STATE GEOLOGICAL SURVEY OF KANSAS

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BULLETIN 56

EXPLORATION FOR OIL AND GAS IN WESTERN KANSAS DURING 1944

BY WALTER A. VER WIEBE

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By

WALTER A. VER WIEBE

ABSTRACT

Exploration for oil and gas in Kansas reached an all-time peak in 1944. At least 1,508 test holes were drilled in the western part of the state, of which 666 were completed as oil wells and 98 as gas wells. The total production of oil in Kansas in 1944 was 99,853,104 barrels, which is about 8 million barrels less than the peak year of 1943. Gas production, on the other hand, exceeded any previous figure. The total gas production for the state during 1944 was more than 134 billion cubic feet, of which all but 7 billion cubic feet was produced in the western part of the state.

Extensive geophysical and core-drill work was carried on during 1944 and partly on the basis of such work 53 new oil or gas pools were discovered. Nine of the new pools are in Barton County, 8 in Stafford County, 6 in Barber County, 4 in Ellis County, 3 each in McPherson, Pratt, and Rice Counties, 2 each in Ellsworth, Rooks, and Russell Counties, and one each in Graham, Harvey, Kiowa, Ness, Pawnee, Reno, Saline, Sedgwick, Sheridan, Sumner, and Trego Counties. The Adell pool in Sheridan County, the Coats pool in Pratt County, and the Pritchard pool in Barton County are probably the most valuable pools. The total number of wildcat wells drilled in western Kansas is 565, of which 245 are extension wildcats, 175 are ordinary wildcats, and 145 are rank wildcats. Of the new oil and gas pools, 22 were found by extension wildcats, 27 by ordinary wildcats, and 4 by rank wildcats. The ratio of wildcat tests to successful wells is about 13 to 1.

Tests for oil and gas were drilled in 50 western Kansas counties during the year, and production was obtained in 31 counties. Kiowa and Stanton were added to the list of producing counties. More than 100 test wells were drilled in each of four counties of western Kansas during the year. Barton County had 235 of which 126 were producers, Russell County 186 of which 106 were producers, Stafford County 153 of which 83 were producers, and Pratt County 103 of which 70 were producers.

INTRODUCTION

The State Geological Survey of Kansas has issued ten reviews of oil and gas developments in the western part of the State. The first of these was published in 1928 as Mineral Resources Circular 1. Mineral Resources Circular 2 published in 1933 describes developments in 1928, 1929, and 1930, and Mineral Resources Circular 3 published in 1934 describes developments in 1931 and 1932. In 1938 a cumulative report was issued as Mineral Resources Cir-

TABLE 1.—*Oil and gas pools discovered in western Kansas during 1944*

County, field, and location	Discovery well	Producing zone	Depth, feet	Month of discovery	Initial prod. per day, bbls.
Barber County					
Clara 2-30-14W	Lion No. 1 Clara	Arbuckle	4,509-4,517	December	3 mil. cu. ft. gas
Hargis 3-31-14W	Dickey No. 1 Hargis	Viola	4,403-4,417	August	4 mil. cu. ft. gas
Marjorie 31-30-13W	Phillips No. 1 Marjorie	Viola	4,511-4,519	April	47 mil. cu. ft. gas
Marjorie East 32-30-13W	J. M. Huber No. 1 Gant	Viola	4,617-4,621	September	39 mil. cu. ft. gas
Skinner Northwest 17-31-14W	J. M. Huber No. 1 Skinner	Viola	4,356-4,374	April	34 mil. cu. ft. gas
Skinner South 32-31-14W	Dickey No. 1 Mills	"Douglas sand"	4,023-4,035	March	3 mil. cu. ft. gas
Barton County					
Behrens 6-20-15W	Solar No. 1 Behrens	Arbuckle	3,719-3,723	December	250
Carroll 21-17-14W	Yellow Cab No. 1 Carroll	Arbuckle	3,356-3,370	December	200
Feltes North 2-16-12W	Winkler Koch No. 1 "B" Schauf	Arbuckle	3,337-3,344	January	50
Pawnee Rock Northeast 7-20-15W	Stanolind and Amerada No. 1 Unruh	Arbuckle	3,753-3,756	April	1,270
Peach 25-16-14W	Phillips No. 1 Chol	Arbuckle	3,401-3,442	July	140
Pritchard 34-20-14W	Texas No. 1 Pritchard	Arbuckle	3,541-3,545	May	1,500
Reif 30-16-12W	Mineral Products No. 1 Reif	Arbuckle	3,399-3,405	March	290
St. Peter 5-19-11W	Ash and Mooney No. 1 Schlochtermeire	Arbuckle	3,387-3,407	March	350
Workman 33-20-12W	Vickers No. 1 Workman	Arbuckle	3,414-3,455	September	221
Ellis County					
Catharine Northwest 4-13-17W	Max Cohen No. 1 Madden	Arbuckle	3,590-3,614	November	50
Pleasant 2-14-20W	Sunray No. 1 Orth	Reagan sand	3,846-3,852	August	563
Schmeidler 28-12-17W	Alexander No. 1 Schmeidler	Arbuckle	3,625-3,636	November	88
Younger 6-14-17W	Sunray No. 1 "B" Younger	Arbuckle	3,571-3,574	October	50
Ellsworth County					
Bloomer East 18-17-10W	Ingling No. 1 Murray	Arbuckle	3,309-3,332	June	100
Vacek 32-15-10W	Cities Service No. 1 Vacek	Arbuckle	3,315-3,320	May	101
Graham County					
Alda 15-7-22W	Skelly No. 1 Davis	KC-Lans.	3,518-3,524	September	518
Harvey County					
Stucky South 10-23-3W	Rockhill No. 1 Woods	Mississippian	3,269-3,278	January	1½ mil. cu. ft. gas

TABLE 1.—*Oil and gas pools discovered in western Kansas during 1944, continued*

County, field, and location	Discovery well	Producing zone	Depth, feet	Month of discovery	Initial prod. per day, bbls.
Kiowa County					
Alford 14-30-19W	Lion No. 1 Alford	Mississippian	5,040-5,043	September	32 mil. cu. ft. gas
McPherson County					
Gypsum Creek 4-17-1W	Morine-Williams No. 1 Henne	Mississippian	2,619-2,630	October	75
Jenday 1-19-2W	Derby No. 1 Jennie Day	Mississippian	2,984-2,990	June	100
Jenday South 7-19-1W	Bay & Westgate-Greenland No. 1 Myers	Mississippian	2,952-2,956	August	100
Ness County					
Kansada 23-17-26W	Skelly No. 1 Norton	Mississippian	4,450-4,461	June	130
Pawnee County					
Pawnee Rock South 25-20-16W	Nadel & Gussman-Aylward No. 1 Bixby	Arbuckle	3,816-3,825	April	362
Pratt County					
Coats 24-29-14W	Lion No. 1 Andrews	Simpson	4,402-4,422	April	741
Ludwick 4-29-13W	Skelly No. 1 Shaw	Simpson	4,489-4,495	June	142
Shriver 33-29-14W	Skelly No. 1 Shriver	Simpson	4,557-4,563½	July	344
Reno County					
Lerado Southwest 21-26-9W	Phillips No. 1 Wyman	Viola	4,177-4,182	January	93
Rice County					
Doran West 14-19-10W	Robertson et al. No. 1 Helmke	Arbuckle	3,264-3,269	June	136
Orth West 21-18-10W	Ohio No. 1 Bieberle	Arbuckle	3,235-3,243	May	88
Smyres North 23-19-6W	Nelson Drilling No. 1 Allison	Mississippian	3,342-3,384	October	15
Rooks County					
Hobart 33-8-18W	Continental No. 1 Welch	KC-Lans.	3,209-3,221	January	708
Zurich Townsite 27-9-19W	Cities Service No. 1 Sikes	Arbuckle	3,647-3,650	January	1,326
Russell County					
Beisel 15-14-12W	Bridgeport No. 1 "D" Beisel	Arbuckle	3,266-3,270	March	81
Claussen 27-12-14W	Davis No. 1 "B" Claussen	KC-Lans.	2,855-2,860	February	10
Saline County					
Mentor 13-15-3W	Mouser et al. No. 1 Carlin	Viola	3,258-3,264	November	75
Sedgwick County					
Clearwater 22-29-2W	Branine & Holl No. 1 Sautter	KC-Lans.	2,913-2,930	September	207
Sheridan County					
Adell 11-6-27W	Continental No. 1 Cramer	KC-Lans.	3,755-3,765	May	840

TABLE 1.—*Oil and gas pools discovered in western Kansas during 1944, concluded*

County, field, and location	Discovery well	Producing zone	Depth, feet	Month of discovery	Initial prod. per day, bbls.
Stafford County					
Brock 12-23-12W	Phillips No. 1 Vivian	Arbuckle	3,680-3,685	October	330
Cadman 4-25-13W	Faulkner No. 1 Cadman	Viola	4,064-4,070	February	50
Drach Northwest 11-22-13W	Faulkner No. 1 Hullmann	Arbuckle	3,738-3,748	November	16
McCandless 30-25-13W	Atlantic No. 1 McCandless	Simpson	4,251-4,267	April	734
Rattlesnake West 11-24-14W	Falcon Seaboard No. 1 Koelsch	KC-Lans.	3,759-3,766	May	254
Richland 27-24-14W	Atlantic No. 1 Neill	Arbuckle	4,232-4,240	January	221
Sand Hills 19-21-11W	Harbar et al. No. 1 Smith	Arbuckle	3,548-3,552	November	50
St. John Townsite 33-23-13W	Stanolind No. 1 Delker	Arbuckle	3,919-3,924	May	2,359
Sumner County					
Zyba Southwest 22-30-1W	Sullivan No. 1 Nixon	Simpson	3,917-3,929	June	209
Trego County					
Ellis Northwest 26-12-21W	Barnett et al. No. 1 Cotton	Arbuckle	3,923-3,925	February	242

cular 10 which gives information on areal geology, stratigraphy, and structure in each of the counties producing oil or gas at that time. In subsequent years, Mineral Resources Circular 13 and Bulletins 28, 36, 42, 48, and 54 describe developments in the years 1938 to 1943. The purpose of the present report is to furnish similar information for 1944. Bulletin 57 describes oil and gas developments in eastern Kansas.

Wildcat exploration was important in 1944. Such drilling was encouraged by the demands for oil and gas in the war effort. Many of the major oil companies drilled rank wildcat tests in areas which were at that time far removed from production. A few of the smaller independent companies as well as individual operators also tried to find new oil or gas reserves by drilling wildcat wells. For purposes of classification, all wildcat wells may be divided into three categories. Test wells more than a half mile but less than 2 miles from production at the time of drilling are classed as extension wildcats, test wells more than 2 miles but less than 10 miles from production are classed as ordinary wildcats, and wells more than 10 miles from production are classed as rank

wildcats. During 1944, 565 wildcat wells were drilled in the western part of the state. Fifty-three of these wells found new oil and gas pools. These new pools are listed in Table 1. During 1944, a total of 1,508 test wells were drilled in western Kansas, of which 666 found oil and 98 found gas (Table 2).

According to competent authorities, the largest reserves in any pools in Kansas are contained in the Trapp area, which has a reserve of 75 million barrels, the Bemis-Burnett area (60 million), the Silica area (50 million), the Graham-Hall-Gurney area (50 million), the Zenith area (35 million), and the Kraft-Prusa area (30 million). The total reserves in western Kansas are believed to be approximately 750 million barrels. The total production of oil in Kansas during 1944 was 99,853,104 barrels (Fig. 1), about 8 million barrels less than the peak year of 1943. An optimistic estimate of the new reserves discovered during 1944 is approximately 12 million barrels of oil.

The amount of gas produced in Kansas during 1944 reached a new high. The total amount of gas produced was 134,702,825 thousand cubic feet (Table 3), of which 83,007,568 thousand cubic feet was produced in the Hugoton field. Other large producing areas were the Medicine Lodge pool in Barber County, which produced 14 billion cubic feet, and the Otis pool in Rush County, which produced 12 billion cubic feet. Eastern Kansas furnished about 7 billion cubic feet of the total for the state. One of the important needs for more gas in 1944 was its greatly enlarged use in the manufacture of carbon black. It is estimated that more than 10 percent of the gas is now used for this purpose. Approximately 15 percent is used for domestic purposes, 9 percent for electric plants, and 8 percent for petroleum refineries.

During 1944, geophysical work was done on a scale probably unequalled in the past. Approximately 10 seismograph crews and an equal number of core-drill crews were at work throughout most of the year. In addition, there were several gravitimeter crews working in Kansas. Three of the larger companies drilled stratigraphic tests by means of which they examined the stratigraphic section. The results of these tests were not revealed.

Most of the prospecting was done in three areas. One area centers around Sheridan County in northwestern Kansas and includes especially Decatur, Graham, Trego, Gove, Thomas, and Sherman Counties. Another area centers around Pratt County

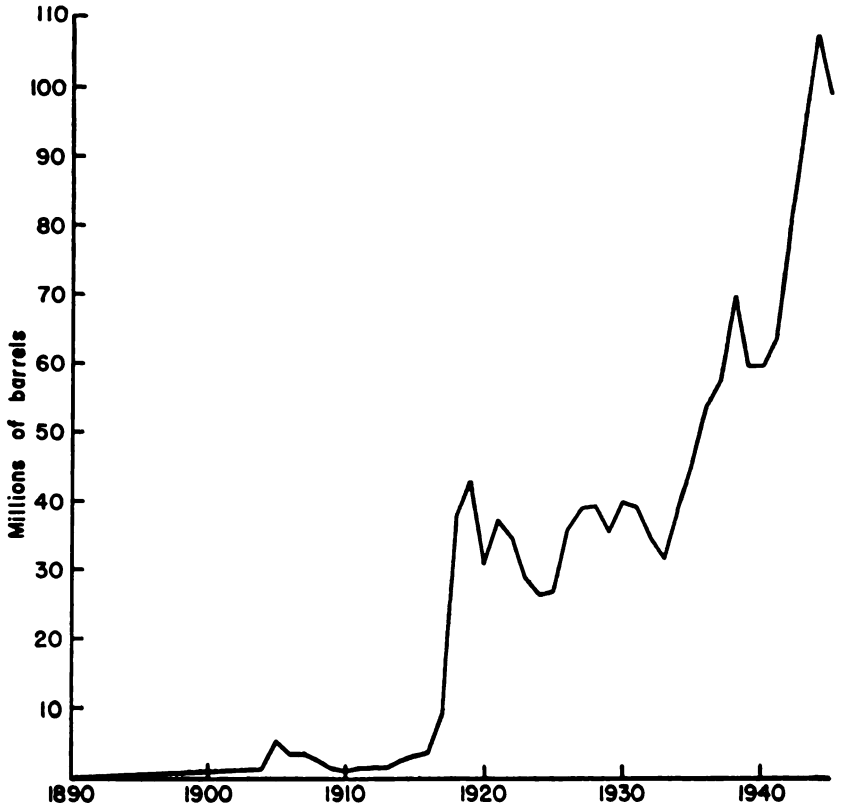

FIG. 1.—Annual oil production in Kansas from 1890 to 1944.

and includes especially Barber, Harper, Kingman, Kiowa, Edwards, and Pawnee Counties. The third area includes the counties in southwestern Kansas which now produce gas. The results of this intensive prospecting campaign are reflected in the fact that approximately 10 pools of the 53 discovered during 1944 were located wholly or in part by seismograph work. It is also reported that 18 of the new pools were based on core-drill work. Consequently, this type of prospecting is increasing each year.

Well cuttings are now being preserved from almost every well drilled in western Kansas. A cooperative sample-washing bureau was put into operation by the Kansas Geological Society in July. Subscribers to this service may designate and secure samples from

TABLE 2.—*Wells drilled in western Kansas in 1944, by counties*

County	Oil	Gas	Dry	Total
Barber	3	9	23	35
Barton	125	1	109	235
Clark			1	1
Comanche			1	1
Decatur			3	3
Edwards			3	3
Ellis	27		44	71
Ellsworth	34		34	68
Finney	5	3	3	11
Ford			3	3
Gove			5	5
Graham	26		24	50
Grant		6		6
Harper			1	1
Harvey		1	3	4
Haskell		26		26
Hodgeman			3	3
Kearny		14	2	16
Kingman			3	3
Kiowa		1	6	7
Lane			1	1
Lincoln			1	1
McPherson	48		59	107
Meade			4	4
Morton			1	1
Ness	5		6	11
Norton			6	6
Osborne			3	3
Ottawa			2	2
Pawnee	1		6	7
Phillips	7		7	14
Pratt	67	3	33	103
Rawlins			1	1
Reno	29	5	27	61
Rice	44		45	89
Rooks	29		36	65
Rush	2	1	10	13
Russell	105	1	80	186
Saline	5		18	23
Scott	1		2	3
Sedgwick	2	2	22	26
Seward		2		2
Sheridan	9		5	14
Smith			1	1
Stafford	80	3	70	153
Stanton		1	1	2
Stevens		18		18
Sumner	8	1	11	20
Trego	4		14	18
Wallace			1	1
Totals	666	98	733	1,508

any well. Time-drilling logs are now almost universally used on all field wells and most wildcat wells. These logs have gradually come to be regarded as essential in picking "tops" and in finding zones of porosity. In certain parts of the state, electrical logs are being used on a large scale, and a few companies are using Gamma Ray logs because of their unique advantages.

TABLE 3.—*Kansas natural gas production in 1943 and 1944*
(From records of the Conservation Division, Kansas Corporation Commission).

Field	1943 M cu. ft.	1944 M cu. ft.
Aetna		34,607
Alden	2,116,385	1,155,751
Barton County, miscellaneous	267,759	176,083
Burrton	6,441,632	2,465,035
Cairo (Viola)	494,135	182,993
Carmi		8,187
Chitwood		1,853,222
Cowley County, miscellaneous	260,590	375,763
Cunningham (Viola)	7,772,750	5,708,863
Cunningham (Arbuckle)	1,674,739	1,172,446
Eastern Kansas, miscellaneous*	6,300,000	5,700,000
Ellsworth	110,813	90,445
Hollow	29,331	25,160
Hugoton	63,353,908	83,007,568
Lyons	399,441	309,926
McCarty	30,701	762,957
McLouth	2,626,203	1,173,085
McPherson County	1,164,668	934,035
Medicine Lodge	13,721,146	14,356,418
Merten	244,398	218,468
Orth	539,313	346,537
Otis	13,339,645	12,112,495
Rice County, miscellaneous	98,803	176,896
Schraeder	205,647	101,253
Sperling	21,110	11,636
Wellington	310,125	244,193
Whelan	78,892	138,037
Yoder	487,365	469,521
Zenith-Peace Creek		445,931
Zook		947,314
Totals	122,089,499	134,702,825
Daily average	334,492	369,049

* Estimated.

OIL AND GAS DEVELOPMENT IN WESTERN KANSAS COUNTIES

Barber County

A total of 35 test wells were drilled in Barber County (Fig. 2) in 1944, of which 3 were oil wells, 9 were gas wells, and 23 were dry holes. Six of the gas wells are far enough removed from present production to be classed as discovery wells of new pools. These new pools have been named Clara, Hargis, Marjorie, Marjorie East, Skinner Northwest, and Skinner South.

The discovery well in the new **Clara** pool was drilled by the Lion Oil Refining Company on the Clara farm, in the NW¼ NE¼ NE¼ sec. 2, T. 30 S., R. 14 W. Oil was found in the Arbuckle dolomite between depths of 4,509 and 4,513 feet. The top of the dolomite was penetrated at 4,425 feet. The test well was treated with acid and the initial daily potential was 6 million cubic feet of gas. The gas contains 1.7 percent helium. An unusual feature in this well is the absence of Viola and Simpson rocks, which are present in other near-by test wells. The new pool seems to be located on a small but very high Arbuckle hill.

The **Hargis** pool was discovered by the Dickey Oil Company in August when a well was completed on the Hargis farm in the Cen. E½ SE¼ SW¼ sec. 3, T. 31 S., R. 14 W. This well had an initial daily potential of 4 million cubic feet of gas from the Viola dolomite between depths of 4,403 and 4,417 feet.

The Phillips Petroleum Company discovered the **Marjorie** pool in April when a well on the Marjorie farm in the Cen. NW¼ SW¼ sec. 31, T. 30 S., R. 13 W. found gas in the Viola dolomite between depths of 4,511 and 4,519 feet. The initial daily potential of this well was 47 million cubic feet of gas. The discovery well in the **Marjorie East** pool was drilled by the J. M. Huber Corporation in the Cen. NW¼ sec. 32, T. 30 S., R. 13 W. on the Gant farm. This well had an initial daily production of about 39 million cubic feet of gas from the Viola dolomite between depths of 4,617 and 4,621 feet.

Exploratory drilling near the Skinner pool resulted in the discovery of the Skinner South and Skinner Northwest pools. The Dickey Oil Company, drilling in the SE¼ SW¼ sec. 32, T. 31 S., R. 14 W. on the Mills ranch, found gas at a relatively shallow depth in the so-called "Douglas sand" between depths of 4,023 and 4,035 feet. The potential capacity of the well is approximately 3

million cubic feet of gas per day. This new pool was named the **Skinner South** pool. The discovery well in the **Skinner Northwest** pool was drilled by J. M. Huber in the Cen. W. line NW¼ NW¼ sec. 17, T. 31 S., R. 14 W. This well encountered water in the Simpson and Arbuckle rocks and a show of oil in the lower part of the Viola formation. It was then plugged back to the upper Viola where a strong show of gas had been noted. After a liberal amount of acid was used and bottom-hole water was sealed off, the well established a potential of approximately 50 million cubic feet of gas per day. The Sinclair Oil Company later completed an oil well on the Oldfather farm in the Cen. SE¼ sec. 7, T. 31 S., R. 14 W. This well found oil in the Arbuckle dolomite and is rated as capable of producing more than 200 barrels of oil per day. The oil has a gravity of 27° A.P.I.

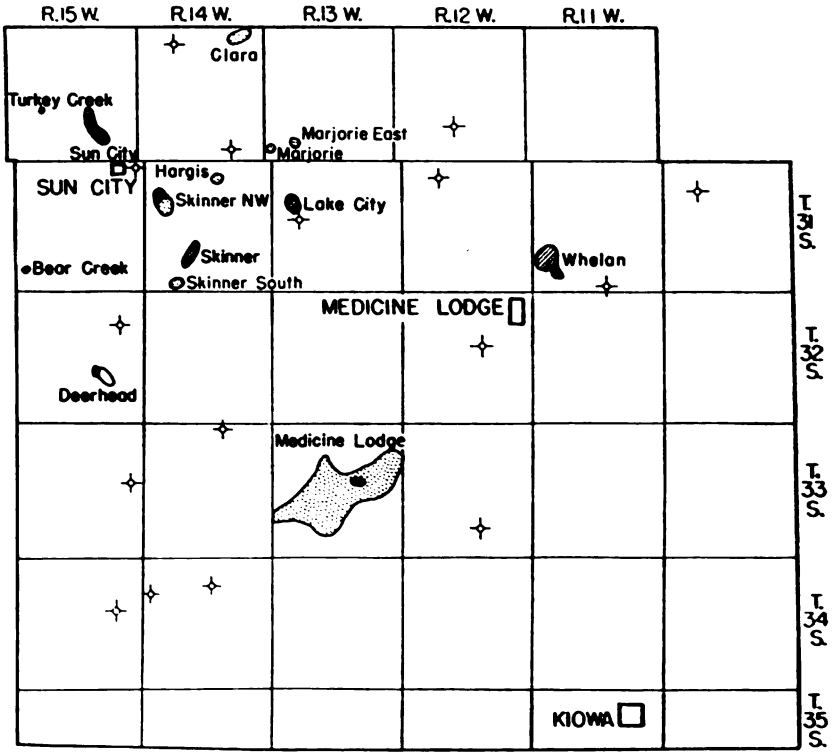

FIG. 2—Barber County map showing oil and gas pools and dry wildcat wells drilled in 1944. (Gas, dots; oil, diagonal lines.)

One test well was drilled in the **Deerhead** oil and gas pool during 1944, but it proved to be a dry hole. In the **Lake City** pool one extension wildcat was drilled in the NW cor. SW¼ sec. 17, T. 31 S., R. 13 W.; it was also a dry hole. Two gas wells and two dry holes were completed in the **Medicine Lodge** pool during the year. In the **Skinner** pool one new oil well was completed, the Deep Rock No. 1 "B" Skinner in section 29. This well produces from the Arbuckle dolomite and thus establishes a second producing zone for the pool (the other well produces from the Viola). In the **Sun City** pool one oil well and three dry holes were completed in 1944. The oil well, the No. 3 well on the Freeman farm owned by the Great Lakes Carbon Corporation, is located in section 26.

Table 4 gives information on the oil and gas pools in Barber County. These pools and the dry wildcat wells drilled in 1944 are shown on Figure 2.

Exploratory wells.—Many exploratory wells were drilled in Barber County during 1944. Wells drilled more than 2 miles from production are shown on figure 2. The Gulf Oil Corporation drilled a test well on the Bob farm in the SE cor. NE¼ sec. 28, T. 30 S., R. 12 W. Oil and water were found in the Simpson sandstone between 4,537 and 4,545 feet, but oil was not found in sufficient quantity to make a commercial well. The total depth of this well is 4,680 feet. The Ohio Oil Company drilled a test well on the Shriver ranch in the SE cor. sec. 5, T. 30 S., R. 14 W. A good show of gas was found between depths of 4,012 and 4,017 feet and a good show of oil in the Simpson sandstone between 4,551 and 4,563 feet. The test was abandoned at 4,732 feet. The J. M. Huber Corporation drilled a test well in the SW¼ NE¼ SW¼ sec. 35, T. 30 S., R. 14 W. All formations down to and including the Arbuckle were adequately tested but the well was completed as a dry hole at a total depth of 4,696 feet.

The J. M. Huber Corporation drilled a dry hole on the Mauch ranch in the SW¼ NW¼ NE¼ sec. 8, T. 31 S., R. 10 W. This test was drilled to 5,000 feet and penetrated all formations above the Arbuckle dolomite and tested 60 feet of the Arbuckle. Four miles east of the Whelan pool the Great Lakes Carbon Corporation drilled a dry hole on the Davenport ranch in the SE cor. SW¼ sec. 34, T. 31 S., R. 11 W. The Mississippian limestone was encountered at 4,395 feet and the well did not test formations below the top of the Mississippian cherty zone. The total depth of the

well is 4,445 feet. A dry hole was drilled in the SE cor. sec 5, T. 31 S., R. 12 W. by Alpine and Simpson-Noble on the Currie farm. This well was drilled 32 feet into the Arbuckle, which was encountered at 4,804 feet. South of the Sun City pool, in the northeastern corner of T. 31 S., R. 15 W., three dry holes were drilled in an attempt to extend the limits of the Sun City pool or to connect it with the Skinner Northwest pool. These tests penetrated all formations down to the Arbuckle dolomite and tested that formation for a distance of about 50 feet.

Southwest of the Whelan pool, in the SE¼ SW¼ NE¼ sec. 15, T. 32 S., R. 12 W., a dry hole was drilled on the Gillespie ranch by the Great Lakes Carbon Corporation. This test had shows of oil and gas in the lower Pennsylvanian strata at 4,371 feet. About 6 miles southeast of the Medicine Lodge pool, in the SW cor. SE¼ sec. 27, T. 33 S., R. 12 W., the Texas Company drilled an interesting test well on the Groendyke ranch to a total depth of 5,352 feet. The Mississippian chert was encountered at 4,677 feet and the Chattanooga black shale at 4,970 feet. The Chattanooga is nearly 100 feet thick and there is a thin layer of Misener sandstone at the base. The Viola formation was encountered at 5,070 feet, the Simpson rocks at 5,170 feet, and the Arbuckle dolomite at 5,252 feet. Chas. M. Coats and others drilled a test 6 miles northwest of the Medicine Lodge pool on the Hull ranch in the NE¼ NE¼ sec. 3, T. 33 S., R. 14 W. The well was abandoned at a total depth of 5,350 feet; there were no shows of oil or gas. The Champlin Refining Company drilled a dry hole on the Gentry ranch in the NE cor. SW¼ sec. 13, T. 33 S., R. 15 W. to a total depth of 5,368 feet; no encouraging shows of oil or gas were found in this well.

The Barbara Oil Company drilled a test well on the Davis ranch in the SW¼ SW¼ sec. 7, T. 34 S., R. 14 W. to a total depth of 5,572 feet. The Viola formation was entered at a depth of 5,173 feet, the Simpson rocks at 5,312 feet, and the Arbuckle dolomite at 5,529 feet. A show of gas in the upper part of the Mississippian at 4,775 to 4,780 feet proved to be too small for exploitation. The Phillips Petroleum Company drilled a dry hole on the Wheatley ranch in the NW cor. sec. 10, T. 34 S., R. 14 W. to a total depth of 5,307 feet. The gray argillaceous limerock of the Cowley formation was penetrated from 4,654 to 4,830 feet where the St. Joe

limestone was found. The Chattanooga black shale was found at 4,940 feet, the Misener sandstone at 5,015 feet, the Viola cherty dolomite at 5,020 feet, the Simpson green shale at 5,160 feet, and the Arbuckle dolomite at 5,280 feet.

TABLE 4.—*Oil and gas pools of Barber County*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944	Number of wells	Producing zone	Depth to producing zone, feet
			barrels				
Bear Creek 31-15W	1942	40	720	3,270	1	"Douglas"	4,235
Deerhead 32-15W	1942	80	32,026	36,476	2	Viola	4,950
Lake City 31-13W	1937	320	14,275	147,750	1 2 1	Viola Simpson Arbuckle	4,435 4,530 4,607
Medicine Lodge 33-13W	1937	200	none	45,700	2	Misener	4,845
Skinner 31-14W	1943	500	20,300	20,330	3	Viola	4,626
Skinner Northwest 31-14W	1944	40	none	none	1	Arbuckle	4,554
Sun City 30-15W	1941	250	199,720	310,950	7	K.C.-Lans.	4,344
Turkey Creek 30-15W	1943	40	none	none	1	Simpson	4,138
Whelan 31-11W	1934	800	239,120	1,130,460	19	"Chat"	4,355
			thousand cubic feet				
Clara 30-14W	1944	640	none	none	1	Arbuckle	4,509
Deerhead (gas) 32-15W	1942	1,000			1	Viola	4,931
Hargis 31-14W	1944	640	none	none	1	Viola	4,403
Marjorie 30-13W	1941	640			1	Viola	4,511
Marjorie East 30-13W	1944	640	none	none	1	Viola	4,617
Medicine Lodge (gas) 33-13W	1927	6,000	14,356,418	89,177,000	36	"Chat"	4,455
Skinner Northwest (gas) 31-14W	1944	640	none	none	1	Viola	4,356
Skinner South 31-14W	1944	640	none	none	1	"Douglas sand"	4,023

Barton County

During 1944, drilling activity in Barton County (Fig. 3) was maintained at a high peak and 235 test wells were drilled. Slightly more than half of the test wells were successful in finding oil, 109 were dry, and one was a gas well. Among the wildcat wells, 41 can be classified as extension tests, 17 as ordinary wildcat tests, and 1 as a rank wildcat test. Of the 41 extension tests four found new oil pools, and of the 17 ordinary wildcat tests four found new oil pools. The eight new pools are the Behrens, Feltes North, Pawnee Rock Northeast, Peach, Pritchard, Reif, St. Peter, and Workman.

The largest pool in the county is the **Kraft-Prusa** which covers most of the western half of T. 16 S., R. 11 W. and parts of adjacent townships. The **Feltes** pool was combined with the Kraft-Prusa pool in August thus enlarging the area. During 1944, 44 oil wells were completed in the enlarged area, making a total of 375 wells in the pool. A number of dry holes were drilled either within or on the immediate fringes of the pool.

In T. 16 S., R. 12 W. there are five pools, the **Beaver, Beaver North, Beaver Northwest, Feltes North**, and **Reif.** The discovery well in the Feltes North pool is the Winkler-Koch No. 1 Schauf "B" in the Cen. N½ SW¼ SE¼ sec. 2, T. 16 S., R. 12 W. Production is from the Arbuckle dolomite. The discovery well in the Reif pool is the Mineral Products No. 1 Reif, in the NW cor. SW¼ sec. 30, T. 16 S., R. 12 W. In this well, oil was found in the Arbuckle dolomite. A second well in the pool found production in limestones in the Kansas City-Lansing rocks. At the end of 1944 there were three wells in the pool.

The **Trapp** pool is described under Russell County. The **Ainsworth** pool was enlarged by the addition of 14 new oil wells. This pool is now joined with the Trapp pool. The **Ainsworth South** pool was removed from the Trapp pool during 1944 by action of the Nomenclature Committee of the Kansas Geological Society. Four producers were added to this pool in 1944. The discovery well in the new **Peach** pool was drilled by the Phillips Petroleum Company on the Chal farm in the SE cor. NW¼ sec. 25, T. 16 S., R. 14 W. Oil was found in the Arbuckle dolomite. Subsequently, three dry holes, one of which is an offset well and the others located 1 mile distant, were completed around the producer. Two of the three original producers in the **Barrett** pool were abandoned

during 1944 and one additional oil well was drilled in this pool. This well was drilled by the Westgate-Greenland Oil Company on the Putnam farm, in the NW cor. NW¼ sec. 6, T. 17 S., R. 13 W. The limits of this pool are indicated by one dry hole to the south and one to the west. The **Millard** remains a one-well pool.

During 1944 four oil wells were completed in the **Kraft-Prusa** pool, two in the **Bloomer** pool, and one in the **Ainsworth Southeast** pool. The discovery well in the new **Carroll** pool was completed in December by the Yellow Cab Company of Missouri and is on the Carroll farm in the SW¼ NE¼ SE¼ sec. 21, T. 17 S., R. 14 W. Production is from the Arbuckle dolomite between depths of 3,356 and 3,370 feet.

The **Roesler** pool is still a one-well pool. The **Ames** pool, in T. 18 S., R. 11 W., has eight wells as against two at the close of the previous year but it is defined on the south and north ends by dry holes. The **Eveleigh** pool, in T. 18 S., R. 14 W., is unique in that one of the wells is producing from pre-Cambrian quartzite. Four wells were completed in this pool during 1944, which makes a total of five, but there are dry holes on nearly every side. The **Boyd** pool, also in T. 18 S., R. 14 W., which was discovered in 1942, was greatly expanded during 1944. Sixteen producers were added to the pool, and several of these were rated as maximum producers. The limits of the pool are not yet known. This pool produced more than 117,000 barrels of oil during 1944. The **Bahr, Bird,** and **Albert** are small oil pools flanking the large **Otis** gas area. The Albert pool is described under Rush County. The other pools are one-well pools having small production.

One new pool, the **St. Peter,** was found in T. 19 S., R. 11 W. The discovery well is the No. 1 Schlochtermeire drilled by C. E. Ash et al. in the SW cor. SE¼ section 5; the initial production was 586 barrels. Production is from the Arbuckle dolomite between depths of 3,387 and 3,407 feet. The gravity of the oil is 39° A.P.I. One dry hole was later drilled in the SW¼ SE¼ NW¼ section 5 and two in section 8. Three wells which produce from the Arbuckle dolomite were added to the **Rick** pool, in T. 19 S., R. 11 W. One additional oil well was drilled in the **Hammer** pool in sec. 35, T. 19 S., R. 12 W. Five wells were added to the **Merten** pool in T. 19 S., R. 15 W. This pool now has nine wells. A minimum producer was completed in the old **Kruckenberg** pool in T. 19 S., R. 15 W.

The large **Silica** pool, in T. 20 S., R. 11 W., has produced more than 60 million barrels of oil to date. Four oil wells and eight dry holes were completed in the Barton County part of this pool in 1944. The Nomenclature Committee of the Kansas Geological Society revived the old pool names, **Marchand West** and **Silica South,** and removed these producing areas from the Silica pool. No drilling was done in the **Hagan, Kowalsky,** or **Mue-Tam** pools during 1944. One new pool, the **Workman** pool, was discovered in T. 20 S., R. 12 W. during the year. The discovery well was completed in September when the Vickers Petroleum Company drilled in the first test well on the Workman farm in the NE cor. NE¼ section 33. The oil comes from a porous zone in the Ar-

FIG. 3.—Barton County map showing oil and gas pools and dry wildcat wells drilled in 1944. (Gas, dots; oil, diagonal lines.)

buckle dolomite at a depth of 3,414 feet, and the well is capable of producing 221 barrels of oil per day. The discovery well in this pool was located on the basis of subsurface studies.

An important new pool, the **Pritchard** pool, was found in T. 20 S., R. 14 W., when The Texas Company drilled a well in the NE cor. SE¼ section 34. The oil comes from the Arbuckle dolomite at a depth of 3,541 feet. The rather large production of the early wells encouraged drilling of offset wells and before the close of the year there were eight producers in the pool. This pool is considered by many oil men of Kansas as the most valuable find of the year.

Two new pools were discovered in T. 20 S., R. 15 W. in 1944. The discovery well in the **Pawnee Rock Northeast** pool, the Amerada-Stanolind No. 1 Unruh in the Cen. N½ NE¼ SW¼ section 7, was completed in April. Oil was found in the Arbuckle dolomite between depths of 3,753 and 3,756 feet. The first well had a potential capacity of 1,270 barrels per day. Three additional producing wells were drilled in the pool before the end of the year. The **Behrens** pool was discovered by the Solar Oil Company in December. The discovery well, drilled on the Behrens farm in the Cen. N½ SW¼ NE¼ section 6, had an initial potential of 250 barrels of oil per day. Production is from the Arbuckle dolomite between depths of 3,719 and 3,723 feet. The Arbuckle dolomite was encountered at 3,659 feet. The **Pawnee Rock** pool was extended into Barton County by the Amerada No. 1 Baker well, in the Cen. N½ NW¼ NW¼ sec. 19, T. 20 S., R. 15 W. The major part of this pool is in Pawnee County.

Table 5 gives information on the oil pools of Barton County. These pools and the dry wildcat wells drilled in 1944 are shown in Figure 3.

Exploratory wells.—In T. 16 S., R. 15 W., three wildcat wells were completed as dry holes. One well, drilled by the Bay Petroleum Company on the Steinert farm in the SE cor. SW¼ sec. 2, T. 16 S., R. 15 W., had a total depth of 3,476 feet. The Arbuckle dolomite was encountered at 3,470 feet. The Coralena Oil Company drilled wells on the Funk farm in the NE cor. NW¼ sec. 18, T. 16 S., R. 15 W., to a total depth of 3,446 feet, and on the George farm in the SE cor. NW¼ sec. 31, T. 16 S., R. 15 W., to a total depth of 3,490 feet.

TABLE 5.—*Oil pools of Barton County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Ainsworth South 17-13W		2,720	See Trapp pool		27	Arbuckle	
Ainsworth Southeast 17-13W	1943	80	13,700	13,700	2	Arbuckle	3,358
Albert 18-15W	1935	1,600	131,050	1,099,225	17	Reagan	3,601
Ames 18-11W	1943	250	58,660	63,975	1 6	Sooy K.C.-Lans.	3,042
Bahr 18-15W	1943	40	8,700	11,570	1	Reagan	3,495
Barrett 16-14W	1943	150	15,320	24,650	3	Arbuckle	3,463
Beaver 16-12W	1934	1,200	166,650	1,793,350	7 25 1	Oread Arbuckle Reagan	2,885 3,348 3,335
Beaver North 16-12W	1937	160	14,400	266,300	3	Arbuckle	3,316
Beaver Northwest 16-12W	1942	80	15,100	32,590	1 1	Shawnee K.C.-Lans.	3,066
Behrens 20-15W	1944	40	none	none	1	Arbuckle	3,719
Bird 18-15W	1940	40	2,650	14,900	1	Reagan	3,508
Bloomer 17-11W	1936	6,200	3,714,000	18,709,000	8 283	K.C.-Lans. Arbuckle	3,044 3,257
Boyd 18-14W	1942	800	117,000	119,950	16	K.C.-Lans. Arbuckle	
Breford Southwest 17-11W	1942	40	4,172	13,435	1	Arbuckle	3,311
Carroll 17-14W	1944	40	none	none	1	Arbuckle	3,356
Davidson 16-11W	1928	400	37,150	230,990	2 2 5	K.C.-Lans. Sooy Arbuckle	3,016 3,317 3,314
Eberhardt 19-11W	1935	320	24,520	240,970	1 7	K.C.-Lans. Arbuckle	3,194 3,311
Ellinwood North 19-11W	1937	80	4,244	59,710	1	Arbuckle	3,328
Eveleigh 18-14W	1943	250	41,217	41,915	5	Arbuckle	3,300
Feist 18-11W	1936	40	2,265	56,625	1	Arbuckle	3,430
Feltes	Combined with Kraft-Prusa						
Feltes North 16-12W	1944	40	378	378	1	Arbuckle	3,337
Hagan 20-11W	1938	160	35,450	142,855	4	Arbuckle	3,323
Hammer 19-12W	1940	40	800	11,970	2	Arbuckle	3,348
Harrison 20-13W	1942	40	700	1,430	1	Arbuckle	3,498
Heiser 19-14W	1935	40	6,110	34,510	1	K.C.-Lans.	3,228
Hiss 20-13W	1936	200	27,000	414,760	5	K.C.-Lans	3,270

TABLE 5.—*Oil pools of Barton County, concluded*

Pool and location	Discovery year	Area acres	1944 production bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Hoisington					1	K.C.-Lans.	3,222
17-13W	1938	160	26,610	162,500	2	Arbuckle	3,440
Kowalsky							
20-11W	1941	40	none	2,540	1	Arbuckle	3,378
Kraft-Prusa							
16-11W						Topeka	2,845
16-12W						Shawnee	2,885
17-11W	1937	9,000	4,785,070	15,048,040	375	K.C.-Lans.	3,160
						Gorham	3,335
						Arbuckle	3,281
						Reagan	3,310
Lanterman					7	K.C.-Lans.	3,109
19-11W	1935	500	95,920	642,990	5	Arbuckle	3,235
Marchand West							
20-12W	See Silica pool						
Merten							
19-15W	1942	160	35,600	53,860	9	Reagan	3,551
Millard							
16-14W	1943	40	3,402	3,402	1	Arbuckle	3,462
Mue-Tam							
20-11W	1942	40	3,730	14,780	1	Arbuckle	3,312
Odin							
17-12W	1941	40	2,240	21,440	1	Arbuckle	3,340
Otis							
18-15W	See Rush County						
Pawnee Rock							
20-15W	See Pawnee County						
Pawnee Rock East							
20-15W	1941	200	11,470	22,840	3	Arbuckle	3,814
Pawnee Rock Northeast 20-15W	1944	40	11,468	11,468	4	Arbuckle	3,753
Peach							
16-14W	1944	40	2,053	2,053	1	Arbuckle	3,401
Pospishel							
17-15W	1939	40	none	17,800	1	Arbuckle	3,548
Pritchard							
20-14W	1944	250	23,565	23,565	8	Arbuckle	3,541
Reif							
16-12W					1	K.C.-Lans.	
16-13W	1944	80	9,054	9,054	2	Arbuckle	
Rick					7	K.C.-Lans.	3,106
19-11W	1936	520	61,880	547,170	10	Arbuckle	3,343
Roesler							
18-11W	1943	40	7,132	13,230	1	Arbuckle	3,291
Silica							
19-11W					23	K.C.-Lans.	2,955
20-11W	1931	32,000	7,214,875	61,119,835	742	Arbuckle	3,328
Silica Northwest							
19-11W	1943	40	none	none	1	Arbuckle	3,331
Silica South							
20-11W	1935	3,680	See Silica pool				
St. Peter							
19-11W	1944	40	7,808	7,808	1	Arbuckle	3,387
Trapp							
16-13W							
16-14W	See Russell County						
Workman							
20-12W	1944	40	1,274	1,274	1	Arbuckle	3,414

A dry hole was drilled by the Vickers Petroleum Company on the Bortz farm in the SE¼ NE¼ NW¼ sec. 32, T. 17 S., R. 11 W. The Arbuckle dolomite was penetrated at 3,350 feet; the total depth is 3,401 feet. Four wildcat wells were drilled in T. 17 S., R. 12 W. One was drilled by the Sohio Petroleum Company on the Schremmer farm in the NE cor. NW¼ section 8, to a total depth of 3,465 feet. Another, the Cooperative Refinery Association No. 1 Bevan, in the SW cor. NW¼ section 24, penetrated the top of the Arbuckle dolomite at 3,391 feet and reached a total depth of 3,475 feet. Another was drilled by the Vickers Petroleum Company on the Steiner farm in the NE cor. SE¼ section 34. The top of the Arbuckle was encountered at 3,455 feet and the total depth was 3,505 feet. The Shell Oil Company well, on the Stueder farm, in the NW cor. SE¼ section 36, encountered the Arbuckle at 3,354 feet and was drilled to a total depth of 3,382 feet. Two wildcats were drilled in T. 17 S., R. 13 W. The first was drilled by Bradley Brothers on the Konecny farm, in the NE¼ NE¼ SE¼ section 30, to a total depth of 3,430 feet. The second, C. E. Ash et al. No. 1 Donovan "A" in the NW cor. SE¼ section 36, penetrated the Arbuckle dolomite at 3,355 feet and reached a total depth of 3,376 feet.

Two wildcats were drilled in T. 19 S., R. 13 W.: the Mouser Drilling-Western Petroleum Exploration Company No. 1 Adams, in the SE¼ NE¼ SE¼ section 1, which encountered the top of the Arbuckle dolomite at 3,404 feet and had a total depth of 3,415 feet; and the Vickers Petroleum Company No. 1 Kent, in the NW cor. NE¼ section 31, which found the top of the Arbuckle at 3,476 feet and reached a total depth of 3,530 feet. One wildcat was drilled in the NW cor. SW¼ sec. 17, T. 19 S., R. 15 W., the Max Cohen No. 1 Converse. This well encountered the basal sand at 3,611 feet, the top of the pre-Cambrian granite wash at 3,640 feet, and was abandoned at 3,650 feet.

Two wildcat tests were drilled in T. 20 S., R. 12 W. The John Lindas and Keyes Drilling Company No. 1 Schartz well, in the Cen. N½ NE¼ SE¼ section 7, encountered the top of the Arbuckle dolomite at 3,443 feet and reached a total depth of 3,495 feet. The Bridgeport Oil Company No. 1 Batchman "B" well, in the SE cor. NE¼ section 35, encountered the Arbuckle dolomite at 3,426 feet and had a total depth of 3,460 feet. In the SE cor. NE¼ sec. 2, T. 20 S., R. 13 W., W. L. Hartman drilled a wildcat test on

the Carroll farm to a total depth of 3,507 feet. The Arbuckle dolomite was encountered at 3,482 feet in this well. The Three-Way Drilling and W. L. Hartman No. 1 Powell well, in the Cen. W½ NW¼ NW¼ sec. 1, T. 20 S., R. 13 W., was drilled to a total depth of 3,464 feet.

Clark County

The only pool in Clark County (Fig. 4) is the **Morrison** pool. This pool was discovered in 1926 when the Watchorn Oil and Gas Company completed a gas well in sec. 20, T. 32 S., R. 21 W. Later a second gas producer was completed in section 21 on the Stephens

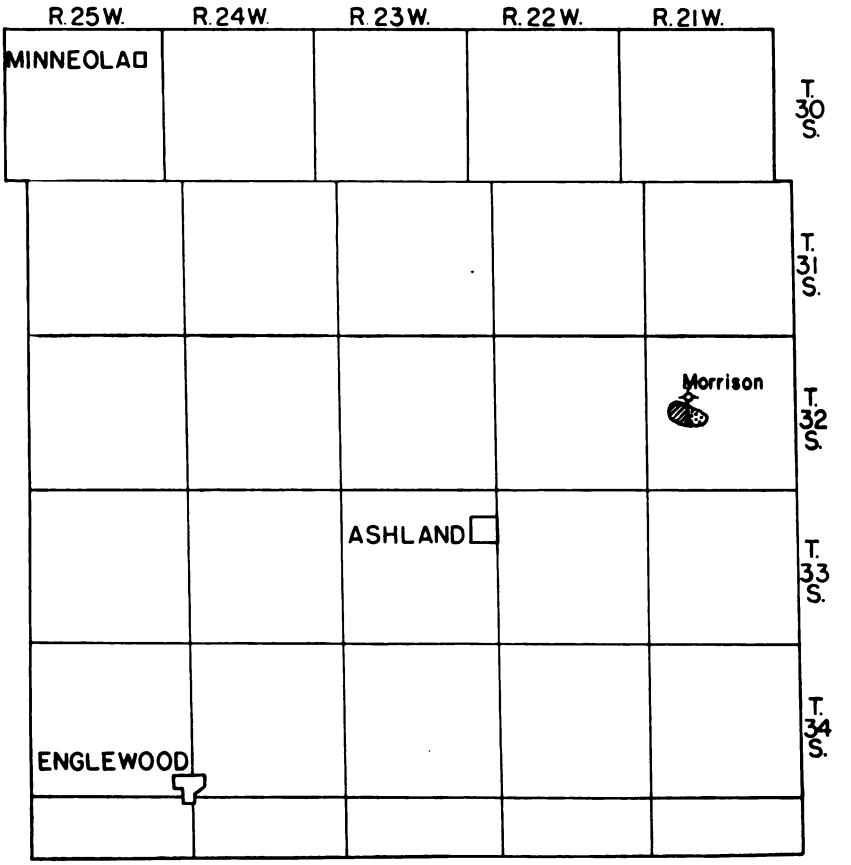

Fig 4.—Clark County map showing oil and gas pools and dry hole drilled in 1944. (Gas, dots; oil, diagonal lines.)

ranch. The first oil well was completed in 1936 when a well in section 17 was drilled into the Viola cherty limestone, and a daily production of 622 barrels was obtained. This well and one other smaller producer have accounted for a total of nearly 150,000 barrels of oil.

The only well drilled in Clark County in 1944 is the Olson Oil Company No. 1 Morrison "C," in the SE¼ NE¼ sec. 17, T. 32 S., R. 21 W. This test had the usual sequence of Permian beds described in Mineral Resources Circular 10. The Stone Corral anhydrite was encountered at 1,110 feet, the Wellington formation at 1,790 feet, the Herington dolomite at 2,530 feet, the Kansas City-Lansing limestone at 4,345 feet, the Marmaton shale at 4,725 feet, and the Mississippian oölitic limestone at 5,330 feet. The Viola cherty limestone was encountered at a depth of 6,423 feet, the coarsely crystalline basal Viola limestone at 6,580 feet, the Simpson shale and sandstone at 6,606 feet, and the Arbuckle dolomite at 6,747 feet. The test was abandoned at a total depth of 6,957 feet.

Information on the Morrison oil pool and the Morrison gas pool is given in Table 6.

TABLE 6.—*Oil and gas pools of Clark County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Morrison (oil) 32-21W	1936	160	3,275	144,150	2	Viola	6,467
Morrison (gas) 32-21W	1926	1,000	none	small	1	Sooy	5,443

EDWARDS COUNTY

At the present time there are only two pools in Edwards County (Fig. 5), the **Belpre** oil pool and the **McCarty** gas pool. No additional drilling was done in these pools during 1944. Information on these pools is given in Table 7.

Only three test wells were drilled in Edwards County during 1944 and these were completed as dry holes. In the Cities Service No. 1 Trousdale test, in the SE cor. NE¼ sec. 18, T. 25 S., R. 16 W., the Mississippian Osage chert was found at 4,395 feet, the Misener sandstone at 4,445 feet, the weathered Viola at 4,490 feet, the fresh Viola at 4,595 feet, the Simpson green shale and sandstone at 4,640 feet, and the Arbuckle dolomite at 4,710 feet. After reaching a

total depth of 4,730 feet, the well was plugged back to 3,880 feet, where it was tested for gas without favorable results. A fair show of oil was found in the Misener sandstone. The second well was completed in July by the Stanolind Oil and Gas Company on the Schultz farm in the SE cor. SW¼ sec. 10, T. 26 S., R. 16 W. This test is reported to have encountered the Kansas City-Lansing limestone at 3,919 feet, the Osage chert at 4,383 feet, the Simpson dolomite at 4,640 feet, and the Arbuckle dolomite at 4,721 feet. It was abandoned at 4,787 feet. There were no important shows of either oil or gas. The third test was drilled by W. N. Dannenberg on the Perrett farm in the Cen. N½ NW¼ NE¼ sec. 29, T. 26 S., R. 16 W. The Osage cherts were found at 4,500 feet, the Misener sandstone at 4,590 feet, the fresh Viola cherty dolomite at 4,650 feet, the Simpson weathered shales at 4,770 feet, and the Arbuckle dolomite at 4,848 feet. The Arbuckle was penetrated 48 feet, and the hole was abandoned at 4,896 feet. No shows of oil or gas were found.

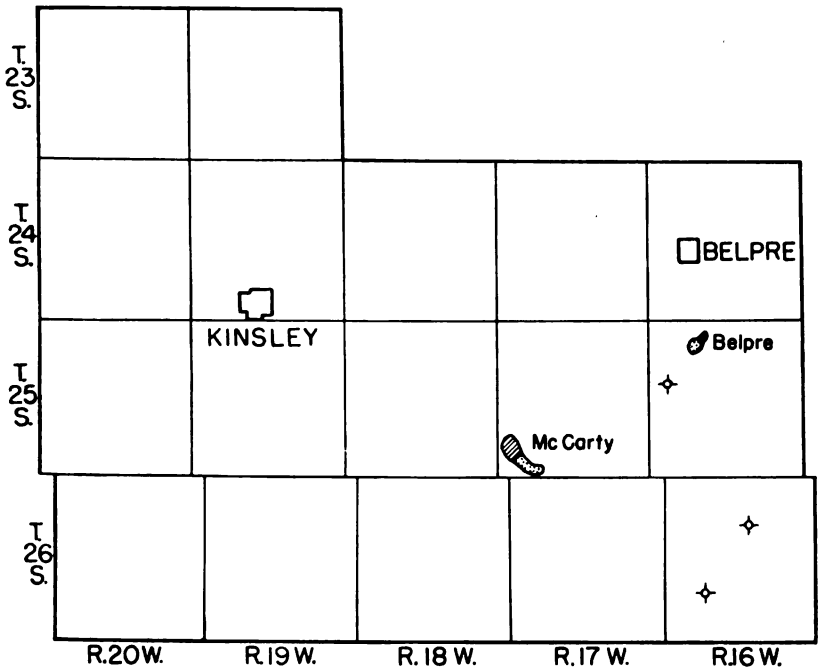

FIG. 5.—Edwards County map showing oil and gas pools and dry holes drilled in 1944. (Gas, dots; oil, diagonal lines.)

TABLE 7.—*Oil and gas pools of Edwards County*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944	Number of wells	Producing zone	Depth to producing zone, feet
			barrels				
Belpre 25-16W	1942	160	none	1,400	2	K.C.-Lans.	3,807
			thousand cubic feet				
McCarty (gas) 25-17W	1929	160	762.957	920,957	1	Sooy	4,545

ELLIS COUNTY

During 1944, 71 test wells were drilled in Ellis County (Fig. 6). Of these 44 were dry holes and 27 were oil wells. Among the wildcat tests, 13 are classed as extension, 17 as ordinary, and 1 as a rank wildcat. One of the extension wildcats and three of the ordinary wildcats found new oil pools. These have been named the Catharine Northwest, Pleasant, Schmeidler, and Younger pools.

The discovery well in the **Catharine Northwest** pool is the Max Cohen well on the Madden farm in the NW cor. NE¼ sec. 4, T. 13 S., R. 17 W. Oil is produced from the Arbuckle dolomite between depths of 3,590 and 3,614 feet. The discovery well of the **Pleasant** pool was drilled by the Sunray Oil Company on the Orth farm in the NE cor. SW¼ sec. 2, T. 14 S., R. 20 W. Production is from the Reagan sandstone between depths of 3,846 and 3,852 feet. Two other oil wells, both in section 2, were drilled in this pool during 1944. A second well on the Orth farm found production in the Gorham sandstone; the Arbuckle dolomite was missing in this well. The third oil well was drilled on the Dreiling farm. The first well in the **Schmeidler** pool was drilled by Brunson on the Schmeidler farm in the NW cor. SE¼ sec. 28, T. 12 S., R. 17 W. Production is from the Arbuckle dolomite between depths of 3,625 and 3,636 feet. The gravity of the oil is 36° A.P.I. The **Younger** pool was discovered in October when the Sunray Oil Corporation completed the first well on the Younger "B" lease, in the NE¼ SE¼ NE¼ sec. 6, T. 14 S., R. 17 W. Oil is produced from the Arbuckle dolomite between depths of 3,571 and 3,574 feet. The top of the Arbuckle was encountered at 3,523 feet. The initial potential of the well was 50 barrels of oil per day.

The largest pool in Ellis County is the **Bemis-Shutts,** which has produced more than 32 million barrels of oil. Five additional oil wells were completed in this pool during 1944. The second largest pool is the **Burnett,** which has a total cumulative production of nearly 19 million barrels of oil. One oil well was added to this pool during 1944. The most active pool in the county during 1944 was the **Riverview** pool in the southwestern part of T. 11 S., R. 18 W. Eight oil wells and two dry holes were completed there. The **Toulon** pool, in Ts. 13 and 14 S., R. 17 W., was enlarged by the addition of three oil wells.

Information on the oil pools of Ellis County is given in Table 8.

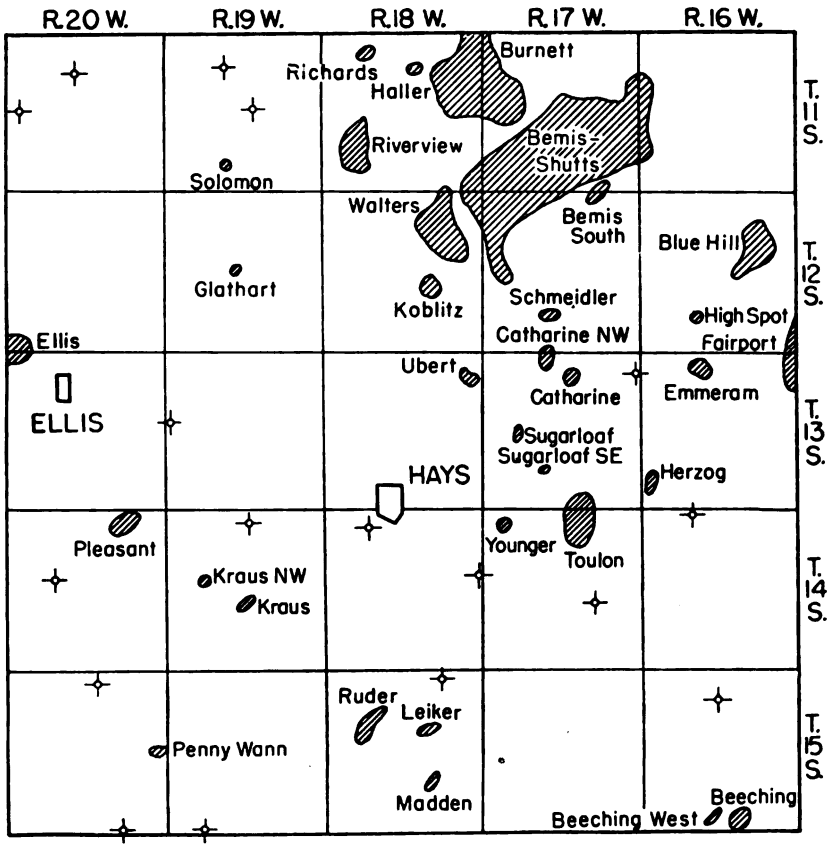

FIG. 6.—Ellis County map showing oil pools and dry wildcat wells drilled in 1944.

TABLE 8.—*Oil pools of Ellis County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Beeching 15-16W	1943	300	55,775	63,650	6	K.C.-Lans.	3,156
Beeching West 15-16W	1943	40	Combined with Beeching		1	K.C.-Lans.	3,292
Bemis-Shutts 11-16W 11-17W 11-18W 12-17W 12-18W	1935	14,000	6,233,100	32,542,200	463	Arbuckle	3,380
Bemis South 11-17W 12-17W	1938	40	10,880	57,925	1	Arbuckle	3,592
Blue Hill 12-16W	1937	900	127,540	859,950	1 14 2	Topeka K.C.-Lans. Arbuckle	3,030 3,072 3,360
Burnett 11-17W 11-18W	1937	5,000	3,759,525	18,719,200	2 208	K.C.-Lans. Arbuckle	3,093 3,570
Catharine 13-17W	1936	160	1,790	139,430	1	K.C.-Lans.	3,262
Catharine Northwest 13-17W	1944	40	none	none	1	Arbuckle	3,590
Ellis 12-20W 13-20W	1942	700	164,350	224,005	16	Arbuckle	3,832
Emmeram 13-16W	1937	160	22,340	160,790	4	K.C.-Lans.	3,262
Glathart 12-13W	1943	40	Abandoned		1	K.C.-Lans.	3,504
Haller 11-18W	1936	40	1,675	20,030	1	Topeka	3,045
Herzog 13-16W	1940	160	47,295	199,750	4	Arbuckle	3,450
High Spot 12-16W	1941	40	Abandoned		1	Arbuckle	3,620
Koblitz 12-18W	1937	800	83,838	390,560	8	Arbuckle	3,694
Kraus 14-19W	1936	100	3,625	72,225	1	Sooy	3,735
Kraus Northwest 14-19W	1942	40	709	2,018	1	Gorham	3,798
Leiker 15-18W	1943	80	16,480	21,420	1 1	K.C.-Lans. Arbuckle	3,292
Marshall 11-18W	Joined to Bemis-Shutts						
Penny Wann 15-20W	1936	80	10,950	62,240	2	Sooy	3,653
Pleasant 14-20W	1944	80	5,940	5,940	2 1	Arbuckle Reagan	3,833 3,877
Richards 11-18W	1938	120	4,368	106,785	2	K.C.-Lans.	3,332
Riverview 11-18W	1943	600	216,120	222,600	14	Arbuckle	3,610
Ruder 15-18W	1935	700	36,706	821,985	9 2	K.C.-Lans. Arbuckle	3,422 3,572
Schmeidler 12-17W	1944	40	none	none	1	Arbuckle	3,625

TABLE 8.—*Oil pools of Ellis County, concluded*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Solomon 11-19W	1936	160	10	104,610	2	Arbuckle	3,629
Sugarloaf 13-17W	1941	180	39,000	100,900	3	Arbuckle	3,645
Sugarloaf Southeast 13-17W	1941	40	5,810	25,810	1	K.C.-Lans.	3,312
Toulon 13-17W					4	K.C.-Lans.	3,298
14-17W	1935	300	24,950	241,260	2	Arbuckle	3,512
Ubert 13-18W	1936	160	16,680	209,020	3	Arbuckle	3,707
Walters 12-18W	1936	1,400	380,860	2,840,100	1 37	Topeka Arbuckle	3,160 3,619
Younger 14-17W	1944	40	1,222	1,222	1	Arbuckle	3,574

Exploratory wells.—Seventeen dry wildcat wells were drilled more than 2 miles from production in Ellis County during 1944. These wells are listed in Table 9 and shown on Figure 6.

ELLSWORTH COUNTY

Of the 68 test wells drilled in Ellsworth County (Fig. 7) in 1944, 34 were oil wells and 34 were dry holes. Eight of the dry holes are classed as extension wildcats, 5 as ordinary wildcats, and 14 as rank wildcats. Two new pools were discovered by extension wildcat tests.

The discovery well in the new **Bloomer East** pool was drilled by Ingling and others on the Murray farm in the NE cor. sec. 18, T. 17 S., R. 10 W. and was completed in June. This well is capable of producing 100 barrels of oil per day from the Arbuckle dolomite between depths of 3,309 and ,3,332 feet. The new **Vacek** pool was discovered by the Cities Service Oil Company when a well on the Vacek farm in the NE cor. SW¼ sec. 32, T. 15 S., R. 10 W. (about 1 mile north of the Stoltenberg pool) was completed in May. Production is from the Arbuckle dolomite between depths of 3,315 and 3,320 feet.

The largest pool in Ellsworth County is the **Stoltenberg** pool, which has yielded more than 16 million barrels of oil to date. Connecting wells were drilled between this pool and the **Wilkens** pool, and these two pools were combined and called Stoltenberg by the Nomenclature Committee of the Kansas Geological Society in April, 1944. In this enlarged area, 27 oil wells were completed during the year; the total number of wells in this pool at the end

TABLE 9.—*Dry wildcat wells drilled in Ellis County during 1944*

Company and farm	Location (Sec., T., R.)	Depth to top of Arbuckle, feet	Total depth, feet
El Dorado Refining Co. No. 1 Gunther	NE cor. NW 9-11-19W	3,683	3,707
Bridgeport Oil Co. No. 1-A Sessin "A"	SE SW SE 15-11-19W	3,453	3,507
C. C. Nelson Drilling Co. No. 1 Fiscner	SE cor. NW 9-11-20W	3,638	3,689
Huber-Vickers No. 1 Olson	SW cor. SE 18-11-20W	3,899	3,915
Allan et al. No. 1 Braun	SE cor. SE 1-13-17W	3,547	3,609
Continental Oil Co. No. 1 Disney	SW NW SW 18-13-19W		3,803
N. Appleman Co. No. 1 Von Lintel	NW cor. 4-14-16W	3,460	3,486
Phillips Petroleum Co. No. 1 Macher	SE NW SW 23-14-17W	3,485	3,541
Darby-Conoco-Cities Service No. 1 Kansas State Unit	NW cor. SE 5-14-18W	3,711	3,745
Bridgeport Oil Co. No. 1 Stecklein "A"	SE cor. NE 13-14-18W	3,557	3,594
Indian Oil Co. et al. No. 1 Engle	SW cor. NW 3-14-19W	3,874	3,905
Bridgeport Oil Co. No. 1 Markey "C"	SE cor. 17-14-20W	3,816	3,862
W. L. Hartman No. 1 Huser	SW cor. 3-15-16W	3,512	3,530
Iron Drilling Co. No. 1 Pfannensteil	NW cor. NE 2-15-18W	3,632	3,666
Sunray Oil Corp. No. 1 Schneider	SE cor. NW 32-15-19W	3,681	3,701
Sunray Oil Corp. No. 1 Christiansen	SE cor. NW 3-15-20W	3,739	3,758
The Texas Co. No. 1 Elmore	SE cor. SW 35-15-20W	absent	3,843

of 1944 was 269. One additional well was completed in the **Edwards** pool and one in the **Lorraine** pool during 1944. Three small wells were added to the **Wilkens Southeast** pool. Most of these wells produced water with the oil.

Additional information on the oil pools of Ellsworth County is given in Table 10.

Exploratory wells.—Eighteen wildcat wells were drilled more than two miles from production in Ellsworth County during 1944. These wells are shown on Figure 7.

The test in T. 14 S., R. 9 W. was drilled by the Phillips Petroleum Company on the Evol farm in the SE cor. NW¼ section 29, about 5 miles south of the abandoned Satran gas pool. This test is reported to have encountered the Arbuckle dolomite at 3,149

feet and was completed at a total depth of 3,183 feet. The same company drilled a well on the Klema farm in the NW cor. NE¼ sec. 5, T. 14 S., R. 10 W. In this well the Pennsylvanian basal conglomerate rests directly on the Kinderhook shale, and the Viola, Simpson, Arbuckle, and possibly some Sylvan shale are present. The top of the Arbuckle was encountered at 3,563 feet; the total depth of the well is 3,658 feet.

The Bridgeport Oil Company drilled two test wells in T. 15 S., R. 6 W. One of these, in the SE cor. section 16 on the Hoffman farm, encountered the Kansas City-Lansing limestone at 2,700 feet, the Mississippian strata at 3,253 feet, and the Kinderhook shale at 3,337 feet. It was abandoned at 3,366 feet, still in the Kinderhook. In the other well, in the SW cor. SE¼ section 28 on the Webster farm, the Mississippian limestone was encountered at 3,297 feet and the Kinderhook shale at 3,370 feet. The well was completed in the Kinderhook at a total depth of 3,392 feet. Two wells were drilled in T. 15 S., R. 8 W. One was drilled by the

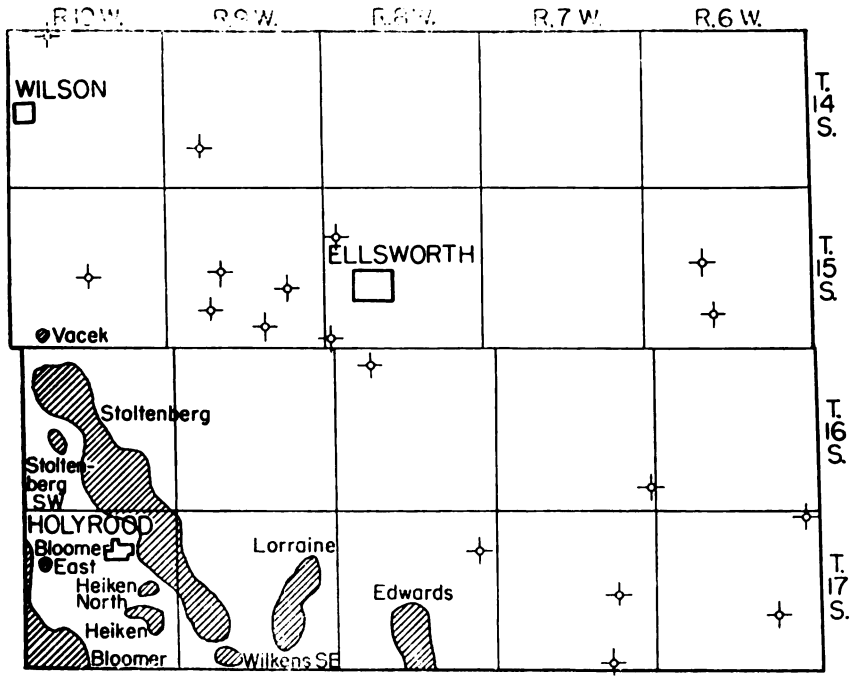

FIG. 7.—Ellsworth County map showing oil pools and dry wildcat wells drilled in 1944.

TABLE 10.—*Oil pools of Ellsworth County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Bloomer 17-10W	See Barton County						
Bloomer East 17-10W	1944	40	none	none	1	Arbuckle	3,369
Edwards 17-8W	See Rice County						
Heiken 17-10W	1930	160	3,160	371,969	2	Arbuckle	3,269
Heiken North 17-10W	1942	180	19,720	50,490	3	Arbuckle	3,212
Lorraine 17-9W	1934	5,500	308,780	9,415,200	30 55	K.C.-Lans. Arbuckle	3,060 3,200
Stoltenberg 16-10W 17-9W 17-10W	1931	9,000	1,836,080	16,669,539	269	Arbuckle	3,333
Stoltenberg Southwest 16-10W	1940	360	22,550	80,180	4	Arbuckle	3,349
Vacek 15-10W	1944	40	1,977	1,977	1	Arbuckle	3,315
Wilkens	Joined to Stoltenberg						
Wilkens Southeast 17-9W	1942	120	52,420	125,910	5	Arbuckle	3,220

Phillips Petroleum Company in the SW cor. SE¼ section 7 on the Urban farm. In this test the Kansas City-Lansing limestone was encountered at 2,645 feet, the Wilcox sandstone at 3,127 feet, and the Arbuckle dolomite at 3,169 feet. It was abandoned at a total depth of 3,211 feet. The other was drilled by the Bridgeport Oil Company in the NE¼ SW¼ SW¼ section 31 on the Sauberli "A" lease. In this well the Kansas City-Lansing rocks were encountered at 2,715 feet, the Sooy conglomerate at 3,055 feet, and the Arbuckle dolomite at 3,072 feet. The test was abandoned at a total depth of 3,255 feet.

The Bridgeport Oil Company drilled four test wells in T. 15 S., R. 9 W. One of these, in the NE¼ NW¼ NW¼ section 21 on the Zvolanek farm, encountered the Kansas City-Lansing limestones at 2,640 feet, the Sooy conglomerate at 3,018 feet, the Arbuckle dolomite at 3,048 feet, and was abandoned at a total depth of 3,272 feet. The Dolecek well, in the SW cor. SE¼ section 23, encountered the Kansas City-Lansing limestone at 2,667 feet, the Sooy conglomerate at 3,018 feet, and the Arbuckle dolomite at 3,040 feet. A well on the Shanelec farm, in the NE cor. SE¼ section 29, en-

countered the Kansas City-Lansing limestone at 2,750 feet, the Sooy conglomerate at 3,107 feet, the Arbuckle dolomite at 3,155 feet, and was abandoned at a total depth of 3,235 feet. A good show of oil was found in the Kansas City-Lansing rocks in the well drilled on the Lilak farm in the NE cor. section 34. In this well the Kansas City-Lansing was encountered at 2,739 feet, the Sooy conglomerate at 3,086 feet, and the Arbuckle dolomite at 3,131 feet. In contrast with the other three wells, this test showed a thin layer of Simpson, 19 feet thick, just above the Arbuckle dolomite.

In the SW cor. NW¼ sec. 22, T. 15 S., R. 10 W., a wildcat test was drilled by the Benson Drilling Company on the Morevak farm to a total depth of 3,382 feet. The Kansas City-Lansing limestone was encountered in this test at 2,895 feet, the Sooy conglomerate at 3,248 feet, the Viola limestone at 3,285 feet, the Simpson rocks at 3,315 feet, and the Arbuckle dolomite at 3,375 feet.

The Bridgeport Oil Company drilled a test well on the Haferman farm in the SE¼ NE¼ NE¼ sec. 36, T. 16 S., R. 7 W. In this test the Kansas City-Lansing rocks were encountered at 2,634 feet, the Sooy conglomerate at 3,083 feet, and the Kinderhook shale at 3,085 feet. Below the Kinderhook, the Misener, Sylvan, Viola, Simpson, and Arbuckle appeared in rather complete sequence. The top of the Arbuckle was found at 3,356 feet, and the test was abandoned at a total depth of 3,378 feet. The same company drilled a test well on the Lloyd farm in the NE cor. SW¼ sec. 5, T. 16 S., R. 8 W. to a total depth of 3,023 feet. In this well the Kansas City-Lansing rocks were encountered at 2,592 feet, the Sooy conglomerate at 2,952 feet, and the Arbuckle dolomite at 2,991 feet.

Two wells were drilled by the Bridgeport Oil Company in T. 17 S., R. 6 W. The Larson "A" well, in the SW¼ NW¼ NE¼ section 1, was abandoned at a total depth of 3,475 feet. The other well was drilled on the Larson "C" lease in the NW cor. NE¼ section 26. This well encountered the Arbuckle dolomite at 3,710 feet and was completed as a dry hole at a total depth of 3,742 feet. The Phillips Petroleum Company drilled two test wells in T. 17 S., R. 7 W. The No. 1 Bettenbrock, in the SW¼ NE¼ NE¼ section 23, encountered the Arbuckle dolomite at 3,747 feet and was abandoned at 3,777 feet. The No. 1 Alman, in the SE cor. SW¼ section 35, was abandoned at 3,682 feet. The Arbuckle dolomite

was encountered at 3,663 feet in this test. On the Campbell farm, in the NE cor. SW¼ sec. 12, T. 17 S., R. 8 W., the Cities Service and Continental Oil Companies drilled a well to a total depth of 3,511 feet. In this test the Kansas City-Lansing rocks were encountered at 2,751 feet, the Sooy conglomerate at 3,133 feet, the Viola limestone at 3,366 feet, the Simpson rocks at 3,414 feet, and the Arbuckle dolomite at 3,476 feet.

Finney County

There is one oil pool in Finney County (Fig. 8), the **Nunn** pool in T. 21 S., R. 34 W. This pool was discovered in 1938 by the Atlantic Refining Company. There were three producing wells in this pool at the end of 1943 and during 1944 five oil wells were added. Production is from the Mississippian limestone at a depth of about 4,654 feet. During 1944, 78,760 barrels of oil were produced from the Nunn pool; the cumulative production to the end of that year was 252,260 barrels. The pool now includes 1,000 acres. One extension test, the Shallow Water Refining Company No. 1 First National Bank well in the Cen. NE¼ SE¼ sec. 30, T. 21 S., R. 33 W. about 1 mile northeast of the Nunn pool, was dry. The Mississippian limestone was encountered at 4,609 feet, and the well was completed at a total depth of 4,750 feet.

The western part of Finney County is part of the large **Hugoton gas field** (Fig. 8). There were ten gas wells in Finney County at the end of 1944. Of this number, three were completed in 1944. One of these, the Carter No. 1 Tresmon Miller well in the NE cor. SW¼ sec. 26, T. 22 S., R. 34 W., is the first successful gas well drilled north of Arkansas River and at present marks the northernmost limit of the gas area. This well extended the Hugoton field approximately 10 miles north of previous production.

The Stanolind Oil and Gas Company drilled a dry hole on land of the Fidelity State Bank in the Cen. NW¼ sec. 34, T. 26 S., R. 31 W. This well found the Herington limestone at 2,678 feet and was abandoned at a total depth of 2,958 feet. The same company drilled a stratigraphic test well in the SE cor. sec. 11, T. 26 S., R. 32 W. on the Kisner farm.

HUGOTON GAS FIELD

Seventy gas wells were added to the Hugoton gas field (Fig. 8) during 1944. This compares with 10 added during 1943. Every

county in the field except Morton received new gas wells. Completions by counties are as follows: Haskell, 26; Stevens, 18; Kearny, 14; Grant, 6; Finney, 3; Seward, 2; and Stanton, 1. The combined daily capacity of the new wells was 1.3 billion cubic feet. There were 416 gas wells in the Kansas part of the field at the end of 1944.

The Conservation Division of the Kansas Corporation Commission reports that 83,008 million cubic feet of gas were taken from the Hugoton field during 1944. This is a 31 percent increase over last year's record production of 63,354 million cubic feet. The Hugoton field accounted for 62 percent of the total gas production of the State of Kansas.

The completion of the Carter Oil Company No. 1 Tresmon Miller well, in the NE cor. SW¼ sec. 26, T. 22 S., R. 34 W., was probably the most important development in the Hugoton field during 1944. This well, which had an initial daily potential of 1,190,000 cubic feet of gas, extended the field approximately 10 miles north of previous production and is the first gas well completed in the Hugoton field north of the Arkansas River. Later in the year, the same company completed a gas well on the Strong farm in the Cen. NW¼ SE¼ sec. 27, T. 22 S., R. 35 W. This well had an initial daily potential of 16,242,000 cubic feet of gas.

Also of importance was the extension of production into Stanton County. The Stanolind Oil and Gas Company completed a well on the Collingwood-McAnerney farm in the Cen. sec. 32, T. 30 S., R. 39 W. The initial daily potential of this well was 2,934,000 cubic feet of gas. This was the only commercial well in Stanton County at the end of 1944.

Most of the 1944 completions were in the following three areas: East of the town of Hugoton in Stevens County, in T. 33 S., R. 36 W.; around the carbon black plant at Ryus in the southeastern corner of Grant County, and the southwestern corner of Haskell County; and southeast of the town of Lakin in Kearny County.

In the Hugoton field the gas is produced from limestone and dolomite of upper Wolfcampian (Permian) age encountered at depths ranging from about 2,700 to 2,800 feet. Gas is found in three to five zones which are interconnected and therefore constitute one common source of supply. Since 1936 all drilling has been done on a basis of one well to 640 acres, although previously a few wells were drilled on a basis of one well to 160 acres.

Graham County

Much prospecting for oil took place in Graham County (Fig. 9) during 1944, especially in the eastern half of the county. The favorable results in the Morel pool suggest that other pools may be discovered. A total of 50 test wells were drilled in the county in 1944, of which 26 were oil wells and 24 were dry holes. Among the wildcat tests one is classed as an extension, six as ordinary, and seven as rank. The only new oil pool of the year, the Alda pool, was found by one of the rank wildcat tests.

The discovery well in the **Alda** pool was drilled by the Skelly Oil Company on the Davis farm in the NW cor. sec. 15, T. 7 S.,

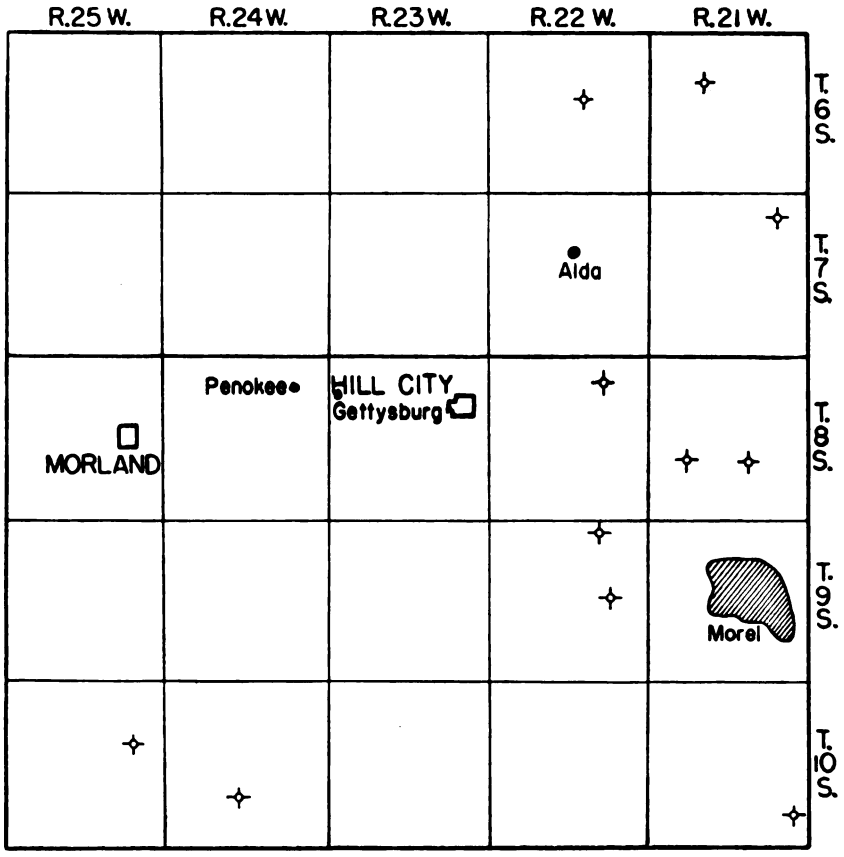

Fig. 9.—Graham County map showing oil pools and dry wildcat wells drilled in 1944.

R. 22 W. The oil is produced from a porous zone in the Kansas City-Lansing rocks between depths of 3,518 and 3,524 feet. The gravity of the oil is 39° A.P.I. Good porosity was also found in the Arbuckle dolomite, but a test failed to reveal commercial quantities of oil at that depth. The well has a potential capacity of 518 barrels of oil per day.

The **Morel** pool, in T. 9 S., R. 21 W., which has produced nearly 2 million barrels of oil to date, was enlarged by the completion of 25 additional oil wells in 1944. One of the new wells in section 15, the Cities Service Oil Company No. 5 well on the Trexler lease, is producing from the Sooy conglomerate. The only other well in this pool which produces from the Sooy conglomerate is the Loveridge No. 3 well in section 10.

Additional information on the oil pools in Graham County is given in Table 11.

TABLE 11.—*Oil pools of Graham County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Alda 7-22W	1944	40	none	none	1	K.C.-Lans.	3,518
Gettysburg 8-23W	1941	40	3,185	18,210	1	K.C.-Lans	3,725
Morel 9-21W	1938	7,600	841,020	1,912,820	2 53	Sooy Arbuckle	3,712 3,718
Penokee 8-24W	1940	40	3,838	40,995	1	K.C.-Lans.	3,750

Exploratory wells.—Eleven wildcat wells located more than 2 miles from production were drilled in Graham County during 1944. These are shown on the map (Fig. 9). The Texas Company drilled one test hole to 3,832 feet in the SW cor. sec. 9, T. 6 S., R. 21 W. on the Voss farm. In this well the base of the Kansas City-Lansing limestones was encountered at 3,475 feet and the Arbuckle dolomite at 3,794 feet. In T. 6 S., R. 22 W., a test well was drilled by the Anderson-Prichard Oil Corporation on the Gudgell "B" lease in the SW cor. NE¼ section 15. The Arbuckle was found beneath the Sooy conglomerate at a depth of 3,860 feet, and the well was completed at a total depth of 3,966 feet.

In the SE cor. sec. 2, T. 7 S., R. 21 W., the Texas Company completed a test well on the Fitch farm. This test was drilled to a total depth of 3,740 feet, but was plugged back to test a show

of oil at 3,405 feet. Failing to find sufficient oil in the test, the hole was abandoned. The Arbuckle dolomite was encountered at 3,682 feet.

The Vickers Petroleum Company drilled a well in the SE cor. SW¼ sec. 20, T. 8 S., R. 21 W. on land belonging to the Kansas Farm Corporation. The Arbuckle dolomite was encountered at 3,715 feet and the well was drilled to a total depth of 3,758 feet. In the SW¼ SE¼ SE¼ sec. 22, T. 8 S., R. 21 W., the Continental Oil Company drilled a stratigraphic test on the Newell farm to a total depth of 3,684 feet. The Sunray Oil Corporation No. 1 Dunwoody well, in the SE cor. SW¼ sec. 2, T. 8 S., R. 22 W., was drilled to a total depth of 3,731 feet. The Arbuckle dolomite was encountered at 3,690 feet.

Five miles northwest of the Morel pool, in the SW cor. NW¼ sec. 2, T. 9 S., R. 22 W., the Phillips Petroleum Company drilled a test well on the Chas farm to a total depth of 3,808 feet. The Kansas City-Lansing limestone was found at 3,443 feet, the Sooy conglomerate at 3,770 feet, and the Arbuckle dolomite at 3,790 feet. In the same township Phillips drilled another dry hole on the Sandzen farm in the SW cor. SE¼ section 14. This well, which was drilled to a total depth of 3,985 feet, encountered the Arbuckle dolomite at 3,955 feet. In the NE cor. SE¼ sec. 25, T. 10 S., R. 21 W., the Bridgeport Oil Company drilled a well on the White "B" lease. This test encountered the Kansas City-Lansing rocks at 3,432 feet, the Sooy conglomerate at 3,719 feet, the Arbuckle dolomite at 3,832 feet, and was completed at a total depth of 3,852 feet.

In the southwestern corner of the county, the Phillips Petroleum Company drilled two wildcat wells far removed from any production. One of these is on the Cirk farm in the NW cor. NE¼ sec. 28, T. 10 S., R. 24 W. In this well, the Kansas City-Lansing rocks were found at 3,674 feet, the Osage cherts at 4,305 feet, the St. Joe limestone at 4,345 feet, the Viola cherty dolomite at 4,385 feet, the Simpson shale at 4,405 feet, and the Arbuckle dolomite at 4,510 feet. The total depth is 4,578 feet. The other well was drilled in the NE cor. sec. 14, T. 10 S., R. 25 W. on the Knoll farm. In this test the Osage cherts were encountered at 4,255 feet, the St. Joe limestone at 4,310 feet, and the Arbuckle dolomite at 4,510 feet. There were no important shows of oil or gas and the test was abandoned at a total depth of 4,577 feet.

Grant County

All of Grant County is considered a part of the large **Hugoton** gas field. There were 70 gas wells in Grant County at the end of 1944; six of these were drilled during that year. These wells are shown in Figure 8, and information concerning gas production in the Hugoton field is given under Finney County.

A stratigraphic test was drilled by the Stanolind Oil and Gas Company in the NE¼ NE¼ NW¼ sec. 19, T. 28 S., R. 38 W. to a total depth of 2,551 feet.

Harvey County

Only four test wells were drilled in Harvey County (Fig. 10) during 1944. One of these was a gas well which opened the new **Stucky South** pool and the other three were dry holes. The new gas pool was discovered by the Rock Hill Stone and Gravel Company in a test on the Woods farm in the Cen. NW¼ SE¼ sec. 10, T. 23 S., R. 3 W. Gas was found in the Mississippian limestone between depths of 3,269 and 3,278 feet. Information on the oil and gas pools of Harvey County is given in Table 12.

One of the dry holes was drilled on the Schrag farm in the NW cor. SW¼ sec. 5, T. 22 S., R. 2 W. by the Wolf Creek Oil

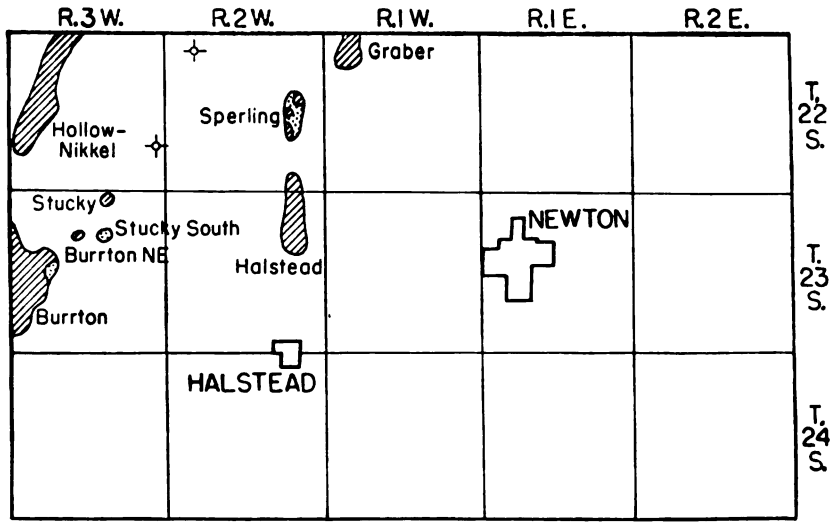

Fig. 10.—Harvey County map showing oil and gas pools and dry wildcat wells drilled in 1944. (Gas, dots; oil, diagonal lines.)

Company. This test had good shows of oil at several depths and was closely watched while it was being drilled. The Kansas City-Lansing limestone was found at 2,370 feet and the Mississippian strata at 3,126 feet. The Kinderhook, Hunton, Sylvan, Viola, Simpson, and Arbuckle rocks appeared in regular sequence. The top of the Arbuckle dolomite was found at 3,772 feet, and the total depth of the well was 3,802 feet. Shows of oil were found between 3,244 and 3,254 feet in the Mississippian and between 3,263 and 3,266 feet, but neither of these shows could be acidized sufficiently to make an oil well possible. In the Cen. NW¼ NE¼ sec. 25, T. 22 S., R. 3 W., about 5 miles east of the Hollow-Nikkel pool, C. L. Carlock et al. drilled a test well on the Schragg farm. In this test the Mississippian rocks were encountered at 3,148 feet, Hunton limestone at 3,560 feet, Viola dolomite at 3,673 feet, Simpson rocks at 3,707 feet, and Arbuckle dolomite at 3,792 feet. It was abandoned as a dry hole at 3,804 feet. On the eastern edge of the Burrton pool, the Inland Oil Company drilled a dry hole on the Wilson "B" lease in the Cen. NE¼ NW¼ sec. 20, T. 23 S., R. 3 W. It was drilled into the Mississippian, the top of which was encountered at 3,260 feet. The total depth of the test is 3,370 feet.

TABLE 12.—*Oil and gas pools of Harvey County*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944	Number of wells	Producing zone	Depth to producing zone, feet
			barrels				
Burrton 23-3W	See Reno County						
Burrton Northeast 23-3W	1943	40	none	none	1	"Chat"	3,335
Halstead 22-2W 23-2W	1929	1,200	62,585	1,526,925	19	"Chat"	3,005
Hollow-Nikkel 22-3W	1931	1,500	229,620	19,672,350	61	"Chat" Hunton Simpson	3,195 3,507 3,500
Sperling 22-2W	1935	500	33,010	474,200	5	Hunton	3,279
Stucky 23-3W	1942	40	300	757	1	"Mississippi lime"	3,224
			thousand cubic feet				
Sperling (gas) 22-2W	1935	600	11,636	6,239,746	2	"Chat"	2,955
Stucky South 23-3W	1944	160	none	none	1	Mississippian	3,269

Haskell County

During 1944, 26 gas wells were completed in Haskell County. These are all located in the southwestern corner of the county. The total number of gas wells in the county at the end of 1944 was 41; these wells are shown on Figure 8. Information on gas production in the Hugoton field, of which Haskell County is a part, is given under Finney County.

Kearny County

The **Patterson** pool, in T. 22 S., R. 38 W., is the only oil pool in Kearny County (Fig. 8). No wells were drilled in this pool during 1944. Production from three wells during that year was 32,760 barrels, and the cumulative production to the end of the year was 115,850 barrels. Production in this pool, which was discovered in 1941, is from the Patterson sand (Pennsylvanian) at a depth of about 4,740 feet.

There were 30 gas wells in the Kearny County part of the Hugoton field at the end of 1944; 14 of these were completed during that year. One of these wells was drilled by the Carter Oil Company on the Strong farm, in the Cen. NW¼ SE¼ sec. 27, T. 22 S., R. 35 W., more than 10 miles north of previous production in the county. Information about gas production in the Hugoton field is given under Finney County.

Two stratigraphic tests were drilled by the Stanolind Oil and Gas Company in Kearny County during 1944. One of these, in the NW cor. sec. 8, T. 23 S., R. 35 W. on the Brown farm, was completed at a total depth of 2,865 feet. The other was drilled on the Krehliel farm in the SW cor. sec. 21, T. 23 S., R. 37 W. to a total depth of 2,821 feet.

Kingman County

Only three test wells were drilled in Kingman County (Fig. 11) during 1944 and all of these proved to be dry holes. The first to be completed was the H. K. Porter Inc. No. 1 Collingwood test in the NW cor. SE¼ sec. 10, T. 27 S., R. 7 W., about a mile from the Fleeger No. 1 Richardson well which for a short time produced a large amount of oil from the Wilcox sandstone. This early success has resulted in the drilling of at least 14 dry holes. The Collingwood test encountered the Mississippian limestone at 3,803 feet and was completed at a total depth of 4,290 feet. One mile northeast of the Collingwood well, the Phillips Petroleum

Company drilled a test well on the Kuhns farm in the SW cor. NW¼ sec. 3, T. 27 S., R. 7 W. In this test, the Mississippian limestone was encountered at 3,854 feet (about 12 feet lower with reference to sea level than in the Collingwood test), the Viola limestone at 4,198 feet, the Simpson rocks at 4,231 feet, and the Arbuckle dolomite at 4,338 feet (61 feet lower than in the Collingwood test). The total depth of this well was 4,368 feet. The other well was drilled by the Phillips Petroleum Company, in the SE cor. NE¼ sec. 24, T. 27 S., R. 5 W. on the Heimple farm, to a total depth of 4,288 feet. In this test, the Mississippian limestone was encountered at 3,724 feet, the Viola limestone at 4,141 feet, and the Arbuckle dolomite at 4,258 feet.

During 1944, 724,156 barrels of oil were produced from 120 wells in the **Cunningham** oil pool, in Kingman and Pratt Counties. The cumulative production from that pool to the end of 1944 was 4,935,739 barrels. The pool was discovered in 1931 and includes 1,500 acres. Production is from Kansas City-Lansing rocks at about 3,390 feet and from the Viola limestone at about 3,925 feet.

The Cunningham gas pool, in Kingman and Pratt Counties and including the area formerly called the Cairo gas pool, pro-

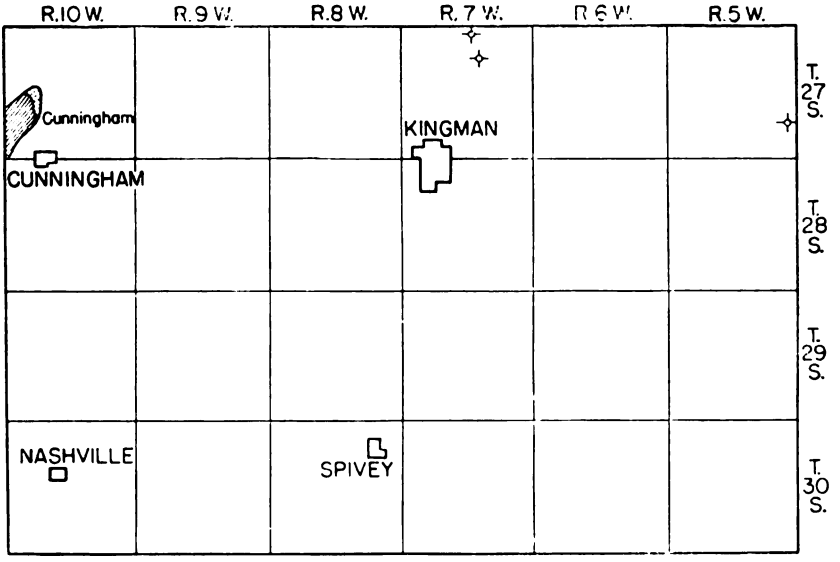

FIG. 11.—Kingman County map showing oil and gas pools and dry holes drilled in 1944. (Gas, dots; oil, diagonal lines.)

duced more than 6 billion cubic feet of gas in 1944. The gas is produced partly from the Viola formation and partly from the Arbuckle dolomite. About one-fifth of the total production has been from the Arbuckle. An important by-product of this pool is the helium which is contained in the gas. A new plant for helium extraction began operation on Jan. 17, 1944, 268 days after construction was started. The plant was designed by engineers of the United States Bureau of Mines, and incorporates new features tested and tried at the Amarillo and Exell plants in Texas and at the Otis plant in Rush County, Kansas. During its first year of operation the Cunningham plant produced more than twice as much helium as was produced in the whole world in any year before Pearl Harbor was bombed.

Kiowa County

One of the counties added to the gradually lengthening list of oil or gas producers during 1944 is Kiowa County (Fig. 12). The well which discovered the new pool in this county, the **Alford** pool, was drilled by the Lion Oil Refining Company in the SE cor. SW¼ sec. 14, T. 30 S., R. 19 W. on the Alford farm. The gas was found between 5,040 and 5,043 feet in the Spergen coarsely crystalline limestone of Mississippian age. This limestone is approximately 30 feet thick in this part of the state and is succeeded downward by Warsaw dolomite and limestone having a thickness of about 155 feet. The Osage cherts are 65 feet thick in the discovery well and the St. Joe limestone below it is 35 feet thick. These beds are underlain by a series of cherty and dolomitic limestones which are probably the equivalent of the Chouteau limestone of eastern Kansas. The top of the Viola was encountered at 5,490 feet, the top of the Simpson rocks at 5,725 feet, and the top of the Arbuckle dolomite at 5,787 feet. The well was drilled to a total depth of 5,850 feet before the test was plugged back to the gas zone.

Six dry rank wildcat wells were drilled in Kiowa County during 1944. One of these was drilled by the Tri-State Drilling Company on the Jones farm in the Cen. SW¼ SE¼ sec. 20, T. 27 S., R 16 W. In this well the Kansas City-Lansing limestone was encountered at 4,094 feet, the Mississippian Osage cherts at 4,604 feet, the Misener sandstone at 4,648 feet, the Maquoketa shale at 4,687 feet, the Viola limestone at 4,730 feet, the Simpson shales

and sandstones at 4,853 feet, and the Arbuckle dolomite at 4,954 feet. The well was abandoned at a total depth of 4,995 feet. The Texas Company drilled a deep test on the Mitchell farm in the NW¼ NE¼ NE¼ sec. 2, T. 27 S., R. 18 W. In this test the Kansas City-Lansing limestone was found at 4,094 feet, the weathered Viola cherts at 4,735 feet, the Simpson green shale and sandstone at 4,916 feet, and the Arbuckle dolomite at 4,970 feet. There were several sandy zones and a prominent oölitic zone in the dolomite. In T. 27 S., R. 19 W., Vierson and Cochran drilled a test on the W. K. H. Trust Company "A" lease in the Cen. NE¼ NW¼ section 22 to a total depth of 5,060 feet. In this well, the Kansas City-Lansing limestone was encountered at 4,177 feet, the Mississippian Osage cherts at 4,774 feet, the Misener sandstone at 4,930 feet, and the Viola cherty dolomites at 4,995 feet.

Vierson and Cochran also drilled a deep test on the Johnson farm, in the NE cor. SE¼ sec. 22, T. 28 S., R. 18 W. The Mississippian cherts were encountered in this test at 4,845 feet, the Misener

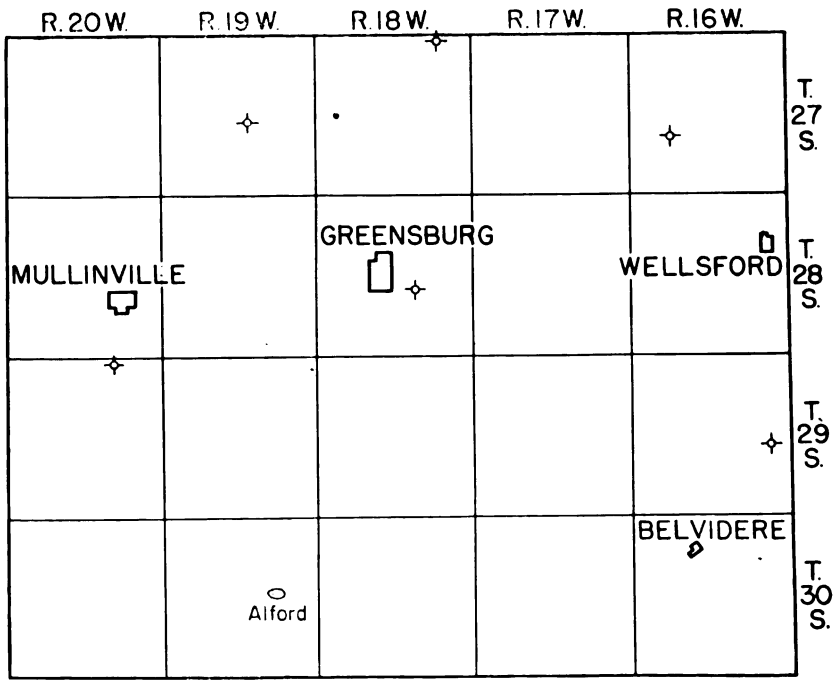

FIG. 12.—Kiowa County map showing gas pool and dry holes drilled in 1944.

sandstone at 4,925 feet, the Viola limestone at 4,995 feet, the Simpson green shales at 5,166 feet, and the Arbuckle dolomite at 5,230 feet. The total depth of the well is 5,328 feet.

A test well was drilled by the Aladdin Petroleum Company on the Piester farm in the SW cor. NW¼ sec. 24, T. 29 S., R. 16 W. In this well the Kansas City-Lansing limestone was encountered at 4,064 feet, the Osage cherts at 4,592 feet, the St. Joe limestone at 4,705 feet, the Kinderhook shale at 4,715 feet, the Simpson rocks at 4,805 feet, and the Arbuckle dolomite at 4,960 feet. The total depth is 4,991 feet. The thickness of the Simpson dolomite in this test is somewhat unusual. On the western side of the county, the Sinclair Oil Company drilled a well on the Morford farm in the NW cor. sec. 2, T. 29 S., R. 20 W. In this test the top of the Kansas City-Lansing limestone was encountered at a depth of 4,370 feet, the top of the Warsaw dolomite at 4,974 feet, the Osage cherts at 5,063 feet, the St. Joe limestone at 5,160 feet, the Chouteau cherty dolomite at 5,180 feet, the Viola formation at 5,435 feet, the Simpson rocks at 5,539 feet, and the Arbuckle dolomite at 5,608 feet. The well was abandoned at a total depth of 5,779 feet.

McPherson County

Extensive drilling operations were carried on in McPherson County (Fig. 13) during 1944. A total of 107 test wells were drilled, of which 48 were oil wells and 59 were dry holes. Among the wildcat tests, 17 are classed as extension, 9 as ordinary, and 3 as rank wildcat wells. Two new oil pools were found by extension wildcats and one new oil pool was found by an ordinary wildcat. The three new pools are Gypsum Creek, Jenday, and Jenday South.

The **Gypsum Creek** pool was found in October when the first well on the Henne farm was completed by the Williams Drilling Company. It is located in the SW cor. sec. 4, T. 17 S., R. 1 W. The discovery well found production in Mississippian rocks between depths of 2,619 and 2,635 feet. The potential capacity of the well is 75 barrels of oil per day. The **Jenday** pool is in T. 19 S., R. 2 W., not very far north of production in the Ritz-Canton area. This pool was discovered by the Derby Oil Company when the first well on the Day lease in the NE cor. of section 1 was completed in June. Two other wells were drilled in this pool during

the year. The discovery well in the **Jenday South** pool was drilled by the Bay Petroleum Company on the Myers farm in the NE cor. NW¼ sec. 7, T. 19 S., R. 1 W. This pool had four wells at the close of the year.

There are six oil pools, the **Gypsum Creek, Henne, Roxbury, Roxbury South, Roxbury Southeast**, and **Crowther,** in T. 17 S., R. 1 W. The first is still a one-well pool. One oil well was added to the Roxbury pool in 1944, two wells were drilled in the Crowther pool, and one oil well was added to the Roxbury South pool. A number of dry holes were drilled around the fringes of these pools. A well was drilled in section 1 in an attempt to extend the Fanska pool into McPherson County, but this was a dry hole.

The **Lindsborg** pool had been fairly well defined by the end of 1943, but 17 edge wells were completed there during 1944. Most of these are either small wells or produce water with the oil. A few dry holes were drilled around the fringes of the pool. A third producing zone was added to the pool when the No. 2 Johnson well, in sec. 6, T. 17 S., R. 3 W., was deepened to the crystalline limestone of Viola age. The precise age of the uppermost producing zone is still a matter of debate. It has been called the Maquoketa dolomite by some geologists and the cherty dolomite of the Viola formation by others. At present there are 107 wells in the Lindsborg pool and its total production to date is more than 2 million barrels of oil.

The **Paden** pool, in T. 18 S., R. 1 W., was enlarged by the addition of 11 oil wells during 1944. It had 15 wells and covered an area of 800 acres at the end of 1944. During that year eight dry holes were drilled either within the pool or on its outer fringes. One of these dry holes, the Phillips Petroleum Company No. 3 Tecter well in the SW cor. NE¼ NW¼ section 10, found the Arbuckle dolomite to be more than 400 feet thick and was completed in pre-Cambrian rock at a total depth of 3,967 feet. Careful study of the samples from this well shows that the top of the Mississippian cherts was reached at a depth of 2,693 feet, the St. Joe crinoidal limestone at 2,856 feet, the Kinderhook shales at 2,890 feet, the Hunton dolomite at 3,020 feet, the Sylvan shale at 3,060 feet, and the dark-brown glauconitic Viola dolomite at 3,155 feet. The Viola here contains two coarsely crystalline zones separated by a dark-brown dolomite with smoky chert. The Simpson shales and sandstones were found at 3,240 feet and the Arbuckle dolo-

mite at 3,314 feet. This dolomite contains fine granular and sandy zones. The top of the Reagan sandstone was found at 3,720 feet and the base at 3,755 feet. Below the Reagan a thick zone of green, red, and yellow clays was encountered which seems to be the ancient soil layer on top of the pre-Cambrian rocks. The lower part of these varicolored clays contains much weathered feldspar indicating that it was derived from nearby granitic rocks. Such material was found between depths of 3,910 and 3,960 feet. Pre-Cambrian rocks were encountered at 3,960 feet and the hole was drilled to a total depth of 3,967 feet. This well is now being used as a salt water disposal well.

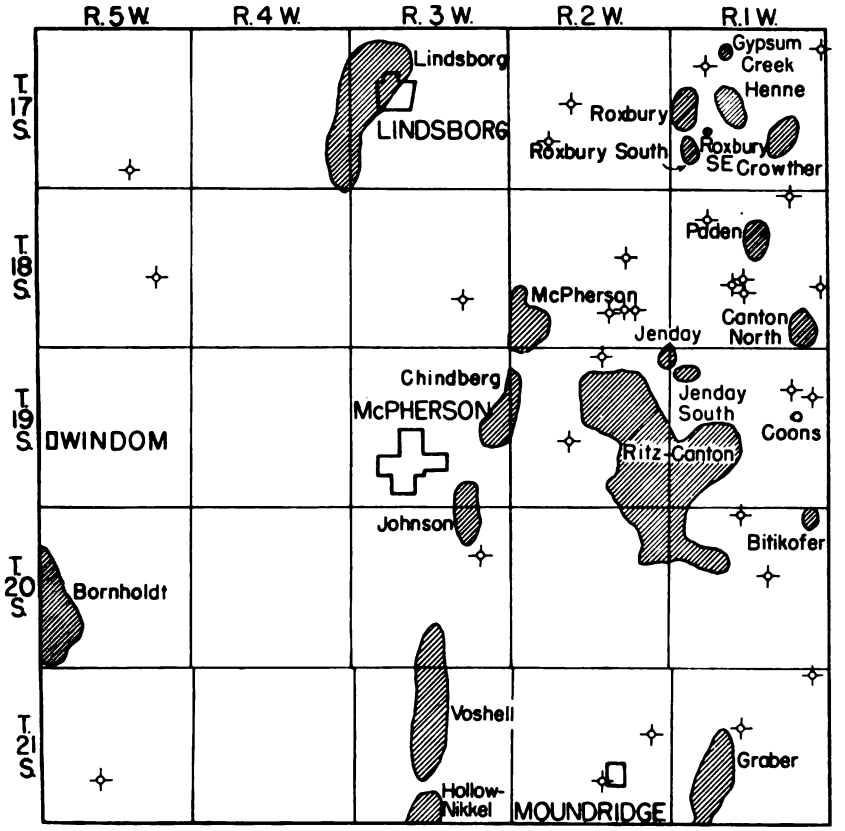

FIG. 13—McPherson County map showing oil and gas pools and dry wildcat wells drilled in 1944. (Gas, dots; oil, diagonal lines.)

Four oil wells were completed in the **Canton North** pool during 1944. Here the McBride Oil Company controls all production except the two most northerly wells. Dry holes have seemingly set limits to this pool on the north, east, and northwest.

TABLE 13.—*Oil pools of McPherson County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Bitikofer							
20-1W	1940	180	39,930	92,830	5	"Chat"	2,885
Bornholdt							
20-5W	1937	2,600	1,513,050	7,640,206	146	"Chat"	3,292
Canton North							
18-1W	1936	300	47,440	149,750	7	"Chat"	2,803
Chindberg							
19-2W					5	K.C.-Lans.	2,363
19-3W	1929	700	55,925	1,496,400	22	"Chat	3,007
Crowther							
17-1W	1942	1,000	285,730	482,880	19	"Chat"	2,778
Graber					2	Misener	3,323
21-1W	1934	2,800	354,180	7,899,430	130	Hunton	3,274
Gypsum Creek							
17-1W	1944		210	210	1	"Chat"	2,619
Henne							
17-1W	1940	800	265,310	687,185	21	"Chat"	2,658
Jenday							
19-2W	1944	160	10,266	10,266	3	Mississippian	2,984
Jenday South							
19-1W	1944	160	Combined with Jenday		4	Mississippian	2,952
Johnson							
19-3W							
20-3W	1932	1,200	101,870	2,908,570	15	"Chat"	3,032
Lindsborg							
17-3W					95	Viola	3,352
17-4W	1938	4,800	943,680	2,120,120	12	Simpson	3,360
McPherson					21	"Chat"	2,967
18-2W	1926	2,000	38,030	1,055,265		Viola	3,140
Paden							
18-1W	1943	800	133,490	136,100	15	"Chat"	2,752
Ritz-Canton							
19-1W						K.C.-Lans.	2,360
19-2W					217	"Chat"	2,935
20-1W						Viola	3,412
20-2W	1929	13,000	851,250	37,861,650		Simpson	3,449
Roxbury							
17-1W	1938	2,500	345,980	1,733,660	58	"Chat"	2,684
Roxbury South							
17-1W	1942	160	45,160	128,730	4	"Chat"	2,658
Roxbury Southeast							
17-1W	1943	40	3,626	5,414	1	"Chat"	2,665
Voshell							
20-3W						"Chat"	3,095
21-3W	1929	3,500	620,030	25,324,000	87	Viola	3,301
						Simpson	3,322
						Arbuckle	3,391

The discovery of the Jenday pool greatly stimulated drilling activity in T. 19 S., R. 1 W. As a result, six dry holes were drilled in various parts of the township in an effort to find new production or extend older producing areas. Three oil wells and three dry holes were drilled in the **Ritz-Canton** pool. The Helmerich and Payne interests abandoned 10 old wells in sec. 23, T. 19 S., R. 2 W., in this pool.

Table 13 gives information on the oil pools in McPherson County, and the dry wildcat wells drilled in the county in 1944 are listed in Table 14. These pools and dry wildcat wells are shown on Figure 13.

Morton County

No gas wells were added to the Morton County part of the Hugoton field in 1944. There were 35 gas wells in that county at the end of 1944. These wells are shown on Figure 8. Information concerning the Hugoton field is given under Finney County.

During 1944 one test well was drilled in Morton County, the Eason Oil Company No. 1 "A" Craver well in the SE cor. SW¼ sec. 32, T. 34 S., R. 42 W. The Cherokee shale is reported to have been found at 4,180 feet, the Patterson sand at 4,580 feet, and the top of the thick Mississippian section at 4,715 feet. The well was still in the Mississippian when it was abandoned at 4,731 feet.

Ness County

During 1944, five wildcat wells were drilled in Ness County (Fig. 14). Three of these were located more than 10 miles from production at the time of drilling. One wildcat about 5 miles northwest of the Aldrich pool was successful in finding a new pool, the **Kansada** pool. The discovery well in this pool was drilled by the Skelly Oil Company on the Tom Norton farm in the NW cor. sec. 23, T. 17 S., R. 26 W. The oil is produced from the Warsaw dolomite of Mississippian age between depths of 4,450 and 4,461 feet. The initial daily potential of the well was 130 barrels after treatment with acid. A second well drilled in section 15 on the Nuss farm encountered only water in the zone from which the Norton well produces, and it was abandoned as a dry hole. A third test was drilling at the close of the year.

In the **Aldrich** pool three oil wells were completed during 1944 in T. 17 S., R. 25 W. on Magnolia Petroleum Company leases. These wells are separated from the main body of the Aldrich pool

TABLE 14.—*Dry wildcat wells drilled in McPherson County during 1944*

Company and farm	Location (Sec., T., R.)	Depth to top of Mississippian, feet	Total depth, feet
Westgate-Greenland Oil Co. No. 1 Burkel	Cen. EL SE SE 1-17-1W	2,696	2,729
Phil-Han Oil Co. No. 1 Blaine	NE SE NW 8-17-1W	2,680	2,698
McIntyre-Sherman-Cummings No. 1 Carey	SE SW SW 16-17-2W	3,070	3,108
Coralena Oil Co. No. 1 Jacobson	NW SE NW 29-17-2W		2,545
El Dorado Refining Co. No. 1 Kingsley	SW cor. NE 34-17-5W	3,211	3,682
Phil-Han and Westgate Greenland No. 1 Meier	NE NW NE 2-18-1W	2,753	2,781
Amerada Petroleum Co. No. 1 Harman	NE cor. SW 8-18-1W	2,802	2,818
Anderson-Prichard Oil Corp. No. 1 Bishop	SE cor. 21-18-1W	2,766	2,801
Phil-Han Oil Co. No. 1 Duvall	SW NE NE 21-18-1W	2,748	2,778
W. C. McBride, Inc. No. 1 Johnson	NE SE NW 21-18-1W	2,809	2,816
C. C. Nelson Drilling Co. No. 1 Lindgren	Cen. S½ SE SE 24-18-1W	2,783	2,822
Phil-Han Oil Co. No. 1 Mogenson	NE cor. SW 14-18-2W	2,884	2,905
Plains Exploration Co. No. 1 Baldwin	NE NW SE 26-18-2W	2,968	3,003
Deep Rock Oil Co. No. 1 Miller	NE NW SW 26-18-2W	2,930	2,993
Deep Rock Oil Co. No. 1 Miller	NE cor. SE 27-18-2W	2,897	3,620
Texas Co. No. 1 Redlund	SW NW NW 26-18-3W	3,122	3,775
N. Appleman et al. No. 1 Gomer	SE SW NE 23-18-5W	3,332	3,925
Phil-Han Oil Co. No. 1 Keefer	NW cor. SE 11-19-1W	2,873	2,888
W. C. McBride, Inc. No. 1 Voth	SE cor. SW 12-19-1W	2,872	2,917
Phil-Han Oil Co. No. 1 Pitts	NE cor. NW 3-19-2W	2,948	2,998
Jensen et al. No. 1 Robertson	SW cor. NW 21-19-2W	2,981	3,004
Phillips Petroleum Co. No. 1 Vogts	NE cor. 4-20-1W	2,930	3,572
Phil-Han Oil Co. No. 1 Simpson	NE cor. SE 15-20-1W	2,926	2,946
Bay Petroleum Co. No. 1 Decker	SE cor. 11-20-3W	3,018	3,597
William Ebke No. 1 Voth	NW NE NW 1-21-1W	2,989	3,027½
Braniff and Holl No. 1 Meushke	SW NW NE 16-21-1W	2,934	3,469
Allison and Duree No. 1 Rupp	SW cor. NW 13-21-2W	2,960	3,421
P. G. Reynolds No. 1 Goering	NW SE NW 27-21-2W	3,009	3,527
Phillips Petroleum Co. No. 1 Abe	NE cor. NW 28-21-5W	3,401	4,043

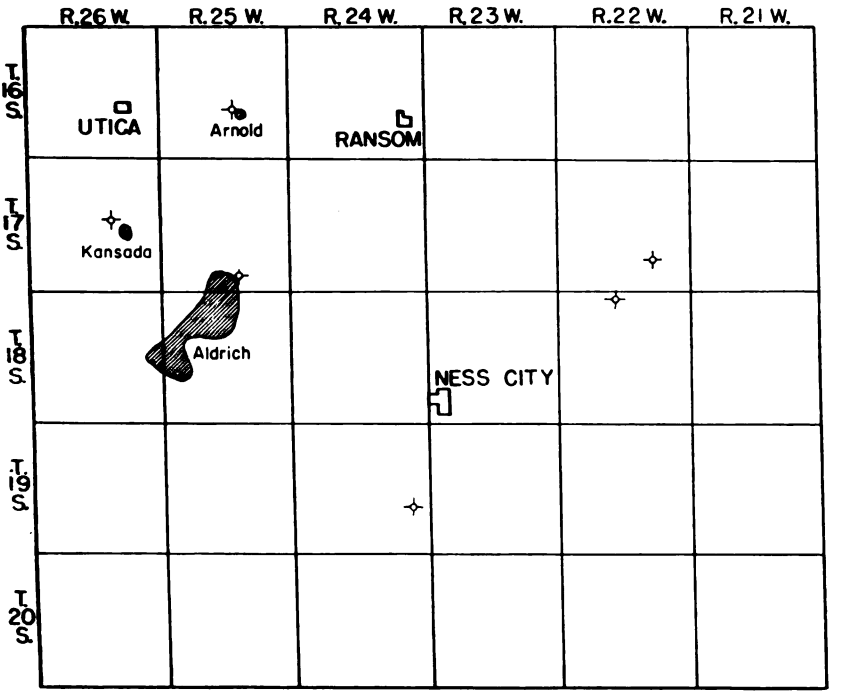

FIG. 14.—Ness County map showing oil pools and dry holes drilled in 1944.

by two dry holes in sections 4 and 5, T. 18 S., R. 25 W. There were 17 oil wells in this pool at the end of 1944. In the **Arnold** pool, in T. 16 S., R. 25 W., the Sohio Oil Company drilled one producer and one dry hole in 1944.

Additional information on the oil pools of Ness County is given in Table 15.

TABLE 15.—*Oil pools of Ness County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Aldrich **17-25W** **18-25W** **18-26W**	1929	5,000	140,280	793,250	17	Warsaw	4,428
Arnold **16-25W**	1943	80	11,350	11,350	2	Warsaw	4,538
Kansada **17-26W**	1944	40	732	732	1	Warsaw	4,450

Exploratory wells.—A test well was drilled by the Sinclair Prairie Oil Company on the Elmore farm in the NW¼ NE¼ SW¼ sec. 26, T. 17 S., R. 22 W. In this test the Topeka limestone was reported at 3,360 feet, the Kansas City-Lansing limestone at 3,740 feet, the Osage cherts at 4,238 feet, the St. Joe oölitic limestone at 4,340 feet, and the Viola cherty dolomite at 4,360 feet. A very thin Simpson sandstone at 4,565 feet separates the Viola limestone from the Arbuckle dolomite at 4,570 feet. The Sinclair Prairie Oil Company also drilled a test well on the Strauch farm in the NW¼ SW¼ NE¼ sec. 4, T. 18 S., R. 22 W. This test encountered the Warsaw dolomite at 4,305 feet, the top of the Viola limestone at 4,485 feet, the Simpson rocks at 4,677 feet, and the Arbuckle dolomite at 4,685 feet. The test was abandoned at a total depth of 4,770 feet. There were no important shows of either oil or gas. A wildcat well was drilled by the Texas Company 6 miles south of Ness City on the Boyd farm, in the SW cor. sec. 24, T. 19 S., R. 24 W. The Warsaw dolomite was encountered at 4,340 feet in this test and the Osage cherts at 4,410 feet with the St. Joe oölitic limestone and the Kinderhook shales beneath. The Viola dolomite was found at 4,622 feet and extended to 4,732 feet, where a thin layer of Simpson rocks was penetrated. The top of the Arbuckle dolomite was encountered at 4,750 feet and the Arbuckle was penetrated to a total depth of 4,960 feet before the well was abandoned.

Norton County

Six test wells were drilled in Norton County (Fig. 15) in 1944 but these were all dry holes. The **Ray** pool, which extends a short distance into Norton County, is described under Phillips County. The only other active pool in Norton County is the **Hewitt** oil pool, in T. 4 S., R. 21 W., which was discovered in 1941. Production from the one well in this pool during 1944 was 5,820 barrels of oil, bringing the total cumulative production to 26,050 barrels. Production is from the Kansas City-Lansing limestone at 3,404 feet.

Exploratory wells.—Five of the six wildcat wells drilled in Norton County during 1944 may be classed as rank wildcats inasmuch as they were located more than 10 miles from production. One of these wells was drilled by Allan and Aylward on the Lecky ranch in the SE cor. NW¼ sec. 29, T. 2 S., R. 23 W. In this well the Stone Corral dolomite was encountered at 1,934 feet, the

Kansas City-Lansing limestone at 3,395 feet, the Sooy conglomerate at 3,638 feet, the Arbuckle dolomite at 3,637 feet, and the Reagan sandstone at 3,645 feet. The well was abandoned at 3,691 feet and no shows of oil or gas were reported. In the NE cor. SW¼ sec. 33, T. 3 S., R. 22 W., the same operators drilled a test well on property belonging to the Federal Farm and Mortgage Corporation. This well encountered a similar sequence of strata, finding the Arbuckle dolomite at 3,767 feet, "granite wash" at 3,816 feet, and solid granite at 3,860 feet. It was abandoned at a total depth of 3,864 feet. The Phillips Petroleum Company drilled a test well on the Myra ranch in the NE cor. NW¼ sec. 36, T. 3 S., R. 23 W. In this well the "granite wash" was encountered immediately be-

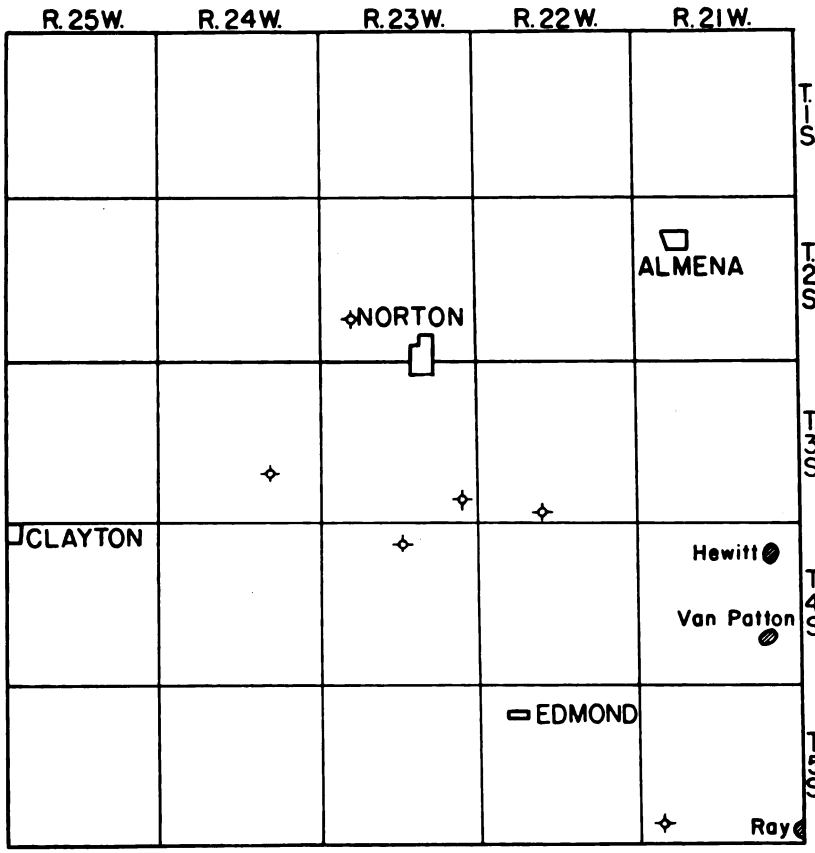

FIG. 15.—Norton County map showing oil pools and dry holes drilled in 1944.

neath the Pennsylvanian strata at a depth of 3,705 feet, and the well was drilled to a total depth of 3,732 feet. The Allan and Aylward No. 1 Porter well, in the NW cor. sec. 26, T. 3 S., R. 24 W., found the Reagan sandstone immediately beneath the Pennsylvanian strata. This test was abandoned at 3,743 feet after having drilled through 45 feet of Reagan sandstone.

A well drilled by Allan and Aylward in the SW cor. sec. 3, T. 4 S., R. 23 W. on the Comstock ranch encountered the Arbuckle dolomite at 3,842 feet, the pre-Cambrian rocks at 3,871 feet, and was abandoned at 3,900 feet. One test well was drilled by the Phillips Petroleum Company on the Tuck ranch in the SE¼ NE¼ NE¼ sec. 31, T. 5 S., R. 21 W., about 6 miles west of the Ray pool. In this test the "granite wash" was found immediately below the Pennsylvanian strata at 3,741 feet and the well was abandoned in that formation at 3,795 feet. There was a show of oil at 3,644 feet, but the amount of oil was insufficient to make a commercial well.

Pawnee County

Seven test wells were drilled in Pawnee County (Fig. 16) during 1944. One of these was successful in finding a new oil pool, the Pawnee Rock South pool. The other six were dry holes. The

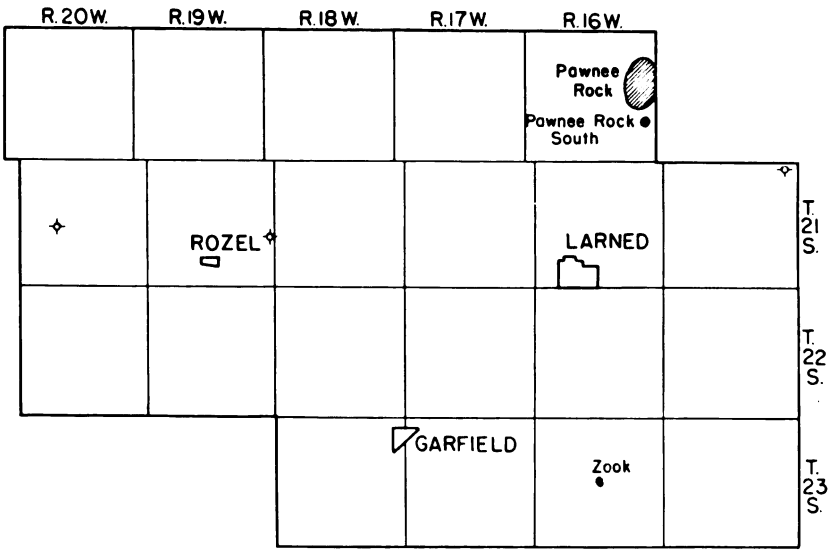

Fig. 16.--Pawnee County map showing oil pools and dry wildcat wells drilled in 1944.

discovery well in the **Pawnee Rock South** pool was drilled in April by Nadel and Gussman-Aylward Producing Company in the Cen. N½ NE¼ NW¼ sec. 25, T. 20 S., R. 16 W. on the Bixby farm. This well found oil in the Arbuckle dolomite between depths of 3,816 and 3,825 feet and had a daily initial potential of 362 barrels.

There are two other pools, **Pawnee Rock** and **Zook,** in Pawnee County. Three dry holes were drilled in T. 20 S., R. 16 W. along the fringes of the Pawnee Rock pool. Information on the three pools in Pawnee County is given in Table 16.

TABLE 16.—*Oil pools of Pawnee County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Pawnee Rock 20-16W	1936	2,400	254,470	1,252,130	26	Arbuckle	3,825
Pawnee Rock South 20-16W	1944	40		6,824	1	Arbuckle	3,816
Zook 23-16W	1941	80			2	Arbuckle	4,066

Exploratory wells.—In addition to the wells mentioned above, there were three other test wells drilled in Pawnee County in 1944. These are shown on Figure 16. Two of them are more than 10 miles from production and are thus classed as rank wildcat tests. The well in the SW¼ NE¼ NW¼ sec. 1, T. 21 S., R. 15 W. was a stratigraphic test drilled by the Continental Oil Company on the Chennell farm to a total depth of 3,856 feet. The S. A. Murphy well on the Wendel farm in the SE cor. sec. 24, T. 21 S., R. 19 W., which was abandoned at a total depth of 4,204 feet, found the Kansas City-Lansing limestone at 3,674 feet, the Marmaton shales at 3,955 feet, and the Sooy conglomerate at 4,145 feet. The Continental Oil Company drilled a well on the Browne farm in the NE cor. sec. 20, T. 21 S., R. 20 W. In this test the Kansas City-Lansing limestone was encountered at 3,695 feet, the Marmaton shales at 3,980 feet, the Osage cherts at 4,268 feet, the Viola dolomite at 4,390 feet, the Simpson rocks at 4,639 feet, and the Arbuckle dolomite at 4,665 feet. The well was abandoned in the Arbuckle at a depth of 4,913 feet.

Phillips County

There are now five oil pools in Phillips County, the Bow Creek, Dayton, Dayton North, Hansen, and Ray pools. Two oil wells were completed in the **Ray** pool during 1944. This makes a total of 76 wells, which have yielded during the life of the pool more than 3¼ million barrels of oil. One dry hole was also drilled in this pool during the year. Four producers were added to the **Hansen** pool, all of which produce from the Arbuckle dolomite. One additional oil well and one dry hole were drilled in the **Dayton North** pool during the year. The oil well produces from the

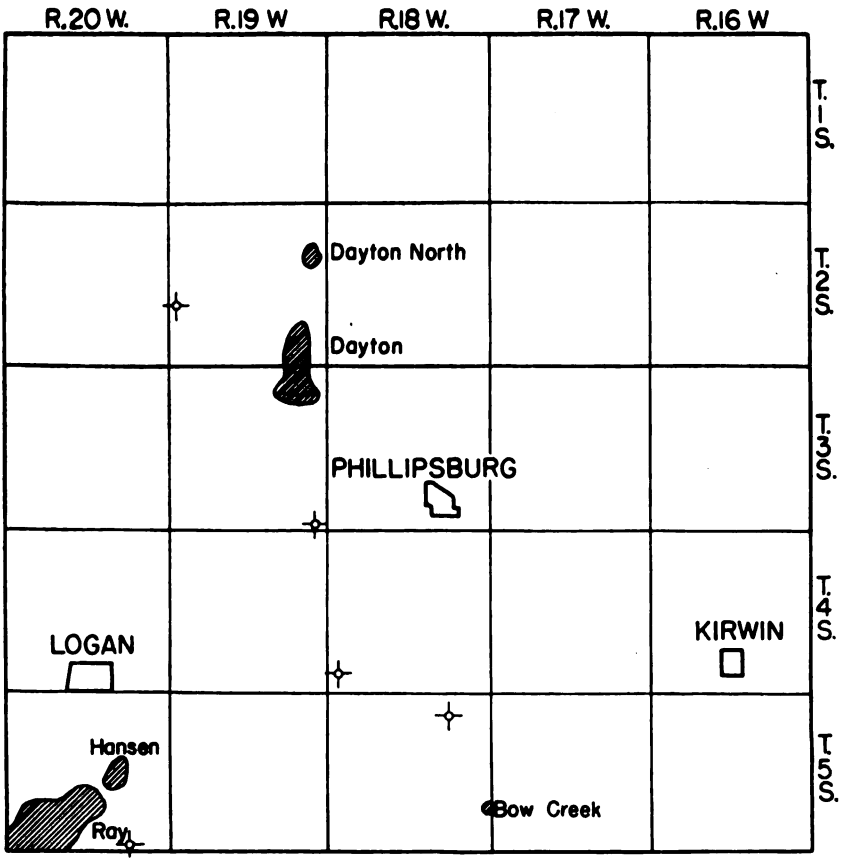

Fig. 17.—Phillips County map showing oil pools and dry wildcat wells drilled in 1944.

Kansas City-Lansing limestones. No wells were drilled in the **Bow Creek** and **Dayton** pools.

Table 17 gives information on the oil pools of Phillips County. These pools and the wildcat wells drilled in 1944 are shown on Figure 17.

TABLE 17.—*Oil pools of Phillips County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Bow Creek 5-18W	1939	40	3,443	29,625	1	K.C.-Lans.	3,111
Dayton 2-19W 3-19W	1941	1,200	134,625	492,275	22	K.C.-Lans.	3,430
Dayton North 2-19W	1943	240	55,460	73,250	6	K.C.-Lans.	3,406
Hansen 5-20W	1943	360	93,140	120,650	1 9	K.C.-Lans. Arbuckle	3,363 3,530
Ray 5-20W	1940	3,000	1,168,190	3,252,140	76	Arbuckle Reagan	3,575 3,540

Exploratory wells.—About 6 miles west of the Dayton pool, the Mazda Oil Corporation drilled a test well on the Brands ranch in the SW cor. sec. 19, T. 2 S., R. 19 W. The "granite wash" was reported at a depth of 4,111 feet in this test, and it was abandoned at a total depth of 4,121 feet. About 5 miles west of Phillipsburg a test well was drilled by the Derby Oil Company on the Beckman farm in the SW cor. SE¼ sec. 36, T. 3 S., R. 19 W. to a total depth of 3,670 feet. In this test the Arbuckle dolomite was reported at 3,631 feet, immediately beneath the Pennsylvanian strata. In the NE cor. NW¼ sec. 31, T. 4 S., R. 18 W., a dry hole was completed on the Jackson farm by the Texas Company. Weathered Arbuckle dolomite was reported beneath the Pennsylvanian strata at a depth of 3,452 feet, and solid Arbuckle was encountered at 3,460 feet. The total depth of the well is 3,483 feet. The Texas Company also drilled a well in the SE cor. SW¼ sec. 2, T. 5 S., R. 18 W. on the Armstrong farm. The Arbuckle dolomite was encountered at 3,448 feet, and the well was abandoned at a total depth of 3,490 feet. The Texas Company No. 1 Witt well, in the SW cor. sec. 35, T. 5 S., R. 20 W., was drilled to a total depth of 3,564 feet.

Pratt County

During 1944, 103 wells were drilled in Pratt County (Fig. 18). Of these, 67 were oil wells, 3 were gas wells, and 33 were dry holes. Three new pools—Coats, Ludwick, and Shriver—were discovered in the county during the year. Figure 18 shows that these pools all lie on the trend of the prolific Cunningham and Chitwood pools. All of these pools are located on a pronounced structural trend which has served as a trap for large quantities of oil and gas. The map also shows the dry wildcats that were drilled during 1944.

The new **Coats** pool was discovered by the Lion Oil Refining Company when the first well on the Andrews lease in the SE cor. sec. 24, T. 29 S., R. 14 W. was completed in April. The discovery well found oil in the Simpson sandstone between depths of 4,402 and 4,422 feet. It has a potential capacity of 731 barrels of oil per day. The No. 2 well drilled by the Lion Oil Refining Company on the Andrews lease is much smaller. Three offset wells drilled by

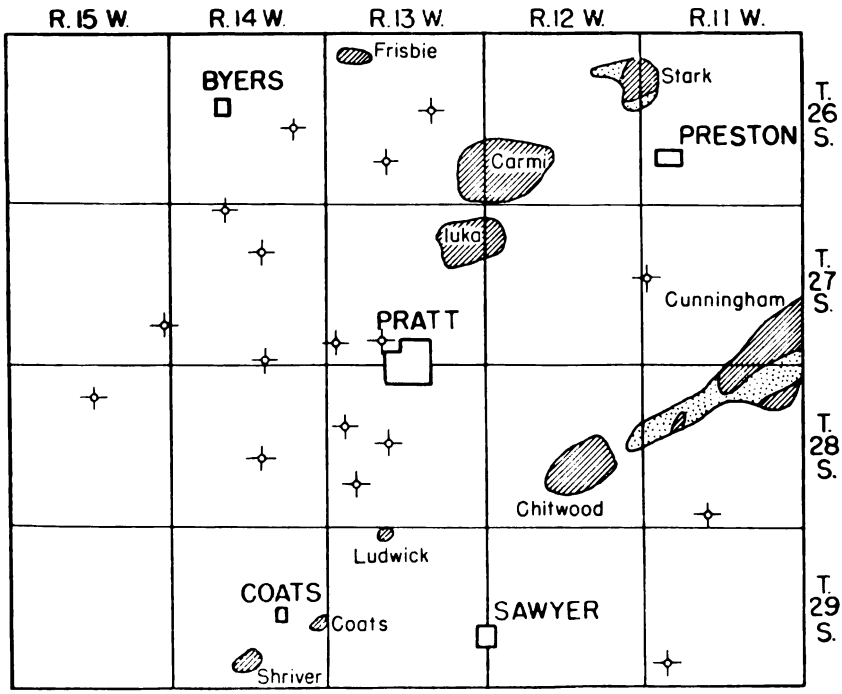

Fig. 18.—Pratt County map showing oil and gas pools and dry wildcat wells drilled in 1944. (Gas, dots; oil, diagonal lines.)

the same company—one on the Chastain farm, one on the Allen farm, and one on the Wagner farm—proved to be dry holes, and the Skelly Oil Company drilled one dry offset well on the Kiley farm. A third producer in the pool was drilled by the Carter Oil Company in section 24 on the Andrews farm.

The **Ludwick** pool was discovered by the Skelly Oil Company when a well on the Julia Shaw farm was completed in June. This well, in the NW cor. sec. 4, T. 29 S., R. 13 W., produces from the Simpson sandstone between depths of 4,489 and 4,495 feet. The test well was drilled into the Arbuckle dolomite.

The discovery well in the **Shriver** pool was drilled by the Skelly Oil Company in the NE cor. sec. 33, T. 29 S., R. 14 W. on the Shriver lease. Production was found in the Simpson sandstone between depths of 4,557 and 4,563½ feet, and the initial daily potential was 344 barrels of oil. The test well was drilled through the Simpson sandstone and into the Arbuckle dolomite. The second well drilled on the Shriver lease was a dry hole. An offset well drilled by the Sinclair Oil Company on the Buck lease, in section 34, is capable of producing 576 barrels of oil per day.

In the **Stark** pool one oil well, two dry holes, and one gas well were completed during 1944. The gas wells in this pool are located at the southern end, one in sec. 18 and another in sec. 13, T. 26 S., R. 12 W. Both oil and gas production is from the Viola dolomite. Dry holes on the east, north, and northwest have temporarily set limits of the producing area.

In the **Carmi** pool 20 additional oil wells were drilled in 1944, some of which were very large producers and some of which were definitely edge wells or marginal producers. Four dry holes were also drilled in this pool. One small producer and one dry hole were completed in the **Frisbie** pool during the year. Production in this pool is from the Kansas City-Lansing limestone. In the **Iuka** pool the Skelly Oil Company completed one additional oil well which has a daily potential production of 102 barrels of oil and a small amount of gas.

During 1944 the **Cunningham** and **Cairo** pools were joined, and the area is now called the Cunningham pool. Twelve additional oil producers were drilled in the Pratt County part of the Cunningham pool during the year, and three dry holes were drilled around the edges of the pool. In the **Chitwood** pool, 15 oil wells, 9 combination oil and gas wells, and one dry hole were com-

pleted during 1944. Several of the new wells produce from both the Viola dolomite and the Simpson sandstone. In some wells both zones yield oil and in other wells the Viola yields gas and the Simpson oil. Most of the new wells are located in section 22 and many of them have a maximum potential rating. The Lion Oil Refining Company No. 4 Chitwood well, in the NE cor. NW¼ NW¼ section 23, produces large quantities of oil from both the Simpson sandstone and the Arbuckle dolomite. This is the only well so far drilled which produces from the Arbuckle. There were 42 producing wells in the Chitwood pool at the end of 1944, and during that year more than one-half million barrels of oil were produced from those wells.

Additional information on the oil and gas pools of Pratt County is given in Table 18.

TABLE 18.—*Oil and gas pools of Pratt County*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944	Number of wells	Producing zone	Depth to producing zone, feet
			barrels				
Cairo	Joined to Cunningham in Kingman County						
Carmi 26-12W 26-13W	1942	3.000	2,491.050	3,028,950	1 88	Simpson Arbuckle	4,271
Chitwood 28-12W	1943	1.200	529,725	544,520	10 31 1	Viola Simpson Arbuckle	4,396
Coats 29-14W	1944	160	18,280	18,280	3	Simpson	4,402
Cunningham 27-11W 28-11W 28-12W	1931	1,500	724,156	4,935,739	126	K.C.-Lans. Viola	3,390 3,925
Frisbie 26-13W	1943	160	36,960	55,620	4	K.C.-Lans.	3,947
Iuka 27-12W 27-13W	1937	2,000	217,095	649,669	21	Simpson Arbuckle	4,292 4,354
Ludwick 29-13W	1944	40	4,215	4,215	1	Simpson	4,489
Shriver 29-14W	1944	40	3,612	3,612	2	Simpson	4,557
Stark 26-11W 26-12W	1941	500	228,430	309,430	13	Viola	4,121
			thousand cubic feet				
Cunningham 27-11W 28-11W 28-12W	1935	20,000	182,993	48,564,302	35	Viola	4,278

Exploratory wells.—There were 20 wildcat wells drilled more than 2 miles from production in Pratt County during 1944. Three of these discovered new pools and 17 were dry and abandoned. The dry wildcats are shown on the map (Fig. 18) and listed in Table 19.

Two test wells were drilled in T. 26 S., R. 13 W. One of these was drilled on the Strait lease in section 28 by the Transwestern Oil Company. Some detrital Osage chert and Kinderhook shale were found immediately beneath the Pennsylvanian strata, followed by the Viola limestone which was 95 feet thick and Simpson rocks which were about 100 feet thick. The Arbuckle dolomite was encountered at a depth of 4,420 feet. The Simpson in this well contains a thick section of dolomite. One test was drilled

TABLE 19.—*Dry wildcat wells drilled in Pratt County during 1944*

Company and farm	Location (Sec., T., R.)	Depth to top of Arbuckle, feet	Total depth, feet
Wood River-Harber-Swearer No. 1 Tremaine	SW cor. 14-26-13W	4,436	4,475
Transwestern Oil Co. No. 1 Strait	SE NE SW 28-26-13W	4,420	4,446
Bishop Oil Co. No. 1 Hensley	NE SE NE 23-26-14W	4,523	4,574
Phillips Petroleum Co. No. 1 Chaparral	SW cor. 18-27-11W	4,525	4,537
Paul Hatfield No. 1 Elliott	SW NE NW 31-27-13W	4,519	4,577
Paul Hatfield et al. No. 1 Lemon	NW cor. 33-27-13W	4,528	4,580
Mabee-McMahon No. 1 Ewbank	NW cor. 4-27-14W	4,602	4,652
Margay Oil Corp. No. 1 Stroble	SW cor. SE 10-27-14W	4,645½	4,665
Bridgeport Oil Co. No. 1 Wittman	SW cor. SE 34-27-14W	4,665	4,709
Ohio Oil Co. No. 1 Lemon	SE NE SE 25-27-15W	4,740	4,820
Anderson-Prichard Oil Corp. No. 1 Greta Schroeder	NE cor. SW 33-28-11W	4,569	4,610
Superior Oil Co. No. 1 Patterson	SE cor. SW 16-28-13W	4,584	4,654
Barnsdall Oil Co. No. 1 Barnes	NE cor. 18-28-13W	4,568	4,625
Phillips Petroleum Co. No. 1 Levick	SW cor. NW 29-28-13W	4,566	4,582
Cities Service Oil Co. No. 1 Brewster	SW cor. NE 22-28-14W	4,641	4,675
Paul Hatfield No. 1 Grapes	SE NW NW 10-28-15W	4,812	4,865
Shell Oil Co. No. 1 Wendel	SE NE NE 31-29-11W	4,812	4,852

in sec. 23, T. 26 S., R. 14 W. In this well the stratigraphic section is similar to that farther east, but the thickness of the Viola and Simpson is somewhat reduced.

In the next row of townships to the south seven wildcats were drilled during 1944. These wells show variable amounts of Mississippian rocks. Furthermore, the lithology of the strata is variable from place to place so that correct correlations are not easily made. The Ordovician rocks are more uniform in thickness, although the upper part may be truncated by erosion. The Viola cherty dolomites and limestone range from 60 to 100 feet in thickness in these test wells, and the Simpson rocks range from about 80 to 100 feet in thickness. The top of the Arbuckle ranges in depth from 4,500 feet in T. 27 S., R. 13 W. to 4,700 feet in the farthest west township. For example, in the Bridgeport No. 1 Wittman well, in sec. 34, T. 27 S., R. 14 W., the Kansas City-Lansing limestone was found at 3,927 feet, the Marmaton rocks at 4,245 feet, the Osage chert at 4,415 feet, the Viola limestone at 4,470 feet, the Simpson green shale and sandstone at 4,570 feet, and the Arbuckle dolomite at 4,665 feet.

In T. 28 S., R. 13 W., three test wells were drilled south of the city of Pratt. One of these, the Barnsdall No. 1 Barnes in section 18, found the Mississippian limestone at 4,275 feet, the Viola cherty lime at 4,363 feet, the Simpson rocks at 4,453 feet, and the Arbuckle dolomite at 4,568 feet. In the Phillips Levick well, in section 29, the Viola limestone is 69 feet thick and the Simpson rocks 79 feet thick. In the Cities Service Brewster well, in sec. 22, T. 28 S., R. 14 W., the Viola is 82 feet thick and the Simpson 80 feet thick. In the Hatfield No. 1 Grapes well, in sec. 10, T. 28 S., R. 15 W., the Osage cherts were encountered at 4,565 feet and lie upon a thin section of Kinderhook shale. The Viola detrital cherts, which rest upon the usual coarsely crystalline limestone, were found at 4,630 feet. The Simpson dolomitic sandstone, green shale, and pure sandstone is nearly 100 feet thick and rests upon the Arbuckle dolomite at a depth of 4,812 feet.

Reno County

Reno County now has ten oil pools, two of which also produce gas. One of these pools, the Lerado Southwest, was discovered during 1944. A total of 61 test wells were drilled during that year; of these 29 were oil wells, 5 were gas wells, and 27 were dry holes.

The discovery well in the **Lerado Southwest** pool was completed in January. It was drilled by the Phillips Petroleum Company on the Wyman lease in the NW¼ NE¼ SW¼ sec. 21, T. 26 S., R. 9 W. This pool is only a short distance southwest of the Lerado pool which was discovered in 1935. Production is from the Viola dolomite between depths of 4,177 and 4,182 feet, and the discovery well has a potential capacity of 93 barrels of oil per day. One other well was drilled by Phillips in the same section during the year.

In the Reno County part of the **Burrton** pool, one gas well was drilled by the Bridgeport Oil Company on the Bartel lease in sec. 36, T. 22 S., R. 4 W. During 1944, 15 oil wells, 2 gas wells, 4 combination oil and gas wells, and 1 dry hole were completed in the **Zenith-Peace Creek** pool. Most of the new wells have rather high potential capacities and several are maximum wells.

Two small gas wells were completed in the **Yoder** pool during 1944, making a total of four wells. One small producer was added to the **Abbyville** pool. In the **Hilger North** pool six oil wells and

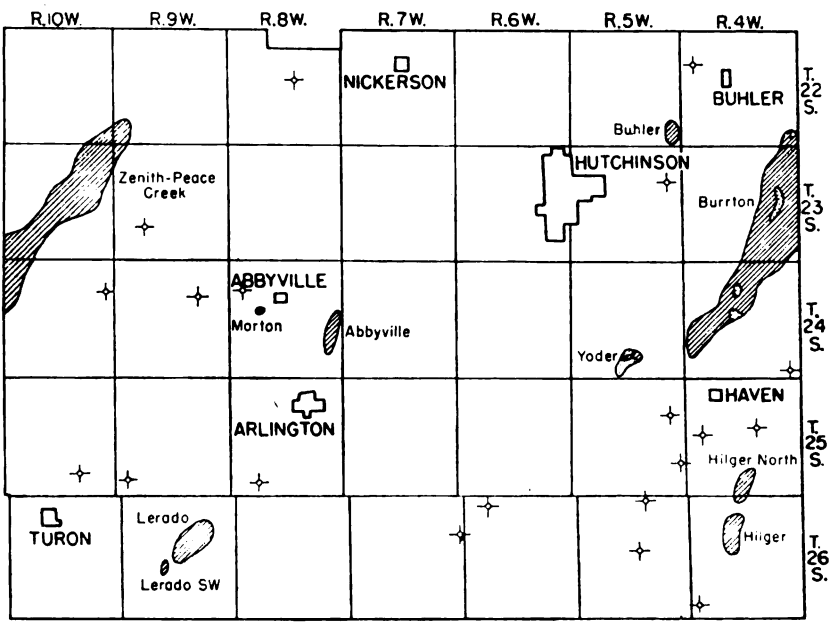

FIG. 19.—Reno County map showing oil and gas pools and dry wildcat wells drilled in 1944. (Gas, dots; oil, diagonal lines.)

two dry holes were drilled during the year. The producing zone in this pool resembles the coarsely crystalline Viola limestone of other areas but here it is dolomitized. It is very thin and carries water in the lower part. The thickness does not usually exceed 15 feet. The Simpson sandstone below the Viola has good porosity and should be a very good reservoir for oil. To date, however, the Simpson rocks have proved barren. There is an unconformity at the top of the Viola. The Kinderhook rests upon the Viola in some places and on the Maquoketa at other places.

The oil and gas pools of Reno County are shown on Figure 19, and information on these pools is given in Table 20.

TABLE 20.—*Oil and gas pools of Reno County*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944	Number of wells	Producing zone	Depth to producing zone, feet
			barrels				
Abbyville 24-8W	1927	1,200	21,110	507,275	10	K.C.-Lans.	3,540
Buhler 22-5W	1938	500	35,925	486,000	8	Viola Simpson	3,890 3,897
Burrton 22-4W 23-4W 24-4W	1931	5,000	2,517,700	38,431,000	376	"Chat" Hunton	3,266 3,583
Hilger 26-4W	1934	600	215,870	2,966,580	31	Viola	4,062
Hilger North 25-4W 26-4W	1943	500	121,100	134,100	12	Viola	4,099
Lerado 26-9W	1935	1,800	15,370	2,539,240	24	Viola	4,128
Lerado Southwest 26-9W	1944	40	6,790	6,790	2	Viola	4,177
Morton 24-8W	1944	40	4,390	14,820	1	K.C.-Lans.	3,180
Zenith-Peace Creek[1] 22-9W 22-10W 23-9W 23-10W 24-10W	1937	6,000	3,791,890	17,934,806	378 1	Viola Arbuckle	3,860
Yoder 24-5W	1935	500	2,045	82,870	5	"Chat"	3,450
			thousand cubic feet				
Burrton (gas) 22-4W 23-4W 24-4W	1930	5,000	2,465,035	58,913,000	53	"Chat"	3,298
Yoder (gas) 24-5W	1936	800	469,521		6	"Chat"	3,402

[1] Data are for the entire pool, part of which is in Stafford County.

Exploratory wells.—Seven extension wildcats were drilled in Reno County during 1944, one of which found the new Lerado Southwest pool. Twenty wildcat wells were drilled more than 2 miles from production during the year. These 20 wildcat wells are shown on the map (Fig. 19) and are listed in Table 21.

TABLE 21.—*Dry wildcat wells drilled in Reno County during 1944*

Company and farm	Location (Sec., T., R.)	Depth to top of Arbuckle, feet	Total depth, feet
Simpson and Noble-Wright No. 1 Letkeman	NE SE SE 7-22-4W	3,973	4,005
Continental Oil Co. No. 1 Hodge	NE cor. SW 15-22-8W	3,756	3,806
Phillips Petroleum Co. No. 1 Bernice	SW cor. 12-23-5W	3,986	4,018
Texas Co. No. 1 Hinshaw	NW cor. NE 29-23-9W	4,046	4,072
B. & R. Drilling Co. No. 1 Blubaugh	NW cor. SE 36-24-4W	4,072	4,095
Lion Oil Refg. Co. No. 1 Green	NE cor. 7-24-8W	4,172	4,227
Mid-Continent Petroleum Corp. No. 1 De Muth	SE SW 11-24-9W	4,292	4,272
Texas Co. No. 1 Miller	NW cor. SE 12-24-10W	4,152	4,170
Phillips Petroleum Co. No. 1 Tonn	SW SE NE 15-25-4W		4,010
Adair-Morton No. 1 Koch	SE cor. 18-25-4W	4,090	4,142
Helmerich and Payne No. 1 Sheele	NW SW 12-25-5W	4,049	4,100
Texon Oil and Land Co. No. 1 Raymond	SW SE NE 25-25-5W	4,115	4,146
Phillips Petroleum Co. No. 1 Trembley	SW cor. NE 32-25-8W	4,310	4,341
Viersen and Cochran No. 1 Miller	SE NW NE 31-25-JW	4,308	4,360
Falcon-Seaboard Drlg. Co. No. 1 Miller	SW cor. 26-25-10W	4,331	4,350
Skelly Oil Co. No. 1 Theis Est.	SE cor. NW 31-26-4W	4,134	4,150
British-American Oil Co. No. 1 Breitenbach "A"	NE cor. 3-26-5W	4,091	4,142
Phillips Petroleum Co. No. 1 Wenzel	NE SE SW 15-26-5W	4,124	4,138
Ohio Oil Co. No. 1 Faye Collingwood	SW cor. NW 5-26-6W	4,146	4,202
Ohio Oil Co. No. 1 M. Collingwood	SE cor. 12-26-7W	4,162	4,172

Rice County

A total of 89 test wells were completed in Rice County during 1944; 44 of these were oil wells and 45 were dry holes. Three of the oil wells found new pools, the Doran West, Orth West, and Smyres North. Among the wildcat wells 21 are classed as extension wildcats and six as ordinary wildcats. The three new pools were discovered by extension wildcat wells.

The first of the new pools in Rice County, the **Orth West,** was discovered by the Ohio Oil Company when a test well on the Bieberle farm in the Cen. W½ SW¼ NW¼ sec. 21, T. 18 S., R. 10 W. was completed in May. This well is producing from the Arbuckle dolomite between depths of 3,235 and 3,243 feet. The initial potential was 88 barrels of oil per day. The second new pool to be discovered was the **Doran West** pool. The discovery well is the Robertson No. 1 Helmke in the NW cor. SW¼ SE¼ sec. 14, T. 19 S., R. 10 W. Production is from the Arbuckle dolomite between depths of 3,264 and 3,269 feet. The potential daily capacity

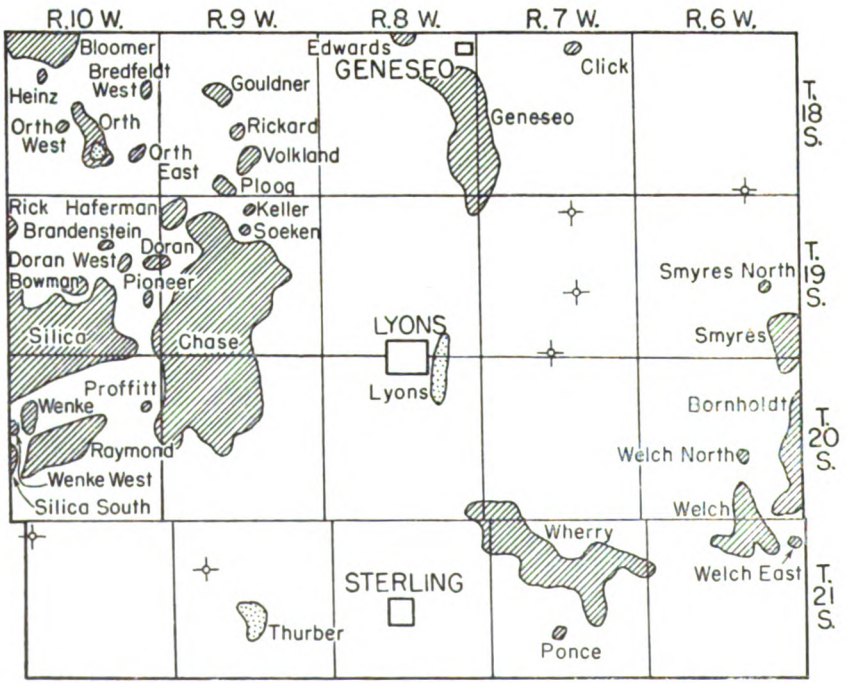

Fig. 20.—Rice County map showing oil and gas pools and dry wildcat wells drilled in 1944. (Gas, dots; oil, diagonal lines.)

of the well is 136 barrels of oil. The third pool is just north of the Smyres pool and has, therefore, been named the **Smyres North** pool. It was discovered by the Nelson Drilling Company when a well on the Allison farm in the NE cor. sec. 23, T. 19 S., R. 6 W. was completed in October. Oil is being produced from the chert at the top of the Mississippian rocks between depths of 3,342 and 3,384 feet; this zone is commonly called "chat" by drillers.

In the **Click** pool, discovered in 1943, two dry holes were completed in 1944. Two oil wells and one dry hole were drilled in the **Geneseo** pool. One of the new wells extends production some distance to the northwest. One dry hole was drilled in the **Gouldner** pool. In the **Volkland** pool one additional oil well was drilled, making a total of seven.

The only completion in the **Blcomer** pool in 1944 was one dry hole in the northwestern corner of the county. One oil well and two dry holes were drilled in the **Orth** pool, and two dry holes were completed in the **Keller** pool. In the **Chase** pool, which covers the largest area in the county, 28 oil wells were added. All these wells were either small producers or showed water with the oil. In addition, 14 dry holes were drilled within or on the fringes of the pool. One oil well was added to the **Brandenstein** pool, and one dry hole was drilled in the **Haferman** pool. A well drilled in the **Bowman** pool was also a dry hole. Two additional oil wells were completed in the **Raymond** pool, one dry hole was drilled in the **Wenke West** pool, and one producer was added to the **Welch** pool.

Information on the oil and gas pools of Rice County is given in Table 22, and these pools are shown on Figure 20.

Exploratory wells.—Six wildcat wells were drilled more than 2 miles from production in Rice County. These wells are shown on Figure 20 and are listed in Table 23.

Rooks County

Sixty-five test holes were drilled in Rooks County during 1944, of which 29 were oil wells and 36 were dry holes. Two wildcat wells drilled during the year were successful in opening new pools, the Hobart and Zurich Townsite.

The **Hobart** pool was discovered in January when a test well was completed by the Continental Oil Company on the Welch farm in the NE cor. sec. 33, T. 8 S., R. 18 W. Production is from the Kansas City-Lansing limestones between depths of 3,209 and

TABLE 22.—*Oil and gas pools of Rice County*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944	Number of wells	Producing zone	Depth to producing zone, feet
			barrels				
Bowman							
19-10W	1936	250	51,850	190,200	4	K.C.-Lans.	3,032
					1	Arbuckle	3,272
Brandenstein							
19-10W	1933	160	17,830	428,550	3	K.C.-Lans.	3,014
Bredfeldt West							
18-10W	1939	80	3,840	37,860	2	Arbuckle	3,260
Chase							
19-9W					23	K.C.-Lans.	2,942
20-9W	1931	8,000	3,664,550	37,318,130	388	Arbuckle	3,246
Click							
18-7W	1943	40	4,710	4,710	1	Misener	3,182
Doran							
19-9W							
19-10W	1936	300	61,114	289,900	8	Arbuckle	3,291
Doran West							
19-10W	1944	40	9,730	9,730	1	Arbuckle	3,264
Edwards							
18-8W	1936	2,600	994,200	6,035,950	87	Arbuckle	3,278
Geneseo							
18-7W							
18-8W							
19-7W							
19-8W	1934	5,600	2,249,600	14,844,500	197	Arbuckle	3,132
Gouldner							
18-9W		160			2	K.C.-Lans.	2,884
Haferman							
19-9W	1936	800	84,250	749,600	1	K.C.-Lans.	2,810
					9	Arbuckle	3,192
Heinz							
18-10W	1938	80	6,520	66,850	1	K.C.-Lans.	3,000
					1	Arbuckle	3,254
Karber	Combined with Rick pool during 1944						
Keller							
19-9W	1943	40	9,700	13,750	1	Sooy	3,240
Lyons							
19-8W							
20-8W	1939	40	abandoned Dec. 1942	11,550	1	Simpson	3,274
Orth					21	K.C.-Lans.	2,915
18-10W	1932	1,000	168,940	1,171,930		Pre-Cambrian	3,240
Orth East							
18-10W							
Orth West							
18-10W	1944	40	3,062	3,062	1	Arbuckle	3,235
Pioneer							
19-10W	1942	40	8,930	25,025	2	Arbuckle	3,281
Ploog							
18-9W	1930	500	31,680	1,396,870	8	Arbuckle	3,252
Ponce							
21-7W	1936	40	2,889	39,160	1	Sooy	3,388

TABLE 22.—*Oil and gas pools of Rice County, concluded*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944	Number of wells	Producing zone	Depth to producing zone, feet
Raymond							
20-10W	1929	1,200	668,245	8,413,350	64	K.C.-Lans.	3,130
						Arbuckle	3,330
Rick							
19-10W	See Barton County						
Rickard							
18-9W	1935	160	14,880	116,165	4	Arbuckle	3,324
Silica							
19-10W							
20-10W	See Barton County						
Silica South							
20-10W	See Barton County						
Smyres							
19-6W							
20-6W	1942	1,000	216,950	621,765	23	"Chat"	3,339
Smyres North							
19-6W	1944	40	none	none	1	Mississippian	3,342
Soeken							
19-9W	Combined with Chase in 1940; removed from that field in 1944 and again called Soeken						
Volkland							
18-9W	1943	300	98,900	105,675	7	Arbuckle	3,221
Welch							
20-6W							
21-6W	1924	1,500	176,190	4,518,040	23	"Chat"	3,370
Welch East							
21-6W	1941	80	7,560	17,510	2	"Chat"	3,341
Welch North							
20-6W	1937	160	5,090	62,205	3	"Chat"	3,334
Wenke							
20-10W	1935	500	107,920	708,820	10	Arbuckle	3,360
Wenke West							
20-10W	1938	80	18,275	99,660	2	Arbuckle	3,292
Wherry							
20-7W							
20-8W							
21-7W							
21-8W	1933	7,200	332,930	9,280,390	119	Sooy	3,358
			thousand cubic feet				
Lyons (gas)							
19-8W							
20-8W	1888	1,500	309,926	11,704,926	1	Simpson	3,290
					11	Arbuckle	3,277
Orth (gas)							
18-10W	1933	640	346,537		3	K.C.-Lans.	2,906
Thurber (gas)							
21-9W	1937	400	2,465,035	12,772,035	7	Misener	3,317

TABLE 23.—*Dry wildcat wells drilled in Rice County during 1944*

Company and farm	Location (Sec., T., R.)	Depth to top of Arbuckle, feet	Total depth, feet
Nelson Drilling Co. No. 1 Zajic	SW cor. 35-18-6W		3,500
J. H. Hershey No. 1 Majors	NW cor. SE 3-19-7W	3,587	3,616
Wolf Creek Oil Co. No. 1 Kratzer	SE cor. NE 22-19-7W	3,664	3,677
Stanolind Oil and Gas Co. No. 1 Davis	SE cor. 33-19-7W	3,669	3,682
John W. Davisson No. 1 Stout	SW SE SW 8-21-9W	3,390	3,425
Sweares-Brack-Ingling No. 1 Burns	NW cor. SW 6-21-10W	3,378	3,405

3,221 feet. During the year one additional oil well was completed in this pool, and three dry holes were drilled on the fringes of the producing area. The second well produced much water with the oil.

The discovery well in the **Zurich Townsite** pool was drilled by the Cities Service Oil Company in the SW cor. SE¼ sec. 27, T. 9 S., R. 19 W. on the Sikes farm. Oil is produced from the Arbuckle dolomite between depths of 3,647 and 3,650 feet; the initial potential was 1,326 barrels of oil per day. Two dry holes were drilled in the immediate vicinity of the pool by the end of the year.

In the oldest pool in the county, the **Laton** pool, three oil wells and two dry holes were completed during 1944. The new wells are either small producers or produce water with the oil. Two additional oil wells were completed in the **Dorr** pool. These wells also produce large amounts of water with the oil. In the **Westhusin** pool one small oil well and two dry holes were completed. The **Barry** pool was actively explored, and nine oil wells and four dry holes were completed there. Most of the new wells are large producers and several are rated at maximum capacity according to the State Corporation Commission. A new producing zone was added to this pool when the Continental Oil Company No. 3 Slansky well, in the NE cor. SE¼ NE¼ sec. 2, T. 9 S., R. 19 W., found oil in the Kansas City-Lansing limestone between depths of 3,374 and 3,418 feet. The initial potential of this well was 341 barrels of oil per day. Several wildcat wells were drilled between the Barry pool and the **Webster** pool to the northwest. These did not find new reserves, however. Three producing wells and two

dry holes were added to the **Palco** pool, which was discovered late in 1943. In the **Marcotte** pool three large oil wells, three smaller oil wells, and one dry hole were completed. Two producers and one dry hole were drilled in the **Zurich** pool.

Additional information on the oil pools of Rooks County is given in Table 24, and these pools are shown on Figure 21.

Exploratory wells.—Figure 21 shows the dry wildcat wells which were drilled more than 2 miles from production in Rooks County during 1944. Data on these wells are given in Table 25.

The most northerly well is the Vickers No. 1 Stull, in the NW cor. sec. 10, T. 6 S., R. 16 W., in which the Kansas City-Lansing rocks were reported at 3,176 feet, the Mississippian rocks at 3,717

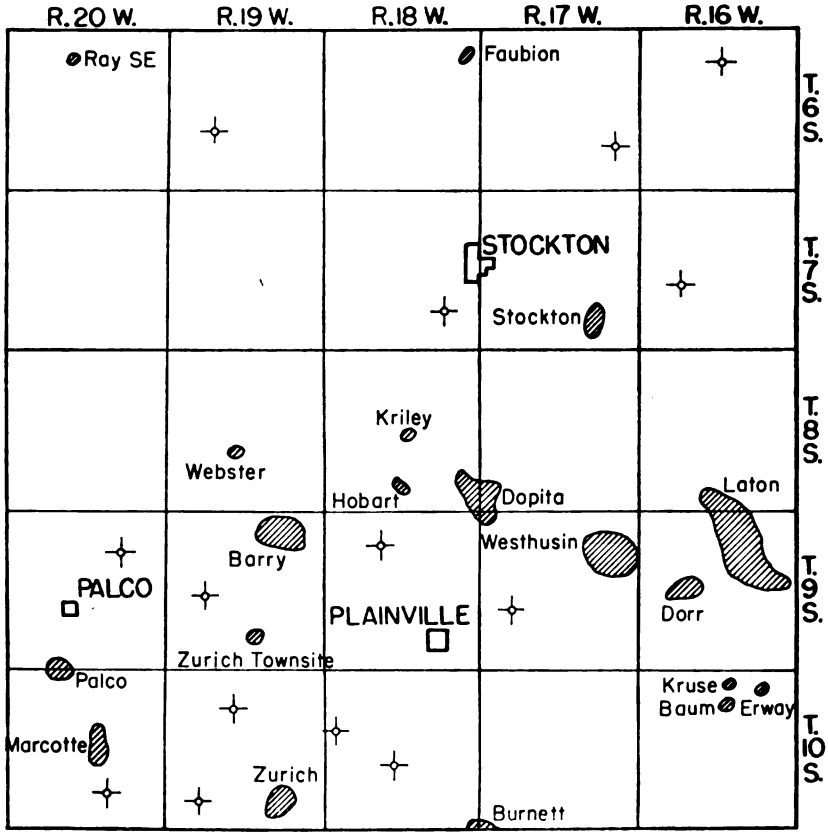

FIG. 21.—Rooks County map showing oil pools and dry wildcat wells drilled in 1944.

TABLE 24.—*Oil pools of Rooks County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Barry					3	K.C.-Lans.	
9-19W	1941	1,000	436,800	541,060	18	Arbuckle	3,435
Baum							
10-16W	1941	40	1,470	6,350	1	K.C.-Lans.	3,057
Burnett							
10-17W							
10-18W	See Ellis County						
Dopita							
8-17W							
8-18W					2	K.C.-Lans.	3,212
9-17W	1934	500	50,880	335,450	8	Arbuckle	3,409
Dorr							
9-16W	1941	200	33,050	57,310	5	K.C.-Lans.	3,230
Erway							
10-16W	1941	40	7,325	27,105	1	K.C.-Lans.	3,136
Faubion							
6-18W	1936	80	1,980	48,860	1	K.C.-Lans.	3,128
Hobart							
8-18W	1944	180	12,900	12,900	2	K.C.-Lans.	3,209
Kriley							
8-18W	1943	40	1,553	2,683	1	Arbuckle	3,331
Kruse							
10-16W	1928	40	none	10,332	1	K.C.-Lans.	3,115
Laton							
8-16W							
9-16W	1927	1,300	280,260	2,416,560	90	K.C.-Lans.	3,228
Marcotte							
10-20W	1943	300	50,185	50,185	7	Arbuckle	3,752
Palco							
9-20W							
10-20W	1943	120	19,075	19,075	4	Arbuckle	3,824
Ray Southeast							
6-20W	1941	40	9,170	27,930	1	Reagan	3,600
Stockton							
7-17W	1937	80	4,277	30,675	1	K.C.-Lans.	3,180
Webster							
8-19W	1930	40	none	56,369	1	Arbuckle	3,434
Westhusin							
9-17W	1936	700	108,420	776,110	16	K.C.-Lans.	3,231
Zurich							
10-19W	1934	300	15,474	156,520	5	K.C.-Lans.	3,340
Zurich Townsite							
9-19W	1944	40	6,105	6,105	1	Arbuckle	3,647

feet, the Viola limestone at 3,754 feet, the Simpson rocks at 3,979 feet, and the Arbuckle dolomite at 4,020 feet. In the northwestern part of the county, the Sunray Oil Company drilled a test well on land owned by the Federal Land Bank in the SE cor. sec. 20, T. 6 S., R. 19 W. In this test the top of the Kansas City-Lansing limestone was reported at 3,348 feet and the pre-Cambrian rocks at 3,605 feet. The test well in the SE¼ NW¼ SE¼ sec. 20, T. 7 S.,

R. 16 W. was drilled by the El Dorado Refining Company on the Bubb farm. In this test, the Kansas City-Lansing limestone was encountered at 2,931 feet and the Arbuckle dolomite at 3,292 feet. There were no shows of oil. In the test well in the NW cor. SE¼ sec. 26, T. 7 S., R. 18 W., which was drilled by the Sinclair Oil Company on the Hull farm, the Kansas City-Lansing rocks were encountered at 3,090 feet and the Arbuckle dolomite at 3,455 feet.

TABLE 25.—*Dry wildcat wells drilled in Rooks County during 1944*

Company and farm	Location (Sec., T., R.)	Depth to top of Arbuckle, feet	Total depth, feet
Vickers Petroleum Co. No. 1 Stull	NW cor. 10-6-16W	4,020	4,025
Sinclair Prairie Oil Co. No. 1 Lila Fry	SW cor. NW 25-6-17W	3,570	3,628
Sunray Oil Co. No. 1 Federal Land Bank	SE cor. 20-6-19W		3,622
El Dorado Refining Co. No. 1 Bubb	SE NW SE 20-7-16W	3,292	3,320
Sinclair Prairie Oil Co. No. 1 Hull	NW cor. SE 26-7-18W	3,455	3,560
Barnsdall Oil Co. No. 1 Ganoung	SE cor. SW 20-9-17W	3,648	3,698
Barnsdall Oil Co. No. 1 Schlim	SW cor. NW 9-9-18W	3,536	3,586
Globe Oil and Ref. Co. No. 1 Fed. Farm Mortgage	NW cor. NE 20-9-19W	3,596	3,650
Doley Oil Co. No. 1 Kern	NW cor. SW 11-9-20W	3,657	3,706
Phil-Han Oil Co. No. 1 Vohs	SE cor. NW 18-10-18W	3,725	3,760
Helmerich and Payne No. 1 Ordway	SE cor. 21-10-18W		3,784
Polhamus No. 1 Baldwin	Cen. N ½ NE SE 9-10-19W	3,727	3,771
Bridgeport Oil Co. No. 1 Atherton "A"	NE cor. NW 32-10-19W	3,809	3,841
N. Appleman Co. No. 1 Poague	Cen. E ½ SE SE 27-10-20W	3,778	3,820

RUSH COUNTY

Thirteen test wells were completed in Rush County during 1944. Two of these are oil wells, one is a gas well, and 10 are dry holes. The new oil wells are in sec. 26, T. 18 S., R. 16 W. in the **Albert** pool. The gas well is on the Crowell lease owned by the Flynn Oil Company in the Cen. S½ SE¼ NE¼ sec. 23, T. 18 S., R. 16 W. and is in the **Otis** field. The initial daily production of this well was 750,000 cubic feet. This makes a total of 69 gas wells in the Otis field and of these 50 are dry gas wells. Forty-eight wells

have an open flow of more than 750,000 cubic feet of gas per day. Nineteen of these wells produce both oil and gas. The original shut-in well-head pressure of the producing formation was about 1,040 pounds per square inch. The present shut-in pressures range from 270 to 416 pounds per square inch. Production is from the Reagan sandstone, which lies immediately below Pennsylvanian rocks above the top of the granite high. The Arbuckle limestone is present between the Reagan sandstone and Pennsylvanian rocks at the edge of the field.

Figure 22 shows the oil and gas pools in Rush County and the wildcat wells drilled during 1944. Information on the oil and gas pools is given in Table 26.

Exploratory wells.—The Coralena Oil Company drilled a test well in the NE cor. NW¼ sec. 3, T. 16 S., R. 16 W. on the Wallace farm. The Kansas City-Lansing rocks were encountered at 3,220 feet in this test, and it was abandoned at a total depth of 3,406 feet. The Cities Service Oil Company drilled a wildcat test on the

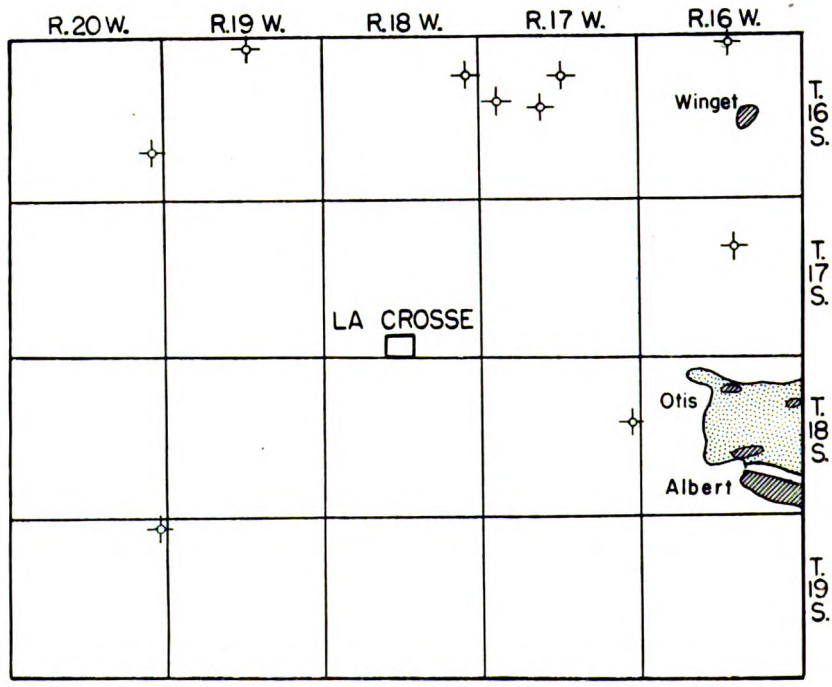

FIG. 22.—Rush County map showing oil and gas pools and dry holes drilled in 1944. (Gas, dots; oil, diagonal lines.)

TABLE 26.—*Oil and gas pools of Rush County*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944	Number of wells	Producing zone	Depth to producing zone, feet
			barrels				
Otis 18-16W	1934	1,200	182,960	2,515,735	25	Reagan	3,527
Winget 16-16W	1936	120	364	50,578	1	K.C.-Lans.	3,243
			thousand cubic feet				
Otis 18-16W	1930	15,000	12,112,495	99,642,495	69	Reagan	3,507

Urban lease in the SW cor. NW¼ sec. 10, T. 16 S., R. 17 W., which was abandoned at a total depth of 3,630 feet. In this test, the top of the Kansas City-Lansing limestone is reported at 3,310 feet, the Sooy conglomerate at 3,582 feet, and the Arbuckle dolomite at 3,597 feet. Royer-Farris drilled a dry hole on the Urban ranch in the NE cor. SW¼ section 16 of the same township. A similar sequence of beds was encountered in this test, except that the Reagan sandstone was found beneath the Arbuckle dolomite. The Arbuckle dolomite, which was encountered at 3,553 feet, was only 31 feet thick, and the well was abandoned at a total depth of 3,585 feet. Another dry hole was drilled in the same township on the Schlitter farm in the SW¼ SE¼ NE¼ section 18. This well was drilled by Adair-Morton and Hershey to a total depth of 3,553 feet. No Arbuckle dolomite was found in this well. It was drilled through the Reagan sandstone, which was encountered at 3,542 feet, into pre-Cambrian quartzite. The Reagan was only 8 feet thick according to reported data.

The Vickers Petroleum Company drilled a dry hole on the Herrman farm in the SW cor. NE¼ sec. 12, T. 16 S., R. 18 W. The Arbuckle dolomite was encountered at 3,522 feet in this test and the basal sand at 3,630 feet; it was abandoned at a total depth of 3,632 feet. Eight miles farther west, the Sunray Oil Company drilled a test well on the Jacobs farm, in the SW cor. NW¼ sec. 3, T. 16 S., R. 19 W., which found the Reagan sandstone beneath the Sooy conglomerate at 3,624 feet. The total depth of this well is 3,642 feet. The Wolf Creek Oil Company drilled a test well on the Carman farm in the SE¼ NW¼ NE¼ sec. 25, T. 16 S., R. 20 W. In this test, the top of the Kansas City-Lansing rocks were reported at 3,496 feet, the Sooy conglomerate at 3,820 feet, and the

Arbuckle dolomite at 3,862 feet. The test was abandoned as a dry hole at a total depth of 3,962 feet.

A wildcat was completed about midway between the Otis gas pool and the Winget oil pool. This test was drilled by the Coralena Oil Company in the Cen. south line SW¼ SE¼ sec. 10, T. 17 S., R. 16 W. on the Brack ranch. The top of the Kansas City-Lansing limestone was reported at 3,268 feet. The well was drilled to a depth of 3,439 feet and was plugged back to 3,365 feet to test a small show of oil. The well was finally abandoned as a dry hole. The Phillips Petroleum Company drilled a test well in the SE cor. NE¼ sec. 13, T. 18 S., R. 17 W. on the Timken farm to a total depth of 3,587 feet. In this test the Kansas City-Lansing limestone was encountered at 3,253 feet, the Sooy conglomerate at 3,554 feet, the basal sand at 3,576 feet, and the pre-Cambrian "wash" at 3,585 feet. In a test drilled by the Wolf Creek Oil Company on the Thalheim ranch in the Cen. S½ SE¼ NE¼ sec. 1, T. 19 S., R. 20 W., the top of the Kansas City-Lansing limestone was reported at 3,553 feet, the Simpson rocks at 4,088 feet, and the Arbuckle dolomite at 4,103 feet. There were no shows of oil or gas and the well was abandoned at 4,144 feet.

Russell County

During 1944 a total of 186 test wells were completed in Russell County, of which 105 are oil wells, 1 is a gas well, and 80 are dry holes. Two old wells were deepened. Two wildcat tests were successful in finding new oil pools, the Claussen and Beisel pools.

The **Claussen** pool was discovered by Gough Davis in February when the No. 1 "B" Claussen well was completed in the SW cor. sec. 27, T. 12 S., R. 14 W. The producing zone is in the Kansas-City-Lansing rocks between depths of 2,855 and 2,860 feet. The initial production of the discovery well was 10 barrels per day. The discovery well in the **Beisel** pool was drilled by the Bridgeport Oil Company on the Beisel "D" lease and was completed in March. This well is in the SW cor. NW¼ sec. 15, T. 14 S., R. 12 W., and production is from the Arbuckle dolomite between depths of 3,266 and 3,270 feet. The initial potential was 81 barrels of oil per day. About 24 percent water was produced with the oil in the discovery well when it was completed.

Three additional oil wells and two dry holes were completed in the **Fairport** pool in 1944. Five oil wells were completed in the

Russell pool, and two dry holes were drilled on the fringes of this pool. In the large **Gorham** pool three oil wells and five dry holes were drilled, and in the **Williamson** pool five dry holes and four oil wells were completed. During 1944, the **Big Creek South, Rusch** and **Vaughn** pools were joined to the **Big Creek** pool. Twenty oil wells and eight dry holes were completed in this enlarged area during the year. One additional oil well was drilled in the **Big Creek East** pool.

During 1944, 28 oil wells and 14 dry holes were completed in various parts of the large **Hall-Gurney** pool. In the southeastern corner of the county four oil wells and one dry hole were completed in the Russell County part of the **Davidson** pool. This pool

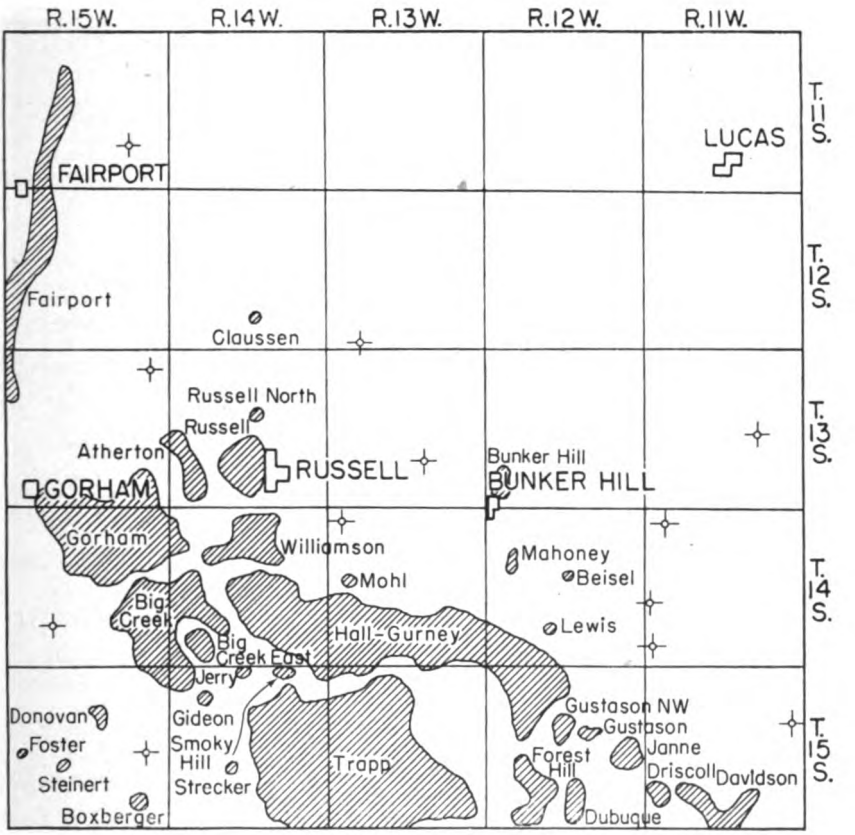

FIG. 23.—Russell County map showing oil pools and dry wildcat wells drilled in 1944.

TABLE 27.—*Oil pools of Russell County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Atherton 13-14W	1935	1,900	153,730	1,615,010	7 28	K.C.-Lans. Arbuckle	3,008 3,284
Beisel 14-12W	1944	40	2,742	2,742	1	Arbuckle	3,266
Big Creek 14-14W 14-15W 15-14W 15-15W	1935	6,100	1,941,695	6,678,454	172	K.C.-Lans. Gorham Arbuckle	2,908 3,152 3,171
Big Creek East 14-14W	1938	700	104,100	496,900	7 5	K.C.-Lans. Arbuckle	3,149
Boxberger 15-15W	1935	160	9,890	175,625	3	K.C.-Lans.	3,147
Bunker Hill 13-12W	1935	200	none	74,825	3	K.C.-Lans.	2,965
Chegwidden	Joined to Davidson						
Claussen 12-14W	1944	40	590	590	1	K.C.-Lans.	2,855
Davidson 15-11W	See Barton County						
Donovan 15-15W	1935	200	19,325	124,925	4	K.C.-Lans.	3,193
Driscoll 15-11W	1940	160	21,750	53,520	3	Arbuckle	3,255
Dubuque 15-12W	1935	300	69,940	333,725	2 2	K.C.-Lans. Arbuckle	3,275 3,330
Fairfield	Joined to Sellens and later to Trapp						
Fairport 11-15W 12-15W 13-15W	1923	3,600	809,140	17,074,320	146	K.C.-Lans. Gorham	2,950 3,211
Forest Hill 15-12W	1941	800	194,900	345,300	18	Arbuckle	3,320
Foster 15-15W							
Gideon 15-14W	1930	40	1,860	46,660	1	Sooy	3,266
Gorham 13-15W 14-14W 14-15W	1926	8,500	2,288,950	27,007,890	1 8 125 11 163	Tarkio Topeka K.C.-Lans. Arbuckle Reagan	2,525 2,765 3,027 3,289 3,299
Gustason 15-12W	1941	160	19,260	53,100	3 1	K.C.-Lans. Arbuckle	3,050 3,344
Gustason Northwest 15-12W	1943	160	52,740	67,750	3 4	K.C.-Lans. Arbuckle	3,021 3,322

TABLE 27.—*Oil pools of Russell County, concluded*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Hall-Gurney							
14-12W					1	Wabaunsee	
14-13W					4	Topeka	2,675
14-14W					433	K.C.-Lans.	2,985
15-12W	1931	25,000	5,365,230	22,669,959	24	Gorham	3,165
					80	Arbuckle	3,192
					18	Reagan	3,129
					2	Pre-Cambrian	3,156
Janne					1	K.C.-Lans.	
15-12W	1943	240	24,205	24,205	5	Arbuckle	3,319
Jerry							
15-14W	1942	120	15,290	25,880	3	K.C.-Lans.	2,985
Lewis							
14-12W	1940	40	850	11,130	1	Wabaunsee	2,317
Mahoney							
14-12W	1940	120	3,480	39,860	3	K.C.-Lans.	2,977
Mohl							
14-13W	1941	40	1,377	6,890	1	Reagan	3,253
Rusch	Joined to Big Creek						
Russell					8	K.C.-Lans.	3,195
13-14W	1934	1,200	358,310	5,977,620	45	Arbuckle	3,280
Russell North							
13-14W	1942	40	5,302	19,085	1	K.C.-Lans.	2,978
Sellens	Joined to Trapp						
Sellens Northwest	Joined to Sellens and later to Trapp						
Smoky Hill							
15-14W							
Steinert							
15-15W	1936	40	none	none	1	K.C.-Lans.	3,060
Strecker							
15-14W	1943	80	9,090	14,140	2	Arbuckle	3,342
Trapp							
15-13W					6	Shawnee	2,889
15-14W	1936	38,360	10,091,236	62,233,944	162	K.C.-Lans.	3,062
					829	Arbuckle	3,252
	(Includes production from Ainsworth South pool						
Vaughn	Joined to Big Creek						
Williamson							
14-14W	1936	1,200	580,064	669,364	2	Tarkio	2,522
					40	K.C.-Lans.	3,009
					2	Arbuckle	

is described under Barton County. Five oil wells and five dry holes were added to the **Janne** pool. A new producing zone was found in this pool by the Lauck and Moncrief No. 1 Janne well in the SW cor. NE¼ sec. 24, T. 15 S., R. 12 W. when oil was discovered in the Kansas City-Lansing rocks. The initial potential of this well was 642 barrels of oil per day. Three oil wells and one dry hole were completed in the **Gustason Northwest** pool, and two oil wells and five dry holes were drilled in the **Forest Hill** pool during the year.

During 1944 the small area between the **Trapp** and **Sellens** pools was proved to be productive territory, and the name Trapp pool is now being used to include the area of the former Sellens pool. The Trapp pool now has an area of 38,360 acres and a total production of more than 62 million barrels of oil, and it ranks as one of the great pools of the state. There are nearly 1,000 producing oil wells in this pool. Sixteen oil wells and six dry holes were drilled in the Russell County part of the pool during 1944. One additional producing well was drilled in the **Strecker** pool, which was discovered in 1943. Two oil wells and three dry holes were completed in the **Jerry** pool. Several dry holes were drilled in the southwesternmost township of the county.

The oil pools of Russell County are shown on Figure 23 and information on these pools is given in Table 27.

Exploratory wells.—Most of the wildcat wells drilled in Russell County during 1944 were rather close to producing territory. The dry wildcat wells drilled more than 2 miles from production are shown on Figure 23 and data on these wells are given in Table 28.

TABLE 28.—*Dry wildcat wells drilled in Russell County during 1944*

Company and farm	Location (Sec., T., R.)	Depth to top of Arbuckle, feet	Total depth, feet
H. K. Porter and Co. No. 1 Eulert	NW cor. NE 26-11-15W	3,420	3,422
Carter Oil Co. No. 1 Voorhis	SW SW 32-12-13W	3,152	3,185
M. M. Price et al. No. 1 Nelson	NE cor. NW 23-13-11W	3,335	3,351
M. B. Armer et al. No. 1 Olson	NE NE 27-13-13W	3,407	3,422
Stanolind Oil and Gas Co. No. 1 Seeley	SW SE SW 1-13-15W	3,228	3,403
Texas Co. No. 1 Beisel	NE cor. SE 6-14-11W	3,290	3,306
Kiowa Drlg. Co. et al. No. 1 Washburn	NW cor. SW 19-14-11W	3,182	3,235
Kingwood Oil Co. No. 1 Smith	SW NE NW 31-14-11W	3,158	3,183
C. C. Nelson Drlg. Co. No. 1 Dumler	NW cor. SE 6-14-13W	3,327	3,357
Coralena Oil Co. No. 1 Aley	SE SW NE 29-14-15W	3,282	3,294½
Aylward Producing Co. No. 1 Mares	NW cor. NE 13-15-11W	3,291	3,306
M. B. Armer et al. No. 1 Schwein	NE NW NW 24-15-15W	3,354	3,398

Saline County

A total of 23 test wells were drilled in Saline County during 1944. One new pool, the **Mentor** oil pool, was discovered during the year. The discovery well in this pool was drilled by the Mouser Oil Company in the NE¼ SE¼ SW¼ sec. 13, T. 15 S., R. 3 W. on the Carlin farm. The producing zone is the Viola limestone which is porous between depths of 3,258 and 3,264 feet. The initial production of this well was 75 barrels of oil per day.

The oldest pool in Saline County is the **Olsson** pool, which was discovered in 1929. One small producer, drilled by the Margay Oil Company on the Bengston lease in sec. 3, T. 16 S., R. 3 W., was added to that pool during 1944. One dry hole was completed by the same operators on the Lofgren lease in section 4. Two oil wells were completed in the **Hunter** pool. Two tests on the north side of that pool and one on the west side were dry holes. One oil well was added to the **Salina** pool and one dry hole was completed just south of that pool. Only one test well was drilled in the **Pliny** pool, the Stein No. 1 in sec. 10, T. 16 S., R. 1 W., and it was completed as a dry hole.

Information on the oil pools of Saline County is given in Table 29. These pools and all dry holes drilled in the county during 1944 are shown in Figure 24.

Exploratory wells.—Twelve dry holes other than the six mentioned above were drilled in Saline County during 1944. One well was drilled by the Barbara Oil Company on the Cusick farm, in the NE¼ SE¼ NE¼ sec. 33, T. 13 S., R. 1 W., to a total depth of 3,400 feet. In this test the Mississippian chert is reported at 2,540 feet, the Viola limestone at 3,180 feet, the Simpson dolomite at 3,296 feet, and the Arbuckle dolomite at 3,370 feet. Pryor and Lockhart drilled a test on the Duncan farm, in the SE cor. section 35 of the same township, which was abandoned at a total depth of 3,307 feet.

The Phillips Petroleum Company drilled a test well on the Ryan farm in the NE cor. SE¼ sec. 17, T. 14 S., R. 1 W. In this test the Mississippian strata were found at 2,580 feet, the Kinderhook shale at 2,814 feet, the Hunton limestone at 2,965 feet, the Viola limestone at 3,226 feet, the Simpson rocks at 3,331 feet, the Wilcox sand at 3,369 feet, and the Arbuckle dolomite at 3,412 feet. The well was abandoned at a total depth of 3,568 feet. A test was drilled in the Cen. south line NW¼ NE¼ section 35 of the same

township by the Harber Drilling Company on the Lattin farm. This well was completed at a total depth of 2,715 feet. Near the Salina pool, E. A. Adkins drilled a test well on the Craig farm in the SW cor. NW¼ sec. 33, T. 14 S., R. 2 W. This test was drilled through a complete sequence of beds from Mississippian to Arbuckle. It is reported that the well ended in the Arbuckle dolomite at a total depth of 3,448 feet.

In T. 15 S., R. 1 W. four wildcat tests were completed. One of these, the Phillips No. 1 Swan in the NE cor. NW¼ section 7, is reported to have encountered the top of the Mississippian strata at 2,678 feet, the Kinderhook shale at 2,917 feet, the Misener sandstone at 3,046 feet, the Hunton limestone at 3,050 feet, the Viola limestone at 3,286 feet, the Simpson rocks at 3,373 feet, and the Arbuckle dolomite at 3,451 feet. The total depth of this well is 3,479 feet. In the NE¼ NW¼ SE¼ section 12, Anderson-Prichard Oil Corporation drilled a test on the Currie farm to a total depth of 2,665 feet. The Mississippian strata were encountered at 2,636

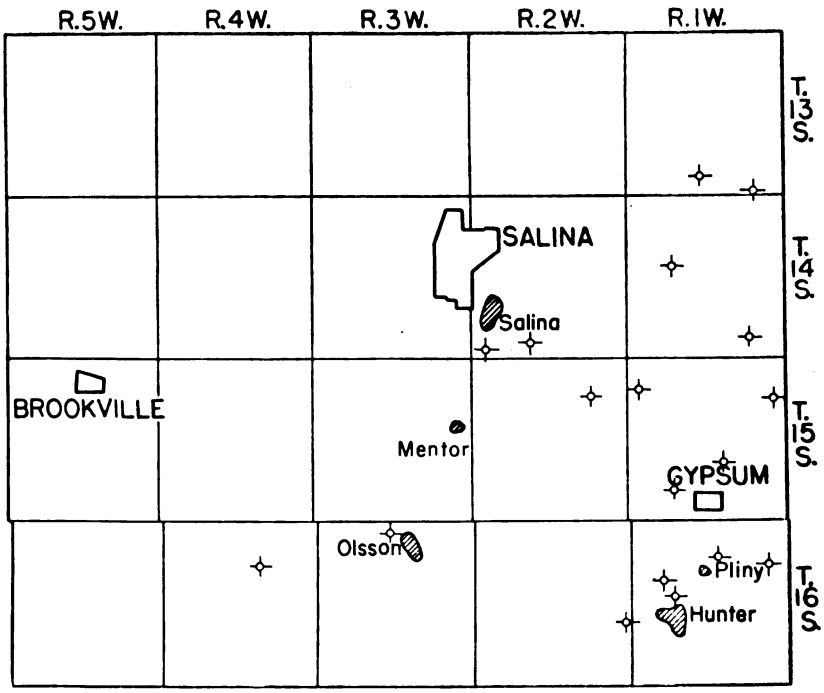

FIG. 24.—Saline County map showing oil pools and dry holes drilled in 1944.

TABLE 29.—*Oil pools of Saline County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Hunter 16-1W	1943	800	167,110	229,890	17	"Chat"	2,681
Mentor 15-3W	1944	40	none	none	1	Viola	3,258
Olsson 16-3W	1929	80	13,760	15,810	2	Maquoketa	3,303
Pliny 16-1W	1943	40	2,868	7,015	1	K.C.-Lans.	1,989
Salina 14-2W	1943	80	10,660	17,740	2	Viola	3,223

feet in this test. The same company drilled a well in the NW cor. NE¼ section 27 on the Damoude farm. In this test the Mississippian rocks were found at 2,572 feet, the Hunton limestone at 2,916 feet, and the Viola limestone at 3,168 feet; the well was abandoned at a total depth of 3,187 feet. The Huber No. 1 Nelson well, in the NE cor. SE¼ section 29, was drilled to a total depth of 2,708 feet. The Mississippian strata were found at 2,649 feet in this test.

A test well was drilled by Dale Morris in the Cen. S½ SW¼ NE¼ sec. 11, T. 15 S., R. 2 W. on the Ritter lease. The Mississippian limestone was found at 2,749 feet and the well was drilled to a total depth of 2,790 feet. Ingling et al. drilled a well in the NW cor. SW¼ sec. 12, T. 16 S., R. 1 W. on the Wilson farm to a total depth of 2,662 feet. The Mississippian strata were encountered at 2,636 feet in this test. About 7 miles west of the Olsson pool, a test well was drilled by Max Cohen on the Lundberg farm in the NW¼ SW¼ SE¼ sec. 10, T. 16 S., R. 4 W. In this test the Mississippian is reported at 2,993 feet, the Misener sandstone at 3,472 feet, the Viola limestone at 3,538 feet, and the Simpson rocks at 3,644 feet. The well was abandoned at a total depth of 3,686 feet.

SCOTT COUNTY

The only pool in Scott County (Fig. 25) at the present time is the **Shallow Water** pool which was discovered in 1934 and now includes about 700 acres. One oil well was added to this pool during 1944, making a total of 10 wells. Production in this pool is from the oölitic Mississippian limestone at a depth of about 4,670 feet. During 1944, 82,200 barrels of oil were produced from this pool, and the cumulative production to the end of that year was 1,328,830 barrels. One dry hole was drilled in the pool in 1944.

It is on the Dague lease in the Cen. S½ SW¼ NE¼ sec. 14, T. 20 S., R. 33 W. and had a total depth of 4,705 feet. A dry hole was also drilled about 2 miles north of the producing area by the Atlantic Refining Company on the McDaniel lease in the NE cor. SW¼ sec. 34, T. 19 S., R. 33 W. In this test the Mississippian strata were found at 4,651 feet and the well was completed at a total depth of 4,770 feet.

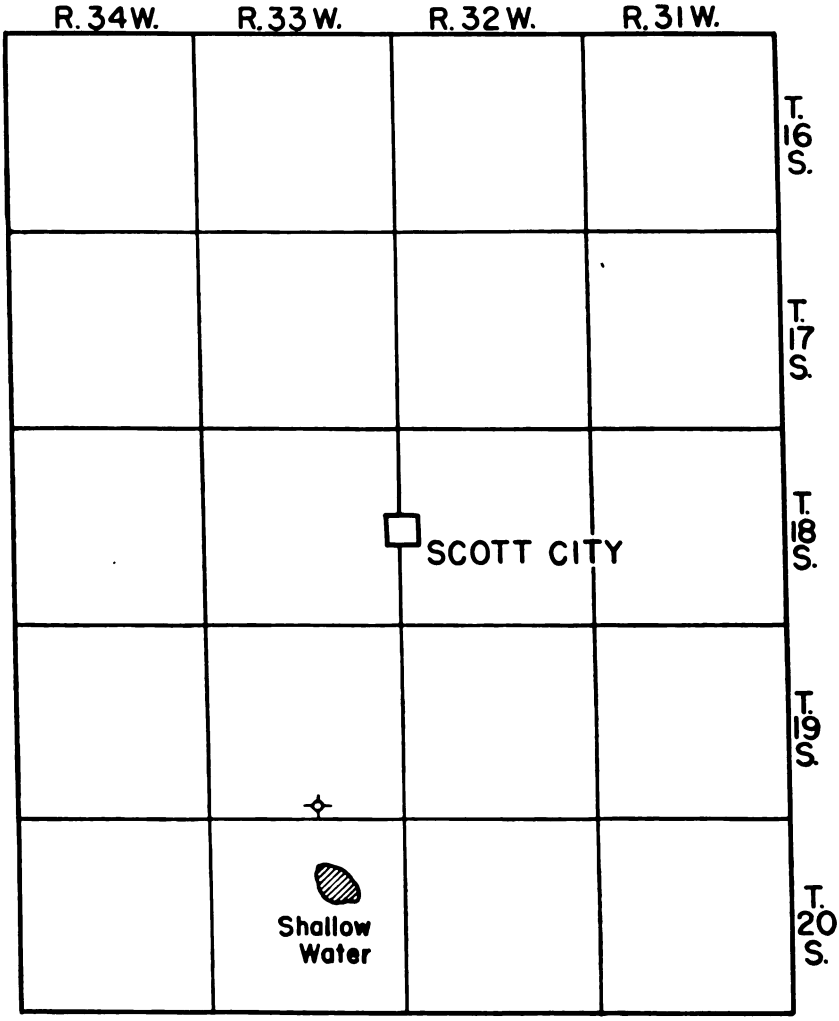

FIG. 25.—Scott County map showing oil pool and wildcat well drilled in 1944.

Sedgwick County

There was increased activity in Sedgwick County during 1944. At least 26 test wells were drilled; of these, 2 were oil wells in the new Clearwater pool, 2 were gas wells, and 22 were dry holes.

The discovery well in the **Clearwater** pool was drilled by Branine and Holl in the SE cor. NE¼ sec. 22, T. 29 S., R. 2 W. on the Sautter farm. Production was found in the Kansas City-Lansing limestones between depths of 2,913 and 2,930 feet. The initial well is rated as having a capacity of 207 barrels of oil per day. The same company drilled one additional oil well in the pool during 1944.

There are now eleven oil pools and one gas pool in Sedgwick County. In T. 28 S., R. 2 E., the Beech Aircraft Corporation drilled eight tests in an effort to find new gas supplies. Two of these, in the **Derby** gas pool, were successful in finding gas. All the other tests were dry holes. Also in the same township the Falcon Seaboard Drilling Company drilled a dry hole in section 3.

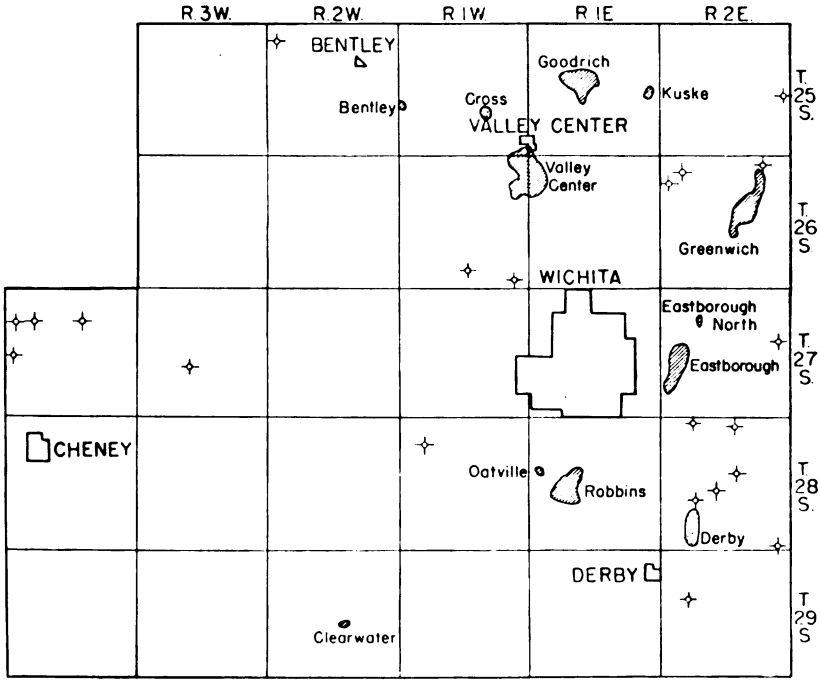

Fig. 26.—Sedgwick County map showing oil and gas pools and dry holes drilled in 1944. (Gas, dots; oil, diagonal lines).

The oil and gas pools of Sedgwick County and the dry holes drilled during 1944 are shown on Figure 26. Information on the oil and gas pools is given in Table 30.

TABLE 30.—*Oil and gas pools of Sedgwick County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Bentley 25-1W							
Clearwater 29-2W	1944	80	3,247	3,247	2	K.C.-Lans.	2,913
Cross 25-1W	1929	160	4,200	60,080	2	K.C.-Lans.	2,690
Derby (gas) 28-2E							
Eastborough 27-2E	1929	1,000	107,837	8,212,851	31	"Chat" Viola	2,956 3,238
Eastborough North 27-2E							
Goodrich 25-1E	1928	640	249,100	3,718,730	30	K.C.-Lans. "Chat" Misener	2,614 3 010 3,334
Greenwich 26-2E	1929	700	177,860	9,893,550	41	"Chat" Viola Simpson	2,885 3,321 3,350
Kuske 25-1E	1929	40	1,348	145,028	1	Sooy	3,013
Oatville 28-1E							
Robbins 28-1E	1929	420	67,300	3,181,760	49	Mississippian	3,090
Valley Center 25-1E 25-1W 26-1E 26-1W	1928	1,500	219,290	21,038,750	58	Misener Viola	3,366

Exploratory wells.—Northwest of Bentley, the Atlantic Oil Corporation drilled a test well in the Cen. W½ SW¼ SE¼ sec. 6, T. 25 S., R. 2 W. In this test, the top of the Kansas City-Lansing limestone was reported at 2,561 feet, the Mississippian strata at 3,398 feet, the Viola dolomite at 3,919 feet, and the Arbuckle dolomite at 4,047 feet. The test was abandoned at a total depth of 4,130 feet. Two tests were drilled in an attempt to extend the abandoned Curry pool west of Wichita. Both were unsuccessful. An important test was drilled by the Sohio Oil Company on the Linnebur farm in the NE¼ SE¼ SW¼ sec. 21, T. 27 S., R. 3 W. Here the Kansas City-Lansing limestone was encountered at 2,808 feet, the Mississippian rocks at 3,687 feet, the Kinderhook shale

at 4,013 feet, the Misener sandstone at 4,144 feet, the Viola limestone at 4,150 feet, the Simpson rocks at 4,164 feet, and the Arbuckle dolomite at 4,265 feet. The well was abandoned after penetrating 20 feet of Arbuckle.

An effort was made to find production around the abandoned Cheney pool in the far western part of the county. Four dry holes were drilled in T. 27 S., R. 4 W. One of these wells, the Murta-Archer et al. No. 1 Branine in the NE cor. NW¼ section 19, is reported to have encountered the Kansas City-Lansing limestone at 2,861 feet, the Mississippian strata at 3,684 feet, the Misener sandstone at 4,042 feet, the Viola limestone at 4,073 feet, and the Simpson rocks at 4,096 feet. It was abandoned at 4,107 feet.

Seward County

Two gas wells were completed in the Seward County part of the Hugoton gas field during 1944. These were both just west of the town of Liberal, and each had an initial daily potential of about 500,000 cubic feet of gas. There were 12 gas wells in Seward County at the end of 1944 (Fig. 8). Information about gas production in the Hugoton field is given under Finney County.

The first well in the Hugoton field was drilled in Seward County by the Defenders and Traders Gas Company on the Boles ranch, in sec. 3, T. 35 S., R. 34 W. Five years elapsed before the next gas well was drilled. Subsequent drilling has shown that the field includes parts of Stevens, Morton, Stanton, Grant, Haskell, Finney, and Kearny Counties.

Sheridan County

Nine oil wells and five dry holes were drilled in Sheridan County (Fig. 27) during 1944. One new pool was found in the county when the Continental Oil Company discovered oil on the Cramer farm in the NW cor. NE¼ sec. 11, T. 6 S., R. 27 W. The new pool has been named the **Adell** pool and now has seven producing wells. The discovery well produces oil from the Kansas City-Lansing limestones between depths of 3,755 and 3,765 feet. Two of the wells have potential capacities of more than 1,000 barrels of oil per day. In the discovery well the Kansas City-Lansing was found at 3,590 feet and the pre-Cambrian immediately beneath the Pennsylvanian.

The only other pool in Sheridan County is the **Studley** pool. Two small producing wells and two dry holes were drilled in that

pool during 1944. This pool has now produced more than 120,000 barrels of oil.

Information on the Adell and Studley pools is given in Table 31.

Exploratory wells.—Three dry wildcat tests were drilled in Sheridan County during 1944. These are shown in figure 27. The test in the NE¼ SW¼ SW¼ SE¼ sec. 35, T. 7 S., R. 26 W. was drilled by the Continental Oil Company on the Croffoot "A" lease to a total depth of 3,925 feet. The same company drilled a well on the Epler farm in the SW cor. NW¼ sec. 16, T. 9 S., R. 26 W. to a total depth of 4,608 feet. The Derby Oil Company drilled a test on the Flager farm in the NE cor. sec. 7, T. 8 S., R. 26 W. In this well the top of the Kansas City-Lansing limestones was reported at

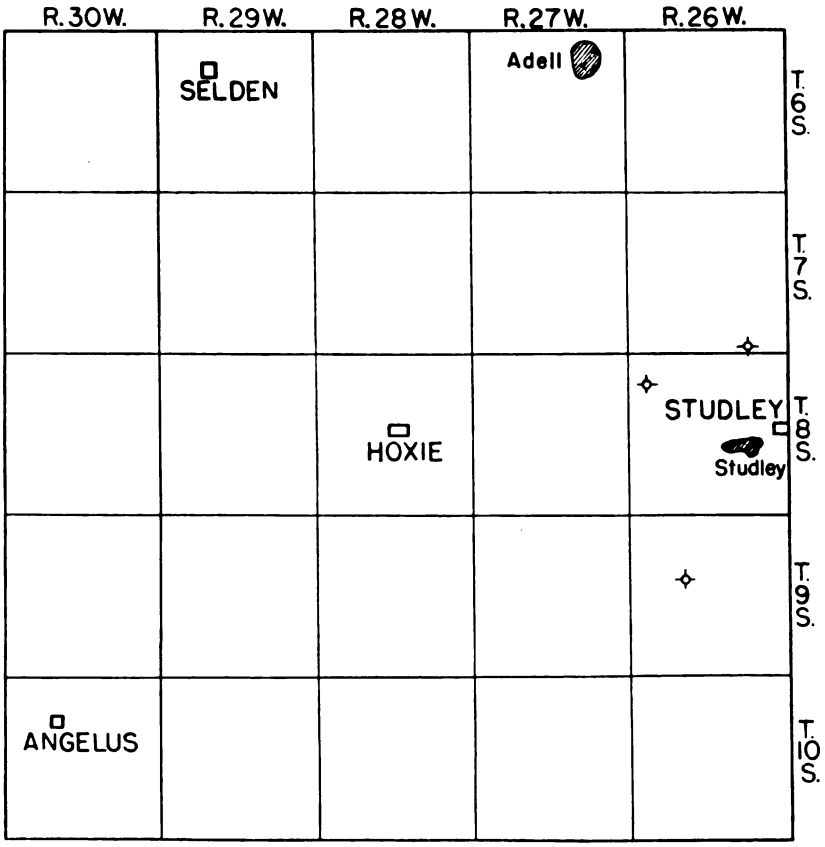

FIG. 27.—Sheridan County map showing oil pools and dry wildcat wells drilled in 1944.

3,774 feet. The Pennsylvanian strata are unusually thick in this well. At 4,390 feet, at 4,530 feet, and at 4,570 feet detrital Warsaw material is found in the Pennsylvanian and prominent sandstone zones occur at 4,375 feet, 4,455 feet, and 4,505 feet. There is much sooty black shale which resembles the Cherokee shale of other parts of Kansas. The Warsaw dolomite was found at a depth of 4,685 feet. The Osage cherts were encountered at 4,755 feet and the Arbuckle cherty dolomite at 4,802 feet immediately beneath the Osage cherts. This well was abandoned at a total depth of 4,880 feet.

TABLE 31.—*Oil pools of Sheridan County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Adell 6-27W	1944	250	9,950	9,950	7	K.C.-Lans.	3,755
Studley 8-26W	1943	300	90,235	120,325	6	K.C.-Lans.	3,810

STAFFORD COUNTY

Stafford County was one of the most active areas in the state during 1944. At least 153 test wells were drilled, of which 80 were oil wells, 3 were gas wells, and 70 were dry holes. Two extension wildcats and six ordinary wildcats found new pools—the Brock, Cadman, Drach Northwest, McCandless, Rattlesnake West, Richland, Sand Hills, and St. John Townsite pools.

Among the new pools the **Richland** was the first to be discovered. It was found in January by the Atlantic Refining Company when the first test well on the Neill farm came in for 221 barrels of oil per day. The discovery well is in the NW cor. NE¼ sec. 27, T. 24 S., R. 14 W. about midway between the Rattlesnake and Jordan pools. Production is from the Arbuckle limestone between depths of 4,232 and 4,240 feet. Three additional oil wells and two dry wells were completed in the pool during 1944. During February the **Cadman** pool was found. The discovery well is the Faulkner No. 1 Cadman in the SE cor. NW¼ sec. 4, T. 25 S., R. 13 W., which produces from the Viola cherty dolomite and has a rated capacity of 50 barrels of oil per day. The Atlantic Refining Company discovered the **McCandless** pool in the same township during April. The first well in this pool was drilled in the SW cor. SE¼ section 30 on the McCandless farm, and production is

from the Simpson sandstone. Three additional oil wells and two dry holes were drilled in the pool during the year.

The **St. John Townsite** pool was found in May when a well drilled by the Stanolind Oil Company in the SE cor. NE¼ sec. 33, T. 23 S., R. 13 W. on the Delker lease was completed. This well produces from the Arbuckle dolomite between depths of 3,919 and 3,924 feet. By the close of 1944 there were seven producers in this pool, most of them in sections 33 and 34. Three dry holes were drilled on the fringes of the pool. The **Rattlesnake West** pool was also found in May. The discovery well, in the NW cor. SW¼ SW¼ sec. 11, T. 24 S., R. 14 W., was drilled on the Koelsch farm by the Falcon Seaboard Drilling Company. Production is from the Kansas City-Lansing limestones between depths of 3,759 and 3,766 feet. This well has a capacity of 254 barrels of oil per day.

The Phillips Petroleum Company discovered the **Brock** pool in October when a well on the Vivian farm, in the NE cor. SE¼ sec. 12, T. 23 S., R. 12 W., was completed. This well produces from the Arbuckle dolomite between depths of 3,680 and 3,685 feet, and it has a rated capacity of 330 barrels of oil per day. The discovery well in the **Drach Northwest** pool is in the NE¼ NW¼ NE¼ sec. 11, T. 22 S., R. 13 W. on the Hullman farm. It was drilled by W. P. Faulkner and was completed in November. Production is from the Arbuckle dolomite between depths of 3,738 and 3,748 feet. The initial production of this well was 16 barrels of oil per day. The discovery well in the **Sand Hills** pool, drilled by the Harber Drilling Company in the SW cor. sec. 19, T. 21 S., R. 11 W. on the Smith farm, was also completed in November. Production is from the Arbuckle dolomite between depths of 3,548 and 3,552 feet.

One oil well and one dry hole were drilled in the **Snider South** pool in 1944 and two oil wells and one dry hole were added to the **James** pool. Eight oil wells were completed in the **Mueller** pool. This pool is still separated by a narrow zone from the **Sittner** pool to the southeast. One oil well was added to the latter pool in 1944. Three oil wells and one dry hole were completed in the **Fischer** pool.

The **Richardson** pool, discovered in 1930, is the oldest pool in Stafford County. Two oil wells and two dry holes were completed in that pool during 1944. One new oil well was added to the **Max** pool, and one oil well and one dry hole were drilled in the **Sittner South** pool. The **Drach** pool was extended by the addition of

seven oil wells. Two dry holes were also drilled in this pool during the year. Three oil wells and two dry holes were completed in the **Heyen** pool.

The Stafford County part of the **Zenith-Peace Creek** pool was enlarged by the addition of 22 oil wells in 1944. One gas well and three dry holes were also completed in this pool. The **Zenith West** pool was combined with the Zenith-Peace Creek pool during the year. One oil well and three dry holes were completed in the **Bedford** pool. The **Farmington** pool south of Macksville, which was discovered in 1943, saw rapid development during 1944. Nine wells were completed, of which seven produce oil, one produces gas, and one was a dry hole. Some production in this pool is from a sandstone in the lower part of the Mississippian which may be

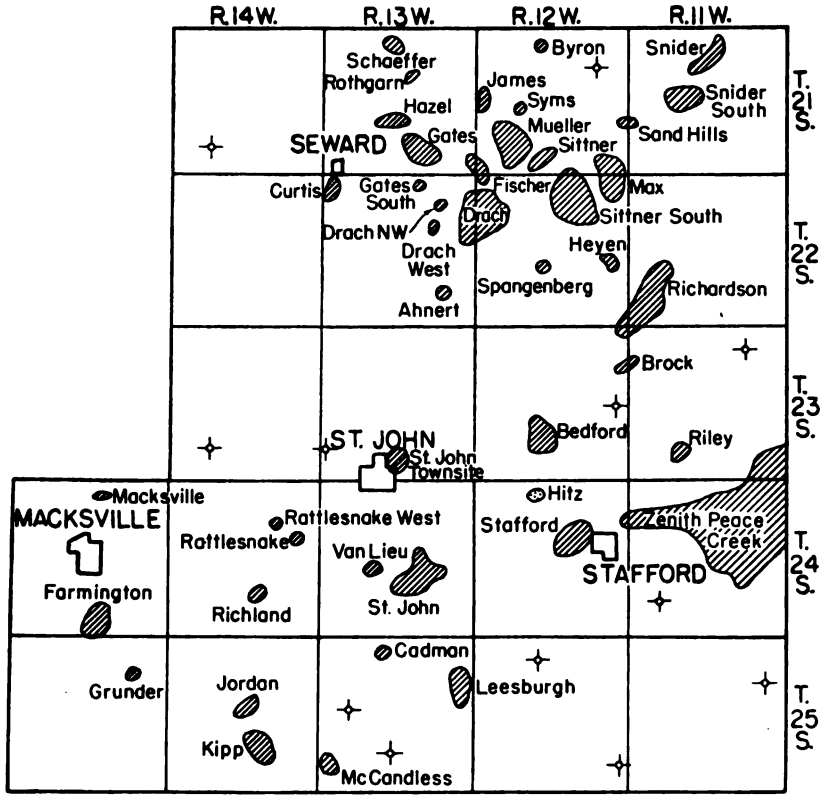

FIG. 28.—Stafford County map showing oil pools and dry wildcat wells drilled in 1944.

the equivalent of the Misener of eastern Kansas. The sandstone is fine-grained and even-grained and seemingly is an excellent reservoir rock. One oil well and the gas well produce from this sandstone. This same sandstone has been found in many wells farther west, especially in Edwards County and northern Kiowa County.

The oil pools and the dry wildcat wells drilled more than 2 miles from production in Stafford County in 1944 are shown on Figure 28. Information on the oil pools is given in Table 32.

Exploratory wells.—As shown on the map (Fig. 28), twelve dry wildcat wells were drilled more than 2 miles from production in Stafford County in 1944. These wells are listed in Table 33.

The Lion No. 1 Duke test, in the SW cor. SE¼ sec. 29, T. 21 S., R. 14 W., found the top of the Kansas City-Lansing limestone at 3,440 feet, the Viola limestone at 3,750 feet, the Simpson rocks at 3,798 feet, and the Arbuckle dolomite at 3,863 feet. The test had no important shows of oil and was abandoned as a dry hole at a depth of 3,920 feet. Darby and Bothwell drilled an interesting test well in the SW cor. SE¼ sec. 29, T. 23 S., R. 14 W. In this well, the Kansas City-Lansing limestone was encountered at 3,600 feet, the Viola limestone at 3,923 feet, and the Arbuckle dolomite at 4,077 feet. The Maguire Industries Corporation attempted to find production south of the Zenith pool on the Tretbar farm in the SE¼ SW¼ SW¼ sec. 12, T. 25 S., R. 11 W. In this test the Kansas City-Lansing limestone was encountered at 3,462 feet, the Viola dolomite at 3,989 feet, the Simpson rocks at 4,109 feet, and the Arbuckle dolomite at 4,183 feet. The test was abandoned at a total depth of 4,235 feet. In the J. M. Huber Ward well, in the NE¼ NW¼ NE¼ sec. 36, T. 25 S., R. 12 W., the Kansas City-Lansing limestone was encountered at 3,560 feet, the Mississippian chert at 3,931 feet, the Simpson rocks at 4,175 feet, and the Arbuckle dolomite at 4,254 feet. Southwest of the Leesburgh pool, the Lion Oil Refining Company drilled a dry hole on the Garner farm, in the NW¼ SW¼ SW¼ sec. 17, T. 25 S., R. 13 W., in which the Kansas City-Lansing limestone was encountered at 3,695 feet, the Mississippian limestone at 4,078 feet, the Viola limestone at 4,171 feet, the Wilcox sandstone at 4,242 feet, and the Arbuckle dolomite at 4,302 feet. The test was abandoned at 4,362 feet.

TABLE 32.—*Oil and gas pools of Stafford County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Ahnert 22-13W	1941	40	21,425	23,400	1	Arbuckle	3,784
Bedford 23-12W	1940	850	141,050	840,725	22	Arbuckle	3,859
Brock 23-11W 23-12W	1944	40	867	867	1	Arbuckle	3,680
Byron 21-12W	1943	40	4,690	6,665	1	Arbuckle	3,460
Cadman 25-13W	1944	40	2,042	2,042	1	Viola	4,064
Curtis 22-13W	1942	80	29,030	65,130	2	Arbuckle	3,693
Drach 22-12W 22-13W	1937	2,200	527,240	1,245,910	45	Arbuckle	3,690
Drach Northwest 22-13W	1944	40	none	none	1	Arbuckle	3,738
Drach West	See Drach						
Farmington 24-15W	1943	1,160	153,980	177,300	1 11	Misener Arbuckle	4,417
Fischer 21-12W 21-13W 22-12W	1938	120	38,550	212,800	6	Arbuckle	3,641
Gates 21-13W	1933	700	153,770	1,090,730	13	Arbuckle	3,679
Gates South 22-13W	1943	40	1,370	1,800	1	Arbuckle	3,704
Grunder 25-15W	1943	40	4,330	7,890	1	K.C.-Lans	3,945
Hazel 21-13W	1942	160	45,270	104,300	5	Arbuckle	3,692
Heyen 22-12W	1943	40	29,120	29,120	4	Arbuckle	3,652
James 21-12W	1943	80	16,490	16,490	3	Arbuckle	3,554
Jordan 25-14W	1936	260	59,250	487,700	7	K.C.-Lans.	3,722
Kipp 25-14W	1937	300	80,180	406,610	11	K.C.-Lans.	3,827
Leesburgh 25-13W	1938	600	303,200	1,317,150	16	Arbuckle	4,153
Macksville 24-15W	1941	80	none abandoned March, 1944	29,430	2	K.C.-Lans.	3,811
McCandless 25-13W	1944	200	28,030	28,030	4	Simpson	4,251
Max 21-12W 22-12W	1938	500	145,725	534,790	2 10	K.C.-Lans. Arbuckle	3,356 3,570

TABLE 32.—*Oil and gas pools of Stafford County, concluded*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Mueller 21-12W	1938	600			13	Arbuckle	3,594
Rattlesnake 24-14W	1938	160	10,086	61,665	1	K.C.-Lans.	3,608
Rattlesnake West 24-14W	1944	40	4,185	4,185	1	K.C.-Lans.	3,759
Richardson 22-11W 22-12W 23-12W 23-12W	1930	1,200	689,110	6,470,310	61	Arbuckle	3,537
Richland 24-14W	1944	160	14,500	14,500	4	Arbuckle	4,232
Riley 23-11W	1940	120	15,250	63,500	2	K.C.-Lans.	3,323
Rothgarn 21-13W	1943	120	26,350	39,025	3	Arbuckle	3,569
Sand Hills 21-11W	1944	40	none	none	1	Arbuckle	3,548
Shaeffer 21-13W	1941	300	34,830	210,540	5 1	K.C.-Lans. Arbuckle	3,404 3,546
St. John 24-13W	1935	1,200	199,500	1,745,620	1 22	K.C.-Lans. Arbuckle	3,588 4,075
St. John Townsite 25-13W	1944	300	36,000	36,000	7	Arbuckle	3,919
Sittner 21-12W	1937	800	104,310	565,475	2 7	K.C.-Lans. Arbuckle	3,278 3,600
Sittner South 22-12W	1938	660	197,950	976,510	20	Arbuckle	3,501
Snider 21-11W	1936	320	19,490	269,290	2	Simpson	3,362
Snider South 21-11W	1938	360	83,950	405,675	9	Simpson	3,402
Spangenberg 22-12W	1943	40	12,130	21,040	1	Arbuckle	3,691
Stafford[1] 24-12W	1940	600	357,130	1,463,425	20 1	Viola Arbuckle	3,836 3,945
Syms 21-12W	1943	40	11,520	11,520	1	Arbuckle	3,580
Van Lieu 24-13W	1943	120	51,475	92,550	3	Arbuckle	4,069
Zenith-Peace Creek 23-11W 24-11W 24-12W	1937	6,000	3,791,890	17,934,806	78 1	Viola Arbuckle	3,860
Zenith West	Joined to Zenith-Peace Creek						
Zenith-Peace Creek (gas) 23-11W 24-11W 24-12W	1937	12,000	947,314 th. cu. ft.			Viola	3,860

[1] Data are for the entire pool, part of which is in Reno County.

TABLE 33.—*Dry wildcat wells drilled in Stafford County during 1944*

Company and farm	Location (Sec., T., R.)	Depth to top of Arbuckle, feet	Total depth, feet
Isern Brothers No. 1 Lanterman	NW NE SE 11-21-12W		3,630
Lion Oil Refining Co. No. 1 Duke	SW cor. SE 29-21-14W	3,863	3,920
Vickers Petroleum Co. No. 1 Grubb	SW cor. SE 2-23-11W	3,725	3,777
Plains Exploration Co. No. 1 Brinkman	NW cor. NE 24-23-12W	3,756	3,784
Vickers Petroleum Co. No. 1 Radke	NE SW SW 30-23-13W	4,032	4,075
Darby and Bothwell No. 1 Gilmore Est. "A"	SW cor. SE 29-23-14W	4,077	4,095
Bridgeport Oil Co. No. 1 Cooper "A"	SW cor. SW 29-24-11W	4,078	4,104
Maguire Industries No. 1 Tretbar	SE SW SW 12-25-11W	4,183	4,235
Cities Service No. 1 Jenkins "B"	SW cor. SE 4-25-12W	4,140	4,153
J. M. Huber No. 1 Ward	NE NW NE 36-25-12W	4,254	4,304
Lion Oil Refining Co. No. 1 Garner	NW SW SW 17-25-13W	4,302	4,362
Stanolind Oil and Gas Co. No. 1 Gobin	NW NE SE 28-25-13W	4,346	4,382

STANTON COUNTY

Stanton County (Fig. 8) was added to the long list of producing counties during 1944 when the Stanolind Oil and Gas Company completed a gas well on the Collingwood-McAnerney ranch, in the Cen. sec. 32, T. 30 S., R. 39 W. The small initial production of this well, about 3 million cubic feet, indicates that this is near the western edge of the large gas area. In this test the top of the Day Creek dolomite was reported at 800 feet, the Stone Corral dolomite at 1,735 feet, the Herington dolomite at 2,340 feet, the Winfield dolomite at 2,446 feet, and the Wreford dolomite at 2,640 feet. Information on the Hugoton field, which now includes the eastern part of Stanton County, is given under Finney County.

The Stanolind Oil and Gas Company drilled a stratigraphic test in the SE cor. sec. 27, T. 28 S., R. 40 W. to a total depth of 2,600 feet. The top of the Fort Riley limestone was encountered at 2,465 feet in this test.

STEVENS COUNTY

By the close of 1944, a total of 217 gas wells had been drilled in Stevens County. Eighteen of these were drilled during 1944. These

wells are shown on Figure 8. Information about gas production in the Hugoton field, which includes all of Stevens County, is given under Finney County.

Sumner County

There was a revival of interest in Sumner County during 1944. This was due, in part, to the good production record of the Caldwell pool. During 1944 about 18 large blocks of acreage were leased in various parts of western Sumner County, mostly on the strength of seismograph or other geophysical investigations.

A total of 20 tests were drilled in Sumner County during 1944, of which 8 were oil wells, 1 was a gas well, and 11 were dry holes. One new pool, the Zyba Southwest, was discovered.

The **Zyba** pool, discovered in 1937, produces from the Simpson sandstone. Four wells, one of which had an initial rating of 300 barrels of oil per day, were drilled in this pool in 1944. Two dry holes were drilled on the fringes of the pool. The discovery well in the new **Zyba Southwest** pool was drilled by M. J. Sullivan in the Cen. NE¼ NE¼ sec. 22, T. 30 S., R. 1 W. on the Nixon farm. This well has an estimated daily potential capacity of 209 barrels of oil and produces from the Simpson sandstone. One oil well was added to the **Wellington** pool in 1944.

Gear and others drilled one producer on the Wenrich lease in sec. 23, T. 32 S., R. 2 E. in the **Oxford** pool. In the **Padgett** pool the Texas Company drilled one gas well and one small oil well, both of which produce from the Layton sand. The gas well is on the Buffington farm in sec. 10, T. 35 S., R. 2 E. and the oil well is on the Anderson farm in section 11 of the same township.

The oil and gas pools of Sumner County are shown on Figure 29, and information on these pools is given in Table 34.

Exploratory wells.—Five wildcat wells were drilled more than 2 miles from production in Sumner County during 1944. These wells are shown on Figure 29. In the well in the NW cor. sec. 10, T. 31 S., R. 1 W., drilled by Continental and Phillips on the Proud farm, the Arbuckle dolomite was encountered at 4,136 feet; the test was abandoned at 4,160 feet. A test was drilled by the Texas Company on the Cramer farm in the SW¼ SE¼ NE¼ sec. 8, T. 32 S., R. 2 W. to a total depth of 4,464 feet. In this test the top of the Mississippian cherty limestone was encountered at 3,865 feet, the Cowley formation at 3,900 feet, the Chattanooga shale at 4,240 feet, and immediately beneath it the Wilcox sandstone at 4,295 feet.

This sandstone is more than 100 feet thick, and the Arbuckle dolomite was found at a depth of 4,406 feet. The Darby-Bothwell No. 1 Freeman well, in the NE cor. NW¼ sec. 29, T. 32 S., R. 3 W., was drilled to a total depth of 4,365 feet. The Simpson rocks were encountered at 4,335 feet in this well. The Bay Petroleum Company drilled a test well on the Dennett lease, in the NE cor. SW¼ sec. 23, T. 33 S., R. 3 W., which encountered the Osage cherts at 4,095 feet, the Cowley formation at 4,180 feet, the Chattanooga black shale at 4,390 feet, and the Simpson sandstone at 4,514 feet. The Simpson was penetrated to a depth of 4,565 feet before the well was abandoned as a dry hole. The Southland Royalty Company Duck well, in the NE¼ NW¼ NW¼ sec. 28, T. 34 S., R 1 E., encountered the Mississippian limestone at a depth of 3,717 feet and was drilled to a total depth of 3,764 feet.

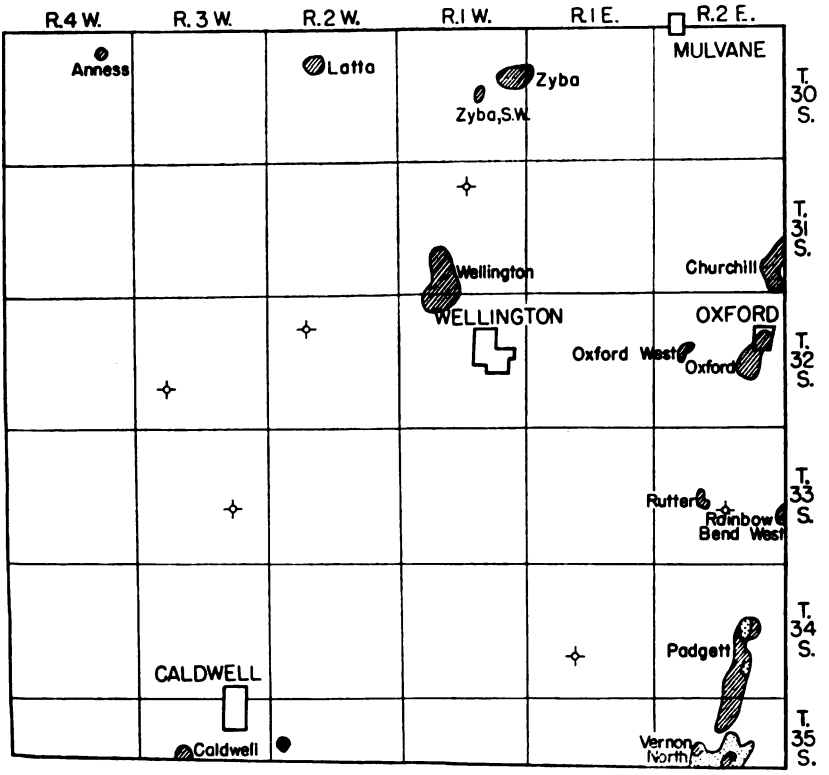

FIG. 29.—Sumner County map showing oil and gas pools and dry wildcat wells drilled in 1944 (Gas, dots; oil, diagonal lines.)

TABLE 34.—*Oil and gas pools of Sumner County*

Pool and location	Discovery year	Area, acres	1944 production	Cumulative production to end of 1944	Number of wells	Producing zone	Depth to producing zone, feet
			barrels				
Anness 30-4W	1937	40	11,375	78,510	1	Simpson	4,394
Caldwell 35-3W	1929	200	40,700	1,175,300	4	Simpson	4,765
Churchill 31-2E	1926	1,000	89,392	18,821,872	58	Stalnaker	1,820
Latta 30-2W	1927	400	45,850	885,680	12	K.C.-Lans.	3,042
Oxford 32-2E	1927	800	176,990	15,042,400	43	Stalnaker Layton Arbuckle	2,020 2,510 2,890
Oxford West 32-2E	1926	160	10,840	535,570	3	Arbuckle	
Padgett 34-2E 35-2E	1924	1,800	62,843	2,138,843	1 20	Layton "Mississippi lime"	3,474
Rainbow Bend West 33-2E	1926	160	11,206	432,000	3	Bartlesville Arbuckle	
Rutter 33-2E	1926	80	6,440	81,120	2	"Mississippi lime"	3,315
Vernon North 35-2E	1915	500	70,842	435,348	12	"Mississippi lime"	3,443
Wellington 31-1W 32-1W	1929	1,200	189,995	5,454,340	94	"Chat"	3,655
Zyba 30-1E 30-1W	1937	200	25,370	57,990	5	Simpson	3,866
Zyba Southwest 30-1W	1944	40	5,032	5,032	1	Simpson	3,917
			thousand cubic feet				
Wellington (gas) 31-1W 32-1W	1929	1,200	244,193		45	"Chat"	3,655

TREGO COUNTY

Eighteen test wells were drilled in Trego County (Fig. 30) during 1944; of these only four were oil wells and the rest were dry holes. One of the extension wildcats found a new oil pool, which is called the Ellis Northwest pool. Twelve of the dry holes were drilled more than 2 miles from production.

The discovery well in the new **Ellis Northwest** pool was drilled by the Barnett Drilling Company and the J. M. Huber Company in the Cen. W½ NE¼ NE¼ sec. 26, T. 12 S., R 21 W. on the Cotton farm. This well was completed in February and produces from

the Arbuckle dolomite between depths of 3,923 and 3,925 feet. It has a rated capacity of 242 barrels of oil per day. Two additional oil wells and one dry hole were completed in this pool during 1944.

There are two other pools in Trego County, the **Ellis** pool (described under Ellis County) and the **Wakeeney** pool. There was no additional drilling in the Wakeeney pool during the year. One dry hole and one small oil well were drilled in the Ellis pool. Information on these pools is given in Table 35.

Exploratory wells.—The wildcat tests drilled more than 2 miles from production in Trego County during 1944 are shown on Figure 30. In T. 11 S., R. 21 W., Tom Allan drilled a test well on the Monroe farm in the SW cor. of section 8. In this test, the Kansas City-

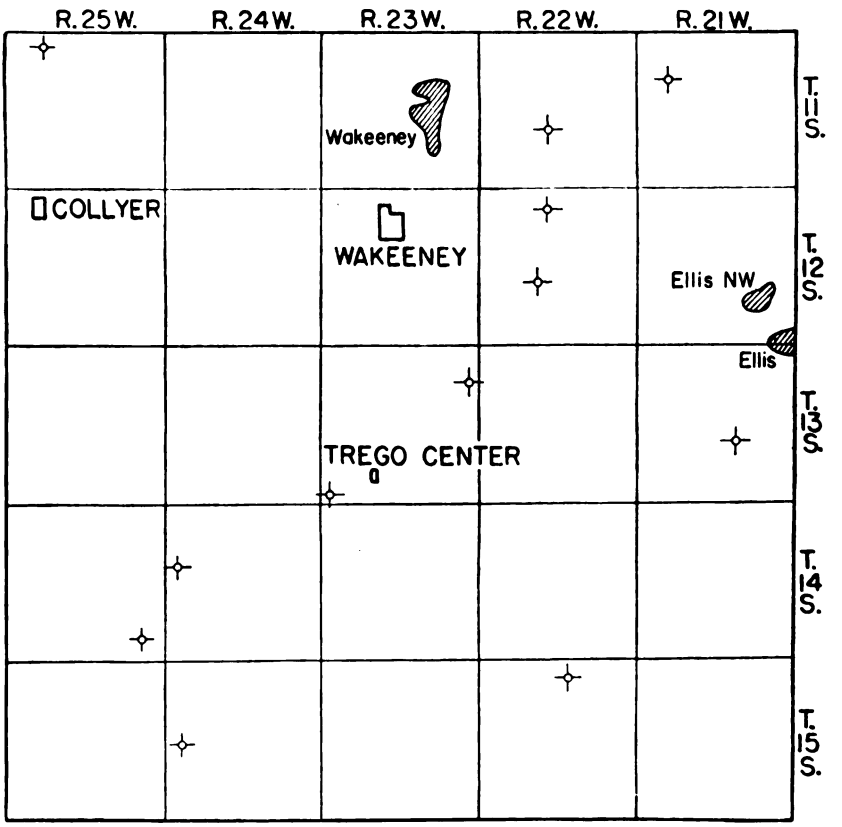

FIG. 30.—Trego County map showing oil pools and dry wildcat wells drilled in 1944.

Lansing limestone was encountered at 3,425 feet and the Arbuckle dolomite at 3,800 feet; it was drilled to a total depth of 3,858 feet. Five miles east of the Wakeeney pool, the Phillips Petroleum Company drilled a test well on the Eunice farm in the SW cor. SE¼ sec. 21, T. 11 S., R. 22 W. In this well the top of the Kansas City-Lansing rocks was reported at 3,602 feet, the Sooy conglomerate at 3,970 feet, and the Arbuckle dolomite at 4,045 feet. The well was abandoned at a total depth of 4,078 feet. In the northwestern corner of the county, a test well was drilled to a total depth of 4,621 feet by the Lion Oil Refining Company on the Walsh farm in the NE cor. SW¼ sec. 5, T. 11 S., R. 25 W. In this test the top of the Mississippian Osage cherts was encountered at 4,305 feet, the St. Joe limestone at 4,395 feet, and the oölitic limestone at 4,445 feet.

The Texas Company No. 1 Roberts well, in the SW cor. SE¼ sec. 4, T. 12 S., R. 22 W., was drilled to a total depth of 4,200 feet. In this test the top of the Kansas City-Lansing rocks was encountered at 3,650 feet and Arbuckle dolomite at 4,089 feet. The El Dorado Refining Company test on the Benson lease, in the NW cor. SW¼ sec. 21, T. 12 S., R. 22 W., encountered the Arbuckle dolomite at 4,110 feet and was abandoned at a total depth of 4,161 feet. The Continental Oil Company drilled a stratigraphic test on the Sauer farm in the SE cor. NW¼ sec. 22, T. 13 S., R. 21 W. to a total depth of 4,066 feet. Two tests were drilled by the Phillips Petroleum Company in T. 13 S., R. 23 W. near Trego Center. In one of these, in the SE cor. NE¼ section 12 on the Hacker farm, the Osage cherts of Mississippian age were encountered at 4,249 feet, the St. Joe limestone at 4,335 feet, the Viola dolomite at 4,355 feet, the Simpson shale at 4,378 feet, and the Arbuckle dolomite at 4,384 feet. The total depth of the well is 4,441 feet. The second test was on the Folkers farm in the SW cor. section 31 and was drilled to a total depth of 4,602 feet. In this test the top of the Warsaw dolomite was found at 4,305 feet, the Osage chert at 4,368 feet, the St. Joe limestone at 4,405 feet, the Kinderhook shale at 4,420 feet, the Viola limestone at 4,426 feet, and the Arbuckle dolomite at 4,545 feet.

The Sinclair Prairie Oil Company drilled a well on the Parks farm in the SE cor. NW¼ sec. 18, T. 14 S., R. 24 W. to a total depth of 4,515 feet. In this test the Mississippian limestone was encountered at 4,190 feet, the Viola limestone at 4,407 feet, and the Ar-

buckle dolomite at 4,500 feet. The same company drilled a test in the SE cor. sec. 26, T. 14 S., R. 25 W. on the O'Toole farm. The top of the Mississippian limestone was found at 4,110 feet, the Viola limestone at 4,325 feet, the Arbuckle dolomite at 4,415 feet, and the well was drilled to a total depth of 4,505 feet. In the southern part of the county the Westgate-Greenland Oil Company drilled a test well on the Schutte farm in the Cen. S½ SE¼ SW¼ sec. 3, T. 15 S., R. 22 W. In this test the Osage chert was encountered at 4,045 feet, the Kinderhook shale at 4,070 feet, the Viola cherty dolomite at 4,080 feet, and the Arbuckle dolomite at 4,175 feet. The well was abandoned at a depth of 4,275 feet. The Sohio Petroleum Company drilled a well in the NE cor. sec. 19, T. 15 S., R. 24 W. on the Hansen farm to a total depth of 4,619 feet. The Mississippian limestone was found at 4,500 feet in this well.

TABLE 35.—*Oil pools of Trego County*

Pool and location	Discovery year	Area, acres	1944 production, bbls.	Cumulative production to end of 1944, bbls.	Number of wells	Producing zone	Depth to producing zone, feet
Ellis 12-21W 13-21W	See Ellis County						
Ellis Northwest 12-21W	1944	160	18,380	18,380	3	Arbuckle	3,925
Wakeeney 11-23W	1934	640	14,126	561,750	6	K.C.-Lans.	3,619

EXPLORATORY WELLS IN NONPRODUCING COUNTIES

During 1944, 30 test wells were drilled in the nonproductive counties of western Kansas. One such test was drilled in **Comanche County,** the Phillips Petroleum Company No. 1 Comanche in the SE cor. SE¼ sec. 10, T. 33 S., R. 16 W. According to information released by the company, the Kansas City-Lansing limestone was encountered at 4,226 feet, Mississippian strata at 4,856 feet, Kinderhook shale at 5,163 feet, Viola limestone at 5,261 feet, Simpson rocks at 5,485 feet, and Arbuckle dolomite at 5,577 feet. The test was completed at a total depth of 5,604 feet, and no shows of oil or gas were reported.

Three dry holes were completed in **Decatur County** in 1944. All of these had important shows of oil. The Continental Oil Company drilled a test on the Miller farm, in the SE¼ SW¼ SW¼ sec. 32, T. 4 S., R. 26 W., to a total depth of 4,083 feet. The second test

was drilled by the Sterling Drilling Company on the Randall farm, in the Cen. W½ NE¼ SW¼ sec. 11, T. 5 S., R. 27 W., to a total depth of 4,144 feet. The third well was drilled by the Sinclair Prairie Oil Company on the Bremer farm in the NW cor. SE¼ sec. 28, T. 4 S., R. 28 W. A study of the samples from this well shows that the Topeka limestone was found at 3,755 feet, the Kansas City-Lansing limestone at 3,995 feet, the Sooy conglomerate at 4,340 feet, the Viola dolomite at 4,415 feet, the Simpson green shales at 4,530 feet, and the Arbuckle dolomite at 4,545 feet. The well was abandoned at 4,656 feet.

Three test holes were drilled in **Ford County** by the Texas Company in 1944. One of these is the No. 1 Thomas well, in the SE¼ NE¼ NW¼ sec. 33, T. 27 S., R. 23 W., which was drilled to a total depth of 6,152 feet. Samples from this well show that the Meramec limestones of Mississippian age were encountered at 5,120 feet, the Warsaw limestone at 5,240 feet, the Osage cherts at 5,460 feet, the St. Joe limestone at 5,550 feet, the Mississippian resting on the Viola cherty dolomites at 5,722 feet, the Simpson green shales at 5,840 feet, and the Arbuckle dolomite at 5,917 feet. The Andrews well, in the NW cor. SW¼ sec. 17, T. 29 S., R. 23 W. about 10 miles south of the Thomas well, encountered the Meramec oölitic limestones at 5,308 feet, the Warsaw dolomite at 5,670 feet, the Osage cherts at 5,890 feet, the St. Joe limestones at 6,030 feet, the cherty dolomites of the Viola at 6,190 feet, the Simpson green shale at 6,350 feet, and the Arbuckle dolomite at 6,390 feet. The total depth of the well is 6,485 feet. The Weatherbee well, in the SW cor. sec. 17, T. 29 S., R. 26 W., was drilled to a total depth of 6,493 feet. In this well the Meramec oölitic limestones were encountered at 5,108 feet, the Warsaw dolomite at 5,160 feet, the Osage cherts at 5,940 feet, the St. Joe limestones at 6,040 feet, the Viola dolomitic argillite at 6,190 feet, the normal cherty dolomites at 6,210 feet, the Simpson green shale and sandstone at 6,328 feet, and the Arbuckle dolomite at 6,355 feet.

In **Gove County** five rank wildcat wells were drilled during 1944. In the NE cor. SE¼ sec. 34, T. 11 S., R. 28 W. the Phillips Company drilled a test well on the Heier farm to a total depth of 4,681 feet. In this well the Mississippian Osage chert was encountered at 4,502 feet, the St. Joe limestone and oölite at 4,515 feet, and the Arbuckle dolomite at 4,545 feet. The Texas Company drilled a well on land of the Federal Farm and Mortgage

Corporation in the NW¼ NE¼ SE¼ sec. 17, T. 12 S., R. 30 W. Here the Warsaw dolomite was found at 4,494 feet, the Osage chert at 4,590 feet, and the St. Joe limestones and oölites at 4,660 feet. The Arbuckle dolomite was encountered directly below the Mississippian at 4,810 feet, and the total depth of the well is 4,902 feet. The Texon Oil and Land Company well on the Smith Estate, in the NE cor. sec. 13, T. 13 S., R. 28 W., reached a total depth of 4,645 feet. In this well Mississippian rocks were found at 4,297 feet and the Arbuckle dolomite at 4,536 feet. Two wells were drilled in T. 15 S., R. 31 W. The Transwestern Oil Company No. 1 Jones well, in the NW cor. section 9, encountered the Mississippian limestone at 4,330 feet and the Arbuckle limestone at 4,898 feet. The total depth of the well is 5,027 feet. The Phillips No. 1 Fick well, in the NE cor. SW¼ section 24, found the Meramec oölitic limestones at 4,380 feet, the Warsaw dolomite at 4,560 feet, the Osage chert at 4,740 feet, the St. Joe limestones and oölites at 4,805 feet, and the Arbuckle dolomite at 4,905 feet.

One wildcat test well was drilled in **Harper County** during 1944. This is the No. 1 Fetrow well in the Cen. SE¼ SW¼ sec. 6, T. 32 S., R. 9 W., which was drilled by the J. M. Huber Corporation. A study of the samples from this well shows that the Mississippian limestones were encountered at 4,345 feet, the Chattanooga shale at 4,563 feet, the Viola limestone and cherty dolomites at 4,641 feet, the Wilcox sandstone at 4,725 feet, and the Arbuckle dolomite at 4,859 feet. The test was abandoned at 4,910 feet.

Three wildcat test wells were drilled in **Hodgeman County** during 1944. The Texas Company drilled a well on the Goebel farm, in the NE cor. SE¼ sec. 16, T. 21 S., R. 24 W., to a total depth of 5,035 feet. The Warsaw dolomite was found at 4,515 feet, the Osage chert at 4,640 feet, the Viola dolomitic limestone at 4,700 feet, the Simpson green sandy shale at 4,952 feet, and the Arbuckle dolomite at 4,969 feet. A well was drilled by the Continental Oil Company on the Koontz farm, in the SW cor. sec. 30, T. 23 S., R 21 W., to a total depth of 5,093 feet. In this well the Warsaw dolomite was encountered at 4,617 feet, the Osage chert at 4,660 feet, the Kinderhook shales at 4,735 feet, the St. Joe limestones and oölites at 4,765 feet, the Viola dolomites at 4,818 feet, the thin Simpson sandstone at 5,024 feet, and the Arbuckle dolomite at 5,026 feet. A second well drilled by the Continental Oil Company is located on the Gleason farm in the SE¼ NE¼ SW¼ sec. 5,

T. 24 S., R. 21 W. It encountered the Mississippian strata at 4,650 feet, Osage chert at 4,652 feet, St. Joe limestone and oölite at 4,755 feet, Misener sandstone at 4,810 feet, Viola dolomites at 4,830 feet, and Simpson green shale at 4,930 feet. The top of the Arbuckle dolomite was found at 4,967 feet and the well was completed at a total depth of 5,079 feet. Shows of oil were found at 4,237 to 4,260 feet and at 4,633 to 4,690 feet.

In **Lane County** one wildcat test was drilled by the Shallow Water Refining Company on the Erickson lease in the NW cor. sec. 19, T. 19 S., R. 29 W. It is reported to have encountered the Kansas City-Lansing limestone at 3,971 feet and the Mississippian rocks at 4,553 feet. The total depth is 4,656 feet.

One test well, the Dickey Oil Company No. 1 Eckart well in the SW cor. sec. 24, T. 11 S., R. 7 W., was completed in **Lincoln County** during 1944. According to information supplied by the company, the Mississippian rocks were encountered at 3,392 feet, the Viola limestone at 3,838 feet, and the Arbuckle dolomite at 4,081 feet. The total depth is 4,144 feet. There were no shows of oil or gas.

One rank wildcat test was drilled in **Meade County** by the Northern Ordnance Corporation on the Isaac ranch in the NW cor. sec. 19, T. 33 S., R. 27 W. This test had been completed during 1943 but was deepened from 3,010 feet to 6,265 feet during 1944. The top of the Kansas City-Lansing rocks was reported at 4,555 feet. Samples show some extremely crinoidal limestones which may be of Mississippian age from 5,875 to 5,940 feet. At 5,940 feet typical micro-oölites of Mississippian Chesterian age were found. They extend downward with beds of lithographic character to 6,190 feet where typical oölites of Meramecian age were encountered. The test was completed in beds of this character, and there were no shows of oil or gas. Three shallow stratigraphic tests were drilled by the same company before the No. 1 Isaac well was deepened.

In **Osborne County** three test wells were completed during 1944. One of these was drilled by the Harbar Drilling Company on land owned by the Union Central Life Insurance Company in the SE cor. sec. 15, T. 6 S., R. 15 W. Samples from this well indicate that the Osage cherts were found beneath the Pennsylvanian strata at 3,740 feet, the Hunton limestone was encountered at 3,780 feet, the Sylvan shale at 3,840 feet, the Viola cherty dolomites and

limestones at 3,850 feet, the Simpson sandstone and green shale at 4,100 feet, and the Arbuckle dolomite at 4,140 feet. There were no shows and the hole was abandoned at 4,180 feet. The Stanolind Oil and Gas Company No. 1 Ahrens well, in the NE cor. SE¼ sec. 30, T. 9 S., R. 14 W., was drilled to a total depth of 4,058 feet. In this well the Sooy conglomerate was encountered at 3,684 feet, the Mississippian strata at 3,730 feet, the Viola dolomite at 3,810 feet, the Simpson rocks at 3,952 feet, and the Arbuckle dolomite at 4,005 feet. The Iron Drilling Company drilled a hole 3,011 feet deep in the Cen. N½ SE¼ SE¼ sec. 10, T. 10 S., R. 12 W. on the Hirst farm.

Two rank wildcat wells were drilled in **Ottawa County** by the Phillips Petroleum Company. One of these was on the Chartier farm, in the NE¼ SE¼ NE¼ sec. 28, T. 9 S., R. 1 W., and was drilled to a total depth of 3,596 feet. In this well the Warsaw dolomite was encountered at 2,645 feet, the Osage chert at 2,720 feet, the St. Joe limestone and oölite at 2,765 feet, and the Kinderhook green shale at 2,797 feet. The samples show that this shale rests on Hunton dolomite at 2,962 feet and that the Hunton is somewhat thick. The Sylvan shale was encountered at 3,220 feet, the Viola cherty dolomites and limestones at 3,326 feet, the Simpson sandstone and green shale at 3,485 feet, and the Arbuckle dolomite at 3,562 feet. The second well was drilled on the Kather farm in the SW cor. sec. 15, T. 11 S., R. 1 W. In this test the Spergen dolomite was encountered at 2,690 feet, Warsaw dolomitic and cherty beds at 2,710 feet, Osage chert at 2,770 feet, St. Joe limestone and oölite at 2,835 feet, basal Kinderhook shale at 2,900 feet, top of the thick Hunton dolomite at 3,090 feet, Sylvan green shale at 3,240 feet, Viola cherts and dolomites at 3,394 feet, Simpson (Wilcox) sandstone at 3,530 feet, and Arbuckle dolomite at 3,590 feet. The total depth is 3,630 feet.

A dry hole was drilled in **Rawlins County** by the Sinclair Prairie Oil Company in the SW cor. NE¼ sec. 32, T. 4 S., R. 35 W. on the Robbins farm. The test was abandoned at 5,219 feet.

One test well was drilled in **Smith County** on the Rehor lease by the Stanolind Oil Company. This well is located in the SE cor. NE¼ sec. 30, T. 5 S., R. 15 W. In this well the Mississippian cherts were encountered at a depth of 3,663 feet, the Viola limestone at 3,730 feet, the Simpson rocks at 3,905 feet, and the Arbuckle at 3,930 feet. The hole was abandoned at a total depth of 4,007 feet.

One test well was completed in **Wallace County** in 1944. This well was drilled by the Sinclair Prairie Oil Company on land of the Glad and Brock Trustees, in the SE¼ NW¼ NE¼ sec. 19, T. 13 S., R. 42 W. The samples show that in this well the Mississippian oölitic limestones were encountered at 5,130 feet, the Osage cherts at 5,280 feet, the St. Joe limestones and oölites at 5,370 feet, and beneath them the Arbuckle dolomite at 5,495 feet. The Bonneterre formation was found at 5,810 feet, the Reagan sandstone at 5,915 feet, and pre-Cambrian schist at 5,965 feet. There were no shows of oil or gas, and the test was abandoned at a total depth of 6,000 feet.

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