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REPORT OF INVESTIGATIONS NO. 39

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1959
OIL AND GAS DEVELOPMENTS
IN OHIO

By
George G. Shearrow
and
Theodore A. DeBrosse

COLUMBUS
1960

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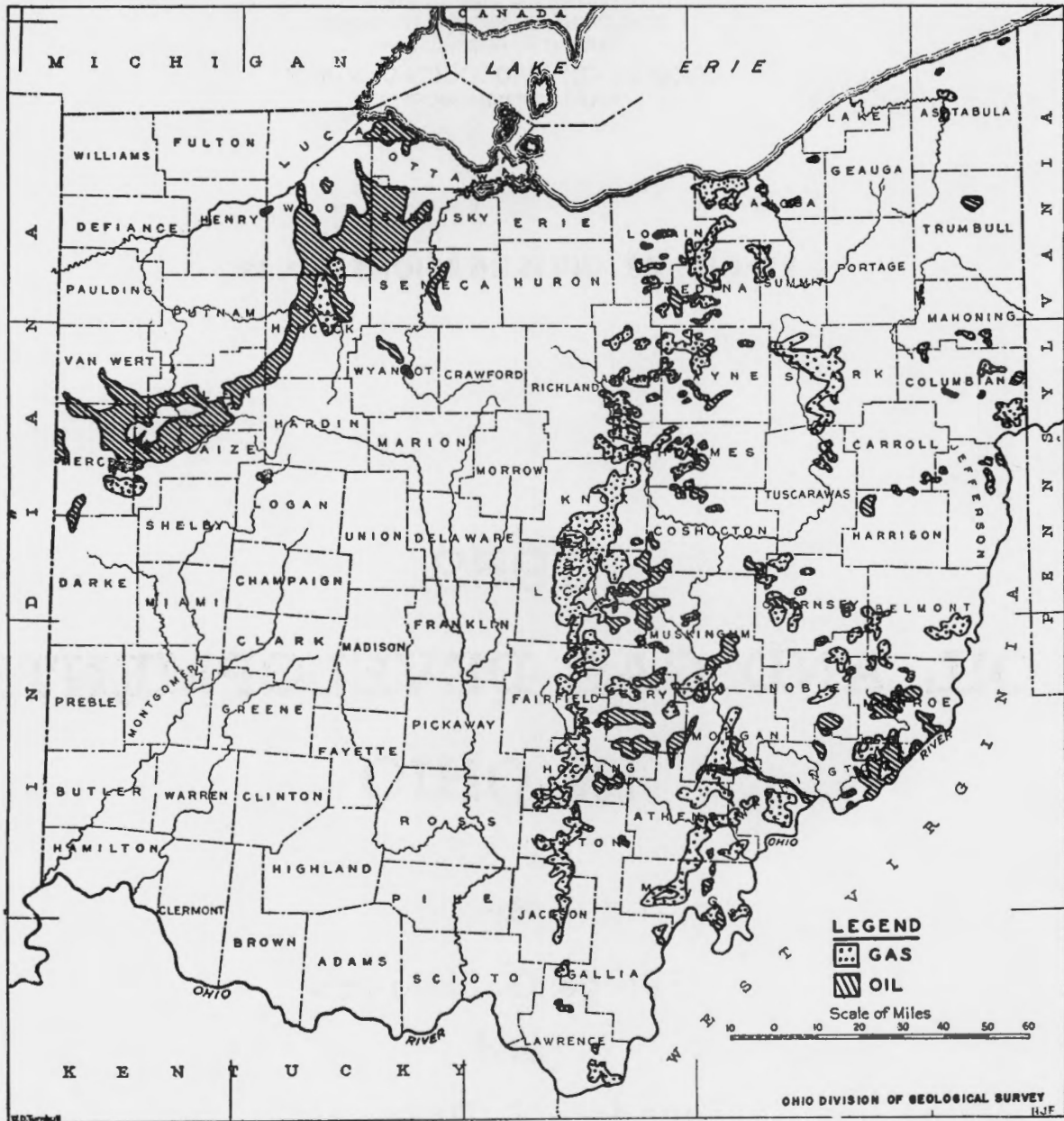


FIGURE 1.- OIL AND GAS FIELDS OF OHIO.

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SUMMARY OF OIL AND GAS WELL DRILLING ACTIVITIES IN OHIO DURING 1959

For more than a century Ohio has been producing commercial quantities of oil and gas. Although production has been moderate, over 650 million barrels of crude and 3 trillion cubic feet of gas have been produced. It is estimated that 150 thousand wells have been drilled.

The discovery of oil and gas in Ohio, purely by accident in 1814, predates the Drake well in Pennsylvania by 45 years. In Noble County a well was being drilled for brine for the purpose of extracting salt when oil was struck at 350 feet. The well flowed periodically, and the oil reportedly was used for lighting and for lubricating purposes. This early discovery was considered a nuisance since the presence of oil rendered the brine useless for salt extraction.

Since the first discovery of oil in the State, in 1814, the shallow formations have been well explored and in many areas overdrilled. However, the deeper rocks of the Cambrian and Lower Ordovician systems and the Middle Ordovician in Ohio have not been tested adequately. Approximately 300 wells have penetrated rocks of the Lower Ordovician and Cambrian systems. These older rocks may possibly hold vast quantities of oil and gas that exceed the total production thus far yielded by the shallow formations.

At the present time the entire area of the Appalachian basin, including Ohio on the western rim, is being studied and re-evaluated by the major oil companies. Interest has been aroused by the discovery of oil and gas from the older formations in Ohio and neighboring states.

Two of the thirteen tests drilled this year to the Lower Ordovician and Cambrian were successful. The No. 1-A Frank L. Smith, located in Medina County and drilled by the Wiser Oil, East Ohio, and Ohio Fuel Gas Companies, was completed at 1,200,000 cubic feet of gas and 5 barrels of distillate daily after acidizing. The bottom hole pressure was 2435 pounds per square inch. The production is from a zone at the erosional surface in the Trempealeau. The producing zone was reported at a depth of 5775 to 5790 feet. Besides the 192,000 cubic feet of gas produced natural at this depth, salt water and oil-cut mud were recovered from 5856 to 5865 feet and 5875 to 5884 feet. This well had a total depth of 7040 feet and bottomed in Precambrian metamorphic rocks of Grenville age.

The second and most recent well in the Cambrian is the No. 2 N. J. Monk, located in Morrow County and drilled by N. J. Monk, et al. The well showed 4 barrels of oil and 2 barrels of water natural and was reported to have produced 85 barrels the first 11 hours after acidizing. After flowing intermittently for 45 days the well was pumped for 24 hours and produced 95 barrels of oil and 22 barrels of water. Five pay zones were recorded-- 3594 to 3602 feet, 3621 to 3630 feet, 3685 to 3689 feet, 3710 to 3714 feet, and 3718 to 3720 feet. Only the top two zones were perforated. Again the erosional surface on the Trempealeau is the producing zone. The total depth of the well is 3731 feet.

Of the thirteen stratigraphic deep tests, four penetrated Precambrian metamorphic rocks. Two of these were the previously mentioned No. 1-A Frank L. Smith well in Medina

County, and the No. 1 Margaretha E. Warner, also located in Medina County, drilled by Ohio Fuel Gas Company et al, to a depth of 6731 feet. The Warner was a dry hole. The Kewanee Oil Company drilled the other two unsuccessful basement tests. The No. 1-A Harry Long, located in Pickaway County, bottomed at 3257 feet, and the No. 1 Van Pelt, located in Clinton County, had a total depth of 3259 feet.

The other nine tests penetrated the Lower Ordovician or Cambrian, the previously mentioned No. 2 N. J. Monk being the only one of this group successfully completed in the older rocks. Two wells in Ashtabula County, Russel McConnell's No. 1 C. M. Brydle, total depth 5710 feet, and Devonian Gas and Oil Company's No. 1 Conrad Mueller, total depth 6238 feet, were drilled to the Trempealeau. Both of these were plugged back and completed as gas wells in the Clinton sand. The Kewanee Oil Company drilled two holes to the Mt. Simon sandstone. Of these the No. 1 Harold and Faye Pavey, located in Highland County, had a total depth of 3512 feet, and the No. 1 Newton and Ledia Igo, located in Clinton County, bottomed at 3351 feet. In Medina County, the No. 3-A Hayden H. Hier of the Wiser Oil Co. et al. was drilled to 6031 feet testing the Trempealeau. The No. 1 Harry Johnson of Glenn R. Nye et al., located in Coshocton County, bottomed at 5845 feet in the Trempealeau. The No. 1 H. and A. Gecowets of S. E. Brown et al., located in Defiance County, bottomed at 2300 feet in the Trempealeau. The Continental Oil Company, a newcomer to Ohio, drilled the No. 1 Walter C. Brisbin to 2715 feet in Hamilton County, stopping in the Eau Claire dolomite.

The Trenton tests numbered 20, of which 11 were wildcat wells. Six of the Trenton wells were completed as small oil or gas wells. Three wells in Defiance County were completed at 2 to 10 barrels daily. The others were small gas wells which were sold to the land owners.

McClure Oil Company drilled two wells in Fulton County and one in Williams County into the Trenton-Black River section in hopes of extending the significant fields in the Trenton of southeastern Michigan. Small shows of oil were noted in the Trenton in one of the Fulton County wells and in the Williams County well. All three wells were abandoned.

Another interesting wildcat well was the No. 1 Warren F. Shank drilled by Ohio Drillers in Crawford County. The total depth was 2160 feet, and no shows were noted in the Trenton.

The Clinton sands of the Medina group again account for over half of the wells drilled. A total of 672 wells were drilled, of which 162 were gas, 88 were oil and 296 were combination oil and gas producers. The 126 dry holes represent 18.8 percent failures of the total number of wells drilled. The 81.2 percent successful completions looks favorable at first; however, in light of the poor marketing situation and the ever increasing prices of material and labor, it is questionable whether half of these wells will pay out. Year after year large initial production figures are reported for many wells, yet many of these wells fail to make money.

The most active drilling activity was in Wayne County, where 127 wells were drilled to the Clinton. Of the 95 producers, 22 were gas, 8 were oil, and 65 were combination wells. Holmes, Coshocton, and Perry Counties each had over 70 wells drilled to the Clinton. More than 45 wells were drilled to the Clinton in each of the following counties: Knox, Licking, and Muskingum.

The largest gas well reported was Felmont Oil Corporation's No. 1 Walter Hall, located in Monroe Township in Ashtabula County. The natural open flow was 1,500,000 cubic feet of gas from interbedded shales and sands of the Clinton, at a depth of 3034 to 3133 feet. The production after fracture was reported at 20,000,000 cubic feet of gas, and the 16-hour rock pressure was 1020 pounds per square inch.

In Vinton County a completion in the Clinton was reported at 16,030,000 cubic feet of gas after fracture. This was Darrell Blanton's No. 1 Pearl Bray, located in Swan Township. The sands ranged in depth from 2814 to 2851 feet. The natural production was

1, 280, 000 cubic feet of gas. The 48-hour pressure was 832 pounds per square inch.

In Perry County, one of the more active areas of drilling for several years, a sizable gas well was reported. The Hoosier Drilling Company's No. 1 William McClond, in Madison Township, was completed after fracture at 10, 450, 000 cubic feet of gas. The Clinton sand ranged in depth from 3214 to 3246 feet, which was the total depth. The well was gaged at 340, 000 cubic feet of gas natural.

Three Clinton oil wells were reported completed at 500 barrels or more after fracture. The No. 2 Parker Rine, drilled by Alkire, Floto, et al. and located in Knox County, Jackson Township, made 18 barrels natural and was reported completed after fracture at 600 barrels of oil. The Clinton sand and shales ranged in depth from 2932 to 2984 feet. R. B. Weed and Associates' No. 7 Muskingum Watershed Conservancy District, located in Coshocton County, New Castle Township, was completed after fracture at 500 barrels of oil and 750, 000 cubic feet of gas. The interbedded Clinton sands and shales ranged in depth from 2873 to 2933 feet. R. S. King's No. 1 Snyder, located in Wayne County, Canaan Township, was completed after fracture at 500 barrels of oil and 500, 000 cubic feet of gas. The interbedded Clinton sands and shales ranged in depth from 2965 to 3100 feet.

The "Newburg" zone received some attention this year as a result of deeper drilling in the Clinton in Wayne County. This dolomite pay zone is an erosional one; in some places reefs have been found at the base of the Cayuga group and in the top of the Niagara group. Of the 16 wells drilled in Wayne County, 13 were completed as gas wells. Production ranged from a few hundred thousand to 11 million cubic feet of gas. The largest of these wells was Preston Oil Company's No. 7 R. J. Dial, located in Franklin Township. The dolomite pay zone was recorded from 2988 to 3056 feet. The production after acidizing was 11, 400, 000 cubic feet of gas. The 24-hour rock pressure was 1140 pounds per square inch.

The only significant well in the Oriskany sand was the Ohio Fuel Gas Company's No. 1 Harrold W. Gerber, located in Wayne County, Sugar Creek Township. The Oriskany sand was found at 2579 feet, and the total depth was 2580 feet. The well was completed natural at 40 barrels per day. An offset to the west of this well proved to be dry.

The First Berea and Second Berea again hold the second and third position in the number of completions this year. The First Berea had a total of 251 wells, of which 58 were gas, 90 were oil, and 21 were combination oil and gas wells. The Second Berea had a total of 49 wells, of which 27 were gas, 4 were oil, and 8 were combination wells. The initial production from these zones is seldom greater than 20 barrels of oil and 500, 000 cubic feet of gas.

The shallow sands of the upper Mississippian and Pennsylvanian in eastern Ohio account for about 10 percent of the total number of wells drilled annually. A total of 118 wells were drilled, of which 56 were producers. Production from these shallow wells is small and of little significance to the total production.

A total of 1158 wells were drilled in the State this year. Of the total, 843 were producing wells -- 305 were gas, 203 were oil, and 335 were combination oil and gas wells. The percentage of dry holes was 27.2 percent. The first 24-hour daily initial production was reported to be 30, 504 barrels of oil and 434, 337, 000 cubic feet of gas. The total footage drilled was 2, 845, 373 feet, for an average of 2457 feet per well.

The actual production of oil for the year was 5, 978, 280 barrels, down approximately 500, 000 barrels from the 1958 production. Gas production increased approximately $2\frac{1}{2}$ billion cubic feet. The total gas produced was 36, 311, 000, 000 cubic feet. The estimated value of the production at the well head is \$25, 534, 470. The value of the oil produced was \$17, 074, 007 and of the gas \$8, 460, 463.

1959 OIL AND GAS DEVELOPMENTS

Production and value of oil produced in Ohio, 1959 ¹

	Buckeye	Zanesville	Corning	Cleveland - Chatham	Lima	Total
P/L runs ²	631,450	298,935	3,740,885	234,330	-	4,905,600
Trucked	<u>580,868</u>	<u>1,750</u>	<u>389,041</u>	<u>38,426</u>	<u>62,595</u>	<u>1,072,680</u>
Total	1,212,318	300,685	4,129,926	272,756	62,595	5,978,280
Avg. B/D ²	3,322	822	11,315	748	172	16,379
Avg. price ³	\$3.40	\$2.72	\$2.72	\$2.72	\$2.50	-
Value ³	\$4,121,881	\$817,863	\$11,233,399	\$741,896	\$158,968	\$17,074,007

1 - Modified from Ohio Oil & Gas Assoc.

2 - Abbreviation: P/L, pipeline; avg., average; B/D, barrels per day.

3 - Estimated.

The estimated number of producing wells, including wells drilled this year and those still producing from prior years, is 24,054. Of these, 7,120 are gas and 16,934 are oil.

FUTURE EXPECTATIONS

Two discoveries in the upper Cambrian have aroused increased interest in the deeper zones. It is anticipated that an increasing number of wells will be drilled to test the lower Ordovician and Cambrian rocks. A re-evaluation of the Appalachian basin by the major oil companies is now in progress. It is hoped that a study of the limited data available will disclose some information as to what may be expected in these older rocks. The high-arch area of western Ohio, in which exploration has been more or less dormant for 50 years, will again be subjected to testing. From this area the testing will probably spread eastward into the Appalachian basin.

Drilling to the Clinton will continue to be active. However, this picture could be much brighter if spacing, completion, and production practices were improved. East-central and northeastern Ohio will be the more active areas.

It is hoped that more and better geological and engineering methods will be applied to the petroleum industry in Ohio. All available data should be preserved and utilized by the operators as a means to reduce expenses. Cooperation among the operators, owners, and State research and regulatory agencies could lead to greater ultimate production at lower cost to the producers.

Note: The writers wish to acknowledge and thank the many contributors who made the 1959 report possible. The following organizations and individuals have been especially helpful; Mr. Ira M. Korst, Ohio Oil and Gas Association; Mr. Allen Johnson, Ohio Fuel Gas Company; and Mr. J. C. Wilson, Ohio Division of Mines.

Totals for all types of wells completed for 1959

Type of well	Number of wells	Production		Footage drilled
		Gas (mcf)	Oil (bbl)	
GAS				
New	305	434,337	-	762,727
Drilled deeper	6	779	-	3,268
OIL				
New	203	-	30,504	387,627
Drilled deeper	1	-	1	856
COMBINATION				
New	335	103,411	23,283	1,011,567
Drilled deeper	4	1,375	600	3,634
DRY				
New	315	-	-	683,452
Drilled deeper	12	-	-	3,740
ALL TYPES				
New	1,158	434,337	30,504	2,845,373
Drilled deeper	23	2,154	601	11,498
Gas storage	87	-	-	245,734
Water flood	15	-	-	8,409
TOTAL	1,283	436,491	31,105	3,111,014

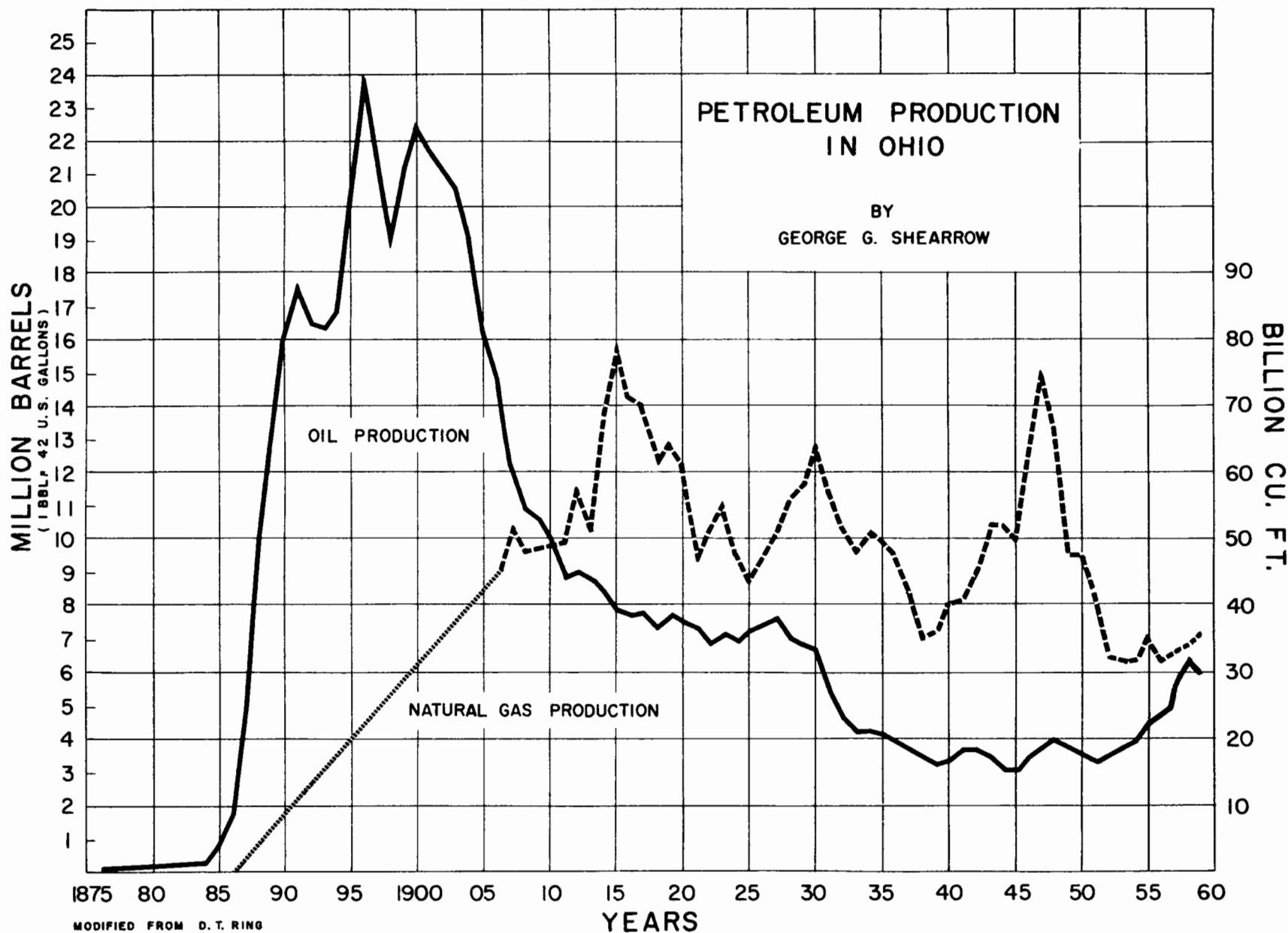


TABLE 1

SUMMARY OF INITIAL OIL AND GAS WELL DRILLING REPORTED IN OHIO, BY COUNTY, 1959^a

County	Number of wells							Production						Footage drilled
	Total	Producing				Dry	Percent dry	Total		Gas wells (mcf)	Oil wells (bbl)	Combination wells		
		Total	Gas	Oil	Combination			Gas (mcf)	Oil (bbl)			Gas (mcf)	Oil (bbl)	
Total	1,158	843	305	203	335	315	27.2	434,337	30,504	330,926	7,221	103,411	23,283	2,845,373
Allen	1	1	-	1	-	-	-	-	2	-	2	-	-	1,261
Ashland	87	66	3	48	15	21	24.1	2,224	620	1,367	421	857	199	76,119
Ashtabula	39	36	3.3	-	3	3	7.7	82,777	55	78,111	-	4,666	55	131,207
Athens	25	13	11	1	1	12	48.0	2,588	4	2,438	2	150	2	34,869
Belmont	6	2	1	-	1	4	66.7	600	5	575	-	25	5	8,832
Carroll	2	1	-	1	-	1	50.0	-	2	-	2	-	-	2,855
Clinton	2	-	-	-	-	2	100.0	-	-	-	-	-	-	6,610
Columbiana	7	2	1	1	-	5	71.4	25	1	25	1	-	-	5,783
Coshocton	129	106	42	27	37	23	17.8	24,642	4,911	11,198	2,331	13,444	2,580	343,544
Crawford	1	-	-	-	-	1	100.0	-	-	-	-	-	-	2,160
Darke	2	-	-	-	-	2	100.0	-	-	-	-	-	-	2,509
Defiance	5	3	-	-	3	2	40.0	150	14	-	-	150	14	9,520
Fairfield	8	4	-	1	3	4	50.0	205	85	-	10	205	75	17,622
Fulton	2	-	-	-	-	2	100.0	-	-	-	-	-	-	5,827
Gallia	1	1	1	-	-	-	-	168	-	168	-	-	-	1,735
Geauga	1	1	1	-	-	-	-	300	-	300	-	-	-	3,855
Guernsey	6	2	-	2	-	4	66.7	-	3	-	3	-	-	6,091
Hamilton	1	-	-	-	-	1	100.0	-	-	-	-	-	-	2,715
Hancock	2	1	1	-	-	1	50.0	300	-	300	-	-	-	2,801
Henry	1	-	-	-	-	1	100.0	-	-	-	-	-	-	1,815
Highland	1	-	-	-	-	1	100.0	-	-	-	-	-	-	3,512
Hocking	24	15	2	2	11	9	37.5	2,717	500	1,077	89	1,640	411	57,482
Holmes	95	77	15	14	48	18	18.9	25,764	4,386	11,454	826	14,310	3,560	319,011
Jackson	4	4	4	-	-	-	-	71	-	71	-	-	-	3,086
Jefferson	6	3	-	2	1	3	50.0	40	4	-	2	40	2	8,442
knox	58	44	8	11	25	14	24.1	25,240	2,917	8,365	140	16,875	2,777	144,286
Lawrence	1	1	1	-	-	-	-	46	-	46	-	-	-	3,020
Licking	67	54	4	24	26	13	19.4	5,669	3,261	639	1,038	5,030	2,223	159,863
Logan	1	-	-	-	-	1	100.0	-	-	-	-	-	-	1,425
Lucas	1	-	-	-	-	1	100.0	-	-	-	-	-	-	1,566
Mahoning	1	1	1	-	-	-	-	5	-	5	-	-	-	610
Medina	26	22	9	9	4	4	15.4	14,091	756	11,699	194	2,392	562	73,310
Meigs	41	28	26	1	1	13	31.7	5,696	15	5,681	10	15	5	63,671
Mercer	1	-	-	-	-	1	100.0	-	-	-	-	-	-	1,212
Miami	2	-	-	-	-	2	100.0	-	-	-	-	-	-	2,563
Monroe	14	5	3	2	-	9	64.3	544	9	544	9	-	-	17,983
Morgan	23	10	6	4	-	13	56.5	4,797	27	4,797	27	-	-	49,340
Morrow	1	1	-	1	-	-	-	-	85	-	85	-	-	3,731
Muskingum	52	42	18	8	16	10	19.2	27,355	1,970	22,945	857	4,410	1,113	187,504
Noble	27	10	7	3	-	17	63.0	508	22	508	22	-	-	23,018
Ottawa	1	1	1	-	-	-	-	31	-	31	-	-	-	1,347
Perry	80	69	16	9	44	11	13.8	43,450	2,817	28,539	317	14,911	2,500	242,256
Pickaway	1	-	-	-	-	1	100.0	-	-	-	-	-	-	3,257
Portage	5	3	2	-	1	2	40.0	8,047	10	7,956	-	91	10	21,789
Richland	1	1	1	-	-	-	-	504	-	504	-	-	-	2,520
Ross	3	2	2	-	-	1	33.3	10	-	10	-	-	-	1,855
Scioto	6	5	5	-	-	1	16.7	28	-	28	-	-	-	2,303
Stark	18	12	11	-	1	6	33.3	23,580	30	21,601	-	1,979	30	77,265
Summit	10	10	1	1	8	-	-	1,427	530	507	100	920	430	37,278
Tuscarawas	41	28	3	14	11	13	31.7	1,413	268	913	103	500	165	56,348
Vinton	18	15	12	-	3	3	16.7	61,472	128	60,583	-	889	128	48,918
Washington	43	27	15	8	4	16	37.2	1,291	77	1,251	53	40	24	58,008
Wayne	156	114	38	8	68	42	26.9	66,562	6,990	46,690	577	19,872	6,413	496,979
Williams	1	-	-	-	-	1	100.0	-	-	-	-	-	-	2,885

a - Old wells drilled deeper and wells drilled for underground storage, water flooding, and production of salt and brine not included.

TABLE 2

SUMMARY OF INITIAL OIL AND GAS WELL DRILLING REPORTED IN OHIO, BY PRODUCING ZONE, 1959^a

Producing zone	Number of wells							Production						Footage drilled
	Total	Producing				Dry	Percent dry	Total		Gas wells (mcf)	Oil wells (bb1)	Combination wells		
		Total	Gas	Oil	Combination			Gas (mcf)	Oil (bb1)			Gas (mcf)	Oil (bb1)	
Total	1,158	843	305	203	335	315	27.2	434,337	30,504	330,926	7,221	103,411	23,283	2,845,373
Conemaugh	39	14	7	7	-	25	64.1	604	26	604	26	-	-	19,609
Allegheny	15	9	6	2	1	6	40.0	925	21	920	16	5	5	12,244
Pottsville	23	12	7	5	-	11	47.8	1,224	36	1,224	36	-	-	18,807
Keener	10	8	2	4	2	2	20.0	661	25	621	17	40	8	16,150
Big Injun	20	6	5	-	1	14	70.0	1,369	2	1,329	-	40	2	20,528
Squaw	5	2	1	-	1	3	60.0	30	14	20	-	10	14	8,347
Wier	2	1	1	-	-	1	50.0	5	-	5	-	-	-	763
Hamden	4	4	4	-	-	-	-	71	-	71	-	-	-	3,086
1st Berea	251	169	58	90	21	82	32.7	8,925	979	7,618	662	1,307	317	237,911
2nd Berea	49	39	27	4	8	10	20.4	7,098	142	6,768	20	330	122	71,275
Little Cinnamon	3	2	2	-	-	1	33.3	10	-	10	-	-	-	1,855
Big Cinnamon	8	6	6	-	-	2	25.0	344	-	344	-	-	-	22,119
Oriskany	6	3	1	-	2	3	50.0	1,387	60	877	-	510	60	16,909
Newburg	18	14	13	1	-	4	22.2	25,694	15	25,694	15	-	-	55,343
Stray, Red, and Clinton	668	546	162	88	296	122	18.3	384,309	29,083	283,290	6,342	101,019	22,741	2,229,903
Medina	4	-	-	-	-	4	100.0	-	-	-	-	-	-	16,216
Trenton	20	6	2	1	3	14	70.0	481	16	331	2	150	14	34,591
Trempealeau	5	1	-	1	-	4	80.0	-	85	-	85	-	-	23,824
Eau Clair	2	-	-	-	-	2	100.0	-	-	-	-	-	-	8,746
Mt. Simon	1	-	-	-	-	1	100.0	-	-	-	-	-	-	3,351
Basement complex	5	1	1	-	-	4	80.0	1,200	-	1,200	-	-	-	23,796

^aOld wells drilled deeper and wells drilled for underground storage, water flooding, and production of salt and brine not included.

TABLE 3

SUMMARY OF INITIAL OIL AND GAS WELL DRILLING REPORTED IN OHIO, BY COUNTY AND PRODUCING ZONE, 1959^a

County and producing zone	Total	Number of wells					Production						Footage drilled
		Producing				Dry	Total		Production		Combination wells		
		Total	Gas	Oil	Combination		Gas (mcf)	Oil (bbl)	Gas wells (mcf)	Oil wells (bbl)	Gas (mcf)	Oil (bbl)	
Total	1,158	843	305	203	335	315	434,337	30,504	330,926	7,221	103,411	23,283	2,845,373
ALLEN													
Trenton	1	1	-	1	-	-	-	2	-	2	-	-	1,261
ASHLAND													
1st Berea	82	62	1	48	13	20	464	590	5	421	459	169	60,548
Stray, Red, and Clinton	4	4	2	-	2	-	1,760	30	1,362	-	398	30	12,594
Medina	1	-	-	-	-	1	-	-	-	-	-	-	2,977
Total	87	66	3	48	15	21	2,224	620	1,367	421	857	199	76,119
ASHTABULA													
Stray, Red, and Clinton	37	36	33	-	3	1	82,777	55	78,111	-	4,666	55	119,259
Trempealeau	2	-	-	-	-	2	-	-	-	-	-	-	11,948
Total	39	36	33	-	3	3	82,777	55	78,111	-	4,666	55	131,207
ATHENS													
Conemaugh	4	2	1	1	-	2	40	2	40	2	-	-	1,732
Big Injun	1	-	-	-	-	1	-	-	-	-	-	-	573
1st Berea	3	1	1	-	-	2	200	-	200	-	-	-	3,698
2nd Berea	16	10	9	-	1	6	2,348	2	2,198	-	150	2	24,462
Medina	1	-	-	-	-	1	-	-	-	-	-	-	4,404
Total	25	13	11	1	1	12	2,588	4	2,438	2	150	2	34,869
BELMONT													
Conemaugh	1	-	-	-	-	1	-	-	-	-	-	-	628
Keener	2	2	1	-	1	-	600	5	575	-	25	5	2,805
1st Berea	3	-	-	-	-	3	-	-	-	-	-	-	5,399
Total	6	2	1	-	1	4	600	5	575	-	25	5	8,832
CARROLL													
1st Berea	1	-	-	-	-	1	-	-	-	-	-	-	1,470
2nd Berea	1	1	-	1	-	-	-	2	-	2	-	-	1,385
Total	2	1	-	1	-	1	-	2	-	2	-	-	2,855
CLINTON													
Mt. Simon	1	-	-	-	-	1	-	-	-	-	-	-	3,351
Basement complex	1	-	-	-	-	1	-	-	-	-	-	-	3,259
Total	2	-	-	-	-	2	-	-	-	-	-	-	6,610
COLUMBIANA													
1st Berea	7	2	1	1	-	5	25	1	25	1	-	-	5,783
COSHOCTON													
Pottsville	1	-	-	-	-	1	-	-	-	-	-	-	100
Big Injun	1	-	-	-	-	1	-	-	-	-	-	-	143
1st Berea	35	30	30	-	-	5	4,771	-	4,771	-	-	-	35,385
2nd Berea	2	2	2	-	-	-	550	-	550	-	-	-	2,234
Stray, Red, and Clinton	88	74	10	27	37	14	19,321	4,911	5,877	2,331	13,444	2,580	295,916
Medina	1	-	-	-	-	1	-	-	-	-	-	-	3,921
Trempealeau	1	-	-	-	-	1	-	-	-	-	-	-	5,845
Total	129	106	42	27	37	23	24,642	4,911	11,198	2,331	13,444	2,580	343,544
CRAWFORD													
Trenton	1	-	-	-	-	1	-	-	-	-	-	-	2,160
DARKE													
Trenton	2	-	-	-	-	2	-	-	-	-	-	-	2,509
DEFIANCE													
Trenton	4	3	-	-	3	1	150	14	-	-	150	14	7,220
Trempealeau	1	-	-	-	-	1	-	-	-	-	-	-	2,300
Total	5	3	-	-	3	2	150	14	-	-	150	14	9,520

TABLE 3

Summary of initial oil and gas well drilling reported in Ohio, by county and producing zone, 1959^a (con.)

County and producing zone	Total	Number of wells					Production						Footage drilled
		Producing				Dry	Total		Gas wells (mcf)	Oil wells (bbl)	Combination wells		
		Total	Gas	Oil	Combination		Gas (mcf)	Oil (bbl)			Gas (mcf)	Oil (bbl)	
FAIRFIELD													
1st Berea	2	-	-	-	-	2	-	-	-	-	-	-	1,612
Stray, Red, and Clinton	6	4	-	1	3	2	205	85	-	10	205	75	16,010
Total	8	4	-	1	3	4	205	85	-	10	205	75	17,622
FULTON													
Trenton	2	-	-	-	-	2	-	-	-	-	-	-	5,827
GALLIA													
2nd Berea	1	1	1	-	-	-	168	-	168	-	-	-	1,735
GEAUGA													
Stray, Red, and Clinton	1	1	1	-	-	-	300	-	300	-	-	-	3,855
GUERNSEY													
Conemaugh	1	1	-	1	-	-	-	2	-	2	-	-	690
Allegheny	1	-	-	-	-	1	-	-	-	-	-	-	825
Big Injun	1	-	-	-	-	1	-	-	-	-	-	-	420
1st Berea	3	1	-	1	-	2	-	1	-	1	-	-	4,156
Total	6	2	-	2	-	4	-	3	-	3	-	-	6,091
HAMILTON													
Eau Clair	1	-	-	-	-	1	-	-	-	-	-	-	2,715
HANCOCK													
Trenton	2	1	1	-	-	1	300	-	300	-	-	-	2,801
HENRY													
Trenton	1	-	-	-	-	1	-	-	-	-	-	-	1,815
HIGHLAND													
Basement complex	1	-	-	-	-	1	-	-	-	-	-	-	3,512
HOCKING													
1st Berea	3	-	-	-	-	3	-	-	-	-	-	-	2,055
Oriskany	1	1	1	-	-	-	877	-	877	-	-	-	2,162
Stray, Red, and Clinton	20	14	1	2	11	6	1,840	500	200	89	1,640	411	53,265
Total	24	15	2	2	11	9	2,717	500	1,077	89	1,640	411	57,482
HOLMES													
1st Berea	1	-	-	-	-	1	-	-	-	-	-	-	835
Stray, Red, and Clinton	94	77	15	14	48	17	25,764	4,386	11,454	826	14,310	3,560	318,176
Total	95	77	15	14	48	18	25,764	4,386	11,454	826	14,310	3,560	319,011
JACKSON													
Hamden	4	4	4	-	-	-	71	-	71	-	-	-	3,086
JEFFERSON													
Big Injun	1	1	-	-	1	-	40	2	-	-	40	2	1,393
1st Berea	5	2	-	2	-	3	-	2	-	2	-	-	7,049
Total	6	3	-	2	1	3	40	4	-	2	40	2	8,442
KNOX													
1st Berea	10	6	-	6	-	4	-	13	-	13	-	-	6,523
Newburg	1	1	-	1	-	-	-	15	-	15	-	-	2,520
Stray, Red, and Clinton	47	37	8	4	25	10	25,240	2,889	8,365	112	16,875	2,777	135,243
Total	58	44	8	11	25	14	25,240	2,917	8,365	140	16,875	2,777	144,286
LAWRENCE													
Keener	1	1	1	-	-	-	46	-	46	-	-	-	3,020

LICKING														
1st Berea	17	11	1	10	-	6	10	43	10	43	-	-	11,409	
Big Cinnamon	2	2	2	-	-	-	29	-	29	-	-	-	2,859	
Stray, Red,														
and Clinton	48	41	1	14	26	7	5,620	3,218	600	995	5,030	2,223	145,595	
Total	67	54	4	24	26	13	5,669	3,261	639	1,038	5,030	2,223	159,863	
LOGAN														
Trenton	1	-	-	-	-	1	-	-	-	-	-	-	1,425	
LUCAS														
Trenton	1	-	-	-	-	1	-	-	-	-	-	-	1,566	
MAHONING														
1st Berea	1	1	1	-	-	-	5	-	5	-	-	-	610	
MEDINA														
1st Berea	8	7	-	7	-	1	-	64	-	64	-	-	4,129	
Stray, Red,														
and Clinton	15	14	8	2	4	1	12,891	692	10,499	130	2,392	562	49,382	
Eau Clair	1	-	-	-	-	1	-	-	-	-	-	-	6,031	
Basement complex	2	1	1	-	-	1	1,200	-	1,200	-	-	-	13,768	
Total	26	22	9	9	4	4	14,091	756	11,699	194	2,392	562	73,310	
MEIGS														
Conemaugh	3	-	-	-	-	3	-	-	-	-	-	-	867	
Allegheny	3	3	3	-	-	-	472	-	472	-	-	-	1,881	
Pottsville	7	4	4	-	-	3	906	-	906	-	-	-	5,093	
Big Injun	1	-	-	-	-	1	-	-	-	-	-	-	1,237	
1st Berea	4	3	3	-	-	-	488	-	488	-	-	-	8,678	
2nd Berea	17	14	12	1	1	3	3,515	15	3,500	10	15	5	26,655	
Big Cinnamon	6	4	4	-	-	2	315	-	315	-	-	-	19,260	
Total	41	28	26	1	1	13	5,696	15	5,681	10	15	5	63,671	
MERCER														
Trenton	1	-	-	-	-	1	-	-	-	-	-	-	1,212	
MIAMI														
Trenton	2	-	-	-	-	2	-	-	-	-	-	-	2,563	
MONROE														
Conemaugh	4	1	1	-	-	3	265	-	265	-	-	-	3,336	
Allegheny	1	-	-	-	-	1	-	-	-	-	-	-	1,045	
Pottsville	1	1	1	-	-	-	160	-	160	-	-	-	1,006	
Keencr	3	2	-	2	-	1	-	9	-	9	-	-	4,630	
Big Injun	3	-	-	-	-	3	-	-	-	-	-	-	4,788	
1st Berea	2	1	1	-	-	1	119	-	119	-	-	-	3,178	
Total	14	5	3	2	-	9	544	9	544	9	-	-	17,983	
MORGAN														
Conemaugh	8	4	1	3	-	4	5	7	5	7	-	-	2,501	
Pottsville	2	-	-	-	-	2	-	-	-	-	-	-	1,957	
1st Berea	1	1	-	1	-	-	-	20	-	20	-	-	1,366	
2nd Berea	4	3	3	-	-	1	352	-	352	-	-	-	5,854	
Newburg	1	-	-	-	-	1	-	-	-	-	-	-	4,089	
Stray, Red,														
and Clinton	6	2	2	-	-	4	4,440	-	4,440	-	-	-	28,659	
Medina	1	-	-	-	-	1	-	-	-	-	-	-	4,914	
Total	23	10	6	4	-	13	4,797	27	4,797	27	-	-	49,340	
MORROW														
Trempealeau	1	1	-	1	-	-	-	85	-	85	-	-	3,731	
MUSKINGUM														
Big Injun	1	-	-	-	-	1	-	-	-	-	-	-	395	
1st Berea	1	-	-	-	-	1	-	-	-	-	-	-	1,040	
Stray, Red,														
and Clinton	50	42	18	8	16	8	27,355	1,970	22,945	857	4,410	1,113	186,069	
Total	52	42	18	8	16	10	27,355	1,970	22,945	857	4,410	1,113	187,504	

TABLE 3

Summary of initial oil and gas well drilling reported in Ohio, by county and producing zone, 1959^a (con.)

12

County and producing zone	Total	Number of wells					Production						Footage drilled
		Producing				Dry	Total		Production		Combination wells		
		Total	Gas	Oil	Combination		Gas (mcf)	Oil (bbl)	Gas wells (mcf)	Oil wells (bbl)	Gas (mcf)	Oil (bbl)	
NOBLE													
Conemaugh	12	3	3	-	-	9	274	-	274	-	-	-	5,983
Allegheny	2	-	-	-	-	2	-	-	-	-	-	-	1,275
Pottsville	7	4	1	3	-	3	8	22	8	22	-	-	6,218
1st Berea	6	3	3	-	-	3	266	-	266	-	-	-	9,542
Total	27	10	7	3	-	17	508	22	508	22	-	-	23,018
OTTAWA													
Trenton	1	1	1	-	-	-	31	-	31	-	-	-	1,347
PERRY													
Big Injun	6	3	3	-	-	3	1,299	-	1,299	-	-	-	3,222
1st Berea	3	2	-	2	-	1	-	2	-	2	-	-	3,317
Stray, Red, and Clinton	71	64	13	7	44	7	42,151	2,815	27,240	315	14,911	2,500	235,717
Total	80	69	16	9	44	11	43,450	2,817	28,539	317	14,911	2,500	242,256
PICKAWAY													
Basement complex	1	-	-	-	-	1	-	-	-	-	-	-	3,257
PORTAGE													
Stray, Red, and Clinton	5	3	2	-	1	2	8,047	10	7,956	-	91	10	21,789
RICHLAND													
Stray, Red, and Clinton	1	1	1	-	-	-	504	-	504	-	-	-	2,520
ROSS													
Little Cinnamon	3	2	2	-	-	1	10	-	10	-	-	-	1,855
SCIOTO													
Wier	2	1	1	-	-	1	5	-	5	-	-	-	763
1st Berea	4	4	4	-	-	-	23	-	23	-	-	-	1,540
Total	6	5	5	-	-	1	28	-	28	-	-	-	2,303
STARK													
Stray, Red, and Clinton	18	12	11	-	1	6	23,580	30	21,601	-	1,979	30	77,265
SUMMIT													
Stray, Red, and Clinton	10	10	1	1	8	-	1,427	530	507	100	920	430	37,278
TUSCARAWAS													
Pottsville	1	-	-	-	-	1	-	-	-	-	-	-	292
1st Berea	28	19	2	12	5	9	905	145	570	95	335	50	30,765
2nd Berea	8	8	-	2	6	-	165	123	-	8	165	115	8,950
Oriskany	1	-	-	-	-	1	-	-	-	-	-	-	3,722
Stray, Red, and Clinton	3	1	1	-	-	2	343	-	343	-	-	-	12,619
Total	41	28	3	14	11	13	1,413	268	913	103	500	165	56,348
VINTON													
Oriskany	1	1	-	-	1	-	500	20	-	-	500	20	2,930
Stray, Red, and Clinton	17	14	12	-	2	3	60,972	108	60,583	-	389	108	45,988
Total	18	15	12	-	3	3	61,472	128	60,583	-	889	128	48,918
WASHINGTON													
Conemaugh	6	3	1	2	-	3	20	15	20	15	-	-	3,872
Allegheny	8	6	3	2	1	2	453	21	448	16	5	5	7,218
Pottsville	4	3	1	2	-	1	150	14	150	14	-	-	4,141
Keener	4	3	-	2	1	1	15	11	-	8	15	3	5,695
Big Injun	5	2	2	-	-	3	30	-	30	-	-	-	8,357
Squaw	5	2	1	-	1	3	30	14	20	-	10	14	8,347
1st Berea	11	8	7	-	1	3	593	2	583	-	10	2	20,378
Total	43	27	15	8	4	16	1,291	77	1,251	53	40	24	58,008

1959 OIL AND GAS DEVELOPMENTS

WAYNE													
1st Berea	10	5	3	-	2	5	1,096	96	593	-	503	96	7,446
Oriskany	3	1	-	-	1	2	10	40	-	-	10	40	8,095
Newburg	16	13	13	-	-	3	25,694	-	25,694	-	-	-	48,734
Stray, Red, and Clinton	127	95	22	8	65	43	39,762	6,854	20,403	577	19,359	6,277	432,704
Total	156	114	38	8	68	42	66,562	6,990	46,690	577	19,872	6,413	496,979
WILLIAMS													
Trenton	1	-	-	-	-	1	-	-	-	-	-	-	2,885

a- Old wells drilled deeper and wells drilled for underground storage, water flooding, and production of salt and brine not included.

TABLE 4

SUMMARY OF INITIAL OIL AND GAS WELL DRILLING REPORTED IN OHIO, BY PRODUCING ZONE AND COUNTY, 1959^a

Producing zone and county	Total	Number of wells					Production						Footage drilled
		Producing				Dry	Total		Gas wells (mcf)	Oil wells (bbl)	Combination wells		
		Total	Gas	Oil	Combination		Gas (mcf)	Oil (bbl)			Gas (mcf)	Oil (bbl)	
Total	1,158	843	305	203	335	315	434,337	30,504	330,926	7,221	163,411	23,283	2,845,373
CONEMAUGH													
Athens	4	2	1	1	-	2	40	2	40	2	-	-	1,732
Belmont	1	-	-	-	-	1	-	-	-	-	-	-	628
Guernsey	1	1	-	1	-	-	-	2	-	2	-	-	690
Meigs	3	-	-	-	-	3	-	-	-	-	-	-	867
Monroe	4	1	1	-	-	3	265	-	265	-	-	-	3,336
Morgan	8	4	1	3	-	4	5	7	5	7	-	-	2,501
Noble	12	3	3	-	-	9	274	-	274	-	-	-	5,983
Washington	6	3	1	2	-	3	20	15	20	15	-	-	3,872
Total	39	14	7	7	-	25	604	26	604	26	-	-	19,609
ALLEGHENY													
Guernsey	1	-	-	-	-	1	-	-	-	-	-	-	825
Meigs	3	3	3	-	-	-	472	-	472	-	-	-	1,881
Monroe	1	-	-	-	-	1	-	-	-	-	-	-	1,045
Noble	2	-	-	-	-	2	-	-	-	-	-	-	1,275
Washington	8	6	3	2	1	2	453	21	448	16	5	5	7,218
Total	15	9	6	2	1	6	925	21	920	16	5	5	12,244
POTTSVILLE													
Coshocton	1	-	-	-	-	1	-	-	-	-	-	-	100
Meigs	7	4	4	-	-	3	906	-	906	-	-	-	5,093
Monroe	1	1	1	-	-	-	160	-	160	-	-	-	1,006
Morgan	2	-	-	-	-	2	-	-	-	-	-	-	1,957
Noble	7	4	1	3	-	3	8	22	8	22	-	-	6,218
Tuscarawas	1	-	-	-	-	1	-	-	-	-	-	-	292
Washington	4	3	1	2	-	1	150	14	150	14	-	-	4,141
Total	23	12	7	5	-	11	1,224	36	1,224	36	-	-	18,807
KEENER													
Belmont	2	2	1	-	1	-	600	5	575	-	25	5	2,805
Lawrence	1	1	1	-	-	-	46	-	46	-	-	-	3,020
Monroe	3	2	-	2	-	1	-	9	-	9	-	-	4,630
Washington	4	3	-	2	1	1	15	11	-	8	15	3	5,695
Total	10	8	2	4	2	2	661	25	621	17	40	8	16,150
BIG INJUN													
Athens	1	-	-	-	-	1	-	-	-	-	-	-	573
Coshocton	1	-	-	-	-	1	-	-	-	-	-	-	143
Guernsey	1	-	-	-	-	1	-	-	-	-	-	-	420
Jefferson	1	1	-	-	1	-	40	2	-	-	40	2	1,393
Meigs	1	-	-	-	-	1	-	-	-	-	-	-	1,237
Monroe	3	-	-	-	-	3	-	-	-	-	-	-	4,788
Muskingum	1	-	-	-	-	1	-	-	-	-	-	-	395
Noble	6	3	3	-	-	3	1,299	-	1,299	-	-	-	3,222
Washington	5	2	2	-	-	3	30	-	30	-	-	-	8,357
Total	20	6	5	-	1	14	1,369	2	1,329	-	40	2	20,528
SQUAW													
Washington	5	2	1	-	1	3	30	14	20	-	10	14	8,347
WIER													
Scioto	2	1	1	-	-	1	5	-	5	-	-	-	763
HAMDEN													
Jackson	4	4	4	-	-	-	71	-	71	-	-	-	3,086
1st BERE A													
Ashland	82	62	1	48	13	20	464	590	5	421	459	169	60,548
Athens	3	1	1	-	-	2	200	1	200	-	-	-	3,698
Belmont	3	-	-	-	-	3	-	-	-	-	-	-	5,399
Carroll	1	-	-	-	-	1	-	-	-	-	-	-	1,470
Columbiana	7	2	1	1	-	5	25	1	25	1	-	-	5,783
Coshocton	35	30	30	-	-	5	4,771	-	4,771	-	-	-	35,385
Fairfield	2	-	-	-	-	2	-	-	-	-	-	-	1,612
Guernsey	3	1	-	1	-	2	-	1	-	1	-	-	4,156

Hocking	3	-	-	-	-	3	-	-	-	-	-	-	-	2,055
Holmes	1	-	-	-	-	1	-	-	-	-	-	-	-	835
Jefferson	5	2	-	2	-	3	-	2	-	2	-	-	-	7,049
Knox	10	6	-	6	-	4	-	13	-	13	-	-	-	6,523
Licking	17	11	1	10	-	6	10	43	10	43	-	-	-	11,409
Mahoning	1	1	1	-	-	-	5	-	5	-	-	-	-	610
Medina	8	7	-	7	-	1	-	64	-	64	-	-	-	4,129
Meigs	4	3	3	-	-	1	488	-	488	-	-	-	-	8,678
Monroe	2	1	1	-	-	1	119	-	119	-	-	-	-	3,178
Morgan	1	1	-	1	-	-	-	20	-	20	-	-	-	1,366
Muskingum	1	-	-	-	-	1	-	-	-	-	-	-	-	1,040
Noble	6	3	3	-	-	3	226	-	226	-	-	-	-	9,542
Perry	3	2	-	2	-	1	-	2	-	2	-	-	-	3,317
Scioto	4	4	4	-	-	-	23	-	23	-	-	-	-	1,540
Tuscarawas	28	19	2	12	5	9	905	145	570	95	335	50	30,765	
Washington	11	8	7	-	1	3	593	2	583	-	10	2	20,378	
Wayne	10	5	3	-	2	5	1,096	96	593	-	503	96	7,446	
Total	251	169	58	90	21	82	8,925	979	7,618	662	1,307	317	237,911	
2nd BERA														
Athens	16	10	9	-	1	6	2,348	2	2,198	-	150	2	24,462	
Carroll	1	1	-	1	-	-	-	2	-	2	-	-	-	1,385
Coshocton	2	2	2	-	-	-	550	-	550	-	-	-	-	2,234
Gallia	1	1	1	-	-	-	168	-	168	-	-	-	-	1,735
Meigs	17	14	12	1	1	3	3,515	15	3,500	10	15	5	26,655	
Morgan	4	3	3	-	-	1	352	-	352	-	-	-	-	5,854
Tuscarawas	8	8	-	2	6	-	165	123	-	8	165	115	8,950	
Total	49	39	27	4	8	10	7,098	142	6,768	20	330	122	71,275	
LITTLE CINNAMON														
Ross	3	2	2	-	-	1	10	-	10	-	-	-	-	1,855
BIG CINNAMON														
Licking	2	2	2	-	-	-	29	-	29	-	-	-	-	2,859
Scioto	6	4	4	-	-	2	315	-	315	-	-	-	-	19,260
Total	8	6	6	-	-	2	344	-	344	-	-	-	-	22,119
ORISKANY														
Hocking	1	1	1	-	-	-	877	-	877	-	-	-	-	2,162
Vinton	1	1	-	-	1	-	500	20	-	-	500	20	2,930	
Tuscarawas	1	-	-	-	-	1	-	-	-	-	-	-	-	3,722
Wayne	3	1	-	-	1	2	10	40	-	-	10	40	8,095	
Total	6	3	1	-	2	3	1,387	60	877	-	510	60	16,909	
NEWBURG														
Knox	1	1	-	1	-	-	-	15	-	15	-	-	-	2,520
Morgan	1	-	-	-	-	1	-	-	-	-	-	-	-	4,089
Wayne	16	13	13	-	-	3	25,694	-	25,694	-	-	-	-	48,734
Total	18	14	13	1	-	4	25,694	15	25,694	15	-	-	-	55,343
STRAY, RED, AND CLINTON														
Ashland	4	4	2	-	2	-	1,760	30	1,362	-	398	30	12,594	
Ashtabula	37	36	33	-	3	1	82,777	55	78,111	-	4,666	55	119,259	
Coshocton	88	74	10	27	37	14	19,321	4,911	5,877	2,331	13,444	2,580	295,916	
Fairfield	6	4	-	1	3	2	205	85	-	10	205	75	16,010	
Geauga	1	1	1	-	-	-	300	-	300	-	-	-	-	3,855
Hocking	20	14	1	2	11	6	1,840	500	200	89	1,640	411	53,265	
Holmes	94	77	15	14	48	17	25,764	4,386	11,454	826	14,310	3,560	318,176	
Knox	47	37	8	4	25	10	25,240	2,889	8,365	112	16,875	2,777	135,243	
Licking	48	41	1	14	26	7	5,630	3,218	600	995	5,030	2,223	145,595	
Medina	15	14	8	2	4	1	12,891	692	10,499	130	2,392	562	49,382	
Morgan	6	2	2	-	-	4	4,440	-	4,440	-	-	-	-	28,659
Muskingum	50	42	18	8	16	8	27,355	1,970	22,945	857	4,410	1,113	186,069	
Perry	71	64	13	7	44	7	42,151	2,815	27,240	315	14,911	2,560	235,717	
Portage	5	3	2	-	1	2	8,047	10	7,956	-	91	10	21,789	
Richland	1	1	1	-	-	-	504	-	504	-	-	-	-	2,520
Stark	18	12	11	-	1	6	23,580	30	21,601	-	1,979	30	77,265	
Summit	10	10	1	1	8	-	1,427	530	507	100	920	430	37,278	
Tuscarawas	3	1	1	-	-	2	343	-	343	-	-	-	-	12,619
Vinton	17	14	12	-	2	3	60,972	108	60,583	-	389	108	45,988	
Wayne	127	95	22	8	65	32	39,762	6,854	20,403	577	19,359	6,277	432,704	
Total	668	546	162	88	296	122	384,309	29,083	283,290	6,342	101,019	22,741	2,229,903	

TABLE 4

Summary of initial oil and gas well drilling reported in Ohio, by producing zone and county, 1959^a (con.)

Producing zone and county	Total	Number of wells					Production						Footage drilled
		Producing				Dry	Total		Production		Combination wells		
		Total	Gas	Oil	Combination		Gas (mcf)	Oil (bbl)	Gas wells (mcf)	Oil wells (bbl)	Gas (mcf)	Oil (bbl)	
MEDINA													
Ashland	1	-	-	-	-	1	-	-	-	-	-	-	2,977
Athens	1	-	-	-	-	1	-	-	-	-	-	-	4,404
Coshocton	1	-	-	-	-	1	-	-	-	-	-	-	3,921
Morgan	1	-	-	-	-	1	-	-	-	-	-	-	4,914
Total	4	-	-	-	-	4	-	-	-	-	-	-	16,216
TRENTON													
Allen	1	1	-	1	-	-	-	2	-	2	-	-	1,261
Crawford	1	-	-	-	-	1	-	-	-	-	-	-	2,160
Darke	2	-	-	-	-	2	-	-	-	-	-	-	2,509
Defiance	4	3	-	-	3	1	150	14	-	-	150	14	7,220
Fulton	2	-	-	-	-	2	-	-	-	-	-	-	5,827
Hancock	2	1	1	-	-	1	300	-	300	-	-	-	2,801
Henry	1	-	-	-	-	1	-	-	-	-	-	-	1,815
Logan	1	-	-	-	-	1	-	-	-	-	-	-	1,425
Lucas	1	-	-	-	-	1	-	-	-	-	-	-	1,566
Mercer	1	-	-	-	-	1	-	-	-	-	-	-	1,212
Miami	2	-	-	-	-	2	-	-	-	-	-	-	2,563
Ottawa	1	1	1	-	-	-	31	-	31	-	-	-	1,347
Williams	1	-	-	-	-	1	-	-	-	-	-	-	2,885
Total	20	6	2	1	3	14	481	16	331	2	150	14	34,591
TREMPEALEAU													
Ashtabula	2	-	-	-	-	2	-	-	-	-	-	-	11,948
Coshocton	1	-	-	-	-	1	-	-	-	-	-	-	5,845
Defiance	1	-	-	-	-	1	-	-	-	-	-	-	2,300
Morrow	1	1	-	1	-	-	-	85	-	-	85	-	3,731
Total	5	1	-	1	-	4	-	85	-	-	85	-	23,824
EAU CLAIR													
Hamilton	1	-	-	-	-	1	-	-	-	-	-	-	2,715
Medina	1	-	-	-	-	1	-	-	-	-	-	-	6,031
Total	2	-	-	-	-	2	-	-	-	-	-	-	8,746
MT. SIMON													
Clinton	1	-	-	-	-	1	-	-	-	-	-	-	3,351
BASEMENT COMPLEX													
Clinton	1	-	-	-	-	1	-	-	-	-	-	-	3,259
Highland	1	-	-	-	-	1	-	-	-	-	-	-	3,512
Medina	2	1	1	-	-	1	1,200	-	1,200	-	-	-	13,768
Pickaway	1	-	-	-	-	1	-	-	-	-	-	-	3,257
Total	5	1	1	-	-	4	1,200	-	1,200	-	-	-	23,796

^a - Old wells drilled deeper and wells drilled for underground storage, water flooding, and production of salt and brine not included.

TABLE 5.- FOOTAGE OF OIL AND GAS WELLS DRILLED IN OHIO, BY COUNTY, 1959^a

County	Number of wells					Number of feet drilled				
	Total	Gas	Oil	Combi- nation	Dry	Total	Gas	Oil	Combi- nation	Dry
Total	1,158	305	203	335	315	2,845,373	762,727	387,627	1,011,567	683,452
Allen	1	-	1	-	-	1,261	-	1,261	-	-
Ashland	87	3	48	15	21	76,119	6,967	35,761	15,853	17,538
Ashtabula	39	33	-	3	3	131,207	105,941	-	10,020	15,246
Athens	25	11	1	1	12	34,869	15,648	105	1,743	17,373
Belmont	6	1	-	1	4	8,832	1,434	-	1,371	6,027
Carroll	2	-	1	-	1	2,855	-	1,385	-	1,470
Clinton	2	-	-	-	2	6,610	-	-	-	6,610
Columbiana	7	1	1	-	5	5,783	975	679	-	4,129
Coshocton	129	42	27	37	23	343,544	67,509	89,787	124,269	61,979
Crawford	1	-	-	-	1	2,160	-	-	-	2,160
Darke	2	-	-	-	2	2,509	-	-	-	2,509
Defiance	5	-	-	3	2	9,520	-	-	5,427	4,093
Fairfield	8	-	1	3	4	17,622	-	2,580	8,110	6,932
Fulton	2	-	-	-	2	5,827	-	-	-	5,827
Gallia	1	1	-	-	-	1,735	1,735	-	-	-
Geauga	1	1	-	-	-	3,855	3,855	-	-	-
Guernsey	6	-	2	-	4	6,091	-	2,106	-	3,985
Hamilton	1	-	-	-	1	2,715	-	-	-	2,715
Hancock	2	1	-	-	1	2,801	1,115	-	-	1,686
Henry	1	-	-	-	1	1,815	-	-	-	1,815
Highland	1	-	-	-	1	3,512	-	-	-	3,512
Hocking	24	2	2	11	9	57,482	5,224	5,646	29,174	17,438
Holmes	95	15	14	48	18	319,011	50,256	46,802	162,729	59,224
Jackson	4	4	-	-	-	3,086	3,086	-	-	-
Jefferson	6	-	2	1	3	8,442	-	2,871	1,393	4,178
knox	58	8	11	25	14	144,286	23,692	18,816	70,621	31,157
Lawrence	1	1	-	-	-	3,020	3,020	-	-	-
Licking	67	4	24	26	13	159,863	6,704	48,851	78,928	25,380

TABLE 5.- Footage of oil and gas wells drilled in Ohio, by county, 1959^a (con.)

County	Number of wells					Number of feet drilled				
	Total	Gas	Oil	Combi- nation	Dry	Total	Gas	Oil	Combi- nation	Dry
Logan	1	-	-	-	1	1,425	-	-	-	1,425
Lucas	1	-	-	-	-	1,566	-	-	-	1,566
Mahoning	1	1	-	-	-	610	610	-	-	-
Medina	26	9	9	4	4	73,310	33,492	9,768	13,212	16,838
Meigs	41	26	1	1	13	63,671	42,850	1,608	1,589	17,624
Mercer	1	-	-	-	1	1,212	-	-	-	1,212
Miami	2	-	-	-	2	2,563	-	-	-	2,563
Monroe	14	3	2	-	9	17,983	3,560	3,020	-	11,403
Morgan	23	6	4	-	13	49,340	14,060	2,049	-	33,231
Morrow	1	-	1	-	-	3,731	-	3,731	-	-
Muskingum	52	18	8	16	10	187,504	72,041	26,446	57,202	31,815
Noble	27	7	3	-	17	23,018	7,723	2,511	-	12,784
Ottawa	1	1	-	-	-	1,347	1,347	-	-	-
Perry	80	16	9	44	11	242,256	45,769	25,388	143,965	27,134
Pickaway	1	-	-	-	1	3,257	-	-	-	3,257
Portage	5	2	-	1	2	21,789	8,795	-	4,105	8,889
Richland	1	1	-	-	-	2,520	2,520	-	-	-
Ross	3	2	-	-	1	1,855	1,293	-	-	562
Scioto	6	5	-	-	1	2,303	1,853	-	-	450
Stark	18	11	-	1	6	77,265	47,550	-	4,220	25,495
Summit	10	1	1	8	-	37,278	4,210	3,702	29,366	-
Tuscarawas	41	3	14	11	13	56,348	5,744	15,673	12,438	22,493
Vinton	18	12	-	3	3	48,918	32,328	-	8,524	8,066
Washington	43	15	8	4	16	58,008	22,222	7,764	5,988	22,034
Wayne	156	38	8	68	42	496,979	117,599	29,317	221,320	128,743
Williams	1	-	-	-	1	2,885	-	-	-	2,885

a - Old wells drilled deeper and wells drilled for underground storage, water flooding, and production of salt and brine not included.

TABLE 6.- FOOTAGE OF OIL AND GAS WELLS DRILLED IN OHIO, BY PRODUCING ZONE, 1959^a

Producing zone	Number of wells					Number of feet drilled				
	Total	Gas	Oil	Combi- nation	Dry	Total	Gas	Oil	Combi- nation	Dry
Total	1,158	305	203	335	315	2,845,373	762,727	387,627	1,011,567	683,452
Conemaugh	39	7	7	-	25	19,609	3,925	2,863	-	12,821
Allegheny	15	6	2	1	6	12,244	5,009	1,262	1,265	4,708
Pottsville	23	7	5	-	11	18,807	5,383	4,742	-	8,682
Keener	10	2	4	2	2	16,150	4,454	5,906	2,555	3,235
Big Injun	20	5	-	1	14	20,528	4,759	-	1,393	14,376
Squaw	5	1	-	1	3	8,347	1,547	-	1,649	5,151
Wier	2	1	-	-	1	763	313	-	-	450
Hamden	4	4	-	-	-	3,086	3,086	-	-	-
1st Berea	251	58	90	21	82	237,911	67,414	71,754	18,743	80,000
2nd Berea	49	27	4	8	10	71,275	40,442	5,372	9,903	15,558
Little Cinnamon	3	2	-	-	1	1,855	1,293	-	-	562
Big Cinnamon	8	6	-	-	2	22,119	15,922	-	-	6,197
Oriskany	6	1	-	2	3	16,909	2,162	-	5,510	9,237
Newburg	18	13	1	-	4	55,343	39,725	2,520	-	13,098
Stray, Red, and Clinton	668	162	88	296	122	2,229,903	557,791	288,216	965,122	418,774
Medina	4	-	-	-	4	16,216	-	-	-	16,216
Trenton	20	2	1	3	14	36,891	2,462	1,261	5,427	25,441
Trempealeau	5	-	1	-	4	21,524	-	3,731	-	20,093
Eau Clair	2	-	-	-	2	8,746	-	-	-	8,746
Mt. Simon	1	-	-	-	1	3,351	-	-	-	3,351
Basement complex	5	1	-	-	4	23,796	7,040	-	-	16,756

a - Old wells drilled deeper and wells drilled for underground storage, water flooding, and production of salt and brine not included.

TABLE 7.- DRILLING PERMITS ISSUED, WELLS PLUGGED,
AND WELLS MUDDED IN OHIO, BY COUNTY, IN 1959^a

County	Drilling permits issued	Dry holes	Wells plugged		Wells mudded
			Old wells	Total	
Total	1,278	298	861	1,159	333
Adams	-	1	-	1	-
Allen	1	-	1	1	-
Ashland	113	20	15	35	43
Ashtabula	48	-	-	-	-
Athens	19	11	26	37	7
Auglaize	-	-	12	12	-
Belmont	3	5	1	6	-
Butler	1	-	-	-	-
Carroll	2	2	4	6	-
Clinton	2	2	-	2	-
Columbiana	11	7	6	13	27
Coshocton	109	21	60	81	20
Crawford	-	1	-	1	-
Cuyahoga	1	-	26	26	-
Defiance	5	2	-	2	-
Erie	-	-	2	2	-
Fairfield	8	3	5	8	1
Fulton	2	2	-	2	-
Gallia	1	-	-	-	-
Geauga	2	-	-	-	-
Guernsey	6	2	8	10	-
Hamilton	1	1	-	1	-
Hancock	3	1	17	18	-
Hardin	-	-	2	2	-
Harrison	1	-	1	1	-
Henry	-	1	-	1	-
Highland	1	1	-	1	-
Hocking	32	9	24	33	6
Holmes	95	18	24	42	16
Jackson	5	-	2	2	-
Jefferson	5	3	8	11	-
Knox	60	13	15	28	17
Lake	2	-	7	7	-
Lawrence	1	-	1	1	-
Licking	60	20	43	63	25
Lorain	2	-	2	2	-
Lucas	1	1	-	1	-
Mahoning	1	-	-	-	-
Medina	86	4	33	37	4
Meigs	37	10	31	41	13
Mercer	2	-	34	34	-
Miami	2	2	2	4	-

TABLE 7.- Drilling permits issued, wells plugged, and wells mudded in Ohio, by county, in 1959^a (con.)

County	Drilling permits issued	Dry holes	Wells plugged		Wells mudded
			Old wells	Total	
Monroe	14	5	25	30	1
Montgomery	1	-	-	-	-
Morgan	18	14	74	88	3
Morrow	1	-	-	-	-
Muskingum	48	13	58	71	16
Noble	31	13	27	40	2
Ottawa	1	-	4	4	-
Perry	70	11	64	75	-
Pickaway	-	1	-	1	-
Pike	1	-	-	-	-
Portage	5	2	-	2	5
Richland	6	-	-	-	1
Ross	3	-	-	-	-
Sandusky	-	-	4	4	-
Scioto	4	-	-	-	-
Seneca	-	-	11	11	-
Stark	22	5	35	40	23
Summit	19	-	5	5	4
Trumbull	2	-	-	-	-
Tuscarawas	48	14	9	23	4
Van Wert	1	-	3	3	-
Vinton	37	3	2	5	7
Warren	-	-	1	1	-
Washington	45	11	80	91	2
Wayne	168	40	30	70	86
Williams	1	1	-	1	-
Wood	-	-	16	16	-
Wyandot	1	2	1	3	-

a - Data from Ohio Division of Mines.

TABLE 8.- DATA ON ACTIVE WATER-FLOODING OPERATIONS IN OHIO, BY COUNTY, 1959

County	Permits to water flood	Active water-flooding operations	Permits to drill	Wells plugged	Operating wells		Producing zone
					Oil	Input	
Total	4	24	35	34	872	534	
Ashland	1	5	5	3	75	16	Berea
Coshocton	-	1	-	-	16	1	Clinton
Fairfield	-	1	-	-	1	-	Newburg
Hancock	-	1	-	-	9	4	Trenton
Knox	1	1	-	-	5	2	Clinton
Licking	-	2	-	-	20	16	Clinton
Lorain	-	1	-	-	13	16	Berea
Medina	1	6 ^a	26	17	679	458	Berea
Monroe	-	1	-	-	34	13	Keener
Muskingum	-	1	-	9	10	3	Oriskany
Noble	1	3	4	5	5	2	Macksburg 500 ^b
Perry	-	1	-	-	5	3	Clinton

a - Five primary leases are being operated from effects of six water-flooding operations.

b - Buell Run sand.

TABLE 9.- OIL AND GAS PRODUCTION, RESERVES, GAS STORAGE, AND NUMBER OF WELLS IN OHIO, 1959

Item	Oil (bb1)	Gas ^a (mcf)	Gas stored
			underground (mcf)
Reserves, December 31, 1958.....	70,791,000	575,370,000	-
Volume in storage, December 31, 1958....	-	242,682,000	242,682,000
Total.....	70,791,000	818,052,000	242,682,000
Extensions and revisions, 1959.....	9,406,000	- 70,536,000	2,248,000
Discoveries, 1959.....	-	11,170,000	-
Net change in underground storage.....	-	26,391,000	114,091,000 ^b
Total.....	9,406,000	- 32,975,000	116,339,000
Production.....	5,978,000 ^c	36,311,000	89,948,000 ^d
Reserves, December 31, 1959.....	74,219,000	479,693,000	-
Volume in storage, December 31, 1959....	-	269,073,000	269,073,000
Total	74,219,000	748,766,000	269,073,000
	Number of wells		
	Oil	Gas	Gas storage
Producing wells, December 31, 1958.....	17,073	7,028	2,111
Wells completed, 1959.....	538 ^e	305	87
Old wells plugged.....	677	213	-
Producing wells, December 31, 1959.....	16,934	7,120	2,198 ^f
Number of storage areas.....	-	-	16

a - American Gas Association.
b - Stored.
c - Ohio Oil & Gas Association.

d - Withdrawn from storage.
e - Includes 335 combination wells.
f - Includes reconditioned wells.

TABLE 10
WELL COMPLETIONS IN OHIO, 1944-59^a

Year	Total	Number of wells				Percent			
		Gas	Oil	Combi- nation ^b	Dry	Gas	Oil	Combi- nation ^b	Dry
1944	1,040	478	169	-	393	46.0	16.2	-	37.8
1945	1,034	429	220	-	385	41.5	21.3	-	37.2
1946	1,293	547	338	-	408	42.3	26.1	-	31.6
1947	1,383	582	317	-	484	42.1	22.9	-	35.0
1948	1,455	428	493	-	534	29.4	33.9	-	36.7
1949	1,052	292	254	80	426	27.8	24.1	7.6	40.5
1950	1,142	284	282	100	476	24.9	24.7	8.7	41.7
1951	1,061	240	315	71	435	22.6	29.7	6.7	41.0
1952	1,140	218	392	60	470	19.1	34.4	5.3	41.2
1953	1,097	181	466	64	386	16.5	42.5	5.8	35.2
1954	1,195	248	459	81	407	20.7	38.4	6.8	34.1
1955	1,234	247	372	279	336	20.0	30.2	22.6	27.2
1956	1,245	206	324	348	367	16.5	26.0	28.0	29.5
1957	1,041	199	289	285	268	19.1	27.8	27.4	25.7
1958	1,168	260	238	354	316	22.3	20.4	30.3	27.0
1959	1,158	305	203	335	315	26.4	17.5	28.9	27.2

a - Old wells drilled deeper and wells drilled for underground storage, water flooding and production of salt and brine are not included.
b - Data prior to 1949 included with either oil or gas wells.

TABLE 11
PRODUCTION, RESERVES, AND STORAGE OF GAS IN OHIO, 1945-59

(In millions of cubic feet)

Year	Production	Reserves, as of December 31 ^b	Net change in underground storage	Net storage as of December 31
1945	-	626,800	-	-
1946	59,000	614,000	-	-
1947	74,000	611,200	-	-
1948	60,732	581,108	-	48,345
1949	47,000	585,597	18,629	66,974
1950	47,200	585,048	11,840	78,814
1951	41,400	658,439	25,696	104,510
1952	32,500	697,517	33,966	138,476
1953	31,280	592,831	24,675	163,151
1954	31,531	598,039	13,551	176,702
1955 ^a	35,081	617,511	15,675	192,377
1956 ^a	31,727	641,319	23,655	212,288
1957 ^a	32,261	672,406	17,120	229,408
1958 ^a	33,875	575,370	13,274	242,682
1959 ^a	36,311	479,693	26,391	269,073

a - Source: American Gas Association.
b - Exclusive of underground storage.

TABLE 12

PRODUCTION OF CRUDE OIL IN OHIO, BY GRADE, 1944-59

(In thousands of barrels)

Year	Total	Buckeye-Pennsylvania	Zanesville ^a	Corning	Cleveland-Chatham	Lima
1944	3,053	1,656	-	810	382	205
1945	3,012	1,507	-	815	325	365
1946	3,508	2,063	-	757	292	396
1947	3,618	2,401	-	724	285	208
1948	3,906	2,625	-	804	276	201
1949	3,485	1,726	307	966	310	176
1950	3,314	1,574	261	1,029	311	139
1951	3,141	1,332	234	1,163	294	118
1952	3,350	1,181	204	1,513	268	184
1953	3,695	1,104	177	1,937	270	207
1954	3,887	1,108	203	2,153	317	106
1955	4,327	1,162	171	2,619	275	100
1956	4,739	1,149	159	3,077	272	82
1957	5,556	1,180	158	3,854	288	76
1958	6,525	1,305	127	4,739	281	73
1959 ^b	5,978	1,212	301	4,130	273	62

a - Included with Buckeye-Pennsylvania or Corning prior to 1949.

b - Source: Ohio Oil and Gas Association.

TABLE 13
PRICES OF CRUDE OIL, BY GRADE, IN OHIO^a

Date of change	Buckeye Pennsyl- vania	Zanesville	Corning	Cleveland- Chatham	Lima
1954					
January 1..	\$3.24	\$2.75	\$2.72 ^b	\$2.70 ^b	\$2.50 ^b
May 20.....	2.74	2.50	-	-	-
November 1.	2.64	-	2.72 ^c	2.62	-
November 1.	-	-	2.65 ^d	-	-
December 1.	2.76	2.62	-	-	-
1955					
January 21.	2.91	2.72	-	-	-
July 11....	3.01	2.82	-	-	-
November 1.	3.15	2.87	-	-	-
1956					
February 6.	3.40	2.97	-	-	-
March 16...	3.60	3.02	-	-	-
May 16.....	3.85	3.10	-	-	-
July 16....	3.97	3.15	-	-	-
August 16..	4.07	-	-	-	-
1957					
January 9..	-	-	2.97 ^c	-	-
January 9..	-	-	2.65 ^d	-	-
January 10.	-	-	2.97 ^c	2.87	2.75
January 10.	-	-	2.90 ^d	-	-
January 16.	4.23	3.27	-	-	-
July 26....	4.00	3.04	-	-	-
August 16..	-	-	2.90	-	-
1958					
January 6..	-	-	2.90 ^c	-	-
January 6..	-	-	2.77 ^d	-	-
January 8..	-	-	2.77 ^c	-	-
January 15.	-	-	-	2.72	2.60
February 12	-	-	2.72 ^d	-	-
February 15	-	2.72	2.72 ^c	-	-
March 3....	3.75	-	-	-	-
April 16...	3.50	-	-	-	-
June 16....	3.25	-	-	-	-
December 22	3.40 ^e	-	-	-	-
1959					
April 1....	3.57 ^e	-	-	-	-
May 1.....	3.67 ^e	-	-	-	-
June 1.....	3.47 ^f	-	-	-	-
June 22....	3.47 ^e	-	-	-	-
September 12	3.62	-	-	-	-

a - Source: Ohio Oil and Gas Association.

b - No change.

c - Ashland Oil and Refining Company.

d - Joseph Seep Purchasing Agency.

e - Waverly.

f - Freedom Valvoline and Quaker State.

TABLE 14

WELL CUTTINGS AND CORES RECEIVED AT THE OHIO DIVISION OF GEOLOGICAL SURVEY DURING 1959

Location		Ownership			Sample data							
County and township	Section	File No	Operator	Farm	Depth range		Geologic range		Total depth (feet)	Year completed	Samples missing	
					From	To	From	To				
ADAMS Monroe Sprigg	Survey 9693 --	789	Harold Neely	No.1 Therber Johnson	0	937	Cincinnati	Black River	937	1958	188-192	
		763	Harold G. Neely	No.1 Frank Ellison	10	904	Cincinnati	Black River	904	1958	80-85;169-75	
CLINTON Wayne	Survey 1027	757	Kewance Oil Co.	No.1 J. E. Luttrell	82	1,983	Lockport	Oneota	1,983	1958	293-95;1,335-41;1,555-65; 1793-94	
		772	Kewance Oil Co.	No.1 Peter Adams	0	3,457	Lockport	Mt. Simon	3,457	1958	1105-09;1,217-23;1,258-62; 1564-67;1,925-39;1,959-61; 2,040-49;2,225-30; 3,330-40;3,240-45	
	Survey 749	765	Kewance Oil Co.	No.1 Gerald Bock	240	1,850	Cincinnati	Oncota	1,850	1958	620-30;980-90;1000-10; 1,030-40;1,050-70;1,180-85; 1,390-95;1,430-35; 1,610-25;1,640-50;1,705-10; 1,740-45	
COSHOCTON Bedford	7	761	National Assoc. Petroleum Co.	No.1 Fred and Pearl Gilmore	690	3,570	Pottsville	Cincinnati	3,570	1958	766-70;1,841-54;2062-82; 2,858-68;3,484-89;3,514-15	
		777	Patten Drilling Co.	No.1 E.F. & Mary Croup	552	3,375	Cuyahoga	Medina group	3,375	1959	582-92;602-12;722-32;738-59; 1,825-35;2,383-93	
	Mill Creek	NW $\frac{1}{4}$ 10	781	National Assoc. Petroleum Co.	No.2 Nicholas & J.B. Lower	50	3,921	Cuyahoga	Cincinnati	3,921	1958	60-65;1,725-30;2,315-20; 3,435-45;3,460-65;3,805-15; 3,820-25
	Tiverton Washington	SW $\frac{1}{4}$ 3 6	795	W. H. Bears	No.1 O. Haglebarger	550	3,430	Cuyahoga	Medina group	3,430	1959	3,054-66
			762	W. E. Shrider & others	No.1 C. A. Miller	120	3,369	Pottsville	Medina group	3,445	1958	509-18;538-53;612-823; 830-59;900-05;3,100-04; 3,369, 3,445
	Washington	NE $\frac{1}{4}$ 21	788	Kewance Oil Co.	No.1 Robert and Margaret Martin	90	3,658	Cuyahoga	Queenston	3,661	1959	230-40;480-90;570-80; 810-20;870-80, 1,090-1100; 1,410-30;2,235-40;2,465-70; 2,650-55;2,680-95; 2,730-70;2,790-95;2,860-65; 2,890-95;2,980-90; 3,145-60;3,295-3,300; 3,465-75;3,500-10;3,560-60; 3,590-95;3,658-61
CRAWFORD Holmes	NE $\frac{1}{4}$ 28	797	Ohio Drillers	No.1 Warren F. Shank	170	2,127	Ohio shale	Black River	2,160	1959	597-2,000;2,127-60	
DEFIANCE Adams	16	753	Archbold Oil & Gas Co.	No.1 Harper	145	1,925	Ohio shale	Trenton	1,925	1949	165-70;935-1,280;1,339-46	
		807	S.E. Brown	No.1 E. E. Smucker	180	1,793	Ten Mile Creek	Trenton	1,793	1959	228-37;277-83;300-08;361-68; 375-93;800-08;1,223-28; 1,380-89;1,525-35; 1,607-19;1,683-85	
ERIE Groton	2	774	Sentinel Enterprises, Inc.	No.1 Lawrence Miller	20	2,346	Columbus	Trenton	2,400	1950	36-37;218-33;967-76;1,070-83; 1,963-75;2,062-63; 2,218-28;2,243-47;2,346-2,400	
		773	Sentinel Enterprises, Inc.	No.1 N. W. & M. S. Smith	113	1,000	Columbus	Lockport	1,000	1949	859-63	
FAIRFIELD Walnut	15	775	National Gas & Oil Corp.	No.2 Holliday	0	1,969	Cuyahoga	Lockport	2,296	1952	1,969-2,296	
FAYETTE Concord	Survey 1002	751	Kewance Oil Co.	No.1 Esther Wilson	0	3,490	Lockport	Precambrian	3,494	1957	200-04;1,294-1,329;1,340-41; 1,695-1,725;1,805-36; 2,720-25;3,040-80;3,415-20	

TABLE 14

Well cuttings and cores received at the Ohio Division of Geological Survey during 1959 (con.)

Location		Ownership			Sample data						
County and township	Section	File No.	Operator	Farm	Depth range		Geologic range		Total depth (feet)	Year completed	Samples missing
					From	To	From	To			
Jasper	Survey 5351	767	Kewanee Oil Co.	No.1 Lillian Barnes	270	3,410	Cincinnatian	Precambrian	3,410	1958	1,335-40;1,420-25;1,460-65;1,615-20;1,645-49;1,835-40;2,020-25;2,150-60;2,215-20;2,365-70;2,420-25;2,450-55;2,490-95;2,530-40;2,550-55;2,745-55;2,805-20;2,830-35;2,860-65;3,040-45;3,060-65;3,070-80
Union	Survey 3619	756	Kewanee Oil Co.	No.1 Ethel Cavinee	0	1,920	Lockport	Oneota	1,920	1958	80-85;163-73;226-30;303-08;971-79;994-96;1,246-55;1,330-34
Union	Survey 3675	785	Kewanee Oil Co.	No.1 Streitenberger	15	1,991	Lockport	Oneota	1,991	1958	20-40;50-150;240-50;370-80;490-500;810-20;990-1,000;1,130-40;1,390-1,400;1,465-70;1,675-85
FULTON Chesterfield	SE $\frac{1}{4}$ 31	804	McClure Oil Co.	No.1 Leroy D. Keefer	241	2,810	Ohio shale	Black River	2,811	1959	323-27;667-75;821-30;1,288-1,301;1,604-21;2,087-97
Gorham	SE $\frac{1}{4}$ 17	806	McClure Oil Co.	W. L. Thomas	220	3,010	Ohio shale	Black River	3,010	1959	2,446-49;2,667-93
GREENE Caesar Creek	Survey 2473	752	Sun Oil Co.	No.1 W. M. Henry	173	1,958	Cincinnatian	Prairie du Chien	1,958	1940	1,023-28
HOCKING Falls	SE $\frac{1}{4}$ 13	758	Seabright & Calvert	No.1 J. Daugherty	1,735	2,664	Big Lime	Medina group	2,664	1958	None
HOLMES Clark	SE $\frac{1}{4}$ 24 W	771	E. C. McManaway (Cascade Oil Co.)	No.1 Melvin Keiffaber	367	4,331	Cuyahoga	Medina group	4,331	1958	383-540;1,977-85;3,036-49;3,545-62;3,671-83;3,767-80
Hardy	L.8,3rd qtr.	790	Acitelli & Hackel	No.1 R. J. Patterson	700	2,964	Berea	Lockport	3,494	1959	756-70;775-811;895-2,098
Mechanic	20 W.	760	National Assoc. Petroleum Co.	No.1 William Wagers	80	3,742	Pottsville	Cincinnatian	3,742	1958	2,894-2,908;2,964-3,494
Mechanic	SW $\frac{1}{4}$ 10 W	793	C. H. Davis	No.1 T. Weitbrecht	167	3,775	Pennsylvanian	Medina group	3,785	1958	450-500;970-80;1,900-10;2,340-50;2,980-85
Prairie	SW $\frac{1}{4}$ 7	796	Bert Fields Co.	No.1 Allan R. McCurdy	500	3,481	Cuyahoga	Cincinnatian	3,481	1959	320-26;346-54;382-93;532-39;801-807;871-874;928-937;1,099-1,110;1,121-29;1,175-85;1,952-57;2,033-39;2,107-24;2,845-54;3,125-36;3,411-20;3,470-75;3,568-75;3,726-40;3,745-68;3,775-85
JACKSON Milton	33	759	Kewanee Oil Co.	No.2 Buckeye Co.	10	2,986	Pottsville	Cincinnatian	2,986	1958	810-29;1,920-30;3,320-30
KNOX Jackson	NE $\frac{1}{4}$ 21	783	National Assoc. Petroleum Co.	No.1 John & Evelyn Wilt	50	3,115	Cuyahoga	Cincinnatian	3,117	1959	56-66;400-08;636-41;1,000-02;1,511-15
LUCAS Richfield Springfield	NE $\frac{1}{4}$ 16 SW $\frac{1}{4}$ 14	754 768	Colvin, et al. John P. Smoots	No.1 W. G. Harroun No.1 Geo. W. Myers	58 64	1,753 1,566	Ohio shale Lockport	Trenton Black River	1,753 1,566	? 1959	None 560-570;1,352-54;1,531-37
MIAMI Lost Creek	13	764	National Assoc. Petroleum Co.	No.1 Ella Walker	260	3,500	Clinton group	Precambrian	3,513	1958	430-35;445-50;470-75;620-25;775-80;1,000-05;1,010-15;1,200-35;1,240-45;1,955-60;2,650-75;3,215-20;3,425-30;3,440-45;3,475-80;3,500-13

Lost Creek	NW $\frac{1}{4}$ 13	801	Keener Oil Co.	No.1-A Ella Walker	70	1,285	Lockport	Black River	1,335	1959	230-40;1,030-40;1,090-1,100;1,200-45;1,285-1,335
Spring Creek	SE $\frac{1}{4}$ 17	791	J. H. Teeters	No.1 John R. Hixson	730	1,250	Cincinnati	Black River	1,250	1959	735-40;750-930;960-65;1,000-15;1,035-70;1,083-85;1,100-10;1,140-55;1,233-40
MORROW Bennington	SE $\frac{1}{2}$ 22	800	N. J. Monk, et al.	No.2 N. J. Monk	1,005	3,726	Columbus	Trempealeau	3,731	1959	1,011-1505;1,567-90;1,835-45;1,892-2925;3,092-3190;3,726-3731
MUSKINGUM Highland	NW $\frac{1}{4}$ 24	787	Kewanee Oil Co.	No.1 Welthia Lake	200	4,510	Pennsylvania	Queenston	4,510	1959	330-40;820-30;1,060-70;1,240-50;1,620-30;1,760-90;1,860-80;2,420-30;2,840-50;2,910-30;3,170-75;3,335-40;3,955-60;4,035-40;4,535-40
Highland	NE $\frac{1}{2}$ 25	798	Kewanee Oil Co.	No.1 George & Hazel Dunn	0	4,461	Pottsville	Medina group	4,461	1959	138-45;184-87;220-46;1,157-67;1,512-22;3,183-94
Highland	SW $\frac{1}{4}$ 24	802	Kewanee Oil Co.	No.1 C. & B. Whitmire	0	4,454	Pottsville	Queenston	4,454	1959	88-97;164-68;765-69;1,321-27;1,366-76;1,600-06;4,233-41;4,337-44
Licking	SW Cor., 4th qtr.	782	National Assoc. Petroleum Co.	No.1 Curtis Mattingly	237	3,321	Cuyahoga	Cincinnati	3,331	1958	241-330;353-62;456-58;568-78;592-600;700-24;781-90;805-08;837-41;965-75;1,072-87;1,109-18;1,212-22;1,235-42;1,292-1304;1,440-50;1,460-64;1,740-1802;1,844-56;1,911-14;1,929-40;1,950-60;2,004-25;2,035-65;2,412-28;2,439-42;2,544-48;2,652-67;2,696-2707;2,736-48;2,818-44;2,980-90;3,172-82;3,184-89;3,200-03;3,225-30;3,321-31
Madison	18	766	National Assoc. Petroleum Co.	No.1 Richard Ferrel	540	3,990	Cuyahoga	Cincinnati	3,990	1958	1,290-1300;2,320-30;2,450-60;2,615-20;3,005-15;3,285-90;3,650-55;3,860-70;3,900-25
Salem	SW $\frac{1}{4}$ 23	799	Barco Corp.	No.1 William & Doris Winegardener	721	4,266	Pottsville	Queenston	4,266	1959	3,050-65;4,125-35;4,141-51;4,161-67
Springfield	NE $\frac{1}{2}$ 17	779	Karl Wehmeyer	No.1 Paul A. Wilkins	20	3,505	Pottsville	Cincinnati	3,505	1959	110-20;130-50;160-70;385-500;510-82;592-602;612-40;900-2,150;2,500-10;2,750-60;3,100-10
PICKAWAY Monroe	L. 4290	786	Kewanee Oil Co.	No.1-A Harry Long	80	3,255	Niagaran	Precambrian	3,257	1959	355-60;475-80;730-50;770-80;800-10;1,140-50;1,290-1300;1,460-65;1,485-90;1,505-10;1,680-85;1,730-40;1,860-70;1,940-45;1,965-70;2,165-70;2,635-40;2,755-60;2,780-85;3,100-05;3,255-57
PORTAGE Aurora	L. 19	805	P. J. McIntyre	No.1 Tac1	75	3,800	Cuyahoga	Clinton group	4,105	1959	95-100;110-20;265-70;323-1960;2,000-10;2,375-80;2,570-2600;3,250-60;3,339-3,400;3,800-4105
TUSCARAWAS Lawrence	L. 11, 4 qtr.	755	Status Development Co.	No.2 Urban A. Wernet	270	4,717	Cuyahoga	Queenston	4,717	1947	275-288;406-414;587-97;731-34;928-30;1,672-75;2,024-37;3,610-18;4,290-92
VINTON Brown	L. 25	808	State of Ohio	Lake Hope (cabin area)	200	660	Pottsville	Cuyahoga	660	1959	385-95

TABLE 14

Well cuttings and cores received at the Ohio Division of Geological Survey during 1959 (con.)

Location		Ownership			Sample data						
County and township	Section	File No.	Operator	Farm	Depth range		Geologic range		Total depth (feet)	Year Completed	Samples missing
					From	To	From	To			
Brown	L.31	809	State of Ohio	Lake Hope (dining area)	10	670	Pottsville	Cuyahoga	670	1959	None
Madison	18	778	State of Ohio	No.1 Zaleski Forest (B.I.S. honor camp on Turner Ridge)	0	775	Pottsville	Cuyahoga	775	1958	360-480
WAYNE											
East Union	SE $\frac{1}{4}$ 10	791	Estill S. Heyser, Jr.	No.1 David Yoder	100	3,649	Pennsylvanian	Brassfield	3,804	1958	170-240; 305-500; 650-60; 900-10; 920-30; 1,150-60; 2,490-2,500; 2,540-50; 2,750-60; 2,880-90; 2,910-20; 3,332-50; 3,649-3,804
Milton	SW $\frac{1}{4}$ 8	770	National Assoc. Petroleum Co.	No.1 Harold L. Miller	245	3,381	Cuyahoga	Cincinnati	3,381	1958	2,405-10; 2,650-55; 2,745-55; 3,135-10; 3,230-05
Milton	SE $\frac{1}{4}$ 31	784	Wehmeyer & Clarkson	No.1 George Reusser	135	3,525	Cuyahoga	Medina group	3,530	1958	140-45; 265-540; 650-2,050; 2,910-20; 3,100-10; 3,120-30; 3,415-20; 3,445-50; 3,495-3500
Milton	SW $\frac{1}{4}$ 19	792	Parker and Chapman	No.1 Daniel Shaffer	0	3,385	Logan	Medina group	3,391	1959	120-30; 270-80; 900-20; 960-80; 1,646-58; 1,916-19; 2,100-20; 2,380-90; 2,550-70; 2,580-90; 2,660-70; 2,710-20; 2,750-60; 2,800-2940; 2,955-60; 3,055-60; 3,185-90; 3,215-20; 3,245-50; 3,335-40; 3,385-91
Milton	NE $\frac{1}{4}$ 22	803	R. G. Storey, Jr.	No.1 E. J. McConnell	630	3,355	Cuyahoga	Medina	3,437	1959	1787-1800; 2,680-90; 2,850-70; 3,045-50; 3,310-15
Plain	NE $\frac{1}{4}$ 13	769	Marks & Richmand	No.1 Margaret Anfang	100	3,335	Cuyahoga	Cincinnati	3,338	1958	3,355-3,437
Plain Salt Creek	NE $\frac{1}{4}$ 13 SE $\frac{1}{4}$ 10	780 776	Marks & Richmand Sanders Oil Co.	No.2 Margaret Anfang No.1 Noah & Ida N. Swartzenruber	205 886	3,372 3,975	Cuyahoga Berea	Cincinnati Medina group	3,372 3,982	1959 1958	190-530; 540-42; 1,315-33; 2,305-15; 2,584-2600; 2,669-2700; 2,860-66; 2,893-2900; 3,210-12; 3,320-25; 3,335-38
In Lake Erie	41°37' N. Lat. 82°50'07" W. Long.	Canada No.3	Putman and Putman	No.2 Canada (Phillips Petroleum Co.)	104	2,985	Detroit River	Trempealeau	2,985	1958	None
In Lake Erie	41°50'44" N. Lat. 82°33'44" W. Long.	Canada No.4	Putman and Putman	No.3 Canada (Phillips Petroleum Co.)	61	2,601	Delaware	Black River	2,601	1958	None
In Lake Erie	41°57'26" N. Lat. 82°50'10" W. Long.	Canada No.5	Putman and Putman	No.2 Canada (Phillips Petroleum Co.)	89	897	Detroit River	Lockport	897	1958	None
DEERBORNE, IND. Miller	NE $\frac{1}{4}$ SW $\frac{1}{4}$ 10	--	Lynce Oil & Gas Co.	W. C. Clark	45	1,640	Cincinnati	Prairie Du Chien	1,640	1958	50-70; 75-115; 120-23; 126-55; 169-78; 183-88; 192-97; 202-07; 226-36; 241-51; 256-71; 281-89; 293-301; 306-331; 336-61; 366-91; 401-20; 424-46; 463-68; 473-83; 498-508; 522-78; 582-602; 617-39; 655-65; 671-761; 1,214-19; 1,613-19
JACKSON, W. VA. Grant Dist.	--	W.Va. 26	Kewance Oil Co.	No.1 Gay Moore	280	4,915	Pennsylvanian	Oriskany	4,915	1959	520-25; 625-37; 800-14; 841-18; 1,050-1,160; 1,925-50; 2,331-12; 2,375-85; 4,215-29; 4,882-89