4,000 Mcf.	865	65	.....
19	1	Union Gas Co. of Canada, Ltd., No. 47	50 ft. N. of S. line..... 1,150 ft. E. of W. line	1930	622	1,787	"	1,533- 1,698	.....	7,200 Mcf.	875	70	Fresh water at 67 ft. Sulphur water at 605 and 650 ft.
19	1	Union Gas Co. of Canada, Ltd., No. 45	50 ft. N. of S. line..... 1,800 ft. W. of E. line	1930	622	2,025	"	1,625- 1,740	Salina Guelph	150 Mcf.	775	70	Fresh water at 68 ft. Salt water at 520 and 1,745 ft. Show of oil.
19	1	Union Gas Co. of Canada, Ltd., No. 25	450 ft. S. of N. line..... 600 ft. W. of E. line	1928	626	3,869	"	1,232- 1,690	Salina	25 Mcf.	705	60	Salt water at 610 and 1,695 ft.

Wells in Dawn Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drill- ed	Altitude in feet above sea- level	Depth in feet	Bedrock forma- tion	Pro- ducing depth in feet	Pro- ducing forma- tion	Yield Mcf. or bbla.	Pres- sure in lbs. sq. in.	Thick- ness of drift in feet	Remarks
20	1	Union Gas Co. of Canada, Ltd., No. 51	450 ft. N. of S. line..... 1,500 ft. W. of E. line	1930	625	2,057	Kettle Point	1,660	Salina	Dry	.....	60	Fresh water at 62 ft. Salt water at 545 ft.
20	1	Union Gas Co. of Canada, Ltd., No. 98 J. J. and M. E. Dawson.....	335 ft. N. of S. line..... 975 ft. E. of W. road	1938	621	2,035	"	.....	.....	Dry	.....	65	Fresh water at 65 ft. Sulphur water at 605 ft. Salt water at 1,905 ft.
22	1	Union Gas Co. of Canada, Ltd., No. 110 Mrs. M. Stevens.....	300 ft. N. of S. line..... 1,450 ft. W. of E. road	1942	625	1,965	"	1,910- 1,920	Guelph	606 Mcf.	.....	60	
22	1	Union Gas Co. of Canada, Ltd., No. 113 J. F. Jennings.....	350 ft. N. of S. line..... 1,600 ft. E. of W. road	1942	624	1,960	"	1,799- 1,919	Salina Guelph	360 Mcf.	.....	65	Fresh water at 60 ft. Sulphur water at 630 ft.
23	1	Union Gas Co. of Canada, Ltd., No. 81 S. Crossman No. 1.....	80 ft. N. of S. line..... 75 ft. W. of E. road	1936	629	2,102	"	.....	.....	Dry	.....	65	Fresh water at 65 ft. Sulphur water at 640 ft. Show of gas and oil at 1,942 ft.
23	1	Union Gas Co. of Canada, Ltd., No. 87 S. Crossman No. 2.....	150 ft. S. of N. line..... 1,300 ft. W. of E. road	1936	627	2,070	"	.....	.....	Dry	.....	.....	Fresh water at 74 ft. Sulphur water at 580 ft. Salt water at 1,900 ft.
24	1	Union Gas Co. of Canada, Ltd., No. 82 W. and G. Phair.....	65 ft. N. of centre line. 45 ft. W. of E. line	1936	628	2,080	"	1,825- 1,830	Salina	Dry	.....	.....	Fresh water at 70 ft. Sulphur water at 565 ft. Salt water at 2,065 ft.
24	1	Union Gas Co. of Canada, Ltd., No. 70 W. and G. Phair.....	300 ft. S. of N. line..... 1,000 ft. W. of E. line	1934	627	2,120	"	.....	.....	Dry	.....	75	Salt water at 2,065 ft.
25	1	Union Gas Co. of Canada, Ltd., No. 60	750 ft. S. of N. line..... 2,000 ft. W. of E. line	1931	626	2,090	"	1,990	Guelph	Dry	.....	80	Sulphur water at 516 ft. Salt water at 1,995 and 2,070 ft.
13	2	Union Gas Co. of Canada, Ltd., No. 89 W. S. Fleming.....	50 ft. S. of N. line..... 500 ft. W. of E. road	1937	617	2,002	"	.....	.....	Dry	.....	55	Fresh water at 54 ft. Sulphur water at 520 ft. Salt water at 1,880 ft.
15	2	Union Gas Co. of Canada, Ltd., No. 57	60 ft. N. of S. line..... 1,000 ft. W. of E. line	1931	618	1,896	"	.....	.....	Dry	.....	55	Sulphur water at 435 ft. Salt water at 1,875 ft.
22	2	Simmon and Keeler..... Duddy No. 1.....	775 ft. S. of N. line..... 1,200 ft. W. of E. road	1936	629	2,005	"	1,890- 1,920	Guelph	49 Mcf.	.....	60	Sulphur water at 700 ft. Salt water at 1,775 ft.

22	2	Union Gas Co. of Canada, Ltd., No. 111 Mrs. M. Stevens.....	45 ft. N. of S. line.....	1942	628	1,986	"	1,986	"	111 Mcf.	.....	70
23	2	Union Gas Co. of Canada, Ltd., No. 71 L. Green.....	90 ft. E. of W. road 50 ft. S. of N. line.....	1934	628	2,060	"	1,812	Salina	7 bbls.	550	75
23	2	Union Gas Co. of Canada, Ltd., No. 61 Chesney.....	75 ft. E. of centre line NW. Corner.....	1932	626	1,987	"	1,815 1,820	"	12 Mcf. 25 bbls.	.....	70
24	2	Union Gas Co. of Canada, Ltd., No. 59 J. McLachlin.....	250 ft. S. of N. line.....	1931	627	1,675	"	1,675	.....	2,500 Mcf.	860	70
24	2	Union Gas Co. of Canada, Ltd., No. 8 J. McLachlin.....	1,600 ft. E. of W. line SE. Corner.....	1922	630	2,160	"	.....	.....	Dry	.....	63
24	2	Union Gas Co. of Canada, Ltd., No. 65 J. McLachlin.....	900 ft. S. of N. line.....	1933	631	2,060	"	1,645- 1,880	Salina Guelph	1,617 Mcf.	835	.....
24	2	Union Gas Co. of Canada, Ltd., No. 64 J. McLachlin.....	1,200 ft. W. of E. line 900 ft. N. of S. line.....	1922	627	2,012	"	1,933- 1,940	Guelph	20 bbls.	.....	75
24	2	Union Gas Co. of Canada, Ltd., No. 63 J. McLachlin.....	920 ft. E. of W. road 300 ft. N. of S. line.....	1922	627	1,960	"	1,813- 1,824	Salina	50 bbls.	.....	60
25	2	Union Gas Co. of Canada, Ltd., No. 62 C. Evans.....	600 ft. E. of W. line 400 ft. S. of N. line.....	1922	629	2,115	"	1,765- 1,815	"	Dry	.....	70
25	2	Union Gas Co. of Canada, Ltd., No. 68 Woods.....	2,100 ft. W. of E. line SE. Corner.....	1923	630	1,965	"	1,925- 1,955	Guelph	10 bbls.	.....	60
25	2	Union Gas Co. of Canada, Ltd., No. 73 Moorehouse.....	NW. Corner.....	1934	627	2,131	"	1,980	"	Dry	.....	75
25	2	Union Gas Co. of Canada, Ltd., No. 84 Sands.....	500 ft. N. of S. line.....	1936	627	2,074	"	.....	.....	Dry	.....	69
25	2	Union Gas Co. of Canada, Ltd., No. 86 C. Evans.....	600 ft. E. of centre line..	1936	627	1,663	"	1,663 1,653	.....	20,000 Mcf.	795	75
25	2	Union Gas Co. of Canada, Ltd., No. 88 C. Evans.....	500 ft. N. of S. line 650 ft. S. of N. road.....	1936	631	2,050	"	1,955	Guelph	Dry	.....	72
15	3	Union Gas Co. of Canada, Ltd., No. 55 Stinson.....	100 ft. W. of E. road 300 ft. N. of S. line.....	1931	621	2,000	"	.....	.....	Dry	.....	65
			1,800 ft. W. of E. line									

Sulphur water at 560 ft.
Salt water at 1,975 ft.Fresh water at 495 ft.
Sulphur water at 615 ft.
Salt water at 1,960 ft.Fresh water at 69 ft.
Sulphur water at 395 ft.

Show of oil.

Sulphur water at 555 ft.

Sulphur water at 530 ft.
Salt water at 1,960 ft.Fresh water at 69 ft.
Sulphur water at 540 ft.
Salt water at 2,045 ft.
Show of gas and oil.Salt water at 635 ft.
Show of gas.Fresh water at 73 ft.
Sulphur water at 510 ft.
Salt water at 1,995 ft.Fresh water at 69 ft.
Sulphur water at 560 ft.
Salt water at 960 ft.

Sulphur water at 590 ft.

Fresh water at 40 ft.
Sulphur water at 565 ft.
Salt water at 1,945 ft.
Show of gas and oil.

Sulphur water at 535 and 560 ft.

Wells in Dawn Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. or sq. in.	Thickness of drift in feet	Remarks
22	3	Guth and Russell. W. T. Weese No. 2.....	300 ft. S. of N. line. 300 ft. E. of W. line	1936	631	1,950	Kettle Point	.....	.....	.....	.....	.....
22	3	Guth and Russell. W. T. Weese No. 3.....	1,000 ft. E. of W. line 500 ft. S. of N. line	1936	.....	.....	.....	.....	.....	.....	.....	.....
24	3	Union Gas Co. of Canada, Ltd., No. 83 Woods	NW. Corner.....	1936	627	2,020	Kettle Point	1,820 1,936	Salina Guelph	6 bbls. 50 Mcf.	.....	72	Sulphur water at 545 and 680 ft.
24	3	Union Gas Co. of Canada, Ltd., No. 10	750 ft. N. of S. line.....	1923	635	1,980	"	1,940	Guelph	Dry	.....	80	Salt water at 660 and 875 ft. Show of oil and gas.
23	4	C. Robinson.....	1,100 ft. W. of E. line	1933	641	2,072	"	1,614- 1,639	Salina	345 Mcf.	700	100	
24	4	Union Gas Co. of Canada, Ltd., No. 4 Medd.....	450 ft. S. of N. line..... 2,000 ft. W. of E. line	1937	642	2,042	"	.....	.....	Dry	.....	75	Sulphur water at 670 ft.
24	4	Union Gas Co. of Canada, Ltd., No. 80 A. McKinnon.....	400 ft. S. of N. line..... 2,300 ft. W. of E. road	1938	645	1,938	"	.....	.....	Dry	.....	80	Fresh water at 70 ft. Sulphur water at 625 ft. Salt water at 1,500 ft.
23	5	Union Gas Co. of Canada, Ltd., No. 31 L. Wicks.....	750 ft. W. of E. road 900 ft. S. of N. line..... 150 ft. E. of W. line	1929	627	2,328	"	.....	.....	Dry	.....	65	Fresh water at 65 ft. Salt water at 555 and 1,835 ft.
23	5	Union Gas Co. of Canada, Ltd., No. 20 L. Wicks	NW. Corner.....	1927	647	2,217	"	.....	.....	Dry	.....	66	Salt water at 665, 1,640, and 1,670 ft.
24	5	Union Gas Co. of Canada, Ltd., No. 3 J. Conseybeare	NE. Corner.....	1921	654	2,150	"	1,516- 1,766	Salina	177 Mcf.	775	90	
24	5	Union Gas Co. of Canada, Ltd., No. 6 Roy Merse	NW. Corner.....	1922	647	2,195	"	1,995	Guelph	105 Mcf.	935	120	Deepened to 3,080 ft. in 1934.
24	5	Union Gas Co. of Canada, Ltd., No. 89 J. Conseybeare.....	550 ft. S. of N. line..... 1,700 ft. W. of E. line	1933	648	2,041	"	1,875	"	226 Mcf.	800	.....	Sulphur water at 700 ft. Salt water at 1,645 ft.

24	5	Union Gas Co. of Canada, Ltd., No. 114 F. H. Conneybeare.....	650 ft. S. of N. line.....	1942	650	1,957	"	1,610-Salina 1,638	518 Md.	78	Fresh water at 72 ft. Sulphur water at 530 ft.
25	5	Union Gas Co. of Canada, Ltd., No. 115 J. McLaughlin.....	950 ft. W. of E. road 376 ft. N. of S. line.....	1942	650	1,797	"	1,754- 1,760	198 Md.	71	Fresh water at 76 ft. Salt water at 770 ft.
26	5	Union Gas Co. of Canada, Ltd., No. 12 J. E. McDonald	1,358 ft. W. of E. road NW. Corner.....	1926	648	2,236	"	1,655-Salina 1,948 Guelph	Dry	.....	Salt water at 530, 650, and 2,035 ft. Show of oil and gas.
1	6	Union Gas Co. of Canada, Ltd., No. 101	50 ft. N. of S. road.....	1939	610	1,891	"	.....	Dry	55	Sulphur water at 590 and 630 ft. Salt water at 1,650, 1,750, and 1,885 ft.
24	6	H. Resaume.....	75 ft. W. of E. road	.....	.....	.....	.....	.....	.....	.....	.....
24	6	Union Gas Co. of Canada, Ltd., No. 116 F. H. and J. F. Conneybeare	350 ft. S. of N. line..... 1,025 ft. E. of W. road	1943	654	1,647	"	1,629-Salina 1,642	1,426 Md.	75	Fresh water at 63 ft. Sulphur water at 492 ft. Salt water at 1,646 and 1,675 ft.
24	6	Union Gas Co. of Canada, Ltd., No. 120 F. H. and J. F. Conneybeare	720 ft. S. of N. line..... 1,830 ft. E. of W. line	1943	654	1,693	"	1,620- 1,646	284 Md.	68	Fresh water at 63 ft. Sulphur water at 492 ft. Salt water at 1,646 and 1,675 ft.
24	6	Union Gas Co. of Canada, Ltd., No. 2 W. Furrill.....	400 ft. S. of N. line..... 500 ft. W. of E. line	1928	656	2,201	"	.....	Dry	75	Fresh water at 78 ft. Salt water at 620, 1,195, and 1,660 ft. Show of oil at 1,660 ft.
25	6	Union Gas Co. of Canada, Ltd., No. 29	SE. Corner.....	1929	656	2,200	"	1,607-Salina 1,735	Dry	75	Salt water at 725, 1,650, and 1,995 ft. Show of gas and oil.
26	6	Union Gas Co. of Canada, Ltd., No. 2	50 ft. N. of S. line 1,050 ft. W. of E. line	1921	656	3,939	"	.....	Dry	80	Show of oil at 570 ft.
29	6	Union Gas Co. of Canada, Ltd.	NW. Corner.....	.....	.....	.....	.....	.....	Dry	.....	.....
20	7	Union Gas Co. of Canada, Ltd., No. 3 H. O'Neill	SE. Corner.....	1922	647	2,160	Kettle Point	.....	Dry	60	.....
23	7	Union Gas Co. of Canada, Ltd., No. 33 Webster.....	450 ft. S. of N. line..... 1,900 ft. W. of E. line	1929	657	2,290	"	.....	Dry	55	Fresh water at 58 ft. Salt water at 520 and 1,750 ft.
24	7	Union Gas Co. of Canada, Ltd., No. 1 McDiarmid.....	NE. Corner.....	1914	660	1,640	"	1,580-Salina 1,615	1,750 Md.	109	.....
24	7	Union Gas Co. of Canada, Ltd., No. 19 W. G. McGuire.....	800 ft. S. of N. line..... 150 ft. E. of W. line	1922	655	2,200	.....	.....	Dry	60	Show of gas at 1,642 ft.
24	7	Union Gas Co. of Canada, Ltd., No. 19 J. Mackie.....	200 ft. S. of N. line..... 2,050 ft. W. of E. line	1927	658	1,642	Kettle Point	1,592-Salina 1,690	1,033 Md.	60	Fresh water at 60 ft. Salt water at 630 ft.

Wells in Dawn Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
29	7	Mud Island Oil Syndicate No. 1 W. J. Loosemore	365 ft. W. of E. road 635 ft. S. of N. line	1944									
25	7	J. Perdu No. 1	500 ft. N. of S. line 1,200 ft. W. of E. line	1936	659	1,778	Kettle Point	1,590-1,672	Salina	800 Mcf.	450	70	Fresh water at 70 ft. Black water at 670 ft.
11	8	Union Gas Co. of Canada, Ltd., No. 91 W. A. Johnston	50 ft. N. of S. road 2,300 ft. E. of W. road	1937	597	1,880	"			Dry		33	Fresh water at 33 ft. Sulphur water at 540 ft. Salt water at 1,604, 1,735, and 1,860 ft. Show of gas at 1,604 ft.
12	8	Union Gas Co. of Canada, Ltd., No. 92	850 ft. N. of S. line 50 ft. E. of W. road	1937	613	1,775	"			Dry		32	Fresh water at 33 ft. Sulphur water at 480 ft. Salt water at 1,765 ft.
22	8	Union Gas Co. of Canada, Ltd., No. 11 W. G. McGuire	NW Corner	1926	656	2,277				Dry			Fresh water at 68 ft. Salt water at 550, 560, and 1,740 ft.
24	8	Union Gas Co. of Canada, Ltd., No. 18 J. Mackie	400 ft. S. of N. line 1,950 ft. E. of W. line	1927	661	1,610	Kettle Point	1,560-1,599	Salina	1,165 Mcf.	600	35	Fresh water at 60 ft. Black water at 540 ft. Salt water at 1,010 ft.
24	8	Union Gas Co. of Canada, Ltd., No. 74 Steinoff	1,200 ft. S. of N. line 1,000 ft. E. of W. line	1934	661	2,022	"	1,590	Salina	196 Mcf.	540	60	Sulphur water at 570 ft. Show of oil at 1,745 ft.
25	8	Union Gas Co. of Canada, Ltd., No. 22 R. Cross	700 ft. N. of S. line 1,400 ft. W. of E. line	1928	660	2,021	"			Dry		65	Fresh water at 65 ft. Black water at 545 ft. Salt water at 650 and 1,970 ft.
24	9	Union Gas Co. of Canada, Ltd., No. 13 D. Turrill	325 ft. S. of N. line 1,900 ft. W. of E. line	1933	661	1,965	"	1,542-1,572	Salina	2,729 Mcf.	650	65	Fresh water at 60 ft. Salt water at 647 ft.
24	9	Union Gas Co. of Canada, Ltd., No. 16 D. Turrill	SE Corner	1927	662	2,175	"			Dry		45	Fresh water at 53 ft. Salt water at 490, 1,270, and 1,975 ft. Show of gas and oil.
24	9	Union Gas Co. of Canada, Ltd., No. 67 Steinoff	550 ft. S. of N. line 700 ft. E. of W. line	1933	663	2,025	"	1,561-1,850	Salina Guelph	1,200 Mcf.		55	Fresh water at 67 ft. Sulphur water at 505 and 590 ft. Salt water at 1,785 ft.

24	9	Union Gas Co. of Canada, Ltd., No. 14 D. Turrill	NE. Corner.....	1927	860	1,580	"	1,550	Salina	650 Mcf.	650	60	Fresh water at 55 ft.
25	9	Union Gas Co. of Canada, Ltd., No. 79 Eden.....	1,000 ft. S. of N. line..... 50 ft. W. of E. line	1934	860	2,028	"	1,730- 1,740	"	127 Mcf.	.....	.....	Sulphur water at 580 ft. Salt water at 1,880 ft. Show of oil at 1,740 ft.
30	9	E. Coote and Co.....	NE. Corner.....	1923	665	3,913	"	.....	.....	Dry	.....	.....	Fresh water at 60 ft. Salt water at 560 and 1,800 ft. Show of gas and oil.
22	10	Union Gas Co. of Canada, Ltd., No. 66 Christner.....	50 ft. S. of N. line..... 50 ft. W. of centre line	1931	655	2,030	"	.....	.....	Dry	.....	45	Sulphur water at 325 and 540 ft. Show of gas at 1,383 ft.
23	10	Union Gas Co. of Canada, Ltd., No. 60 Gray.....	100 ft. S. of N. line..... 700 ft. W. of E. line	1930	659	2,201	"	.....	.....	Dry	.....	40	Sulphur water at 425 ft. Salt water at 1,772 ft. Show of gas and oil.
24	10	Union Gas Co. of Canada, Ltd., No. 15 Pelkey.....	350 ft. S. of N. line..... 1,100 ft. E. of W. line	1927	658	2,180	"	1,658- 1,727	Salina	510 Mcf.	710	55	Fresh water at 52 ft. Black water at 555 ft.
24	10	Union Gas Co. of Canada, Ltd., No. 17	300 ft. S. of N. line..... 1,900 ft. W. of E. line	1927	660	2,207	"	.....	.....	Dry	.....	55	Black water at 505 ft.
33	10	J. Perdu, Edwin Fowler.....	2,680 ft. S. of N. road..... 160 ft. E. of W. road	1939	661	435	"	.....	.....	Dry	.....	66	Fresh water at 65 and 105 ft.
23	11	Union Gas Co. of Canada, Ltd., No. 52 Barnes.....	550 ft. N. of S. line..... 1,400 ft. E. of W. line	1930	659	1,822	"	.....	.....	Dry	.....	45	Sulphur water at 350 ft. Salt water at 1,745 ft. Show of oil at 1,730 ft.
24	11	Union Gas Co. of Canada, Ltd., No. 40 Butler.....	400 ft. S. of N. line..... 2,000 ft. W. of E. line	1929	657	2,135	Kettle Point	.....	.....	Dry	.....	.....	Salt water at 590 and 1,722 ft. Show of gas at 1,710 ft.
25	11	Union Gas Co. of Canada, Ltd., No. 80 L. Taylor.....	50 ft. S. of N. line..... 90 ft. E. of W. line	1936	659	1,840	"	1,570	Salina	63 Mcf.	615	42	Sulphur water at 500 ft. Salt water at 1,805 ft.
28	11	W. Burbank L. Mather.....	100 ft. S. of centre line..... 850 ft. E. of W. road	1938	662	475	"	.....	.....	Dry	.....	61	Fresh water at 58 ft. Black water at 470 ft.
34	11	Perdu Bros. A. Lassaline No. 1.....	30 ft. S. of N. line..... 75 ft. E. of W. line	1940	666	443	"	.....	.....	Dry	.....	75	Fresh water at 72 ft. Salt water at 440 ft.
11	12	Union Gas Co. of Canada, Ltd., No. 106 O. H. Paul.....	50 ft. N. of S. road..... 75 ft. W. of E. road	1941	622	1,757	"	.....	.....	Dry	.....	30	Fresh water at 35 ft. Sulphur water at 526 ft.
19	12	Little Klondyke Gas Syndicate McClintock No. 1.....	1,500 ft. S. of N. line..... 100 ft. W. of E. road	1938	644	350	"	319	Norfolk	.....	.....	35	Fresh water at 40 ft. Small producing oil well.

Wells in Dawn Township, Lambton County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
25	12	Union Gas Co. of Canada, Ltd., No. 37..... E. Hartwick.....	200 ft. N. of S. line..... 500 ft. E. of W. road	1933	660	1,896	Kettle Point	.....	.....	Dry	.....	45	Fresh water at 45 ft. Sulphur water at 430 ft. Salt water at 1,675 and 1,840 ft.
25	12	Union Gas Co. of Canada, Ltd., No. 37..... G. H. Wright.....	480 ft. N. of S. line..... 1,710 ft. W. of E. line	1943	660	1,885	"	.....	.....	Dry	.....	45	Fresh water at 41 ft. Sulphur water at 530 ft. Salt water at 1,838 ft. Show of gas at 1,554 and 1,662 ft.
19	13	Fairbanks.....	SW. Corner.....	1914	640	2,059	"	.....	.....	Dry	.....	.....	Show of oil at 1,630 ft.
24	13	Union Gas Co. of Canada, Ltd., No. 27..... Summers.....	350 ft. S. of N. line..... 1,800 ft. E. of W. line	1928	659	2,115	"	1,548-1,665	Salina	2,016 Mcf.	735	50	Fresh water at 48 ft. Salt water at 490, 570, and 1,765 ft.
24	13	Union Gas Co. of Canada, Ltd., No. 28..... Summers	NW. Corner.....	1928	659	2,136	"	1,553-1,680	"	100 Mcf.	.....	45	Fresh water at 46 ft. Salt water at 460, 550, and 1,685 ft.
24	13	Union Gas Co. of Canada, Ltd., No. 41..... Summers.....	250 ft. N. of S. line..... 1,660 ft. E. of W. line	1929	657	2,000	"	.....	.....	Dry	.....	45	Salt water at 450 ft. Show of oil at 1,730 ft.
25	13	Union Gas Co. of Canada, Ltd., No. 72..... H. Mawlam.....	50 ft. S. of centre line..... 900 ft. W. of E. line	1934	660	1,987	"	.....	.....	Dry	.....	50	Black water at 405 ft. Salt water at 1,683 and 1,740 ft. Show of oil at 1,683 ft.
25	13	Union Gas Co. of Canada, Ltd., No. 118..... G. H. Wright.....	1,540 ft. S. of N. road..... 1,040 ft. E. of W. road	1943	661	1,821	"	1,663-1,677	Salina	111 Mcf.	350	46	Sulphur water at 46 and 431 ft. Salt water at 1,815 ft.
30	13	Union Gas Co. of Canada, Ltd., No. 33..... White	SW. Corner.....	1928	673	2,179	"	.....	.....	Dry	.....	25	Black water at 405 ft. Salt water at 500, 720, and 1,882 ft.
17	13	R. Newbury.....	470 ft. N. of S. line..... 2,250 ft. W. of E. road	1939	641	277	.....	.....	.....	Dry	.....	30	Fresh water at 30 ft. Salt water at 291 and 371 ft.
18	13	Little Klondyke Gas Syndicate H. McLennan.....	1,000 ft. S. of N. line..... 1,350 ft. E. of W. road	1938	630	327	.....	250-321	Norfolk	15 bbls.	.....	35	Water at 25 ft.

19	13	Little Klondyke Gas Syndicate	1,000 ft. N. of S. line. 430 ft. E. of W. road	1938	634	326	314-318	"	29	Fresh water at 35 ft. Small producing oil well.
23	14	Union Gas Co. of Canada, Ltd., No. 95 H. and T. Mawlam	45 ft. N. of S. line.	1938	655	1,922	Kettle Point	Dry	42	Sulphur water at 470 ft. Salt water at 1,675 ft.
24	14	Union Gas Co. of Canada, Ltd., No. 30 H. Mawlam	775 ft. W. of E. line	1929	630	2,133	"	Dry	45	Salt water at 505 and 515 ft.
24	14	Union Gas Co. of Canada, Ltd., No. 24 H. Mawlam	700 ft. S. of N. line. 2,100 ft. E. of W. line NW. Corner	1928	658	2,118	"	106 Mcf.	55	Fresh water at 55 ft. Salt water at 538 and 1,810 ft. Show of oil at 1,810 ft.
29	8	Union Gas Co. of Canada, Ltd., No. 125 L. Bradley	50 ft. S. of N. line.	1944	639	1,990	"	"		
25	8	Union Gas Co. of Canada, Ltd., No. 128 S. Johnston	75 ft. E. of centre line 125 ft. N. of S. line.	1944	660	1,901	"	"		Producing gas well.
25	14	Union Gas Co. of Canada, Ltd., No. 124 L. R. White	880 ft. E. of W. road 400 ft. N. of S. line. 180 ft. W. of centre line.	1943	660	1,689	"	Dry	55	Fresh water at 55 ft. Sulphur water at 399 ft. Salt water at 1,678 ft. Show of oil at 1,678 ft.

Wells in Moore Township, Lambton County

18	1	Sarnia Gas and Oil Company Haywood	50 ft. N. of S. road 930 ft. W. of E. road	1929	620	4,180	Kettle Point	Dry	145	Water at 147 and 705 ft. Show gas at 3,490 ft. Show oil at 3,690 ft.
23	1	F. L. Patterson <i>et al</i>	1,550 ft. N. of S. line. 290 ft. E. of W. line	1934	615	825	"	"	195	2 feet of sulphur at 800 ft.
23	1	E. Coste and Company, No. 5.		1923	617	930	"	Dry	195	Fresh water at 137 and 175 ft. Show gas at 145 and 245 ft.
24	1		2,000 ft. N. of S. line. 50 ft. W. of E. line		615	620	"	"	150	Fresh water at 30 ft. Gas at base of drift. 10 wells; some oil.
6	3	McGregor								
5	7	J. C. Appleman	800 ft. N. of S. road 50 ft. E. of W. line	1927	628	562		Dry	113	
1	8	Fargherson farm		1904	642	500	Hamilton	Dry	123	
1-2	8	Postil, Farm Syndicate No. 1.		1904	642	500	Kettle Point	Dry	99	

Wells in Moore Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude feet above sea level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
1-2	8	Postil, Farm Syndicate No. 3.	.....	1906	642	490	Kettle Point	.....	.....	Dry	.....	103	Fresh water at 103 ft. Show gas and oil at 445 ft.
1-2	8	Postil, Farm Syndicate No. 4.	.....	1906	641	485	Hamilton	.....	.....	.....	.....	118	Water at 144 ft. Gas at 447 ft. Oil at 447 and 460 ft
4	8	Noble and Bryant No. 9. Smith Brothers No. 1	.....	1904	644	470	"	404	Norfolk	.....	.....	125	Fresh water at 125 and 126 ft. Gas and oil at 404 ft.
4	8	Noble and Bryant No. 10. Smith Brothers No. 2	.....	1905	644	430	Kettle Point	410	"	.....	.....	130	Gas and oil at 410 ft.
4	8	Noble and Bryant No. 12. James Bruton No. 1	.....	1905	646	480	Hamilton	404 445	"	.....	.....	150	.....
4	8	Noble and Bryant No. 13. James Bruton No. 2	.....	1905	645	485	"	400	"	.....	.....	145	.....
4	8	Noble and Bryant No. 14. James Bruton No. 3	.....	1906	645	495	"	450	"	.....	.....	150	Fresh water at 150 ft. Gas at 450 ft. Oil at 455 ft.
4	8	Noble and Bryant No. 15. James Bruton No. 4	.....	1906	645	491	"	420-460	"	.....	.....	145	Water at 70 and 300 ft. Gas and oil at 430 and 460 ft.
4	8	Noble and Bryant No. 16. Smith Brothers No. 3	.....	1906	643	488	"	455	"	.....	.....	147	Gas and oil at 455 ft.
4	8	Noble and Bryant No. 17. Smith Brothers No. 4	.....	1906	644	491	"	455 425	"	.....	.....	147	Gas at 425 ft. Oil at 455 ft.
4	8	Noble and Bryant No. 18. Smith Brothers No. 5	.....	1906	644	490	"	425 400	"	.....	.....	145	Gas at 400 ft. Oil at 425 ft.
4	8	Noble and Bryant No. 19. Smith Brothers No. 6	.....	1906	644	486	"	410	"	.....	.....	146	Gas at 410 ft.
5	8	Reece No. 1.	West half of lot.	1905	646	475	"	.....	.....	Dry	.....	130	Fresh water at 135 ft.
5	8	Reece No. 2.	West half of lot.	1905	646	480	"	.....	.....	Dry	.....	130	Fresh water at 135 ft.
5	8	Reece No. 3.	West half of lot.	1905	646	500	Kettle Point	.....	.....	Dry	.....	122	Fresh water at 151 ft.

8	Noble.....	.....	635	443	"	.....	.....	123	Fresh water at 154 ft. Gas and oil at 413, 430, and 447 ft.
1	D. Potter farm No. 1.....	East half of lot.....	1904	470	Hamilton	413- 447	Norfolk	142	.....
1	D. Potter farm No. 2.....	East half of lot.....	1904	470	"	437	"	143	Fresh water at 146 ft. Gas at 437 ft. Very little oil at 437 ft.
1	D. Potter farm No. 3.....	East half of lot.....	1907	472	"	.....	.....	140	Fresh water at 144 ft. Show gas at 450 and 455 ft.
1	D. Potter farm No. 4.....	East half of lot.....	1907	490	.....	.....	.....	135	Show gas and oil at 440 and 445 ft.
1	D. Potter farm No. 5.....	East half of lot.....	1907	490	Hamilton	.....	.....	130	Show gas at 445 ft.
1	D. Stamm No. 1.....	West half of lot.....	1904	480	"	410	Norfolk	146	Fresh water at 147 ft. Gas and oil at 410 ft.
1	D. Stamm No. 2.....	West half of lot.....	1904	462	"	420	"	145	Gas and oil at 420 ft.
1	D. Stamm No. 3.....	West half of lot.....	1905	475	"	420	"	145	Fresh water at 147 ft. Gas and oil at 420 ft.
1	D. Stamm No. 4.....	West half of lot.....	1907	491	"	.....	.....	132	Fresh water at 142 ft. Show gas and oil at 445 ft.
2	Noble and Bryant..... Holmes Brothers No. 1	West half of lot.....	1904	471	"	405- 410	Norfolk	129	Fresh water at 150 ft. Gas and oil at 406 to 410 ft.
2	Noble and Bryant..... Holmes Brothers No. 2	West half of lot.....	1905	425	"	390	"	128	Fresh water at 165 and 183 ft. Gas and oil at 390 ft.
2	Noble and Bryant No. 3..... Holmes No. 3	West half of lot.....	1905	470	"	416	"	130	Gas and oil at 416 ft.
2	Noble and Bryant No. 4..... Holmes No. 4	West half of lot.....	1906	492	"	.....	.....	146	Show gas at 480 ft.
2	John McNeil farm.....	East half of lot.....	.....	.....	.....	.....	.....	.....	7 wells; some oil pro- duction.
4	F. L. Patterson <i>et al.</i> A. Bruce No. 1	N.E. Corner.....	1935	465	Hamilton	382- 420	Norfolk	145	Small producing oil well. Fresh water at 172 ft.
4	F. L. Patterson <i>et al.</i> A. Bruce No. 2	1,300 ft. S. of N. line. 575 ft. W. of E. line	1935	455	"	.....	.....	152	Fresh water at 171 ft. Show oil at 395 and 410 ft.
4	.....	.....	.....	.....	.....	.....	.....	.....	8 other wells.
24	McKellar.....	.....	1929	148	Hamilton	.....	.....	142	.....

Wells in Moore Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield in bbls. or Mcd.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 1	West half of lot (Saunders farm)	1904	.....	.....	Hamilton	396	Norfolk	.....	.....	149	Fresh water at 176 ft. Gas and oil at 396 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 2	West half of lot (Saunders farm)	1904	.....	485	"	.....	.....	Dry	.....	149	Show gas at 390 ft. Show oil at 390, 410, and 435 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 3	West half of lot (Saunders farm)	1904	651	495	"	.....	.....	Dry	.....	149	Gas at 397 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 4	West half of lot (Saunders farm)	1904	654	.....	"	.....	Norfolk	Dry	.....	145	Show gas and oil at 392, 430, and 450 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 5	West half of lot (Saunders farm)	1904	654	48	"	.....	.....	Dry	.....	143	Show gas and oil at 392 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 6	West half of lot (Saunders farm)	1904	650	485	"	.....	.....	Dry	.....	150	Show gas at 445 ft. Show oil at 425 and 460 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 7	West half of lot (Saunders farm)	1905	652	485	"	.....	.....	Dry	.....	150	Show oil at 420 ft. Show oil at 404 and 420 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 8	West half of lot (Saunders farm)	1905	651	483	"	405	Norfolk	.....	.....	150	Gas at 405 ft. Oil at 404 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 9	West half of lot (Saunders farm)	1905	651	491	"	400-415 405	"	.....	.....	150	Gas at 405 ft. Oil 400 to 415 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 10	West half of lot (Saunders farm)	1905	651	483	"	415	"	.....	.....	150	Fresh water at 180 and 185 ft. Gas and oil at 415 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 11	West half of lot (Saunders farm)	1905	650	500	"	.....	.....	Dry	.....	150	Fresh water at 180 and 185 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 12	West half of lot (Saunders farm)	1905	651	490	"	.....	.....	Dry	.....	154	Water at 330 ft. Show gas at 415 ft. Show oil at 460 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 13	West half of lot (Saunders farm)	1905	650	493	"	455	Norfolk	.....	.....	147	Gas and oil at 455 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 14	West half of lot (Saunders farm)	1905	650	495	"	.....	.....	Dry	.....	143	Show gas and oil at 435 ft.

2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 15	West half of lot (Saunders farm)	1905	652	490	"	455	Norfolk	.....	143	Gas and oil at 455 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 20	West half of lot (Saunders farm)	1907	652	505	"	.....	Dry	.....	147	Show gas at 415 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 21	West half of lot (Saunders farm)	1907	652	496	"	.....	Dry	.....	150	Water at 330 ft. Show gas and oil at 455 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 22	West half of lot (Saunders farm)	1907	651	488	"	.....	Dry	.....	150	Fresh water at 155 and 175 ft. Show gas and oil at 450 and 460 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 26	West half of lot (Saunders farm)	1907	651	502	"	.....	Dry	.....	150	.....
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 27	West half of lot (Saunders farm)	1907	651	500	"	.....	Dry	.....	150	Fresh water at 155 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 28	West half of lot (Saunders farm)	1907	651	502	"	.....	Dry	.....	150	.....
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 29	West half of lot (Saunders farm)	1907	651	499	"	.....	Dry	.....	150	.....
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 31	West half of lot (Saunders farm)	1907	652	493	"	.....	Dry	.....	150	Show gas and oil at 400 and 460 ft.
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 33	West half of lot (Saunders farm)	1907	651	495	"	.....	Dry	.....	149	.....
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 34	West half of lot (Saunders farm)	1907	651	496	"	.....	Dry	.....	149	.....
2	10	Anglo-Canadian Petroleum..... Albert Saunders No. 35	West half of lot (Saunders farm)	1907	651	495	"	.....	Dry	.....	149	.....
2	10	Anglo-Canadian Petroleum..... Henry McCombe farm No. 1	East half of lot (McCombe farm)	1904	651	485	"	.....	Dry	.....	145	Show gas and oil at 403 to 408 ft.
2	10	Anglo-Canadian Petroleum..... Henry McCombe farm No. 2	East half of lot (McCombe farm)	1904	.....	486	"	.....	Dry	.....	145	Fresh water at 149 ft. Show oil at 400, 425, and 440 ft.
2	19	Anglo-Canadian Petroleum..... Henry McCombe farm No. 3	East half of lot (McCombe farm)	1904	.....	480	"	.....	Dry	.....	142	Fresh water at 145 ft. Show oil at 416 and 440 ft.
2	10	Anglo-Canadian Petroleum..... Henry McCombe No. 4	East half of lot (McCombe farm)	1904	.....	485	"	.....	Dry	.....	142	Fresh water at 145 ft.
2	10	Anglo-Canadian Petroleum..... Henry McCombe No. 5	East half of lot (McCombe farm)	1905	.....	482	"	.....	Dry	.....	149	Fresh water at 151 ft. Show gas at 405 ft. Show oil at 405 and 410 ft.
2	10	Anglo-Canadian Petroleum..... Henry McCombe No. 6	East half of lot (McCombe farm)	1905	.....	486	"	405- 410	Norfolk	.....	149	Fresh water at 151 ft. Oil at 405 and 410 ft.

Wells in Moore Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
2	10	Anglo-Canadian Petroleum..... Henry McCombe farm No. 7	East half of lot (McCombe farm)	1905	.....	491	Hamilton	395-410	Norfolk	.....	.....	148	Fresh water at 149 ft. Oil at 395, 405, and 410 ft.
2	10	Anglo-Canadian Petroleum..... Henry McCombe farm No. 8	East half of lot (McCombe farm)	1905	.....	491	"	410	"	.....	.....	148	Fresh water at 149 ft. Oil at 410 ft.
2	10	Anglo-Canadian Petroleum..... Henry McCombe farm No. 9	East half of lot (McCombe farm)	1905	.....	490	"	.....	.....	Dry	.....	147	Fresh water at 151 ft. Show gas and oil at 450 ft.
2	10	Anglo-Canadian Petroleum..... Henry McCombe farm No. 10	East half of lot (McCombe farm)	1905	.....	490	"	.....	.....	Dry	.....	148	Fresh water at 148 ft. Show gas and oil at 450 ft.
2	10	Anglo-Canadian Petroleum..... Henry McCombe farm No. 11	East half of lot (McCombe farm)	1907	648	499	"	.....	.....	Dry	.....	150	Show gas and oil at 420 and 425 ft.
2	10	Anglo-Canadian Petroleum..... Henry McCombe farm No. 12	East half of lot (McCombe farm)	1907	652	497	"	.....	.....	Dry	.....	150	Fresh water at 152 ft.
3	10	Anglo-Canadian Petroleum..... J. J. Maw farm No. 1	East half of lot (Maw farm)	1904	651	490	"	.....	.....	Dry	.....	150	Fresh water at 162 ft. Show gas at 400 ft. Show oil at 400, 430, and 465 ft.
3	10	Anglo-Canadian Petroleum..... J. J. Maw farm No. 2	East half of lot (Maw farm)	1904	652	485	"	.....	.....	Dry	.....	150	Fresh water at 160 ft. Show gas and oil 410 and 455 ft.
3	10	Anglo-Canadian Petroleum..... J. J. Maw farm No. 3	East half of lot (Maw farm)	1904	650	485	"	400	Norfolk	.....	.....	148	Fresh water at 158 ft. Oil at 400 ft. Gas between 395 and 400 ft.
3	10	Anglo-Canadian Petroleum..... J. J. Maw farm No. 5	East half of lot (Maw farm)	1905	651	498	"	.....	.....	Dry	.....	153	Fresh water at 158 ft. Show oil at 445 ft.
3	10	Anglo-Canadian Petroleum..... J. J. Maw farm No. 6	East half of lot (Maw farm)	1907	652	500	"	.....	.....	Dry	.....	153	Fresh water at 158 ft.
3	10	Anglo-Canadian Petroleum..... J. J. Maw farm No. 7	East half of lot (Maw farm)	1907	652	490	"	.....	.....	Dry	.....	152	Fresh water at 158 ft.
3	10	Anglo-Canadian Petroleum..... J. J. Maw farm No. 8	East half of lot (Maw farm)	1907	652	495	"	.....	.....	Dry	.....	152	Fresh water at 158 ft.

3	10	Anglo-Canadian Petroleum,.... J. J. Maw farm No. 9	East half of lot (Maw farm)	1907	651	495	"	.....	Dry	.....	153	Show gas and oil at 460 ft.
3	10	Anglo-Canadian Petroleum,.... J. J. Maw farm No. 10	East half of lot (Maw farm)	1908	650	497	"	.....	Dry	.....	152	Show gas at 455 ft.
3	10	Anglo-Canadian Petroleum,.... J. J. Maw farm No. 11	East half of lot (Maw farm)	1908	650	497	"	.....	Dry	.....	150	Fresh water at 175 ft.
3	10	Duncan Brothers,..... Wright No. 1	South half of lot.....	1924	655	480	"	.....	Dry	.....	150	
4	10	F. L. Patterson <i>et al.</i> ,..... A. Glover No. 1.....	1,100 ft. S. of N. road..... 500 ft. E. of W. line	1935	648	464	"	422 Norfolk	1 bbl.	.....	145	Fresh water at 176 ft.
4	10	James Kirk No. 2.....	West half of lot.....	1905	649	486	"	.....	.....	.....	150	Oil.
4	10	James Kirk No. 3.....	.....	1905	649	487	"	453 Norfolk	.....	.....	150	Oil at 453 ft.
4	10	James Kirk No. 4.....	.....	1905	.....	482	"	.....	Dry	.....	147	Fresh water at 155 ft.
4	10	James Kirk No. 5.....	.....	1905	649	486	"	.....	Dry	.....	143	
5	10	W. J. Husey and Son,..... G. Bell No. 1	.....	1934	646	476	"	392 Norfolk 400	2 bbls.	.....	150	Fresh water at 145 ft. Salt water at 334 ft.
6	10	Anglo-Canadian Petroleum No. 36	.....	1907	.....	496	"	.....	Dry	.....	142	Fresh water at 178 ft.
2	11	Canadian Oil Fields Ltd. No. 8	West half of lot.....	1904	654	512	"	510 Norfolk	.....	.....	165	Gas and water at 510 ft., abandoned.
2	11	Canadian Oil Fields Ltd. No. 29	West half of lot.....	1904	652	486	"	415	"	.....	150	Fresh water at 152 ft. Gas and oil at 415 ft.
2	11	Canadian Oil Fields Ltd. No. 31	West half of lot.....	1905	651	496	"	445	"	.....	150	Fresh water at 152 ft. Oil at 445 ft., abandoned.
2	11	Canadian Oil Fields Ltd. No. 33	West half of lot.....	1905	652	490	"	.....	Dry	.....	155	Fresh water at 158 ft.
2	11	Canadian Oil Fields Ltd. No. 35	West half of lot.....	1905	652	495	"	450	.....	.....	156	Fresh water at 159 ft. Oil and gas at 450 ft.
2	11	Canadian Oil Fields Ltd. No. 36	West half of lot.....	1905	652	495	"	.....	Dry	.....	153	Fresh water at 153 and 161 ft.
2	11	Canadian Oil Fields Ltd. No. 37	West half of lot.....	1905	653	490	"	410 Norfolk	.....	.....	153	Fresh water at 158 ft. Oil at 410 ft., abandoned.
2	11	Canadian Oil Fields Ltd. No. 38	West half of lot.....	1905	654	485	"	455- 460	"	.....	160	Fresh water at 166 ft. Gas and oil between 455 and 460 ft.
2	11	Canadian Oil Fields Ltd. No. 40	West half of lot.....	1905	653	490	"	455- 460	"	.....	160	Fresh water at 165 ft. Gas and oil at 455 to 460 ft.

Wells in Moore Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
2	11	Canadian Oil Fields Ltd. No. 42	West half of lot.....	1905	652	483	Hamilton	460	Norfolk	.....	.....	160	Fresh water at 160 ft. Gas at 460 ft.
2	11	Canadian Oil Fields Ltd. No. 44	West half of lot.....	1905	651	494	"	450	"	.....	.....	160	Fresh water at 167 ft. Gas and oil at 450 ft.
2	11	Canadian Oil Fields Ltd. No. 45	West half of lot.....	1905	654	491	"	.....	.....	Dry	.....	160	Fresh water at 167 ft.
2	11	Canadian Oil Fields Ltd. No. 47	West half of lot.....	1905	654	495	"	.....	.....	Dry	.....	160	Fresh water at 170 ft.
2	11	Canadian Oil Fields Ltd. No. 48	West half of lot.....	1906	656	495	"	410	Norfolk	.....	.....	155	Fresh water at 158 ft. Gas and oil at 410 ft., abandoned.
2	11	Canadian Oil Fields Ltd. No. 50	West half of lot.....	1906	654	490	"	.....	.....	Dry	.....	160	Fresh water at 168 ft.
2	11	Canadian Oil Fields Ltd. No. 53	West half of lot.....	1906	654	490	"	425-463 463	Norfolk	.....	.....	160	Fresh water at 172 ft. Gas at 463 ft. Oil at 425 and 463 ft.
2	11	Canadian Oil Fields Ltd. No. 56	West half of lot.....	1906	654	495	"	455- 460	"	.....	.....	160	Fresh water at 163 ft. Gas at 460 ft. Oil at 455 and 460 ft.
2	11	Canadian Oil Fields Ltd. No. 57	West half of lot.....	1906	653	490	"	460	"	.....	.....	155	Fresh water at 167 ft. Gas and oil at 460 ft.
2	11	Canadian Oil Fields Ltd. No. 58	West half of lot.....	1906	653	494	"	480	"	.....	.....	158	Fresh water at 161 ft. Oil at 460 ft.
2	11	Canadian Oil Fields Ltd. No. 59	West half of lot.....	1906	651	491	"	458	"	.....	.....	158	Fresh water at 163 ft. Gas and oil at 458 ft.
2	11	Canadian Oil Fields Ltd. No. 60	West half of lot.....	1906	652	495	"	418	"	.....	.....	155	Fresh water at 167 ft. Gas and oil at 418 ft.
2	11	Bailey.....	East half of lot.....	.....	653	481	"	405- 455	"	18 bbls.	.....	150	.....
3	11	Canadian Oil Fields Ltd. No. 6	East half of lot.....	1904	653	490	"	450	"	.....	.....	155	Fresh water at 163 ft. Gas and oil at 450 ft., abandoned.
3	11	Canadian Oil Fields Ltd. No. 9	East half of lot.....	1904	652	511	"	412- 460	"	.....	.....	171	Gas and oil at 422, 440, and 460 ft., abandoned.

3	11	Canadian Oil Fields Ltd. No. 10 West half of lot.....	1904	653	507	"	406-450	"	.....	167	Gas at 406, 414, and 446 ft. Oil at 414, 430, and 446 ft.
3	11	Canadian Oil Fields Ltd. No. 11 East half of lot.....	1904	652	502	"	415-463	"	.....	164	Fresh water at 173 ft. Gas at 415 ft. Oil at 430 and 463 ft.
3	11	Canadian Oil Fields Ltd. No. 12 East half of lot.....	1904	.....	503	"	430-465 405	"	.....	171	Gas at 405 ft., abandoned. Oil from 430 to 465 ft.
3	11	Canadian Oil Fields Ltd. No. 13 West half of lot.....	1904	655	490	"	420-465 410	"	.....	160	Fresh water at 160 ft. Gas at 410 ft. Oil at 420 to 465 ft.
3	11	Canadian Oil Fields Ltd. No. 14 East half of lot.....	1904	653	501	"	410-440	"	.....	171	Fresh water at 171 ft. Gas at 410 ft. Oil at 410 and 440 ft.
3	11	Canadian Oil Fields Ltd. No. 15 East half of lot.....	1904	653	508	"	445-465	"	.....	160	Fresh water at 160 ft. Gas at 465 ft., abandoned. Oil at 445 and 465 ft.
3	11	Canadian Oil Fields Ltd. No. 16 East half of lot.....	1904	653	508	"	440	"	.....	175	Gas and oil at 440 ft.
3	11	Canadian Oil Fields Ltd. No. 17 East half of lot.....	1904	653	.....	"	465	"	.....	159	Oil at 465 ft., abandoned.
3	11	Canadian Oil Fields Ltd. No. 18 West half of lot.....	1904	653	501	"	445	"	.....	164	Gas and oil at 445 ft.
3	11	Canadian Oil Fields Ltd. No. 19 West half of lot.....	1904	653	.....	"	.....	"	.....	.....	.....
3	11	Canadian Oil Fields Ltd. No. 20 West half of lot.....	1904	653	490	"	440	Norfolk	.....	155	Gas and oil at 440 ft.
3	11	Canadian Oil Fields Ltd. No. 21 East half of lot.....	1904	.....	490	"	.....	.....	.....	155	Fresh water at 158 ft.
3	11	Canadian Oil Fields Ltd. No. 22 West half of lot.....	1904	651	500	"	435	Norfolk	.....	152	Fresh water at 155 ft. Gas and oil at 435 ft.
3	11	Canadian Oil Fields Ltd. No. 23 East half of lot.....	1904	.....	505	"	.....	.....	.....	150	Fresh water at 152 ft.
3	11	Canadian Oil Fields Ltd. No. 24 West half of lot.....	1904	651	510	"	445	Norfolk	.....	150	Fresh water at 153 ft. Gas and oil at 445 ft.
3	11	Canadian Oil Fields Ltd. No. 25 East half of lot.....	1904	651	490	"	445	"	.....	150	Fresh water at 155 ft. Gas and oil at 445 ft., abandoned.
3	11	Canadian Oil Fields Ltd. No. 26 East half of lot.....	1904	652	496	"	462	"	.....	150	Fresh water at 152 ft. Gas and oil at 462 ft.
3	11	Canadian Oil Fields Ltd. No. 27 West half of lot.....	1904	650	500	"	455	"	.....	147	Fresh water at 149 ft. Gas and oil at 455 ft.
3	11	Canadian Oil Fields Ltd. No. 28 East half of lot.....	1904	652	490	"	455	"	.....	150	Fresh water at 155 ft. Gas and oil at 455 ft.

Wells in Moore Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Pro- ducing formation	Yield of Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
3	11	Canadian Oil Fields Ltd. No. 30	West half of lot.....	1905	651	486	Hamilton	415	Norfolk	.....	.....	152	Fresh water at 154 ft. Gas and oil at 415 ft.
3	11	Canadian Oil Fields Ltd. No. 32	West half of lot.....	1905	652	504	"	417	"	.....	.....	155	Fresh water at 158 ft. Oil at 417 ft.
3	11	Canadian Oil Fields Ltd. No. 34	West half of lot.....	1905	647	500	"	.....	.....	Dry	.....	147	Fresh water at 148 ft.
3	11	Canadian Oil Fields Ltd. No. 39	West half of lot.....	1905	650	490	"	.....	.....	Dry	.....	155	Fresh water at 159 ft. Show oil at 408 ft.
3	11	Canadian Oil Fields Ltd. No. 41	West half of lot.....	1905	650	489	"	410 460 410	Norfolk "	.....	.....	155	Fresh water at 162 ft. Gas at 410 ft., abandoned. Oil at 410, 453 to 460 ft.
3	11	Canadian Oil Fields Ltd. No. 43	West half of lot.....	1905	650	485	"	.....	.....	Dry	.....	160	Fresh water at 160 ft. Gas and show of oil at 410 ft.
3	11	Canadian Oil Fields Ltd. No. 49	East half of lot.....	1906	654	490	"	455	Norfolk	.....	.....	160	Fresh water at 165 ft. Gas and oil at 455 ft.
3	11	Canadian Oil Fields Ltd. No. 51	East half of lot.....	1906	653	490	"	402	"	.....	.....	155	Fresh water at 167 ft. Gas and oil at 462 ft.
3	11	Canadian Oil Fields Ltd. No. 52	East half of lot.....	1906	651	491	"	400	"	.....	.....	160	Gas and oil at 400 ft.
3	11	Canadian Oil Fields Ltd. No. 53	East half of lot.....	1906	651	490	"	402	"	.....	.....	155	Fresh water at 167 ft. Gas and oil at 462 ft.
3	11	Canadian Oil Fields Ltd. No. 54	East half of lot.....	1906	651	490	"	.....	.....	Dry	.....	160	Fresh water at 170 ft. Show of oil at 445 ft.
3	11	Canadian Oil Fields Ltd. No. 61	East half of lot.....	1906	653	490	"	.....	.....	Dry	.....	160	Fresh water at 170 ft. Show of oil at 445 ft.
3	11	Noble and Bryant No. 1.....	West half of lot.....	1904	652	500	"	399	Norfolk	.....	.....	145	Fresh water at 145 ft. Gas at 399 ft.
3	11	Noble and Bryant No. 11.....	West half of lot.....	1905	652	500	"	.....	.....	Dry	.....	143	Fresh water at 143, 156, and 193 ft.
4	11	Lambton Syndicate No. 1..... Wright Bros. Farm	East half of lot.....	1904	649	520	"	435-450	Norfolk	.....	.....	153	Gas at 435 and 450 ft. Show of oil at 450 ft.

4	11	Lambton Syndicate No. 3..... Robert Duncan farm	West half of lot.....	1904	646	490	"	.....	.....	.....	155	
4	11	Lambton Syndicate No. 4..... Robert Duncan farm	West half of lot.....	1904	646	518	"	455	Norfolk	.....	153	Gas at 455 ft.
4	11	Lambton Syndicate No. 6..... Wright Bros. farm	East half of lot.....	1904	650	500	"	410- 455 410	"	.....	155	Fresh water at 155 ft. Gas at 410 ft. Oil at 410 and 455 ft.
4	11	Lambton Syndicate No. 8..... Robert Duncan farm	West half of lot.....	1904	646	.....	"	455	"	.....	150	Gas and oil at 455 ft.
4	11	Lambton Syndicate No. 9..... Wright Bros. farm	East half of lot.....	1904	649	485	"	435-460 415	"	.....	155	Gas at 415 ft. Oil at 400, 450, and 435 ft.
4	11	Lambton Syndicate No. 10..... Wright Bros. farm	East half of lot.....	1904	646	500	"	440-445 405-410	"	.....	154	Fresh water at 154 ft. Gas at 405 and 410 ft. Oil at 440 and 445 ft.
4	11	Lambton Syndicate No. 11..... Wright Bros. farm	East half of lot.....	1904	652	500	"	432	"	.....	148	Gas and oil at 432 ft.
4	11	Lambton Syndicate No. 12..... Wright Bros. farm	East half of lot.....	1905	.....	496	"	.....	.....	Dry	150	Show gas and oil at 415 and 432 ft.
4	11	Lambton Syndicate No. 13..... Wright Bros. farm	East half of lot.....	1905	.....	497	"	.....	.....	.....	148	
4	11	Lambton Syndicate No. 14..... Wright Bros. farm	East half of lot.....	1905	.....	487	"	445	Norfolk	.....	152	Little gas at 445 ft.
4	11	Lambton Syndicate No. 19..... Wright Bros. farm	East half of lot.....	1905	.....	490	"	455	"	.....	149	Show of gas at 455 ft. Oil at 455 ft.
4	11	Lambton Syndicate No. 20..... Wright Bros. farm	East half of lot.....	1905	652	491	"	455	"	.....	155	Oil at 455 ft. Show of gas at 455 ft.
4	11	Lambton Syndicate No. 21..... Robert Duncan farm	West half of lot.....	1905	646	846	"	480	"	.....	150	Fresh water at 180 ft. Gas and oil at 450 ft.
4	11	Lambton Syndicate No. 22..... Robert Duncan farm	West half of lot.....	1905	646	490	"	440	"	.....	150	Fresh water at 150 ft. Gas and oil at 440 ft.
4	11	Lambton Syndicate No. 25..... Robert Duncan farm.....	West half of lot.....	1906	650	491	"	455 435	"	.....	148	Fresh water at 153 ft. Gas at 435 ft. Oil at 455 ft.
4	11	Lambton Syndicate No. 26..... Robert Duncan farm	West half of lot.....	1906	650	491	"	440	"	.....	150	Fresh water at 150 ft. Gas and oil at 440 ft.
4	11	Lambton Syndicate No. 27..... Robert Duncan farm	East half of lot.....	1906	650	500	"	435- 440 435	"	.....	154	Gas at 435 ft. Oil at 435 and 400 ft.
4	11	Lambton Syndicate No. 28..... Robert Duncan farm	.....	1907	.....	500	"	455	"	.....	.....	Show oil. Show gas.

Wells in Moore Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. or sq. in.	Thickness of drift in feet	Remarks
4	11	Lambton Syndicate No. 29. Robert Duncan farm	East half of lot.	1907	652	499	Hamilton	.....	.....	Dry	.....	150	Show gas and oil at 450 ft.
4	11	Lambton Syndicate No. 30. Robert Duncan farm	East half of lot.	1907	652	500	"	455	Norfolk	.....	.....	152	Fresh water at 157 ft. Gas and oil at 455 ft.
4	11	Lambton Syndicate No. 33. Robert Duncan farm	West half of lot.	1908	.....	495	"	.....	.....	Dry	.....	150	Show gas at 455 ft.
4	11	Noble and Bryant No. 5.	West half of lot.	1904	639	504	"	412	Norfolk	.....	.....	130	Fresh water at 163 ft. Gas and oil at 412 ft.
4	11	Noble and Bryant No. 6.	West half of lot.	1904	647	475	"	413	"	.....	.....	126	Fresh water at 163 ft. Gas and oil at 413 ft.
4	11	Noble and Bryant No. 7.	West half of lot.	1904	647	475	"	412 405	"	.....	.....	130	Fresh water at 175 ft. Gas at 405 ft. Oil at 412 ft.
5	11	Dawson farm.	.....	.....	648	477	"	420	"	.....	.....	153	Show oil at 420 ft.
6	11	Huron Syndicate No. 8.	West half of lot.	1904	645	.....	"	450	"	.....	.....	140	Gas at 450 ft.
6	11	Huron Syndicate No. 9.	.....	1905	645	485	"	404	"	.....	.....	154	Fresh water at 162 ft. Gas and oil at 404 ft.
6	11	Huron Syndicate No. 10.	.....	1905	645	494	"	425	"	.....	.....	154	Fresh water at 159 ft. Gas and oil at 425 ft.
6	11	Huron Syndicate No. 11.	.....	1905	645	495	"	430	"	.....	.....	150	Fresh water at 160 ft. Gas at 430 ft.
6	11	Huron Syndicate No. 12.	.....	1905	645	500	"	460	"	.....	.....	150	Fresh water at 155 ft. Gas and oil at 460 ft.
6	11	Huron Syndicate No. 13.	.....	1906	645	487	"	405 450	"	.....	.....	153	Fresh water at 155 ft. Gas at 450 ft. Oil at 405 ft.
6	11	Huron Syndicate No. 14.	.....	1906	645	492	"	455	"	.....	.....	153	Gas and oil at 455 ft.
6	11	Huron Syndicate No. 15.	.....	1906	645	490	"	455	"	.....	.....	150	Fresh water at 162 ft. Gas and oil at 455 ft.
9	11	Huron Syndicate No. 16.	.....	1906	645	490	"	.....	.....	Dry	.....	157	Fresh water at 167 ft. Show oil 405 ft. Show gas at 455 ft.

6	11	Huron Syndicate No. 17.....	1908	645	494	"	.....	Dry	.....	158	Fresh water at 178 ft. Show gas and oil between 465 and 460 ft.
6	11	Huron Syndicate No. 18.....	1908	645	494	"	.....	455- 460 Norfolk	.....	160	Fresh water at 180 ft. Gas and oil at 455 and 460 ft.
6	11	Huron Syndicate No. 19.....	1908	645	492	"	.....	Dry	.....	153	Fresh water at 173 ft. Show gas and oil at 460 ft.
3	12	Leekie No. 1.....	1908	653	470	"	.....	Dry	.....	155	Show of gas.
3	12	Leekie No. 3.....	1908	.....	475	"	.....	.....	.....	.....	.....
3	12	Leekie No. 4.....	1908	.....	470	"	.....	.....	.....	.....	.....
4	12	Lambton Syndicate No. 2.....	1904	652	512	"	.....	445 Norfolk	.....	153	Fresh water at 153 ft. Gas at 445 ft. Oil at 445 to 450 ft.
4	12	Lambton Syndicate No. 5.....	1904	652	502	"	.....	450 "	.....	148	Fresh water at 168 ft. Gas and oil at 450 ft.
4	12	Lambton Syndicate No. 7.....	1904	652	504	"	.....	444 "	.....	145	Fresh water at 149 ft. Gas and oil at 444 ft.
4	12	Lambton Syndicate No. 15.....	1905	652	500	"	.....	388- 430 "	.....	147	Oil at 388 and 430 ft.
4	12	Lambton Syndicate No. 16.....	1905	652	496	"	.....	430 "	.....	147	Water in drift. Gas and oil at 430 ft.
4	12	Lambton Syndicate No. 17.....	1905	652	500	"	.....	.....	Dry	149	Fresh water at 149 ft. Show of gas at 408 ft.
4	12	Lambton Syndicate No. 18.....	1905	652	500	"	.....	408 Norfolk	.....	149	Gas at 408 ft.
4	12	Lambton Syndicate No. 23.....	1905	652	499	"	.....	445 430 "	.....	145	Fresh water at 150 ft. Gas at 430 ft. Oil at 445 ft.
4	12	Lambton Syndicate No. 24.....	1905	.....	486	"	.....	.....	Dry	145	Show gas at 420 ft. Show oil at 440 ft.
4	12	Lambton Syndicate No. 31.....	1908	652	501	"	.....	.....	Dry	155	.....
4	12	Lambton Syndicate No. 32.....	1908	652	500	"	.....	.....	Dry	153	Show gas at 445 ft. Show oil at 435 ft.
4	12	C. Jackson farm No. 1.....	.....	649	485	"	.....	.....	.....	145	Oil producer.
4	12	C. Jackson farm No. 2.....	.....	.....	481	"	.....	.....	.....	146	Oil producer.
4	12	C. Jackson farm No. 3.....	.....	.....	480	"	.....	.....	.....	146	Oil producer.
4	12	C. Jackson farm No. 4.....	.....	.....	474	"	.....	.....	.....	145	Oil producer.

Wells in Moore Township, Lambton County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
4	12	C. Jackson farm No. 5.....	West half of lot.....	.....	.....	448	Hamilton	.....	.....	.....	.....	135	Oil producer.
5	12	Gus McMahon farm No. 1.....	East half of lot.....	1906	648	493	"	.....	.....	Dry	.....	156	Gas and oil well.
5	12	Gus McMahon farm No. 2.....	East half of lot.....	.....	.....	491	"	.....	.....	.....	.....	156	Gas well.
5	12	Gus McMahon farm No. 3.....	East half of lot.....	.....	.....	480	"	.....	.....	.....	.....	146	Oil and gas well.
5	12	Gus McMahon farm No. 4.....	East half of lot.....	.....	.....	480	"	.....	.....	.....	.....	148	Show oil and gas.
5	12	Gus McMahon farm No. 5.....	East half of lot.....	.....	.....	470	"	.....	.....	Dry	.....	147	Show oil and gas.
5	12	Gus McMahon farm No. 6.....	East half of lot.....	.....	.....	470	"	.....	.....	Dry	.....	150	Show gas.
5	12	Gus McMahon farm No. 7.....	East half of lot.....	.....	.....	490	"	.....	.....	.....	.....	148	Oil well.
5	12	Gus McMahon farm No. 8.....	East half of lot.....	.....	.....	481	"	.....	.....	16 bbls.	.....	.....	.....
5	12	F. J. McMahon No. 1.....	West half of lot.....	1905-6	638	494	"	.....	.....	Dry	.....	.....	.....
5	12	F. J. McMahon No. 2.....	West half of lot.....	1905-6	.....	497	"	.....	.....	.....	.....	.....	.....
5	12	F. J. McMahon No. 3.....	West half of lot.....	1905-6	.....	485	"	.....	.....	.....	.....	147	Oil and gas.
5	12	F. J. McMahon No. 4.....	West half of lot.....	1905-6	.....	490	"	.....	.....	.....	.....	153	Show oil and gas.
5	12	F. J. McMahon No. 5.....	West half of lot.....	1905-6	.....	491	"	.....	.....	Dry	.....	156	Show oil and gas.
5	12	F. J. McMahon No. 6.....	West half of lot.....	1905-6	.....	489	"	.....	.....	Dry	.....	153	Show oil and gas.
5	12	F. J. McMahon No. 7.....	West half of lot.....	1905-6	.....	492	"	.....	.....	.....	.....	155	Oil at 460 ft.
5	12	F. J. McMahon No. 8.....	West half of lot.....	1905-6	.....	490	"	.....	.....	6 bbls.	.....	158	Oil producer.
5	12	F. J. McMahon No. 9.....	West half of lot.....	1905-6	.....	468	"	.....	.....	Dry	.....	145	Show oil and gas.
5	12	F. J. McMahon No. 10.....	West half of lot.....	1905-6	.....	470	"	.....	.....	.....	.....	140	Gas producer. Show oil.
5	12	F. J. McMahon No. 11.....	West half of lot.....	1905-6	.....	470	"	.....	.....	.....	.....	145	Oil producer.
5	12	F. J. McMahon No. 12.....	West half of lot.....	1905-6	.....	467	"	.....	.....	.....	.....	148	Oil producer. Show gas.
5	12	F. J. McMahon No. 13.....	West half of lot.....	1905-6	.....	468	"	.....	.....	.....	.....	150	Oil producer.

Wells in Plampton Township, Lambton County

Note: There are many wells in this township for which no records are available.

5	12	F. J. McMahon No. 14.	West half of lot.	1905-6	490	"	.....	.....	.....	150
5	12	F. J. McMahon No. 15.	West half of lot.	1905-6	472	"	.....	Dry	.....	145 Show oil and gas.
23	R.R.	Western Salt Co. Ltd. No. 1.	350 ft. N. of S. line. 100 ft. E. of river road.	.....	588	"	.....	.....	.....	Salt well.
23	R.R.	Western Salt Co. Ltd. No. 2.	450 ft. N. of S. line. 600 ft. E. of river road.	.....	598	"	.....	.....	.....	Salt well.
23	R.R.	Western Salt Co. Ltd. No. 3.	50 ft. S. of N. line. 1,250 ft. E. of river road.	1929	600	Kettle Point	.....	Dry	.....	160 Show gas at 2,540 ft.
36-37	R.R.	Webster Brothers.	Mooretown.	.....	606±	"	.....	.....	.....	132 Salt well.
36-37	R.R.	Brown and Armstrong.	Mooretown.	.....	606±	?	.....	.....	.....	145 Salt water at 868 ft. Gas at 1,420 ft.
68	Front	Millar Hess Syndicate.	300 ft. S. of N. line. 2,200 ft. W. of E. line	1930	619	Kettle Point	.....	Dry	.....	133 Fresh water 125 ft. Gas at 630 ft.
68	Front	.....	300 ft. S. of N. line. 2,800 ft. W. of E. line	.....	608	"	.....	.....	.....	120

4	1	.....	.....	.....	670	Hamilton	.....	Dry	.....	185 Show of oil at 470 ft.
5	1	Brooks No. 1.	.....	1904	500	"	.....	Dry	.....	..... Show of oil and gas at 430 to 435 ft.
5	1	Park No. 1.	.....	1904	500	"	.....	Dry	.....	..... Show of oil.
5	1	Park No. 2.	.....	1904	500	"	.....	Dry	.....	..... Show of oil.
5	1	Park No. 3.	.....	1904	490	"	.....	.....	.....	..... Show of gas at 479 ft.
5	1	Park No. 4.	.....	1904	500	"	.....	.....	.....	..... Pumped oil.
5	1	Alexander Gardener.	1,300 ft. S. of N. road. 300 ft. E. of W. line	1935	674	"	.....	Dry	.....	163 Fresh water at 167 ft.
9	1	Atkinson No. 1.	.....	.....	520	"	.....	.....	.....	..... Oil well.
9	1	Atkinson No. 2.	.....	.....	520	"	.....	Dry	.....	160 Show of oil.
9	1	Atkinson No. 3.	.....	.....	538	"	.....	Dry	.....	160
9	1	Atkinson No. 4.	.....	.....	529	"	.....	.....	.....	180 Oil well.
9	1	Atkinson No. 5.	.....	.....	527	"	.....	Dry	.....	175 Show of oil.

Wells in Plympton Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
9	1	Atkinson No. 6.....				530	Hamilton					165	
9	1	Atkinson No. 7.....				530	"					170	Oil well.
9	1	Atkinson No. 8.....				522	"					160	
10	1	Maugh No. 1.....	600 ft. N. of S. road. 300 ft. W. of E. line		699	535	"			Dry		133	Gas well.
10	1	Maugh No. 2.....	50 ft. N. of S. road. 900 ft. W. of E. line		702	538	"			Dry		134	
10	1	Maugh No. 3.....	600 ft. N. of S. road. 900 ft. W. of E. line		702		"			Dry		130	
10	1		1,100 ft. N. of S. road. 300 ft. W. of E. line		710								
10	1		1,400 ft. N. of S. road. 500 ft. E. of W. line		710								
10	1		1,700 ft. N. of S. road. 300 ft. E. of W. line		706								
11	1	Dennis.....	100 ft. N. of S. road. 700 ft. E. of W. line		694	527	Kettle Point			Dry		124	Show of gas.
12	1	Hunter No. 1.....	200 ft. N. of S. road. 1,250 ft. W. of E. line		690	500	"			Dry		119	Show of gas and oil.
12	1	Hunter No. 2.....	400 ft. N. of S. road. 650 ft. W. of E. line		696	500	"			Dry		126	Show of gas at 490 ft.
13	1	D. Gordon No. 1.....	100 ft. N. of S. road. 100 ft. W. of centre line.		694	500				Dry		130	
13	1	D. Gordon No. 2.....	300 ft. N. of S. road. 350 ft. W. of centre line		695					Dry			
13	1	D. Gordon No. 3.....	700 ft. N. of S. road. 600 ft. E. of W. line		693					Dry			
15	1	J. Stonehouse.....	80 ft. N. of S. road. 100 ft. W. of centre line	1895	691	480	Kettle Point			Dry		104	Show of oil.

4	2	Wm. P. Reddick No. 1.....	660 ft. S. of N. road, 1,000 ft. E. of W. road	1935	660	470	Hamilton	464	Norfolk	154	Fresh water at 150 and 185 ft. Gas at 435 and 490 ft.
7	2	Donald.....				425	"		Dry	180	Small oil well.
8	2	Bryson and Cole, A. Levitt No. 1.....	150 ft. N. of S. line, 50 ft. E. of W. line	1936	719	635	"		Dry	202	Fresh water at 300 ft. Sulphur water at 595 ft. Show of oil at 515 ft.
10	2	O. Anderson.....	NE. Corner.....	1899	704	475	"		Dry	145	Show of oil and gas at 475 ft.
15	2	Johnson.....	NW. Corner.....		705						
15	2	Borrowman.....	Village of Wyoming.....		714	520	Hamilton		Dry	137	Show of gas at 105 ft.
16	2	McKay.....	1,500 ft. S. of N. road, 200 ft. E. of W. line		703						
16	2	Nicholson.....	2,200 ft. S. of N. road, 200 ft. E. of W. line		707	525			Dry	125	Show of gas.
16	2	Presbyterian Church property.....	Village of Wyoming.....		707	525	Hamilton		Dry	130	Show of gas.
21	2	N. Rodock.....	NW. Corner.....	1896	710	535			Dry	88	
24	2	Victor Tait No. 1, McIntosh and Cole.....	230 ft. N. of S. road, 180 ft. W. of E. road	1939	696	536	Kettle Point		Dry	50	Fresh water at 50 and 80 ft.
12	3	D. W. Brownlee.....	250 ft. N. of S. road, 850 ft. E. of W. line		703	521	Hamilton		Dry	147	Show of gas 509 ft.
18	4	Sam Lucas.....	100 ft. S. of N. road, 656 ft. E. of W. line	1927	699	525	Kettle Point		30 Med. + bbl.	95	
24	4	B. D. Bornman, McIntyre No. 1.....	1,100 ft. S. of N. road, 106 ft. W. of E. road	1937	739	605	"		Dry	126	Fresh water at 72 ft. Salt water at 800 ft.
3	5	F. A. Ogletree, C. Strangway No. 1.....	100 ft. W. of E. road, 5,200 ft. S. of N. road.....	1940	634	2,945	Hamilton		Dry	114	Black water at 610 ft. Salt water at 700, 825, and 2,175 ft. Show of gas at 2,610 ft.
18	5	A. L. Lertaman.....	6,200 ft. S. of N. road, 3,500 ft. W. of E. road	1939	706	610	Kettle Point		Dry	95	Fresh water at 97 ft. Sulphur water at 598 ft.
30	5	L. G. Finch.....	1,000 ft. S. of N. line, 100 ft. W. of E. line	1923	734	556	"			85	Fresh water at 91 ft. Salt water at 556 ft.
17	6	Rawlings.....			685	512	"		Dry	84	
25	6	British Petroleum Co. No. 9...	900 ft. S. of N. road, 450 ft. W. of E. line	1930	732	569	"		Dry	113	Fresh water at 63 ft. Sulphur water at 113 ft. Salt water at 569 ft. Show of gas at 555 ft.

Wells in Plympton Township, Lambton County—Concluded

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Wells in Sombra Township, Lambton County

20	11	British Petroleum Co.....	2,800 ft. N. of S. road..... 800 ft. W. of E. line	1925	665	576 Kettle Point	Dry	90
23	11	British Petroleum Co.....	3,100 ft. N. of S. road..... 50 ft. W. of centre line.	1927	674	600 "	.....	.....	.....	.....	85
16	12	C. S. Douglas.....	SW. Corner.....	1890	640	504 "	.....	.....	.....	.....	75
14	13	Charles Fisher.....	400 ft. N. of S. road..... 700 ft. W. of E. line	1890	646	495 "	.....	.....	Dry	.....	86
30	13	Wm. Burney.....	900 ft. N. of S. road..... 120 ft. W. of E. line	.....	693	476 "	.....	.....	Dry	.....	.....
30	13	T. and G. Witherspoon.....	210 ft. S. of N. line..... 170 ft. W. of E. road	1941	707	526 "	.....	.....	Dry	.....	99 Salt water at 576 ft. Gas at 522 ft.
26	14	A. Gamon.....	1,150 ft. S. of N. road..... 500 ft. E. of W. line	.....	664	533 "	.....	.....	Dry	.....	76 Black water at 533 ft.
28	14	A. McPherson.....	1,600 ft. S. of N. road..... 500 ft. W. of E. line	.....	711	605 "	.....	.....	.....	.....	90

30	5	Union Gas Co. of Canada, Ltd., No. 86 V. Green No. 1.....	850 ft. N. of S. road..... 800 ft. W. of E. road	1936	594	2,042 Kettle Point	.....	.....	Dry	.....	52 Fresh water at 47 ft. Sulphur water at 585 ft. Salt water at 1,555 ft.
22	6	Union Gas Co. of Canada, Ltd., No. 86	75 ft. S. of N. line..... 50 ft. W. of centre line	1933	599	2,252 "	.....	.....	Dry	.....	60 Sulphur water at 565 and 700 ft. Show of oil.
F	6	.....	Port Lambton.....	1895	583	1,720 "	.....	.....	.....	.....	.....
27	9	Union Gas Co. of Canada, Ltd., No. 123 Dawn T. E. O'Neill.....	1,600 ft. S. of N. road..... 201 ft. E. of W. line	1943	617	1,970 "	.....	.....	Dry	.....	78
30	9	Union Gas Co. of Canada, Ltd., No. 45	1,700 ft. S. of N. line..... 100 ft. W. of E. line	1930	620	2,105 "	.....	.....	Dry	.....	65 Salt water at 610, 760, and 1,888 ft.
25	10	Union Gas Co. of Canada, Ltd., No. 122 Dawn Wm. Clifford Estate.....	993 ft. N. of S. road..... 72 ft. W. of E. line	1943	618	1,992 "	.....	.....	Dry	.....	100 Sulphur water at 900 to 906 ft. and 644 to 650 ft. Salt water at 1,983 to 1,992 ft.
25	11	Dawn Oil and Gas Co.....	2,400 ft. N. of S. line..... 200 ft. W. of E. line	1932	621	2,150 "	.....	.....	Dry	.....	109 Salt water at 645 and 2,015 ft.
29	11	Union Gas Co. of Canada, Ltd., No. 78	200 ft. N. of centre line..... 100 ft. W. of centre line	1934	625	2,002 "	.....	.....	Dry	.....	91 Sulphur water at 510 ft. Salt water at 1,990 ft. Show of gas at 1,990 ft.

Wells in Sombra Township, Lambton County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
30	11	Union Gas Co. of Canada, Ltd. No. 77	75 ft. S. of N. line 1,000 ft. W. of E. line	1934	625	2,150	Kettle Point			Dry		85	Sulphur water at 600 ft. Show of oil at 2,005 ft.
26	13		1,600 ft. S. of N. line 400 ft. W. of E. line		612	1,500				Dry			
27	13	Union Gas Co. of Canada, Ltd. No. 75	1,100 ft. S. of N. road 400 ft. E. of W. line	1934	620	2,175	Kettle Point			Dry		100	Sulphur water at 575 and 650 ft. Salt water at 2,035 and 2,150 ft.

Wells in Enniskillen Township, Lambton County

1	1	Gonder Farm	1,200 ft. S. of N. line 1,000 ft. E. of W. road		625	425				Dry			
3	1	J. Sinclair Farm	SW. Corner		630	707	Kettle Point					75	Fresh water at 75 ft. Salt water at 700 ft. 1 well.
12	1	Walker Farm										47	Several wells.
17	1	James Farm	NE. quarter										
18	1	Union Natural Gas Co. Donnelly No. 5	1,000 ft. S. of N. road 50 ft. W. of E. line	1941	662	2,132		1,860- 1,925	Salina Guelph	800 Mcf.	900		
19	1	J. Sproule	1,500 ft. S. of N. line 100 ft. E. of W. line			290	Hamilton					56	Several other wells.
19	1	J. Sproule	NE. Corner			285	"					57	
19	1	J. Sproule	NW. Corner			276	"					52	
21	1			1866		456						71	
4	2	J. R. Woodward	SW. Corner	1915	610	475						34	Show of oil and gas.
18	2	Sarnia Oil and Gas Co.	1,100 ft. S. of N. line 50 ft. E. of W. line	1932	658	2,244	Hamilton			Dry			
18	2	Oil Springs Oil and Gas Co. No. 3	2,650 ft. S. of N. line 50 ft. E. of W. line							Dry			

18	2	Oil Springs Oil and Gas Co., No. 2	2,150 ft. S. of N. line. 50 ft. W. of E. line	1913	647	3,065	Hamilton				53	Abandoned.
18	2	Sarnia Oil and Gas Co.	N.E. corner of S. 1.	1932	661			Geolgh				
18	2	Oil Springs Oil and Gas Co.	1,000 ft. N. of S. line. 800 ft. W. of E. line	1914 (?)	662	2,060	Hamilton		Dry			
18	2	Oil Springs Oil and Gas Co.	N.E. corner of S. 1.	1914 (?)					Dry			
18	2	Imperial Oil, Ltd.	2,450 ft. S. of N. line. 800 ft. W. of E. line	1914	662		Hamilton					
18	2	Oil Springs Oil and Gas Co.	N.W. corner of SE. 1.	1914	663							
19	2	Imperial Oil, Ltd. C. Parks No. 7.	1,000 ft. S. of N. road. 650 ft. W. of E. line	1914 (?)	663	3,753	Hamilton	3,485	Treston	360 Mcf.	47	
19	2	Oil Springs Oil and Gas Co.	Centre of lot.	1914	648			Geolgh				Abandoned.
19	2	Union Natural Gas Co.	1,000 ft. N. of S. line. 800 ft. W. of E. line	1914	666	2,052		"				Abandoned.
19	2	Oil Springs Oil and Gas Co.	700 ft. N. of S. line. 800 ft. W. of E. line		666			"				
19	2	Union Natural Gas Co.	SW. Corner.		663			"				Abandoned.
19	2	Oil Springs Oil and Gas Co.	N.W. corner of S. 1.					"				Abandoned.
20	2	Oil Springs Oil and Gas Co.	N.W. corner of S. 1.		669			"				Abandoned.
1	3	J. Peat.		1891		507	Kettle Point		Dry		64	Salt water at 502 ft.
4	4	H. Porter and Co.		1908		480			Dry			Show of oil at 455 to 460 ft.
4	5	I. Windover.		1899		482	Kettle Point		Dry		62	
15	5	Volcanic Gas and Oil Co. Ltd. John Mackesy No. 1.	125 ft. W. of E. road. 150 ft. N. of S. road	1939	656	2,220	"		Dry		63	Fresh water at 79, 552, 640, and 890 ft.
25	5	Union Gas Co. of Canada, Ltd. R. W. Simpson.	50 ft. N. of S. road. 75 ft. E. of W. property line	1941	671	2,018	"		Dry		58	Fresh water at 56 ft. Sulphur water at 487 ft. Salt water at 201 ft. Show of oil at 725 ft. Show of gas at 182 ft.
23	5	Union Natural Gas Co.		1927		2,217			Dry		66	
3	6	Anglo-Canadian Petroleum Co., Ltd.		1907		490	Kettle Point		Dry		72	
4	6	Huron Syndicate No. 4.		1904		500	"				67	

Wells in Enniskillen Township, Lambton County—Continued

[illegible]

9	Clarke Farm.....			455						100	Oil at 450 to 455 ft. 11 other wells.
9	J. Clarke and T. Droope.....	673	Kettle Point	498	Dry					67	Fresh water at 82 ft.
9	James Wade and D. E. Willits	675	"	480	Dry					63	Fresh water at 82 ft.
9	B. D. Borman- T. Hastings No. 1.....	683	"	2,025	Dry					57	Fresh water at 57' and 115 ft. Salt water at 480 ft. Show of oil at 428 to 433 ft.
10	J. Cann No. 2.....		Hamilton	467	Dry					145	Show of oil at 400 ft.
10	Lamb Farm.....		"	472	Norfolk					108	
10	C. A. Smith No. 1.....	662	"	480	"	1 bbl.				100	Fresh water at 100 ft.
10	C. A. Smith No. 2.....	676	"	519	"					86	Fresh water at 100 ft. Small producing oil well.
10	F. Howlett No. 4.....		"	435						60	Fresh water at 80 ft. Oil at 143 ft.
10	Petrolia Drilling Co., Geo. Willert No. 2.....			472	Dry					94	Fresh water at 96 ft. Show of gas at 445 ft.
10	J. Smallman No. 45.....		Hamilton	520						95	Fresh water at 95 ft. Oil at 475 ft.
10	McIntosh Oil and Gas Co., Ltd., F. R. McIntosh No. 1.....	627	Kettle Point	412	Norfolk					52	Fresh water at 52, 72, and 452 ft. Small producing oil well.
10	McIntosh Oil and Gas Co., Ltd., F. R. McIntosh No. 2.....	674	Hamilton	460	"					51	Fresh water at 100 ft. Salt water at 450 ft. Small producing oil well.
10	McIntosh Oil and Gas Co., Ltd., G. Willert No. 2.....	674	"	472	"					94	Fresh water at 96 ft. Small producing oil well.
11	Ball No. 1.....			469							Show of oil at 426 ft.
11	W. Van Antwerp Co., Geo. Droope No. 2.....	656	Hamilton	485	Dry					99	Show of oil at 445 455 ft.
11	E. Kelly No. 3.....		"	516	Norfolk					93	Fresh water at 93 ft.
11	Carman No. 1.....	665	"	3,777	Dry					90	

Wells in Enniskillen Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
11	11	A. Winder..... A. Winder No. 1.....	1,000 ft. N. of S. line*..... 15 ft. E. of W. line	1937	.....	468	Hamilton	.....	.....	.....	95	Fresh water at 95 ft. Small oil yield at 455 to 465 ft.
11	11	F. H. Edward..... F. H. Edward No. 2.....	1,000 ft. S. of N. line*..... 300 ft. E. of W. line.....	1937	.....	475	"	440-465	.....	.....	90	Fresh water at 110 ft. Salt water at 475 ft. Small producing oil well.
12	11	Imperial Oil, Ltd.....	200 ft. S. of N. line..... 850 ft. W. of E. line	.....	673	1,505	"	.....	Dry	.....	104	.....
12	11	Ernest Kells No. 1.....	2,000 ft. N. of S. line..... 400 ft. E. of W. line	1936	664	465	"	435-460	1 bbl.	.....	91	Fresh water at 93 ft.
12	11	E. E. Kells No. 2.....	SW. Corner.....	1940	.....	460	"	.....	Dry	.....	93	Fresh water at 96 ft. Salt water at 460 ft. Show of oil at 330 and 345 ft.
12	11	E. Kells No. 1.....	Town of Petrolia.....	1935	664	464	"	338-460	.....	.....	94	Fresh water at 93 ft. Small producing oil well.
12	11	E. Kells.....	75 ft. N. of S. line*..... 250 ft. W. of E. line	1942	.....	.....	.....	.....	.....	.....	.....	.....
13	11	Nesbit and Miller.....	.....	1933	.....	430	Hamilton	.....	1 bbl.	.....	.....	.....
13	11	M. Collins No. 1.....	1,700 ft. N. of S. road..... 500 ft. E. of W. line	1936	675	473	"	473	Norfolk	.....	98	Fresh water at 103 and 115 ft. Salt water at 473 ft. Small producing oil well.
14	11	H. P. Rose No. 1.....	2,500 ft. S. of N. road..... 700 ft. W. of E. line	1936	648	455	"	428	"	1 bbl.	65	Fresh water at 75 ft.
14	11	H. P. Rose No. 2.....	2,800 ft. S. of N. road..... 900 ft. W. of E. line	1937	656	450	"	425	"	1 bbl.	65	Fresh water at 175 ft. Salt water at 430 ft.
14	11	Charles Egan No. 1.....	2,150 ft. S. of N. line..... 700 ft. W. of E. line	1936	651	443	"	425	"	3 bbls.	65	Fresh water at 90 ft.
15	11	G. Carlton No. 1.....	500 ft. S. of N. road..... 50 ft. W. of E. road.....	1937	682	480	"	368-465	"	.....	91	Fresh water at 96 ft.

15	11	Nesbit and Miller.....		1933	430	"	423	"	1 bbl.	50	
26	11	Van Antwerp..... P. Strangway No. 1.....	3,800 ft. N. of S. road. 1,700 ft. E. of W. road	1939	683	Kettle Point			Dry	60	Fresh water at 65 ft.
24	11	W. J. Hussey No. 1.....	90 ft. W. of E. road..... 1,056 ft. N. of 10th con- cession road	1938	470	Hamilton			Dry	100	Fresh water at 108 ft. Show of oil at 455 ft.
3	12	Elliott No. 1.....			473				Dry		Show of oil at 422 ft.
3	12	Elliott No. 2.....			478			Norfolk			
3	12	Elliott No. 3.....			480				Dry		
5-6	12										
8	12	McIntosh Oil and Gas Co., Ltd. I. Kirby No. 2.....	NE. Corner.....	1937	467	Hamilton	448- 470	Norfolk		100	16 producing oil wells. Small oil well.
8	12	McIntosh Oil and Gas Co., Ltd. I. Kirby No. 2.....	400 ft. S. of N. road. 250 ft. W. of E. line	1937	474	"	450- 462	"		100	Fresh water at 105 ft. Small oil well.
10	12	W. J. Cole No. 1.....	1,500 ft. N. of S. line* 100 ft. W. of E. line	1937	476	"	455			85	Fresh water at 98 ft. Salt water at 475 ft. Small oil well.
11	12	F. H. Edward No. 41.....	660 ft. E. of W. line* 2,640 ft. N. of blind line	1939	470	"	443- 470			92	Fresh water at 112 ft. Small oil well.
11	12	F. H. Edward No. 104.....	700 ft. S. of N. road. 750 ft. E. of W. line	1936	480	"	460	Norfolk		93	Fresh water at 110 ft. Salt water at 476 ft. Small oil well.
11	12	Dennis.....	SW. Corner.....		500	"			Dry	105	Show of oil at 480 ft.
11	12	Englehart No. 2.....			667	"					Many wells.
11	12	J. McMillan Estate.....		1894- 1938							
13	12			1872	477	Hamilton	470	Norfolk		100	Gas and oil at 470 ft.
13	12	Hussey Syndicate No. 1.....	500 ft. E. of W. line. 200 ft. N. of S. line	1939	472	"	470	"		98	Fresh water at 110 ft. Producing oil well.
14	12	Lawson No. 1.....			476	"				100	
15	12	McIntosh Oil and Gas Co., Ltd. F. R. McIntosh No. 3.....	450 ft. N. of S. road. 900 ft. W. of E. road	1937	476	"	452- 469	Norfolk		100	Fresh water at 98 ft. Small oil well.
15	12	McIntosh Oil and Gas Co., Ltd. F. R. McIntosh No. 1.....	SE. Corner.....	1937	471	"			Dry	100	Fresh water at 98 ft. Show of oil at 452 to 469 ft.
15	12	McIntosh Oil and Gas Co., Ltd. F. R. McIntosh No. 2.....	100 ft. N. of S. road. 850 ft. E. of W. road	1939	480	"	458- 475	Norfolk		100	Fresh water at 98 ft. Small oil well.

Wells in Ennistullen Township, Lambton County—Continued

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
15	12	McIntosh Oil and Gas Co., Ltd. F. R. McIntosh No. 4.....	500 ft. N. of S. road, 100 ft. W. of E. road	1887	683	471	Hamilton	.....	Dry	.....	100	Fresh water at 98 ft. Show of oil at 452 to 469 ft.
18	12	C. E. Judson and Co. No. 1.....	1,500 ft. N. of S. line, 400 ft. E. of W. line	1927	676	520	Kettle Point	.....	Dry	.....	65	
18	12	C. E. Judson and Co. No. 2.....	1,300 ft. N. of S. line, 500 ft. W. of E. line	1928	677	495	"	.....	Dry	.....	65	Show of gas and oil at 475 ft.
6	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 wells.
9	13	.....	.....	.....	.....	525	Hamilton	.....	Dry	.....	115	Salt water at 525 ft. Show of oil at 440 to 460 ft.
10	13	.....	.....	1872	.....	500	"	.....	Dry	.....	113	Show of oil at 450 ft.
12	13	Barnes No. 7.....	.....	1891	.....	478	"	443- 450	Norfolk	.....	98	Small oil producer.
12	13	Barnes No. 8.....	.....	1892	.....	480	"	439- 440	"	.....	100	Fresh water at 108 ft. Small oil producer.
12	13	Barnes No. 9.....	.....	1892	.....	478	"	462- 468	"	.....	100	Producing oil well.
12	13	Barnes No. 10.....	.....	1892	.....	478	"	440	"	.....	95	Fresh water at 117 ft. Gas at 440 ft.
12	13	Barnes No. 11.....	.....	1892	.....	478	"	.....	.....	.....	109	Fresh water at 112 ft. Show of oil at 440 ft. Show of gas at 432 ft.
12	13	Barnes No. 12.....	.....	1892	.....	465	"	.....	.....	.....	112	
12	13	Barnes No. 13.....	.....	1892	.....	470	"	.....	.....	.....	100	
12	13	Barnes No. 14.....	.....	1892	.....	470	"	435	Norfolk	.....	105	Fresh water at 112 ft. Oil at 435 ft.
12	13	Barnes No. 15.....	.....	1892	.....	470	"	423- 440	"	.....	105	Fresh water at 115 ft.
12	13	Barnes No. 16.....	.....	1892	.....	472	"	.....	.....	.....	104	Fresh water at 118 ft.

12	13	Barnes No. 17.....	1892	470	"	440	Norfolk	.....	104	Fresh water at 111 ft. Oil at 440 ft.
12	13	Barnes No. 18.....	1892	470	"	440	"	.....	104	Oil at 440 ft.
12	13	Barnes No. 19.....	1892	480	"	.....	.....	.....	102	Fresh water at 113 ft.
12	13	Barnes No. 20.....	1892	480	"	.....	Norfolk	.....	103	Fresh water at 114 ft. Oil at 440 ft.
13	13	.....	1872	523	"	.....	.....	Dry	120	Show of gas.
15	13	.....	1898	515	Kettle Point	.....	.....	Dry	80	.....
16	13	C. E. Judson and Co.....	1928	549	"	.....	.....	.....	70	.....
20	13	McIntosh Oil and Gas Co., Ltd. 1,860 ft. W. of E. road. R. N. Metcalfe No. 1.....	1939	500	"	.....	.....	Dry	31	Fresh water at 10 ft. Salt water at 490 ft.
6	14	E. Kells No. 2.....	1932	487	Hamilton	450- 475	Norfolk	1 bbl.	185	Fresh water at 185 ft.
7	14	Thomas Josh.....	1932	507	"	.....	.....	Dry	180	Fresh water at 185 ft. Salt water at 470 ft. Show of gas and oil at 465 ft.
8	14	Eli and Thomas Josh.....	1931	503	Kettle Point	.....	.....	Dry	180	Fresh water at 185 ft. Show of oil at 486 ft.
8	14	B. Josh No. 1.....	1941	495	Hamilton	.....	.....	Dry	150	Fresh water at 150 ft. Salt water at 480 ft. Show of oil at 455 ft.
9	14	.....	.....	464	Kettle Point	.....	.....	.....	121	Gas at 428 ft. Gas and oil at 464 ft.
10	14	Hendy No. 1.....	.....	525	"	.....	.....	.....	113	.....
10	14	Hendy No. 2.....	.....	537	"	447	Norfolk	5 bbls.	118	.....
10	14	Hendy No. 3.....	.....	522	"	453	"	.....	120	.....
10	14	Hendy No. 4.....	.....	525	"	455	"	.....	112	.....
10	14	Hendy No. 5.....	.....	526	"	.....	.....	.....	135	.....
10	14	Hendy No. 6.....	.....	530	Hamilton	.....	.....	.....	148	Producing oil well.
10	14	Hendy No. 7.....	.....	530	"	.....	.....	.....	148	Producing oil well.
10	14	Hendy No. 8.....	.....	520	"	.....	.....	Dry	145	Show of oil.
10	14	Hendy No. 9.....	.....	526	Kettle Point	.....	.....	.....	146	.....
10	14	Brooke No. 1.....	.....	524	Hamilton	.....	.....	.....	155	.....
10	14	Brooke No. 2.....	.....	.....	"	.....	.....	.....	153	.....

Wells in Enniskillen Township, Lambton County—Concluded

Lot	Con.	Designation	Location	Year drilled	Altitude in feet above sea-level	Depth in feet	Bedrock formation	Producing depth in feet	Producing formation	Yield Mcf. or bbls.	Pressure in lbs. sq. in.	Thickness of drift in feet	Remarks
10	14	Brooke No. 3.....	NW 4.....	.....	.....	518	Hamilton	.....	.....	.....	.....	145	.....
10	14	Brooke No. 4.....	NW 4.....	.....	.....	522	"	.....	.....	.....	.....	140	.....
10	14	Brooke No. 5.....	NW 4.....	.....	.....	524	"	.....	.....	.....	.....	140	.....
11	14	Dennis No. 5.....	.....	.....	.....	527	Kettle Point	.....	.....	.....	.....	117	Producing oil well.
11	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4 other wells.
13	14	.....	.....	1899	.....	515	Kettle Point	.....	.....	Dry	.....	126	Show of oil at 485 ft.

NOTE: There are many wells in this township for which no records are available.

* From application forms at office of the Ontario Natural Gas Commissioner, Toronto.

Wells in Sarnia Township, Lambton County

11	2	Walter Cox.....	150 ft. S. of N. road. 850 ft. E. of W. line	1924	629	440	Hamilton	.....	.....	Dry	.....	140	Show gas at 440 ft.
13	2	W. Smith.....	N.E. Corner.....	1924	633	480	"	480	Norfolk	75 Mcf.	.....	149	Gas at 480 ft. Show oil at 480 ft.
3	3	Boyle No. 1.....	SW. Corner.....	.....	641	487	"	.....	.....	Dry	.....	150	.....
5	3	J. H. Hoskins.....	1,800 ft. N. of S. road. 550 ft. W. of E. line	1889	641	485	Kettle Point	.....	.....	.....	.....	115	Show of oil and gas.
7	3	E. Lucas.....	100 ft. N. of S. road. 1,300 ft. W. of E. road	1933	640	2,332	Hamilton	.....	.....	Dry	.....	116	Water at 660 and 690 ft. Show oil at 470 ft. Show gas at 455 ft.
10	3	Elsom Proctor.....	700 ft. N. of S. road. 300 ft. W. of E. line	1925	621	435	"	.....	.....	Dry	.....	120	Show gas at 435 ft.
10	3	Reuben Proctor.....	1,050 ft. N. of S. road. 800 ft. E. of W. line	1925	619	400	"	390	Norfolk	50 Mcf.	.....	120	.....
3	4	Robt. Miller.....	1,500 ft. S. of N. road. 100 ft. E. of W. line	.....	630	475	.....	.....	.....	Dry	.....	.....	Show of oil and gas. Abandoned.

4	John Leighton.....	SW. Corner.....	1889	632	545	Kettle Point	.....	Dry	.....	100
34	Wm. Windover.....	65 ft. E. of W. line..... 176 ft. S. of N. road.....	1942	.....	592	"	.....	Dry	.....	118
2	J. and W. Milner No. 4.....	2,450 ft. S. of N. road..... 50 ft. W. of centre line.....	1898	619	477	Hamilton	430	Norfolk	2 bbls.	104
3	Geo. Steel.....	400 ft. S. of N. road..... 700 ft. E. of W. line.....	1926	610	393	"	.....	.....	.....	100
4	Wm. Booth.....	N.E. Corner.....	1905	606	470	"	440	Norfolk	1 bbl.	106
5	J. A. Beatty.....	N.W. Corner.....	1898	605	470	"	.....	Dry	.....	112
13	Sarnia Gas and Oil Co.....	200 ft. S. of N. road..... 800 ft. W. of E. line.....	1923	601	547	Kettle Point	540	Norfolk	94 Mcf.	100
2	Robt. Morrison.....	100 ft. N. of S. road..... 600 ft. W. of E. line.....	1897	613	525	"	.....	Dry	.....	47
3	Thos Bulman.....	350 ft. N. of S. road..... 30 ft. E. of W. road.....	1897	609	475	Hamilton	.....	Dry	.....	102
5	J. Pulse.....	2,200 ft. S. of N. road..... 700 ft. E. of W. line.....	1901	602	470	"	.....	Dry	.....	97
5	A. E. Randall.....	3,000 ft. N. of S. road..... 300 ft. E. of W. line.....	1904	596	472	"	.....	Dry	.....	111
7	Geo. Rooney.....	2,900 ft. N. of S. road..... 300 ft. W. of E. road.....	1904	603	475	"	.....	Dry	.....	121
8	Sarnia Gas and Oil Co.....	1,100 ft. S. of blind line..... 50 ft. W. of E. line.....	1904	603	471	"	471	Norfolk	100 Mcf.	123
8	Sarnia Gas and Oil Co.....	25 ft. S. of blind line..... 950 ft. W. of E. line.....	1904	599	474	"	.....	.....	100 Mcf.	123
8	Sarnia Gas and Oil Co.....	N.E. Corner.....	.....	598	471	"	405	Norfolk	100 Mcf.	123
13	Mackin Farm.....	3,500 ft. N. of S. road..... 1,000 ft. W. of E. road.....	1921	593	525	"	525	"	35 Mcf.	126
13	Sarnia Gas and Oil Co.....	450 ft. S. of N. line..... 50 ft. W. of E. road.....	1921	592	524	"	430	"	50 Mcf.	122
13	Sarnia Gas and Oil Co.....	2,600 ft. N. of S. road..... 1,550 ft. W. of E. road.....	1921	592	530	"	300	"	75 Mcf.	120
14	Sarnia Gas and Oil Co.....	3,800 ft. N. of S. road..... 50 ft. W. of E. line.....	1921	593	540	"	530	"	255 Mcf.	120
16	Sarnia Gas and Oil Co.....	2,200 ft. N. of S. road..... 1,000 ft. W. of E. road.....	1922	591	562	.....	562	"	10 Mcf.	106
16	Sarnia Gas and Oil Co.....	3,100 ft. N. of S. road..... 1,300 ft. W. of E. road.....	1922	592	563	Kettle Point	.....	.....	40 Mcf.	110

Wells in Sarnia Township, Lambton County—Concluded

[illegible]

City of Sarnia

City of Sarnia	Dominion Salt Co. No. 2.....	200 ft. N. of London road 100 ft. W. of Railway	583	.....	.....	.....	.....	.....	.....	(Salt well.
City of Sarnia	Dominion Salt Co. No. 3.....	700 ft. N. of London road 100 ft. E. of Railway	587	2, 104	.....	.....	.....	.....	244	Salt well.
City of Sarnia	Dominion Salt Co. No. 4.....	1,700 ft. N. of London road 600 ft. W. of Railway	592	2, 097	.....	.....	.....	.....	134	Salt well. Show gas at 274 ft. Water at 660 ft.
City of Sarnia	Dominion Salt Co. No. 5.....	2,300 ft. N. of London road 750 ft. W. of Railway	592	2, 173	.....	.....	.....	.....	105	Salt well. Water at 600 ft.
City of Sarnia	Dominion Salt Co. No. 6.....	1,500 ft. N. of London road 100 ft. W. of Railway	593	2, 092	Kettle Point	.....	.....	.....	190	Salt well. Gas at 230 and 285 ft. Water at 665 ft.
City of Sarnia	.....	Corner Rose and Tecum- seh Sta.	590	540	.....	.....	.....	.....	.....	.....
City of Sarnia	City Dairy.....	Corner Stewart and Tal- ford Sta.	600	660	Kettle Point	.....	.....	Dry	115	Show gas at 170, 510, 540, 605, and 660 ft.
City of Sarnia	N. C. Peterson and Sons.....	Corner Vidal and George Sta.	597	685	"	.....	.....	.....	200	.....
City of Sarnia	King's Grist Mill.....	1,500 ft. N. of London road 200 ft. W. of Railway	594	1, 505	"	.....	.....	Dry	120	Show gas at 400 ft.
City of Sarnia Plan 24 Block A	Dominion Salt Co. No. 7.....	50 ft. N. of S. property line 300 ft. W. of E. property line	593	2, 086	"	.....	.....	Dry	155	Salt well. Sulphur water at 645 ft. Show gas at 285 ft.

Note: There are many wells in this township for which no records are available.

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