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BULLETIN 92

OIL AND GAS DEVELOPMENTS IN KANSAS DURING 1950

By

W. A. VER WIEBE, J. M. JEWETT, E. K. NIXON
R. K. SMITH, and A. L. HORNBAKER

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By

W. A. Ver Wiebe, J. M. Jewett, E. K. Nixon
R. K. Smith, and A. L. Hornbaker

ABSTRACT

Kansas oil production in 1950 totaled 107,339,000 barrels, which was 7.2 percent more than in 1949. In value the 1950 output of crude oil increased to $275,861,123 from $257,421,716 in the preceeding year.

Natural gas production in Kansas reached an all-time high of 394 billion cubic feet (14.65 psia.); the Hugoton field produced 286 billion cubic feet, or 73 percent, of the State's total.

During the year 118 oil pools and 4 gas pools were discovered, far exceeding discoveries for any previous year. Four old abandoned oil fields and two old abandoned gas fields were revived.

The discovery in 1950 of 10 new pools from Mississippian rocks in southwestern Kansas, one each in Ness, Hodgeman, Ford, Meade, and Harper Counties, two in Barber County, and three in Kingman County has raised considerable interest for possible production from older rocks in the Dodge City embayment. Evidence of continued interest in eastern Kansas counties is shown by the discovery of two Mississippian, two "Hunton," and four Viola pools.

In 1950, 4,572 wells of record, 16 percent more than in 1949, were drilled in 72 Kansas counties in connection with the petroleum industry. Of the recorded completions, 2,164 were oil wells, 389 were gas wells, 1,617 were dry holes, 52 were salt-water disposal wells, and 350 were input wells drilled in connection with secondary recovery activities. Of the dry holes 343 were wildcats. Considering numerous shallow wells drilled in eastern Kansas counties which did not get into the records, probably 6,600 wells were drilled in the State during the year.

As in 1949, Barton, with a production of 19,424,231 barrels, was the largest oil producer among the counties. Russell County again ranked second with a production of 13,561,393 barrels. Again the Trapp pool of Russell and Barton Counties was the top-ranking field of the State with a production of 7,802,835 barrels of oil in 1950. The Trapp pool, together with the Kraft-Prusa, Bemis-Shutts, Hall-Gurney, and Chase pools, accounted for 24,786,686 barrels of oil in 1950, or 23 percent of the total production of the State.

In 1950 Kansas produced 155 million gallons of natural gas liquids valued at $9,600,000, also a new record. There are 165.3 million barrels of natural gas liquids listed as proved reserves, more than 50 percent more than in 1949.

The proved reserves of Kansas crude oil at the end of the year were 732.2 million barrels, an increase of 6 percent. Proved natural gas reserves are about 14 trillion cubic feet. More than 1,800 miles of pipe line, mostly for natural gas, were laid during 1950, 33 percent more than in 1949.

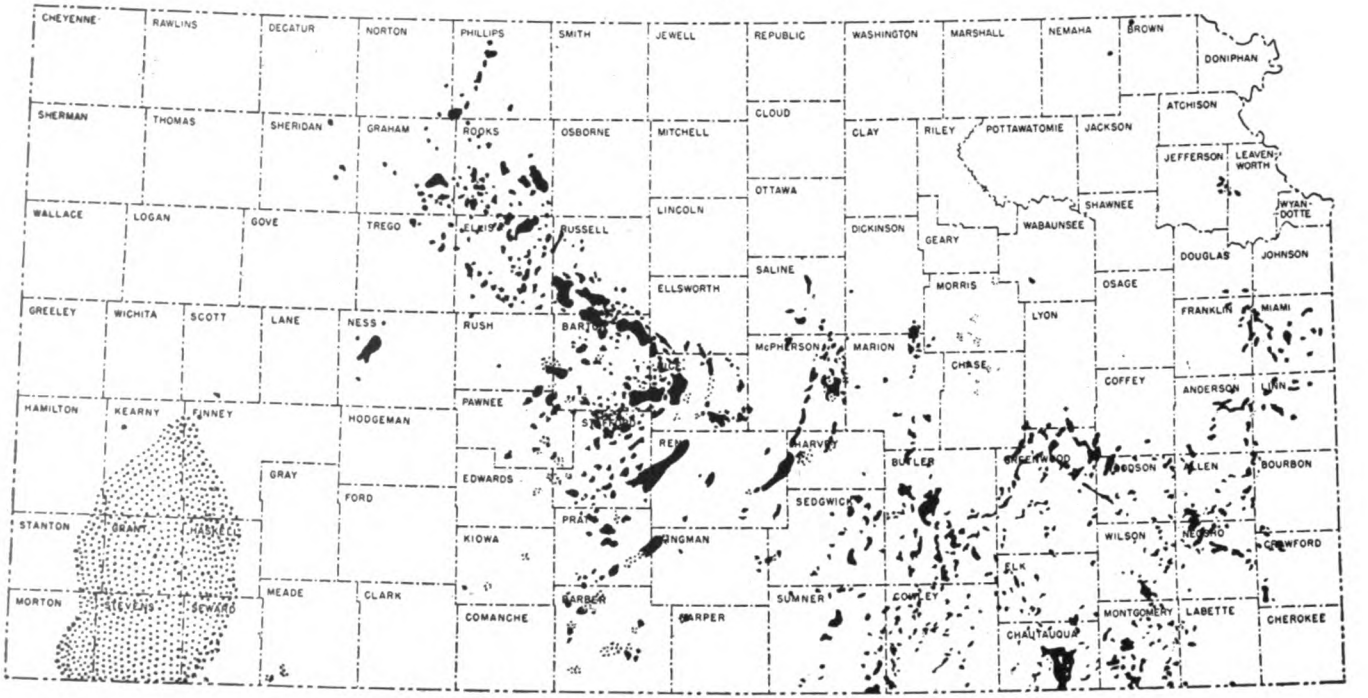

FIG. 1.—Index map of Kansas showing oil and gas producing areas.

Secondary recovery of oil is increasing rapidly in Kansas. At the end of 1950 there were 137 such operations which produced 6,771,500 barrels of oil from 5,549 wells. Greenwood led all other counties in the amount of oil produced by secondary recovery methods with 3,525,151 barrels, 66 percent of the total production for that county.

INTRODUCTION

New records were established in Kansas during 1950 for production of natural gas, natural gasoline, and LPG; for dollar value of petroleum industry output (crude oil, natural gas, and natural gas liquids); for miles of new pipe line constructed; for the number of new wells drilled; and for the number of new oil and gas pools discovered.

Interest in new producing areas shifted largely from Wabaunsee County in eastern Kansas, where it had centered the previous year, to the southwestern part of the State where deeper production was opened in the Dodge City embayment. In Seward County about 215 square miles of Permain gas-producing area was added to the southeastern corner of the Hugoton field; and in Meade County, 30 miles east of the Hugoton field, a new pool was brought in with the discovery well making 102 barrels of condensate and nearly 15 million cubic feet of gas daily from Mississippian rocks. Fifty miles to the northeast, in Ford County, heavy gas production also from Mississippian rocks was reported from the revived Pleasant Valley pool.

Some signifiance may be attached to 10 new pool discoveries in Mississippian rocks in two groups of counties in southwestern Kansas. Four of the discoveries, one each in Ness, Hodgeman, Ford, and Meade Counties, form a line almost across the Dodge City embayment; six of the new 1950 pools in the Mississippian are those found in Barber, Harper, and Kingman Counties, on the east flank of the embayment. There seems to be considerable belief among the oil companies that the older rocks in the Dodge City embayment hold interesting possibilities for new Kansas production.

The Davis Ranch pool in Wabaunsee County, now fully developed, continues to lend interest in new eastern Kansas exploration which yielded 15 new pool discoveries in 1950.

Barton, with 22, and Stafford, with 21, led all other counties in new pool discoveries; Graham, a Central Kansas uplift fringe county, had 10 new pools.

TABLE 2.—*Petroleum data table showing percentage changes for Kansas and for the U.S., 1949-1950*

	Kansas figures		Kansas percentage change	United States percentage change
	1949	1950		
1. Crude oil production (barrels)	$100,164,092[1]	$107,339,000[1]	+ 7.2	+ 6.9
2. Value of crude oil produced	257,421,716	275,861,123	+ 7.2	.....
3. Kansas crude production as percentage of U.S. total	5.4	5.5	+ 1.2	....
4. Average price of crude in 1950	$2.57	$2.57	0.0	0.0
5. Rank of Kansas among oil-producing states	5th	5th	0.0	....
6. Proved reserves of liquid hydrocarbons (at year end), barrels	844,795,000[2]	895,765,000[2]	+ 6.0	+ 4.1
7. Ratio of proved liquid hydrocarbon reserves to current annual production	8.4:1	8.0:1	— 4.7 (13.6:1)	— 1.4
8. Oil producing area of "western Kansas"[3] counties (acres)	490,220	520,220	+ 6.1	
9. Natural gas production, M cu. ft.	323,283,000[3]	393,968,000[4]	+21.9	+10.4
10. Value of natural gas produced	$ 25,862,640[5]	$ 31,517,440[5]	+21.9	....
11. Production of natural gasoline and LPG (natural gas liquids), gallons	113,806,854[1]	155,316,084[1]	+ 36.5	+14.5
12. Value of natural gasoline and LPG	$ 6,714,600	$. 9,581,534[6]	+42.6	....
13. Proved reserves of natural gas, millions of cubic feet	14,089,560[3]	13,790,834[3]	— 2.1	+ 2.9
14. Ratio of proved natural gas reserves to current annual production	49.2:1	35.2:1	—28.9 (26.9:1)	+ 7.4

15. Gas producing area of "western Kansas" (acres)	2,059,788	2,200,990	+ 6.8	
16. New oil and gas pools discovered[12]	96	122	+27.1	....
17. Recorded well completions in Kansas				
Oil	1,271	1,975[8]	+55.4	
Gas	421	389[8]	— 7.6	
Dry	925	1,617	+74.8	
Salt-water disposal	34	402[9]		
Unrecorded but estimated for eastern Kansas counties	3,049	2,253[10]		
Total recorded and estimated	5,700	6,636	+11.7	
Rank wildcats plus discovery wells (included in above total)	252	465[11]		

1 Figures supplied by Kansas Corporation Commission, Conservation Division.
2 Figures from American Petroleum Institute and American Gas Association (1950). Figures on production and reserves used in this table are taken from this report except where otherwise noted. This is to avoid mixed and unaccountable trends that would arise from using various estimates.
3 The petroleum area of "western Kansas" is taken to include all producing counties west of the Cowley-Butler-Marion-Dickinson County tier.
4 Taken from API-AGA (1950) which reflects total Kansas natural gas production in 1950, calculated at 14.65 psia. The Kansas Corporation figures formerly used are calculated on the field basis of 16.4 psia and do not include a substantial quantity of gas used in drilling, pumping, or otherwise, which does not get into the main pipelines.
5 Natural gas from the Hugoton field and some other parts of western Kansas (about 90 percent of the total) has a minimum value of 8 cents per M cu. ft. at the wellhead established by the Kansas Corporation Commission. This value has been applied to all Kansas production.
6 This aggregate figure is based on unit values of the several products that reflect wholesale prices at the plant.
7 These figures, showing a slight decline for the year, are taken from API-AGA, Vol. 5, p. 17, and do not agree with the Oil and Gas Journal estimate or with the ideas of Kansas agencies who feel that a slight increase should be shown.
8 Includes pool wells and new discoveries.
9 Includes salt-water disposal and recorded secondary recovery input wells.
10 Counties for which number of wells drilled in 1950 are all or in part estimated include Allen, Anderson, Chautauqua, Elk, Woodson, Wilson, Montgomery, Douglas, Franklin, Miami, Linn, Neosho, Crawford, Bourbon, and Labette.
11 This figure includes an unsegregated number of dry "outpost" wells somewhat less than 2 miles from production but classed by some as wildcats. The trend shown is therefore not strictly accurate.
12 Omitting revived pools.

Natural gas production in Kansas during 1950 is about 22 percent more than in 1949, and the output of natural gasoline and LPG in 1950 exceeded the 1949 output by 36 percent. Both importation of natural gas into Kansas and exportation to points outside showed substantial declines during 1950, while both consumption and production within the State were up sharply. More than 1,800 miles of pipe lines, almost 90 percent of which were for natural gas, were laid in Kansas during 1950, 33 percent more than the mileage constructed in 1949.

Figure 1 is an index map of the State showing in a very general way areas within which there is production of oil or gas or both. Only a small fraction of the oil and gas territory is actually in production or included within pools because there are broad areas of barren country between the pools. However, the map is useful in showing county relations and also to convey to the reader both the location of the oil country and also an idea of how large a percentage of the State may be considered "oil and gas territory."

It seems desirable to include a table of condensed petroleum data which at a glance will show (1) the trend of the Kansas industry in its various phases and (2) a comparison between individual trends in Kansas and corresponding trends in the United States as a whole. The question of whether or not Kansas is holding its own in the petroleum industry can be answered readily by comparing the two right-hand columns of Table 2.

Production and value.—Production of crude oil in Kansas during 1950, 107.3 million barrels, increased about 7 million barrels, or 7.2 percent (Table 2), or to within 1 percent of the record of 1948. The value of the 1950 crude production was 275.9 million dollars. The price of crude remained stationary during the year.

Natural gas production during 1950 increased to 394 million cubic feet, or 21.9 percent above the 1949 figure. The value of natural gas produced in Kansas during 1950 is estimated to be 31.5 million dollars. There was no change in the well-head price established by the Kansas Corporation Commission ruling for prorated production, and this value is applied also to the minor amount of unprorated Kansas production, much of which probably brings a higher price.

Kansas production of natural gas liquids, 155 million gallons, was a new record. Its value for 1950 was 9.6 million dollars — also a new record, although the price was considerably lower than in 1948.

TABLE 3.—*Largest oil producing counties in Kansas during 1950*

Rank	County	Producing acreage	Total production, barrels
1.	Barton	89,400	19,424,231
2.	Russell	77,630	13,561,393
3.	Ellis	42,200	11,077,013
4.	Rice	61,280	8,656,838
5.	Butler	86,000	6,862,459

The total value of Kansas raw products of the petroleum industry (crude oil, natural gas, and natural gas liquids) produced in 1950 was 317 million dollars, which was a new record, 10 percent more than the 1949 figure and substantially more than the former high of 303 million dollars in 1948.

Barton County maintained its lead as the largest oil producer in the State. Table 3 shows that the five largest producing counties did not change rank. Table 4 shows that the Chase pool is now in third place among Kansas producers, replacing the Silica pool (fifth in 1949). A summary of oil produced, imported, used, and exported is given in Table 5. Annual oil production in Kansas from 1890 to 1950 is shown graphically in Figure 2.

Reserves.—Kansas proved reserves of liquid hydrocarbons, 895.7 million barrels (crude oil plus natural gas liquids), increased 6 percent during 1950 to exceed slightly the national trend. Kansas proved reserves of crude oil were estimated to be 732.2 million barrels (API-AGA, 1950, p. 9) at the end of 1950.

Proved natural gas reserves in Kansas declined slightly in 1950 according to estimates of the Reserves Committee of the American Gas Association, but increased somewhat according to Oil and Gas Journal (Ingalls, 1951, p. 199) estimates. In any case, the proved reserve is about 14 trillion cubic feet.

Kansas proved reserves of natural gas liquids, 165.3 million barrels, increased more than 50 percent during 1950 according to estimates by the Reserves Committee of the American Petroleum

TABLE 4.—*Largest oil producing fields in Kansas during 1950*

Rank	Pool	Age, years	County	Total production, barrels
1.	Trapp	15	Russell-Barton	7,802,835
2.	Kraft-Prusa	14	Barton-Ellsworth	6,477,596
3.	Bemis-Shutts	16	Ellis	4,269,302
4.	Hall-Gurney	20	Russell	3,128,230
5.	Chase	20	Rice	3,108,723

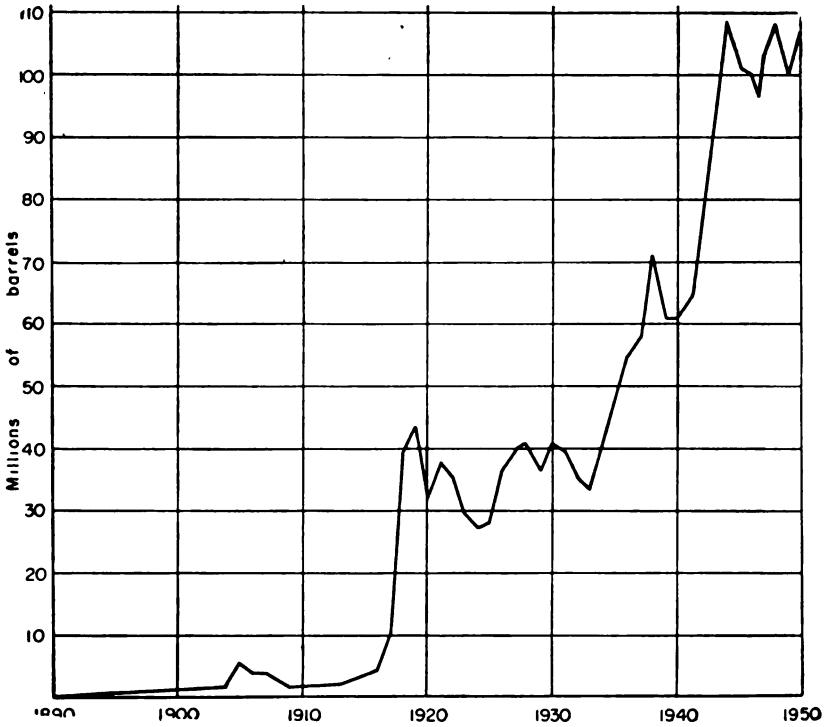

FIG. 2.—Annual oil production in Kansas from 1890 to 1950.

Institute and the American Gas Association. Presumably this increase is based largely on the recent construction in Kansas of increased plant facilities for recovering the light hydrocarbons.

It should be pointed out that the Kansas reserve of natural gas liquids is more than 50 percent of the estimated recoverable motor gasoline contained in Kansas proved reserves of crude oil. In other words, the total Kansas liquid fuel potential is increased one-half by a group of comparatively new fuels just coming into wide use.

In regard to figures on the production of natural gas in Kansas as used in this bulletin, it should be noted that in the data table (Table 2) and in the abstract, the figures have been calculated to a pressure base of 14.65 pounds per square inch absolute to correspond with analogous figures publishd by the American Petroleum Institute, the American Gas Association, the U.S. Bureau of Mines, and the leading oil and gas periodicals. This is a rather common

TABLE 5.—*Summary of oil produced, imported, used, and exported in 1950*
(From the Conservation Division, Kansas Corporation Commission)

	Barrels of oil
Produced	107,339,000
Imported	13,760,000
Total	121,099,000
Exported	49,754,000
Refined and used in Kansas	71,345,000
	121,099,000

pressure base on which gas is sold to the consumer. However, the Kansas Corporation Commission, dealing largely with the production of gas at the wellhead, uses a pressure base of 16.4 psia. In the general production table (Table 63) figures on gas production of the many pools are based on 16.4 psia.

Separate detailed production tables for oil and gas are given in this bulletin. Each includes in alphabetical order all counties in the State which have oil or gas production. The listing for each county shows both current and known cumulative production, producing area, names of pools (alphabetically arranged), discovery year, producing zones, and reported number of producing wells. Totals for each county are given so that comparisons can be made. Where oil pools extend across county lines every effort has been made to divide accurately the respective productions on the basis of the output of the leases themselves. All figures are compiled with reasonable diligence; however, precise accuracy is not claimed. It is impossible at the present time to assign Hugoton gas field production to each of the nine counties which contribute.

Owing to the fact that the gravity of oil varies rather widely from pool to pool, it is not practical at this time to assign dollar valuation to production from the various counties.

Area of production.—The producing area of Kansas oil and gas pools or the producing oil and gas area (the two overlap in some cases) has been calculated and shown as accurately as reasonably possible. It should be noted, however, that the producing areas as shown by the maps and in the figures are those that would be arrived at if an oil-production man rather than a geologist were drawing the field limits. Pool boundaries have been drawn but a short distance outside the outermost producing wells. Where dry holes show the boundaries, the limits have been drawn between dry holes and the producing wells. Undoubtedly the drawing areas of

the reservoirs in many cases extend considerably beyond the limits as indicated. However, for practical purposes, the limits have been drawn and areas calculated on the basis of lines drawn just outside the productive area demonstarted by present development.

In the case of eastern Kansas counties, it has seemed desirable to omit from the map (Plate 1) the boundaries of the old fields as they were drawn many years ago, since they contain very large areas that are not producing at the present time. Only areas that were producing oil or gas or both during 1950 are shown on the map and assigned acre areas in the table. It is the custom of the State Geological Survey of Kansas to issue, about every five years, a bulletin on the oil and gas developments in eastern Kansas. Bulletin 77 by John Mark Jewett, published in 1949, is the latest. In such bulletins the limits and signifiance of the boundaries of the old fields, most of the areas of which are now unproductive, are shown.

New pools.—During 1950, 118 new oil pools and 4 new gas pools were discovered in Kansas. Four old oil pools and two gas pools were revived. Barton County had 22 new pools discovered and Stafford County 21. Graham County had 10 discoveries, Rice and Rooks Counties following with 9 new discoveries each.

New pool discoveries in 1950 far exceeded the discoveries recorded in any previous single year. Four of the new pools discovered were abandoned later in the year. New 1950 pool discoveries are listed in Table 6. One new county began producing oil, making 73 counties which have in the past or are at present producing commercial quantities of oil or gas or both. The Jetmore pool was discovered in Hodgeman County in May 1950.

Abandoned pools.—Thirty-one oil and gas pools were abandoned during 1950. It has been the custom of the Survey in recent years to omit from the county maps the outlines of abandoned pools. The plan is continued in the present report.

Wells drilled during 1950.—There were 4,572 wells recorded as being drilled in the State during 1950. It is certain that numerous shallow wells in several eastern Kansas counties did not get into the records and are not included in this figure. Of the tests reported 2,164 were oil wells, 389 were gas wells, 1,617 were dry and abandoned holes, 52 were salt-water disposal wells, and 350 were input wells drilled in connection with secondary recovery activities. New pool discoveries and pool revivals accounted for 129 of the oil and

TABLE 6.—*New oil and gas pools discovered in Kansas during 1950*

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, feet	Month of discovery	Initial production per day, bbls.
		Barber County			
Gerlane 29-33-11W	Continental Oil Co. No. 1 Cavin	Miss. Chat	4530-91	October	92
Moffett 8-30-15W	Nadel & Gussman No. 1 Moffett	?	?	December	D & A
		Barton County			
Anton 28-19-11W	Alpine Oil & Royalty Co., Inc. No. 1 Anton Hartman	Arbuckle	3342-50	July	31
Batchman 19-20-12W	Anschutz Drlg. Co. No. 1 Batchman	Arbuckle	3459-80	June	180
Bernard 10-19-11W	C. E. Ash No. 1 Muisenberg "B"	Lans.-K.C.	3224-30	December	396
Blood Creek 9-18-13W	Herndon Drlg. Co. No. 1 Eveleigh	Lans.-K.C.	3078-3162	March	10
Bloomingdale 8-18-11W	The Henderson Oil Co. & Drillers Gas et al No. 1 Jordan	Arbuckle	3366-81	April	47
Boyle 17-17-14W	Yellow Cab Co. of Missouri No. 1 Boyle	Arbuckle	3401-08	March	321
Capitol View 9-17-14W	Lewis Drlg. Company et al. No. 1 Dietz	Lans.-K.C.	3230-40	April	129
Cheyenne View West 11-19-12W	J. C. Dozier et al No. 1 Miller (This pool is now part of Cheyenne View)	Lans.-K.C.	3295-99	January	129
Cheyenne View North 1-19-12W	Aladdin Petr. Corp. No. 1 Habiger	Lans.-K.C.	3116-26	November	118
Fort Zarah 30-19-12W	National Associated Pet. Co. No. 1 Harris	Lans.-K.C.	3157-63	November	150
Hammeke 17-19-11W	E. H. Adair Oil Co. No. 1 Hammeke	Lans.-K.C.	3067-75 3088-97	March	1553
Hammeke SE 17-19-11W	Honaker Drlg. Co. et al No. 1 Birzer	Lans.-K.C.	3089-96	July	1267

TABLE 6.—*New oil and gas pools discovered in Kansas during 1950, continued*

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, feet	Month of discovery	Initial production per day, bbls.
Hiss South 31-20-13W	Petroleum, Inc. No. 1 Benjamin	Arbuckle	3542-43	November	395
Leoville 7-17-14 W	John Lindas Oil, Inc. et al No. 1 Schmid	Arbuckle	3464½-69	August	91
Leoville SE 7-17-14W	Derby Drlg. Co. et al No. 2 Curtis	Arbuckle	3407-12	November	443
Prairie View 20-19-11W	Alpine Oil & Royalty Co., Inc. No. 1 Kowalsky	Lans.-K.C.	3080-3116	July	361
Redwing 31-17-12W	E. H. Adair Oil Co. No. 1 Eveleigh	Arbuckle	3335-43	October	108
Reif South 31-16-12W	Charles L. Carlock No. 1 Klug	Lans.-K.C.	3172-3177	December	34
Roesler East 13-18-11 W	Branine-Holl No. 1 Roesler	Arbuckle	3294-98	November	220
Rusco 8-19-12W	Alpine Oil & Royalty Co. Inc. & Bradley Bros. No. 1 Rusco	Arbuckle	3417-42	March	25
Underwood 15-17-13W	Darby & Bothwell, Inc. No. 1 "A" Underwood	Arbuckle	3342-48	July	30
Zink 13-18-11W	Branine-Holl No. 1 Zink	Arbuckle	3284½-86	July	10
		Butler County			
Andover South (Revived) 31-27-3E	W. L. Hartman No. 1 Pray	Stalnaker	2006-30	March	2,060,000cfg
Elbing East 27-23-4E	S. A. Springer No. 1 Mellor	Lans.-K.C.	1799-1805	May	30
Hartenbower 16-29-6E	McClure-Braden et al No. 1 Hartenbower	"Peru sand"	2404-80	August	30
Muddy Creek 13-29-4E	Marhenke Drlg. Co. No. 1 Doyle	"Bartlesville"	2813-30	May	40
		Cowley County			
Bruce (Revived) 9-30-4E	E. B. Shawver No. 1 Davis	Arbuckle	3306-13	October	40

Ferguson NW 16-30-8E	A. H. Reneau No. 1 "A" Ferguson	Kansas City	2200-11	January	45
		Elk County			
Fleming (Revived) 8-29-9E	Pack Oil Co., Inc. No. 1 Rader	Arbuckle	2656-60	July	50
		Ellis County			
Dechant 6-15-18W	John Lindas Oil, Inc. et al No. 1 Dechant	Arbuckle	3670-83	February	78
Fort Hays State College 1-14-19W	Skelly Oil Co. No. 1 "A" Kansas	Arbuckle	3806-26	January	120
Gasaway 11-11-19W	Okmar Oil Co. No. 1 Gasaway (This pool was abandoned during 1950)	Lans.-K.C.	3534-53	June	D&A
Kunz 35-14-16W	Armer Drlg. Co., Inc. et al No. 1 Kunz (This pool was abandoned during 1950)	Lans.-K.C.	3118-26	January	D&A
Lookout Hollow 31-14-18W	Ben F. Brack Oil Co., Inc. No. 1 Ruder	Arbuckle	3629-36	June	21
Sugarloaf East 21-13-17W	Derby Drlg. Co. et al No. 1 Jacobs	Lans.-K.C.	3391-99	July	126
Sweet William 10-12-20W	The Texas Co. No. 1 Fries	Arbuckle	3908-19	August	25
Wheatland South 30-15-17W	Jones, Shelburne & Farmer, Inc. No. 1 Campbell (This pool was abandoned during 1950)	Arbuckle	3558-63	March	25
		Ellsworth County			
Edwards North 10-17-8W	Continental Oil Company No. 1 Shumway	Simpson Sd.	3157-67	December	275
		Ford County			
Pleasant Valley (Revived) 2-28-21W	Clay No. 1 Bierney	Mississippian	4954-86	December	12,000,000cfg
		Graham County			
Bass 12-10-21W	C. & G. Drlg. Co. No. 1 Bass	Arbuckle	3826-33	June	128

TABLE 6.—*New oil and gas pools discovered in Kansas during 1950, continued*

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, feet	Month of discovery	Initial production per day, bbls.
Bass Northwest 11-10-21W	Jones, Shelburne & Farmer Inc. No. 1 Miller (This pool is now part of the Cooper pool)	Arbuckle	3841-49	June	3,000
Cooper 11-10-21W	Jones, Shelburne & Farmer, Inc. No. 1 Miller	Lans.-K.C. Arbuckle	3695-3725 3841-3849	June	3,000
DeYoung 35-9-21W	C. & G. Drlg. Co. No. 1 DeYoung (This pool is now part of the Cooper pool)	Arbuckle	3824-36	July	3,000
DeYoung SE 2-10-21W	Jones, Shelburne & Farmer Inc. No. 1 A. Sutor (This pool is now part of the Cooper pool)	Arbuckle	3837-48	September	3,000
Fargo 26-9-22W	Peel-Hardman Producers No. 1 DeSair	Lans.-K.C.	3622-29	May	430
Houston (Revived) 9-6-22W	Musgrove Petr. Corp. et al. No. 1 Rush	Lans.-K.C.	3578-82	August	413
Ironclad 23-9-22W	C-G Drilling Co. No. 1. Sutor-Lewis	Lans.-K.C.	3756-60½	June	176
Smith-Denning 5-10-21W	Westgate Greenland Oil Co. No. 1 Smith	Arbuckle	3818-22	April	1981
Teall North 4-10-21W	Heathman Drlg. Co., Inc. No. 1 Abiram	Arbuckle	3872-73	June	339
Teall NE 9-10-21W	W. L. Hartman No. 1 Webster	Arbuckle	3836-39	May	110
Wild Horse Cr. 16-9-22W	Peel-Hardman Producers No. 1 Walker	Arbuckle	3944-62½	April	421
		Greenwood County			
Honey Creek 32-26-11E	C. W. Darling No. 1 Johnson	Mississippian	1871-76	August	30
Morris 28-24-13E	E. L. Edwards No. 1 Kimball	Mississippian	1671-76	September	12
Tonovay West 33-25-11E	Harold Butler & L. E. Jones No. 1 Hall	Mississippian	1948-77	June	60

		Harper County			
Grabs SE 17-31-8W	Deep Rock Oil Corp. No. 1 Stodder	Mississippian	4386-94	May	1,532,000cfg
		Hodgeman County			
Jetmore 24-22-24W	Shell Oil Co. No. 1 Springer	Mississippian	4580-4600	May	1385
		Kingman County			
Broadway 21-28-5W	Earl F. Wakefield No. 1 Broadway	Mississippian	3833-36	July	20
Dewey 9-28-5W	Pabco Drlg. Inc. No. 1 "B" Viney	Mississippian	3827-49 3801-07 3805-11	November Perforations	121
Lansdowne 15-28-5W	C. D. Smitherman No. 1 Foley	Mississippian	3800-22	September	50
		Lyon County			
Bushong 26-16-10E	Stanolind Oil & Gas Co. No. 1 Cornwell	Hunton	2950-67	April	257
		McPherson County			
Johnson South 11-20-3W	Texas Pacific Coal & Oil Co. No. 1 Krehbiel	Mississippian	3043-53	February	20
Paden South 21-18-1W	Glickman Oil Co. No. 1 Duvall	Mississippian	2735-74½	November	25
		Marion County			
Cedar Creek 31-20-5E	R. Gear No. 1 Robinson	Viola	2563½-66	June	18
		Meade County			
McKinney 2-34-26W	Skelly Oil Co. No. 1 McKinney	Mississippian	5762-5828	July and 102 bbls.	14,870,000cfg of distillate
		Morris County			
Three Mile Cr. 25-16-5E	Edward A. Koester & J. F. Mergen No. 1 Burns	Mississippian	2208-52	June	40
Three Mile Cr. South 35-16-5E	R. Loriaux No. 1 Grass	Mississippian	2183-2207	October	60
		Nemaha County			
Sabetha 13-2-14E	The Carter Oil Co. No. 1 Oreon Strahm	Hunton	2826-34	October	319

TABLE 6.—*New oil and gas pools discovered in Kansas during 1950, continued*

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, feet	Month of discovery	Initial production per day, bbls.
		Ness County			
Kansada West 28-17-26W	W. L. Hartman No. 1 Scott-Solze	Mississippian	4438½-43	July	Temp.Abd.
		Pawnee County			
Rutherford East 4-20-16W	Ben F. Brack Oil Co., Inc. No. 1 Hankin	Arbuckle Arbuckle	3708-19 3719-22(oil)	July	2,740,000cfg 280
		Phillips County			
Artz 19-1-18W	Marmad Oil Co. No. 1 Artz	Lans.-K.C.	3466-69?	December	24
Huffstutter West 31-1-18W	Laura Jane Oil Co., Inc. No. 1 Jackson (This pool is now part of the Huffstutter pool)	Lans.-K.C.	3503-11	September	720
Stuttgart 14-3-19W	Imperial Petroleum Co. No. 1 Vogel	Lans.-K.C.	3146-50	November	503
		Pratt County			
Chitwood NE 13-28-12W	Cities Service Oil Co. No. 1 "D" Lemon	Viola	4330-46	July	23
		Reno County			
Albion North 14-26-6W	Cities Service Oil Co. No. 1 Graber	Viola	3997-4002	January	25
		Rice County			
Calf Creek 28-18-10W	Anderson-Prichard Oil Corp. No. 1 Heinz	Pre-Cambrian	3143-59	March	52
Froning 10-18-8W	Dozier Oil Co. No. 1 Froning	Penn. Basal Conglomerate	3222-30 3232-38	December	28
Glen Sharrald 20-18-10W	The Vickers Petr. Co., Inc. No. 1 Heiken	Lans.-K.C.	3118-33	April	176
Ixl 4-19-10W	Lewis Drilling Co. No. 1 Schmidt	Arbuckle	3308-25	January	135
Mary Ida 31-18-10W	Sohio Petr. Co. & The Derby Oil Co. No. 1 Reif	Arbuckle	3272-79	January	26
Munyon 34-18-10W	Carl Lebsack et al. No. 1 Munyon	Arbuckle	3275-81	November	204

Prosper East **5-18-9W**	**Lewis Drilling Co. et al.** **No. 1 Gouldner**	**Arbuckle**	**3222-38**	**May**	**160**
Union **28-20-8W**	**Brunson Drlg. Co., Inc. et al.** **No. 1 Graham**	**Penn. Basal Conglomerate**	**3275-3315**	**April**	**873,000cfg**
Union East **27-20-8W**	**Herschel Hutchins** **No. 1 Ray**	**Sooy Cong.**	**3305-3312**	**November**	**34**
		Rooks County			
Amboy 16-10-20W	Heathman Drlg. Co. No. 1 Williams	Arbuckle	3813-21	April	352
Baumgarten 25-9-19W	Harbar Drlg. Co. No. 2 Baumgarten	Arbuckle	3621-29	June	245
Berland North 31-9-19W	Francis Oil & Gas, Inc. No. 1 Pywell	Arbuckle	3770-78	March	133
Grover 22-7-19W	Anschutz Drlg. Co. No. 1 Grover	Lans.-K.C.	3272-3312	August	143
Kern 28-9-20W	Reserve Drilling Co., Inc. No. 1 Kern	Arbuckle	3855-59	April	3,000
Laura 30-10-20W	Heathman Drlg. Co. No. 1 "A" Raymond	Arbuckle	3706-08	August	124
Marcotte NW 9-10-20W	Barnett Drlg. Inc. No. 1 Hinkhouse	Arbuckle	3722-28	August	166
Stamper 28-8-17W	Shell Oil Co. No. 1 Stamper	Marmaton	3394-3408	January	25
Whisman 9-9-20W	The Derby Oil Co. No. 1 Whisman	Lans.-K.C.	3427-36	October	D & A
		Russell County			
Cook 26-13-15W	H. H. Blair No. 2 Cook	Lans.-K.C.	3051-66	May	45
Russell NE 26-13-14W	Lewis Drlg. Co. No. 1 Streck	Arbuckle	3272-75	July	240
		Saline County			
Olsson NE 2-16-3W	Friends Oil Company No. 1 Bjorklund (This pool is now part of the Olsson pool)	Viola	3380-85	January	3,000
Smolan 19-15-3W	S-V, Inc. No. 1 Richter	Viola	3386-91	December	130
Swenson 34-15-3W	E. K. Carey No. 1 Swenson	Viola	3353-71	June	30

TABLE 6.—*New oil and gas pools discovered in Kansas during 1950, concluded*

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, feet	Month of discovery	Initial production per day, bbls.
		Scott County			
Keystone 25-18-32W	Herndon Drlg. Co. No. 1 Rueter	Lans.-K.C.	4001-09	November	140
		Sedgwick County			
Fairview So. 17-26-2E	J. P. Gaty No. 1 Tjaden	Burgess Sd.	2945-50	December	38
		Stafford County			
Clarksburg 1-23-13W	Finston, Murfin et al. No. 1 G. Witt, Jr. (This pool was abandoned during 1950)	Arbuckle	3811-20	June	D & A
Dell 7-21-13W	Petroleum, Inc. No. 1 "B" Brown	Lans.-K.C.	3446-59	June	1119
Eden Valley 29-21-13W	Petroleum, Inc. No. 1 "B" Keller	Arbuckle	3748-52	April	12
Frey 7-21-14W	Vickers Petr. Co., Inc. No. 1 Frey	Arbuckle	3717-22	July	2392
Harter 30-24-13W	L. B. Stableford No. 1 Harter	Simpson	4167-90	January	84
Hazel South 28-21-13W	Petroleum, Inc. No. 1 Hufford (This pool is now part of the Hazel pool)	Arbuckle	3705-13	January	69
Hazel West 20-21-13W	Petroleum, Inc. No. 1 Koopman	Arbuckle	3673-69	January	311
Kachelman 7-25-13W	J. M. Huber Corp. & Pabco Drlg. Inc. No. 1 Kachelman "B"	Viola	4075-86	July	126
Kowalsky SW 6-21-11W	Phillips & Hanson No. 1 Fischer	Arbuckle	3424-33	April	202
Leo 7-21-13W	Petroleum, Inc. No. 1 Hall	Arbuckle	3636-40	August	29
Max South 15-22-12W	Petroleum, Inc. No. 1 Freuhauf	Lans.-K.C.	3320-46	October	284
McGinty 13-21-14W	Champlin Refg. Co. No. 1 McGinty	Lansing	3503-13	October	101

Pundsack North 18-21-13W	Petroleum, Inc. No. 1 Brown	Arbuckle	3674-82	January	52
Pundsack NW 24-21-14W	Stanolind Oil & Gas Co. No. 1 Foster	Lans.-K.C.	3512-59	November	118
Pundsack SW 25-21-14W	Petroleum, Inc. No. 1 Russell	Lans.-K.C.	3575-82	May	256
Rattlesnake SW 14-24-14W	Shell Oil Company No. 1 Miller	Lans.-K.C.	3760-82	January	3,000
Rothgarn SE 14-21-13W	Westgate-Greenland Oil Co. & Mallard Drlg. Co. No. 1 Doran	Arbuckle	3544-54	February	186
Starr 4-21-14W	Anschutz Drlg. Co. No. 1 Langer	Arbuckle	3579-82	December	611
Syms North 17-21-12W	Derby Drlg. Co. et al. No. 1 Johnson (This pool is now part of the Syms pool)	Lans.-K.C.	3356-64	July	12
Van Winkle 23-21-14W	Crown Oil Co., Inc. et al. No. 1 Van Winkle	Lans.-K.C.	3570-97	July	75
Van Winkle SE 26-21-14W	Murfin Drlg. Co. et al. No. 1 Pelter	Lans.-K.C.	3569-73	October	230
		Sumner County			
Fall Creek 3-35-3W	The Texas Company No. 1 Hobbisiefken	Simpson	4746-79	August	Est. 406,000cfg 3,000
Portland 16-34-1E	Herndon Drlg. Co. No. 2 Hunt	Simpson	4002-04	June	160
Tate (Revived) 31-32-2E	Watson Drlg. Co. Inc. No. 1 Barnett	Simpson Sd.	3726-36	July	30
		Trego County			
Walz 12-11-21W	Peel-Hardman, N. Appleman Co. and Aurora Gasoline Co. No. 1 Walz	Arbuckle	3666-80	October	397
		Wabaunsee County			
Davis Ranch E. 34-13-10E	Aladdin Petroleum Corp. No. 1 Schutter	Viola	3305-14	January	25
Mill Creek 2-13-10E	Skelly Oil Company No. 2 Thowe	Viola	2923-27	September	3,000
Newbury 11-11-11E	Skelly Oil Company No. 1 Fearon	Viola	2901-04	September	254

gas wells; 343 of the dry holes were wildcat wells. It is probable that a total of approximately 6,600 new wells were drilled in the State in connection with the petroleum industry during 1950.

Eight counties in the State had more than 200 recorded wells drilled in 1950. As in 1949 Barton County led all others with 518 recorded wells drilled. Following in order were Butler County (369), Russell County (352), Stafford County (293), Rooks County (260), Ellis County (236), Greenwood County (235), and Rice County (215). These eight counties accounted for 54 percent of the total number of wells drilled in the State during 1950.

Test wells drilled within 1½ miles of the outside boundaries of producing pools are called extension wildcats and are not shown on county maps in this bulletin. Test wells resulting in dry holes drilled outside this 1½-mile limit are classed as "wildcat wells" and are shown by a symbol on the maps of western Kansas counties. Any county having four or more such dry wildcat wells drilled in 1950 has a table listing data on the wells included under the write-up of that county.

The various tops of the formations listed in the tables have been determined through the use of electric logs if they were available. An asterisk in front of the well name in the tables indicates that no electric log is available for that well. In such cases various sources of information have been used to determine the tops of formations. These include the Kansas Sample Log Service, Independent Oil and Gas Service, drillers logs, and other sources within the Survey.

As pool boundaries are rarely exact, the classification of wildcat wells becomes somewhat arbitrary. Hence, the total number of wildcat wells the reader may obtain from different sources is likely to vary somewhat.

For the purposes of the tables, wells counted as 1950 completions are those which have been finished within the year and which have been drilled to completion in one operation. Old wells worked over, although they came in as producers, are not counted as 1950 completions. The 1950 wells abandoned as dry and then converted to salt-water disposal use have sometimes been classed as dry holes, unless it was plain that they were drilled expressly for salt-water disposal.

Straggler wells.—After the statistical records have been finished for each year, late reports of completed wells continue to come in. These are referred to as stragglers, reported in the bulletin for

TABLE 7.—*Wells completed in 1949 but reported in 1950*

County	Oil	Gas	Dry	Salt-water disposal
Allen	....	....	2	....
Barton	2	....	....	2
Butler	3	....	2	1
Chautauqua	....	....	1	....
Coffey	1	....	....	....
Ellis	4	....	....	....
Ellsworth	....	....	1	....
Finney	....	6	....	....
Grant	....	1	....	....
Greenwood	4	....	3	6
Harvey	1	1	....	....
Haskell	....	1	....	....
Kiowa	....	....	1	....
Marion	1	....	....	....
McPherson	2	....	....	....
Neosho	1	....	....	....
Phillips	6	....	....	....
Pratt	....	....	1	....
Reno	1	....	....	....
Rice	1	....	4	....
Rooks	9	....	1	....
Rush	6	....	....	....
Russell	11	....	2	3
Stafford	14	....	....	....
Wabaunsee	....	....	1	....
Woodson	....	....	1	....
Total	67	9	20	12

the following year, but are credited to the year in which the wells were completed. There were 108 stragglers for 1949 which are shown by counties in Table 7.

Exploration activities.—The number of core drill operations and geophysical parties active in the State during 1950 is shown in Table 8.

Well elevations.—Elevations of many wildcat tests in the State are given in tables or in the text. Publication of elevations of approximately 75 wildcat wells was made possible through the cooperation of Laughlin-Simmons and Company of Tulsa, Oklahoma.

Eastern Kansas counties.—For convenience counties lying east of the sixth principal meridian are regarded as being in eastern Kansas, an area that has been treated separately in some reports and is treated somewhat differently from western Kansas in this report. In this report no individual maps of eastern counties are included; Plate 1 is a map of a part of eastern Kansas including most of the important oil-and gas-producing counties in that part of

TABLE 8.—*Geophysical and core drilling activities, 1950*

Month	Seismograph parties	Gravity survey parties	Core drill operations
January	7	1	2
February	8	1	4
March	6	1	4
April	5	1	5
May	8	1	5
June	8	1	5
July	8	1	5
August	7	1	5
September	7	1	4
October	8	1	5
November	9	1	4
December	6	1	5

the State. Locations of areas that produced oil by primary and secondary methods in 1950 are shown.

During 1950 some noteworthy developments took place in the western part of the Forest City basin in the area east of the Nemaha anticline, from Lyon County to Nemaha County. This is the result of continuation of activity brought about by the discovery of oil in the Viola limestone in the Davis Ranch pool in Wabaunsee County in 1949. Three Viola pools were discovered in Wabaunsee County in 1950. They are the Davis Ranch East, the Mill Creek, and the Newbury. In Lyon County a "Hunton" pool, the Bushong, was discovered. The Sabetha pool, in the "Hunton", and Viola production in the Strahm field were discovered in Nemaha County. "Hunton" production had been established in 1948 in the Strahm field.

Discoveries not far west of the Nemaha anticline also are regarded as significant. Two Mississippian limestone pools were discovered in Morris County. They are the Three Mile Creek and the Three Mile Creek South. Farther south on the west flank of the Nemaha uplift, in Marion County, a Viola pool, the Cedar Creek, was found.

Locations of the fields in Wabaunsee, Morris, Lyon, and Nemaha Counties and locations of dry wildcat wells drilled during the year in the area are shown in Figure 12. More data on these and other developments in eastern Kansas counties are included in the discussions of developments during 1950, under individual county headings.

Discoveries along the trend of the Davis Ranch field rank with the important developments in Kansas during 1950. They, the dis-

coveries west of the anticline, and three Mississippian pools in Greenwood County (Honey Creek, Morris, and Tonovay West) emphasize the possibilities of other important discoveries in pre-Pennsylvanian rocks in eastern Kansas.

Arbuckle production was revived in the Bruce field in Cowley County and in the Fleming field in Elk County. Attention to Arbuckle production in eastern Kansas is focused also on developments in the Brewster field, Montgomery County, where oil production from the upper part of the Arbuckle limestone was started in May 1949. Additional wells were drilled in 1949 and 1950 and at the end of 1950 cumulative production had reached 80,643 barrels of oil.

Elsewhere in eastern Kansas drilling was mostly in connection with water-flooding projects, treated separately in this report. However test wells were drilled in many places and several fields were opened. Three Pennsylvanian pools were found in Butler County. They are the Muddy Creek, Hartenbower, and Elbing East.

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It would have been impossible to assign much of the oil production in eastern Kansas to definite areas or even to counties without the cooperation of the several persons and organizations who are sending monthly oil purchase reports to the Survey and have helped in other ways. Thanks are expressed to: A. J. Becker; Marvin Boyer; The Carter Oil Company; Cities Service Oil Company; Continental Oil and Refining Company; Cooperative Refining Association; The El Dorado Refining Company; Virgil Gamble; Joplin Refining Company; Kanotex Refining Company; Kansas City Testing Laboratory; K. B. Oil and Gas Company; Lynde, Walter and Darby (Skiles Oil Corporation); M. F. A. Oil Company; Joe Maclaskey; W. L. Maclaskey; Sinclair Oil Marketing Division, Sinclair Oil and Refining Company; Sinclair-Prairie Oil Company; Skelly Oil Company; Standard Oil Purchasing Company; Stekoll Petroleum Company; and White Eagle Oil Company.

Thanks are given to the various members of the Kansas Nomenclature Committee, Kansas-Oklahoma Division of the Mid-Con-

tinent Oil and Gas Association, for giving us their data on new oil and gas pools discovered during the year and for their area descriptions of existing pools.

Thanks are extended to numerous companies and individuals who have contributed information on secondary recovery production and drilling activities connected with secondary recovery for the year. Numerous people and companies have contributed also to gas production figures for the year.

Many people engaged in various phases of the petroleum industry in Kansas have been generous in giving us data that have been used in this report. Here should be listed C. E. Armstrong, Gene Brinegar, Frank Brooks, H. W. Brown, B. F. Brundred, Virgil Cole, Mack C. Colt, John A. Edwards, Lee Garrett, Thomas W. Lee, W. D. Livengood, Carl L. Pate, Eugene P. Philbrick, Harold O. Smedley, W. L. Stryker, Charles W. Studt, Albert Sweeney of the Interstate Oil Compact Commission, Harvel White, Earl A. Whitworth, Paul A. Witherspoon, and Tom Wright.

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The Survey is pleased to acknowledge assistance from Vance E. Rowe and his Petroleum Statistical Guide, Inc., in connection with his supplying a large part of the crude oil production figures.

SECONDARY RECOVERY

Repressuring of oil-bearing rocks by injection of water, air, or gas is becoming increasingly important in Kansas, especially in the Cherokee basin and the southern part of the Forest City basin. Nearly 7 million barrels of oil (6.3 percent of the total State production) was produced by secondary recovery methods in 1950.

Generally speaking there was a slight increase in secondary recovery activities in the State during 1950. When taking into account the unitization of several projects into one large project in Chautauqua County during the year it is clear that there was a slight increase in the number of projects in operation. There also is a slight increase in production from 6,721,732 barrels reported in 1949 to 6,771,584 barrels reported in 1950. The reported figure

TABLE 9.—*Data on six counties producing oil by secondary recovery in 1950*

County	Number of projects, 1950	Total oil production 1950, bbls.	Secondary recovery oil production, 1950, bbls.	Percent of total production
Greenwood	41	5,375,676	3,525,151	66
Montgomery	14	785,932	576,712	73
Miami	13	492,171	365,750	74
Butler	12	6,862,459	506,570	7
Anderson	10	543,875	455,915	84
Neosho	6	615,792	541,231	88

is without a doubt slightly below the actual figure of production by secondary recovery due to production from a few small projects in southeastern Kansas for which no information was received.

There were 137 secondary recovery projects reported in the State during the year with 127 of these projects being located east of the sixth principal meridian, which runs north and south through Wichita. There was a total of 5,549 wells producing oil by secondary recovery methods and 4,454 wells which were utilized as injection wells into which a repressuring medium was injected.

Table 1 lists data on secondary recovery projects that were operated in Kansas during 1950 and reported to the State Geological Survey. Greenwood County, as in 1949, led all other counties in the number of projects reported as well as in production attributable to secondary recovery (Table 9). It is interesting to note that 94 percent of the total production of Lyon County is attributable to secondary recovery. Neosho County secondary recovery production accounted for 88 percent of the total production of the county.

Of the 137 projects reported 80 were from the "Bartlesville sand" with 41 of these from Greenwod County. The "Squirrel sand" produced in 19 projects, the "Peru sand" in 13 projects, the "Wayside sand' in 7 projects, and the Lansing-Kansas City limestone in 7 projects. For Bulletin 87, covering oil and gas developments in 1949, a map showing depths to the horizon of the "Bartlesville sand" in various parts of eastern Kansas and showing locations of areas that produced oil both by primary and secondary recovery methods from the "Bartlesville" in 1949, was prepared. For this report a map showing similar information on the "Squirrel sand" has been prepared (Fig. 3).

In 21 Kansas counties (Table 1) salt water was used for repressuring in 90 projects, fresh water in 15, and combined fresh and salt water in 22 projects. Seven projects utilized gas as a repressuring agent and two projects used a combination of gas and

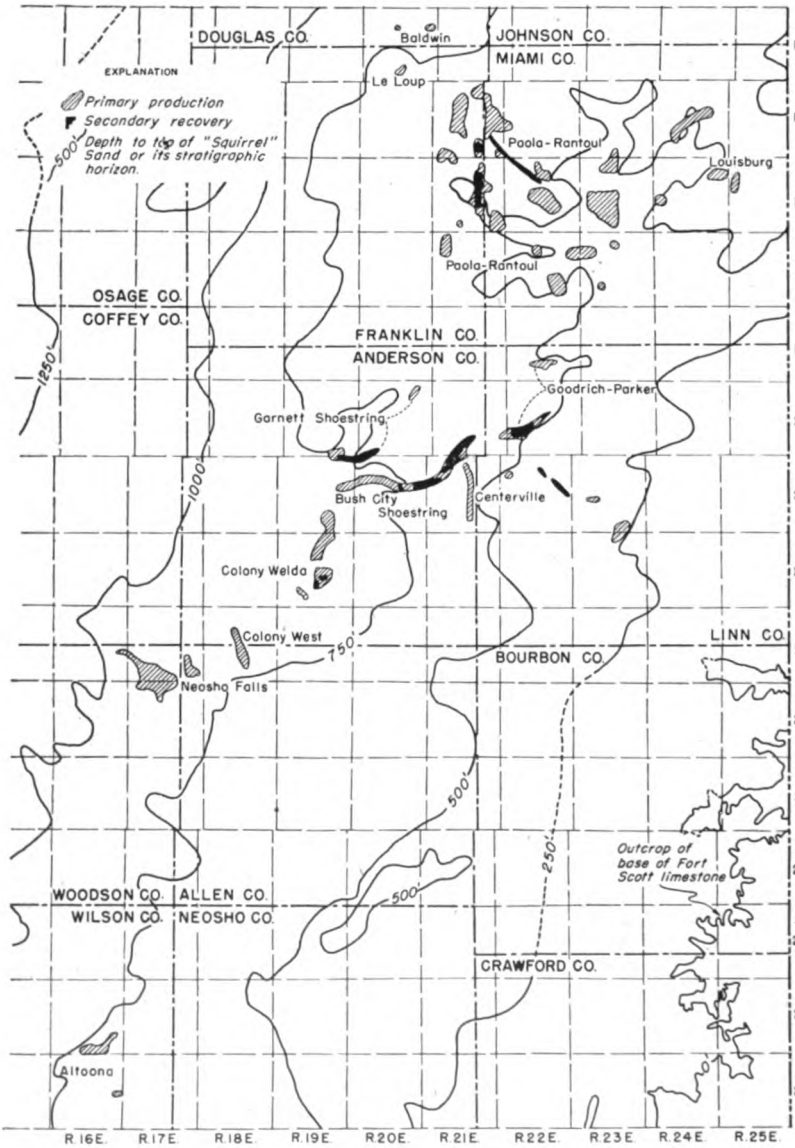


FIG. 3.—Map showing areas of oil production from the "Squirrel sand" in Kansas.

TABLE 10.—*Estimated water-flood oil reserves in eastern Kansas counties**

County	Million barrels of oil
Allen	9
Anderson	7
Bourbon	1
Butler	57
Chautauqua	2
Cowley	14
Crawford	1
Elk	2
Franklin	13
Greenwood	93
Linn	2
Lyon	4
Miami	19
Montgomery	14
Neosho	8
Wilson	1
Woodson	3

* Estimates made by A. E. Sweeney, Jr., Interstate Oil Compact Commission.

salt water. No information on the quality or source of water is at hand for one project.

There are at least 11 subsurface zones from which salt water is obtained for repressuring. The three main ones are the Douglas sand, Arbuckle dolomite, and produced water from the "Bartlesville sand." Principal sources of fresh water are shallow groundwater reservoirs, lakes, streams, and municipal water supplies. Where combined fresh and salt water is used the brine is obtained commonly from the local oil-producing formation. Treatment of salt water includes aeration, addition of chemicals, settling, and filtration singly or in various combinations. However, in the majority of cases where salt water is used, no treatment is given the brine. Fresh water requires treatment more commonly than brines. Such treatment includes adding lime, chlorine, alum, and settling and filtering or some combination of these. Most users of combined fresh and salt water use treating methods.

In general ground water is the most satisfactory type for water flooding. The quality of river water varies greatly with the seasons; hence the treatment necessary varies from time to time. Ground water usually remains uniform in chemical composition for long periods; therefore any treatment required before injection need not be changed.

Table 10 shows estimated reserves of oil in eastern Kansas counties that are believed to be recoverable by water flooding. The table is based primarily on Sweeney's estimates.

NATURAL GAS

General.—For many years natural gas has been encroaching more and more on bituminous coal in the fuel field. There is a division of thought in the industry as to whether natural gas should be regarded and consumed primarily as a fuel or whether it is likely to have more value as an important source of certain chemicals and hydrocarbon liquids. This divided trend should resolve itself in the next few years. The decision is likely to have a bearing on the building of future Kansas natural gas chemical plants.

The principal gas-producing areas of the nation — Kansas, the Texas panhandle, and the Gulf Coast—are many hundreds of miles from the more thickly populated manufacturing and consuming centers of the Great Lakes region and of the North Atlantic states. The necessity of pumping the gas great distances through large-diameter high-pressure high-cost pipe lines has introduced interesting engineering considerations, and the interstate nature of the traffic has raised problems with long-range economic and political implications.

The Interstate Commerce Commission and the Federal Power Commission respectively have jurisdiction over the transmission of natural gas from one part of the country to another, and the approval of new cross-country gas pipe lines. Such approval is said to be based both on a greatest-good-to-the-greatest-number consideration and on investment values. On both counts Kansas, fifth in rank among gas-producing states, with large reserves and small population, has a minor voice in the use determination of the gas.

TABLE 11.—*Statistical summary of Kansas natural gas production and use, 1948-1950*

	(Millions of M cu. ft. at 16.4 psia.)				
	1948	1949	Percentage change 1948-1949	1950	Percentage change 1949-1950
Natural gas produced in Kansas	240.2	263.2	+ 9.6	324.3	+23.2
Imported from outside the state	113.4	118.8	+ 4.8	53.2	—55.2
Total to account for	353.6	382.0	+ 8.1	377.5	— 1.2
Gas consumed in Kansas during year					
Domestic	66.1	64.9	+ 1.7	75.2	+15.9
Industrial, misc., and losses	101.3	106.0	+ 4.7	112.8	+ 6.4
Carbon black	20.8	14.0	—32.9	14.1	+ 1.2
Total Kansas consumption	188.2	184.9	— 1.8	202.1	+ 9.3
(Consumption as pct. of prod.)	(78.4)	(70.3)	—10.3	(62.3)	—11.4
Exported from State	165.4	197.1	+19.2	175.4	—11.0
Total	353.6	382.0	— 8.1	377.5	— 1.2

Kansas producers desire to export surplus gas for income which returns to the State, but Kansas consumers, both domestic and industrial, complain of the exportation of gas on the grounds of alleged loss of income and depletion of reserves. Table 11 and Figure 4 show that a significant percentage of our gas production is being exported.

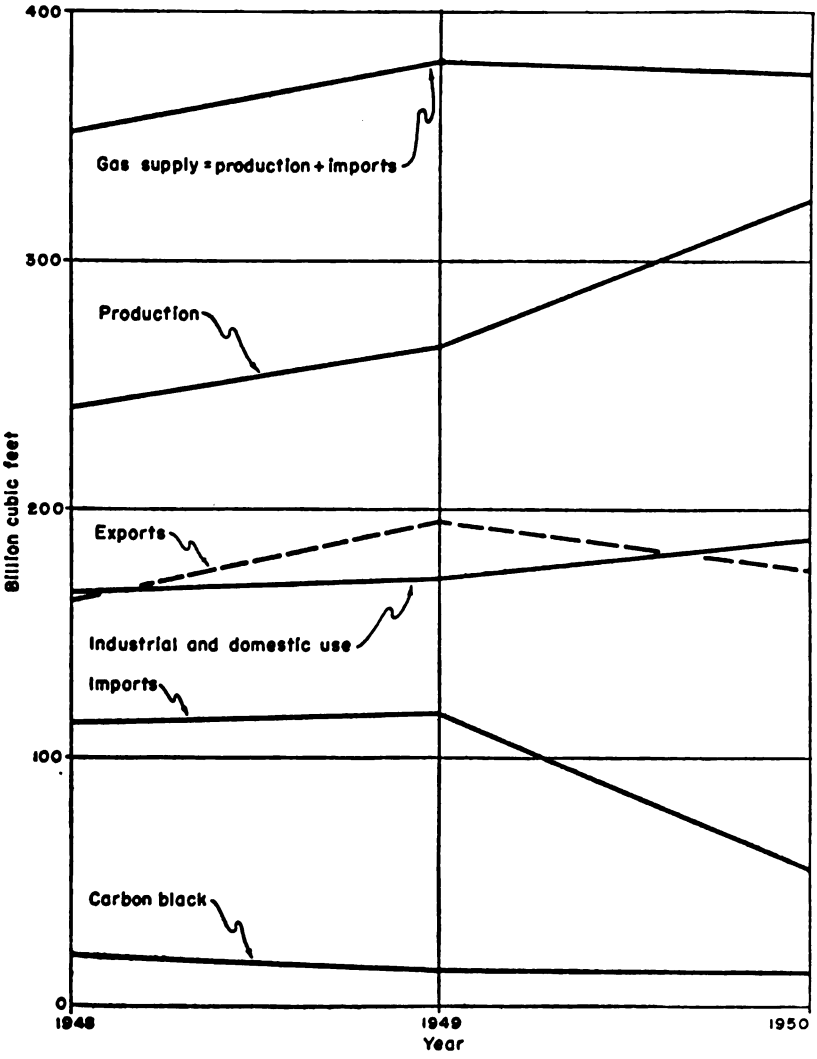


FIG. 4.—Use and disposition of Kansas natural gas.

The answer seems to be the development of more industry and consuming population in Kansas. Either processing the gas into chemicals or using it as industrial fuel or both will guarantee that an optimum part of the potential value of our natural gas will be realized in Kansas.

Production and use.—The amounts of natural gas produced from the principal Kansas fields during 1950 are shown in Table 63. Production in the "eastern Kansas" fields which had their heyday nearly 50 years ago was less than 1 percent, while production from the Hugoton field in southwestern Kansas was 88 percent of the State's total for 1950.

Table 11, showing some statistics on Kansas natural gas from 1948 through 1950, reveals some noteworthy trends. In the two-year period 1948-1950, Kansas production of gas increased 35 percent, but importation decreased 53 percent. Total consumption in Kansas increased 7.5 percent in the two years, and domestic and industrial consumption (omitting carbon black) in the same period increased 12.3 percent. It should be noted that although exportation of gas from the State showed a rise of nearly 20 percent from 1948 to 1949, this trend changed and showed a decrease of 11 percent in 1950. Figure 4 clearly shows the downward trend of both exports and imports. Although exportation of gas is decreasing now, about one-third of our net annual production is being exported. This is believed to be a smaller proportion than most Kansas people suppose.

New developments.—Four new gas pools were discovered in Kansas and two revivals of old pools were made during 1950. The revivals were in Butler and Ford Counties, the new discoveries in Pawnee, Meade, Harper, and Rice Counties.

Three developments highlighted natural gas production in the State during the year: addition in Seward County of about 215 square miles of gas-producing area as a southeastward extension of the Hugoton field; opening of a new pool with strong production from the Mississippian in Meade County; and revival of the Pleasant Valley pool also with heavy production from the Mississippian in eastern Ford County. Harper County also has a new gas pool producing from the Mississippian. Finding of strong gas production in the Mississippian on the fringes of the Dodge City embayment seems to be significant. It may lead to other important discoveries of both oil and gas in various parts of the Dodge City structure.

There was some extension of the productive area of the Hugoton field on its southwestern side, but this type of extension is normal and hardly carries special significance.

New gas production elsewhere in Kansas comes from the usual productive zones and is therefore regular in nature. A development of interest is the reactivation of the Otis helium plant by U. S. Bureau of Mines personnel. This plant, built in the early 1940's to augment the helium supply for war, removes the inert helium from natural gas from the Otis field and returns the residue gas to the mains for sale to consumers.

The Hugoton field.—The Hugoton field, with its extensions across the Oklahoma "strip" and well into the Texas panhandle, is regarded as containing the largest reserve of natural gas of which the petroleum industry has present knowledge (Table 12). Production of the field by years is shown in Table 13.

The limits of the field are not clearly marked by structural or stratigraphic features. Porosity of the producing members seems to be the main control of productivity. At the present time, the gas comes from thin porous dolomitic rocks of lower Permian age. No oil of consequence has yet been found within the area of the field, although one small pool, the Richfield, was discovered in 1948 in Morton County. Gas production comes from one or several zones of the Chase group including the Herington, Krider, Winfield, Fort Riley, and Florence limestones. Most Hugoton gas comes from a depth of about 2,500 feet.

Wells with initial capacities of less than 1 million cubic feet per day may not be saved by the larger companies; those producing 5 to 15 million cubic feet per day are "usual"; and "big" ones produce 30 million cubic feet per day or more.

Plate 2 shows approximate boundaries of the Hugoton field as outlined at the end of 1950 by wells having reported initial daily

TABLE 12.—*Natural gas reserves in area of Hugoton gas field*
(By Keplinger, Wanenmacker, and Burns, 1948)

State	Billion Cubic Feet*	Percent area of field
Kansas	14,051	51.7
Oklahoma	8,034	29.3
Texas	5,372	19.0

* Estimated as of October 1948 with pressure base of 14.65 psia. and abandonment pressure of 25 pounds.

TABLE 13.—*Production from the Kansas part of Hugoton gas field*

Year	M cu. ft. gas (14.65 psia.)
1938	29,843,417
1939	32,424,301
1940	37,083,797
1941	40,759,482
1942	46,365,484
1943	70,921,532
1944	92,922,821
1945	90,345,203
1946	119,637,983
1947	157,663,036
1948	185,872,594
1949	247,868,876
1950	286,341,936
Total	1,438,050,462

capacities of 1 million cubic feet. As production "featheredges" out, boundaries are uncertain and may be changed from year to year by additional drilling.

It is significant that there are several old holes, marked dry, which are located within the main Hugoton area of large gas production and which penetrated well beyond the present producing zones. These were drilled as long ago as the late 1920's. Modern methods and production techniques now make it possible to save some wells that in former years were dry. By the same token, one may reasonably prophesy that the presence of dry wildcat wells of former years in many parts of western Kansas may not preclude the presence of important oil and gas pools which in the future may be discovered by modern and scientific methods of exploration and production.

The Hugoton field is under rigid proration by the Kansas Corporation Commission, Division of Conservation. Commonly only one well may be drilled in each 640 acres, and allowable production for wells or groups of wells is established on a monthly basis in a manner designed to conserve the gas supply. Gas from the Hugoton field is of rather high grade as indicated in Table 14. It yields about 0.5 gallons of natural gasoline and condensate per thousand cubic feet, and has a heating value of roughly 1,000 B.t.u. per cubic foot.

The well that may now have almost undisputed claim as the discovery of the Hugoton field was drilled in 1922 in sec. 3, T. 35 S., R. 34 W. by the Defenders and Traders Gas Company. It opened the Liberal gas field which has now been joined to the Hugoton

TABLE 14.—*Average analysis of natural gas from Hugoton field*
(From Keplinger, Wanenmacher, and Burns, 1948)

Gases	Percent
Methane	74.26
Nitrogen	14.27
Ethane	5.81
Propane	3.52
Butane	1.48
Pentane plus	0.65
Total	99.99

field proper. The Hugoton field developed slowly because of its distance from consuming centers. Long pipe lines were not common in the 1920's and early 1930's. By 1938 the area of the field was only about 187,300 acres, or approximately 8 percent of its present size. One natural gasoline plant at Arkalon was operating and one 6-burner carbon black plant was in production.

Rapid development of the Hugoton field along with pipe-line construction came in the early 1940's, due partly to the wartime technologic developments and partly to the unhappiness of both domestic and industrial consumers over uncertain availability of solid fuel. The number of producing gas wells in the field passed the 2,000 mark and the area reached 2 million acres by the end of 1949. Gas wells drilled in the Hugoton field by counties are shown in Table 15. At the close of 1950, there were 2,213 producing gas wells and the area of the Kansas part of the Hugoton field within the limits indicated on Plate 2 was about 2,148,500 acres. It included two entire counties (Stevens and Grant) and parts of seven others (Finney, Hamilton, Haskell, Kearny, Morton, Seward, and Stanton). Judging by developments of the last two years, widening of the field in Morton and Seward Counties seems most likely for the

TABLE 15.—*Gas wells drilled in Hugoton field by counties*

County	During 1950	Total to date
Finney	45	203
Grant	35	461
Hamilton	0	5
Haskell	30	243
Kearny	50	322
Morton	52	143
Seward	74	165
Stanton	17	153
Stevens	63	680
Total	366	2,375

immediate future. However, the finding of strong production of gas and oil a few miles east of Liberal, not far outside the present limits of the field, has important implications that as yet are difficult to appraise. The possibilities are interesting because only a very small percentage of wells drilled in the Hugoton field has penetrated deeper than the well-known gas-producing zones in the Permian rocks.

Natural gasoline and liquefied petroleum gas production.—A comparatively new multimillion dollar industry, natural gasoline and LPG, has developed in Kansas with little publicity.

Broadly speaking, liquefied petroleum gas, now mainly a by-product of natural gas production in the United States, has alternately been courted and cursed by oil refiners, pipe-line people, distributors, consumers, and conservation agencies until recent years. Lately, LPG has been staging the greatest gain of any segment of the petroleum industry. In 1950, sales of LPG in the United States were estimated (Rugh, 1951, p. 182) at 3,333 million gallons exclusive of any product used in the manufacture of aviation gasoline and synthetic rubber. This was an increase in sales of 25.4 percent above the 1949 figure, and more than triple the volume sold in 1945.

Although less critical in Kansas than in some other states, the problems of natural gasoline and LPG production are complex. They relate not only to the demand and use of natural gasoline and LPG by consumers but also to their occurrence with natural gas and crude oil in the underground reservoir. Until recent years, a substantial amount of these light hydrocarbons has been flared or wasted, especially in Texas, because the substances had little value, because crude usually could not be produced without the unwanted light hydrocarbon "casinghead" liquids, and because plants to recover them were so costly. Finally, as a conservation measure the Texas Railroad Commission practically ruled out the flaring of these gases thus compelling the producing companies either to recover the light hydrocarbons for sale and use or return the gas, stripped or not, to the underground reservoir to maintain reservoir pressure. The result was much greater production of natural gasoline and LPG in the new plants, and ultimately over production and lower price.

Whereas the greatest public demand and the greatest profit from crude oil is the production of motor gasolines from refineries, nat-

TABLE 16.—*Natural gasoline and LPG plants in Kansas, 1950*
(Oil & Gas Journal, 1950, p. 225)

Company	Location of plant	Approx. production gallons per day
Barnsdall Oil Company, Rainbow Bend	Cowley County	3,000*
Cities Service Oil Co. (Del.) Main line	Sedgwick County	104,000*
Cities Service Oil Co. (Del.) Main line	Cowley County	30,000*
Cities Service Oil Co. (Del.) Burrton	Reno County	30,000*
Deerfield Petroleum, Inc., Hugoton field	Kearney County	40,000*
Edwards Gasoline Co., Zenith field	Stafford County	2,000
Flynn Oil Co., Otis field	Rush County	7,000*
Kansas Power & Lt. Co., Medicine Lodge	Barber County	15,000
Magnolia Petroleum Co., Hickox	Grant County	85,000*
Northern Nat. Gas Co., Hugoton field	Seward County	61,700
Panhandle East. Pipe L. Co., Hugoton field	Seward County	63,000
Skelly Oil Co., Cunningham field	Kingman County	30,000
Stanolind Oil & Gas Co., Hugoton	Grant County	64,000
Texas Co., The, Beardon	Cowley County	8,400
Total		543,100

* Includes LPG.

ural gasoline and LPG, especially when in over supply, are embarrassing to the refiners. Because of its higher vapor pressure, natural gasoline can be used only in part in refineries to make common gasolines, although it is in good demand for making aviation gasoline. The trend toward using higher compression engines in motor vehicles and the construction of catylitic cracking and other high-recovery refining processes have been in the direction of making natural gasoline (from the natural gas industry) in still less demand. Now, since seasonal demand has developed for natural gas liquids, especially for butane and propane owing to their increasing uses for domestic heating and stand-by fuels in industry, the question of storage of the liquids during off-season demand is being given careful thought. In Kansas, storage of the liquids in sealed-off parts of abandoned mines, in cavities created by brine wells in thick salt beds, or in depleted underground oil or gas zones, has been carefully considered.

There were 14 natural gasoline and LPG plants, listed in Table 16, in Kansas at the end of 1950. These plants had a rated aggregate capacity of 543,100 gallons of liquids per day. Their output during 1950, broken down into the four main products, together with estimated values at the plants, are shown in Table 17. Production of Kansas plants for the last 10 years is shown in Table 18. The natural gasoline is used mainly in the oil refineries; the propane and butane

TABLE 17.—*Production and estimated value of natural gas liquids in Kansas, 1950**

	Barrels	Gallons	Unit price	Total
Natural gasoline	2,478,715		$2.95	$7,312,209
Propane	335,559			
Butane	190,466	22,092,200	0.05	1,104,611
LPG	693,282	29,117,844	0.045	1,164,714
Totals	3,696,022	155,232,924		$9,581,534

* Production figures supplied by Kansas Corporation Commission; average unit values at point of production have been obtained from sources considered to be reliable.

are used largely in homes and ranches; and a mixture of light hydrocarbons is used variously as motor and other fuels.

Most of the Kansas operations are so-called drip gasoline or stripping plants which remove hydrocarbon liquids from natural gas and return the residue gas to the mains. Some plants report production only of natural gasoline and raw condensate; some produce LPG as well.

The Kansas production of natural gasoline and LPG comes largely from several plants in the Hugoton gas field. None of these is a cycling or pressure maintenance plant, as the terms are used in Texas. The largest Kansas pressure maintenance operation is in the Cunningham field (Kingman-Pratt Counties). There are some smaller pressure maintenance plants in eastern Kansas (such as the Phillips plant in northern Greenwood County) which produce some liquids and then return the residue gas to the field to maintain reservoir pressure.

Pipe lines.—The transition from tank car to pipe line as a means of transporting pertoleum and its products has resulted from mounting costs of moving liquid and solid fuels by rail.

TABLE 18.—*Kansas production of natural gasoline and allied products, 1941-1950* (World Oil, 1951, p. 154)

Year	Production
1941	85,691
1942	81,828
1943	85,206
1944	69,834
1945	72,637
1946	82,591
1947	99,195
1948	107,563
1949	112,295
1950	155,233*

* This figure supplied by Kansas Corporation Commission.

Kansas ranks seventh among the states in mileage of petroleum industry pipe lines. At the end of 1950, Kansas is estimated (Table 19) to have a total of 31,611 miles of pipe lines, or the equal of 2,000 feet of line for every square mile of land in the State. During 1950, 1,826 miles of pipe line were completed in Kansas (Table 20). Natural gas lines accounted for 89 percent of the 1950 completions.

As of January 1, 1950, existing pipe lines in Kansas consisted of about 41 percent (12,375 miles) of crude oil and product lines, and 59 percent (17,410 miles) of natural gas lines.

Because of varying conditions and mounting costs of labor, pipe, and compressor equipment, no satisfactory figures can be offered on the approximate present cost of installing large-diameter pipe lines and transmitting gas through them. A very rough idea only may be gained from details (Williams, 1950, p. 81) of costs of the Transcontinental Gas Pipe Line Corp. line from the Rio Grande Valley to New York City. The line is 1,800 miles long with 600 miles of additional gathering lines, will have a throughput of 505,000,000 cubic feet daily, required 540,000 tons of steel, 20 compressor stations, and cost $240,000,000. The installation cost with compressors is thus about $100,000 per mile, or about 50 cents for installation cost per thousand cubic foot of daily capacity. Operating cost is unknown.

TABLE 19.—*Oil, gas, and products pipe lines mileage in Kansas, January 1, 1950* (Lillie, 1951, p. 206)

Crude oil and refined products lines		Miles	
Gathering lines (crude oil and natural gasoline)		6,265	
Trunk lines			
Crude oil	4,018		
Refined products	2,092		
Total trunks	6,110	6,110	
Total crude and products		12,375	12,375
Natural gas main			
Field and gathering	1,920		
Transmission	10,300		
Distribution	5,190		
Total natural gas mains	17,410		17,410
Total crude oil, prod., and nat. gas			29,785
Completed in 1950 (from table 20)			1,826
Grand total Kansas pipe lines as of Dec. 31, 1950.			31,611

TABLE 20.—*Pipe lines and their mileage completed in Kansas during 1950* (From Reed, 1951, pp. 222, 234-241)

Company	Length miles	Mileage in Kansas	Inch diam.	Location
Products lines				
Great Lakes Pipe Line Co.	47	40	12	Between Atchison, Kans., and Valley Falls, Neb.
do	240	160	12	Tulsa, Okla., to Kansas City, Kans.
Natural gas lines				
Cities Service Gas Co.	57	57	4-10	Hugoton field gathering lines, Grant and Stanton Counties.
do	16	8	3-4	Kansas and Missouri
do	29	29	16	Wichita to Heston, Kans.
do	12	12	16	Baldwin to Lawrence, Kans.
do	14	14	12	Leavenworth to Atchison, Kans.
Kan.-Neb. Nat. Gas Co.	22	22	12	North of Scott City, Kans.
do	6	6	12	Wakeeney to Palco, Kans.
Kansas Power & Light Co.	28	28	12	Pratt to St. Johns, Kans.
do	20	20	16	Calista to Castleton, Kans.
do	14	14	16	McPherson to Toxbury, Kans.
Northern Natural Gas Co.	634	191	20-26	Garden City, Kans., to Farmington, Minn.
do	178	178	2-12	Gathering lines, Garden City to Minnesota.
do	33	33	26	Loop 3, Mullinville, Kans.
do	72	72	26	Bushton to Minneapolis, Kans.
do	155	155	20	Loop 5, Garden City to Bushton, Kans.
do	24	24	20-24	Near Liberal, Kans.
do	26	26	20	Garden City, Kans.
do	41	41	20	Southwest from Garden City, Kans.
do	46	46	4-12	Garden City, Kans.
do	77	25	20-24	Looping in Kansas, Nebraska, and Iowa.
do	222	222	26	Borger, Texas, to Nebraska, line.
do	63	63	4-12	Gathering lines around Hugoton, Kans.
do	76	76	4-12	Gathering system, Hugoton Dist., Kans.
Panhandle Eastern Pipe Line Co.	64	50	2-12	Stevens-Grant Counties, Kansas to Texas County, Okla.
do	69	69	26	Loop lines from Olpe to Hugoton, Kans.
do	145	145	26	Looping present line Liberal, Kansas, eastward.
Total mileage in Kansas		1,826		

Reserves of natural gas and natural gas liquids.—During 1950, proved reserves of natural gas in Kansas (as estimated by the Reserves Committee of Am. Petroleum Institute and Am. Gas Assoc.) did not change materially. They are roughly 14 trillion cubic feet or nearly 50 years supply at present rate of consumption. Hydrocarbon liquids contained in the proved reserves of gas amount to more than 160 million barrels or nearly 50 years supply at the current consumption rate. Estimate figures are give in Table 21.

Highlighting the Kansas reserve picture are two points: (1) new discoveries of natural gas deposits in the State are being made about as rapidly as the reserves are being depleted, and (2) Kansas proved reserves of natural gas liquids amount to more than 50 percent of the quantity of gasoline contained in the proved reserves of crude oil in the State.

The significance of Kansas reserves of natural gas liquids is commonly missed because we are in the habit of thinking only of the value of our crude oil and natural gas. Natural gas liquids, consisting of natural gasoline, condensate, and LPG (mainly propane and butane), supplement our supplies of gasolines for motor vehicles and fuels for industry and domestic use. Our important reserves of both gaseous and liquid hydrocarbons are especially comforting in time of war tension.

Reserve figures may be misleading unless properly interpreted. It must be kept in mind that the published petroleum reserve figures are clearly stated to represent proved reserves. The figures in Table 21 (API and AGA, 1950, p. 6) "do not include (1) oil under the unproven portions of partly developed fields; (2) oil in untested prospects; (3) oil that may be present in unknown prospects in re-

TABLE 21.—*Kansas proved reserves of natural gas and natural gas liquids, December 31, 1950*
(American Petroleum Institute and American Gas Association, 1950)

	Reserves* as of 12-31-49	Extensions and revisions, 1950	New discoveries, 1950	Production during 1950	Proved reserves 12-31-50	Nonassociated associated and dissolved	Underground storage	Changes in reserves during 1950	Percentage change 1949-1950
Natural gas liquids	106,405,000	60,578,000	341,000	3,746,000	163,578,000	.....	.....	57,173,000	+53
Natural gas	14,089,560	64,729	30,360	393,968	13,790,834	13,761,533	29,301	—298,726‡	— 2

* Reserves of natural gas liquids are barrels of 42 U.S. gallons; reserves of natural gas are millions of cubic feet calculated at 14.65 psia at 60°F.
‡ Corresponding estimates by the Oil and Gas Journal (Ingalls, 1951, p. 199) show a gain of 710,000 million cubic feet or 5 percent in the reserve.

gions believed to be generally favorable; (4) oil that may become available by fluid injection methods from fields where such methods have not yet been applied; (5) oil that may become available through chemical processing of natural gas; (6) oil that can be made from oil shale, coal or other substitute sources." (The above policy of the Reserves Committee applies equally to natural gas and natural gas liquids.)

In other words, the reserve figures represent oil and gas that are essentially "drilled out" and do not include even oil to be won by secondary recovery (fluid injection) except in operating properties. They represent production we could depend on if the industry stopped developing and searching for new deposits. Actually reserves in the country have been maintained for many years by current new development in spite of high annual consumption. The condition should continue so long as there are adequate incentives for continued search.

ALLEN COUNTY

The 1950 production from 10 fields: oil 318,658 barrels including 140,678 barrels from 7 secondary recovery projects, gas 463,648 thousand cubic feet. Wells drilled in 1950: oil 4, dry 2, salt-water disposal and input 7, probably unrecorded 237, total 250 (estimated).

Developments during 1950.—Total oil production is 14 percent more than in 1949. No important wildcat wells were reported in Allen County in 1950, but it is estimated that about 250 wells, largely in connection with water-flooding operations, were drilled in the county. Several new oil wells were drilled in the **La Harpe** area of the Iola field.

Primary production of oil in the upper part of the Mississippian limestone in the **Neosho Falls** field in the northwestern part of the county continued to be noteworthy. The Allen County part of this field yielded 8,726 barrels of oil in 1950. Production from two secondary recovery projects (one extending into Bourbon County and one into Neosho County) cannot be assigned to either county. Production data on these two projects are listed separately in Table 1.

The total number of commercial gas wells in the county was reported to be 139.

Oil production in the various fields in Allen County is shown in Table 62 and gas production in Table 63. Locations of areas that

produced oil by primary and secondary methods are shown in Plate 1.

ANDERSON COUNTY

The 1950 production from 7 fields: oil 543,875 barrels including 455,915 barrels from 10 secondary recovery projects. Wells drilled in 1950: 500 (estimated).

Developments during 1950.—Oil production in Anderson County during 1950 was almost 13 percent more than in 1949. Of the total production, 84 percent was reported to have been produced from 10 water-flood projects.

Oil production in the Anderson County fields is shown in Table 62. Plate 1 shows the location of areas that produced oil by secondary and primary methods during 1950. Data on water-flooding operations are listed in Table 1. It is estimated that about 500 wells, mainly in connection with water-flooding operations, were drilled in Anderson County during the year.

BARBER COUNTY

The 1950 production from 19 pools: oil 1,139,892 barrels, gas 10,483,580 thousand cubic feet. Wells drilled in 1950: oil 12, gas 1, dry 10, salt-water disposal 1, total 23 including 5 wildcats. New pools discovered 2. Secondary recovery projects 1.

Developments during 1950.—Drilling declined somewhat in 1950, but production of both oil and gas did not change materially.

One of the new oil pools, the **Gerlane**, is located a few miles southwest of the Rhodes pool. The initial well, drilled by Continental Oil Company on the Cavin farm in sec. 29, T. 33 S., R. 11 W., found production in the Mississippian at 4,530 to 4,591 feet. The hydrafrac process was used and initial daily capacity was reported as 36 barrels of oil of about 23° API gravity.

The second discovery was a late November completion, resulting, according to the Nomenclature Committee report, from Nadel and Gussman's No. 1 Moffett well in sec. 8, T. 30 S., R. 15 W. Strong shows of oil in the Viola between 4,640 and 4,665 feet led to several sets of perforations and tests. As this is written the status of the well is uncertain.

Routine drilling in various parts of the county resulted in six new oil wells in the **Rhodes** pool, one each in the **Boggs, Deerhead,** and **Turkey Creek** pools; and one gas and two oil wells in the

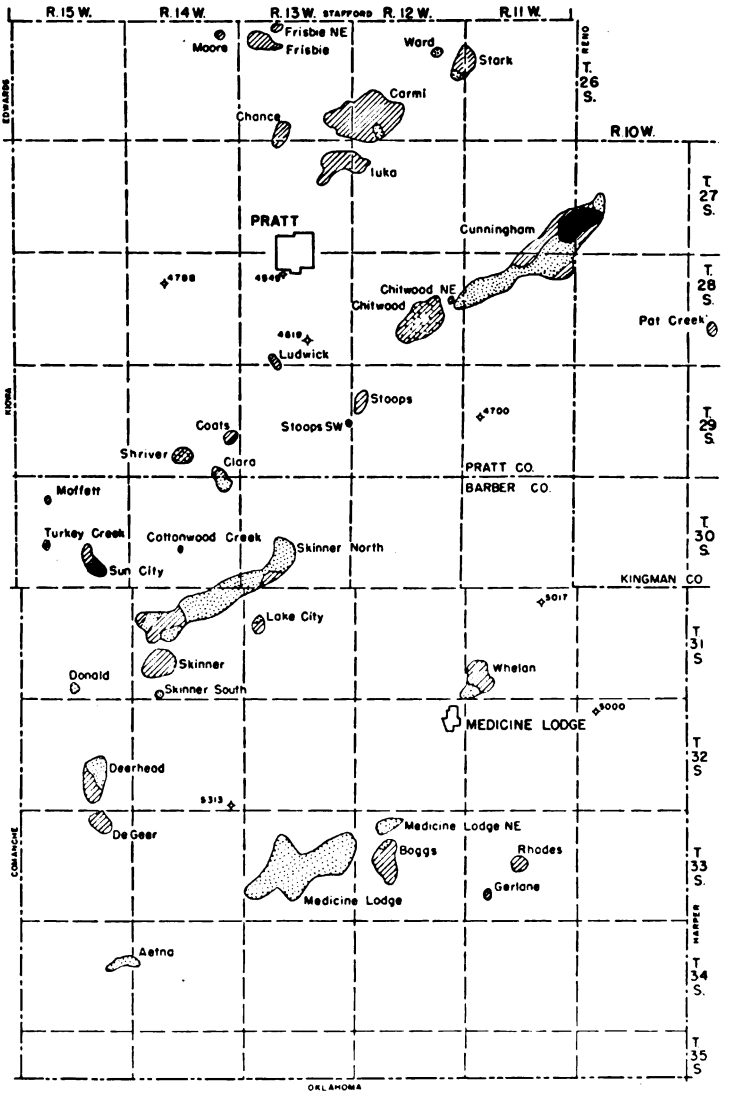


FIG. 5.—Map of Barber, Pratt, and part of Kingman Counties showing oil and gas pools and dry wildcat tests drilled during 1950. (Dots, gas; diagonal lines, oil; solid black, secondary recovery).

DeGeer pool. The gas well, drilled by the Sinclair Oil Corporation, found production in the Viola limestone.

One dry wildcat test was drilled a few miles northeast of the **Whelan** pool in sec. 10, T. 31 S., R. 11 W. by Rine and Gore on the Bergner farm. The hole was carried down to the Arbuckle dolomite. A show of oil was found in the Simpson sandstone between 4,857 and 4,872 feet. A second wildcat test was drilled a short distance southwest of the Whelan pool on the outskirts of Medicine Lodge in sec. 2, T. 32 S., R. 12 W. A drill stem test from 4,287 to 4,306 feet yielded a slight show of oil. The Lansing-Kansas City, judging by the electric log, was reached at about 3,680 feet and the hole was abandoned in Arbuckle dolomite.

Several miles east of Medicine Lodge the Continental Oil Company drilled a wildcat test on the Thompson farm in sec. 5, T. 32 S., R. 10 W. which penetrated the Arbuckle dolomite. Several drill-stem tests were taken; a strong oil show was found at 4,795 feet in the Simpson. About midway between the Medicine Lodge and the Deerhead gas pools W. J. Coppinger drilled a test well on the Rinke farm in sec. 36, T. 32 S., R. 14 W. Although drilled into the Arbuckle, no shows of oil or gas were reported.

During the year a secondary oil recovery operation by gas injection was initiated by Great Lakes Carbon Corporation in the **Sun City** pool.

County oil production is shown in Table 62, gas production in Table 63, new pools in Table 6, and dry wildcat wells and producing areas in Figure 5.

BARTON COUNTY

The 1950 production from 92 pools: oil 19,424,231 barrels, gas 3,980,091 thousand cubic feet. Wells drilled in 1950: oil 285, gas 2, dry 222, salt-water disposal 9, total 518 including 45 wildcats. New pools discovered 22, old pools abandoned 3, combined 4. Secondary oil recovery projects 1.

Developments during 1950.—Many test wells were drilled in Barton County during 1950. Most of these were pool wells, but there were also numerous wildcat tests. Among the latter 22 were successful in finding oil. These new pools are the **Anton, Batchman, Bernard, Blood Creek, Bloomingdale, Boyle, Capitol View, Cheyenne View North, Cheyenne View West, Fort Zarah, Hammeke, Hammeke Southeast, Hiss South, Leoville, Leoville Southeast, Prairie View, Redwing, Reif South, Roesler East, Rusco, Under-**

TABLE 22.—*Dry wildcat tests drilled in Barton County during 1950*

Company and farm	Location	Depth to top of Lans.-K.C., feet	Depth to top of Arbuckle, feet	Total depth, feet
*Musgrove Petroleum Corp. No. 1 J. Popp, Jr.	SE cor. SW¼ 29-16-14W	3,216	3,482	3,490
Nadel & Gussman No. 1 Karst	SW cor. NW¼ 14-16-15W	3,229	3,502	3,543
John Lindas Oil, Inc., et al. No. 1 Bortz	SW cor. SW¼ 32-17-11W	3,058	3,367	3,380
*Alpine Oil & Royalty Co., Inc., No. 1 Jenisch	NE cor. SW¼ 13-17-12W	3,074	3,340	3,370
*Earl F. Wakefield et al. No. 1 Tockert	NE cor. SW¼ 23-17-12W	3,080	3,340	3,367
Graham-Messman-Rinehart No. 1 Huslig	SW cor. NE¼ 25-17-12W	3,049	3,352	3,392
J. J. Lynn No. 1 Koester	SW¼ SE¼ NE¼ 28-17-12W	3,213	3,462	3,506
*Crown Oil Co., Inc. No. 1 Drews	NE cor. SW¼ 1-18-12W	3,136	3,495	3,505
*Darby & Bothwell, Inc. No. 1 "A" Laudick	NE cor. SW¼ 23-18-14W	3,158	3,434	3,455
*Ben F. Brack Oil Co., Inc. No. 1 McMullin	SE cor. SE¼ 27-18-14W	3,220	3,522	3,555
Herndon Drilling Co. No. 1 Hawkins	NW cor. NW¼ 3-19-13W	3,168	3,414	3,435
*Westgate-Greenland Oil Co. No. 1 Krentzel	NW cor. NW¼ 12-19-13W	3,138	3,418	3,455
*Welch, Olsson & Allison No. 1 Taylor	SE cor. SW¼ 18-19-13W	3,226	3,480	3,509
Alpine Oil & Royalty Co., Inc., No. 1 Hill	SE cor. NW¼ 23-19-13W	3,180	3,430	3,460
*Bradley Bros. & Flournoy & Williams No. 1 Weber	NE cor. SW¼ 1-19-14W	3,224	3,480	3,503
A. D. Allison and Co. et al. No. 1 Hiss	SE cor. SW¼ 25-19-14W	3,206	3,505	3,522
*Pickrell Drlg. Co., Inc. et al. No. 1 Davis	SW cor. SE¼ 31-19-14W	3,257	3,604	3,649
H & H Drilling Company No. 1 Glazner	NW cor. SE¼ 32-19-14W	3,250	3,594	3,673
National Assoc. Petro. Co. No. 1 McMullen	SW cor. SW¼ 3-20-13W	3,211	3,507	3,535
*National Assoc. Petro. Co. No. 1 Selle	SW cor. SE¼ 10-20-13W	3,224	3,499	3,566
*Musgrove Petroleum Corp. No. 1 Nelson	SE cor. SW¼ 16-20-13W	3,254	3,532	3,575
*Brunson Drlg. Co., Inc. et al. No. 1 Ira Unruh	NW cor. SW¼ 11-20-14W	3,244	3,587	3,638
*Vickers Petr. Co., Inc. & Jayhawk Drlg. Co., No. 1 Musser	SE cor. SE¼ 35-20-15W	.....	3,787	3,810

* No electric log available. Kansas Sample Log Service, Independent Oil and Gas Service, and other available data sources have been used.

wood, and **Zink.** These new pools are shown on Figure 6 and are listed in Table 6. Twelve of the new pools produce oil from the Arbuckle dolomite, the remainder from porous zones in the Lansing-Kansas City limestone sequence. Producing depths in the Arbuckle pools range from about 3,300 to 3,500 feet. Producing depths in the Lansing-Kansas City pools range from 3,000 to 3,300 feet. In some cases, as in the Cheyenne View North pool, production comes from three different porous zones in the limestone sequence.

In some cases salt-water disposal wells reveal interesting stratigraphic data. The thickness of the Arbuckle dolomite was found to be more than 200 feet in sec. 34, T. 16 S., R. 11 W. In sec. 4, T. 17 S., R. 11 W. the thickness is probably 200 feet, although the well was not drilled completely through the dolomite. The Gulf Oil Corporation No. 1 Bloomer well in sec. 12, T. 18 S., R. 11 W. penetrated 508 feet of Arbuckle dolomite, judging by the electric log. In the center of the county one well, the Continental Oil Company No. 3 Jilg well in sec. 18, T. 18 S., R. 13 W., penetrated 229 feet of Arbuckle before entering weathered Pre-Cambrian rocks.

No shows of oil were reported in 15 of the 23 Barton County dry wildcat tests, all of which were drilled deep enough to test the Arbuckle. The Arbuckle was topped in most of these tests at depths of roughly 3,350 to 3,600 feet. Wildcat tests in sec. 29, T. 16 S., R. 14 W.; sec. 32, T. 17 S., R. 11 W.; sec. 3, T. 19 S., R. 13 W.; sec. 12, T. 19 S., R. 13 W.; sec. 1, T. 19 S., R. 14 W.; and sec. 25, T. 19 S., R. 14 W. had shows of oil in the Lansing on drill-stem tests, according to scout reports.

Data on the Stanolind Oil and Gas Company's secondary recovery project are given in Table 1. Oil production is given in Table 62, gas production in Table 63, and wildcat well data in Table 22.

BOURBON COUNTY

The 1950 production from 4 fields: oil 24,342 barrels including an unknown quantity from 1 secondary recovery project, gas 8,264 thousand cubic feet. Wells drilled in 1950 not estimated.

Developments during 1950.—Bourbon County oil production totaled about 51 percent more than the 1949 production. Seven gas wells were reported producing. One water-flooding project operated in the **Davis-Bronson** field. No important exploratory drilling in 1950 was reported in the county and fewer wells were drilled

than in recent previous years. Oil production began in 1906, but output previous to 1917 is not available.

Oil production in Bourbon County fields is shown in Table 62, and locations of areas that produced oil during the year are shown on Plate 1.

BROWN COUNTY

The 1950 production from 1 field: oil 5,579 barrels, gas none. Wells drilled in 1950: oil none, dry 4 including 3 wildcats.

Developments during 1950.—The **Livengood** pool, in sec. 3, T. 1 S., R. 15 E., discovered in 1944, was the only active Brown County pool during 1950.

A dry hole drilled in the Livengood field was abandoned at a total depth of 2,613 feet. During the year three dry wildcats were drilled in Brown County. The Davon Oil Company No. 1 Yost well, SE¼ SW¼ NE¼ sec. 33, T. 1 S., R. 16 E., was completed in April. The following tops were reported: Lansing, 1,027 feet; Mississippian "chat," 2,334 feet; Kinderhookian rocks, 2,517 feet; "Hunton," 2,748 feet; Viola, 3,372 feet; total depth 3,425 feet. The National Associated Petroleum Company No. 1 Titus well, SE¼ SE¼ NE¼ sec. 20, T. 2 S., R. 15 E., was abandoned as a dry hole in January. Tops reported are as follows: Topeka limestone, 883 feet; Mississippian, 2,647 feet; Kinderhookian, 2,796 feet; "Hunton," 3,045 feet; Maquoketa, 3,696 feet; Viola, 3,735 feet; total depth, 3,775 feet. The National Associated Petroleum Company No. 1 Georgeson well in the SW¼ SW¼ SW¼ sec. 11, T. 3 S., R. 16 E. was completed in January. The total depth is 3,433 feet. These tops were reported: Lansing, 1,044 feet; Kansas City, 1,146 feet; Mississippian, 2,344 feet; Kinderhookian, 2,586 feet; Maquoketa, 3,314 feet; Viola, 3,405 feet.

According to records of the Geological Survey 12 wells had been drilled previously in Brown County. Oil production data are given in Table 62.

BUTLER COUNTY

The 1950 production from 52 fields: oil 6,862,459 barrels including 506,570 barrels from 12 secondary recovery projects, gas no figures available. Wells drilled in 1950: oil 232, gas 2, dry 110, salt-water disposal 13, total 369 including 17 wildcats. New pools discovered 3, revived 1.

Developments during 1950.—Three Pennsylvanian oil pools were discovered in the county in 1950. In May a "Bartlesville sand" pool, the **Muddy Creek,** was discovered by the Marhenke Drilling Company et al. No. 1 Doyle well in sec. 13, T. 29 S., R. 4 E. During the remainder of the year 14,215 barrels of oil was produced from the new pool.

TABLE 23.—*Data on pool wells drilled in Butler County during 1950*

Field	No. of oil wells (or gas)	No. of dry holes	No. of injection wells on water-flood projects	Water supply on water-flood projects	Salt water disposal
Allen-Robinson	8	7	..	..	..
Andover S.	1 gas	1	..	..	..
Augusta	18	..			
	1 gas	9	..	..	..
Augusta N.	4	3	..	..	..
Bausinger	..	1	..	..	..
Blankenship	..	2	2	1	..
Butwick	5	4	..	..	..
Combs	..	2	..	..	..
De Moss	..	2	..	..	..
Douglass	2	5	..	..	..
Elbing	21	2	..	..	1
Elbing E.	3	2	..	..	..
El Dorado	82	17	8	..	..
Ferrell	2	..	..	..	..
Fox-Bush	1	2	..	..	..
Gilwick	..	1	..	..	..
Hartenbower	1	..	..	..	..
Hazlett	2	..	..	..	..
Hazlett N.	31	12	..	..	..
Hickory Creek	3	2	..	..	..
Leon	1	1	..	..	..
Long	2	1	..	..	..
Muddy Creek	3	2	..	..	..
Parsley	2	1	..	..	..
Pettit	..	1	..	..	..
Pierce	..	..	..	..	1
Potwin	18	9	..	..	..
Potwin S.	..	1	..	..	..
Reynolds-Schaffer	3	1	..	..	..
Rombold	1	2	..	..	..
Salter	1	2	..	..	..
Semisch	2	..	..	..	..
Smock-Sluss	1	5	..	..	..
Thompson	..	1	..	..	..
Towanda	9	..	..	..	..
Whitewater	3	1	..	..	1
Womack	1	4	..	..	..
Young	1	3	..	..	1
Total	232 2 gas	110	10	1	4

In August a "Peru sand" pool, the **Hartenbower,** was discovered by the McClure-Braden et al. No. 1 Hartenbower well in sec. 16, T. 29 S., R. 6 E. The 1950 production from the field was 2,147 barrels. The **Elbing East** field was opened by the S. A. Springer No. 1 Mellor well in sec. 27, T. 23 S., R. 4 E. Production was obtained in the Lansing-Kansas City.

Gas production was revived in the **Andover South** field in April when a 2,500 thousand cubic foot gas well was completed in sec. 31, T. 27 S., R. 3 E.

Of the Butler County total, 3,062,823 barrels of oil came from the **El Dorado** field whose cumulative total exceeds 200 million barrels. Oil production in the various Butler County fields is listed in Table 62 and Plate 1 shows the locations of areas in the county in

TABLE 24.—*Data on dry wildcat tests drilled in Butler County during 1950*

Company and farm	Location	Depth to top of Kansas City, feet	Depth to top of Mississippian, feet	Total depth, feet
*Rex & Morris Drlg. Co. No. 1 Kaufman	SE cor. SE¼ 12-23-4E	.....	2,442	2,452
*Rex & Morris Drlg. Co. No. 1 Winsor	NE¼ NW¼ NW¼ 18-23-5E	.....	2,429	2,457
*George Sheehan et al. No. 1 Heymann	SE¼ SW¼ SE¼ 33-23-5E	1,815†	2,420	2,557
*E. H. Adair Oil Co. & C. L. Carlock, No. 1 Brenning	SW cor. SE¼ 7-23-6E	2,165	2,780	3,290
*Birmingham-Bartlett Drlg. Co., No. 1 "B" Hinnen	SE¼ NE¼ SW¼ 7-24-6E	2,032	2,563	2,912
*R. J. Wixson Drlg. Co. et al. No. 1 J. C. Truman	NW cor. SE¼ 21-25-3E	2,310	2,762	2,827
*J. C. Scanlon & W. R. Dillard No. 1 Koble	NW¼ NE¼ NW¼ 33-25-6E	2,124	2,780	2,801
*Nadel & Gussman No. 1 Elmore	SW cor. NW¼ 34-25-6E	.....	2,776	2,786
*Artnell Company No. 1 L. B. Jahren	NE¼ NW¼ NW¼ 29-25-8E	1,930	2,657	2,755
*W. L. Hartman No. 1 Lygrisse	Cen. S½SW¼NE¼ 24-26-3E	2,266	2,728	3,079
*Crest Petroleum No. 1 Priest	SE cor. NW¼ 20-26-4E	2,128	2,638	2,906
*Rex & Morris Drlg. Co. No. 1 Mannion	SW¼ SE¼ SE¼ 28-26-4E	2,055	2,636	2,900
*Richard A. Mayer et al. No. 1 Church	NE¼ SE¼ SW¼ 5-28-5E	2,208	2,765	2,780
The Texas Company No. 1 C. E. Keller	NE cor. NW¼ 32-29-3E	2,430	2,942	3,345

† Lansing.
* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

which oil was produced during the year by primary and secondary methods. Data on the secondary recovery projects are listed in Table 1. Data on 1950 pool wells drilled in the county are given in Table 23. Data on the dry wildcat tests are given in Table 24.

CHASE COUNTY

The 1950 production from 5 fields: oil 37,594 barrels, gas 66,385 thousand cubic feet. Wells drilled in 1950: dry 6.

Developments during 1950.— The county's production came from the **Atyeo** field which extends into Lyon County and the **Teeter** field which extends into Greenwood County. Data on oil production are listed in Table 62 and on gas production in Table 63. Locations of areas that produced oil during the year are shown on Plate 1.

Five dry wildcat wells and one dry outpost well were drilled in Chase County in 1950. Data on wildcats are listed in Table 25. The Ward McGinnis No. 1 Crosby well in the Cen. NW¼ sec. 32, T. 22 S., R. 9 E., north of the Teeter field, was abandoned in January. The well reached Mississippian limestone at 2,520 feet and was drilled to a total depth of 2,570 feet.

TABLE 25.—*Data on wildcat wells drilled in Chase County during 1950*

Well	Location	Surface elevation	Depth to top of Lansing, feet	Depth to top of Viola, feet	Depth to top of Arbuckle, feet	Total depth, feet
*C. L. Seibel and Basee Drlg. Co. No. 1 Ronsick	NW NW NW 29-18-6E	1,377	1,450	1,953 1,967‡	2,018	2,070
Alf M. Landon and Stanolind Oil and Gas Co. No. 1 Leith	NE SW NE 22-18-9E	1,290	1,456 2,474†	2,953 3,051‡	3,113	3,153
*Morrison Drlg. Co. et al. No. 1 Spain	NW SE NW 7-19-6E	1,297	1,450	2,092 2,153‡	2,248	2,365
*R. L. Mendenhall et al. No. 1 Piper	SE NE NE 14-20-9E	1,356	1,453 2,454†	.....	.....	2,475
Aladdin Petr. Corp. and C. L. Carlock No. 1 Noller	NW SW NE 21-21-8E	1,517	1,710 2,654†	3,131 3,202‡	3,257	3,361
*Ward A. McGinnis No. 1 Crosbie	Cen. NW¼ 23-22-9E	.....	2,520	.....	.....	2,570

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

† Depth to top of Mississippian, feet.

‡ Depth to top of Simpson, feet.

CHAUTAUQUA COUNTY

The 1950 production from 24 areas in 16 fields: oil 812,156 barrels, including 1 secondary recovery project, gas 216,705 thousand cubic feet. Wells drilled in 1950: 60 (estimated).

Developments during 1950.—During the year Chautauqua County produced oil from scattered areas in 16 recognized fields. The largest area of production is the **Peru-Sedan** field. One waterflooding project was reported. It is estimated that about 60 wells were drilled in the county in 1950, but no important exploratory wells were reported.

Oil production data for Chautauqua County are listed in Table 62. Gas production is listed in Table 63. Areas that produced oil by primary and secondary methods are shown on Plate 1. Data on secondary recovery are included in Table 1.

CLARK COUNTY

Wildcat wells have been drilled in Clark County from time to time. Some production of oil and gas was recorded prior to 1945.

Exploration during 1950.—During 1950 a test well was drilled by the White Eagle Oil Company on the McCaustland ranch in sec. 34, T. 30 S., R. 21 W. The following tops were reported according to the electric log: Stone Corral anhydrite, 1,248 feet; Wellington salt, between 1,966 and 2,438 feet; Ft. Riley limestone, 2,780 feet; Wreford cherty limestone, 2,935 feet; Heebner shale, 4,292 feet; Lansing-Kansas City limestone, 4,510 feet; Mississippian System, 5,206 feet. Drill-stem tests at 5,206 feet and between 5,225 and 5,310 feet (the total depth) found no shows.

CLAY COUNTY

Several years ago a small amount of oil was produced from the Wakefield pool which was abandoned shortly after discovery in 1928. No oil has since been produced in the county. Three dry holes were drilled in 1950.

Exploration during 1950.—Three dry holes were reported in Clay County during 1950. The Mendenhall Drilling Company No. 1 Glaze well, Cen. NE¼ sec. 21, T. 9 S., R. 4 E., in the old Wakefield field was drilled in February. The top of the Mississippian was reported at 1,788 feet; the total depth is 1,824 feet. The El Capitan Oil Company No. 1 Hill well, NW¼ NW¼ SW¼ sec. 15, T. 9 S., R. 4 E., 1 mile from the Wakefield field, was drilled in December.

Tops were reported as follows: Mississippian "chat," 1,091 feet; "Hunton" limestone, 2,138 feet; Maquoketa shale, 2,505 feet; Viola limestone, 2,604 feet; total depth 2,650 feet.

The third dry well was a rank wildcat drilled by K. I. Turner and Mendenhall Drilling Company on the Concord farm in the SW¼ SE¼ NE¼ sec. 24, T. 8 S., R. 3 E. The top of the Mississippian "chat" was reached at 2,010 feet; the total depth is 3,000 feet.

CLOUD COUNTY

Wildcat tests have been drilled in Cloud County from time to time but so far no producing pool has been discovered.

Exploration during 1950.—No test wells were drilled in Cloud County during 1948 or 1949. In 1950 the Stanolind Oil and Gas Company drilled a well on the Campbell farm in sec. 26, T. 6 S., R. 2 W. which yielded valuable geological data. According to the electric log the Florence chert was found at 608 feet, and the Wreford cherty limestone at 678 feet. Lower down the Foraker limestone was encountered at 990 feet, and the base of the Americus limestone at 1,035 feet. The Heeber black shale was found at 1,814 feet and the Douglas shale zone at 1,846 feet. The base of the Kansas City limestone sequence was found at 2,252 feet. In the Mississippian System the highest formation encountered was the Osagian cherty limestone which was found at 2,469 feet. Below it the St. Joe noncherty limestone was found at 2,538 feet. The lowest Mississippian formation here is Kinderhookian shale which lies at a depth of 2,605 feet and rests upon the "Hunton" dolomite at 2,748 feet. The Ordovician is represented by the Sylvan shale, the Viola cherty dolomite at 3,030 feet, the Simpson shale at 3,240 feet, and the Arbuckle dolomite at 3,312 feet. The test was abandoned as a dry hole at a total depth of 3,350 feet.

COFFEY COUNTY

The 1950 production from 5 fields: oil 107,394 barrels, gas 10,865 thousand cubic feet. Wells drilled in 1950: oil 17, dry 10, probable unrecorded 8, total 35 (estimated) including 5 wildcats.

Developments during 1950.—All oil production in Coffey County is in the southern part. Two commercial gas wells were reported to have produced the gas. Data on 27 wells are available; 17 are oil wells drilled in established fields and 10 are dry holes. Among the dry holes five are on wildcat locations. Data on these wildcat tests are listed in Table 26.

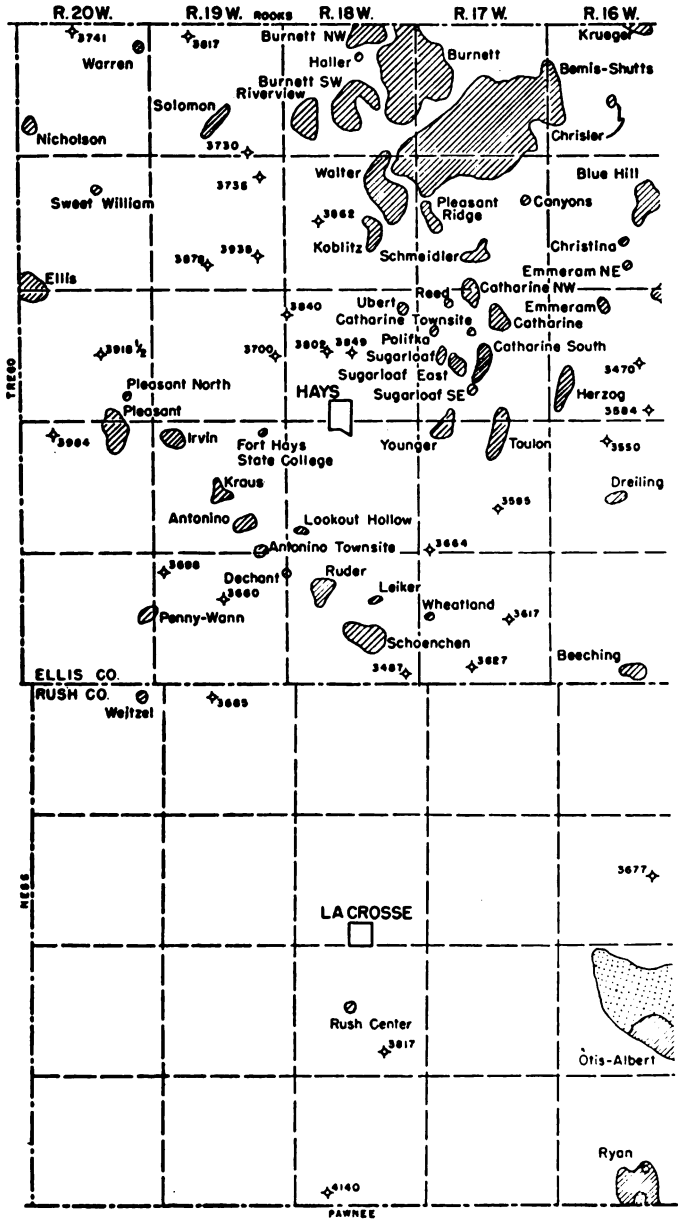


FIG. 6.—Map of Barton, Ellis, Russell, and Rush Counties showing oil and gas pools and dry wildcat tests drilled during 1950. (Dots, gas; diagonal lines, oil; solid black, secondary recovery).

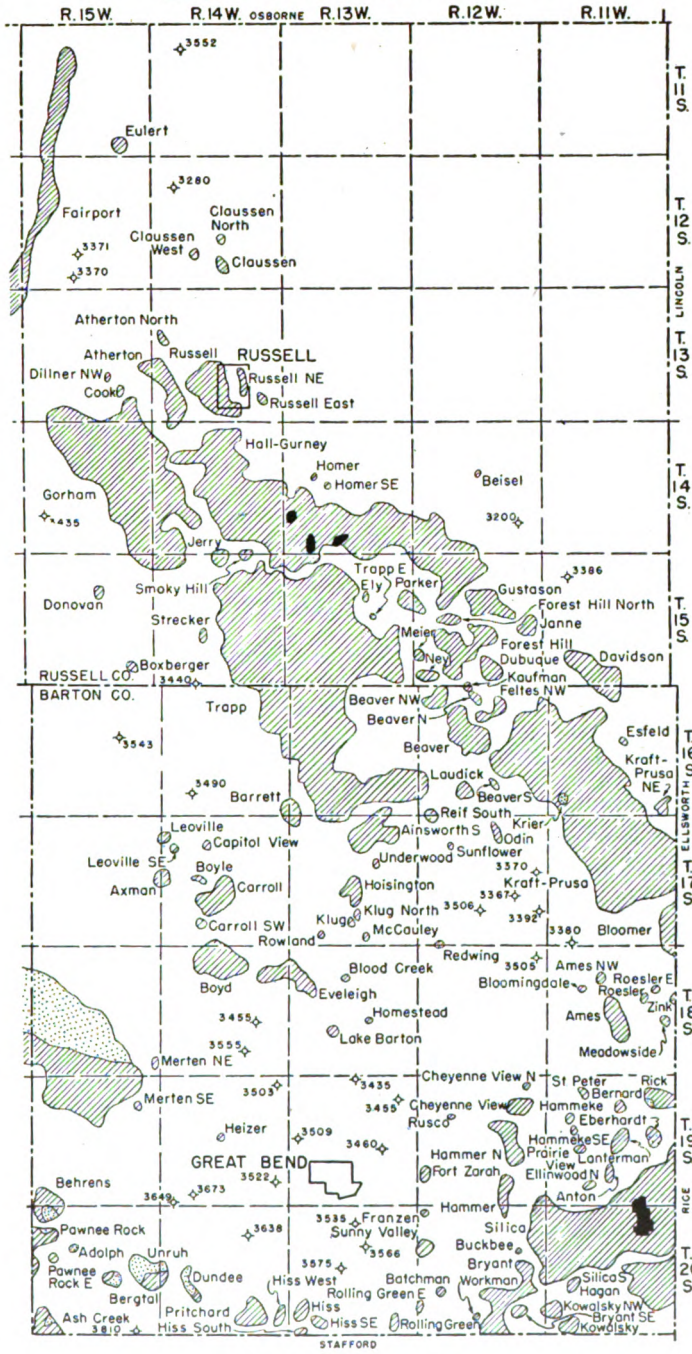


TABLE 26.—*Data on wildcat tests drilled in Coffey County during 1950*

Company and farm	Location	Depth to top of "Burgess sand," feet	Depth to top of Mississippian feet	Total depth, feet
Stanolind Oil & Gas Co. No. 1 L. Butler	SE cor. SW¼ 1-21-13E	1,740	1,753	2,291
*Walter Neustadt, Jr. No. 1 "A" Sam Bahr	NW¼ SE¼ SE¼ 33-22-14E	1,330†		1,370
*Sunflower Drlg. Co. et al No. 1 Sam Bahr	NW¼ SE¼ SE¼ 33-22-14E		1,690	1,705
*G. W. Jesse No. 1 Valenta	SW¼ NE¼ SE¼ 4-23-14E	1,615	1,635	1,655
*Ray Oil & Gas No. 1 Schoehleber	NW cor. NE¼ 3-23-15E		1,472	1,640

† Peru
* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

Oil production in the Coffey County fields is shown in Table 62. Areas that produced oil during 1950 are shown on Plate 1.

COWLEY COUNTY

The 1950 production from 55 active fields: oil 1,908,243 barrels including 25,293 barrels from 5 secondary recovery projects, gas 51,798 thousand cubic feet. Wells drilled in 1950: oil 24, dry 41, salt-water disposal 1, gas injection 1, total 67 (recorded) including 9 wildcats. New pools discovered 1, old pools revived 1.

Developments during 1950.—The discovery well for the new **Ferguson Northwest** pool was drilled by A. H. Reneau on the Ferguson farm in sec. 16, T. 30 S., R. 8 E. Production is from the Kansas City group from a depth of 2,200 to 2,211 feet. The top of the Lansing was reached at 1,560 feet and the top of the Kansas City at 2,015 feet. The well was drilled to a total depth of 2,310 feet and an initial production of 45 barrels of oil per day was assigned in a producing test.

Oil production from the Arbuckle limestone was revived in 1950 in sec. 9, T. 30 S., R. 4 E. in the **Bruce** field which had been opened in 1941. The reviving well is the Phillips Petroleum Company and E. B. Shawver No. 1 Davis. Initial production of 40 barrels of oil per day was established. Important tops were listed as follows: Kansas City limestone, 2,309 feet; "Bartlesville sand," 2,838 feet; Mississippian, 2,906 feet; Kinderhookian shale, 3,214 feet, and Arbuckle limestone, 3,305 feet. The well was drilled to a total depth of 3,313 feet.

TABLE 27.—*Data on pool wells drilled in Cowley County during 1950*

Field	Oil wells	Dry holes
Baird E.	..	1
Bruce	1	..
Combs	..	1
Couch	..	1 (extension wildcat)
Countryman	..	1
Deichman	..	2 (extension wildcat)
Dexter	..	2
Dunns Mill	..	1 (extension wildcat)
Eastman	1	..
Geuda Springs	1	1
Graham	3	1
Jarvis	..	1 (extension wildcat)
Mansur	8	4
Murphy	1	1
Otto	..	3
Rock	1	1
School Creek	1	1
Slick-Carson	..	2
		1 (extension wildcat)
Smith	..	2
Stayton	3	2
Thurlow	1	..
Trees	2	2 (extension wildcat)
Udall	..	1
Winfield	..	1
Total	23	34

Oil production in the various fields in Cowley County is shown in Table 62. Plate 1 shows the locations of areas in which oil was produced during the year by primary and secondary methods. Data on the various secondary recovery projects are listed in Table 1. Gas production statistics are listed in Table 63. Information on pool wells is given in Table 27 and data on wildcat tests are listed in Table 28.

CRAWFORD COUNTY

The 1950 production from 7 fields: oil 59,592 barrels including 22,832 barrels from 2 secondary recovery projects, gas 22,660 thousand cubic feet. Wells drilled in 1950: 50 (estimated).

Developments during 1950.—Unrecorded production of oil in Crawford County started as early as 1917. Reported gas production in 1950 was from 15 commercial wells. Some additional gas production cannot be segregated from that of Neosho County.

Oil production in the various fields in Crawford County is shown in Table 62. Plate 1 shows locations of the areas that produced oil during 1950. Water-flooding data are listed in Table 1.

TABLE 28.—*Data on wildcat wells drilled in Cowley County during 1950*

Well	Location	Surface elevation	Depth to Kansas City, feet	Depth to Mississippian, feet	Depth to Arbuckle, feet	Total depth, feet
*Wakefield and Ross No. 1 McKay	SE SW NE 1-30-3E	1,195	2,223	2,814	3,193	3,214
Ann Parker No. 1 Kruger	SW SE NW 6-30-3E	1,285	2,538	3,063	3,416	3,468
*Wood River Oil & Refg. Co. No. 1 Kropp	SW SE SW 26-30-3E	1,253	2,464	3,043	3,407	3,433
Buffalo Oil Co. et al. No. 1 Groene-Rahn	NW NW SE 1-32-3E	1,129	2,428	3,026	3,360	3,380
*S. Cooper et al. No. 1 Ogilbee	SW NE NE 7-32-4E	1,143	.....	.....	.....	2,032
*Saco Oil Co. et al. No. 1 Webb	NE NW SE 9-34-8E	.....	.....	.....	.....	2,445
*Barbara O. & G. Co. No. 1 Bell	SW NE NE 20-34-8E	.....	.....	2,768	.....	2,780

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

It is estimated that about 50 wells were drilled in the county during the year but no important wildcats were reported. Most of the drilling was in or near established oil fields in the western part of the county.

DICKINSON COUNTY

The 1950 production from 4 fields: oil 162,132 barrels, gas none.
Wells drilled in 1950: oil 7, dry 8, total 15 including 3 wildcats.

Developments during 1950.—Of the 15 wells reported drilled in Dickinson County during 1950, eight are dry holes, three of which were drilled on wildcat locations. The seven oil wells were drilled in the **Lost Springs** field, where four dry holes also were put down. A dry extension wildcat of the **Fanska** field (Marion County) was drilled in the SW¼ SW¼ SW¼ sec. 29, T. 16 S., R. 1 E. Three other wildcats were drilled during the year. The Frank Dieter No. 1 Bennett well, SW¼ SW¼ NE¼ sec. 3, T. 11 S., R. 1 E., was drilled only to 545 feet, but two wells were drilled into the Arbuckle limestone. The Mouser Drilling Company No. 1 Langenecker, SW¼ SW¼ NW¼ sec. 34, T. 12 S., R. 2 E., was drilled to 3,112 feet. Tops reported were: Kansas City, 1,720 feet; "chat," 2,293 feet; "Hunton" limestone, 2,649 feet; Viola limestone, 2,890 feet; Simpson rocks, 3,040 feet; and Arbuckle limestone, 3,093 feet. In the Youker and Son No. 1 Larson well, SW¼ SW¼ NW¼ sec. 16, T. 16 S., R. 3 E., these tops were reported: Kansas City, 1,790 feet; Mississippian limestone, 2,552 feet; "Hunton" limestone, 2,689 feet;

Viola limestone, 2,950 feet; Simpson 3,030 feet; and Arbuckle limestone, 3,083 feet. The total depth is 3,100 feet.

Oil production statistics are listed in Table 62. Locations of areas in Dickinson County that produced oil in 1950 are shown on Plate 1.

DOUGLAS COUNTY

The 1950 production from 3 areas: oil 4,000 barrels (estimated), gas, a small amount. Wells drilled in 1950: 10 (estimated) including 2 wildcats.

Developments during 1950.—One deep wildcat test was drilled in Douglas County in 1950. It is the G. J. Neuner No. 1 Thurber well in the NE¼ NE¼ NE¼ sec. 1, T. 14 S., R. 17 E. The following tops were reported: Mississippian limestones, 1,638 feet; Kinderhookian, 1,880 feet; "Hunton" limestone, 1,950 feet; Viola limestone, 2,048 feet. The well was abandoned at 2,058 feet. A few shallow holes were drilled in the northeastern part of the county.

During the year production was from the **Baldwin** field in the southeastern part of the County and a small amount of gas was produced in the **Lawrence** and **Eudora** areas. Production data are given in Table 62; locations of the producing areas are shown in Plate 1.

EDWARDS COUNTY

The 1950 production from 2 pools: oil 15,009 barrels, gas 185,221 thousand cubic feet. Wells drilled in 1950: oil none, gas none, dry 4, total 4 including 3 wildcats.

Developments during 1950.—Three rank wildcat tests were made, and one well was drilled in the long abandoned McCarty gas pool. No shows were reported in any of the four wells except in the Continental Oil Company No. 1 Groner well in sec. 34, T. 25 S., R. 20 W. Here a drill-stem test showed some gas at 4,239 to 4,245 feet in the upper part of the Lansing-Kansas City. Lower down, at the top of the Mississippian, a drill-stem test gave a strong show of gas estimated at 3 million cubic feet per day between 4,679 and 4,704 feet.

In the Sinclair Oil and Gas Company No. 1 Burcher well, drilled in sec. 9, T. 24 S., R. 19 W., depths to key horizons were reported as: Stone Corral anhydrite, 1,280 feet; Heebner shale, 3,863 feet; Lansing-Kansas City limestone, 3,981 feet; Mississippian, 4,535

feet, and Arbuckle, 4,970 feet. Elevation of the well is 2,162 feet and total depth 5,002 feet.

A few miles west of the **Belpre** gas pool Stanolind Oil and Gas Company drilled a test on the Sentney farm in sec. 9, T. 25 S., R. 17 W. From an elevation of 2,133 feet the depths in feet to important zones were reported as: anhydrite, 1,160; Lansing-Kansas City, 3,950; Viola, 4,615; and Arbuckle, 4,845. Other zones known in this area were identified.

The Virginia Drilling Company No. 2 Home State Bank test in sec. 31, T. 25 S., R. 17 W. was drilled in the area once known as the McCarty gas pool. The Lansing-Kansas City, Mississippian, and Viola were topped respectively at 4,033, 4,553, and 4,658 feet, according to scout reports. The elevation is 2,142 feet and total depth 4,760 feet.

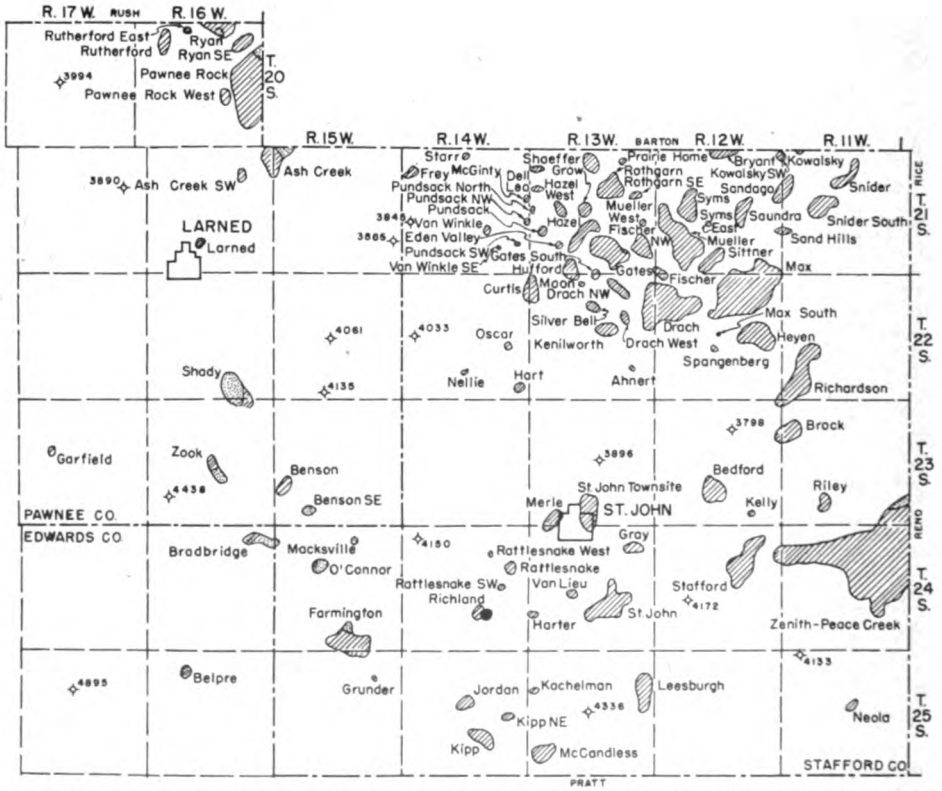


FIG. 7.—Map of Stafford and parts of Edwards and Pawnee Counties showing oil and gas pools and dry wildcat tests drilled during 1950. (Dots, gas; diagonal lines, oil; solid black, secondary recovery.

Locations of producing areas are shown in Figure 7. Oil production data are given in Table 62 and gas production data in Table 63.

ELK COUNTY

The 1950 production from 20 fields: oil 182,408 barrels including 3,830 barrels from 2 secondary recovery projects, gas 269,306 thousand cubic feet. Wells drilled in 1950: oil 1, dry 6, total 7, probable unrecorded 53, total 60 (estimated) including 3 wildcats. Pool revived 1.

Developments during 1950.—Oil production was revived from the Arbuckle limestone in the **Fleming** field by the Pack Oil Company and Murphin Drilling Company No. 1 Radar well in sec. 8, T. 29 S., R. 9 E. in June 1950. During the remainder of the year 4,296 barrels of oil was produced from the revived field which had been inactive for a number of years. No pools were discovered in the county during 1950.

Oil production in the various pools in the county is shown in Table 62. Plate 1 shows locations of the areas in Elk County in which oil was produced by primary and secondary methods during 1950. Water-flood data are listed in Table 1. Gas production data reported from 29 wells are listed in Table 63.

During the year one dry hole was reported in each of the following fields: **Bush-Denton, Hale-Inge,** and **Schrader.** Three dry wildcat tests were reported. They are: John Carlson et al. No. 1 Farnsworth, NE¼ NE¼ SW¼ sec. 24, T. 30 S., R. 11 E. that reached the top of the Arbuckle at 2,046 feet and has a total depth of 2,117 feet; the W. M. Glasgo and Holl No. 2 Simmons, Cen. E½ NE¼ sec. 32, T. 28 S., R. 10 E., drilled to 1,572 feet and abandoned in the Kansas City; and the Berry and Ellis No. 1 Simmons, SW¼ SE¼ NE¼ sec. 32, T. 28 S., R. 10 E., reaching the top of the Mississippian at 2,194 feet and a total depth of 2,250 feet.

ELLIS COUNTY

The 1950 production from 55 pools: oil 11,077,013 barrels, gas none. Wells drilled in 1950: oil 111, gas none, dry 123, salt-water disposal 2, total 236 including 31 wildcats. New pools discovered 8, old pools abandoned 5, combined 1.

Developments during 1950.—Drilling activity in Ellis County during 1950 was 25 percent more than in 1949, although two less pools were discovered in 1950. Three of the new pools were abandoned before the end of the year.

The new pools are listed in Table 6. Three of the new pools are in the row of a half dozen pools that forms a northwest- southeast trend extending from the **Pleasant** and **Irvin** pools to the **Schoenchen.** Several miles to the northeast of this row of pools lies the new **Fort Hays State College** pool, an Arbuckle producer brought in by the Skelly Oil Company. One new pool, the **Sweet**

TABLE 29.—*Dry wildcat tests drilled in Ellis County during 1950*

Company and farm	Location	Depth to top of Lans.-K.C., feet	Depth to top of Arbuckle, feet	Total depth, feet
*Amerada Petr. Corp. No. 1 Carl Keller	SE¼ SW¼ NE¼ 5-11-19W	3,316	3,675	3,817
Graham-Messman-Rinehart Oil Co. No. 1 Jensen	SE cor. SW¼ 35-11-19W	3,445	3,697	3,730
Brooks Pierce Drlg. Co. No. 1 Veach	SE cor. NW¼ 4-11-20W	3,342	3,704	3,741
Heathman Drlg. Co., Inc. No. 1 "C" Sullivan	SE¼ SW¼ SE¼ 17-12-18W	3,462	3,852	3,862
*Anschutz Drlg. Co. No. 1 Wiegel	Cen. SL SE¼ SE¼ 2-12-19W	3,395	3,700	3,735
R. W. Rine Drlg. Co. No. 1 Ubert	NW¼ NE¼ SE¼ 26-12-19W	3,541	3,900	3,935
Herndon Drlg. Co. No. 1 Peirano	SW cor. SE¼ 28-12-19W	3,474	3,844	3,878
B & R Drlg. & Aurora No. 1 Dortland	SW cor. NW¼ 23-13-16W	3,152	3,437	3,470
Texas Co., S. A. Yarnell et al. No. 1 Kippes	NW cor. SE¼ 35-13-16W	3,171	3,505	3,548
*Pickrell Drlg. Co. No. 1 Rupp	NW cor NW¼ 7-13-18W	3,506	3,797	3,840
*H. H. Blair et al. No. 1 Brumgardt	SW cor. SW¼ 15-13-18W	3,475	3,792	3,849
Great Lakes Carbon Corp. No. 1 Roth	SE cor. SE¼ 17-13-18W	3,428	3,758	3,802
*Francis O & G & Pickrell Drlg. Co. No. 1 Jacobs	NW cor. NE¼ 24-13-19W	3,367	3,673	3,700
Jones, Shelburne & Farmer, Inc. No. 1 Niernberger	SW cor. SE¼ 15-13-20W	3,508	3,881	3,918½
Anschutz Drlg. Co. No. 1 Robben	SE cor. SW¼ 4-14-16W	3,177	.....	3,550
Laura Jane Oil Co. No. 1 Herl	SW cor. SE¼ 22-14-17W	3,249	3,552	3,585
Lewis Drlg. Co., et al. No. 1 Penney	SE cor. SW¼ 31-14-17W	3,274	3,639	3,664
Continental Oil, et al. No. 1 John Luea	NE cor. SW¼ 5-14-20W	3,564	.....	3,984
*Anschutz Drilling No. 1 Clark	NW cor. NW¼ 23-15-17W	3,270	3,587	3,617
*Continental Oil Co. No. 1 Breit	NE¼ SE¼ NW¼ 33-15-17W	3,181	3,521	3,627
*Jones, Shelburne & Farmer, Inc. No. 1 Schlegel	SE¼ NE¼ SW¼ 36-15-18W	3,185	3,486	3,487
*M. B. Armer, et al. No. 1 T. A. Smith	SE cor. SW¼ 5-15-19W	3,335	.....	3,698
*Jones, Shelburne & Farmer, Inc. No. 1 Werth	NW cor. NW¼ 15-15-19W	3,324	3,649	3,660

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

William, in T. 12 S., R. 20 W., a Texas Company find in the Arbuckle, might be classed as a wildcat pool as it is several miles from the nearest production.

In sec. 35, T. 14 S., R. 16 W. the Armer Drilling Company No. 1 Kunz test at first looked like a small well in the Arbuckle but was later plugged back for a new discovery in the Lansing-Kansas City at about 3,125 feet and according to scout reports was finally abandoned.

The No. 1 Gasaway well in sec. 11, T. 11 S., R. 19 W. was first reported by the Nomenclature Committee as a pool opener in the Lansing-Kansas City at 3,534 to 3,553 feet, but efforts to produce the well were later reported to have been abandoned.

None of the new discovery wells was a heavy producer, the range being from 25 to 126 barrels per day initial capacity. Five of the eight are Arbuckle wells; the remainder found production in the Lansing-Kansas City.

All 23 dry wildcat tests were drilled into the Arbuckle, usually penetrating that formation only 25 or 30 feet. For 15 of the 23 dry tests no oil or gas shows were reported, 4 reported oil shows in the Arbuckle, and 4 reported oil or gas shows in the Lansing-Kansas City.

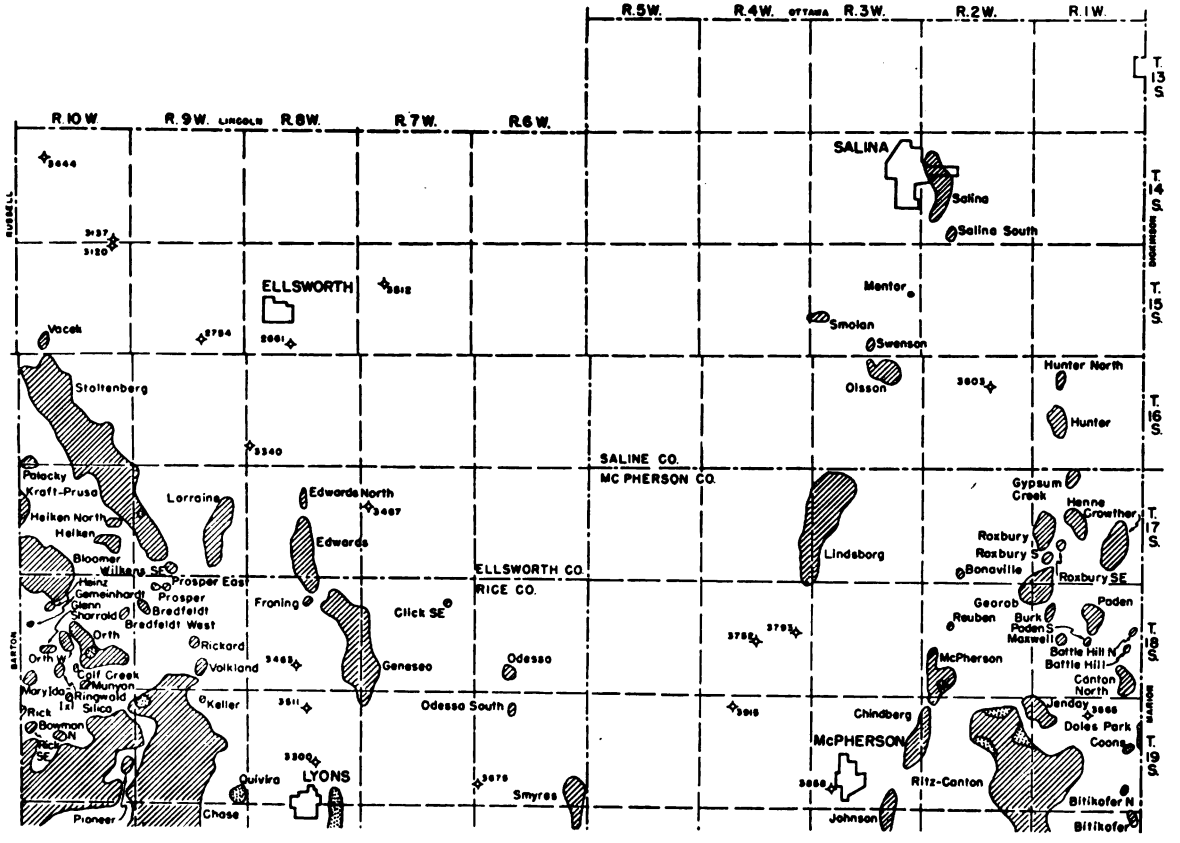
Pertinent information on Ellis County pools is given in Table 62. Data on the dry wildcats are given in Table 29. Locations of producing areas and dry wildcat tests are shown on Figure 6.

ELLSWORTH COUNTY

The 1950 production from 11 active pools: oil 4,149,448 barrels, gas 87,287 thousand cubic feet. Wells drilled in 1950: oil 32, gas 1, dry 29, salt-water disposal 1, total 63 including 9 wildcats. New pools 1.

Developments during 1950.—There was about 30 percent more drilling in 1950 than in 1949, but a somewhat smaller percentage of producers resulted from the increased activity. One new pool was discovered but eight rank wildcats were dry. Half of the dry wildcat tests did not report shows of oil or gas; six of the eight were drilled into the Arbuckle dolomite.

The newly discovered pool is the **Edwards North** opened by the Continental Oil Company No. 1 Shumway well in sec. 10, T. 17 S., R. 8 W. Production is from the Simpson sand at 3,151 to 3,167 feet, and the well was reported capable of producing 275 barrels of oil per day. The discovery is 1½ miles north of the tip of the **Edwards** pool.



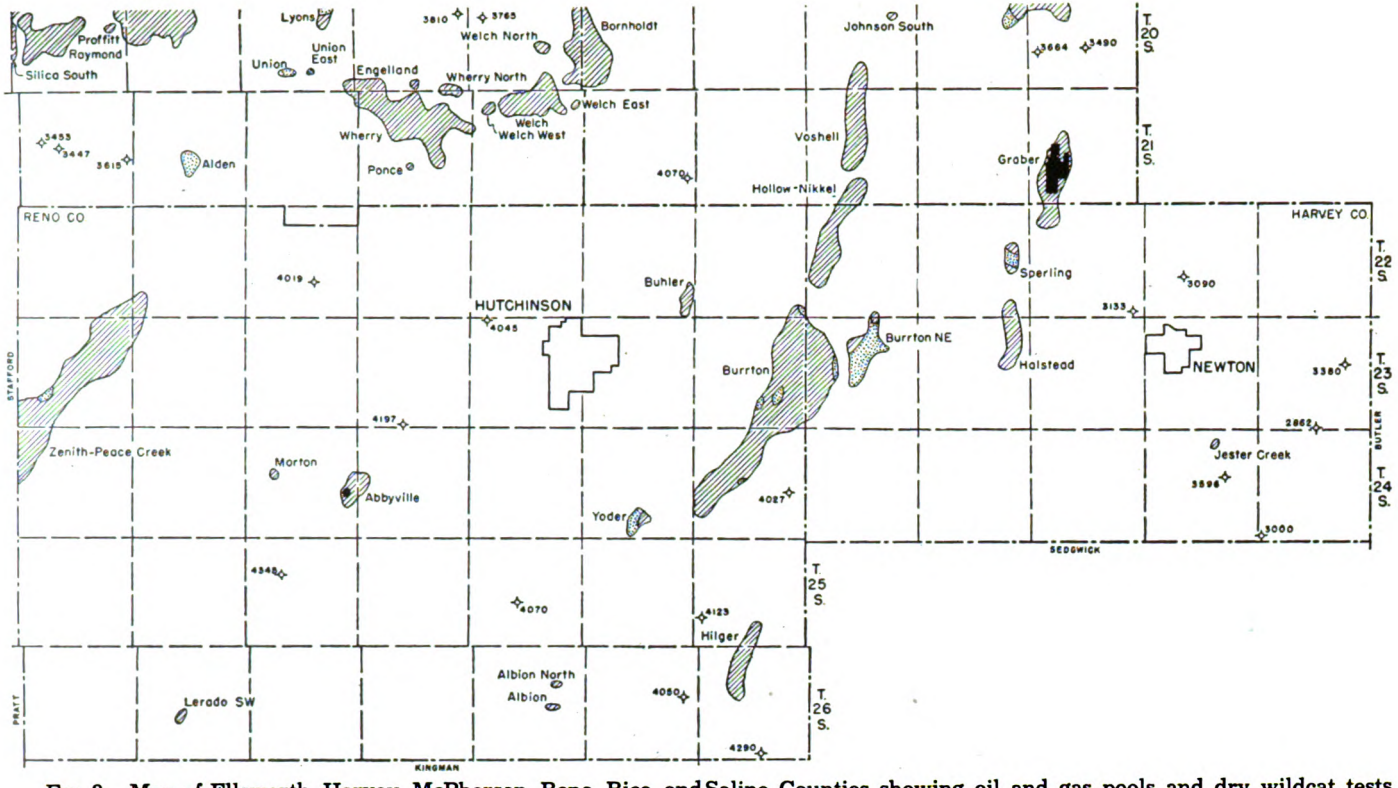


FIG. 8.—Map of Ellsworth, Harvey, McPherson, Reno, Rice, and Saline Counties showing oil and gas pools and dry wildcat tests drilled during 1950. (Dots, gas; diagonal lines, oil; solid black, secondary recovery).

TABLE 30.—*Dry wildcats drilled in Ellsworth County during 1950*

Company and farm	Location	Depth to top of anhydrite, feet	Depth to top of Lansing, feet	Depth to top of Arbuckle, feet	Total depth, feet
B & R Drilling, Inc. No. 1 Helen Kuck	SW cor. NE¼ 8-14-10W	590 2,516†	2,921 3,314‡	3,428	3,444
*A. Borrel No. 1 Mattos	NW¼ SW¼ SW¼ 36-14-10W	382 2,355†	2,697	3,100	3,137
*Stearns Petroleum, Inc. No. 1 Dolezal	NE cor. NW¼ 17-15-7W	510	2,704 3,353‡	3,481	3,512
*T. J. Harp No. 1 Muncie (Twin)	SE cor. NW¼ 33-15-8W	.....	2,535	.....	2,661
*Heathman Drlg. Co., Inc. No. 1 Barta	SW¼ NE¼ NE¼ 34-15-9W	570	2,724	.....	2,754
*B & R Drilling Co. No. 1 Mattas	NW cor. NW¼ 1-15-10W	420 2,338†	2,713	3,078	3,120
*Keystone Petroleum No. 1 Freshe	SW cor. SW¼ 30-16-8W	1,060	2,833 3,237‡	3,321	3,340
*Continental Oil Company No. 1 Handlin	NE cor. NW¼ 18-17-7W	210	2,679 3,309‡	3,419	3,467

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data source have been used.
† Depth to top of Topeka, feet.
‡ Depth to top of Viola, feet.

One deep test was drilled and reported as a salt-water disposal well by Heathman Drilling Company on the Roland farm in sec. 14, T. 17 S., R. 9 W. It was drilled nearly 600 feet below the top of the Arbuckle which was topped at 3,326 feet. No other significant drilling developments were reported.

Data on dry wildcat wells are given in Table 30. Locations of producing areas and dry wildcats are shown in Figure 8. Data on oil production are given in Table 62 and gas production data are listed in Table 63.

FINNEY COUNTY

The 1950 production from 1 active oil pool, 215,621 barrels; gas production of the Hugoton field is not segregated as to counties. Wells drilled in 1950: oil 2, gas 45, dry 2, total 49 including 2 wildcats.

Developments during 1950.—Drilling in 1950 was one-third less than in 1949. Most of the gas wells drilled were on interior locations, but the northeast edge of the **Hugoton** gas field at one point was extended to about 2 miles from Garden City. The new gas producers ranged in size from 659,000 to 23,400,000 cubic feet per day, with an average of about 7,500,000. Heavy acidization is common, about 22,500 gallons of dilute hydrochloric acid being the average quantity used.

In Finney County's only oil-producing pool, the **Nunn,** located about 18 miles northwest of Garden City, two new oil wells were drilled and three old wells were worked over, one making a producer. Earlier Nunn pool production was from the Ste. Genevieve formation near the top of the Mississippian System. Recently the Marmaton group (Pennsylvanian) has been found to be productive here and at a few other points in western Kansas. One of the new wells was rated at 287 barrels per day from the Marmaton at 4,280 to 4,293 feet; the other at 448 barrels per day from the Mississippian at roughly 4,700 feet.

Two wildcat tests drilled in 1950 resulted in dry holes. One of the wells drilled by the Shell Petroleum Company on the Case farm in sec. 7, T. 21 S., R. 30 W. had the following tops reported after a careful study of the samples and electric log: Heebner shale, 3,980 feet; Lansing limestone, 4,023 feet; Mississippian, 4,712 feet; Ste. Genevieve, Spergen, Warsaw (Osagian), and St. Joe, present; cherty Viola, 5,240 feet; Simpson believed to be absent, with Viola resting directly on Arbuckle at 5,390 feet. Slight shows of oil were indicated at several levels in drill-stem tests.

The other dry wildcat test, the W. A. Delaney, Jr. No. 1 Pitson well in sec. 24, T. 23 S., R. 30 W., had the following tops judging by the electric log and scout reports: Heebner shale, 4,003 feet; Lansing-Kansas City sequence, 4,055 feet; Mississippian, 4,750 feet; total depth, 4,870 feet. No shows of oil or gas were reported.

Finney County wells are shown on Plate 2. Production, active area, and producing zones are shown under Hugoton in Table 63 and additional data on the Hugoton field are given in the chapter on natural gas.

FORD COUNTY

Wildcat wells have been drilled in Ford County from time to time but there has been no active pool for 10 years. Two wildcat wells were drilled in 1950: one was dry, the other revived the Pleasant Valley gas pool.

Developments during 1950.—The first pool in Ford County, the **Pleasant Valley,** was found by the Sinclair Oil Company in sec. 34, T. 27 S., R. 21 W. during 1938. The pool opener was rated at 48 barrels of oil and 6 million cubic feet of gas per day from the Mississippian. There was no further activity in the vicinity until 1950 when R. G. Clay et al. drilled the No. 1 Bierney well roughly

a mile southeast in sec. 2, T. 28 S., R. 21 W., finding a 12-million cubic foot gas well, also in the Mississippian. Production is from a depth of 4,954 to 4,986 feet.

The same operator later in the year worked over the original discovery well in sec. 34 for a rated production of 35 barrels of oil with 175 or 200 barrels of water per day from about 5,025 feet. In this original well the zone tops were logged as follows: Spergen, 4,890 feet; Warsaw, 4,965 feet; cherty Osagian, 5,085 feet; St. Joe noncherty limestone, 5,245 feet; Misener sand, 5,400 feet; Viola limestone, 5,405 feet; Simpson green shale and thin sandstone, 5,545 feet; and Arbuckle dolomite, 5,629 feet. Total depth of the original hole was 5,930 feet.

Twenty miles northwest of the Pleasant Valley pool the Transwestern Oil Company drilled a test on the Hines farm in sec. 5, T. 25 S., R. 22 W. The Heebner, Lansing-Kansas City, and Mississippian were found respectively at 3,953, 4,090, and 4,775 feet. The hole was drilled to a total depth of 4,875 feet from an elevation of 2,434 feet. A drill-stem test at 4,750 to 4,785 feet at the top of the Mississippian yielded a small show of oil.

FRANKLIN COUNTY

The 1950 production from several areas in 2 fields: oil 278,804 barrels including 173,432 barrels from 4 secondary recovery projects, gas none. Wells drilled in 1950: 200 (estimated).

Developments during 1950.—All oil production in Franklin County is in the eastern part, where secondary recovery by water flooding is being practiced widely. During the year the county production was in seven areas in the **Paola-Rantoul** field which extends into Miami County. An estimated 600 barrels was produced in the **LeLoup** field which extends into the county from Douglas County. No important exploratory wells were reported during the year. It is estimated that about 200 wells were drilled, mainly in connection with water-flooding projects.

Oil production data are listed in Table 62. Data on water floods are included in Table 1. Locations of areas that produced oil by primary and secondary methods are shown on Plate 1.

GRAHAM COUNTY

The 1950 production from 19 pools; oil 2,131,272 barrels, gas none. Wells drilled in 1950: oil 99, gas none, dry 70, salt-water disposal 4, total 173 including 36 wildcats. New pools discovered 11, old pools abandoned 2, revived 1, combined 4.

Developments during 1950.—Drilling in 1950 was more than three times the number of holes drilled in 1949, with the result that more than three times the number of producing wells were brought in, the number of new pools discovered was doubled, and the number of dry holes was doubled.

The new pools were the **Bass, Bass Northwest, Cooper, DeYoung Southeast, Fargo, Ironclad, Smith-Denning, Teall North, Teall Northeast,** and **Wild Horse Creek.** Three of the new pools, the Bass Northwest and the two DeYoung pools were combined with the Cooper pool as a unit, and the older **Morel West** pool was combined with the **Morel** pool before the year's end. Also two older pools, the **Houston** and **Luck,** were abandoned during 1950.

Eight of the new pools produce from the upper part of the Arbuckle dolomite, two from the Lansing-Kansas City, and one, the Teall Northeast, from both. Three of the new pool openers were maximum wells (more than 3,000 barrels daily production); one, the Smith-Denning, was rated at 1,981 barrels; and the others ranged from 100 to 430 barrels per day. Production in all the new discovery wells came from depths of 3,630 to 3,950 feet.

Of the 26 dry wildcats drilled in 1950, 20 failed to report shows of oil or gas; 5 reported slight shows of oil in the Lansing-Kansas City, and one, in sec. 30, T. 8 S., R. 21 W. almost made a well in the Arbuckle. All the dry wildcat tests reached the Arbuckle except one.

Tops of key markers in two of the tests, as judged by the electric logs, follow: Peel-Hardman No. 1 Shughart in sec. 8, T. 7 S., R. 25 W., anhydrite, 2,113 feet; Heebner, 3,617 feet; Lansing, 3,660 feet; base of Kansas City, 3,854 feet; Mississippian, 4,082 (or 4,091) feet; Kinderhookian, 4,114 feet; Viola, 4,124 feet; Simpson, 4,164 feet; and Arbuckle, 4,174 feet. The C. G. Drilling Company No. 1 McPherson in sec. 4, T. 9 S., R. 23 W.: anhydrite, 1,885 feet; Heebner, 3,530; Lansing-Kansas City, 3,571; base of the Kansas City, 3,783; conglomerate, 3,999 feet; and Arbuckle, 4,066 feet. Elevations of the two wells were 2,533 and 2,238 feet respectively.

In another wildcat test, the Jones, Shelbourne, and Farmer No. 1 Woodside, drilled in sec. 34, T. 7 S., R. 25 W., a show of oil was reported in the Lansing-Kansas City at 3,755 to 3,785 feet. Formation tops according to log and scout information are: Heebner, 3,679 feet; Lansing-Kansas City, 3,702 feet; conglomerate, 4,238

feet; Viola 4,343 feet; and Arbuckle, 4,453 feet. Elevation of the hole is 2,473 feet.

Locations of producing areas and dry wildcat tests are shown on Figure 9. Oil production data are listed in Table 62. Data on wildcat wells are given in Table 31, and information on discovery wells in new pools is given in Table 6.

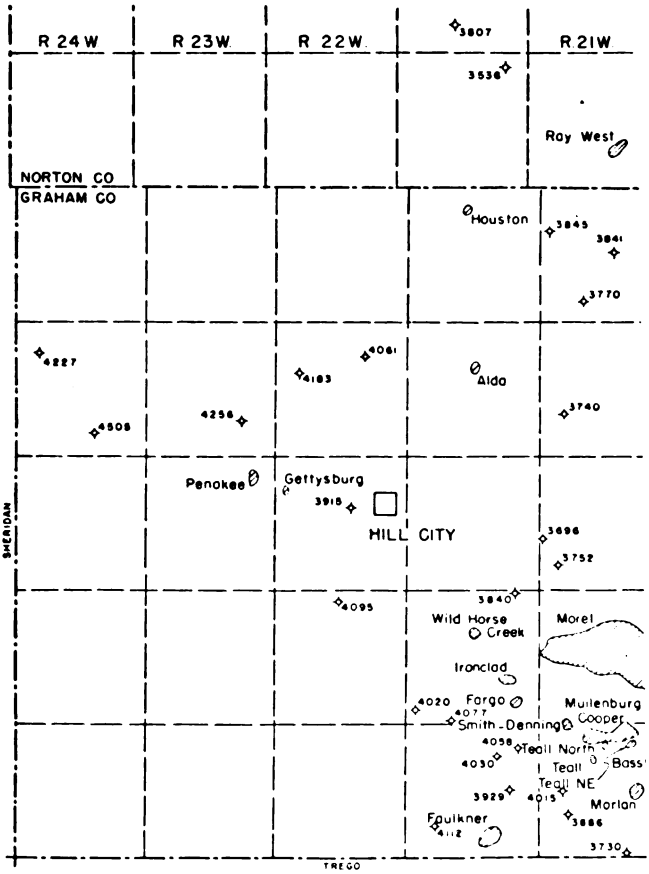
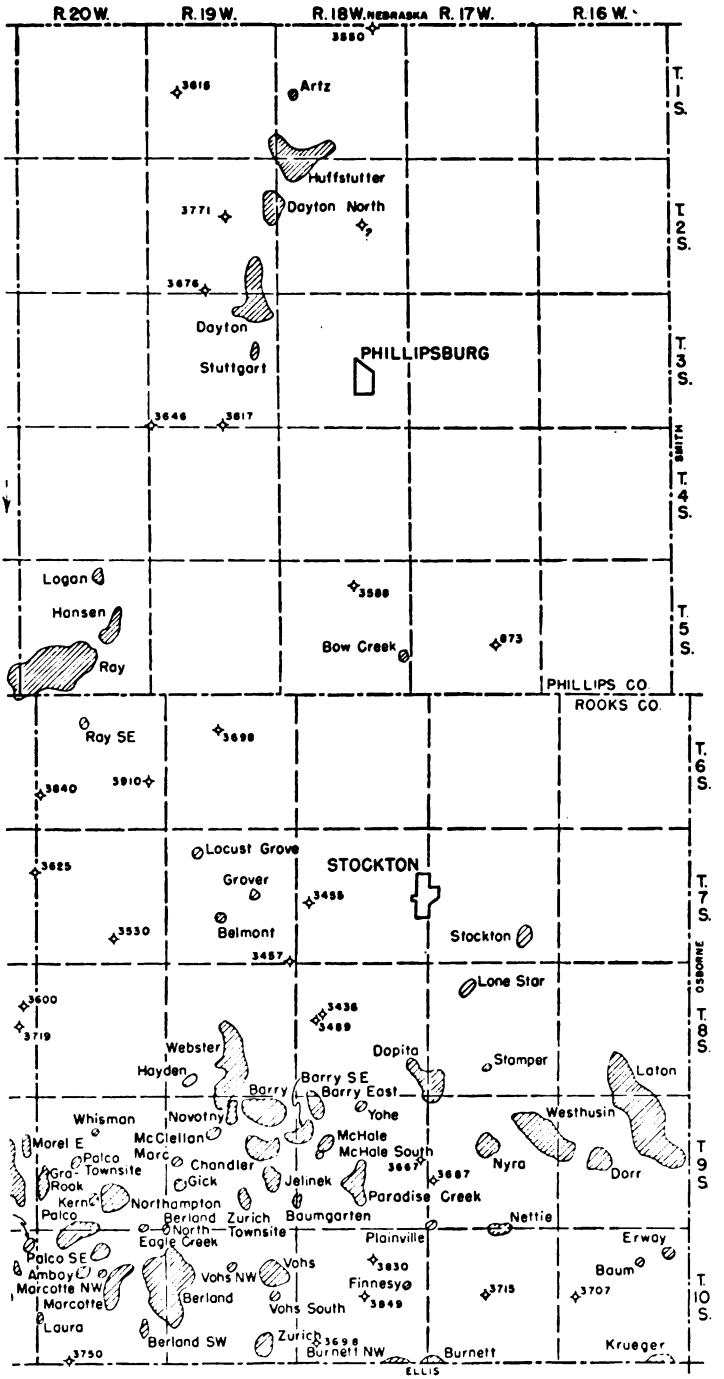


FIG. 9.—Map of Graham, Phillips, showing oil pools and dry wildcat



Rooks, and part of Norton Counties tests drilled during 1950.

TABLE 31.—*Dry wildcat tests drilled in Graham County during 1950*

Company and farm	Location	Surface elevation, feet	Depth to top of Lans.-K.C., feet	Depth to top of Arbuckle, feet	Total depth, feet
Harry Gore No. 1 White	SE cor. SW¼ 7-6-21W	2,285	3,546	3,811	3,845
Jones, Shelburne, & Farmer No. 1 Wiltrout	SE cor. SW¼ 15-6-21W	2,550	3,512	3,800	3,841
Glenn R. Nye, et al No. 1 Jenkins	NW cor. NW¼ 33-6-21W	2,202	3,469	3,736	3,770
*Veeder Supply & Dev. Co., et al No. 1 Berland	Cen. N½ NE¼ NE¼ 13-7-21W	2,090	3,318	3,591	3,625
*Jones, Shelburne & Farmer No. 1 Alexander	NW cor. NW¼ 29-7-21W	2,130	3,356	3,718	3,740
Coppinger & Southern & Finston No. 1 Hale	NW cor. SW¼ 11-7-23W	2,371	3,651	4,024	4,061
Jones, Shelburne, & Farmer No. 1 Barrow	SW cor. NW¼ 17-7-23W	2,417	3,702	4,108	4,183
*Peel-Hardman Oil Prod. No. 1 Schweitzer	SE cor. NW¼ 26-7-24W	2,436	3,717	4,245	4,256
Peel-Hardman No. 1 Shughart	SW cor. NW¼ 8-7-25W	2,533	3,660	4,174	4,227
*Jones, Shelburne & Farmer & North American Prod. No. 1 Woodside	NW cor. NE¼ 34-7-25W	2,473	3,702	4,453	4,505
Rine Drlg. No. 1 Berland	SW cor. SW¼ 13-8-21W	2,078	3,328	3,673	3,719
Peel-Hardman, et al. No. 1 Berland	NE cor. NW¼ 13-8-21W	2,018	3,257	3,554	3,600
*Kantor Oil Company No. 1 Jellison	SW cor. SW¼ 19-8-21W	2,071	3,306	3,666	3,696
Nadel & Gussman No. 1 Nevell	SE cor. SE¼ 30-8-21W	2,202	3,428	3,740	3,752
Harry Gore No. 1 Don Le Gere	NE¼ SE¼ NW¼ 15-8-23W	2,154	3,437	3,889	3,915
*B & R Drlg., Inc. No. 1 Johnson	NE cor. NE¼ 2-9-22W	2,205	3,434	3,788	3,840
*Peel-Hardman No. 1 "C" Sutor	SE cor. NW¼ 31-9-22W	2,335	3,608	.....	4,020
*Heathman Drlg. Co., Inc. No. 1 Loyd	SW cor. SW¼ 33-9-22W	2,349	3,615	.....	4,077
C-G Drilling Co. No. 1 McPherson	NE cor. SE¼ 4-9-23W	2,238	3,571	4,066	4,095
*Midstates Oil Corp. & Barnett Oil No. 1 Teall	NW cor. NW¼ 20-10-21W	2,319	3,594	3,983	4,015
*Barnett Oil Company No. 1 Parks	NE cor. NW¼ 29-10-21W	2,236	3,531	.....	3,886
*C-G Drilling Co. No. 1 Zeigler	SW cor. SW¼ 35-10-21W	2,100	3,383	3,717	3,730
*Francis Oil & Gas Co. No. 1 Hinkhouse	NW cor. SW¼ 11-10-22W	2,282	3,539	4,014	4,030

Keystone Petroleum No. 1 Thomas	NW cor. NW¼ 12-10-22W	2,308	3,567	4,033	4,058
Kantor Oil Company No. 1 Watkins	NW cor. NE¼ 23-10-22W	2,257	3,532	3,903	3,929
*Wood River Oil & Refg. No. 1 Callison	NE cor. SW¼ 29-10-22W	2,344	3,617	4,087	4,112

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

GRANT COUNTY

The county lies entirely within the Hugoton gas field, the production of which is not segregated as to counties. No oil produced. Wells drilled in 1950: oil none, gas 35, dry none.

Developments during 1950.—Drilling declined from 88 new gas wells in 1949 to 35 in 1950. The new wells had initial capacities of as much as 30 million cubic feet per day, the largest being the Northern Natural Gas Co. No. 1 Hand well in sec. 2, T. 28 S., R. 37 W. Average deliverability of the 1950 wells is 18.1 million cubic feet per day.

Except for one well drilled 3 miles east of the town of Zionville all the 1950 gas development was in the north half of the county. A significant 1950 development was completion by the Magnolia Petroleum Company of a stripping plant to remove natural gas liquids from the Hugoton gas and return the residue gas to the mains for transportation to the consumer.

Grant County wells are shown on Plate 2. Production, the active area, and producing zones are shown under Hugoton in Table 63. Additional data on the **Hugoton** field are given in the chapter on natural gas.

GRAY COUNTY

Wildcat wells have been drilled in Gray County from time to time but so far no producing pool has been discovered.

Exploration during 1950.—The Skelly Oil Company drilled one deep test to 6,354 feet during the year. The location is in sec. 2, T. 28 S., R. 27 W. at an elevation of 2,720 feet. Examination of cuttings and the electric log indicated depths to the important zones to be: Herington, 2,715 feet; Fort Riley, 2,900 feet; Heebner black shale, 4,180 feet; Lansing-Kansas City, 4,352 feet; Mississippian, 5,120 feet; Warsaw dolomite, 5,366 feet; St. Joe limestone, 5,700 feet; Viola, 5,868 feet; and Arbuckle dolomite, 5,975 feet. Several drill-stem tests at various depths were negative.

GREENWOOD COUNTY

The 1950 production from 46 fields: oil 5,375,676 barrels including 3,525,151 barrels from 41 secondary recovery projects, gas none. Wells drilled in 1950: oil 121, gas none, dry 81, water injection, 33, total 235 including 10 wildcats. New pools discovered 3.

Developments during 1950.—The **Honey Creek,** a Mississippian limestone pool, was discovered in August 1950 by the C. W. Darling No. 1 Johnson well in the N½ SE¼ SE¼ sec. 32, T. 26 S., R. 11 E. Estimated production of 30 barrels of oil per day was reported from a zone between 1,871 and 1,976 feet. Later in the year two dry holes were drilled in the pool. The E. L. Edwards No. 1 Kimball well, in the SW¼ NW¼ NW¼ sec. 28, T. 24 S., R. 13 E. opened the **Morris** field. The Mississippian limestone reservoir is between 1,671 and 1,676 feet. The discovery well was completed in September. Two dry holes were drilled in the field later in the year. The **Tonovay West** field was opened by the Harold Butler and L. E. Jones No. 1 Hall well in the SE¼ SW¼ NW¼ sec. 33, T. 25 S., R. 11 E. Production is from the Mississippian limestone, topped at 1,926 feet.

Oil production in the various Greenwood County fields and other data are listed in Table 62. Areas of oil production by primary and secondary recovery methods are indicated on Plate 1. Waterflooding data are listed in Table 1. Data on pool wells drilled in the county in 1950 are listed in Table 32. Data on dry wildcat tests are listed in Table 33.

TABLE 32.—*Data on pool wells drilled in Greenwood County in 1950*

Field	Oil wells	Dry holes	Water injection wells	Salt water disposal wells
Beaumont	..	1	..	..
Blackwell	1	..	..	..
Browning	1	..	..	..
Climax	1	..	..	..
De Malorie-Souder	3	..	..	..
Dunaway	8	2	..	..
Eureka	30	7	..	..
Eureka West	1	2	..	..
Fankhouser	1	2	..	..
Gaffney	1	1	..	..
Gilroy	..	1	..	..
Hamilton	3	5	..	..
Hinchman	2	1	..	..
Hollis	..	1	..	..
Honey Creek	1	2	..	..
Hubbard	..	1	..	..
Jobes	..	1	..	..

Lamont	5	4	12	..
Madison	1	1	1	..
Morris	1	2*	..	..
Neal	..	1	..	..
	..	1**	..	..
Ott	..	1	..	..
Parks	1	1	..	..
Polhamus	1	1	..	..
Quincy	4	1†	..	..
Reece	..	1	..	..
Sallyards	1	1	..	..
Seeley-Wick	6	1	2	1
Severy	2	2	..	..
Severy N.	4	1	..	..
Stanhope	2	1	..	..
Teeter	2	1	..	..
Thrall Aagard	1	1	14	..
Tonovay	1	2	..	..
	..	1‡	..	..
Tonovay North	1	1	..	..
Tucker	1	1	..	..
Utopia	..	2	..	..
Virgil	14	7	1	..
Virgil North	18	5	..	..
Wiggins	2	4	..	..
Willard	4	..	..	..
Total	125	72	30	1

* No production
** Wildcat extension
† ½ mile Quincy and Gilroy
‡ Pool extension

TABLE 33—*Data on wildcat tests drilled in Greenwood County during 1950*

Company and farm	Location	Depth to top of Kansas City, feet	Depth to top of Mississipian, feet	Total depth, feet
*Jackman & Jackman No. 1 Agnus Hawthorne	SW¼ NW¼ NW¼ 13-23-11E	.....	.....	1,991
*Ward McGinnis No. 1 Houston	Cen. N½ SE¼ SE¼ 7-26-9E	1,605	2,365	2,405
*Giffin No. 1 Moore	Cen. N½ SE¼ NE¼ 35-26-10E	1,272	.....	1,404
*J. Giffin No. 2 Moore	NE¼ NE¼ NE¼ 35-26-10E	1,265	2,054	2,123
*Southwest Pro. et al. No. 1 Hodson	SW¼ SW¼ SE¼ 23-26-12E	.....	1,724	2,043
*W. M. Glasco No. 1 J. E. Glasco	SW¼ NE¼ SW¼ 11-28-10E	1,400	.....	1,452
*John Evans et al. No. 1 Ed Brown	NE¼ NW¼ SE¼ 4-28-12E	.....	.....	1,490

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

HAMILTON COUNTY

The county lies partly within the Hugoton gas field, the production of which is not segregated as to counties. No oil was produced. Wells drilled in 1950: none.

Developments during 1950.—The extreme southwestern part of Hamilton County is within the producing limits of the **Hugoton** gas field. No drilling was reported in this part of the field during 1950 and no wildcat wells were drilled in the county during the year.

Hamilton County wells are shown on Plate 2. Production, the active area, and producing zones are shown under Hugoton in Table 63, and additional data on the Hugoton field are given in the chapter on natural gas.

HARPER COUNTY

The 1950 production from 2 pools: oil 7,445 barrels, gas 30,749 thousand cubic feet. Wells drilled in 1950: oil none, gas 2, dry 3, total 5 including 4 wildcats. New pools discovered 1.

Developments during 1950.—A second pool, the **Grabs Southeast,** a gas pool, was opened in Harper County during 1950. The new discovery, 1½ miles southeast of the **Grabs** pool, was made by the Deep Rock Oil Corporation No. 1 Stodder well in sec. 17, T. 31 S., R. 8 W. The electric log indicated the important formation tops to be: Heebner, 3,414 feet; Douglas shale, 3,460 feet; Lansing-Kansas City limestone, 3,638 feet; Mississippian chert of the Osagian Series, 4,393 feet; St. Joe limestone (containing in this part of the State crinoidal and lithographic limestone with brown limestone lower), 4,504 feet; Kinderhookian black shales, 4,660 feet; Viola, 4,752 feet; Simpson sandstone, 4,808 feet; Simpson green shale, 4,870 feet; and Arbuckle, 4,941. Total depth is 4,975 feet and elevation of the well 1,636 feet. The well had an initial potential of 1,532,000 cubic feet of gas per day from the upper part of the Mississippian. Drill-stem tests deeper gave a show of oil at 4,436 to 4,440 feet.

The Drillers Gas Company No. 2 Wingate well in the Grabs pool in sec. 7, T. 31 S., R. 8 W. came in making 1 million cubic feet of gas and a few barrels of oil and water per day from the Mississippian at 4,385 to 4,425 feet after being shot with 90 quarts of explosive.

A wildcat test drilled on the Schupback farm in sec. 6, T. 34 S., R. 9 W., penetrated the Arbuckle and reported no shows of oil

or gas. Another test, in the SE cor. sec. 28, T. 31 S., R. 9 W. reported a slight show of oil 30 to 60 feet below the top of the Mississippian. R. C. Patton Company et al. drilled a well in sec. 14, T. 32 S., R. 9 W. in which a good show of oil was reported in the top of the Mississippian at 4,420 to 4,430 feet. The Arbuckle was topped at 4,988 feet and the well elevation and total depth respectively were 1,497 and 5,040 feet.

Oil production data are given in Table 62 and gas production data in Table 63. Information on the new pool is given in Table 6.

HARVEY COUNTY

The 1950 production from 8 pools: oil 184,531 barrels, gas 1,400,828 thousand cubic feet. Wells drilled in 1950: oil 6, gas 2, dry 11, total 19 including 6 wildcats. Pools abandoned 1, combined 5.

Developments during 1950.—Harvey County, which has had oil production for many years with production largely from the Burrton and Hollow-Nikkel pools, reported six new oil wells (**Burrton** pool) and two new gas well **(Burrton Northeast)** in 1950. Oil in this county comes mainly from the Mississippian rocks with a smaller amount from the "Hunton." The Burrton Northeast, **Jones, Jones Northeast, Stucky,** and **Stucky South** pools were combined with the Burrton, and the **Brandenberger** pool was abandoned during the year. The Burrton, **Jester Creek,** and **Hollow-Nikkel** pools added one dry well each and the Burrton Northeast had two dry tests.

All six dry wildcats were drilled in the eastern half of the county. Two of the tests penetrated the Arbuckle, three the Mississippian, and one only "Burgess" (basal Pennsylvanian) which is productive locally in Sedgwick County. The deepest wildcat drilled, the Penguin Petroleum Inc. et al. No. 1 Sheets well from an elevation of 1,477 feet in sec. 14, T. 24 S., R. 1 E. reported formation tops as: Lansing-Kansas City, 2,343 feet; "Burgess sand," 2,997 feet; Mississippian, 3,011 feet; Kinderhookian, 3,315 feet; Misener, 3,406 feet; "Hunton," 3,410 feet; Maquoketa, 3,481 feet; Viola, 3,493 feet; Simpson, 3,515 feet; and Arbuckle, 3,589 feet. The total depth was 3,596 feet.

Locations of producting areas and dry wildcat wells are shown in Figure 8. Oil production data are given in Table 62 and gas production data in Table 63. Data on dry wildcats are listed in Table 34.

TABLE 34.—*Dry wildcat tests drilled in Harvey County during 1950*

Company and farm	Location	Surface elevation, feet	Depth to top of Lans.-K.C., feet	Depth to top of Arbuckle, feet	Total depth, feet
*Donald T. Ingling No. 1 Glenn	SW cor. SW¼ 21-22-1E	1,467	2,502	.....	3,090
Donald T. Ingling, et al. No. 1 Krehbiel	SE cor. NW¼ 14-23-2E	1,454	2,179	3,342	3,380
*J. P. Habiger No. 1 Simpson	SW cor. SW¼ 34-23-2E	1,419	2,185	.....	2,862
*Penguin Petr., Inc., et al. No. 1 Sheets	NE¼ NW¼ SW¼ 14-24-1E	1,477	2,343	3,589	3,596
*J. P. Gaty No. 1 Fluke	SW¼ NW¼ SW¼ 31-24-2E	1,472	2,324	.....	3,000
*C. E. Ash et al. No. 1 "A" Hershberger	NE cor. SW¼ 36-22-1W	1,476	2,353	.....	3,133

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

HASKELL COUNTY

The 1950 production, all from the Hugoton gas field, is not segregated as to counties. Wells drilled in 1950: oil none, gas 33, dry 2, total 35 (no wildcats).

Developments during 1950.—About 30 square miles of gas-producing territory opposite the town of Sublette was added to the Haskell County part of the **Hugoton** gas field in 1950. This new extension is based largely on one 10-million cubic foot gas well in sec. 26, T. 30 S., R. 32 W. drilled a few miles east of the field boundary as previously drawn.

Two dry holes north of Sublette, one in sec. 4, T. 28 S., R. 32 W. and one in sec. 6, T. 28 S., R. 31 W. suggest that (1) there are dry spots in the gas field, (2) this is approximately the eastern boundary of the Hugoton field proper, or (3) the edge of the field is serrated in outline.

Most of the 33 new gas wells were drilled on inside locations. The average initial capacities of the 1950 Haskell County wells was 10 million cubic feet per day. Haskell County wells are shown on Plate 2. Production, the active area, and producing zones are shown under Hugoton in Table 63, and additional data on the Hugoton field are given in the chapter on natural gas.

HODGEMAN COUNTY

The 1950 production from the county's first pool: oil 13,752 barrels, gas none. Wells drilled in 1950: oil 2, gas none, dry 3, total 5 including 2 wildcats. New pools discovered 1.

Developments during 1950.—Although a number of test wells have been drilled in Hodgeman County over the years, the first to be successful in discovering production was a 1950 wildcat drilled by Shell Oil Company Inc. in sec. 24, T. 22 S., R. 24 W. The location of the well is 3 or 4 miles northwest of Jetmore on the Springer lease. Elevation of the well is 2,383 feet, and depths to important zones are reported as: anhydrite, 1,615 feet; Heebner, 3,896 feet; Lansing-Kansas City, 3,976 feet; weathered Mississippian, 4,579 feet; and Arbuckle, 5,073 feet. Initial production of the well was 1,385 barrels of oil per day from the upper part of the Mississippian at 4,580 to 4,600 feet. The new pool was named the **Jetmore**. One small oil producer and two dry holes completed the 1950 drilling near the new discovery.

A rank wildcat test was drilled by I. W. Siegel et al. on the Baldrey farm in sec. 3, T. 23 S., R. 22 W. about 9 miles east of Jetmore. From an elevation of 2,179 feet the depths to important marker zones are reported as: anhydrite, 1,298 feet; Heebner, 3,730 feet; Lansing-Kansas City, 3,796 feet; and Mississippian, 4,409 feet. Total depth is 4,455 feet; no shows of oil or gas were reported.

Oil production data are given in Table 62 and information on the newly discovered pool is given in Table 6.

JEFFERSON COUNTY

The 1950 production of 3 pools: oil 50,532 barrels, gas 40,000 thousand cubic feet (estimated). Wells drilled in 1950: not estimated.

Developments during 1950.—No drilling in Jefferson County was reported during the year. The McLouth area produced the oil and gas. The three active oil fields are the **Bankers Life** (partly in Leavenworth County), the **McLouth**, and the **McLouth North.** Gas production came from the same area, but later in the year all gas wells were reported plugged and the reservior being planned for underground storage. Cumulative gas production, which started in 1941, at the end of 1950 when production in the field ceased was 9,809,866 thousand cubic feet.

Oil production statistics in the Jefferson County fields are listed in Table 62. Gas production data are listed in Table 63.

JEWELL COUNTY

Wildcat wells have been drilled in Jewell County from time to time, but so far no pools have been discovered. One dry wildcat test was drilled during 1950.

Exploration during 1950.—The A. D. Allison Drilling Company drilled a wildcat well on the De Beys farm in sec. 11, T. 5 S., R. 10 W. in August. It penetrated all possible producing zones into the Arbuckle dolomite. The "scout tops" reported are: Dakota, 306 feet; Topeka limestone, 2,510 feet; Heebner shale, 2,745 feet; Lansing limestone, 2,809 feet; Mississippian, 3,497 feet; Kinderhookian shale, 3,691 feet; "Hunton" dolomite, 3,715 feet; Viola cherty dolomite, 3,831 feet; Simpson shale and sandstone, 4,097 feet; and Arbuckle dolomite, 4,188 feet. Elevation of the well is 1,762 feet and total depth 4,204 feet.

JOHNSON COUNTY

The 1950 production from 1 field: oil, a small quantity, gas 44,020 thousand cubic feet. Wells drilled in 1950: oil 1, gas 2, dry 2, total 5.

Developments during 1950.—Late in the year one small oil well was drilled in eastern Johnson County in the area formerly designated as the **Dallas** field. However no previous oil production had been reported in this part of the area which several years ago produced considerable gas. In December the H. A. Herschfield Jr. et al. No. 2 Klassen well, NW¼ SE¼ NW¼ sec. 13, T. 13 S., R. 24 E., was completed as a small producer from the upper part of the Cherokee shale. The top of the oil sand was reached at 518 feet. Earlier in the year two gas wells were drilled in the same section and in December the Inland Empire Oil and Gas Company No. 3 Klassen well in the SW¼ SE¼ NW¼ of the same section was abandoned "due to too heavy shot." Oil was reported in the No. 3 well in sands between 511 and 515 feet and between 529 and 538 feet. Drilling activties and oil production continued into 1951.

Gas production data are given in Table 63.

KEARNY COUNTY

The 1950 production from 1 pool; oil 28,866 barrels, gas, Hugoton gas field production not segregated as to counties. Wells drilled in 1950: oil none, gas 50, dry none (no wildcats).

Developments during 1950.—The southeastern two-thirds of Kearny County lies within the boundary of the **Hugoton** field. The limits within the county were not changed by 1950 drilling. Plate 2 shows that most of the area has been drilled and that most of the 1950 gas wells were on interior locations.

Initial gas production in the new Kearny County wells ranged from 1 to 48.1 million cubic feet per day, the top production being

in the Stanolind Oil and Gas Company No. 1 Willits "A" well in sec. 8, T. 26 S., R. 38 W.

An area of normal Hugoton production was opened near the field boundary in February by the Champlin Refining Company with an 11-million cubic foot well in sec. 21, T. 22 S., R. 35 W. Later, the Warren Petroleum Company drilled eight gas wells in contiguous area with capacities as much as 27 million cubic feet daily. All the Warren wells were both acidized and shot with nitroglycerine to augment the gas flow.

Arithmetic averages for all 50 new Kearny County gas wells show initial production 17 million cubic feet of gas per day, 27,330 gallons of acid used, and reservoir pressure of 535 pounds.

Kearny County wells are shown on Plate 2. Production, the active area, and producing zones are shown under Hugoton in Table 63, and additional data on the Hugoton field are given in the chapter on natural gas.

KINGMAN COUNTY

The 1950 production from 6 active pools: oil 147,904 barrels including 28,600 barrels from 1 secondary recovery project that extends into Pratt County, gas 114,700 thousand cubic feet (estimated). Wells drilled in 1950: oil 13, gas none, dry 18, total 31 including 9 wildcats. New pools discovered 3.

Developments during 1950.—An important development was the extension of the **Bartholomew** oil pool into Kingman County from Sedgwick County where it was first discovered. In 1950, four new Bartholomew pool wells ranging from 52 to 2,018 barrels per

TABLE 35.—*Dry wildcat tests drilled in Kingman County during 1950*

Company and farm	Location	Surface elevation, feet	Depth to top of Lans.-K.C., feet	Depth to top of Arbuckle, feet	Total depth, feet
*Westgate-Greenland Oil Co., No. 1 Evans	NE cor. SW¼ 17-27-5W	1,497	.....	4,290	4,307
*Pabco Drlg., Inc. et al. No. 1 Dewey	SW¼ SE¼ SW¼ 32-27-5W	1,434	2,974	.....	3,830
*O. A. Sutton & Beardmore Drlg. Co., No. 1 Moorhouse	NW cor. NW¼ 25-28-5W	1,382	3,067	.....	3,912
*Westgate-Greenland Oil Co., No. 1 Henning	SE cor. NW¼ 10-28-6W	1,512	3,086	.....	3,973
*B & R Drlg., Inc. et al. No. 1 Clayton	SE cor. SE¼ 25-28-6W		3,105	4,408	4,428
*Earl F. Wakefield No. 1 W. B. Dewey	NW cor. SW¼ 12-29-6W	1,490	3,427	.....	4,110

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

day from dolomite beds 40 or 50 feet below the top of the Mississippian were completed in Kingman County and five Bartholomew tests including three outposts were dry.

Three new pools were opened in T. 28 S., R. 5 W. a few miles southwest of the Bartholomew pool. Production is about 100 barrels per day in the new wells which produce from Osagian rocks 20 to 50 feet below the top of the Mississippian at depths in this area of about 3,800 feet. The **Broadway** pool was opened by the Earl F. Wakefield No. 1 Broadway well in sec. 21, T. 28 S., R. 5 W. which came in at 20 barrels of oil per day from 3,833 to 3,836 feet. The **Landsdowne** pool was discovered by the C. D. Smitherman No. 1 Foley well in the SW¼ SW¼ NW¼ sec. 15, T. 28 S., R. 5 W. It was rated at 50 barrels of oil per day from 3,800 to 3,822 feet. The **Dewey** pool was opened during November when the Pabco Drilling Inc. No. 1 Viney "B" well in the SW cor. sec. 9, T. 28 S., R. 5 W. was given a potential of 121 barrels of oil per day from 3,827 to 3,849 feet.

Six wildcat tests, all within 6 miles of the new pool activity in T. 28 S., R. 5 W. were drilled to test the Mississippian. All but one reported shows of oil or gas from drill-stem tests. Two tested the deeper Arbuckle dolomite which yielded salt water. Location of producing areas and dry wildcat wells is shown in Figures 5 and 11. Oil production data are given in Table 62 and gas production data in Table 63. Data on dry wildcats are listed in Table 35 and information on the new pools is given in Table 6. Data on the secondary recovery project is given in Table 1.

KIOWA COUNTY

The 1950 production from 1 pool: oil 8,275 barrels, gas not reported. Wells drilled in 1950: none.

Developments during 1950.—Oil production in the single pool during 1950 declined. No development in the county was reported. Table 62 gives data on oil production for 1950 and Table 63 lists the gas area.

LABETTE COUNTY

The 1950 production from 4 fields: oil 6,922 barrels, gas 27,280 thousand cubic feet. Wells drilled in 1950: 50 (estimated).

Developments during 1950.—Oil production in Labette County showed a decrease of 23 percent below the production for 1949. Twelve commercial gas wells are reported to have produced the

gas (Table 63). It is estimated that about 50 wells were drilled during the year, but no important exploratory wells were reported.

Data on oil production in Labette County are listed in Table 62. Locations of areas that produced oil in 1950 are shown on Plate 1.

LEAVENWORTH COUNTY

The 1950 production from 3 fields: oil 10,722 barrels, gas 7,570 thousand cubic feet. Wells drilled in 1950: not estimated.

Developments during 1950.—During the year Leavenworth County produced oil from the **Bankers Life** field in sec. 3, T. 10 S., R. 20 E. which extends into Jefferson County and in the **Ackerland** field in secs. 6 and 7, T. 10 S., R. 21 E. Three commercial gas wells in the **Linwood** field are producing (Table 63). No important drilling was reported.

Oil production statistics in Leavenworth County are listed in Table 62.

LINN COUNTY

The 1950 production from 11 areas in 3 fields: oil 56,739 barrels, including 44,422 barrels from 4 secondary recovery projects, gas 9,769 thousand cubic feet. Wells drilled in 1950: oil 17, water injection 5, probable unrecorded 78, total 100 (estimated).

Developments during 1950.—During the year Linn County production showed an increase of nearly 20 percent. Ten commercial gas wells are reported to have yielded the gas production which came mainly from the **La Cygne** area.

Oil production statistics in Linn County are listed in Table 62. Gas production data are listed in Table 63. Locations of areas that produced oil by primary and secondary methods are shown on Plate 1. Water-flood data are listed in Table 1.

LOGAN COUNTY

Wildcat wells have been drilled in Logan County from time to time but so far no pool has been discovered. One dry wildcat well was drilled during 1950.

Exploration during 1950.—The one attempt to find oil during 1950 was by Carl Lebsack who drilled a rank wildcat test some 40 miles northwest of the Shallow Water oil pool on the Settle farm in sec. 4, T. 13 S., R. 36 W. According to the Kansas Sample Log Service of Wichita the black Heebner shale was encountered at

3,785 feet, the Lansing-Kansas City limestone at 3,835 feet, and the base of the Kansas City sequence at 4,230 feet. At 4,570 feet the drill entered the sandy rubble called the Sooy (Pennsylvanian basal conglomerate). At 4,611 feet the test was abandoned without finding either the Mississippian or, as had been reported, the Pre-Cambrian granite.

LYON COUNTY

The 1950 production from 4 fields: oil 353,959 barrels including 333,997 barrels produced from 3 secondary recovery projects, gas none. Wells drilled in 1950: oil 8, gas none, dry 19, total 27 including 13 wildcats. New pools discovered 1.

Developments during 1950.—In April the Stanolind Oil and Gas Company and Winkler and Koch No. 1 Cornwell well in the NE¼ NE¼ NE¼ sec. 26, T. 16 S., R. 10 E. discovered the **Bushong** pool. The discovery well was rated at 257 barrels of oil per day. The pay zone is in the upper part of the "Hunton" limestone between 2,950 and 2,967 feet. During the remainder of the year 4,334 barrels of oil was marketed from the well.

The Bushong pool is about 18 miles southeast of the axis of the Nemaha anticline, seemingly in about the deepest part of the trough that lies east of the anticline. It is about 15 miles south of the Davis Ranch field, Wabaunsee County. The top of Mississippian limestone was reached in the discovery well at 2,471 feet. This is deemed a significant discovery on the same trend as the Davis Ranch and other pools farther north. Later in the year a dry hole was drilled in the NE¼ SE¼ SE¼ sec. 23, T. 16 S., R. 10 E.

Data on pool wells are listed in Table 36. Data on wildcat wells are listed in Table 37. All wildcats except the discovery well of the Bushong pool are dry holes. Oil production in the various fields

TABLE 36.—*Data on pool wells drilled in Lyon County during 1950*

Field	Oil wells	Dry holes	Water injection	Remarks
Alyeo	..	..	2	
Bradfield	..	1	..	SE¼ SE¼ NE¼ 23-21-10E., edge pool area; total depth 2,607 feet
Bushong	1	1	..	Discovery well data in Table 6
Fankhouser	6	4	..	
Rock Creek	1	1	..	
Total	8	7		

TABLE 37.—*Data on wildcat wells drilled in Lyon County during 1950*†

Well	Location	Surface elevation, feet	Depth to top of Lansing, feet	Depth to top of Mississippian, feet	Depth to top of "Hunton," feet	Depth to top of Viola, feet	Depth to top of Simpson, feet	Depth to top of Arbuckle, feet	Total depth, feet
Stanolind Oil and Gas Co. and Winkler and Kock No. 1 Cornwell	NE¼ NE¼ NE¼ 26-16-10E	1,345	1,440	2,471	2,948	.....	.....	.....	2,967
*Ben F. Brack Oil Co., Inc. No. 1 Davidson	NW¼ NE¼ NW¼ 33-17-11E	119	990	2,156	.....	2,745	2,865	2,916	2,935
*Mendenhall Drlg. Co. No. 1 Roberts	SE¼ SE¼ SE¼ 15-18-10E	1,224	1,280	.....	.....	.....	.....	.....	1,682
*Ray Anderson et al. No. 1 Grimmet	SW¼ SE¼ NE¼ 22-18-10E	1,229	1,265	.....	.....	.....	.....	.....	1,652
*Ray Anderson et al. No. 1 Ball	SW¼ SW¼ NW¼ 23-18-10E	1,241	1,265	.....	.....	.....	.....	.....	1,615
*Willingham et al. No. 1 Brockhouse	SE¼ SE¼ NE¼ 28-19-10E	1,167	1,220	2,184	2,617	2,627	2,711	2,763	2,794
*Susima Oil Co. No. 1 Warren	SE¼ SE¼ SW¼ 19-20-10E	1,336	.....	.....	.....	.....	.....	.....	2,303
*Susima Oil Co. No. 1 Owen	SW¼ NW¼ NE¼ 30-20-10E	1,347	1,382	2,448	.....	.....	.....	.....	2,451
*J. C. Scanlon & Reece No. 1 Farmer-Bell	NE¼ NW¼ SW¼ 31-20-10E	1,407	1,480	2,490	.....	.....	.....	.....	2,539
*A. R. Jones No. 1 Kuhlman	SW¼ NE¼ SW¼ 28-20-11E	1,220	1,060	2,110	.....	2,564	2,637	2,699	2,760
*Bennett and Roberts Drlg. Co., Inc. No. 1 Blair	SW¼ SW¼ SW¼ 8-20-12E	1,130	900	1,948	.....	.....	.....	.....	1,980
*Lance Hill et al. No. 1 Dickinson	SW¼ NW¼ NW¼ 16-20-12E	1,176	.....	.....	.....	.....	.....	.....	1,295
*Lance Hill et al. No. 1 Redecker	NE¼ NE¼ NE¼ 17-20-12E	1,164	910	1,947	.....	2,440	2,497	2,547	2,565

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.
† All except first well listed (discovery well, Bushong pool) were dry holes.

in the county is shown in Table 63. Locations of producing areas for the year are shown on Plate 1. Water-flooding data are listed in Table 1.

McPHERSON COUNTY

The 1950 production from 31 active pools: oil 3,477,164 barrels including 148,445 barrels from 1 secondary recovery project, gas 465,833 thousand cubic feet. Wells drilled in 1950: oil 29, gas 1, dry 32, total 62 including 10 wildcats. New pools discovered 2.

Developments during 1950.—There was about 25 percent less drilling in McPherson County during 1950 than in 1949, but the same number of new pools was discovered and about the same number of new oil wells recorded. Both oil and gas production increased slightly. About three-fourths of the new oil producers (21) were drilled in two pools, the **Georob** (14) and the **Ritz-Canton** (7). A very large percentage of McPherson County oil production comes from the "chat" at the top of the Mississippian rocks at depths between 2,800 and 3,000 feet.

The **Johnson South** pool was opened in March by the Texas Pacific Coal and Oil Company No. 1 Krehbiel well in sec. 11, T. 20 S., R. 3 W. Initial production was 20 barrels of oil with considerable water from the Mississippian "chat" at 3,043 to 3,053 feet.

TABLE 38.—*Dry wildcat tests drilled in McPherson County during 1950*

Company and farm	Location	Surface elevation, feet	Depth to top of Lans.-K.C., feet	Depth to top of Mississippian, feet	Total depth, feet
L. B. Jackson et al. No. 1 Lovett	NE cor. SE¼ 14-18-4W	1,463	2,464	3,138	3,793
*National Assoc. Petro. Co. No. 1 Sandahl	NE cor. NE¼ 21-18-4W	1,460	2,442	3,109	3,752
*Lawrence & Bush No. 1 Sterling	SW cor. SW¼ 3-19-1W	1,544	2,311	2,905	3,565
*B & R Drlg., Inc. et al. No. 1 Oliver & Nelson	SW cor. SW¼ 29-19-3W	1,481	2,477	3,131	3,858
Beardmore Drlg. Co. et al. No. 1 Hochstrasser	NW cor. SE¼ 5-19-4W	1,520	2,622	3,142	3,915
*Westgate-Greenland Oil Co. et al., No. 1 Nikkel	SW cor. SW¼ 22-20-1W	1,517	2,307	2,915	3,490
H & H Drlg. Co. No. 1 Otte	NE cor. NW¼ 30-20-1W	1,543	2,345	2,992	3,664
The Texas Company No. 1 H. J. Pauls Unit	SW cor. NE¼ 25-21-5W	1,528	2,717	3,382	4,070

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

The first well in the **Paden South** pool was drilled by the Glickman Oil Company on the Duvall lease in sec. 21, T. 18 S., R. 1 W. Initial production was 40 barrels of oil per day from the Mississippian "chat" at 2,765 to 2,774 feet.

Three dry wildcat tests, all to the Arbuckle, were drilled on the southwestward extension of the **Lindsborg** pool. One of these, Beardmore Drilling Company the No. 1 Hochstrasser well in sec. 5, T. 19 S., R. 4 W. had the following tops, judging by the electric log: Wellington salt, 393 feet; Herington, 798 feet; Fort Riley, 940 feet; Tarkio, 1,720 feet. Howard, 1,992 feet; Topeka limestone, 2,090 feet; Heebner shale, 2,362 feet; Douglas shale, 2,398 feet; "brown lime," 2,580 feet; Lansing-Kansas City, 2,622 feet; Mississippian, 3,142 feet; noncherty St. Joe limestone, 3,445 feet; Kinderhookian shale, 3,505 feet; Viola, 3,780 feet; Simpson, 3,818 feet; and Arbuckle, 3,888 feet. The elevation and total depth are 1,520 and 3,915 feet, respectively.

One deep test drilled by the Texas Company in sec. 25, T. 21 S., R. 5 W., 6 miles southwest of the **Bornholdt** pool logged the Mississippian at 3,382 feet, the Viola at 3,909 feet, and the Arbuckle at 4,005 feet. The elevation is 1,528 feet, the total depth 4,070 feet, and no shows of oil or gas were reported. Four other wildcat tests much nearer production show no unusual features.

Locations of producing areas and dry wildcat wells are shown in Figure 8. Oil production data are given in Table 62 and gas production data in Table 63. Data on dry wildcats are listed in Table 38. Information on new pools is given in Table 6, and data on the secondary recovery is given in Table 1.

TABLE 39.—*Data on wildcat test wells drilled in Marion County during 1950*

Company and farm	Location	Depth to top of Kansas City, feet	Depth to top of Mississippian, feet	Depth to top of Viola, feet	Depth to top of Simpson, feet	Depth to top of Arbuckle, feet	Total depth, feet
*Crest Petro., Inc., et al. No. 1 Schweitzer	NE¼ NW¼ NW¼ 27-19-3E	2,014	2,368	2,720	2,793	.....	2,834
*C. T. Shelton & Veeder Supply & Development Co. No. 1 Thies	SE cor. SW¼ 14-19-4E	.....	2,337	.....	.....	.....	2,386
Aladdin Petro. Corp. No. 1 Wallace	SE cor. SW¼ 34-21-2E	2,098	2,715	3,135	3,190	3,257	3,309
*A. D. Allison and Co., & Max Steinbuchel No. 1 Goering	NW cor. NE¼ 27-21-3E	1,925	2,515	2,895	.....	.....	2,905
*Russell Drlg. Co. No. 1 Spangler	Cen. S½ SE¼ NE¼ 35-22-3E	.....	2,611	2,865	2,980	.....	3,110

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

TABLE 40.—*Data on pool wells drilled in Marion County during 1950*

Field	No. of oil wells	Dry holes	Salt water disposal
Cedar Creek	1*	2	..
Covert-Sellers	5	1	..
Doles Park	..	1	..
Elbing	..	1	..
Elbing North		2	..
	..	1†	1
Florence	2	4	..
Lehigh	..	1	..
Lost Springs	5	5	..
Lost Springs East	..	1	..
Lost Springs South	1	..	..
Peabody	4	1	..
Propp	3‡	1	..
Wenger	1	..	1

* Pool discovery; † Wildcat extension; ‡ Gas.

MARION COUNTY

The 1950 production from 16 fields: oil 595,126 barrels, gas 37,143 thousand cubic feet. Wells drilled in 1950: oil 19, gas 2, dry 25, salt-water disposal 1, total 47 including 6 wildcats. New pools discovered 1.

Developments during 1950.—The most important development during the year in Marion County was the discovery of the **Cedar Creek** pool in June. The discovery well is the R. Gear No. 1 Robinson well in the SW¼ SW¼ NE¼ sec. 31, T. 20 S., R. 5 E. Production is from the Viola limestone. During the last half of the year the field produced 1,246 barrels of oil. Reported natural gas production was from the **Propp** field in sec. 8, T. 19 S., R. 4 E.

In addition to the Cedar Creek discovery well five wildcat tests were drilled in the county. Data on these wells are listed in Table 39. There were 44 pool wells drilled (Table 40). Production statistics in the various fields in Marion County are shown in Tables 62 and 63 and locations of areas that produced oil during 1950 are shown on Plate 1.

MARSHALL COUNTY

Wildcat wells have been drilled from time to time in Marshall County, but so far no producing pool has been discovered.

Exploration during 1950.—Two test wells, each of which reached Pre-Cambrian rocks, were drilled in Marshall County in 1950 (Table 57). According to the Geological Survey records, 13 wells had been drilled in the county previously. Locations of the test wells drilled in 1950 are shown on Figure 12.

MEADE COUNTY

The 1950 production from 3 pools: nominal and unreported. Wells drilled in 1950: oil none, gas 2, dry none, total 2 including 1 wildcat. New pools discovered 1.

Developments during 1950.—Discovery in August 1950 by Skelly Oil Company of a heavy flow of gas, accompanied by distillate, in the Mississippian rocks of Meade County probably was the most significant Kansas petroleum development of the year. A second gas well rated at almost 10 million cubic feet per day was drilled a half mile north of the discovery.

Discovery well of the new gas pool, called the **McKinney,** was located near the north line of sec. 2, T. 34 S., R. 26 W. at an elevation of 2,287 feet: The following tops were reported by the operator: Herington, 2,530 feet; Fort Riley, 2,748 feet; Heebner black shale, 4,409 feet; Toronto limestone, 4,419 feet; and Lansing-Kansas City limestone, 4,585 feet. From a study of well cuttings and the electric log these observations are made. The Chesteran Series extends from 5,736 to 5,980 feet with sandstone at the base, followed by Ste. Genevieve from 6,010 to 6,100 feet. The rocks between 6,100 and 7,470 are limestones. Between 7,470 and 7,500 the Viola begins and extends to the top of the Simpson green shales at 7,530. The Simpson sand was found at 7,555 and the Arbuckle at 7,570. From a total depth of 7,686 feet the well was plugged back, perforated, and acidized at 5,762 to 5,790 feet. The well was reported by Nomenclature Committee to be capable of producing 14,871,000 cubic feet of gas per day and 102 barrels of condensate.

The second gas well in the McKinney pool, also drilled by Skelly, is the No. 1 McKinney "B" in sec. 35, T. 33 S., R. 26 W. at an elevation of 2,207 feet. Depths to the tops of important zones are believed to be: Heebner shale, 4,321 feet; Mississippian, 5,610 feet; and Ste. Genevieve, 5,855 feet. Total depth is 6,064 feet. This well also was plugged back, acidized, and brought in as a producer rated at 9,950,720 cubic feet of gas per day from the Mississippian at about 5,633 to 5,718 feet. A slight show of oil was recorded from a drill-stem test at 5,235 to 5,263 feet.

Data on the new pool are given in Table 6. Data on cumulative oil and gas production in Meade County are listed in Tables 62 and 63.

MIAMI COUNTY

The 1950 production from 15 producing areas in 4 fields: oil 492,171 barrels including 365,750 barrels from 13 secondary recovery projects,

gas 32,500 thousand cubic feet (estimated). Wells drilled in 1950: 400 (estimated).

Developments during 1950.—No deep test wells were reported in Miami County during 1950. Most of the 400 wells estimated were in connection with water-flooding operations. A few wells were drilled for primary production in the northeastern part of the **"Big Lake"** field in sec. 14, T. 16 S., R. 24 E.

Miami continued to rank high in oil production among eastern counties, the 1950 production reflecting an increase of almost 35 percent. The greater part of the 1950 production came from scattered areas in the **Paola-Rantoul** field. A small amount of natural gas was reported from Miami County in 1950. Twenty-one producing gas wells in the **Beagle** field and six in the **Louisburg** field were reported.

Oil production in the various fields in Miami County is shown in Table 62. Gas production is listed in Table 63. Locations of areas that produced oil by secondary and primary methods are shown on Plate 1. Data on secondary recovery projects are given in Table 1.

MITCHELL COUNTY

Wildcat wells have been drilled in Mitchell County from time to time but to date no commercial quantities of oil or gas have been found.

Exploration during 1950.—Two deep tests were drilled in 1950, bringing to 13 the total of wells for which the Survey has record. A. D. Allison and Company, Inc. drilled a well in sec. 7, T. 7 S., R. 7 W. on the Van Pelt farm. The electric log of the well reveals the following tops of some of the more important zones: Topeka limestone, 2,092 feet; Heebner shale, 2,326 feet; Lansing-Kansas City, 2,439 feet; the Marmaton rests unconformably on the top of the Mississippian rocks at 3,141 feet; St. Joe limestone, 3,309 feet; Kinderhookian shale, 3,375 feet; "Hunton," 3,412 feet; Maquoketa, 3,541 feet; Viola dolomite, 3,570 feet; Simpson group, 3,848 feet; Arbuckle dolomite, 3,910 feet. No shows of either oil or gas were encountered and the well was abandoned after reaching a total depth of 3,948 feet.

The second wildcat test was also drilled by the A. D. Allison Company, Inc. on the Reinhardt farm in sec. 34, T. 6 S., R. 9 W. Conditions similar to those in the Van Pelt well were encountered, the operator reporting the Lansing-Kansas City sequence at 2,525 feet,

the Mississippian at 3,192 feet, Viola at 3,542 feet, and the Arbuckle at 3,905 feet. The well was bottomed at 3,955 feet from a surface elevation of 1,427 feet with no shows of oil or gas.

MONTGOMERY COUNTY

The 1950 production from 29 areas in 9 fields: oil 785,932 barrels including 576,712 barrels from 14 secondary recovery projects, gas 1,084,171 thousand cubic feet. Wells drilled in 1950: 200 (estimated).

Developments during 1950.—The outstanding development of recent months in Montgomery County and the one that is regarded as most important in southeastern Kansas is the development of Arbuckle production in the **Brewster** field in secs. 4 and 5, T. 33 S., R. 16 E. Production from one well started in May 1949. During 1950 several additional wells were drilled and 60,275 barrels of oil was produced during the year. The Arbuckle pool in the Brewster field is reported to occur in a dome of considerable closure with as much as 25 feet of pay in the central part. At least one well is reported to have had an initial daily potential of approximately 1,000 barrels of oil.

Drilling activities in Montgomery County during 1950 were connected largely with water-flooding activities. Data on these projects are given in Table 1. Montgomery County production decreased a little more than 10 percent from the 1949 figure. Locations of areas that produced oil by primary and secondary methods are shown on Plate 1. Oil and gas production data are listed in Tables 62 and 63.

MORRIS COUNTY

The 1950 production from 3 fields: oil 26,328 barrels, gas 24,655 thousand cubic feet. Wells drilled in 1950: oil 8, gas none, dry 20, total 28 including 8 wildcats. New pools discovered 2.

TABLE 41.—*Pool wells drilled in Morris County during 1950*

Field	Oil wells	Dry holes
Alta Vista	..	1
Burdick	3	4
Nelson	..	1 (extension wildcat)
Threemile Creek	2	4
Threemile Creek South	3	3
Wilsey	..	1 (extension wildcat)
Total	8	14

Developments during 1950.—The Edward A. Koester and J. F. Mergen No. 1 Burns well in the SW¼ NW¼ sec. 25, T. 16 S., R. 5 E. is the discovery well of the **Three Mile Creek** pool. The well, completed in June, was rated at 40 barrels of oil per day produced from the upper part of the Mississippian limestone between 2,208 and 2,252 feet. The field produced 12,458 barrels of oil during the remainder of the year. The **Three Mile Creek South** field was opened by the Loriaux No. 1 Gross well in sec. 35, T. 16 S., R. 5 E. Initial daily production of 60 barrels of oil was reported. Production is from the upper part of the Mississippian limestone.

Oil production data are shown in Table 62, and gas production data in Table 63. Locations of areas of oil production during the year are shown on Plate 1. Data on pool wells are listed in Table 41 and Table 42 gives data on dry wildcats.

MORTON COUNTY

The 1950 production from 1 pool: oil 186 barrels, gas all from the Hugoton field not segregated as to counties. Wells drilled in 1950: oil none, gas 52, dry 1, total 53 (no wildcats).

Developments during 1950.—The increase in drilling in Morton County during 1950 probably was greater (9 times that of 1949) than in any other Kansas county.

Only one 1950 well which was rated at 11 million cubic feet daily production, in sec. 20, T. 32 S., R. 40 W., was drilled right at the western boundary of the Hugoton field as previously drawn;

TABLE 42.—*Data on dry wildcat wells drilled in Morris County during 1950*

Company and farm	Location	Surface elevation, feet	Depth to top of Kansas City, feet	Depth to top of Mississippian, feet	Total depth, feet
*M. F. Bear et al. No. 1 Albritton	NW cor. SW¼ 24-15-5E	1,424	.....	2,211	2,268
*Wakefield et al. No. 1 White	NW cor. SE¼ 36-15-8E	1,387	1,730	2,522	3,361
*M. F. Bear et al. No. 1 Peterson	NW cor. SW¼ 34-16-5E	1,463	.....	2,240	2,280
*Dunne & Strait No. 1 Hutchinson	Cen. N½NE¼NW¼ 10-16-6E	1,455	.....	2,096	2,767
Orville Glick No. 1 Sharpe	SW cor. SW¼ 24-16-8E	1,338	1,653	2,472	3,228
Earl F. Wakefield et al. No. 1 Dent	SE¼ NE¼ NE¼ 26-16-9E	1,226	1,488	2,356	3,160

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

the remaining 51 gas wells were at locations farther removed from the presumed western limit. The one dry hole recorded seems to have been due in part to a mechanical difficulty, as a producing gas well was immediately drilled near the abandoned hole.

Although Morton County is commonly regarded as being somewhere near the western edge of Hugoton production, the deliverability of 1950 wells averaged 6.5 million cubic feet per day. The largest well was the Panhandle Eastern Gas Company No. 1 Mangles well in sec. 34, T. 34 S., R. 40 W. which was assigned a daily initial potential of 22,929,000 cubic feet of gas.

Production, the active area, and producing zones are shown under Hugoton in Table 63. Additional data on the Hugoton field are given in the natural gas chapter. Location of the producing area is shown on Plate 2. Oil and gas production data are given in Tables 62 and 63.

NEMAHA COUNTY

The 1950 production from 2 fields: oil 13,193 barrels, gas none. Wells drilled in 1950: oil 3, gas none, dry 7, salt-water disposal 1, total 11 including 4 wildcats. New pools discovered 1.

Developments during 1950.—In October the Carter Oil Company No. 1 Oren Strahm well in the NW¼ SW¼ NW¼ sec. 13, T. 2 S., R. 14 E. found production in the "Hunton" limestone and opened the **Sabetha** field. The pay zone is between 2,826 and 2,834 feet. During the remainder of the year two wells in the new field produced 631 barrels of oil. In the NE¼ SW¼ NW¼ sec. 27, T. 2 S., R. 14 E. the Carter Oil Company No. 2 Mamie Strahm, northeast offset of the No. 1 Mamie Strahm (discovery well of "Hunton" production in the **Strahm** field in 1948) found Viola production between 3,559 and 3,578 feet.

Locations of the fields and wildcat wells drilled in the county in 1950 are shown on Figure 12. Oil production data are given in Table 62. Information on the new pool is given in Table 6. Additional drilling statistics in Nemaha County during 1950 are listed in Table 57.

NEOSHO COUNTY

The 1950 production from 18 areas in 6 fields: oil 615,792 barrels including 541,231 barrels from 5 secondary recovery projects, gas 97,379 thousand cubic feet. Wells drilled in 1950: oil 29, gas none, dry 2, salt-water disposal or injection wells 29, probable unrecorded 190, total 250 (estimated).

Developments during 1950.—The chief developments in Neosho County during 1950 were in connection with water-flooding operations which produced 88 percent of the county's total oil production, almost 20 percent greater than the 1949 production. One water-flood project in Allen and Neosho Counties produced 5,000 barrels of oil during the year; it is not possible to assign it to either county. A small part of the gas production came from neighboring parts of Crawford County. It is estimated that about 250 wells were drilled in the county in 1950. No complete record of development activity is available.

Data on oil production in Neosho County are listed in Table 62. Gas production statistics are included in Table 63. Locations of areas that produced oil by primary and secondary methods are shown on Plate 1. Information on secondary recovery projects is given in Table 1.

NESS COUNTY

The 1950 production from 4 pools: oil 276,327 barrels, gas none. Wells drilled in 1950: oil 3, gas none, dry 1, total 4, including 2 wildcats. New pools discovered 1, old pool abandoned 1.

Developments during 1950.—Two oil wells drilled during the year are within the **Aldrich** pool which produced nearly 90 percent of the total production of the county. One rank wildcat, the J. M. Huber Corporation No. 1 Ryersee well in sec. 2, T. 19 S., R. 21 W. was drilled to a total depth of 4,710 feet before being abandoned. There was a slight show of oil in the upper part of the Mississippian which was encountered at 4,233 feet.

The new pool is the **Kansada West** discoverd by W. L. Hartman on the Scott farm in sec. 28, T. 17 S., R. 26 W. about 1½ miles southwest of the **Kansada** pool which was abandoned during the year. Production is from the Warsaw dolomite of Mississippian age. The casing was perforated at three different horizons in the Warsaw with production ultimately coming from the interval between 4,438 and 4,443 feet. No productivity test has yet been made and the well has been shut down until an outlet for the oil can be found.

Locations of producing areas and the dry wildcat wells are shown in Figure 10. Oil production data are given in Table 62. Information on the pool is given in Table 6.

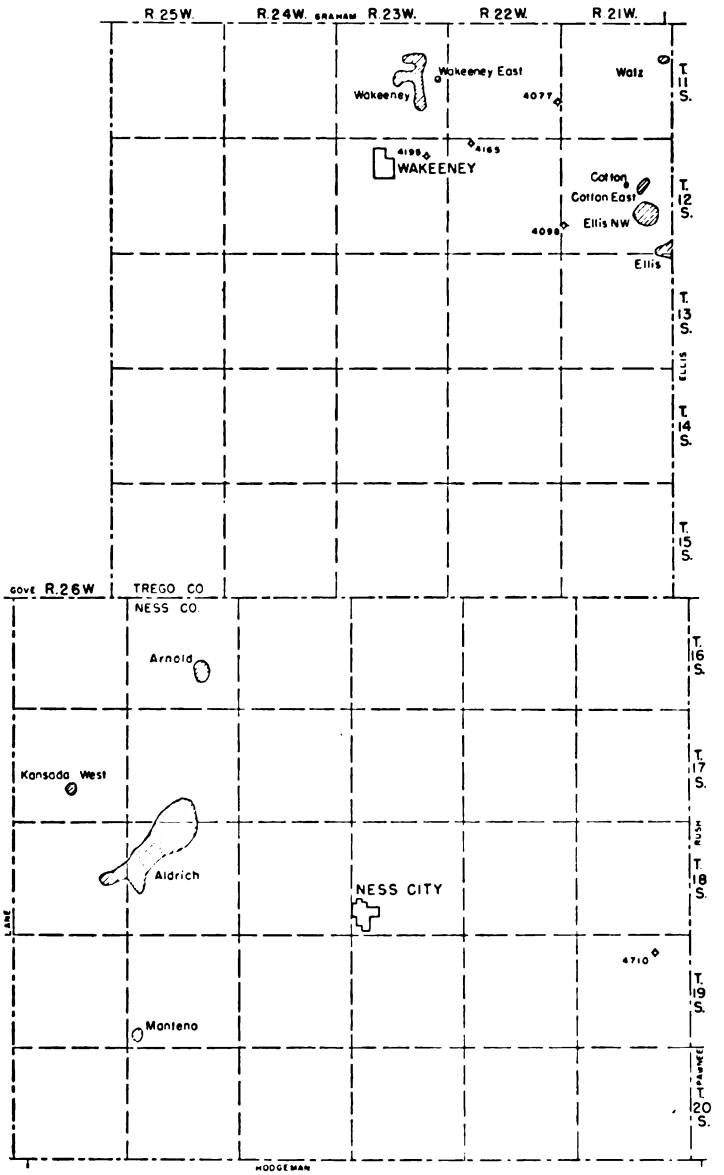


Fig. 10.—Map of Ness and Trego Counties showing oil pools and dry wildcat tests drilled during 1950.

NORTON COUNTY

The 1950 production from 2 pools: oil 48,295 barrels, gas none. Wells drilled in 1950: oil none, gas none, dry 3 including 2 wildcats. Pools adandoned 1.

Developments during 1950.—Only three test wells were drilled in Norton County during 1950. An outpost well drilled 1½ miles north of the **Ray West** pool by the Texas Company on the Cresswell farm in sec. 14, T. 5 S., R. 21 W. was abandoned at 3,620 feet. A slight show of oil was found from 3,594 to 3,610 feet above the Arbuckle which was topped at 3,611 feet.

A well drilled by P. G. Hansen on the Allen farm in sec. 2, T. 5 S., R. 22 W. had the following tops reported by the scout: Heebner shale, 3,211 feet; base of the Kansas City, 3,440 feet; Arbuckle, 3,488 feet; and Reagan sandstone, 3,513 feet. The total depth was 3,521 feet. A show of oil was reported at 3,500 feet in the Arbuckle dolomite.

The Rex and Morris No. 1 Weathers well in sec. 28, T. 4 S., R. 22 W. was dry and abandoned at a total depth of 3,807 feet with no recorded shows of oil. According to scout information the Heebner was found at 3,434 feet, the Lansing-Kansas City sequence at 3,465 feet, the base of the Kansas City at 3,666 feet, the Arbuckle dolomite at 3,750 feet, and granite wash at 3,797 feet.

The **Hewitt** pool located in sec. 11, T. 4 S., R. 21 W. was abandoned during the year. Pools are shown on Figure 9. Data on pools and oil production are given in Table 62.

OSBORNE COUNTY

Wildcat wells have been drilled from time to time in Osborne County but as yet no pool has been discovered. Six wildcat tests were drilled during 1950.

Exploration during 1950.—Data on the six dry wildcat wells drilled in Osborne County may be found in Table 43. Two of the wells were drilled in the southeastern part of the county. One of these wells, the C. B. Davis No. 1 Applegate well in sec. 11, T. 10 S., R. 12 W. had very small shows of oil in the Lansing-Kansas City sequence at 2,985 feet and again at 3,011 feet.

The other four wells were drilled in the southwestern part of the county. Only one of these wells had an indication of oil. The Sohio Petroleum Company No. 1 Schloh well in sec. 15, T. 10 S., R. 15 W. had some oil staining in the oölitic zone of the Lansing-Kansas City sequence which was topped at 3,043 feet.

TABLE 43.—*Dry wildcat tests drilled in Osborne County during 1950*

Company and farm	Location	Depth to top of anhydrite, feet	Depth to top of Topeka, feet	Depth to top of Heebner, feet	Depth to top of Lansing, feet	Total depth, feet
*Albert Markham et al. No. 1 Heitschmidt	SW cor. SW¼ 11-9-14W	1,150	2,985	3,156	3,214	3,922
*Superior Oil Co. No. 1 Nagel	SW cor. NE¼ 2-9-15W	†	.....	.....	.....	3,906
*Courtney B. Davis Inc., No. 1 Cooper	NW¼ NE¼ NW¼ 29-10-11W	687	.....	.....	2,409	3,061
*Courtney B. Davis Inc., No. 1 Applegate	NE¼ SW¼ SW¼ 11-10-12W	722	.....	2,925	2,980	3,221
*Sohio Petr. Co. No. 1 Schloh	NW cor. SE¼ 15-10-15W	1,012	.....	2,995	3,043	3,527
*Carpenter & Lay et al. No. 1 Hobrock	SE cor. NE¼ 20-10-15W	1,235	2,972	3,218	3,267	3,500

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.
† No tops released.

OTTAWA COUNTY

Wildcat wells have been drilled in Ottawa County from time to time but thus far no oil of commercial quantities has been discovered. One wildcat well was drilled during 1950.

Exploration during 1950.—The one 1950 wildcat well in Ottawa County was drilled by W. A. Haney et al. on the Faidley farm in sec. 27, T. 10 S., R. 1 W. The tops of the more important marker beds are as follows: Lansing limestone, 2,040 feet; Mississippian, 2,649 feet; Kinderhookian shale, 2,827 feet; "Hunton" dolomite, 2,987 feet; Maquoketa shale, 3,273 feet; Viola dolomite, 3,425 feet; Simpson group, 3,520 feet; and Arbuckle dolomite, 3,642 feet. The Kansas Sample Log Service believes that the top of the Simpson is more correctly placed at 3,502 feet with the top of the Arbuckle at 3,580 feet. The total depth was 3,695 feet with no shows of oil or gas being reported.

PAWNEE COUNTY

The 1950 production from 14 pools: oil 454,552 barrels, gas 6,120,589 thousand cubic feet. Wells drilled in 1950: oil 6, gas 1, dry 11, total 18 including 7 wildcats. New pools discovered 1.

Developments during 1950.—Drilling activity in 1950 declined. The one new pool discovered was the **Rutherford East.** The discovery well was drilled by the Ben Brack Oil Company on the Rankin farm in sec. 4, T. 20 S., R. 16 W. Gas was found in the top of the Arbuckle dolomite and the well tested 2,700,000 cubic

TABLE 44.—*Dry wildcat tests drilled in Pawnee County during 1950*

Company and farm	Location	Surface elevation, feet	Depth to top of Lans.-K.C., feet	Depth to top of Arbuckle, feet	Total depth, feet
El Dorado Refg. et al. No. 1 Behrens	SW cor. SE¼ 16-20-17W	2,080	3,548	3,931	3,994
*Murfin Drlg. Co. No. 1 Woelk	SW cor. NE¼ 25-21-15W	1,958	3,435	3,810	3,885
*Stag Drlg. Co. No. 1 Yeager	SE cor. SE¼ 11-21-17W	2,011	3,505	3,840	3,890
Stanolind Oil & Gas Co. No. 1 Myrtle N. Fair	NE¼SW¼NE¼ 21-22-15W	1,996	3,543	4,026	4,061
Schermerhorn Oil No. 1 Koelsch	NE cor. SW¼ 33-22-15W	2,005	3,586	4,118	4,135
Vickers Petro. Co. No. 1 Hawes	NW cor. SW¼ 29-23-16W	2,068	3,736	4,390	4,438

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

feet per day. Four months later the well was deepened about 40 feet where oil was found in the Arbuckle dolomite. The well was given a potential of 280 barrels of oil per day with 35 percent water. One new well was added to the pool later in the year.

The other six wildcats, all of which were dry, were drilled in the eastern half of the county. All were drilled into the Arbuckle dolomite. Three of the wells encountered shows of gas or oil or both in the upper part of the Lansing-Kansas City sequence. They were the Murfin Drilling Company No. 1 Woelh well in sec. 25, T. 21 S., R. 15 W., the Stag Drilling Company No. 1 Yeager well in sec. 11, T. 21 S., R. 17 W., and the Stanolind Oil and Gas Company No. 1 Fair well in sec. 21, T. 22 S., R. 15 W. The top of the Lansing-Kansas City in each of these wells was reported at 3,435 feet, 3,505 feet, and 3,543 feet, respectively.

Table 44 gives data on the dry wildcats. Location of producing areas and dry wildcats are shown on Figure 7. Oil production data are given in Table 62 and gas production data in Table 63. Information on the new pool is given in Table 6.

PHILLIPS COUNTY

The 1950 production from 9 pools: oil 2,225,857 barrels, gas none. Wells drilled in 1950: oil 52, gas none, dry 17, total 69 including 12 wildcats. New pools discovered 3, combined 1.

Developments during 1950.—Drilling activity in Phillips County was 40 percent more than in 1949. Thirty-seven new oil wells were drilled in the **Huffstutter** pool in 1950 bringing the total in that

TABLE 45.—*Dry wildcats drilled in Phillips County during 1950*

Company and farm	Location	Depth to top of Anhydrite, feet	Depth to top of Topeka, feet	Depth to top of Heebner, feet	Depth to top of Lansing, feet	Depth to Base K.C., feet	Depth to top of Arbuckle, feet	Total depth, feet
*Stableford & K & E No. 1 Caswell	NE cor. NW¼ 2-1-18W	1,730	.....	3,300	3,334	.....	.....	3,550
A. R. Peters et al. No. 1 Skelton	NW¼NE¼NW¼ 20-1-19W	1,830	3,166	3,388	3,414	3,609	.....	3,615
*Superior Oil Co. No. 1 Good	SE¼ NE¼ NE¼ 22-2-18W	†	.....	.....	.....	.....	.....	.....
Deep Rock Oil Corp. No. 1 Van Kooten	NW cor. SE¼ 15-2-19W	.....	3,126	3,338	3,389	3,601	3,726	3,771
*Barnett Oil Co. No. 1 Krafft	SW cor. SE¼ 33-2-19W	.....	3,256	3,256	3,284	3,532	3,649	3,676
Nadel & Gussman No. 1 Merklein	SW cor. SW¼ 31-3-19W	1,674	.....	3,263	3,307	3,518	3,600	3,646
Sohio Petro. et al. No. 1 Bishop	Cen. S½SE¼SW¼ 34-3-19W	1,600	.....	3,197	3,239	3,442	3,564	3,617
*Superior Oil Co. No. 1 Steele	NW¼ SE¼ SE¼ 22-5-17W	.....	.....	.....	.....	.....	.....	873
Francis Oil & Gas No. 1 Parker	NE cor. NW¼ 10-5-18W	1,465	2,901	3,112	3,152	3,376	3,560	3,588

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.
† No tops released.

pool to 46 producing wells. The **Bow Creek** received one new oil well and three new producing wells were drilled in both the **Dayton North** and **Hansen** pools. The **Ray** pool received five new oil wells.

Three new pools were discovered in Phillips County during 1950. The **Artz** pool was discovered by the Marmad Oil Company No. 1 Artz well in sec. 19, T. 1 S., R. 18 W. Production is from a porous zone in the Lansing-Kansas City sequence from 3,466 to 3,469 feet. The **Huffstutter West** pool was discovered on the Jackson farm in sec. 31, T. 1 S., R. 18 W. by the Laura Jane Oil Company in a well which produces from the Lansing-Kansas City from 3,503 to 3,511 feet. The well was assigned an initial potential of 720 barrels of oil per day. The pool has now been combined with the Huffstutter pool. The new **Stuttgart** pool also produces from the Lansing-Kansas City from 3,146 to 3,150 feet. The discovery well was drilled by the Imperial Petroleum Company on the Vogel farm in sec. 14, T. 3 S., R. 19 W. with an initial production of 503 barrels of oil per day.

Locations of producing areas and dry wildcat wells are shown on Figure 9. Oil production data are given in Table 62 and gas production data in Table 63. Data on dry wildcats are listed in Table 45. Information on newly discovered pools is given in Table 6.

POTTAWATOMIE COUNTY

Wildcats wells have been drilled in Pottawatomie County from time to time but so far no producing pool has been discovered. Four dry wildcat wells were drilled in 1950.

Exploration in 1950.—Four dry wildcat wells, each of which reached Pre-Cambrian rocks, were drilled in Pottawatomie County in 1950 (Table 57). According to Geological Survey records 17 test wells had been drilled previously in the county. Locations of the wells drilled in 1950 are shown on Figure 12.

PRATT COUNTY

The 1950 production from 17 pools: oil 2,074,004 barrels, gas 1,585,818 thousand cubic feet. 1 active secondary recovery project. Wells drilled in 1950: oil 14, gas 1, dry 14, total 29 including 5 wildcats. New pools discovered 1.

Developments during 1950.—A new pool, called the **Chitwood Northeast,** was opened by the Cities Service Oil Company No. 1 Lemon "D" well sec. 13, T. 28 S., R. 12 W., within half a mile of the southwestern extremity of the Cunningham gas pool. The discovery well was rated at 23 barrels of oil per day with some water from the top of the Viola at 4,330 to 4,346 feet. No shows were reported from the Lansing-Kansas City, drill-stem tested at 3,791 to 3,808 feet, or from the Arbuckle, found at 4,531 feet.

Three of the four dry wildcat tests, described in Table 46, recorded no shows of oil or gas although each was drilled roughly 50 feet into the Arbuckle dolomite before being abandoned. The well on the Thompson farm in sec. 27, T. 28 S., R. 13 W., 5 miles south of Pratt yielded a show of gas on a drill-stem test at 4,365 to 4,395 feet in the Viola.

TABLE 46.—*Dry wildcat tests drilled in Pratt County during 1950*

Company and farm	Location	Depth to top of Lans.-K.C., feet	Depth to top of Viola, feet	Depth to top of Simpson, feet	Depth to top of Arbuckle, feet	Total depth, feet
Rine Drlg. Co. No. 1 Buckner	NE¼ SE¼ NW¼ 9-28-13W	3,789	4,261	4,407	4,510	4,549
Harbar Drlg. Co. No. 1 Thompson	SW cor. NE¼ 27-28-13W	3,852	4,360	4,462	4,562	4,619
Lion Oil Co. No. 1 Maercker	NE cor. SE¼ 8-28-14W	3,990	4,549	4,619	4,734	4,788
Cities Service Oil Co. No. 1 Blackwelder	SE¼ NE¼ SE¼ 18-29-11W	3,837	4,454	4,544	4,652	4,700

Seven new oil wells were drilled in the **Iuka** pool, five in the **Chance**, one in the **Cunningham**, and an oil well and a gas well in the **Carmi**. Four old wells were worked over.

Locations of producing areas and dry wildcats are shown in Figure 5. Oil production data are given in Table 62 and gas production data in Table 63. Data on dry wildcats are listed in Table 46. Information on new pools is given in Table 6. Information on the secondary recovery project in the Cunningham pool which extends into Kingman County is given in Table 1. Production from this project cannot be divided between the two counties.

RENO COUNTY

The 1950 production from 11 pools: oil 2,014,875 barrels including 180 barrels from 1 secondary recovery project, gas 825,333 thousand cubic feet. Wells drilled in 1950: oil 7, gas none, dry 18, total 25 including 10 wildcats. New pools discovered 1.

Developments during 1950.—Only half as much drilling was done in Reno County in 1950 as in 1949. One new pool was discovered. Oil and gas production in 1950 declined about 10 percent from the 1949 figure.

TABLE 47.—*Dry wildcat tests drilled in Reno County during 1950*

Company and farm	Location	Depth to top of Lans.-K.C., feet	Depth to top of Viola, feet	Depth to top of Arbuckle, feet	Total depth, feet
Atlantic Refg. Co. No. 1 Beitler	NE¼ NW¼ NE¼ 27-22-8W	3,093	3,882	3,991	4,019
*Carl Hipple No. 1 Krantz	Cen. N½ NE¼ NE¼ 6-23-6W	2,918	3,975	4,020	4,045
Atlantic Refg. Co. No. 1 Love	SE cor. SW¼ 33-23-7W	3,116	4,074	4,172	4,197
Buffalo Drlg. Co. No. 1 Morgan	NW cor. SW¼ 24-24-4W	2,631	3,859	3,976	4,027
Bradley Bros. et al. No. 1 Soper	NE¼ SE¼ NW¼ 30-25-4W	2,806	3,983	4,095½	4,123
Cities Service Oil Co. No. 1 Zimmerman	NW cor. SE¼ 21-25-6W	2,848	3,921	4,038	4,070
Con Melland et al. No. 1 Miller	NW¼SE¼SE¼SE¼ 8-25-8W	3,314	4,185	4,306	4,345
*J. M. Huber & Sohio No. 1 Sigg	NE cor. SW¼ 34-26-4W	2,885	4,121	4,245	4,290
*D. J. Briggs No. 1 Irsik	NW cor. SW¼ 13-26-5W	2,839	4,012	.....	4,050

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

The Cities Service Oil Company discovered the new pool, called the **Albion North,** with their No. 1 Graber well in sec. 14, T. 26 S., R. 6 W., 1 mile north of the **Albion** pool. Several tests were made and production, 25 barrels of oil with much water, was found in the Viola at 3,997 to 4,002 feet. Drill-stem tests at the top of the Mississippian and of the Simpson sand were negative.

Locations of producing areas and dry wildcat wells are shown on Figure 8. Oil production data are given in Table 62 and gas production data in Table 63. Data on dry wildcats are listed in Table 47. Information on new pools is given in Table 6.

RICE COUNTY

The 1950 production from 48 pools: oil 8,656,838 barrels, gas 190,296 thousand cubic feet. Wells drilled during 1950: oil 123, gas 4, dry 83, salt-water disposal 5, total 215 including 18 wildcats. New pools (8 oil and 1 gas) discovered 9, combined 1, abandoned 2.

Developments during 1950.—In Rice County during 1950 oil production increased 15 percent and new pool discoveries 80 percent while drilling declined 11 percent from the 1949 figures. Also, the dry-hole percentage declined. Gas production increased modestly.

The new oil pools are called the **Calf Creek, Froning, Glen Sharrald, Ixl, Mary Ida, Munyon, Prosper East,** and **Union East;** the new gas pool is the **Union.** Five of the new pools form a group in the northwestern part of the county between the **Orth** and **Silica** pools; and two are located about 5 miles south of Lyons, 2 or 3 miles from previous production. Four of the new pools produce from the Arbuckle dolomite, two from the Pennsylvanian basal conglomerate, one from the Sooy conglomerate, one from the Lansing-Kansas City, and one from the top of the Pre-Cambrian. All the new discovery wells produce from depths of 3,200 to 3,400 feet.

All nine dry wildcat wells were drilled into the Arbuckle dolomite but none recorded reaching the Pre-Cambrian. Three of the wildcats were drilled in T. 21 S., R. 10 W. in the southwestern corner of the county; three are in a nonproductive area 6 or 7 miles northeast of the **Wherry** pool and the same distance west of the **Smyres;** and the other three are north of Lyons. Seven of the nine dry tests reported no shows of oil or gas. The No. 1 **Burge** well, drilled by S. E. Likins in sec. 12, T. 20 S., R. 7 W. recorded gas-cut mud and a slight show of oil on a drill-stem test in the conglomerate at 3,365 to 3,410 feet. The Dozier Oil Company No. 1

TABLE 48.—*Dry wildcat tests drilled in Rice County during 1950*

Company and farm	Location	Depth to top of Lans.-K.C., feet	Depth to top of Viola, feet	Depth to top of Arbuckle, feet	Total depth, feet
Heathman Drlg. Co. No. 1 Schmidt	SW¼ NW¼ SE¼ 28-18-8W	2,886	3,315	3,438	3,463
Atlantic Refg. Co. No. 1 Hardy	SW cor. SW¼ 30-19-6W	2,790	3,545	3,641	3,675
*J. C. Dozier, et al. No. 1 Burfield	SW cor. SW¼ 3-19-8W	2,885	3,393	3,494	3,511
*Brunson Drlg. et al. No. 1 Johnston	SW¼ NW¼ SE¼ 22-19-8W	2,838	.....	3,247	3,300
Atlantic Refg. Co. No. 1 Burke	SE¼ NW¼ NE¼ 18-20-6W	2,835	3,640	3,739	3,765
*S. E. Likins No. 1 Burge	SE cor. SW¼ 12-20-7W	2,914	3,693	3,789	3,810
*Dozier Oil Co. No. 1 Boy	NW¼ SW¼ SW¼ 16-21-10W	3,033	.....	3,441	3,447
*Finston & Murfin No. 1 Flora	NW cor. SW¼ 17-21-10W	3,036	.....	3,423	3,453
White Eagle Oil Co., and Murfin, No. 1 Harp	NW cor. SE¼ 24-21-10W	3,001	.....	3,572	3,615

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

Boy well in sec. 16, T. 21 S., R. 10 W. yielded an estimated 1.7 million cubic feet of gas on a drill-stem test at 3,377 to 3,402 feet in the Simpson. Data on the unsuccessful wildcat tests are given in Table 48.

The **Chase** pool had 23 new oil wells, 16 dry, and 2 salt-water disposal wells; the **Geneseo** pool had 14 new oil wells and 8 dry holes; the **Silica** pool received 28 new oil wells and 17 dry holes; the **Raymond** had 4 producers and 5 dry; and the **Wherry** pool 6 producers and 2 dry. In the newly opened gas pool, the Union, initial daily production of the discovery well was 1,000,000 thousand cubic feet. A second well was rated at 3,000,000 thousand cubic feet and two additional wells came in at 5,000 thousand cubic feet each.

Locations of producing areas and dry wildcat wells are shown in Figure 8. Oil production data are given in Table 62 and gas production data in Table 63. Information on new pools is given in Table 6.

RILEY COUNTY

Wildcat wells have been drilled in Riley County from time to time, but so far no producing pool has been discovered. Two wildcat wells started late in 1950.

Exploration during 1950.—After several years of inactivity exploratory drilling was resumed in Riley County in 1950. Two wildcats were located late in the year and completed early in 1951.

The Ben Brack Oil Company No. 1 Johnson well, in the SW¼ SW¼ SE¼ sec. 33, T. 7 S., R. 5 E. and the Ben Brack Oil Company No. 1 Erickson well in the NE¼ NE¼ SW¼ sec. 15, T. 7 S., R. 5 E. are the two locations. According to Geological Survey records 12 tests had been put down previously in the county.

ROOKS COUNTY

The 1950 production from 56 pools: oil 5,759,190 barrels, no gas. Wells drilled in 1950: oil 147, gas none, dry 108, salt-water disposal 5, total 260 including 25 wildcats. New pools discovered 9, older pools abandoned 2.

Developments during 1950.—Oil production in Rooks County was 30 percent more than the 1949 figure although drilling declined roughly 15 percent.

The nine new 1950 pools were named the **Amboy, Baumgarten, Berland North, Grover, Kern, Laura, Marcotte Northwest, Stamper,** and **Whisman.** Seven of the new pools are in the southwest quarter of the county in area partially occupied by older producing pools. Two of the new discoveries, the Stamper in T. 8 S., R. 17 W. and the Grover in T. 7 S., R. 19 W. are more nearly in wildcat territory, 2 or 3 miles from former production. Six of the new pools produce from the Arbuckle dolomite from depths of about 3,700 to 3,800 feet. There are two new Lansing-Kansas City pools and the new Stamper pool found production in the Marmaton group, a zone which is yielding some new production in other parts of western Kansas. One of the new Arbuckle pools, the Kern, was brought in with a discovery well of more than 3,000 barrels daily capacity. The other eight ranged from 100 to 200 barrels initial daily capacity.

All 16 unsuccessful wildcat tests penetrated the Arbuckle dolomite and two reached the Pre-Cambrian. The Veeder Supply and Development Company No. 1 Johnson well in sec. 9, T. 6 S., R. 19 W. reached Pre-Cambrian granite at a depth of 1,556 feet below sea level after penetrating only 66 feet of dry Arbuckle formation, and

the Westgate-Greenland Oil Company No. 1 Johnson well in sec. 24, T. 6 S., R. 20 W. logged granite wash at 1,747 feet below sea level after drilling through 246 feet of Arbuckle formation. Several of the dry wildcats had shows of oil or gas; two of them swabbed or indicated on drill-stem tests possible Arbuckle production of a barrel or two per hour, but were abandoned finally.

TABLE 49.—*Dry wildcat tests drilled in Rooks County during 1950*

Company and farm	Location	Depth to top of Lans.-K.C., feet	Depth to top of Arbuckle, feet	Total depth, feet
*L. R. Travis & Veeder Supply Co. No. 1 Johnston	NE cor. SW¼ 9-6-19W	3,362	3,630	3,698
*Westgate-Greenland Oil Co., No. 1 Johnson	SE¼ SW¼ SW¼ 24-6-20W	3,385	3,648	3,910
Brooks Pierce Drlg. et al. No. 1 Nichol	NW cor. SW¼ 30-6-20W	3,498	3,817	3,840
*B. & R. Drlg., Inc. No. 1 Hunt	SW cor. NE¼ 19-7-18W	3,326	3,421	3,455
*Bert Dunn & Boreing No. 1 Ellis	SE¼ SW¼ SE¼ 36-7-19W	3,087	3,407	3,457
B. & R. Drlg., Inc. No. 1 Sample	SW cor. SE¼ 27-7-20W	3,216	3,477	3,530
Westgate-Greenland Oil Co., No. 1 Bunberry	SE¼ SW¼ NW¼ 17-8-18W	3,144	3,400	3,436
*Westgate-Greenland Oil Co., No. 1 Ruby Sweet	NE cor. SE¼ 18-8-18W	3,167	3,418	3,489
*N. Appleman & Veeder Supply Co., et al. No. 1 Carmichael	Cen. S½ SW¼ SW¼ 19-9-17W	3,323	3,653	3,687
Continental Oil Co. No. 1 Burton	SW cor. SE¼ 13-9-18W	3,289	3,618	3,667
Prime Drlg. Co. & Harold Krueger No. 1 Ekey	SE¼ NW¼ NE¼ 19-10-16W	3,293	3,658	3,707
*Virgil W. Thacker No. 1 Thacker	NW cor. NE¼ 21-10-17W	3,298	3,694	3,715
Aladdin Petro. Co. & H. & M. Drlg. Co. No. 1 Shaw	SE cor. NW¼ 10-10-18W	3,414	3,778	3,830
*Sohio Petro. Corp. No. 1 Garvert	NW cor. NW¼ 22-10-18W	3,424	3,798	3,849
Lowell-Gist No. 1 Gasaway	NE cor. NE¼ 31-10-18W	3,284	3,651	3,698
Francis Oil & Gas Co. & Veeder Supply No. 1 Schneider	SE cor. SW¼ 32-10-20W	3,412	3,708	3,750

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

These are the Westgate-Greenland Oil Company wells in secs. 17 and 18, T. 8 S., R. 18 W.

Routine drilling in Rooks County yielded 43 new oil producers and 7 dry holes in the **Berland** pool; 10 producers and 4 dry holes in the **Nettie**, and 11 producers and 3 dry holes in the **Novotny** pool. Three of the old wells which were worked over were converted into oil producers; three others were abandoned.

Locations of producing areas and dry wildcat wells are shown in Figure 9. Oil production data are given in Table 62. Data on dry wildcats are listed in Table 49, and information on new pools is given in Table 6.

RUSH COUNTY

The 1950 production from 4 pools: oil 473,307 barrels, gas 4,193,230 thousand cubic feet. Wells drilled in 1950: oil 9, gas none, dry 9, total 18 including 4 wildcats. Old pools abandoned 1.

Developments during 1950.—Drilling increased slightly, oil production was up almost 60 percent, and gas production declined somewhat.

No shows of oil or gas were reported in three of the four unsuccessful wildcat tests. In the fourth test the Skelly Oil Company No. 1 Schlagel well in sec. 14, T. 17 S., R. 16 W., the Arbuckle dolomite, topped at 3,607 feet, yielded a good show of oil and, judging by scout reports, might have made a small well except for the amount of water that came in.

TABLE 50.—*Dry wildcat tests drilled in Rush County during 1950*

Company and farm	Location	Depth to top of anhydrite, feet	Depth to top of Heebner, feet	Depth to top of Lansing, feet	Depth to top of Arbuckle, feet	Total depth, feet
W. J. Coppinger-Stanolind Oil & Blake Dirickson No. 1 Delkers	NE¼ NW¼ SW¼ 4-16-19W	1,265	3,307	3,348	.....	**3,685**
*Skelly Oil Co. No. 1 Frank E. Schlegel	NW¼ SE¼ SW¼ 14-17-16W	1,110	3,276	3,330	.....	**3,677**
Ben F. Brack Oil Co. No. 1 Bayer	NW cor. NW¼ 35-18-18W	1,120	3,343	3,397	3,778	**3,817**
*O. E. & E. L. Bradley & Pabco Drlg. No. 1 Button	SE cor. NW¼ 32-19-18W	.....	3,645	3,689	4,106	**4,140**

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

Drilling in Rush County pools added nine oil wells and three dry holes in the **Ryan** pool, and one dry hole each in the **Otis-Albert** pool and the area of the abandoned Winget pool.

Locations of producing areas and dry wildcat wells are shown in Figure 6. Oil production data are given in Table 62 and gas production data in Table 63. Data on dry wildcat tests are listed in Table 50.

RUSSELL COUNTY

The 1950 production from 35 pools: oil 13,561,393 barrels (none reported from 3 secondary recovery operations), gas none. Wells drilled in 1950: oil 227, gas none, dry 113, salt-water disposal 12, total 352 including 10 wildcats. New pools discovered 2, older pools abandoned 6, combined 2.

Developments during 1950.—Both drilling and oil production in Russell County increased modestly during 1950. The two new pools, the **Cook** in sec. 26, T. 13 S., R. 15 W., and the **Russell Northeast** in sec. 26, T. 13 S., R. 14 W. are in territory close to former production. Both pools are Lansing-Kansas City producers, from depths of about 3,000 feet.

All eight unsuccessful wildcat tests were drilled within a few miles of the productive trend roughly outlined by the Trapp, Hall-Gurney, and Fairport pools with no new drilling in the northeastern third of the county. All tests were drilled 30 to 50 feet into the Arbuckle dolomite but none reached the top of the Pre-Cambrian rocks. Depth to the top of the Arbuckle ranges from 3,150 to 3,517 (in sec. 8, T. 11 S., R. 14 W.) feet, an average of about 3,350 feet. No shows of oil or gas were indicated by scout reports on any of the dry wildcats, except in the Sohio and Appleman No. 1 Roda well in sec. 7, T. 12 S., R. 14 W. where a slight oil show was recorded at 2,944 to 2,985 feet in the Lansing-Kansas City sequence.

Drilling in the **Gorham** pool yielded 64 new oil wells and only 7 dry holes; the **Trapp** pool had 46 producers and 17 dry holes; and the **Hall-Gurney** pool followed closely with 43 new oil wells and 10 dry holes. Twelve new oil wells were added to the **Eulert** pool, 10 to the **Forest Hill,** and 6 each to the **Russell** and **Dubuque** pools.

Among the new producing zones developed by 1950 drilling in the county the Tarkio limestone was found to be productive in the Trapp pool, by the Keystone Petroleum, Inc. No. 1 "C" Sellens well in sec. 20, T. 15 S., R. 13 W. Of 43 old wells worked over in 1950, 28 were converted to oil producers. The **Russell North,**

TABLE 51.—*Dry wildcat tests drilled in Russell County during 1950*

Company and farm	Location	Depth to top of Lans.-K.C., feet	Depth to top of Arbuckle, feet	Total depth, feet
*Jones, Shelburne & Farmer, Inc. No. 1 Houser	SW¼ NE¼ NW¼ 8-11-14W	3,002	3,517	3,552
*Sohio & Appleman et al. No. 1 Roda	CenE½ SE¼ NE¼ 7-12-14W	2,927	3,259	3,280
*J. D. Ferrell Drlg. Co., Inc., No. 1 Keeney	SW cor. NE¼ 28-12-15W	3,039	3,333	3,371
*E. H. Riggs et al. No. 1 Mermis	NE cor. SW¼ 33-12-15W	3,008	3,334	3,370
National Assoc. Petro. Co. No. 1 Bachman	SE¼ NE¼ SE¼ 26-14-12W	2,802	3,148	3,200
Coop. Ref. Ass'n. & Northern Ordnance No. 1 "A" Schmidt	SW¼ NW¼ NW¼ 29-14-15W	3,056	3,396	3,435
Keystone Petr. & Murfin No. 1 Nuss	NW cor. NW¼ 8-15-11W	3,007	3,356	3,386
Anschutz Drlg. & Crowe No. 1 Elsasser	SE cor. SE¼ 32-15-14W	3,145	3,406	3,440

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

Atherton West, Donovan North, Driscoll, Lewis, and **Mahoney** pools were abandoned during the year.

Locations of producing areas and dry wildcat wells are shown in Figure 6. Oil production data are given in Table 62 and data on dry wildcats are listed in Table 51. Information on new pools is given in Table 6.

SALINE COUNTY

The 1950 production from 8 pools: oil 361,030 barrels, gas none. Wells drilled in 1950: oil 20, gas none, dry 17, total 37 including 4 wildcats. New pools discovered 3, old pools combined 1.

Developments during 1950.—Drilling in the county more than trebled in 1950 and oil production increased 50 percent. Three new pools were discovered in 1950. Two of the new discoveries were outposts of the **Olsson** pool, one, the **Olsson Northeast,** being combined with the Olsson pool during the year.

The 1950 development of greatest interest was the discovery of production in the Viola limestone by the S-V, Inc. No. 1 **Richter** well in sec. 19, T. 15 S., R. 3 W. Initial production was 132 barrels of oil per day from 3,386 to 3,391 feet. Three additional producers

also from the Viola (Maquoketa) and one dry hole were drilled during the year.

One unsuccessful wildcat was drilled about midway between the Olsson and **Hunter** pools by Donald T. Ingling et al. The location is in sec. 10, T. 16 S., R. 2 W. at an elevation of 1,368 feet. Important zones, according to scout reports, were found at the following depths: Lansing-Kansas City, 2,177 feet; Mississippian, 2,822 feet; "Hunton," 3,230 feet; Viola, 3,429 feet; and Arbuckle, 3,589 feet. Total depth is 3,603 feet and no shows of oil or gas were reported.

Locations of producing areas and the dry wildcat well are shown in Figure 8. Oil production data are given in Table 62 and information on new pools is given in Table 6.

SCOTT COUNTY

The 1950 production from 2 pools: oil 50,737 barrels, gas none. Wells drilled in 1950: oil 1, gas none, dry 4, total 5 (all wildcats). New pools discovered 1.

Developments during 1950.—A new pool, the **Keystone,** was opened in 1950. Discovery well of the new oil producer is the Herndon Drilling Company No. 1 Reuter well, drilled in sec. 25, T. 18 S., R. 32 W., about 12 miles northeast of the **Shallow Water** pool. Initial daily production of the discovery well was 143 barrels of oil with a little water. Oil comes from a depth of 4,002 to 4,016 feet in the Lansing-Kansas City limestone sequence. The Mississippian rocks were reached at 4,540 feet from an elevation of 2,969 feet and total depth was 4,646 feet.

Locations of producing areas and dry wildcat wells are shown in Plate 2. Oil production data are given in Table 62. Data on dry wildcats are listed in Table 52. Information on new pools is given in Table 6.

TABLE 52.—*Dry wildcat tests drilled in Scott County during 1950*

Company and farm	Location	Depth to top of anhydrite, feet	Depth to top of Ft. Riley, feet	Depth to top of Lansing, feet	Depth to top of Mississippian feet	Depth to top of Viola, feet	Depth to top of Arbuckle, feet	Total depth, feet
Amerada Petr. Corp. No. 1 Melchert	NE¼SW¼NE¼ 33-17-32W	2,250	2,953	3,952	4,658	5,224	8,308	5,342
Shallow Water Refg. Co., No. 1 "A" Harris	NE¼NW¼SE¼ 25-18-33W	2,130	2,898	3,945	4,708	.....	.....	4,948
Herndon Drlg. Co. No. 1 Shearmire	SE¼SW¼SE¼ 19-18-34W	2,310	.....	4,005	4,749	.....	.....	4,850
Harbar Drlg. Co., et al. No. 1 Joe E. Kinzell	NE cor. SW¼ 9-19-32W	2,168	2,856	3,950	4,669	.....	3,510	4,914

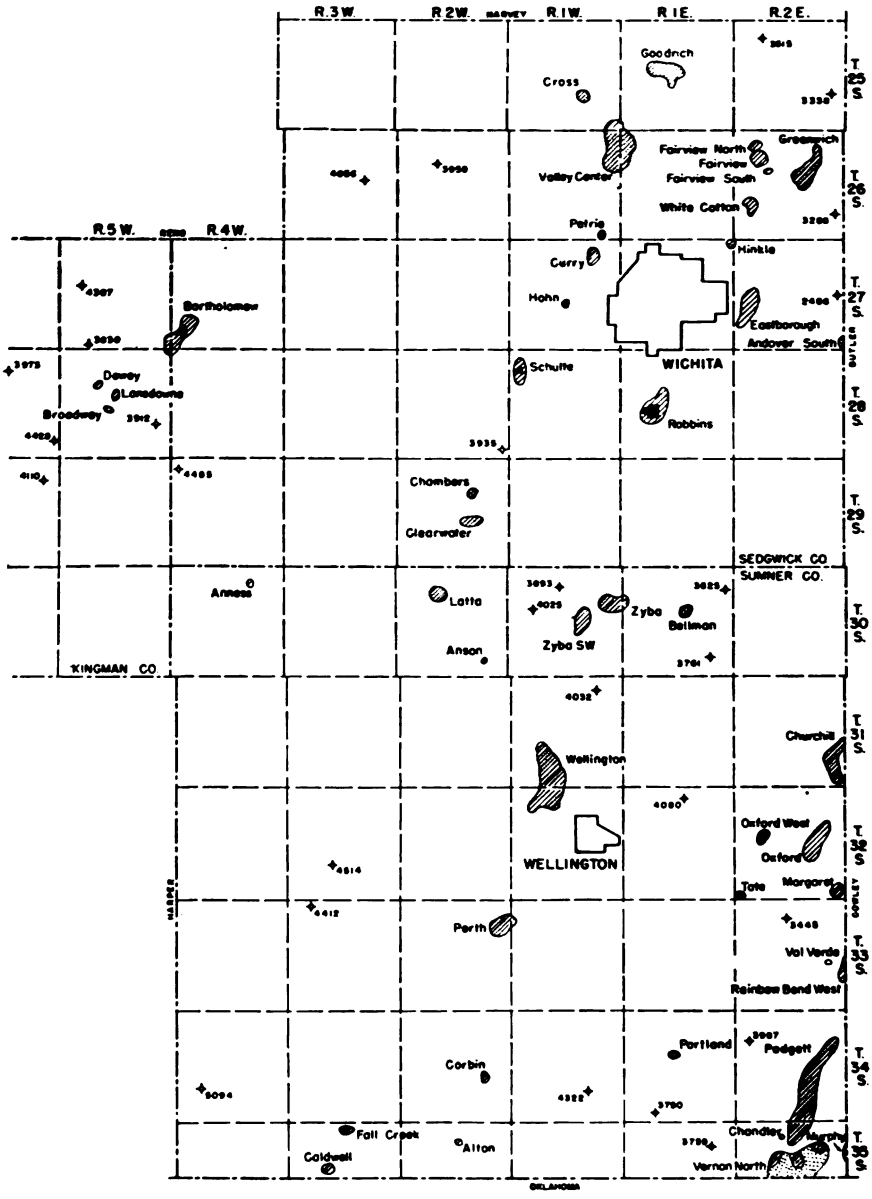


FIG. 11.—Map of Sedgwick, Sumner, and part of Kingman Counties showing oil and gas pools and dry wildcat tests drilled during 1950. (Dots, gas; diagonal lines, oil; solid black, secondary recovery).

SEDGWICK COUNTY

The 1950 production from 18 pools: oil 1,317,395 barrels including 26,419 barrels from 2 secondary recovery projects, gas 253,815 thousand cubic feet. Wells drilled in 1950: oil 62, gas none, dry 48, salt-water disposal 1, total 111 including 9 wildcats. New pools discovered 1, older pools abandoned 1.

Developments during 1950.—Owing largely to the extension of and drilling in the **Bartholomew** pool, Sedgwick County's oil production increased about 60 percent and gas production 52 percent. This was accomplished by a 35 percent increase in drilling.

One new pool was opened in 1950. J. P. Gaty brought in the new producer, called the **Fairview South** pool, with his No. 1 Tjaden well in sec. 17, T. 26 S., R. 2 E. Initial daily production was 38 barrels of oil from the "Burgess sand" from a depth of 2,945 to 2,950 feet.

Four of the eight dry wildcat tests penetrated the Arbuckle dolomite, two were stopped in the Simpson, and the other two at lesser depths. The scout reports recorded neither oil nor gas shows in these tests.

Nearly two-thirds (38) of the 1950 oil producers drilled in Sedgwick County pools were in the Bartholomew pool in T. 27 S., R. 4 W. near the west line of the county. Actually, production was extended across the line into Kingman County.

TABLE 53.—*Dry wildcat tests drilled in Sedgwick County during 1950*

Company and farm	Location	Depth to top of Lansing, feet	Depth to top of Miss., feet	Depth to top of Arbuckle, feet	Total Depth, feet
*Harry Hinton et al. No. 1 Vebrick	SE cor. SW¼ 5-25-2E	2,488	2,960	3,489	3,515
B & R Drlg., Inc., et al. No. 1 Mosiman	SW cor. SW¼ 24-25-2E	2,362	2,815	3,308	3,338
*J. P. Gaty No. 1 Barg	SE¼ SW¼ NE¼ 25-26-2E	2,395	2,890	.....	3,280
*Eckland Drlg. Co. No. 1 Smith	Cen. S½ SE¼ SE¼ 13-27-2E	2,372	.....	.....	2,486
*Max Steinbuchel et al. No. 1 Griffen	SE cor. SW¼ 9-26-2W	.....	3,468	.....	3,959
*Max Steinbuchel et al. No. 1 Schmitz	SE¼ SW¼ SW¼ 14-26-3W	.....	3,568	.....	4,056
*Cobb & Martin No. 1 Wise	SW cor. NE¼ 36-28-2W	2,920	3,502	3,890	3,935
*Pabco Drlg., Inc. No. 1 Souders	SW cor. NW¼ 6-29-4W	3,265	3,872	4,449	4,485

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

Locations of producing areas and dry wildcat wells are shown on Figure 11. Oil production data are given in Table 62 and gas production data in Table 63. Data on dry wildcats are listed in Table 53. Information on new pools is given in Table 6.

SEWARD COUNTY

The 1950 production from 3 pools: oil 14,176 barrels, gas 1,440,041 thousand cubic feet (from the Liberal Southeast pool) with Hugoton gas field production not segregated as to counties. Wells drilled in 1950: oil none, gas 74, dry 2, total 76 (no wildcats). Old pools combined 1.

Developments during 1950.—The most important county development was the extension eastward of the **Hugoton** field to include the **Liberal** field, an addition of approximately 215 square miles of gas-producing area. Nine 1950 gas wells were drilled along the field boundary as now drawn. Judging by their size—a range of 4 to 19 million cubic feet per day—the present boundary is by no means final.

One of the two dry wells was lost during completion; the other is an outpost well of the **Kismet** oil pool. This test, drilled by the Columbian Fuel Corporation in sec. 12, T. 33 S., R. 31 W., about 10 miles northeast of Arkalon, had the Mississippian rocks as its principal objective, but found that zone dry. Elevation of the well is 2,764 feet and total depth 6,500 feet. Depths to important marker beds as given by scout reports are: anhydrite, 1,528 feet; Florence, 2,900 feet; Lansing-Kansas City, 4,232 feet; Atokan, 5,258 feet; Mississippian, 5,650 feet; Ste. Genevieve, 5,858 feet; and Meramecian, 5,860 feet.

Seward County wells are shown on Plate 2. Gas production, the active area, and producing zones are shown under Hugoton in Table 63. Additional data on the Hugoton field are given in the chapter on natural gas. Oil production data are listed in Table 62.

SHERIDAN COUNTY

The 1950 production from 3 pools: oil 421,193 barrels, gas none. Wells drilled in 1950: oil none, gas none, dry 4 including 3 wildcats.

Developments during 1950.—Oil production and the number of wells drilled were almost identical in 1950 and 1949. In addition to one dry hole located in the **Studley** pool, three widely scattered dry tests were drilled in the county. One of these is the Musgrove Petroleum No. 1 Sidesinger well in sec. 36, T. 6 S., R. 27 W. Accord-

ing to scout reports the Lansing-Kansas City sequence was topped at 3,863 feet and the Mississippian at 4,402 feet. Total depth was 4,440 feet, no shows of oil or gas being reported.

A second wildcat drilled by Musgrove on the Younger farm in sec. 24, T. 10 S., R. 27 W. found the top of the Mississippian at 4,380 feet. The Continental Oil Company drilled the third wildcat on the Pope farm in sec. 18, T. 7 S., R. 29 W. (elevation 2,902 feet). The tops of important zones were recorded at the following depths: anhydrite, 2,563 feet; Heebner, 3,955 feet; Lansing-Kansas City, 3,994 feet; Mississippian, 4,512 feet; and Arbuckle, 4,636 feet. Total depth is 4,779 feet and no shows of oil or gas were recorded.

Oil production data are given in Table 62.

STAFFORD COUNTY

The 1950 production from 78 pools: oil 5,296,899 barrels (none reported from the 1 secondary recovery project), gas 1,658,954 thousand cubic feet. Wells drilled in 1950: oil 143, gas none, dry 149, salt-water disposal 1, total 293 including 29 wildcats. New pools discovered 21, old pools combined 3, abandoned 4.

Developments during 1950.—A 50 percent increase in drilling in 1950 yielded a 20 percent increase in oil production and twice the number of new pool discoveries, as compared with 1949.

Fourteen of the 21 newly discovered pools are located in two adjacent townships (seven in each), in the northwestern part of the county. In T. 21 S., R. 13 W., six of the seven new pools draw oil from the Arbuckle formation and one from the Lansing-Kansas City sequence. In the other, T. 21 S., R. 14 W., five of the 1950 producers are Lansing-Kansas City pools and two are Arbuckle pools. Four new pools are located northeast of St. John, and three are located a few miles southwest of that city. All the new pools can be identified by discovery dates in the general production table (Table 62). One new pool, the **Harter,** in sec. 30, T. 24 S., R. 13 W., produces from the Simpson sand; all the other new pools produce either from the Lansing-Kansas City limestone sequence or from the Arbuckle dolomite (these two zones produce nearly all the Stafford County oil).

All eight dry wildcat tests penetrated the Arbuckle dolomite, but none reached the Pre-Cambrian. Two of the wells recorded slight shows of oil: the Anschutz Drilling Company well in sec. 19,

TABLE 54.—*Dry wildcat tests drilled in Stafford County during 1950*

Company and farm	Location	Depth to top of Lans.-K.C., feet	Depth to top of Sooy, feet	Depth to top of Viola, feet	Depth to top of Arbuckle, feet	Total depth, feet
Musgrove Petr. Corp. & Veeder Supply No. 1 Weber	NE cor. SW¼ 19-21-14W	3,408	3,664	3,672	3,770	3,845
Anschutz Drlg. Co. No. 1 Carr	NW cor. NE¼ 19-22-14W	3,525	3,855	3,914	3,998	4,033
*Jones, Shelburne, & Farmer, No. 1 Dale	SW cor. NE¼ 10-23-12W	3,325	3,304	3,658	3,739	3,798
*J. J. Lynn No. 1 Ward	NW¼ SE¼ SW¼ 15-23-13W	3,451	3,713	3,757	3,865	3,896
*Palmer Oil Corp. et al. No. 1 Sims	NW cor. SE¼ 20-24-12W	3,524	.....	3,941	4,117	4,172
Musgrove Petr. Corp. No. 1 Crouse	NW cor. SE¼ 6-24-14W	3,632	3,966	3,980	4,099	4,150
Aylward Drlg. Co. & Flynn Oil No. 1 Newell	NW cor. NE¼ 6-25-11W	3,484	.....	3,889	4,107	4,133
*Harbar Drlg. Co. No. 1 McCandless	SE cor. SE¼ 16-25-13W	3,696	4,059	4,215	4,322	4,336

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

T. 22 S., R. 14 W. (just above the Viola) and the Palmer Oil Corporation well in sec. 20, T. 24 S., R. 12 W. (in the Lansing-Kansas City).

The great number of oil wells drilled in older Stafford County pools was rather evenly divided among the many producing units, none showing a disproportionate amount of attention. The **Syms** pool received 11 new oil producers, the **Max** pool 10, the **Stafford** 7, the **Bedford** 5, and other pools smaller numbers. Of the 19 old wells worked over during the year, 8 were converted to oil producers, 4 to salt-water disposal, 1 became a gas well, and 5 were abandoned.

Locations of producing areas and dry wildcat wells are shown in Figure 7. Oil production data are given in Table 62 and gas production data in Table 63. Data on dry wildcats are listed in Table 54. Information on newly discovered pools is given in Table 6.

STANTON COUNTY

The 1950 production—all from the Hugoton field—not segregated as to counties. Wells drilled in 1950: oil none, gas 17, dry 1, total 18.

Developments during 1950.—Drilling in the county increased from 9 wells in 1949 to 18 in 1950. Most of the drilling was along

the western limits of the **Hugoton** gas field as previously drawn. Wells of modest size—3 to 6 million cubic feet daily deliverability—were brought in along the east line of T. 27 S., R. 40 W. and near the center of T. 28 S., R. 40 W. However, a 12 million cubic foot producer in sec. 34, T. 27 S., R. 40 W. gives hope of a field extension at this point. A dry hole in sec. 34, T. 28 S., R. 40 W. checks another dry test formerly drilled in this locality near the field boundary.

Stanton County wells are shown on Plate 2; gas production, the active area, and producing zones are shown under Hugoton in Table 63. Additional data on the Hugoton field are given in the chapter on natural gas.

STEVENS COUNTY

The 1950 production—all from the Hugoton field—not segregated as to counties. Wells drilled in 1950: oil none, gas 63, dry 1, total 64.

Developments during 1950.—Drilling in Stevens County, now largely drilled out, declined somewhat in 1950 from the high mark of 77 gas wells set in 1949.

Sixteen wells were drilled in T. 34 S., R. 35 W. and T. 35 S., R. 35 W. in the southeastern corner of the county. In T. 34 S. the wells average about 20 million cubic feet daily capacity, but in T. 35 S. except for one well the average is only about 3.5 cubic feet per day.

Almost all the remaining Stevens County wells were drilled in in northern half of the county. The only remaining undrilled area of consequence, in T. 32 S., R. 35 W., is likely to be one of good production, judging by 1950 wells drilled in this township which range from about 12 to 23 million cubic feet of gas per day.

Stevens County wells are shown on Plate 2; gas production, the active area, and producing zones are shown under Hugoton in Table 63. Additional data on the Hugoton field are given in the chapter on natural gas.

SUMNER COUNTY

The 1950 production from 23 pools: oil 1,314,572 barrels, gas not reported. Wells drilled in 1950: oil 35, gas none, dry 37, salt-water disposal 1, total 73 including 16 wildcats. New pools discovered 2, old pools revived 1, abandoned 1.

Developments during 1950.—Although drilling in Sumner County increased 50 percent and two new oil pools were discovered in 1950, oil production decreased 20 percent from the 1949 figure.

The most sensational of the new pools, the **Fall Creek,** was brought in by the Texas Company with a maximum well—more than 3,000 barrels per day. Discovery well is the No. 1 Hobbisiefkin located in sec. 3, T. 35 S., R. 3 W. about 2½ miles northeast of the **Caldwell** pool, and only 3 or 4 miles from the Oklahoma line. Production was obtained in the Simpson sand between 4,746 and 4,779 feet, although drill-stem tests gave shows of oil at 3,648 to 3,666 feet in the Kansas City rocks and at 4,365 to 4,380 feet in the Mississippian. The Texas Company brought in three additional maximum wells and one rated at 1,343 barrels per day before the end of the year. All produce from a zone beginning roughly 20 feet below the top of the Simpson.

TABLE 55.—*Dry wildcat tests drilled in Sumner County during 1950*

Company and farm	Location	Depth to top of Lans.-K.C., feet	Depth to top of Miss., feet	Depth to top of Arbuckle, feet	Total depth, feet
*D. M. Shawver No. 1 Wagner	NE cor. NW¼ 12-30-1E	2,640	3,206	.....	3,625
*K. T. Weideman No. 1 I. C. Lane	NW¼ NE¼ NE¼ NE¼ 35-30-1E	2,720	3,292	3,758	3,761
*Wakefield & King No. 1 Harris	SW¼ SW¼ NE¼ SW¼ 3-32-1E	2,950	3,571	.....	4,080
*Holly Oil Co. & E. H. Adair No. 1 Duck Club	SW¼ SE¼ SE¼ 4-33-2E	2,716	3,155	3,408	3,445
*Kanotex Refg. Co. No. 1 Hall	NE¼ NW¼ SW¼ 32-34-1E	3,255	3,723	.....	3,750
The Texas Company No. 1 C. O. White	SW¼ NE¼ SE¼ 7-34-2E	3,100	3,597	3,932	3,997
*Alpine Oil & Roy. No. 1 Clarence Skibbe	Cen. EL SW¼ NE¼ 11-35-1E	2,848	3,520	.....	3,759
Hill & Hill No. 1 Roy	SE cor. SW¼ 4-30-1W	2,855	3,426	.....	3,893
*A. D. Allison & Co., Inc. & Harry Hatfield No. 1 W. T. Voils	NW cor. NE¼ 17-30-1W	2,911	3,515	3,977	4,025
*Robert L. Williams et al. No. 1 Hunt-Simpson	SE¼ NE¼ SW¼ 2-31-1W	2,990	3,618	.....	4,032
Pyramid Drlg. Co. No. 1 Dorsett	Cen. E½ NE¼ NW¼ 28-32-3W	3,262	3,938	4,476	4,514
*Pyramid Drlg. Co. No. 1 Sellars	SW cor. NW¼ 5-33-3W	3,310	3,985	.....	4,412
*Wakefield & Kanotex No. 1 Geeslin	SW cor. NW¼ 26-34-1W	3,381	3,922	.....	4,322
Deep Rock Oil Corp. No. 1 Schwartz	NW¼ SW¼ NW¼ 29-34-4W	3,732	4,398	5,065	5,094

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

Another new pool, named the **Portland,** located 8 or 9 miles from production, was brought in by the Herndon Drilling Company. Discovery well, rated at 160 barrels of oil per day from the Simpson sand at 4,000 feet, is located in sec. 16, T. 34 S., R. 1 E. One 90-barrel well and three dry outposts were drilled near by later in the year.

Eleven of the 14 dry wildcats were drilled in the east half of the county. Six of the total penetrated the Arbuckle but, judging by scout reports, only one or two of the tests reported shows of oil or gas in any of the usual producing zones. One of these shows was in the Simpson sand at 3,804 to 3,809 feet in the Hill and Hill No. 1 Roy well in sec. 4, T. 30 S., R. 1 W; the other was a show of gas in the Lansing-Kansas City (top 3,310 feet) at 3,314 to 3,330 feet in the Pyramid Drilling Company No. 1 Sellars well in sec. 5, T. 33 S., R. 3 W.

During the year 14 oil wells were added to the **Padgett** pool and 8 to the **Wellington.** Locations of producing areas and dry wildcat wells are shown on Figure 11. Oil production data are given in Table 62. Data on dry wildcats are listed in Table 55 and information on new pools is given in Table 6.

THOMAS COUNTY

Wildcat wells have been drilled in Thomas County from time to time but so far no producing pool has been discovered. Two dry wildcats were drilled in 1950.

Exploration during 1950.—Two unsuccessful attempts to find oil or gas in Thomas County were made during 1950. The Westgate-Greenland Oil Company drilled a rank wildcat on the Herbel farm in sec. 30, T. 9 S., R. 32 W. Comparisons of cuttings with the electric log of the well yielded the following depths to important zones: Cimarron anhydrite, 2,638 feet; Heebner shale, 4,031 feet; Lansing-Kansas City sequence, 4,071 feet; Pennsylvanian basal conglomerate (with large well-rounded sand grains in a limy matrix), 4,655 feet; Mississippian (cherty limestone followed by dolomite, 4,694 to 4,718 feet, and sandstone, 4,726 to 4,733 feet), 4,676 feet; Osagian Series (predominantly cherty limestone), 4,733 feet; St. Joe limestone, 4,906 feet; Arbuckle dolomite, 5,008 feet. A show of oil in the Marmaton was recorded at 4,472 to 4,485 feet, but the well was abandoned as noncommercial at 5,064 feet. The elevation is 3,103 feet.

TABLE 56.—*Dry wildcat tests drilled in Trego County during 1950*

Company and farm	Location	Depth to top of anhydrite, feet	Depth to top of Heebner, feet	Depth to top of Lansing, feet	Depth to top of Congl., feet	Depth to top of Arbuckle, feet	Total depth, feet
Sohio Petr. Corp. No. 1 Butler	NE cor. NE¼ 25-11-22W	1,783	3,584	3,606	3,940	4,031	4,077
*L. D. Sargent No. 1 Hillman	NW cor. SW¼ 30-12-21W	1,716	3,622	3,659	4,034	4,083	4,098
Jones, Shelburne & Farmer, No. 1 Rinker	NW¼SW¼NW¼ 5-12-22W	1,855	3,640	3,675	4,082	4,109	4,165
Jones, Shelburne & Farmer, No. 1 Hixson	SW¼SE¼SE¼ 2-12-23W	1,845	3,636	3,670	4,085	4,137	4,195

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

Another dry wildcat was drilled by Kelly-Weissback Oil Company, the No. 1 Thomas, in sec. 30, T. 7 S., R. 32 W. From an elevation of 3,110 feet, depths to marker beds are given by scout reports (no electric log) as: anhydrite, 2,787 feet; Heebner, 4,085 feet; Lansing-Kansas City, 4,120 feet; Mississippian, 4,737 feet; Arbuckle, 4,885 feet; Reagan sand, 5,229 feet; and top of the Pre-Cambrian, 5,259 feet. No shows of oil or gas were reported.

TREGO COUNTY

The 1950 production from 7 pools: oil 89,902 barrels, gas none. Wells drilled in 1950: oil 3, gas none, dry 7, total 10 including 5 wildcats. New pools discovered 1, old pools abandoned 1.

Developments during 1950.—Oil production dropped off slightly in 1950, although there was much more drilling in the county in 1950 than in 1949. The new 1950 pool, the **Walz,** named from the farm on which the discovery well was drilled by Peel and Hardman, in sec. 12, T. 11 S., R. 21 W., is said to be on the eastern flank of a known structural axis. Oil was found near the top of the Arbuckle dolomite at 3,660 to 3,680 feet. Initial production was 397 barrels of oil per day.

During the year the **Riga** pool, a Marmaton producer, was abandoned. Locations of producing areas and dry wildcat wells are shown in Figure 10. Oil production data are given in Table 62. Data on dry wildcats are listed in Table 56. Information on new pools is given in Table 6.

WABAUNSEE COUNTY

The 1950 production from 4 pools: oil 356,215 barrels, gas none. Wells drilled in 1950: oil 13, dry 18, salt-water disposal 3, total 34 including 18 wildcats. New pools discovered 3, pools abandoned 1.

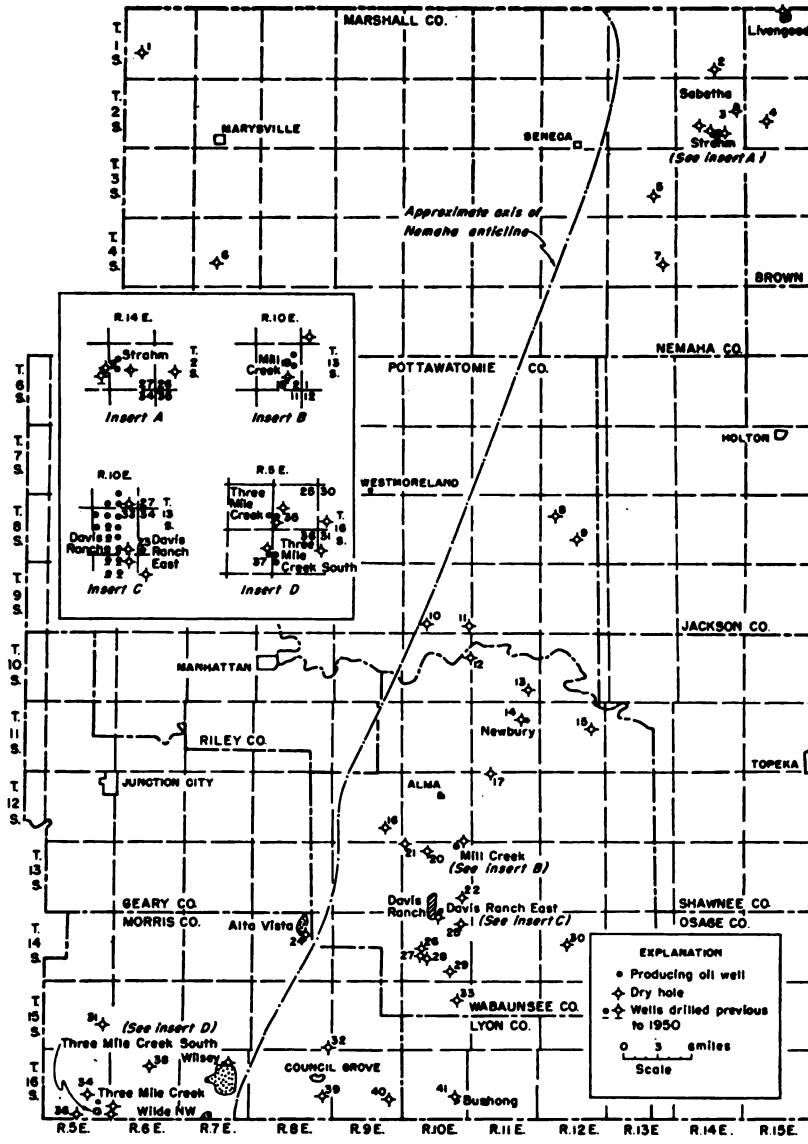


FIG. 12.—Map of Wabaunsee and neighboring counties showing oil and gas pools and dry wildcat wells drilled to the end of 1950. (Gas, dots; oil, diagonal lines.) Numbers on map refer to numbers in Table 57.

TABLE 57.—*Data on dry wildcat wells drilled in Wabaunsee and neighboring counties during 1950*

No. on map	Company & farm	Location	Surface elevation	Oldest formation reached	Depth to top of oldest formation, feet	County
1	Davon Oil Co. No. 1 Schaffer	NW¼ NW¼ SW¼ 20-1-6E	1,257	Pre-Cambrian granite	2,696	Marshall
2	Davon Oil Co. No. 1 Kohler	NE¼ NE¼ NW¼ 34-1-14E	1,343	Viola	3,605	Nemaha
4	Nat. Assoc. Petro. No. 1 Titus	SE¼ SE¼ NE¼ 20-2-15E	1,281	Viola	3,735	Brown
5	Davon Oil Co. No. 1 J. E. Swart	NW¼ NW¼ NW¼ 26-3-13E	1,284	Pre-Cambrian granite	2,438	Nemaha
6	Geo. F. Johnston No. 1 Brown	NE¼ NE¼ SW¼ 21-4-7E	1,132	Pre-Cambrian granite	1,999	Marshall
7	Davon Oil Co. No. 1 Hawley	NW¼ NE¼ NE¼ 26-4-13E	1,286	Viola	3,559	Nemaha
8	Carter Oil Co. No. 1 Browning	SE¼ SE¼ NW¼ 8-8-12E	1,228	Pre-Cambrian quartzite	3,613	Pottawatomie
9	Ajax Oil Co. No. 1 Miller	NW¼ NW¼ SW¼ 22-8-12E	1,148	Pre-Cambrian quartzite	3,483	do
10	Caddo Oil Co. No. 1 Ebel	NE¼ NE¼ NE¼ 32-9-10E	1,078	Pre-Cambrian	1,704	do
11	Weller & Bush No. 1 Brunner	NE¼ NE¼ NE¼ 36-9-10E	973	Pre-Cambrian	2,984	do
12	*Ben F. Brack No. 1 Uhlrig	NE¼ NE¼ NE¼ 13-10-10E	1,071	Arbuckle	3,193	Wabaunsee
13	*Appleman et al. No. 1 McLaughlin	SE¼ SE¼ SE¼ 26-10-11E	1,115	Arbuckle	3,193	do
15	*R. E. Adams et al. No. 1 Adams	Cen. N½ SW¼ NE¼ 14-11-12E	1,122	Simpson	3,083	do
16	*Sunfir. Drlg. Co. No. 1 Reichman	SW¼ SW¼ NE¼ 26-12-9E	1,188	Viola	3,115	do
17	*E. F. Wakefield No. 1 Schwalm	NW¼ NW¼ NE¼ 5-12-11E	1,040	Arbuckle	3,153	do
18	Skelly Oil Co. No. 1 Thoewe	SE¼ NW¼ SE¼ 2-13-10E	1,104	Arbuckle	3,139	Wabaunsee
20	*Jones, Shelburne & Farmer No. 1 Joss	SE¼ SW¼ SW¼ 4-13-10E	1,437	Viola	3,389	do
21	*J. H. Wenzel et al. No. 1 McComb-Hubbard	SE¼ SW¼ NW¼ 6-13-10E	1,200	Arbuckle	3,293	do
22	*El Capitan Oil Co. No. 1 Buchli	Cen. NE¼ SW¼ 25-13-10E	1,438	Arbuckle	3,500	do
24	†Carter Oil Co. No. 1 Jacobs	NW¼ NW¼ SE¼ 10-14-8E	1,542	Arbuckle	2,398	Morris
25	L. S. Abercrombie No. 1 Lockhart	NW¼ SW¼ NW¼ 12-14-10E	1,416	Arbuckle	3,475	Wabaunsee
26	Carter Oil Co. No. 1 Wingate "A"	SE¼ SE¼ SE¼ 17-14-10E	1,528	Viola	3,395	do
27	Carter Oil Co. No. 1 Olsen	SW¼ NW¼ SE¼ 20-14-10E	1,512	Arbuckle	3,471	do
28	Davis Childs et al. No. 1 Hock "A"	SW¼ SW¼ SW¼ 21-14-10E	1,502	Arbuckle	3,460	do
29	*El Capitan Oil Co. No. 1 Converse	NW¼ NW¼ NW¼ 35-14-10E	1,422	Simpson	3,383	do
30	Ajax Oil Co. et al. No. 1 McKnight	NE¼ NE¼ SW¼ 16-14-12E	1,335	Arbuckle	3,187	do
30	*M. F. Bear et al. No. 1 Albritton	NW¼ NW¼ SW¼ 24-15-5E	1,424	Kinderhook	2,262	Morris
32	*Alexander et al. No. 1 White	NW¼ NW¼ SE¼ 36-15-8E	1,387	Arbuckle	3,324	do

33	Carter Oil Co. No. 1 Woodbury	SE¼ SW¼ NE¼ 11-15-10E	1,415	Simpson sand	3,289	Wabaunsee
34	*Fall River Oil Co. No. 1 Rindt	SE¼ SE¼ NE¼ 22-16-5E	?	Mississippian	2,214	Morris
36	*M. F. Bear et al. No. 1 Peterson	NW¼ NW¼ SW¼ 34-16-5E	1,463	Mississippian	2,240	do
38	Dunn & Strait No. 1 Hutchinson	Cen. N½ NE¼ NW¼ 10-16-6E	1,455	Arbuckle	2,735	do
39	Ajax & Stanolind No. 1 Sharpe	SW¼ SW¼ SW¼ 24-16-8E	1,338	Arbuckle	3,195	do
41	Wakefield et al. No. 1 Dent	SE¼ NE¼ NE¼ 26-16-9E	1,226	Arbuckle	3,124	do

† A well drilled within 1½ miles of a producing oil or gas well is normally not considered to be a wildcat well. The Carter Oil Co. No. 1 Jacobs well is included here as a wildcat because the operators were seeking oil production from a lower horizon than lower Permian and upper Pennsylvanian rocks from which gas is produced in the Alta Vista field.
* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

Developments during 1950.—In January 1950 the **Davis Ranch East** field was opened by the Aladdin Petroleum Company No. 1 Schutter well in the SW¼ SW¼ SW¼ sec. 34, T. 13 S., R. 10 E. Viola production was found in the upper part of the formation in a zone from 3,305 to 3,314 feet on the down-thrown side of a fault that separates the pool from the **Davis Ranch** field. Production from the pool amounted to 7,599 barrels of oil but the pool was abandoned at the end of the year.

In September the Skelly Oil Company No. 2 Thowe well in the SW¼ NE¼ NE¼ sec. 2, T. 13 S., R. 10 E., opened the **Mill Creek** field. The reservoir in the upper part of the Viola limestone is between 2,923 and 2,937 feet. In September also the **Newbury** field

TABLE 58.—*Data on pool discovery wells drilled in Wabaunsee and neighboring counties during 1950*

No. on map	Company and farm	Location	Surface elevation	Producing zone	Depth to top of producing zone	Initial production	Pool name	County
3	Carter Oil Co. No. 1 Oreon Strahn	NW¼ SW¼ NW¼ 13-2-14E	1,254	Hunton	2,825	319 BOPD	Sabetha	Nemaha
14	*Skelly Oil Co. No. 1 Fearon	NW¼ SW¼ NE¼ 11-11-11E	1,128	Viola	2,901	254 BOPD	Newbury	Wabaunsee
19	Skelly Oil Co. No. 2 Thoewe	SW¼ SE¼ NE¼ 2-13-10E	1,105	Viola	2,923	3,000 BOPD	Mill Creek	do
23	Aladdin Petro. Corp. No. 1 Schutter	SW¼ SW¼ SW¼ 34-13-10E	1,398	Viola	3,305	25 BOPD	Davis Ranch East	do
35	*Koester & Mergen No. 1 Burns	SW¼ NW¼ SW¼ 25-16-5E	1,464	Mississippian	2,207	40 BOPD	Three Mile Creek	Morris
37	*Lariaux et al. No. 1 Grass	NE¼ NE¼ SE¼ 35-16-5E	1,440	Mississippian	2,181	35 BOPD	Three Mile Creek South	do
41	Stanolind No. 1 Cornwell	NE¼ NE¼ NE¼ 26-16-10E	1,345	Hunton	2,948	257 BOPD	Bushong	Lyon

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

TABLE 59.—*Pool wells drilled in Wabaunsee County during 1950*

Field	Oil wells	Dry holes	Salt water disposal wells
Davis Ranch	9	2	1
Davis Ranch East	1	..	..
Mill Creek	2	2	..
Newbury	1	..	1

was opened by the Skelly Oil Company No. 1 Fearon well in the NW¼ SW¼ NE¼ sec. 11, T. 11 S., R. 11 E. The reservoir, in the upper part of the Viola, is between 2,901 and 2,904 feet. Of Wabaunsee County's total 1950 oil production 339,252 barrels of oil came from the Davis Ranch field which had 15 producing wells at the end of the year.

Data on dry wildcats drilled in Wabaunsee and neighboring counties during 1950 are listed in Table 57, and pool discovery wells in the same counties are listed in Table 58. Data on pool wells in Wabaunsee County are listed in Table 59. Location of producing areas and dry wildcat wells are shown in Figure 12. Oil production data are given in Table 62.

WILSON COUNTY

The 1950 production from 18 areas in 10 fields: oil 71,005 barrels, gas 532,369 thousand cubic feet. Wells drilled in 1950: 112 (estimated).

Developments during 1950.—There were no developments of consequence in Wilson County during 1950. At the end of the year the cumulative oil production in the county stood at 5,206,901 barrels.

TABLE 60.—*Data on pool wells drilled in Woodson County during 1950*

Field	Oil wells	Dry holes
Batesville	1	9
Batesville S. W.	..	2
Big Sandy	1	1
		1 (extension wildcat)
Evans	5	1
Hoagland	3	2
Neosho Falls	..	1
Quincy	2	5
Teichnor	1	1
Virgil N.	4	..
Weide	9	..
Winterscheid	18	6
Wissman	1	..

Data on oil production in Wilson County are listed in Table 62 and gas production data in Table 63. Plate 1 shows locations of areas that produced oil during 1950.

WOODSON COUNTY

The 1950 production from 18 fields: oil 624,366 barrels, gas 57,406 thousand cubic feet. Wells drilled in 1950: oil 45, gas none, dry 36, probable unrecorded 41, total 130 (estimated) including 5 dry wildcats.

Developments during 1950.—The Ed Ashlock No. 1 Whiteford well in the SW¼ NE¼ SE¼ sec. 36, T. 23 S., R. 14 E., is regarded as extending the **Weide** field westward and joining it with the **Hoagland** field. The Mitchell No. 2 and 3 Fee wells in sec. 22, T. 23 S., R. 15 E. extended the **Evans** field to the southeast.

Oil production and other data on the active fields of the county are listed in Table 62. Gas production is listed in Table 63. Locations of areas that produced oil are shown on Plate 1. Distribution of recorded oil wells and of dry holes among the various fields is shown in Table 60 and data on reported dry wildcat tests are listed in Table 61.

WYANDOTTE COUNTY

The 1950 production from a few areas: oil none, gas 81,778 thousand cubic feet. Drilling in 1950: a nominal amount (unreported).

Developments during 1950.—No important drilling in Wyandotte County was reported during the year. All or nearly all the county's gas production came from the **Roberts-Maywood** field (Wyandotte and Leavenworth Counties) and a part of it was produced in Leavenworth County.

TABLE 61.—*Data on dry wildcat wells drilled in Woodson County during 1950*

Well	Location	Top Mississippian, feet	Total Depth, feet	Remarks
*Bosco Oil Co. No. 1 Gordon	NE¼ NW¼ NW¼ 35-24-15E	1,360	1,460	Top "Bartlesville," 1,137 feet
*P. L. Edwards No. 1 Holley	Cen. SW¼ SW¼ 12-25-14E	1,580	1,604	"No sand"
*Barentz & Eades, No. 2 Eades	NW¼ SE¼ SW¼ 7-25-15E	1,525	1,620	"No 'Bartlesville'."
*Barentz & Eades, No. 1 Eades	SE¼ SE¼ SW¼ 7-25-15E	1,515	1,550	"No sand"
*J. J. Delk No. 2 Newbold	NW¼ SE¼ SE¼ 29-25-16E	1,283	2,396	Pre-Cambrian 2,386 feet

* No electric log available. Kansas Sample Log Service, Independent Oil & Gas Service, and other available data sources have been used.

TABLE 62.—*Oil production in Kansas during 1950*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Allen County								
Bronson-Xenia*	17-25-21E		4,000			34+	"Bartlesville"	700
4				10,173				
5				372				
6				2,322				
Colony West (1)	15-23-18E	1922	1,200	5,028		33	"Squirrel"	820
Davis-Bronson* (3)	24-21E		1,280	18,334		9+	"Bartlesville"	720
Elsmore Shoestring (12)	5-26-21E	1908	1,500	53,929		8+	"Bartlesville"	650
Elsmore West	12-26-20E	1911	400				"Bartlesville"	775
13				7,488				
14				60				
Humboldt-Chanute*	26-18E		15,000				"Bartlesville"	850
15				4,647				
16				4,230				
17				11,079				
18				144				
19				1,302				
20				120,463				
Iola	24-18E		4,000			105+	"Bartlesville"	850
10				55,225				
11				58				
Moran	25-20E	1903	1,280			6+	"Bartlesville"	820
7				5,529				
8				246				
9				2,630				
				‡5,102				
Neosho Falls* (2)	29-23-17E	1928	640	8,736		11+	"Squirrel"	950
						6+	Mississippian	1,200
Savonburg*‡	26-21E	1903	Incl. in Bourbon Co.					
Seibert (21)	5-26-20E		640	671			"Bartlesville"	680
Miscellaneous				890		157+		
Total Allen County			29,940	318,658	14,439,594 recorded	363+		
Anderson County								
Bush City Shoestring	28-20-21E	1921	5,000	361,642		81+	"Squirrel"	620
Centerville*	10-21-22E	1920	640	43,260			"Squirrel"	480
							"Bartlesville"	720

Colony-Welda	4-23-19E	1916	3,000	28,305		88+	"Weiser"	600
							"Squirrel"	780
Colony West*	15-23-18E	1922	640	15,909		44	"Squirrel"	825
Garnett Shoestring	32-20-20E	1904	1,500	42,171		15	"Squirrel"	700
							"Garnett"	800
Kincaid	10-23-21E	1921	900	38,760		40	"Bartlesville"	750
Selma	9-22-21E	1929	800	13,828			"Bartlesville"	700
Total Anderson Co.			12,480	543,875	13,782,741 recorded	228+		
Barber County								
Boggs	17-33-12W	1946	1,250	297,608	1,053,015	30	Simpson	4,806
Clara*	36-29-14W	1948	40	9,247	19,653	1	Simpson	4,472
Deerhead	22-32-15W	1943	400	74,911	525,333	13	Viola	4,950
DeGeer	2-33-15W	1948	600	246,683	688,842	17	Viola	5,176
Gerlane	29-33-11W	1950	40	1,720	1,720	1	"Miss. Chat"	4,530
Lake City	7-31-13W	1937	200	12,854	287,667	4	Viola	4,435
							Simpson	4,530
							Arbuckle	4,607
Medicine Lodge	13-33-13W	1937		no report	45,703		"Misener"	4,845
Moffett	8-30-15W	1950		no report	none			
Rhodes	15-33-11W	1949	240	90,939	99,102	10	Mississippian	4,551
Skinner	29-31-14W	1943	1,000	178,665	1,428,130	34	Viola	4,626
							Simpson	4,422
Skinner North	29-31-14W		1,600	Incl. with Skinner			Viola	
							Arbuckle	
Sun City	35-30-15W	1941	500	56,833	1,377,611	11	Lans.-K.C.	4,344
Turkey Creek	20-30-15W	1943	40	17,976	41,910	1	Lans.-K.C.	4,345
							Simpson	4,438
Whelan	32-31-11W	1934	1,000	152,456	2,203,423	21	"Chat"	4,355
Total Barber County			6,910	1,139,892	7,772,109 7,775,379 recorded	143		
Barton County								
Ainsworth South	10-17-13W	1937	1,550	593,378	3,141,351	60	Arbuckle	3,390
Ames	22-18-11W	1943	750	111,194	965,043	25	Lans.-K.C.	3,042
							Arbuckle	3,348
Ames Northwest	9-18-11W	1947	40	1,221	9,138	1	Lans.-K.C.	3,106
							Arbuckle	3,312
Anton	28-19-11W	1950	40	1,734	1,734	1	Arbuckle	3,342
Ash Creek*	31-20-15W	1947	600	49,643	432,137	19	Arbuckle	3,787
Axman	19-17-14W	1949	120	48,702	51,565	4	Arbuckle	3,400

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Bahr	26-18-15W	1943	abandoned during 1950		29,925			
Barrett	36-16-14W	1943	600	13,012	109,547	4	Arbuckle	3,463
Batchman	19-20-12W	1950	80	6,612	6,612	2	Arbuckle	3,459
Beaver	16-16-12W	1934	1,600	233,189	2,718,456	48	Oread	2,885
							Arbuckle	3,348
							Reagan	3,335
Beaver North	4-16-12W	1937	300	62,199	551,513	10	Arbuckle	3,316
Beaver Northwest	6-16-12W	1942	800	256,434	660,934	23	Shawnee Lans.-K.C.	3,066
							Sooy Arbuckle	
Beaver South	27-16-12W	1945	240	17,009	64,139	6	Sooy Arbuckle	3,359
Behrens	6-20-15W	1944	950	68,740	452,509	21	Arbuckle	3,719
Bergtal	22-20-15W	1941	40	336	1,967	1	Arbuckle	
Bernard	10-19-11W	1950	40	1,061	1,061	1	Lans.-K.C.	3,224
Blood Creek	9-18-13W	1950	40	1,254	1,254	1	Lans.-K.C.	3,078
Bloomingdale	8-18-11W	1950	40	4,170	4,170	1	Arbuckle	3,366
Bloomer*	36-17-11W	1936	1,170	446,098	9,652,176	79	Lans.-K.C.	3,044
							Arbuckle	3,257
Boyd	4-18-14W	1942	2,200	480,863	2,329,865	63	Lans.-K.C. Arbuckle	3,438
Boyle	17-17-14W	1950	280	19,140	19,140	3	Arbuckle	3,401
Bryant*	27-20-12W	1948	2,070	1,585,615	1,878,637	78	Arbuckle	3,383
Bryant Southeast	26-20-12W	1949	200	100,754	153,754	10	Arbuckle	3,369
Buckbee	14-20-12W	1949	40	6,452	6,452	1	Arbuckle	3,352
Capitol View	9-17-14W	1950	40	3,647	3,647	1	Lans.-K.C.	3,230
Carroll	21-17-14W	1944	1,200	325,506	1,240,196	38	Lans.-K.C.	3,109
							Arbuckle	3,356
Carroll Southwest	32-17-14W	1947	80	8,883	34,939	4	Lans.-K.C.	3,193
Cheyenne View	12-19-12W	1949	750	153,600	154,043	22	Lans.-K.C.	3,152
							Arbuckle	3,390
							Penn. Basal Congl.	3,393
Cheyenne View North	**1-19-12W**	**1950**	**40**	**1,072**	**1,072**	**1**	Lans.-K.C.	3,116
Cheyenne View Southwest	**14-19-12W**	**1949**	**combined with Hammer North**					
Cheyenne View West	**11-19-12W**	**1950**	**combined with Cheyenne View**					

Davidson*	4-16-11W	1930	390	8,687	229,123	4	Lans.-K.C.	3,016
							Sooy	3,317
							Arbuckle	3,314
Dundee	29-20-14W	1945	40	2,680	10,233	1	Arbuckle	3,507
Eberhardt	14-19-11W	1935	320	16,882	392,124	8	Lans.-K.C.	3,194
Ellinwood North	33-19-11W	1937	40	3,476	81,184	1	Arbuckle	3,328
Esfeld	15-16-11W	1947	40	1,176	6,519	1	Arbuckle	3,343
Eveleigh	11-18-14W	1943	1,230	285,683	1,012,218	37	Lans.-K.C.	3,177
							Arbuckle	3,339
							Pre-Cambrian	3,311
Feltes North	2-16-12W	1944	abandoned during 1950		Incl. with Feltes NW			
Feltes Northwest	3-16-12W	1945	400	55,549	296,582	7	Arbuckle	3,342
Fort Zarah	30-19-12W	1950		no report	none	1	Lans.-K.C.	3,157
Franzen	6-20-12W	1949		no report	295		Lans.-K.C.	3,196
Hagan	20-20-11W	1938	160	34,315	365,506	4	Arbuckle	3,323
Hammeke	17-19-11W	1950	160	18,851	18,851	5	Lans.-K.C.	3,065
Hammeke Southeast	17-19-11W	1950	120	9,092	9,092	3	Lans.-K.C.	3,089
Hammer	35-19-12W	1940	320	55,462	350,211	11	Arbuckle	3,348
Hammer North	23-19-12W	1949	1,280	300,785	397,057	42	Lans.-K.C.	3,222
							Arbuckle	3,344
							Penn. cong.	3,407
Heizer	16-19-14W	1935	40	2,447	42,604	1	Lans.-K.C.	3,228
Hiss	31-20-13W	1936	300	111,089	1,213,371	17	Lans.-K.C.	3,270
Hiss South	31-20-13W	1950		no report	none		Arbuckle	3,542
Hiss Southeast	32-20-13W	1948	250	38,698	65,901	8	Lans.-K.C.	3,414
							Arbuckle	3,545
Hiss West	36-20-14W	1945	included with Hiss				Lans.-K.C.	3,250
Hoisington	21-17-13W	1938	600	150,219	1,035,813	32	Lans.-K.C.	3,222
							Arbuckle	3,440
Homestead	22-18-13W	1948	40	2,550	10,014	1	Arbuckle	3,310
Kaufman*	33-15-12W	1947	40	3,278	6,026	1	Lans.-K.C.	
							Arbuckle	3,311
							Pre-Cambrian	
Klug	28-17-13W	1946	80	3,582	31,977	2	Arbuckle	3,414
Klug North	27-17-13W	1948	120	26,183	56,231	4	Arbuckle	3,377
Kowalsky*	32-20-11W	1941	200	46,961	182,142	8	Arbuckle	3,378
Kowalsky Northwest	30-20-11W	1947	460	63,955	223,533	10	Lans.-K.C.	3,185
							Arbuckle	3,381
Kraft-Prusa*	10-17-11W	1937	24,500	6,452,047	53,584,516	750	Shawnee	2,885
							Lans.-K.C.	3,160
							Arbuckle	3,281
							Reagan	3,310
							Gorham	3,335
							Pre-Cambrian	

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Kraft-Prusa Northeast	36-16-11W	1941	260	56,615	267,800	9	Lans.-K.C.	3,250
							Arbuckle	3,351
Lake Barton	21-18-13W	1948	80	2,585	6,861	2	Arbuckle	3,372
Lanterman	15-19-11W	1934	500	17,961	836,987	8	Lans.-K.C.	3,109
							Arbuckle	3,235
Laudick	28-16-12W	1948	300	104,270	208,574	12	Arbuckle	3,382
Leoville	7-17-14W	1950	160	8,657	8,657	4	Arbuckle	3,464
Leoville Southeast	7-17-14W	1950	40	986	986	1	Arbuckle	3,407
McCauley	34-17-13W	1949	100	10,306	13,942	3	Lans.-K.C.	3,276
Meadowside	24-18-11W	1949	100	40,869	57,459	4	Lans.-K.C.	3,079
							Arbuckle	3,284
Merten Northeast	36-18-15W	1946	40	1,179	13,906	1	Arbuckle	3,494
Merten Southeast	12-19-15W	1949	40	4,560	10,522	1	Reagan	3,567
Mue-Tam	35-20-11W	1942	abandoned during 1950		17,731			
Odin	3-17-12W	1948	80	19,363	44,206	2	Arbuckle	3,321
Otis-Albert*	30-18-15W	1935	6,400	533,383	3,526,696	105	Reagan	3,601
Pawnee Rock*	13-20-16W	1936	500	27,462	185,788	9	Arbuckle	3,832
Pawnee Rock East	17-20-15W	1941	40	845	21,692	1	Arbuckle	3,814
Prairie View	20-19-11W	1950	120	10,254	10,254	3	Lans.-K.C.	3,080
Pritchard	34-20-14W	1944	770	126,350	868,859	14	Arbuckle	3,455
Redwing	31-17-12W	1950	40	1,614	1,614	1	Arbuckle	3,335
Reif South	31-16-12W	1950	40	1,236	1,236	1	Lans.-K.C.	3,172
Rick*	1-19-11W	1936	800	80,857	859,144	18	Lans.-K.C.	3,106
							Arbuckle	3,355
Roesler	14-18-11W	1943	40	3,232	35,283	1	Arbuckle	3,291
Roesler East	13-18-11W	1950	40	2,387	2,387	1	Arbuckle	3,294
Rolling Green	36-20-13W	1948	80	2,781	15,086	2	Lans.-K.C.	3,257
Rolling Green East	30-20-12W	1949	80	2,955	4,732	2	Arbuckle	3,491
Rowland	32-17-13W	1949	60	3,779	5,386	2	Arbuckle	3,323
Rusco	8-19-12W	1950	40	3,045	3,045	1	Arbuckle	3,417
St. Peter	5-19-11W	1944	100	13,141	87,945	2	Lans.-K.C.	
							Arbuckle	3,387
Silica*	12-20-11W	1931	14,000	2,237,500 est.	46,871,649 est.	420 est.	Lans.-K.C.	2,955
							Arbuckle	3,328
Silica South*	24-20-11W	1935	3,000	1,168,974	18,507,248	147	Lans.-K.C.	3,035
							Arbuckle	3,268
Sunflower	8-17-12W	1949	40	1,969	1,969	1	Arbuckle	3,376
Sunny Valley	7-20-12W	1949	200	72,331	152,096	10	Lans.-K.C.	3,230

Trapp*	23-15-14W	1936	13,700	2,538,302	41,081,367	436	Shawnee	2,889
							Dodge	2,966
							Lans.-K.C.	3,062
							Arbuckle	3,252
Underwood	15-17-13W	1950		no report	none		Arbuckle	3,342
Unruh	24-20-15W	1945	500	22,168	104,518	6	Arbuckle	3,641
Workman	33-20-12W	1944	40	2,492	20,429	1	Arbuckle	3,407
Zink	13-18-11W	1950	40	3,658	3,658	1	Arbuckle	3,284
Barton County Totals			89,400	19,424,231	198,157,602	2,718		
					198,265,503 recorded			
Bourbon County								
Bronson-Xenia*	17-25-21E		300	5,117		4	"Bartlesville"	665
Davis-Bronson*	23-21E		800	5,931		9+	"Bartlesville"	560
Hepler*	27-22E	1917	320	13,269			"Bartlesville"	
Savonburg*‡	26-21E	1903		25		6	"Bartlesville"	650
			Incl. Allen Co. production					
Total Bourbon Co.			1,420	24,342	604,161 rec.	19+		
Brown County								
Livengood	3-1-15E	1944	300	5,579	68,268 rec.	1	"Hunton"	2,580
Butler County								
Allen-Robinson	1-26-3E	1943	1,280	82,058		1+	Mississippian	2,700
Andover South	31-27-3E	1950		no report	none		Stalnaker	2,006
Augusta	21-28-4E	1914	7,800	427,586	36,507,767	134+	Lansing	1,700
							Kansas City	2,000
							Marmaton	2,200
							Ordovician	2,445
							Arbuckle	2,600
Augusta North	28-27-4E	1914	1,600	107,274	14,334,955	69	Lansing	1,650
							Kansas City	1,950
							Ordovician	2,380
							Arbuckle	2,410
Bausinger	24-27-3E	1929	160	6,719		4	"Wilcox"	3,050
Benton	26-3E	1925	100	2,766			Miss. "Chat"	2,965
Blankenship*	26-8E	1921	3,200	198,655	866,003	28+	"Bartlesville"	2,650
Brandt-Sensebaugh	22-28-7E	1925	2,500	56,115	1,687,214		Miss. "Chat"	2,692
Butwick	7-26-3E	1949	200	24,697	29,931	6	Mississippian	2,860
Butwick Northeast	7-26-3E	1949	120	1,266	3,303	1	Miss. "Chat"	2,820
Combs*	5-30-5E	1947	200	22,962		5	"Bartlesville"	2,820
							Mississippian	2,850
Combs Northeast	27-29-5E	1948	200	6,297	14,446		"Bartlesville"	2,810

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
DeMoss	8-28-7E	1934	900	26,165		2+	"Bartlesville"	2,650
							"Burgess"	2,680
Dixon	12-27-6E	1946	200	1,633	8,631		Kansas City	2,160
							Mississippian	
Douglass	21-29-4E	1916	2,500	5,300		19	Lans.-K.C.	1,790
							Ordovician	3,000
Eckel	7-27-7E	1940	200	2,474	56,649		Lans.-K.C.	2,190
Elbing*	18-23-4E	1918	3,700	520,003	2,089,042	62+	Kansas City	2,120
							Mississippian	2,400
							Viola	2,530
Elbing East	27-23-4E	1950	300	9,205	9,205	3	Lans.-K.C.	1,799
El Dorado	29-25-5E	1915	26,900	3,062,823	204,646,613	1,502+	Lansing	1,700
							Kansas City	2,000
							Viola	2,500
							Simpson	2,510
							Arbuckle	2,550
Ferrell	28-28-8E	1939	800	100,762	885,457	30+	Mississippian	2,647
Fox-Bush	24-29-5E	1917	5,200	251,270	2,230,143	89+	"Bartlesville"	2,730
Garden	32-26-6E	1925	1,100	38,692		8+	"Bartlesville"	2,760
Guyot	5-29-5E	1948	400	3,728	8,528		"Bartlesville"	2,800
Hannah	29-8E	1936	1,100	2,489	8,830	2	Kansas City	2,120
Hartenbower	16-29-6E	1950	300	2,147	2,147		"Peru"	2,404
Haverhill	34-27-5E	1927	1,800	66,299	4,258,948	46+	"Bartlesville"	2,700
Hazlett	24-5E		640	1,016	1,016	1	Mississippian	2,480
Hazlett North	30-23-5E	1949	1,280	231,303	263,880	38	Miss. "Chat"	2,472
Hickory Creek	11-28-5E	1946	400	111,200	673,540	10	"Bartlesville"	2,685
							Mississippian	2,700
Joseph	18-24-5E	1947	40	849	3,353	1	Miss. "Chat"	2,491
Keighley	22-27-7E	1925	1,800	23,756		12+	"Bartlesville"	2,650
							Simpson	3,148
Kramer-Stern	3-28-6E	1926	4,700	200,894		12+	Simpson	3,020
							Arbuckle	3,040
Leon	19-27-6E	1922	1,000	23,442	2,410,546	20	Miss. "Chat"	2,660
							Viola	3,050
Long	15-26-7E	1949	40	4,600	4,948	2	Mississippian	2,780
Lucas	6-27-8E	1946	80	1,940	10,550	2	"Bartlesville"	2,680
McCullough	1-28-6E	1929	160	2,632	485,299		"Wilcox"	3,169
Muddy Creek	13-29-4E	1950		14,216	14,216		"Bartlesville"	2,813
Parsley	3-26-3E	1949	100	22,797	38,137	1	Mississippian	2,710

Pettit	17-28-6E	1926	40	2,206		1	"Wilcox"	3,180
Pierce	28-25-4E	1926	700	90,131		26	Miss. "Chat"	2,550
Potwin	31-24-4E	1917	5,900	172,605	7,320,548	97	Kansas City	2,550
							Mississippian	2,660
Reynolds-Schaffer	9-27-6E	1922	1,500	72,708		4+	Kansas City	2,375
							Mississippian	2,780
							Viola	3,141
Rombold	4-26-3E	1949	40	8,095	10,344	1	Mississippian	2,770
Salter	23-28-3E	1946	800	213,850	777,518	38	Simpson	3,000
Semisch	4-29-6E	1947	200	25,403	69,850	1+	"Bartlesville"	2,810
Seward	27-27-7E	1926	600	7,012	1,029,071	4+	"Bartlesville"	2,650
Shinn	19-29-8E	1946	1,100	76,648	383,285	11	Mississippian	2,766
Smock-Sluss	2-27-5E	1917	400	94,530		5+	"Bartlesville"	2,700
							Viola	3,000
Snowden-McSweeney	34-28-6E	1930	500	8,437			Mississippian	2,833
Steinhoff	28-29-6E	1926	80	2,490		2	Mississippian	2,803
Towanda	5-26-4E	1948	300	248,809	430,526	21	Mississippian	2,400
							Viola	2,460
Whitewater	32-25-4E	1949	400	70,621	99,299	8	Viola	2,625
Womack	19-28-6E	1947	200	5,449			"Bartlesville"	2,620
							Kansas City	2,190
Young	27-26-7E	1920	1,700	95,434		11+	Mississippian	2,650
Total Butler County			139,179	6,862,459	363,099,857 recorded	2,340+		
Chase County								
Atyeo*	30-21-10E	1925	500	9,283		3	"Bartlesville"	2,250
Teeter*	16-23-9E	1920	1,600	28,311		17	"Bartlesville"	2,500
Total Chase County			2,100	37,594	112,197 recorded	20		
Chautauqua County								
Borroum (24)	20-34-9E	1926	160	4,269		6	Marmaton	1,780
Brown-Sturgis (10)	33-11E		160	331			"Peru"	1,100
Elgin	34-10E		5,500				"Peru"	1,520
18				2,705				
19				512				
20				20,532				
21				4,252				
22				9,047				
Frazier (9)	33-13E		200	508				
Hale-Inge*	32-12E	1907	2,400				"Peru"	1,160
1				3,890		11		

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
2				10,037		48		
Kingston (3)	18-32-11E	1926	300	1,946			Miss. "Chat"	1,850
							Arbuckle	2,176
Landon-Floyd (5)	23-32-10E	1936	700	29,835		37	Mississippian	2,000
McAllister (7)	28-32-10E	1925	300	10,324		5	Arbuckle	2,270
McGlasson (14)	11-33-9E	1947	160	1,798			Miss. "Chat"	2,250
Malone (6)	18-32-10E		40	1,361		1	Ordovician	2,340
Niotaze	34-13E		1,200				"Redd"†	690
16				168		3	"Peru"	825
17				7,216		27		
Oliver (4)	32-11E	1935	800	10,423		17		
Peru-Sedan	34-11E	1900	46,200				"Peru"	1,200
11				713		4	Mississippian	2,000
12				684,945		1,094+		
13				978		12		
Wauneta (23)	34-9E		250	1,339			"Peru"	1,670
							Mississippian	2,100
Wayside-Havana* (15)	34-13E	1904	600	3,504		23	"Wayside"	575
							"Weiser"	700
							"Bartlesville"	1,200
Wiggam (8)	34-32-10E		200	1,493		3	"Weiser"	1,600
Total Chautauqua Co.			53,670	812,156	41,512,939 recorded	1,283+		
			Coffey County					
Dunaway*	34-22-13E	1922	1,500	31,972			"Burgess"	1,850
							Mississippian	1,878
							Ordovician	2,200
Van Noy	7-23-15E	1917	1,200	7,100		16+	"Peru"	1,170
							Mississippian	1,540
Virgil North*	22-23-13E	1920	1,200	59,267			"Bartlesville"	1,585
							Mississippian	1,838
Winterscheid*	23-14E	1920	500	7,605		6+	"Bartlesville"	1,630
							Mississippian	1,750
"George"	33-22-16E		400	1,450				
Total Coffey County			4,800	107,394	1,100,303 recorded	22+		

Cowley County

Baird	17-34-3E	1925	400	11,573		2+	"Bartlesville"	3,285
							Mississippian	3,350
Baird East	15-34-3E	1940	40	2,348		1	"Bartlesville"	3,200
Biddle	7-32-5E	1922	750	19,653		24	Kansas City	2,000
							"Stalnaker"	2,300
Box	28-30-7E	1948	500	25,987	79,880	6	Mississippian	2,840
Brown	13-31-7E	1922	400	1,744	243,514		Kansas City	2,100
Bruce	9-30-4E	1950	40	2,284	2,284	1	Arbuckle	3,306
Burden	31-31-6E	1926	1,100	25,794		29	"Bartlesville"	2,900
Clark	6-31-4E	1914	160	10,070		5	"Bartlesville"	2,840
Clover	31-7E		40	625	19,296	1	Kansas City	2,200
							Mississippian	2,800
Combs	5-30-5E	1947	450	48,577	250,992	11	"Bartlesville"	2,823
							Mississippian	2,850
Couch	13-30-5E	1937	1,300	90,337	1,721,609	22+	"Bartlesville"	2,800
Countryman	4-33-7E	1925	600	11,985			"Layton"	1,950
							Mississippian	2,870
David	35-30-4E	1935	600	35,166	1,072,752	24	"Bartlesville"	2,900
David South	11-30-4E	1934	300	16,272	177,907	5+	"Bartlesville"	2,760
							Arbuckle	3,463
Deichman	24-31-4E	1941	600	47,281	778,885	26	"Bartlesville"	2,900
							Mississippian	3,000
Doane	36-33-6E	1947	80	1,430	9,104	2	Mississippian	2,878
							Arbuckle	3,140
Eastman	5-31-6E	1924	800	42,833		21+	"Bartlesville"	2,890
Enterprise	35-33-3E	1948	40	342	2,380	1	"Bartlesville"	3,285
Esch	33-33-6E	1928	400	33,762		5	"Bartlesville"	2,900
Falls City	35-7E	1916	160	5,123	1,265,704		"Layton"	2,000
Ferguson Northwest	16-30-8E	1950	40	5,028	5,028	1	Kansas City	2,200
Ferguson West	21-30-8E	1934	200	2,701		6	Kansas City	2,180
Frog Hollow	20-32-5E	1937	1,100	234,785	3,934,671	47+	"Bartlesville"	3,000
Frog Hollow East	15-32-5E	1941	200	14,009	235,765	7	"Bartlesville"	3,000
Geuda Springs	5-34-3E		500	17,741	497,167	5+	"Bartlesville"	3,300
							Miss. "Chat"	3,345
Gibson	29-34-3E	1941	400	27,813	351,129	11	"Bartlesville"	3,350
							Mississippian	3,400
Graham	3-33-3E	1924	400	46,253	2,716,579	11	"Layton"	2,550
							Arbuckle	3,518
Grand Summit*	4-31-8E	1926	40	840		6	Kansas City	2,000
Henderson	26-32-3E	1942	300	5,393	127,480	6	Kansas City	2,690
							Arbuckle	3,419
Hittle	28-31-4E		700	369,833	8,477,309	47	Kansas City	2,400
							Arbuckle	3,280

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Hower	32-33-3E	1935	200	4,745	67,284	3	"Bartlesville"	3,320
Mansur	25-31-6E	1949	80	26,724	28,220	9	"Layton"	2,170
Murphy*	7-35-3E	1933	900	72,781		24	"Bartlesville"	3,450
							Miss. "Chat"	3,500
Otto	25-34-6E	1927	400	9,561		1+	Miss. "Chat"	3,017
Rahn	13-34-5E	1939	1,300	45,692	1,383,909	15+	"Bartlesville"	2,900
Rahn Northeast	27-33-6E	1949	40	4,939	9,568	1	"Bartlesville"	2,902
Rahn Southwest	28-34-5E	1943	40	493	3,634	1	"Bartlesville"	3,019
Rainbow Bend	20-33-3E	1923	2,000	168,845	15,331,604	70	"Burgess"	3,200
Rainbow Bend Northeast	15-33-3E	1945	40	3,457	19,171	2	"Bartlesville"	3,213
Rainbow Bend West*	19-33-3E		300	6,447		4	"Burgess"	3,200
							Arbuckle	3,550
Rock	15-30-4E		1,600	140,317	3,163,976	30+	"Bartlesville"	2,800
Rock North	3-30-4E	1937	300	3,959	129,831	4	"Bartlesville"	2,800
School Creek	15-32-7E	1947	160	8,216	16,058	2	"Bartlesville"	2,800
Seacat	26-33-4E	1944	100	1,790	13,767		Mississippian	3,100
Slick-Carson	19-32-3E	1924	300	32,311	3,456,155	14	"Layton"	2,600
							"Bartlesville"	3,150
							Arbuckle	3,450
Smith	31-3E	1917	300	2,334		7	"Bartlesville"	3,050
State	15-32-4E	1926	1,100	17,121		9	"Layton"	2,400
							Arbuckle	3,300
Stayton	32-32-4E	1949	40	16,376	17,678	5	"Bartlesville"	3,100
Thurlow	8-33-3E	1927	80	40,337		3	Simpson	3,500
Trees	19-30-4E	1935	500	14,280		12	"Bartlesville"	2,875
Turner	30-32-6E	1937	160	6,404	272,140	4	"Layton"	2,232
Udall	30-3E		40	2,330		1	Arbuckle	2,850
Weathered	28-31-3E	1935	800	40,372	2,642,896	16	"Stalnaker"	2,080
							Lans.-K.C.	2,480
							Mississippian	3,020
							Arbuckle	3,250
Winfield	32-5E	1914	2,000	78,604		62	Admire	600
							"Peacock"	1,400
							"Layton"	2,300
							"Bartlesville"	3,050
							Arbuckle	3,300
Winfield South	1-33-4E	1945	40	2,226	6,489	1	"Hoover"	1,400

Total Cowley County			25,460	1,908,243	67,373,711 recorded	631+		
			Crawford County					
"Billington-Houston"	3-31-22E		400	89				
Fair Oak	33-28-22E		400	9,038			"Bartlesville"	400
Hepler	27-22E	1917	200	623			"Bartlesville"	
McCune	30-22E	1929	5,800	37,966			"Bartlesville"	
"Steimel"	35-29-21E		40	86				
St. Paul-Walnut*	28-21E		500	446			"Bartlesville"	425
Walnut Southeast	28-22E		600	9,507		9+	"Bartlesville"	400
Miscellaneous				1,837				
Total Crawford Co.			7,940	59,592	453,964 recorded	9+		
			Dickinson County					
Bonaccord	30-14-1E	1943	40	1,409	25,647	1	"Burgess"	2,483
Lost Springs*	16-4E		2,700	155,705		37	Miss. "Chat"	2,300
Lost Springs North	22-16-4E	1945	80	1,702	89,863	2	Miss. "Chat"	2,300
Lost Springs Northeast	26-16-4E	1947	80	3,316	6,868	1	Miss "Chat"	2,300
Total Dickinson Co.			2,900	162,132	472,347 recorded	41		
			Douglas County					
Baldwin	12-15-20E	1919	500	4,000	47,830 recorded		"Squirrel"	800
			Edwards County					
Bradbridge	2-24-16W	1948	80	15,009	117,505 recorded	2	Arbuckle	4,020
			Elk County					
Bush-Denton	4-30-9E	1920	1,700	27,784		47	"Stalnaker"	1,060
							"Peru"	2,135
							"Burgess"	2,300
Collyer	30-30-11E	1924	300	8,933		11	Kansas City	1,286
							Fort Scott	1,518
Dory	18-30-9E		200	2,636		5	Mississippian	2,570
Dunkleberger	34-29-10E		700	29,272		28	Kansas City	1,300
							Mississippian	1,970
Elk City	31-13E		40	34				
Ferguson East	23-30-8E		40	1,030		1	Ordovician	2,900
Fleming	8-29-9E	1950	40	4,269		1	Arbuckle	2,656
Grand Summit*	4-31-8E		200	7,374		11	Kansas City	2,000
Hale-Inge*	31-12E	1907	1,700	6,139		24	"Peru"	1,160

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	Producing No. prowells	Producing zone	Depth to producing zone, feet
Logsden	31-9E			496				
Love	30-9E		300	902		4	Mississippian	2,370
Moline	9-31-10E	1928	350	404		4	"Burgess"	2,000
							Mississippian	2,030
New Albany	29-13E		1,000	9,961			"Wayside"	560
"Perkins"	1-30-9E		40	501		1		
Porter	29-8E	1923	160	4,114		8	Kansas City	2,050
							Arbuckle	3,000
Schrader	12-31-8E	1928	500	37,974		5	Kansas City	1,520
Severy*	8-28-11E	1922	100	957		4	Kansas City	1,200
Starr	12-31-9E	1937	400	2,214		4	Mississippian	2,330
Walker	5-31-10E	1927	80	1,318		2	Kansas City	1,550
							Mississippian	2,225
Webb	23-31-10E	1925	900	36,096		64	Kansas City	1,300
							Fort Scott	1,650
							Mississippian	1,975
							Arbuckle	2,300
Total Elk County			8,750	182,408	13,541,599 recorded	224		
				Ellis County				
Antonino	27-14-19W	1947	200	15,826	66,766	4	Arbuckle	3,712
							Basal sandstone	3,726
Antonino Townsite	2-15-19W	1949	80	13,004	13,809	2	Arbuckle	3,697
Beeching	34-15-16W	1943	500	11,880	207,388	6	Lans.-K.C.	3,156
Bemis-Shutts	16-11-17W	1935	16,000	4,269,302	63,716,714	546	Arbuckle	3,380
Blue Hill	14-12-16W	1937	1,000	167,459	1,743,243	25	Topeka	3,030
							Lans.-K.C.	3,072
							Gorham	3,348
							Arbuckle	3,360
Burnett*	1-11-18W	1937	6,500	2,637,592	36,218,808	261	Lans.-K.C.	3,093
							Arbuckle	3,570
Burnett Northwest*	3-11-18W	1946	800	391,688	1,561,726	29	Lans.-K.C.	3,450
							Arbuckle	3,617
Burnett Southwest	22-11-18W	1946	1,600	727,110	2,286,807	77	Shawnee	3,074
							Lans.-K.C.	3,207
							Arbuckle	3,633

Canyons	11-12-17W	1948	40	1,167	7,426	1	Lans.-K.C.	3,361
Catharine	3-13-17W	1936	460	177,567	376,171	15	Lans.-K.C.	3,262
							Arbuckle	3,516
Catharine Northwest	4-13-17W	1944	340	66,724	357,419	10	Lans.-K.C.	
							Arbuckle	3,590
Catharine South	15-13-17W	1946	500	170,439	599,220	21	Arbuckle	3,555
Catharine Townsite	9-13-17W	1949	40	8,027	8,027	1	Arbuckle	3,585
Chrisler	22-11-16W	1949	40	7,223	13,200	1	Lans.-K.C.	3,100
Christina	22-12-16W	1949	100	13,015	13,015	3	Lans.-K.C.	3,272
							Arbuckle	3,462
Dechant	6-15-18W	1950	40	1,888	1,888	1	Arbuckle	3,670
Dreiling	21-14-16W	1949	260	62,087	68,210	9	Lans.-K.C.	3,120
							Arbuckle	3,367
Ellis*	31-12-20W	1942	700	55,280	710,180	11	Arbuckle	3,832
Emmeram	4-13-16W	1937	160	9,483	227,633	5	Lans.-K.C.	3,262
Emmeram Northeast	27-12-16W	1949	360	23,520	25,873	5	Arbuckle	3,541
Fairport*	8-12-15W	1923	1,050	461,221	2,131,169	39	Lans.-K.C.	2,950
							Gorham	3,211
							Arbuckle	3,312
							Reagan	3,350
Fort Hays State College	1-14-19W	1950	40	1,203	1,203	1	Arbuckle	3,806
Gasaway	11-11-19W	1950	abandoned during 1950		441	1	Lans.-K.C.	3,534
Haller	10-11-18W	1936	40	180	24,643	1	Topeka	3,045
Herzog	30-13-16W	1940	470	120,120	913,595	13	Lans.-K.C.	3,232
							Arbuckle	3,450
Irvin	6-14-19W	1946	350	75,033	290,338	8	Arbuckle	3,860
Koblitz	23-12-18W	1937	500	96,629	871,176	15	Arbuckle	3,694
Kraus	22-14-19W	1936	100	9,309	122,096	3	Sooy	3,735
							Arbuckle	3,732
Krueger*	35-10-16W	1948	450	144,186	200,165	20	Lans.-K.C.	3,552
Kunz	35-14-16W	1950	abandoned during 1950		326	1	Lans.-K.C.	3,118
Leiker	14-15-18W	1943	100	11,161	98,644	2	Lans.-K.C.	3,292
							Arbuckle	3,591
Lookout Hollow	31-14-18W	1950	40	400	400	1	Arbuckle	3,629
Meistrell	3-11-18W	1949	combined with Burnett Northwest					
Nicholson	30-11-20W	1945	250	43,323	235,220	6	Arbuckle	3,842
Penny-Wann	13-15-20W	1936	120	10,979	152,849	2	Sooy	3,653
Pleasant	2-14-20W	1944	1,000	151,432	886,267	16	Arbuckle	3,833
							Reagan	3,877
Pleasant North	26-13-20W	1946	40	none	2,168	1	Arbuckle	3,798
Pleasant Ridge	20-12-17W	1950	640	42,734	325,097	8	Lans.-K.C.	3,408
			formerly part of Bemis-Shutts				Arbuckle	3,683
Polifka	7-13-17W	1948	40	8,974	20,662	1	Arbuckle	3,640

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Reed	5-13-17W	1949	40	2,627	4,135	1	Lans.-K.C.	3,424
Riverview	19-11-18W	1943	940	158,143	1,405,786	22	Arbuckle	3,610
Ruder	17-15-18W	1935	670	49,979	1,069,198	8	Lans.-K.C.	3,422
							Arbuckle	3,572
Schmeidler	28-12-17W	1944	400	53,394	294,437	9	Arbuckle	3,625
Schoenchen	21-15-18W	1946	850	172,736	571,768	20	Arbuckle	3,569
Solomon	28-11-19W	1936	960	65,534	245,181	11	Arbuckle	3,629
Sugarloaf	17-13-17W	1941	280	72,842	289,204	8	Arbuckle	3,645
Sugarloaf East	21-13-17W	1950	80	2,263	2,263	2	Lans.-K.C.	3,391
Sugarloaf Southeast	28-13-17W	1941	120	10,624	105,640	3	Lans.-K.C.	3,312
Sweet William	10-12-20W	1950		no report	none		Arbuckle	3,908
Toulon	3-14-17W	1935	680	26,645	435,809	7	Lans.-K.C.	3,298
							Arbuckle	3,512
Ubert	12-13-18W	1936	80	10,689	274,374	2	Lans.-K.C.	
							Arbuckle	3,707
Upper Turkville	9-11-17W	1948	abandoned during 1950		770		Lans.-K.C.	3,114
Walter	2-12-18W	1936	1,700	399,070	5,030,900	55	Topeka	3,160
							Arbuckle	3,619
Warren	12-11-20W	1949	40	9,234	15,400	1	Lans.-K.C.	3,458
Weigel	19-12-16W	1948	abandoned during 1950		1,171			
Wheatland	18-15-17W	1949	40	2,869	2,869	1	Arbuckle	3,571
Wheatland South	30-15-17W	1950	abandoned during 1950		2,177	1	Arbuckle	3,558
Younger	6-14-17W	1944	330	30,255	178,770	7	Arbuckle	3,574
Total Ellis County			42,200	11,077,013	124,172,328 124,365,126	1,328 recorded		
				Ellsworth County				
Bloomer*	36-17-11W	1936	2,850	920,198	10,737,858	91	Lans.-K.C.	3,044
							Arbuckle	3,257
Edwards*	3-18-8W	1936	1,900	995,331	12,317,462	102	Arbuckle	3,278
Edwards North	10-17-8W	1950		no report	none		Simpson	3,157
Heiken	25-17-10W	1930	40	no report	46,850		Arbuckle	3,269
Heiken North	24-17-10W	1942	180	9,622	162,237	3	Arbuckle	3,212
Kraft-Prusa*	10-17-11W	1937	300	25,549	635,024	5	Shawnee	2,885
							Lans.-K.C.	3,160
							Gorham	3,335
							Arbuckle	3,281
							Reagan	3,310

Lorraine	13-17-9W	1934	2,000	166,185	10,315,974	40	Lans.-K.C. Arbuckle	3,060 3,200
Palacky	31-16-10W	1949	500	8,991	14,317	4	Lans.-K.C. Arbuckle	3,148 3,390
Stoltenberg	22-16-10W	1931	14,000	1,956,525	31,611,321	356	Lans.-K.C. Arbuckle	3,260 3,333
Vacek	32-15-10W	1944	500	39,163	92,774	5	Arbuckle	3,315
Wilkens Southeast	32-17-9W	1942	300	27,884	389,888	6	Arbuckle	3,220
Total Ellsworth Co.			22,570	4,149,448	66,323,705	612		
					66,323,705 recorded			
Finney County								
Nunn	27-21-34W	1938	1,260	215,621	1,515,264 recorded	27	K.C. Marmaton Cherokee "Miss. lime"	 4,550 4,654
Franklin County								
LeLoup	15-20E		500	600±			"Squirrel"	750
Paola-Rantoul*	17-21E	1860					Knobtown‡	300
1				2,082		12	Hepler	400
2				25,363		120+	"Prue"	500
3				37,778		34+	"Squirrel"	600
4				8,273		49+	"Bartlesville"	700
5				190,672		215		
6				1,309		5		
7				12,727		24+		
Total Franklin Co.			500+	278,804±	7,918,423 recorded	459+		
Graham County								
Alda	15-7-22W	1944	40	no report	23,740		Lans.-K.C.	3,518
Bass	12-10-21W	1950	180	25,114	25,114	5	Arbuckle	3,826
Bass Northwest	11-10-21W	1950	combined with Cooper					
Cooper	11-10-21W	1950	1,000	64,517	64,517	13	Arbuckle	3,841
DeYoung	35-9-21W	1950	combined with Cooper					
DeYoung Southeast	2-10-21W	1950	combined with Cooper					
Fargo	26-9-22W	1950	120	11,854	11,854	3	Lans.-K.C.	3,622
Faulkner	27-10-22W	1945	200	17,053	158,958	4	Lans.-K.C.	3,629
Gettysburg	7-8-23W	1941	80	6,098	49,109	2	Lans.-K.C.	3,725
Houston	9-6-22W	1947	40	4,232	11,577	1	Lans.-K.C.	3,506
Ironclad	23-9-22W	1950	160	12,252	12,252	4	Lans.-K.C.	3,756
Luck	13-8-22W	1945	abandoned during 1950		12,765			

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Morel	15-9-21W	1938	5,400	1,681,551	10,495,445	172	Sooy	3,712
							Arbuckle	3,718
Morel East	13-9-21 W	1949	360	82,282	82,282	7	Arbuckle	3,729
Morel West	18-9-21W	1949	combined with Morel					
Morlan	23-10-21W	1949	120	48,630	81,063	5	Arbuckle	3,778
Muilenburg	1-10-21W	1949	80	5,670	9,395	2	Arbuckle	3,839
Penokee	11-8-24W	1940	130	50,397	142,275	6	Lans.-K.C.	3,750
Ray*	32-5-20W	1949		no report	none		Lans.-K.C.	3,297
							Arbuckle	3,575
							Reagan	3,540
Smith-Denning	5-10-21W	1950	280	49,799	49,799	6	Arbuckle	3,818
Teall	9-10-21W	1949	40	3,126	7,356	1	Lans.-K.C.	3,528
Teall North	4-10-21W	1950	160	29,659	29,659	4	Arbuckle	3,872
Teall Northeast	9-10-21W	1950	320	33,162	33,162	8	Lans.-K.C.	3,680
							Arbuckle	3,836
Wild Horse Creek	16-9-22W	1950	80	5,876	5,876	2	Arbuckle	3,944
Total Graham County			8,790	2,131,272	11,305,688 recorded	245		
				Greenwood County				
Atyeo*	30-21-10E	1925	150	15,136		15	"Bartlesville"	2,250
Beaumont	27-8E		500	28,199		21	"Peru"	1,830
							Mississippian	2,445
							Arbuckle	2,740
Beaumont North	27-9E		20	336		1	Mississippian	2,477
							Ordovician	2,800
Beaumont South	2-28-8E	1935	100	10,939		5	Mississippian	2,500
Blackwell	16-24-13E	1925	450	1,022			Mississippian	1,650
Blankenship*	26-8E	1921	250	5,459		9	"Bartlesville"	2,650
Brinegar	26-13E		350	5,128		20+		
Browning	22-10E	1924	1,300	101,754		95	"Bartlesville"	2,314
Burkett	24-23-10E	1923	1,800	366,794		129+	"Bartlesville"	2,000
Burt	8-26-11E	1949	160	3,460		4	Mississippian	1,860
Climax	27-11E	1925	250	10,651		5	Mississippian	1,900
DeMalorie-Souder	22-10E	1924	3,500	168,360		3+	"Bartlesville"	2,150
Dunaway*	34-22-13E	1922	1,800	67,109			Mississippian	1,800
Eureka	31-25-11E		1,400	155,266		31	Fort Scott	1,750
							Mississippian	2,000
Fankhouser*	4-22-12E	1926	800	578,606		7+	"Bartlesville"	1,850

Gaffney	18-24-11E	1926	100	8,286			"Bartlesville"	1,850
Gilroy	12-25-12E	1928	80	669		2	Mississippian	1,600
Hamilton	7-24-12E	1925	3,500	319,125		48+	"Bartlesville"	1,650
							Mississippian	1,800
Hinchman	17-24-13E	1927	250	4,285		1+	Mississippian	1,615
Hollis	16-23-10E	1927	80	2,355		2	"Bartlesville"	2,150
Honey Creek	32-26-11E	1950	40	526		1	Mississippian	1,871
Jackson	25-8E		80	2,244		2+	"Bartlesville"	
"Kimball"	28-25-13E		40	570				
Lamont	29-22-13E	1926	3,100	316,363		45+	"Bartlesville"	1,700
Madison	14-22-11E		2,200	83,301		90+	"Bartlesville"	1,800
Morris	28-24-13E	1950	no report	no report	none		Mississippian	1,671
Parks	24-10E		320	2,194		1		
Pixlee	7-22-10E	1923	1,250	54,435		37	"Bartlesville"	2,350
							Mississippian	2,400
Polhamus	25-9E	1922	1,200	250,711			"Bartlesville"	2,180
Quincy*	31-24-12E	1926	1,400	23,788		19+	"Bartlesville"	1,500
							Mississippian	1,720
Reese	24-26-9E		1,300	36,778		32	Kansas City	1,380
							Mississippian	2,100
Sallyards	25-8E		2,500	299,682		50	"Bartlesville"	2,350
Scott	24-23-8E	1925	1,400	71,569		66	"Bartlesville"	2,525
Seeley-Wick	28-23-11E		7,500	947,418		190+	"Bartlesville"	1,930
Severy*	8-28-11E		600	6,162		13	Kansas City	1,200
Severy North	27-11E		40	294				
Stanhope	15-26-8E		200	49,668		10	Mississippian	2,450
Teeter*	16-23-9E	1920	3,100	191,885		129+	"Bartlesville"	2,400
Teichgraber	25-8E		800	13,046		17+	"Bartlesville"	2,750
Thrall-Aagard	14-24-9E		3,500	638,334		26+	"Bartlesville"	2,170
Tonovay				no report		1		
Tonovay North				no report		1		
Tonovay West	33-25-11E	1950	200	757	757	1	Mississippian	1,948
Toronto*	16-26-13E	1913	300	3,507		7	"Peru"	1,000
			incl. Woodson Co. prod.					
Tucker				no report		1		
Virgil	14-24-12E	1916	4,800	159,922		40+	"Bartlesville"	1,550
							Mississippian	1,700
Virgil North*	22-23-13E	1920	6,700	292,138		4+	"Bartlesville"	1,585
							Mississippian	1,840
Wiggins	30-24-11E	1925	1,900	25,268		45	"Bartlesville"	1,860
Wilkerson	6-25-9E	1926	300	14,116		13	"Bartlesville"	2,200
Willard	7-27-11E		150	37,357		7	Miss. "Chat"	1,900

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Miscellaneous				704				
Total Greenwood Co.			61,760	5,375,676	171,777,230 recorded	1,246+		
Harper County								
Grabs	13-31-9W	1949	80	7,445	8,869 recorded	2	Mississippian	4,400
Harvey County								
Brandenberger	12-24-3W	1946	abandoned during 1950		238			
Burrton*	1-23-4W	1931	3,700	incl. with Reno Co.			Mississippian	3,266
							"Hunton"	3,583
Burrton Northeast	3-23-3W	1942	200	4,162	4,162	5	"Chat"	3,224
							Mississippian	3,269
Graber*	32-21-1W	1934	80	5,852	141,876	2	"Hunton"	3,274
							"Misener"	3,323
Halstead	36-22-2W	1929	1,500	38,105	1,857,813	14	"Chat"	3,005
Hollow-Nikkel*	30-22-3W	1931	2,000	122,574	20,585,387	45	"Chat"	3,195
			incl. McPherson Co. prod.				"Hunton"	3,507
							Simpson	3,500
Jester Creek	3-24-1E	1949	40	706	706	1	Lans.-K.C.	2,687
Sperling	23-22-2W	1935	300	13,132	575,961	5	"Hunton"	3,279
Stucky	3-23-3W	1942	combined with Burrton Northeast					
Total Harvey County			7,820	184,531	25,290,970 recorded	72		
Hodgeman County								
Jetmore	24-22-24W	1950	80	13,572	13,572	2	Mississippian	4,580
Jefferson County								
McLouth	4-10-20E	1939	800	48,291		14	McLouth	1,450
							Mississippian	1,550
McLouth North	29-9-20E	1941	900	2,241		2+	McLouth	1,450
							Mississippian	1,500
Total Jefferson Co.			1,700	50,532	860,153 recorded	16+		
Johnson County								
Dallas	13-13-24E			no report				

Kearny County								
Patterson	23-22-38W	1941	120	28,886	322,501 recorded	3	"Patterson sand"	4,748
Kingman County								
Bartholomew*	30-27-4W	1948	120	19,189	19,189	3	"Miss." Lime	3,732
Broadway	21-28-5W	1950	160	4,572	4,572	4	Mississippian	3,833
Cunningham*	7-28-11W	1931	800	108,866	2,915,939	37	Lans.-K.C.	3,390
Dewey	9-28-5W	1950	80	1,172	1,172	2	Mississippian	3,801
Lansdowne	15-28-5W	1950	120	4,163	4,163	3	Mississippian	3,800
Pat Creek	20-28-9W	1946	120	9,942	101,704	3	Viola	4,406
Total Kingman Co.			1,400	147,904	3,073,739 recorded	52		
Kiowa County								
Excel	20-30-20W	1948	40	8,275	24,855 recorded	1	"Miss. lime"	5,126
Labette County								
Banzet	35-19E		40	143				
Coffeyville-Cherryvale*	32-17E		600	4,350		16	"Wayside"	400
							Fort Scott	600
							"Bartlesville"	1,000
Mound Valley	32-18E		400	456			"U. Bartlesville"	630
							"L. Bartlesville"	700
							Mississippian	900
Price	33-18E	1917	700	1,973			"Bartlesville"	600
Total Labette County			1,740	6,922	350,236 recorded	16+		
Leavenworth County								
Ackerland	12-10-20E	1941	400	1,763		4+	McLouth	1,370
Bankers Life	3-10-20E	1941	400	8,959		7	McLouth	1,450
Total Leavenworth Co.			800	10,722	69,830 recorded	11+		
Linn County								
Centerville*	10-21-22E	1920	2,000				"Squirrel"‡	480
7				1,654			"Bartlesville"	720
8				255				
9				6,331		57		
10				5,974				
11				500				

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Goodrich-Parker*	25-20-21E	1922	1,300			70+	"Squirrel"‡	600
5				5,029			"Bartlesville"	700
6				25,612				
LaCygne-Cadmus	20-24E		1,400			26+	Bandera‡	150
1				6,045		39+	Labette	200
2				114				
3				1,003				
4				434				
Miscellaneous				3,788				
Total Linn County			4,700	56,739		135+		
				Lyon County				
Atyeo*	30-21-10E	1925	900	296,131		45	"Bartlesville"	2,200
Bushong	26-16-10E	1950	40	4,334	4,334	1	"Hunton"	2,950
Fankhouser*	4-22-12E	1926	900	50,380			"Bartlesville"	1,850
Rock Creek	32-21-11E	1947	200	3,089	17,444	4	"Bartlesville"	1,900
Miscellaneous				25				
Total Lyon County			2,040	353,959	5,574,696 recorded	50+		
				McPherson County				
Battle Hill	24-18-1W	1945	40	4,225	37,780	1	"Chat"	2,825
Battle Hill North	13-18-1W	1948	80	9,298	31,585	2	"Miss. lime"	2,811
Bitikofer	1-20-1W	1940	200	7,781	202,483	5	"Chat"	2,885
Bitikofer North	25-19-1W	1946	40	1,398	8,203	1	"Miss. lime"	2,892
Bonaville	33-17-2W	1949	80	6,117	10,616	2	Simpson	3,557
Bornholdt*	30-20-5W	1937	3,000	420,476	11,092,651	106	"Chat"	3,292
Burk	7-18-1W	1948	200	16,451	58,192	4	Mississippian	2,781
Canton North	26-18-1W	1936	540	47,137	537,195	13	"Chat"	2,803
Chindberg	18-19-2W	1929	700	40,289	1,744,244	18	Lans.-K.C.	2,363
							"Chat"	3,007
Crowther	26-17-1W	1942	1,500	204,566	2,583,259	48	"Chat"	2,778
Georob	31-17-1W	1947	1,560	337,174	869,889	39	"Chat"	2,665
Graber*	32-21-1W	1934	2,380	320,963	9,298,817	117	"Misener"	3,323
							"Hunton"	3,274
Gypsum Creek	4-17-1W	1944	400	38,345	305,332	12	"Chat"	2,619
Henne	21-17-1W	1940	900	63,765	1,338,355	21	"Chat"	2,658

Hollow-Nikkel*	30-22-3W	1931	640 incl. with Harvey Co.				"Chat"	3,195
							"Hunton"	3,507
							Simpson	3,500
Jenday	1-19-2W	1944	1,000	48,929	722,653	28	"Chat"	2,984
Johnson	35-19-3W	1932	1,000	62,738	3,224,104	11	"Chat"	3,032
Johnson South	11-20-3W	1950	40	3,204	3,204	1	Mississippian	3,043
Lindsborg	8-17-3W	1938	5,400	507,665	5,780,292	106	Viola	3,352
							Simpson	3,360
McPherson	29-18-2W	1926	1,500	73,124	1,406,845	30	Lans.-K.C.	2,340
							"Chat"	2,967
							Viola	3,140
Maxwell	17-18-1W	1948	120	5,815	11,767	3	"Miss. lime"	2,846
Paden	10-18-1W	1943	630	298,214	1,950,808	42	"Chat"	2,752
							Viola	3,153
Paden South	21-18-1W	1950	40	625	625	1	Mississippian	2,765
Reuben	17-18-2W	1949	40	6,514	8,608	1	Simpson	3,675
Ritz-Canton	1-20-2W	1929	12,000	535,200	41,696,200	188	"Chat"	2,935
							Viola	3,412
Roxbury	18-17-1W	1938	1,000	115,241	2,837,279	32	"Chat"	2,684
							Simpson	3,278
Roxbury South	30-17-1W	1942	240	17,304	291,335	4	"Chat"	2,658
Roxbury Southeast	20-17-1W	1943	60	14,310	38,370	3	"Chat"	2,665
Voshell	9-21-3W	1929	3,500	270,296	27,856,319	65	"Chat"	3,095
							Viola	3,301
Total McPherson Co.			38,830	3,477,164	114,281,301 recorded	904		
			Marion County					
Antelope	33-18-4E	1947	40	77	1,343	1	Miss. "Chat"	2,380
Antelope North	28-18-4E	1948	40	214	1,271	1	Kansas City	1,840
Cedar Creek	31-20-5E	1950	40	1,246	1,246	1	Viola	2,563
Covert-Sellers	28-21-4E	1920	1,200	80,341		19+	Viola	2,400
Elbing*	18-23-4E	1918	200	5,839		5+	Kansas City	2,120
							Mississippian	2,400
							Viola	2,530
Elbing North	27-22-4E	1947	200	12,622	39,842	2+	Miss. "Chat"	2,439
Fanska	6-17-1E	1943	200	13,864		24	Miss. "Chat"	2,680
Florence	18-21-5E	1920	1,800	23,779		6	Viola	2,300
Hillsboro	7-19-3E	1928	500	21,402		8	Mississippian	2,470
							Viola	2,820
Lehigh	27-19-1E	1946	300	14,898	65,243	6	Mississippian	2,800
Lost Springs*	22-17-4E	1926	5,500	230,470		141	Mississippian	2,365
Lost Springs East	35-17-4E	1942	200	3,697		4	Miss. "Chat"	2,350
Lost Springs Southeast	10-18-4E	1948	40	1,656	2,121	3	Mississippian	2,345

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Peabody	9-22-4E	1920	1,400	34,618		8	Viola	2,500
Propp	19-4E		80	7,290	7,290	2		
Wenger	11-21-4E	1947	500	141,113	329,686	15+	"Hunton"	2,770
Total Marion County			12,240	595,126	31,462,911 recorded	245+		
Meade County								
Adams Ranch	8-35-30W	1948	40	no report	812 recorded	1		
Miami County								
Louisburg	17-25E		900				Knobtown‡	270
14				3,917		29	"Peru"	430
15				1,069		5+	"Squirrel"	600
Paola-Rantoul*	17-23E	1860	14,700				Knobtown‡	300
1 "Big Lake"				70,975		251+	Hepler	400
2				20,826		60+	"Peru"	500
3 "Pressonville"				175,079		173+	"Squirrel"	600
4				2,547		11	"Bartlesville"	700
5				38,698		66+		
6 "Pressonville"				93,425		136+		
7 "Rantoul"				1,128		12		
8 "Stanton"				41,281		155+		
9				828				
10 "Osawatomie"				7,344		8+		
11 "Osawatomie"				242				
12 "Osawatomie"				2,299				
13 "Osawatomie"				32,513		82		
Total Miami County			15,600	492,171	12,847,502 recorded	988+		
Montgomery County								
Brewster	32-16E		600				"Bartlesville" Arbuckle	900
21				866				
22				143		1		
23				1,490				
24				60,740		3+		
Caney (31)	35-14E		600	6,316		24+	"Bartlesville"	1,320

Coffeyville-Cherryvale*	33-17E	1902	7,200				"Wayside"‡	400
1				2,745		20+	Fort Scott	600
2				1,062		8	"Bartlesville"	1,000
3				10,116		17	Arbuckle	1,300
4				3,238		1+		
5				12,768		15		
6				29,080		112+		
7				30				
8				1,077				
9				720				
Coleman (26)	28-32-14E	1921	40	1,639		1+	Arbuckle	1,700
Jefferson-Sycamore	18-33-15E	1903	15,000			10+	"Weiser"‡	800
							"Bartlesville"	1,200
13				2,121		10+		
14				554		1		
15				78,307		28		
16				362,197		114+		
17				2,230		15+		
18				3,524		5+		
19				3,488		34+		
20				30,510		8+		
Neodesha*	31-16E		1,000				"Bartlesville"	950
10				1,191		11		
11				1,625		12		
12				28				
Sorghum Hollow (25)	32-14E		2,100	7,565		43	"Weiser"	800
Tyro (30)	13-35-14E	1904	4,700	16,048			"Bartlesville"	1,250
Wayside-Havana*	34-14E	1904	11,200				"Wayside"‡	575
27				701		10	"Weiser"	700
28				142,391		757+		
29				1,252		9	"Bartlesville"	1,200
Miscellaneous				170				
			42,440	785,932	39,759,728 recorded	1,282+		
Morris County								
Burdick	15-17-5E	1949	40	10,903	12,119	3	Mississippian	2,220
Three Mile Creek	25-16-5E	1950	40	12,458	12,458	2	Mississippian	2,208
Three Mile Creek South	35-16-5E	1950	40	2,967	2,967	2	Mississippian	2,183
Total Morris County			120	26,328	27,544 recorded	7		

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Morton County								
Richfield	17-32-40W	1948	40	186	767 recorded	1	Basal Penn. (Atokan)	4,990
Nemaha County								
Sabetha	13-2-14E	1950	40	631	631	2	"Hunton"	2,826
Strahm	27-2-14E	1948	40	12,562	16,874	3+	"Hunton"	2,879
							Viola	3,559
Total Nemaha County			80	13,193	17,505 recorded	5+		
Neosho County								
Erie	28-20E	1903	6,100				"Bartlesville"	650
10				2,851				
11				13,130				
				‡5,964				
Humboldt-Chanute*	27-18E		16,500				"Bartlesville"	700
1				326				
2				378				
3				1,973				
4				363				
5				493,496		364+		
6				58,379				
7				11,511		22+		
8				5,161				
9				592				
				†603		1+		
Morehead (18)	30-30-18E		150	2,113			"Bartlesville"	850
St. Paul-Walnut*	29-21E		1,200				"Bartlesville"	550
13				7,913				
14				177				
15				2,725				
16				2,379				
Thayer (17)	29-17E		300	44			"Bartlesville"	850
Urbana (12)	28-18E		500	5,044			"Bartlesville"	750
Miscellaneous				670				
Total Neosho County			24,750	615,792	20,541,428 recorded	387+		

Ness County								
Aldrich	7-18-25W	1929	5,000	244,129	2,108,246	31	"Warsaw"	4,428
Arnold	22-16-25W	1943	300	26,960	271,545	5	Fort Scott	4,436
							"Warsaw"	4,528
Kansada	23-17-26W	1944	abandoned during 1950		7,581			
Kansada West	28-17-26W	1950		no report	none		Mississippian	4,438
Manteno	31-19-25W	1945	160	5,238	46,473	3	"Warsaw"	4,549
Total Ness County			5,460	276,327	2,433,845 recorded	39		
Norton County								
Hewitt	11-4-21W	1941	abandoned during 1950		32,054			
Ray*	32-5-20W	1940	300	35,245	168,276	5	Lans.-K.C.	3,297
							Arbuckle	3,575
							Reagan	3,540
Ray West	26-5-21W	1945	80	13,050	76,666	2	Arbuckle	3,650
Total Norton County			380	48,295	276,996 recorded	7		
Pawnee County								
Ash Creek	31-20-15W	1947	800	52,973	226,627	15	Arbuckle	3,787
Ash Creek Southwest	11-21-16W	1947	80	15,737	78,979	2	Arbuckle	3,779
Benson	30-23-15W	1945	200	29,087	153,975	5	Lans.-K.C.	3,853
Garfield	17-23-17W	1947	40	no report	7,309		Kinderhookian	4,276
Larned	28-21-16W	1949	40	124	689	1	Arbuckle	3,877
Pawnee Rock*	13-20-16W	1936	2,000	219,013	2,303,861	39	Arbuckle	3,832
Pawnee Rock West	23-20-16W	1949	300	50,510	65,631	6	Arbuckle	3,760
Rutherford	8-20-16W	1946	300	29,397	209,189	7	Arbuckle	3,815
Rutherford East	4-20-16W	1950	80	5,745	5,745	2	Arbuckle	3,719
Ryan*	35-19-16W	1945	550	14,629	348,685	12	Arbuckle	3,656
Ryan Southeast	12-20-16W	1945	300	35,651	243,327	9	Arbuckle	3,688
Shady	35-22-16W	1948	60	1,686	5,238	3	Arbuckle	4,067
Zook	16-23-16W	1942	80	no report	7,016		Arbuckle	4,066
Total Pawnee County			4,830	454,552	3,656,271 recorded	101		
Phillips County								
Artz	19-1-18W	1950	40	no report	none		Lans.-K.C.	3,466
Bow Creek	25-5-18W	1939	80	3,749	46,395	2	Lans.-K.C.	3,111
Dayton	36-2-19W	1941	1,600	48,749	911,433	21	Lans.-K.C.	3,430
Dayton North	13-2-19W	1943	1,000	95,939	671,257	25	Lans.-K.C.	3,406
Hansen	14-5-20W	1943	850	282,496	1,449,688	31	Lans.-K.C.	3,363
							Arbuckle	3,530

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Huffstutter	6-2-18W	1949	2,450	248,316	270,940	46	Lans.-K.C.	3,444
Huffstutter West	31-1-18W	1950	combined with Huffstutter				Lans.-K.C.	3,503
Logan	3-5-20W	1945	420	49,999	256,731	10	Lans.-K.C.	3,149
							Arbuckle	3,381
Ray*	32-5-20W	1940	3,600	1,495,670	11,021,049	137	Lans.-K.C.	3,297
							Arbuckle	3,575
							Reagan	3,540
Stuttgart	14-3-19W	1950	40	939	939	1	Lans.-K.C.	3,146
Total Phillips County			10,080	2,225,857	14,628,432 recorded	273		
				Pratt County				
Carmi	29-26-12W	1942	4,440	660,709	8,428,969	106	Lans.-K.C.	
							Viola	4,104
							Simpson	4,195
							Arbuckle	4,271
Chance	4-27-13W	1946	600	196,925	460,791	22	Simpson	4,380
							Arbuckle	4,432
Chitwood	23-28-12W	1943	1,700	651,649	5,820,334	74	Lans.-K.C.	
							Viola	
							Simpson	4,396
							Arbuckle	
Chitwood Northeast	13-28-12W	1950	40	1,311	1,311	1	Viola	4,330
Clara*	36-29-14W	1948	100	42,965	99,809	3	Simpson	4,472
Coats	24-29-14W	1944	400	29,140	342,227	8	Simpson	4,402
							Arbuckle	
Cunningham*	7-28-11W	1931	3,500	123,246	4,221,808	79	Lans.-K.C.	3,390
Frisbie	5-26-13W	1943	400	29,206	279,091	4	Lans.-K.C.	3,947
Frisbie Northeast	4-26-13W	1948	80	35,740	103,694	6	Lans.-K.C.	3,788
Iuka	11-27-13W	1937	2,200	182,582	1,652,539	23	Simpson	4,292
							Arbuckle	4,354
Ludwick	4-29-13W	1944	40	1,615	26,754	1	Simpson	4,490
Moore	1-26-14W	1949	40	4,649	11,300	1	Simpson	4,348
Shriver	33-29-14W	1944	300	76,418	467,318	7	Simpson	4,557
Stark	18-26-11W	1941	850	28,938	813,607	13	Lans.-K.C.	3,601
							Viola	4,121
Stoops	7-29-12W	1946	160	7,362	76,109	4	Viola	4,446
Stoops Southwest	24-29-13W	1946	40	1,549	11,626	1	Viola	4,483

Total Pratt County			14,890	2,074,004	22,817,287 recorded	353		
				Reno County				
Abbyville	24-24-8W	1927	1,100	94,651	738,003	17	Lans.-K.C.	3,540
Albion	14-26-6W	1948	100	3,597	18,879	3	Lans.-K.C.	3,342
							"Chat"	3,654
Albion North	14-26-6W	1950	40	767	767	1	Viola	3,997
Buhler	25-22-5W	1938	640	48,581	690,857	7	Viola	3,890
							Simpson	3,897
Burrton*	1-23-4W	1931	11,400	1,133,927	45,456,978	347	Mississippian	3,266
		incl.	Harvey Co.	production			"Hunton"	3,583
Hilger	16-26-4W	1934	1,700	170,315	4,403,483	28	Viola	4,062
Lerado Southwest	21-26-9W	1944	200	17,149	112,913	4	Viola	4,177
Morton	17-24-8W	1942	40	2,554	35,082	1	Lans.-K.C.	3,180
Yoder	34-24-5W	1935	200	525	92,873	4	"Chat"	3,450
Zenith-Peace Creek*	21-23-10W	1941	10,500	542,809	16,991,897	160	Viola	3,773
Total Reno County			25,920	2,014,875	71,131,769 recorded	572		
				Rice County				
Bloomer*	36-17-11W	1936	1,450	859,689	11,434,471	78	Lans.-K.C.	3,044
							Arbuckle	3,257
Bornholdt*	30-20-5W	1937	1,250	89,586	1,936,307	29	"Chat"	3,292
Bowman North	16-19-10W	1948	80	2,875	11,226	2	Arbuckle	3,331
Bredfeldt	7-18-9W	1948	120	13,892	59,807	3	Arbuckle	3,226
Bredfeldt West	12-18-10W	1939	40	1,744	57,598	1	Arbuckle	3,260
Calf Creek	28-18-10W	1950	40	6,691	6,691	1	Pre-Cambrian	3,143
Chase	32-19-9W	1931	20,600	3,108,341	58,005,694	542	Lans.-K.C.	2,942
							"Wilcox"	3,260
							Arbuckle	3,252
Click	3-18-7W	1943	abandoned during 1950		5,632			
Click Southeast	11-18-7W	1947	40	3,445	13,107	1	Lans.-K.C.	3,065
Cow Creek	28-18-9W	1946	abandoned during 1950		765			
Edwards*	3-18-8W	1936	80	8,323	87,180	2	Arbuckle	3,278
Engelland	34-20-7W	1949	40	2,171	5,156	1	Conglomerate	3,348
Froning	10-18-8W	1950	40	203	203	1	Penn. basal congl.	3,222
Gemeinhardt	18-18-10W	1948	80	13,664	27,063	2	Arbuckle	3,293
Geneseo	25-18-8W	1934	5,800	2,008,631	28,043,014	206	Lans.-K.C.	2,787
							Arbuckle	3,132
Glen Sharrald	20-18-10W	1950	120	8,699	8,699	3	Lans.-K.C.	3,118

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Heinz	8-18-10W	1938	300	36,978	125,998	6	Lans.-K.C.	3,000
							Arbuckle	3,254
Ixl	4-19-10W	1950	40	3,714	3,714	1	Arbuckle	3,308
Keller	3-19-9W	1943	40	2,021	38,292	1	Sooy	3,240
Lyons	14-20-8W	1949	200	35,081	51,692	5	Lans.-K.C.	3,226
							"Misener"	3,315
							Penn. congl.	
							Arbuckle	3,277
Mary Ida	31-18-10W	1950	120	16,200	16,200	3	Lans.-K.C.	3,033
							Arbuckle	3,272
Munyon	34-18-10W	1950	40	no report	none		Arbuckle	3,275
Odessa	32-18-6W	1949	160	32,737	36,074	4	Lans.-K.C.	3,092
Odessa South	9-19-6W	1949	80	8,621	12,010	2	Lans.-K.C.	3,069
Orth	27-18-10W	1932	1,500	168,915	2,158,181	48	Shawnee	
							Lans.-K.C.	2,915
							Sooy	3,187
							Pre-Cambrian	3,240
Orth West	21-18-10W	1944	400	102,660	283,547	13	Shawnee	2,688
							Arbuckle	3,235
Pioneer	25-19-10W	1942	200	28,643	138,496	6	Lans.-K.C.	3,015
							Arbuckle	3,281
Ploog	33-18-9W	1930	combined with Chase					
Ponce	28-21-7W	1936	40	2,783	55,505	1	Sooy	3,388
Proffitt	13-20-10W	1949	160	13,462	22,087	4	Arbuckle	3,340
Prosper	6-18-9W	1948	80	1,056	7,948	2	Arbuckle	3,232
Prosper East	5-18-9W	1950	200	21,468	21,468	6	Arbuckle	3,222
Raymond	21-20-10W	1929	3,000	594,722	12,787,749	91	Wabaunsee	2,285
							Lans.-K.C.	3,130
							Arbuckle	3,330
Rick*	1-19-11W	1936	40	2,842	45,887	1	Lans.-K.C.	3,106
							Arbuckle	3,355
Rick Southeast	18-19-10W	1947	100	9,144	49,790	3	Arbuckle	3,334
Rickard	22-18-9W	1935	200	6,485	175,523	4	Arbuckle	3,324
Ringwald	32-18-10W	1949	300	89,610	121,426	9	Lans.-K.C.	2,947
							Pre-Cambrian	3,072
Silica*	12-20-11W	1931	11,800	515,750 est.	26,952,630 est.	200 est.	Lans.-K.C.	2,955
							Arbuckle	3,328
Silica South*	24-20-11W	1935	400	74,699	839,309	15	Lans.-K.C.	3,035
							Arbuckle	3,268

Smyres	36-19-6W	1942	1,200	152,703	1,912,119	31	"Chat"	3,339
Union East	27-20-8W	1950	40	305	305	1	Sooy Congl.	3,305
Volkland	27-18-9W	1943	400	59,841	537,097	7	Arbuckle	3,221
Welch	35-20-6W	1924	2,600	215,741	5,680,408	67	"Chat"	3,370
Welch East	1-21-6W	1941	40	1,232	31,931	1	"Chat"	3,341
Welch North	23-20-6W	1937	120	3,663	94,333	3	"Chat"	3,334
Welch West	6-21-6W	1948	200	22,671	44,640	5	"Miss. lime"	3,498
Wherry	11-21-7W	1933	7,200	238,907	10,782,404	68	Sooy	3,358
Wherry North	35-20-7W	1947	300	66,230	261,587	8	Sooy	3,423
Total Rice County			61,280	8,656,838	164,470,870 recorded	1,488		
				Rooks County				
Alcona	14-7-20W	1946	abandoned during 1950					
Amboy	16-10-20W	1950	120	18,685	18,685	3	Arbuckle	3,813
Barry	11-9-19W	1942	1,300	538,138	4,362,370	44	Lans.-K.C.	
							Arbuckle	3,435
Barry East	6-9-18W	1947	360	96,717	315,125	9	Lans.-K.C.	3,280
							Arbuckle	3,489
Barry Southeast	13-9-19W	1946	600	193,282	970,487	23	Arbuckle	3,479
Baum	10-10-16W	1942	40	2,020	16,013	1	Lans.-K.C.	3,057
Baumgarten	25-9-19W	1950	160	11,105	11,105	4	Arbuckle	3,621
Belmont	28-7-19W	1949	40	3,047	4,941	1	Lans.-K.C.	3,337
Berland	19-10-19W	1948	2,750	884,193	1,227,450	100	Lans.-K.C.	3,596
							Arbuckle	3,802
Berland North	31-9-19W	1950	40	4,085	4,085	1	Arbuckle	3,770
Berland Southwest	26-10-20W	1949	300	49,441	49,441	8	Arbuckle	3,728
Burnett*	1-11-18W	1937	240	65,930	935,332	8	Lans.-K.C.	3,093
							Arbuckle	3,570
Burnett Northwest*	3-11-18W	1946	200	49,188	244,469	5	Lans.-K.C.	3,450
							Arbuckle	3,617
Chandler	14-9-19W	1948	850	349,378	644,607	27	Arbuckle	3,455
Dopita	31-8-17W	1934	1,200	98,683	713,281	18	Lans.-K.C.	3,212
							Arbuckle	3,409
Dorr	20-9-16W	1942	640	108,091	541,441	17	Lans.-K.C.	3,230
Eagle Creek	2-10-20W	1949	40	10,042	15,328	1	Arbuckle	3,822
Erway	2-10-16W	1941	40	6,091	69,169	1	Lans.-K.C.	3,136
Finnesy	14-10-18W	1947	40	3,503	12,471	1	Lans.-K.C.	3,419
Gick	30-9-19W	1947	80	20,646	69,713	2	Arbuckle	3,578
Gra-Rook	30-9-20W	1948	240	78,289	141,572	7	Arbuckle	3,869
Grover	22-7-19W	1950	40	2,331	2,331	1	Lans.-K.C.	3,272
Hayden	31-8-19W	1949	300	68,408	100,868	10	Lans.-K.C.	3,289
							Arbuckle	3,513

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Hobart	33-8-18W	1944	abandoned during 1950		36,200			
Jelinek	23-9-19W	1947	700	178,884	385,192	19	Arbuckle	3,537
Kern	28-9-20W	1950	80	17,438	17,438	2	Arbuckle	3,855
Krueger*	35-10-16W	1948	260	71,721	108,969	9	Lans.-K.C.	3,552
							Arbuckle	
Laton	11-9-16W	1927	4,400	244,094	3,732,632	110	Lans.-K.C.	3,228
Laura	30-10-20W	1950	40	1,237	1,237	1	Arbuckle	3,706
Locust Grove	8-7-19W	1949	40	4,457	9,046	1	Arbuckle	3,450
Lone Star	4-8-17W	1948	80	3,915	12,908	2	Arbuckle	3,382
McClellan	9-9-19W	1945	80	2,660	43,139	2	Lans.-K.C.	3,343
McHale	8-9-18W	1948	360	102,025	168,603	9	Arbuckle	3,494
McHale South	17-9-18W	1949	40	964	4,663	1	Arbuckle	3,615
Marc	18-9-19W	1948	80	3,662	12,267	2	Lans.-K.C.	3,370
Marcotte	15-10-20W	1943	850	197,431	954,785	23	Arbuckle	3,752
Marcotte Northwest	9-10-20W	1950	40	4,919	4,919	1	Arbuckle	3,722
Nettie	34-9-17W	1948	300	35,471	46,906	10	Lans.-K.C.	3,243
							Arbuckle	3,513
Northampton	26-9-20W	1948	900	481,308	970,998	31	Arbuckle	3,803
Novotny	3-9-19W	1950	500	138,716	138,716	13	Arbuckle	3,442
Nyra	16-9-17W	1946	300	34,826	103,873	9	Lans.-K.C.	3,429
							Arbuckle	3,501
Palco	5-10-20W	1943	750	296,545	852,111	28	Arbuckle	3,824
Palco Southeast	3-10-20W	1949	500	77,463	80,540	8	Arbuckle	3,827
Palco Townsite	20-9-20W	1945	40	2,498	15,730	1	Arbuckle	3,847
Paradise Creek	21-9-18W	1947	1,100	272,946	1,177,989	33	Arbuckle	3,576
Plainville	31-9-17W	1948	40	3,078	8,001	1	Lans.-K.C.	3,477
							Arbuckle	3,613
Ray Southeast	9-6-20W	1942	40	4,068	68,472	1	Reagan	3,600
Stamper	28-8-17W	1950	40	910	910	1	Marmaton	3,394
Stockton	35-7-17W	1937	300	12,643	98,737	6	Shawnee	2,692
							Lans.-K.C.	3,180
Vohs	14-10-19W	1945	900	202,924	1,107,967	21	Lans.-K.C.	3,365
Vohs Northwest	9-10-19W	1947	80	11,893	65,004	2	Lans.-K.C.	3,446
Vohs South	23-10-19W	1947	40	2,705	11,843	1	Lans.-K.C.	3,303
Webster	27-8-19W	1946	1,800	393,726	1,486,631	52	Arbuckle	3,403
Westhusin	11-9-17W	1936	1,700	201,696	1,592,584	44	Lans.-K.C.	3,231
							Arbuckle	3,408
Whisman	9-9-20W	1950	40	no report	none		Lans.-K.C.	3,427
Yohe	4-9-18W	1949	100	8,343	20,088	3	Lans.-K.C.	3,266

Zurich	26-10-19W	1935	600	19,708	259,734	6	Lans.-K.C.	3,340
Zurich Townsite	27-9-19W	1944	360	63,023	219,500	8	Arbuckle	3,647
Total Rooks County			27,100	5,759,190	24,411,241 recorded	753		
				Rush County				
Loretto	21-16-17W	1945	abandoned during 1950		none			
Otis-Albert*	10-18-16W	1934	2,100	134,096	4,567,086	37	Reagan	3,527
Rush Center	16-18-18W	1947	40	no report	8,716		Arbuckle	3,836
Ryan*	35-19-16W	1945	2,000	336,047	1,193,719	64	Arbuckle	3,656
Weitzel	1-16-20W	1947	80	3,164	30,865	2	Gorham	3,674
Total Rush County			4,220	473,307	5,860,328 recorded	103		
				Russell County				
Atherton	30-13-14W	1935	1,900	160,597	2,469,346	39	Arbuckle	3,284
Atherton North	7-13-14W	1945	80	2,748	58,738	2	Arbuckle	3,195
Atherton West	23-13-15W	1945	abandoned during 1950		629			
Beisel	15-14-12W	1944	40	1,639	18,617	1	Arbuckle	3,266
Big Creek	36-14-15W	1935	combined with Gorham					
Boxberger	36-15-15W	1935	160	4,649	218,147	4	Lans.-K.C.	3,147
Claussen	27-12-14W	1944	80	6,858	22,610	2	Lans.-K.C.	2,855
Claussen North	22-12-14W	1949	40	5,562	5,562	1	Lans.-K.C.	2,956
Claussen West	29-12-14W	1949	40	637	1,217	1	Lans.-K.C.	2,841
Cook	26-13-15W	1950	120	12,991	12,991	3	Lans.-K.C.	3,051
Davidson*	4-16-11W	1930	1,150	12,651	164,450	3	Lans.-K.C.	3,016
							Sooy	3,317
							Arbuckle	3,314
Dillner Northwest	27-13-15W	1947	40	1,827	8,220	1	Arbuckle	3,318
Donovan	10-15-15W	1935	120	9,866	201,737	3	Lans.-K.C.	3,193
Donovan North	3-15-15W	1945	abandoned during 1950		none			
Driscoll	30-15-11W	1940	abandoned during 1950		65,007			
Dubuque	34-15-12W	1935	750	138,473	716,705	19	Lans.-K.C.	3,275
							Arbuckle	3,330
Ely	15-15-13W	1949	40	6,217	8,397	1	Shawnee	2,946
							Arbuckle	3,292
Eulert	35-11-15W	1949	500	141,932	147,717	16	Arbuckle	3,316
Fairport*	8-12-15W	1923	4,000	769,978	20,086,873	158	Lans.-K.C.	2,950
							Sooy	3,137
							Gorham	3,211
							Arbuckle	3,312
							Simpson	3,316
							Reagan	3,350

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Forest Hill	29-15-12W	1941	2,300	488,026	2,562,353	59	Shawnee	2,560
							Lans.-K.C.	2,918
							Arbuckle	3,320
Forest Hill North	20-15-12W	1947	240	34,523	58,074	10	Shawnee	2,640
							Arbuckle	3,270
Gorham	32-13-15W	1926	16,100	2,470,860	49,561,999	461	Shawnee	2,765
							Lans.-K.C.	2,908
							Gorham	3,152
							Arbuckle	3,289
							Reagan	3,299
Gustason	14-15-12W	1941	1,150	147,490	732,242	24	Shawnee	2,924
							Lans.-K.C.	3,050
							Arbuckle	3,322
Gustason Northwest	15-15-12W	1943	combined with Gustason					
Hall-Gurney	30-14-13W	1931	22,000	3,128,230	43,770,292	784	Indian Cave	1,985
							Wabaunsee	2,400
							Topeka	2,675
							Oread	2,813
							Lans.-K.C.	2,985
							Gorham	3,165
							Arbuckle	3,192
							Pre-Cambrian	3,156
Homer	17-14-13W	1949	260	32,095	37,732	7	Tarkio	2,396
Homer Southeast	16-14-13W	1949	40	743	858	1	Tarkio	2,408
Janne	24-15-12W	1943	500	44,583	162,626	8	Lans.-K.C.	
							Arbuckle	3,319
Jerry	4-15-14W	1942	320	3,324	52,922	2	Wabaunsee	
							Lans.-K.C.	2,985
							Arbuckle	
Kaufman*	33-15-12W	1947	40	8,825	46,295	1	Arbuckle	3,311
Lewis	28-14-12W	1940	abandoned during 1950		12,753			
Mahoney	8-14-12W	1940	abandoned during 1950		44,489			
Meier	30-15-12W	1948	60	30,453	64,222	3	Arbuckle	3,325
Ney	31-15-12W	1948	240	39,113	110,253	6	Lans.-K.C.	3,240
							Arbuckle	3,350
Parker	18-15-12W	1948	380	111,459	146,728	8	Shawnee	2,957
							Arbuckle	3,259
Russell	22-13-14W	1934	2,200	392,812	8,757,701	70	Lans.-K.C.	3,195
							Arbuckle	3,280

Russell East	25-13-14W	1949	100	13,474	21,102	3	Arbuckle	3,273
Russell North	15-13-14W	1942	abandoned during 1950		21,103			
Russell Northeast	26-13-14W	1950	240	13,682	13,682	6	Lans.-K.C.	3,020
							Arbuckle	3,272
Smoky Hill	2-15-14W	1938	200	42,408	166,837	5	Lans.-K.C.	2,950
Strecker	21-15-14W	1943	120	2,595	44,720	2	Arbuckle	3,342
Trapp*	23-15-14W	1936	22,000	5,264,533	78,916,903	835	Tarkio	2,350
							Shawnee	2,889
							Dodge	2,966
							Lans.-K.C.	3,062
							Arbuckle	3,252
Trapp East	14-15-13W	1949	80	15,549	17,170	2	Lans.-K.C.	3,146
							Arbuckle	3,277
Total Russell County			77,630	13,561,393	209,738,330 recorded	2,551		
Saline County								
Hunter	20-16-1W	1943	850	77,844	945,226	19	"Chat"	2,681
Hunter North	8-16-1W	1948	280	45,455	59,479	7	"Miss. lime"	2,674
Mentor	13-15-3W	1944	80	3,889	15,174	2	Viola	3,258
Olsson	10-16-3W	1929	1,000	125,979	234,364	15	Viola	3,303
Olsson Northeast	2-16-3W	1950	combined with Olsson					
Salina	30-14-2W	1943	1,410	79,547	683,640	22	Viola	3,223
Salina South	32-14-2W	1946	300	20,599	102,723	7	Viola	3,246
Smolan	19-15-3W	1950	200	4,684	4,684	5	Viola	3,386
Swenson	34-15-3W	1950	40	3,033	3,033	1	Viola	3,353
Total Saline County			4,160	361,030	2,059,608 recorded	78		
Scott County								
Keystone	25-18-32W	1950	40	1,900	1,900	1	Lans.-K.C.	4,001
Shallow Water	15-20-33W	1935	1,000	48,837	1,776,348	9	Marmaton	4,286
							"Miss. lime"	4,660
							Ste. Genevieve	4,670
Total Scott County			1,040	50,737	1,778,248 recorded	10		
Sedgwick County								
Bartholomew*	30-27-4W	1948	1,100	333,923	387,000	46	"Miss. lime"	3,732
Chambers	10-29-2W	1948	60	5,283	15,926	2	"Miss. lime"	3,540
Clearwater	22-29-2W	1944	200	7,909	87,521	4	Lans.-K.C.	2,913
Cross	27-25-1W	1929	40	2,338	77,476	1	Lans.-K.C.	2,690

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Curry	11-27-1W	1947	360	121,186	187,657	12	Lans.-K.C.	2,715
							Simpson	3,400
Eastborough	19-27-2E	1929	870	69,259	8,755,594	26	"Chat"	2,956
							Viola	3,238
Fairview	8-26-2E	1948	600	48,309	120,561	9	Lans.-K.C.	2,500
							"Burgess sand"	2,960
							Mississippian	2,991
Fairview North	5-26-2E	1948	160	37,432	60,497	4	"Burgess sand"	2,971
Fairview South	17-26-2E	1950	40	514	514	1	"Burgess sand"	2,945
Goodrich	16-25-1E	1928	780	8,295	4,496,433	25	Lans.-K.C.	2,614
							"Chat"	3,010
							Kinderhookian	3,334
							Arbuckle	3,339
Greenwich	14-26-2E	1929	800	211,681	11,121,737	32	"Chat"	2,885
							Viola	3,321
Greenwich South	22-26-2E	1945	abandoned during 1950		9,232			
Hinkle	1-27-1E	1946	80	no report	10,153		"Burgess"	2,980
Hohn	22-27-1W	1945	120	21,749	65,982	4	Lans.-K.C.	2,779
Petrie	36-26-1W	1945	80	10,966	61,205	2	Viola	3,387
Robbins	20-28-1E	1929	1,000	122,062	2,652,200	49	"Miss. lime"	3,090
Schulte	7-28-1W	1947	300	31,904	166,567	7	Mississippian	3,349
							Simpson	3,658
Valley Center	1-26-1W	1928	2,150	84,571	21,848,620	51	Lans.-K.C.	2,860
							Kinderhookian	3,380
							Viola	3,366
White Cotton	30-26-2E	1948	360	128,514	195,737	14	"Burgess"	2,957
Total Sedgwick Co.			9,100	1,317,395	50,508,636 recorded	289		
				Seward County				
Kismet	23-33-13W	1948	160	1,938	14,618	1	Marmaton	5,095
Liberal Southeast	15-35-33W	1947	420	12,238	46,854	3	Penn. sd.	6,202
Total Seward County			580	14,176	61,472 recorded	4		
				Sheridan County				
Adell	11-6-27W	1944	1,200	382,012	1,972,035	38	Lans.-K.C.	3,755
Studley	23-8-26W	1943	340	35,076	334,661	6	Lans.-K.C.	3,810

Studley Southwest	32-8-26W	1945	40	4,105	35,617	1	Lans.-K.C.	3,758
Total Sheridan Co.			1,580	421,193	2,342,313 recorded	45		
				Stafford County				
Ahnert	26-22-13W	1941	40	2,566	41,365	1	Arbuckle	3,784
Bedford	21-23-12W	1940	950	99,378	1,403,939	18	Arbuckle	3,859
Brock	12-23-12W	1944	640	29,262	306,716	10	Arbuckle	3,680
Bryant*	4-21-12W	1949	420	46,146	62,879	9	Arbuckle	3,383
Byron	4-21-12W	1943	abandoned during 1950		11,146			
Cadman	4-25-13W	1944	abandoned during 1950		4,571			
Clarksburg	1-23-13W	1950	abandoned during 1950		none		Arbuckle	3,811
Copeland	30-24-13W	1948	abandoned during 1950		none			
Curtis	6-22-13W	1942	400	71,753	515,368	9	Lans.-K.C.	3,514
							Arbuckle	3,693
Dell	7-21-13W	1950	120	14,621	14,621	3	Lans.-K.C.	3,446
Drach	12-22-13W	1937	2,600	485,087	4,235,542	52	Arbuckle	3,690
Drach Northwest	11-22-13W	1944	250	13,014	78,145	6	Arbuckle	3,738
Drach West	14-22-13W	1938	160	6,235	114,296	2	Arbuckle	
Eden Valley	29-21-13W	1950	40	4,903	4,903	1	Arbuckle	3,748
Farmington	34-24-15W	1943	900	100,056	934,677	19	Kinderhookian	
							Arbuckle	4,417
Fischer	31-21-12W	1938	160	13,142	331,728	3	Arbuckle	3,641
Fischer Northwest	36-21-13W	1948	500	336,370	598,313	17	Lans.-K.C.	3,464
							Arbuckle	3,639
Frey	7-21-14W	1950	240	25,565	25,565	6	Arbuckle	3,717
Gates	27-21-13W	1933	800	249,387	2,107,484	32	Arbuckle	3,679
Gates South	3-22-13W	1949	120	27,609	32,815	3	Arbuckle	3,748
Gray	11-24-13W	1946	120	3,809	35,404	3	Lans.-K.C.	3,762
Grow	16-21-13W	1949	360	79,979	93,030	9	Arbuckle	3,705
Grunder	11-25-15W	1943	40	1,402	19,280	1	Lans.-K.C.	3,945
Hart	36-22-14W	1949	60	9,140	14,204	2	Arbuckle	3,830
Harter	30-24-13W	1950	100	25,439	25,439	6	Lans.-K.C.	3,767
							Simpson	4,167
							Arbuckle	4,181
Hazel	21-21-13W	1942	600	39,734	268,575	11	Arbuckle	3,692
Hazel South	28-21-13W	1950	combined with Hazel					
Hazel West	20-21-13W	1950	260	33,083	33,083	7	Arbuckle	3,673
Heyen	24-22-12W	1943	800	78,472	422,789	17	Arbuckle	3,652
Hildebrand	2-24-12W	1948	combined with Stafford					
Hufford	33-21-13W	1948	360	115,776	229,184	13	Lans.-K.C.	3,499
							Arbuckle	3,755
Jordan	15-25-14W	1936	300	21,660	688,359	7	Lans.-K.C.	3,722

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Kachelman	7-25-13W	1950	40	1,868	1,868	1	Viola	4,075
Kelly	35-23-12W	1948	40	1,000	5,204	1	Arbuckle	3,870
Kenilworth	15-22-13W	1947	360	87,095	224,472	11	Lans.-K.C.	3,505
							Arbuckle	3,808
Kipp	27-25-14W	1937	500	30,872	598,827	10	Lans.-K.C.	3,827
Kipp Northeast	23-25-14W	1946	120	21,672	148,380	3	Lans.-K.C.	3,844
Kowalsky*	32-20-11W	1941	40	951	951	1	Lans.-K.C.	3,279
Kowalsky Southwest	6-21-11W	1950	240	23,767	23,767	6	Arbuckle	3,424
Leesburgh	12-25-13W	1938	700	81,827	2,319,972	15	Arbuckle	4,153
Leo	7-21-13W	1950	60	2,679	2,679	2	Lans.-K.C.	3,446
							Arbuckle	3,636
McCandless	30-25-13W	1944	260	89,430	350,614	11	Lans.-K.C.	3,863
							Simpson	4,251
McGinty	13-21-14W	1950	40	680	680	1	Lans.-K.C.	3,503
Max	35-21-12W	1938	3,800	561,462	3,622,842	66	Lans.-K.C.	3,356
							Arbuckle	3,570
Max South	15-22-12W	1950	40	1,240	1,240	1	Lans.-K.C.	3,320
Merle	32-23-13W	1949	340	105,240	154,101	13	Lans.-K.C.	3,669
Moon	4-22-13W	1948	60	10,511	14,577	2	Lans.-K.C.	3,530
Mueller	29-21-12W	1938	1,800	405,723	2,771,598	51	Arbuckle	3,594
Mueller West	24-21-13W	1949	40	493	1,423	1	Arbuckle	3,658
Nellie	28-22-14W	1948	40	3,132	18,963	1	Lans.-K.C.	3,696
Neola	15-25-11W	1948	40	4,619	15,469	1	Viola	3,921
O'Connor	8-24-15W	1948	120	3,853	7,380	3	Lans.-K.C.	3,768
Oscar	24-22-14W	1949	200	39,670	42,583	5	Lans.-K.C.	3,503
							Arbuckle	3,798
Prairie Home	2-21-13W	1949	60	5,377	10,893	2	Arbuckle	3,514
Pundsack	19-21-13W	1947	80	37,514	95,584	4	Arbuckle	3,735
Pundsack North	18-21-13W	1950	40	9,513	9,513	1	Arbuckle	3,674
Pundsack Northwest	24-21-14W	1950	40	840	840	1	Lans.-K.C.	3,512
Pundsack Southwest	25-21-14W	1950	40	6,078	6,078	1	Lans.-K.C.	3,575
Rattlesnake	13-24-14W	1938	160	37,465	140,120	4	Lans.-K.C.	3,608
Rattlesnake Southwest	14-24-14W	1950	40	21,994	21,994	1	Lans.-K.C.	3,760
Rattlesnake West	11-24-14W	1944	160	25,106	47,040	4	Lans.-K.C.	3,759
							Mississippian	4,025
Richardson	36-22-12W	1930	1,300	631,385	10,568,204	64	Arbuckle	3,537
Richland	27-24-14W	1944	120	9,954	181,157	3	Arbuckle	4,232
Riley	28-23-11W	1940	80	7,695	126,911	2	Lans.-K.C.	3,323

Rothgarn	10-21-13W	1943	460	61,941	187,162	12	Lans.-K.C.	3,369
							Arbuckle	3,569
Rothgarn Southeast	14-21-13W	1950	40	7,532	7,532	1	Arbuckle	3,544
St. John	23-24-13W	1935	940	71,692	2,464,673	19	Lans.-K.C.	3,588
							Arbuckle	4,075
St. John Townsite	33-23-13W	1944	640	69,351	320,139	15	Lans.-K.C.	
							Arbuckle	3,919
Sandago	12-21-12W	1947	250	18,781	105,366	6	Arbuckle	3,480
Sand Hills	19-21-11W	1944	80	4,978	45,919	2	Arbuckle	3,548
Saundra	14-21-12W	1946	360	26,819	126,316	9	Lans.-K.C.	3,282
							Arbuckle	3,546
Shaeffer	3-21-13W	1941	120	16,344	312,515	3	Lans.-K.C.	3,404
							Arbuckle	3,546
Silver Bell	10-22-13W	1949	300	13,534	18,961	6	Lans.-K.C.	3,498
							Arbuckle	3,774
Sittner	33-21-12W	1937	420	34,641	592,647	13	Lans.-K.C.	3,278
							Arbuckle	3,600
Snider	3-21-11W	1936	80	22,529	401,597	2	Simpson	3,362
Snider South	16-21-11W	1938	500	91,450	1,003,564	10	Simpson	3,402
							Arbuckle	
Spangenberg	21-22-12W	1943	40	4,557	73,257	1	Arbuckle	3,691
Stafford	15-24-12W	1940	1,200	237,551	2,905,084	31	Viola	3,836
							Arbuckle	3,945
Starr	4-21-14W	1950	40	no report	none	1	Arbuckle	3,579
Syms	20-21-12W	1943	1,100	143,574	271,129	19	Lans.-K.C.	3,356
							Arbuckle	3,580
Syms East	21-21-12W	1947	40	1.822	6,200	1	Arbuckle	3,565
Syms North	17-21-12W	1950	combined	with Syms				
Van Lieu	20-24-13W	1943	120	7,726	193,256	3	Arbuckle	4,069
Van Winkle	23-21-14W	1950	40	3,040	3,040	1	Lans.-K.C.	3,570
Van Winkle Southeast	26-21-14W	1950	40	1,615	1,615	1	Lans.-K.C.	3,569
Zenith-Peace Creek*	23-24-11W	1937	8,500	253,129	19,949,239	130	Lans.-K.C.	3,481
							Viola	3,860
Total Stafford Co.			37,610	5,296,899	63,213,664 recorded	845		
				Sumner County				
Alton	10-35-2W	1949	80	8,620	10,289	2	Simpson	4,711
Anness	2-30-4W	1937	40	9,786	148,679	1	Simpson	4,394
Anson	35-30-2W	1948	60	15,282	41,204	3	"Miss. lime"	3,742
Bellman	15-30-1E	1945	160	22,627	208,959	4	Simpson	3,798
Caldwell	17-35-3W	1929	120	37,333	1,389,398	3	Simpson	4,765
Chandler	4-35-2E	1942	40	498	9,947	1	"Miss. lime"	3,450

TABLE 62.—*Oil production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Churchill	25-31-2E	1926	800	89,618	16,262,649	29	"Stalnaker"	1,820
							Arbuckle	2,632
Corbin	23-34-2W	1948	40	3,762	36,276	1	Simpson	4,475
Fall Creek	3-35-3W	1950	200	23,029	23,029	5	Simpson	4,746
Latta	9-30-2W	1927	500	42,303	1,146,807	10	Lans.-K.C.	3,042
Margaret	36-32-2E	1946	300	14,690	96,616	6	Arbuckle	3,474
Murphy*	7-35-3E	1933	see Cowley County					
Oxford	14-32-2E	1927	800	119,358	15,906,028	30	Hoover	1,930
							"Stalnaker"	2,020
							"Layton"	2,510
							Arbuckle	2,890
Oxford West	17-32-2E	1926	240	32,995	645,037	6	Simpson	3,681
							Arbuckle	
Padgett	22-34-2E	1925	2,700	195,026	2,040,222	41	"Miss. lime"	3,474
							Simpson	3,744
Perth	12-33-2W	1945	600	120,539	497,556	12	"Wilcox"	4,264
Portland	16-34-1E	1950	80	10,548	10,548	2	Simpson	4,002
Rainbow Bend West*	24-33-2E	1925	160	no report	453,000		Arbuckle	
Rutter	21-33-2E	1926	abandoned during 1950		96,734			
Tate (Revived)	31-32-2E	1950	80	1,035	2,405	2	Simpson sand	3,726
Val Verde	23-33-2E	1945	40	481	4,394	1	"Bartlesville"	3,280
Vernon North	15-35-2E	1930	1,860	44,487	826,232	23	"Miss. lime"	3,443
Wellington	33-31-1W	1929	3,000	311,339	7,444,751	140	"Chat"	3,655
Zyba	7-30-1E	1937	600	31,893	283,263	8	Simpson	3,866
Zyba Southwest	22-30-1W	1944	520	179,323	324,793	13	Simpson	3,918
Total Sumner County			13,020	1,314,572	48,436,932 recorded	343		
Trego County								
Cotton	15-12-21W	1945	40	3,687	25,320	1	Arbuckle	3,958
Cotton East	14-12-21W	1947	80	6,914	30,184	2	Arbuckle	3,942
Ellis*	31-12-20W	1942	390	33,563	285,830	4	Arbuckle	3,832
Ellis Northwest	26-12-21W	1944	450	9,754	154,731	4	Arbuckle	3,925
Riga	20-13-21W	1947	abandoned during 1950		16,045			
Wakeeney	14-11-23W	1934	640	30,684	772,380	5	Lans.-K.C.	3,619
Wakeeney East	13-11-23W	1949	40	3,734	7,498	1	Lans.-K.C.	3,576
Walz	12-11-21W	1950	40	1,566	1,566	1	Arbuckle	3,666
Total Trego County			1,680	89,902	1,293,554 1.328,715 recorded	18		

Wabaunsee County								
Davis Ranch	33-13-10E	1949	680	339,252	385,911	17	Viola	3,201
Davis Ranch East	34-13-10E	1950	40	abd. during 1950	7,599	1	Viola	3,305
Mill Creek	2-13-10E	1950	20	6,905	6,905	1	Viola	2,923
Newbury	11-11-11E	1950	40	2,459	2,459	1	Viola	2,901
Total Wabaunsee Co.			780	356,215	402,874 recorded	20+		
Wilson County								
Altoona	10-29-16E	1903	900				"Squirrel"	650
6				2,695			"Bartlesville"	900
7				426				
Altoona East* (10)	29-17E		400	3,671			"Bartlesville"	900
Benedict	28-15E		300				"Bartlesville"	1,000
8				60				
9				862				
Buffalo* (1)	27-16E	1924	450	4,263			"Bartlesville"	1,025
							Cherokee	1,150
Fredonia	29-15E	1890	800				"Burgess'	1,050
16				149				
17				5,032				
18				225				
Humboldt-Chanute* (4)	28-17E		300	1,253			"Bartlesville"	850
Neodesha*	30-16E		10,500				"Bartlesville"	950
11				13,196				
12				1,163				
13				37				
14				507				
15				25,331		146+		
Neodesha East (19)	30-17E		40	328				
Vilas	27-17E	1905	350				"Bartlesville"	1,000
2				4,536				
3				1,674				
"Wiggins" (5)	28-17E		300	5,597			"Bartlesville"	850
Total Wilson County			14,340	71,005	5,206,901 recorded	146+		
Woodson County								
Batesville	34-25-14E	1934	200	8,707		3+	"Bartlesville"	1,450
Big Sandy	23-26-14E	1923	600	31,955		1+	"Bartlesville"	1,230
Buffalo*	26-16E	1924	400	2,001			"Bartlesville"	950
							Cherokee	1,150

TABLE 62.—*Oil production in Kansas during 1950, concluded*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, bbls.	Cumulative production to end of 1950, bbls.	No. producing wells	Producing zone	Depth to producing zone, feet
Evans*	21-23-15E	1938	80	3,221		3+	Mississippian	1,540
Hoagland	2-24-14E	1929	950	29,919		30+	Mississippian	1,635
Humboldt-Chanute*	25-17E		700	2,867		6+	"Bartlesville"	900
"Keowen-Rapp"	34-24-17E		250	1,158		12		
Neosho Falls*	31-23-16E	1928		34,233		24+	"Squirrel"	950
							Mississippian	1,200
Perry				119				
Piqua	22-24-17E	1938	500	2,434		10	Mississippian	1,190
Quincy*	14-25-13E	1932	2,600	191,581		71+	"Bartlesville"	1,500
Silver City	19-26-15E	1946	100	30			"Bartlesville"	1,400
Vernon	23-16E		80	1,021		4+	Mississippian	1,420
Virgil North*	22-23-13E	1920	900	25,685		4+	"Bartlesville"	1,585
							Mississippian	1,840
Weide	31-23-15E	1937	160	7,253		5+	Mississippian	1,570
Winterscheid*	23-14E		9,300	267,986		72+	"Bartlesville"	1,630
							Mississippian	1,750
Wissman	3-24-15E	1936	250	3,741		7	Mississippian	1,520
Yates Center	28-25-15E		1,200	10,455		1+	Mississippian	1,480
Total Woodson Co.			18,270	624,366	3,967,901 recorded	253+		

* Field extends into adjacent county or counties.
† Area of production not definitely known.
‡ Production in numbered areas may come from one or more of these producing zones.

TABLE 63.—*Gas production in Kansas during 1950*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, M cu. ft.	Cumulative production to end of 1950, M cu. ft.	No. producing wells	Producing zone	Depth to producing zone, feet
				Allen County				
Humboldt-Chanute*	26-18E		13,000	130,721		38	"Squirrel"	740
							"Bartlesville"	850
Miscellaneous				332,927		101		
Total Allen Co.			13,000	463,648		139		

Barber County								
Aetna	13-34-15W	1935	500	41,691	849,615 est.	1	Mississippian	4,850
							Viola	5,215
Boggs	8-33-12W	1947	80	incl. with Whelan			Simpson	4,824
Clara	2-30-14W	1944	280	no report	717,792		Simpson	4,435
							Viola	4,509
							Arbuckle	4,540
Cottonwood Creek	21-30-14W	1948	160	no report	none		Simpson	4,582
Deerhead	26-32-15W	1942	640	no report	1,693,763		Viola	4,931
Donald	33-31-15W	1946	160	no report	none		"Miss. lime"	4,697
Lake City	7-31-13W	1945	40	incl. with Skinner North				
Medicine Lodge	13-33-13W	1927	7,200	4,350,437	137,092,278	39	"Chat"	4,455
Medicine Lodge Northeast	8-33-12W	1945	300	incl. with Medicine Lodge			"Douglas sand"	3,812
							Simpson	4,860
Skinner North	17-31-14W		5,200	1,248,407	20,907,384	16	Viola	4,630
Skinner South	32-31-14W	1944	200	incl. with Skinner North			"Douglas sand"	4,023
Whelan	32-31-11W	1934	640	4,843,045	13,798,308	11	"Chat"	4,355
Totals for Barber Co.			15,400	10,483,580	175,059,140	67		
Barton County								
Adolph	16-20-15W	1947		no report	none		Arbuckle	3,734
Ash Creek*	31-20-15W	1948	100	444,550 est.		3 est.	Arbuckle	3,769
Behrens	6-20-15W	1944	100	444,550 est.		3 est.		
Bergtal	22-20-15W	1941	500	138,209	541,370	4	Arbuckle	3,689
Dundee	29-20-14W	1945	120	584,532	1,037,458	3	Arbuckle	3,607
Eberhardt	14-19-11W	1935	300	31,122	334,848	1		
Krier	30-16-11W	1944	80	21,211	339,278	1		
				within Kraft-Prusa pool				
Otis-Albert*	11-18-16W	1930	7,000	1,348,109 est.		24 est.	Neva	
							Reagan	3,507
Pawnee Rock*	19&20-15&16W	1936	40	177,887 est.		1 est.		
Rick	11-19-11W	1941	60	no report	360,722		Arbuckle	3,355
Unruh	24-20-15W	1945	500	789,921	8,991,623	10	Arbuckle	3,641
Totals for Barton Co.			8,800	3,980,091	11,605,299	51		
Bourbon County								
Miscellaneous				8,264		7		
Butler County								
Andover South	31-27-3E			no report	none		"Stalnaker"	2,006
Chase County								
Altemus	26-18-8E		40	local use only		1	Permian	

TABLE 63.—*Gas production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, M cu. ft.	Cumulative production to end of 1950, M cu. ft.	No. producing wells	Producing zone	Depth to producing zone, feet
Davis	18-8E	1929	640	54,397		29	L. Permian	350-400
Elmdale	19-7E		150	2,983		5	L. Permian	500
							Wabaunsee	800
Hymer	18-7E		80	local use only		2	Permian	
Lipps	32-18-7E	1925	300	9,005		3	Douglas	1,150
Neva	19-7E	1925	80			2	Permian	350
Total Chase County			1,290	66,385		42		
Chautauqua County								
Miscellaneous				216,705		16		
Coffey County								
Miscellaneous				10,865		2		
Cowley County								
Miscellaneous				51,698		6		
Crawford County								
Miscellaneous				22,660		15		
also some included with Neosho County								
Douglas County								
Eudora				no report				
Lawrence				no report				
Edwards County								
Belpre	8-25-16W	1942	80	185,221	5,877,398	3	Lans.-K.C.	3,800
Bradbridge*	6-24-15W	1948	200	no report	none		Arbuckle	4,020
Total Edwards County			280	185,221	5,877,398	3		
Elk County								
Bush-Denton	4-30-9E	1920	1,700	44,618		7	"Stalnaker"	1,060
							"Peru"	2,135
							"Burgess"	2,300
Miscellaneous				224,688		22		
Total Elk County			1,700	269,306		29		

Ellsworth County								
Stoltenberg	18-17-9W	1947	100	87,287	232,071	2	Shawnee	2,728
Figure includes total county production as reported by Corporation Commission								
Finney County (See Hugoton field)								
Ford County								
Pleasant Valley	34-27-21W	1938		no report	none		Mississippian	4,954
Grant County (See Hugoton field)								
Hamilton County (See Hugoton field)								
Harper County								
Grabs	7-31-8W	1950	80	30,749	30,749	2	Mississippian	4,385
Grabs Southeast	17-31-8W	1950		no report	none		Mississippian	4,386
Total Harper County			80	30,749	30,749	2		
Harvey County								
Burrton*	23-23-4W	1930	730	1,333,098		15	Mississippian	3,298
Burrton Northeast	3-23-3W	1942		includes Reno County			Mississippian	3,226
Jones	21-23-3W	1949		included with Burrton				
Jones Northeast	15-23-3W	1949		combined with Burrton Northeast				
Sperling	23-22-2W	1935	250	67,730	6,543,051	1	"Chat"	2,955
Stucky	3-23-3W	1942		combined with Burrton Northeast				
Stucky South	10-23-3W	1944		combined with Burrton Northeast				
Totals for Harvey			980	1,400,828	6,543,051	16		
Haskell County (See Hugoton field)								
Hugoton field (Finney, Grant, Hamilton, Haskell, Kearny, Morton, Seward, Stanton, and Stevens Counties)								
Hugoton	3-35-34W	1922	2,148,500	286,341,936	1,435,509,059	2,213	Herington Krider Winfield Fort Riley Florence	
Jefferson County								
McLouth				40,000		25		

TABLE 63.—*Gas production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, M cu. ft.	Cumulative production to end of 1950, M cu. ft.	No. producing wells	Producing zone	Depth to producing zone, feet
				Johnson County				
Miscellaneous				44,020		28		
				Kearny County (See Hugoton field)				
				Kingman County				
Cunningham	7-28-11W	1931	700	114,700 est.		4 est.	Arbuckle	4,094
							Viola	4,278
				Kiowa County				
Alford	14-30-19W	1944		no report	none		Spergen	5,040
Brenham	29-28-17W	1947		no report	none		"Miss. chert"	4,841
				Labette County				
Coffeyville-Cherryvale*	32-17E			included with Montgomery Co.		2		
Miscellaneous				27,280		12		
Total Labette County				27,280		14		
				Leavenworth County				
"Linwood"				7,570		3		
Roberts-Maywood*				included with Wyandotte Co.				
				Linn County				
LaCygne-Cadmus	20-24E			7,000		9		
Miscellaneous				2,769		1		
Total Leavenworth County				9,769		10		
				McPherson County				
Coens	13-19-1W	1940	200	incl. with McPherson			"Chat"	2,897
Doles Park*	12-19-1W	1947	160	incl. with McPherson			"Chat"	2,843
McPherson	29-18-2W	1926	200	105,489		2	Lans.-K.C.	2,340
							"Chat"	2,967
							Viola	3,140
Ritz-Canton	12-20-2W	1929	1,000	360,344		4	"Chat"	2,935
Totals for McPherson			1,560	465,833		6		
				Marion County				
Propp	8-19-4E			37,143		3		

Meade County								
Adams Ranch	8-35-30W	1945	460	no report	162,343		Mississippian	5,850
Adams Ranch East	36-34-30W	1947	2,500	no report	none		Morrowan ss.	5,874
							Mississippian	5,094
McKinney	2-34-26W	1950	600	no report	none	—	Mississippian	5,762
Totals for Meade County			3,560		162,343			
Miami County								
Beagle				25,000		21		
Louisburg	17-25E			7,500		6		
Total Miami County				32,500		27		
Montgomery County								
Coffeyville-Cherryvale*	33-17E	1902	7,200	1,800 (part from 2 wells in Labette Co.)		4	"Wayside"	400
							Fort Scott	600
							"Bartlesville"	1,000
							Arbuckle	1,300
"Independence"				83,240		?		
Neodesha*	31-16E			37,076		15	"Bartlesville"	950
"Southwest part of county"				433,957		26		
Miscellaneous				528,098		52		
Total Montgomery County			7,200	1,084,171		97+		
Morris County								
Miscellaneous				24,655		23		
Morton County								
Hugoton				See Hugoton field				
Richfield	17-32-40W	1948	640	208,320	410,268	1	Basal Penn. (Atokan)	4,990
Neosho County								
"South Mound"				2,024		2		
Miscellaneous				95,355		33		
Total Neosho County				97,379		95		
Pawnee County								
Ash Creek*	31-20-15W	1948	50	444,550 est.	none	3 est.	Arbuckle	3,769
Benson Southeast	32-23-15W	1946	160	no report	none		Arbuckle	4,048
Larned	28-21-16W	1949	40	no report	none		Arbuckle	3,877
Pawnee Rock*	19&20-15&16W	1936	420	3,734,220 est.		25 est.		
Rutherford East	4-20-16W	1950	40	no report	none		Arbuckle	3,708
Ryan*	35-19-16W		150	444,550 est.		3 est.		

TABLE 63.—*Gas production in Kansas during 1950, continued*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, M cu. ft.	Cumulative production to end of 1950, M cu. ft.	No. producing wells	Producing zone	Depth to producing zone, feet
Shady	34-22-16W	1945	600	405,446	3,157,434	3	Arbuckle	4,063
Zook	16-23-16W	1942	320	1,091,823	8,430,716	4	Arbuckle	4,066
Totals for Pawnee County			1,780	6,120,589	11,588,150	38		
Pratt County								
Carmi	29-26-12W	1942	80	no report	127,339		Viola	4,122
Chitwood	23-28-12W	1943	800	947,719	6,870,153	20	Viola	4,340
Cunningham*	7-28-11W	1931	3,560	638,099		22 est.	Viola	4,278
				including Cairo pool production			Arbuckle	4,094
Shriver	27-29-14W	1949	100	none	93,073			
Stark	13-26-12W	1941	50	no report			Viola	4,121
Ward	11-26-12W	1941	160	no report			Viola	4,129
Totals for Pratt County			4,750	1,585,818	7,090,568	42		
Reno County								
Burrton*	23-23-4W	1930	450	incl. under Harvey County			Mississippian	3,298
Lerado	10-26-9W	1937	150	513,732	513,732	3		
Yoder	34-24-5W	1936	200	191,601		7	"Chat"	3,402
Zenith-Peace Creek*	23-24-11W	1937	150	120,000 est.		3 est.	Viola	3,860
Totals for Reno County			950	825,333	513,732	13		
Rice County								
Alden	22-21-9W	1937	400	incl. with Chase	13,801,113		"Misener"	3,317
Chase	6-19-9W	1936	100	73,509	190,244	1	Arbuckle	3,192
				includes misc. Rice Co. prod.				
Lyons	35-19-8W	1888	1,100	26,221	12,332,332	1	Simpson	3,290
							Arbuckle	3,277
Orth	27-18-10W	1933	160	90,566		1	Lans.-K.C.	2,906
Quivira	36-19-9W	1947	300	incl. with Chase	211,244		Tarkio	2,117
Union	28-20-8W	1950	280	incl. with Chase			Penn. basal congl.	3,275
Totals for Rice County			2,340	190,296	26,534,933	3		

Rush County								
Otis-Albert*	11-18-16W	1930	7,000	1,348,110		26 est.	Neva Reagan	3,507
Ryan*	35-19-16W		320	2,845,120 est.	_____	19 est.		
Totals for Rush County			7,320	4,193,230		45		
Sedgwick County								
Bartholomew	30-27-4W	1946	80	no report	none		"Miss. lime"	3,732
Derby	32-28-2E	1937		no longer productive; used for gas storage only.			"Stalnaker" Lans.-K.C.	2,215 2,228
Schulte	7-28-1W	1949	200	253,815	420,767	3		
Totals for Sedgwick			280	253,815	420,767	3		
Seward County								
Hugoton*				See Hugoton field				
Liberal	3-35-34W	1947		combined with Hugoton				
Liberal Southeast	15-35-33W	1947	860	1,440,041	5,366,120	3	Penn. sandstone	6,202
Totals for Seward County			860	1,440,041	5,366,120	3		
Stafford County								
Bradbridge*	6-24-15W	1948	80	no report	none		Arbuckle	4,020
Farmington	27-24-15W	1948	50	none	691,757		Mississippian	4,207
Gates	26-21-13W	1950	40	64,918	64,918	1	Lans.-K.C.	3,473
Macksville	3-24-15W	1947	200	1,322,259	2,801,579	9	Lans.-K.C.	
O'Connor	16-24-15W	1947	160	no report	none		Arbuckle	4,061
Zenith-Peace Creek*	23-24-11W	1937	300	271,777 est.	_____	6 est.	Viola	3,860
Totals for Stafford County			830	1,658,954	3,558,254	16		
Stanton County (See Hugoton field)								
Stevens County (See Hugoton field)								
Sumner County								
Fall Creek	3-35-3W	1950	40	no report			Simpson	4,746
Padgett	23-34-2E	1924	640	no report			"Miss. lime"	3,474
Vernon North	15-35-2E	1915	640	no report				
Wellington	33-31-1W	1929		no longer productive; used for gas storage only.			"Chat"	3,655
Total Sumner County			1,280					

TABLE 63.—*Gas production in Kansas during 1950, concluded*

Pool or field name	Location of discovery well	Year of discovery	Area, acres	1950 production, M cu. ft.	Cumulative production to end of 1950, M cu. ft.	No. producing wells	Producing zone	Depth to producing zone, feet
Wilson County								
Buffalo*	27-16E	1924		307,000		81		
"Earlton"				115,468		35		
Neodesha*	30-16E			90,384		36		
"Northeast part of county"				10,000		15		
Miscellaneous			———	9,517	———	4		
Total Wilson County				532,369		171		
Woodson County								
Miscellaneous				57,406		6		
Wyandotte County								
Roberts-Maywood*	11-23E			79,794 includes Leavenworth Co.		10		
Miscellaneous			———	1,984	———	1		
Total Wyandotte County				81,778		11		

* Field extends into adjacent county or counties.

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INDEX

Map of part of EASTERN KANSAS *showing locations of* OIL-PRODUCING AREAS

Dec. 31, 1950

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.....Primary production
....Secondary recovery

GEARY CO. · Davis Ranch · Davis Ranch East · Bonaccord · WABAUNSEE CO. · LYON CO. · DICKINSON CO. · MARION CO. · Fanska · Lost Springs North · Lost Springs NE · Three Mile Creek · Three Mile Creek South · Lost Springs · Burdick · Bushong · MORRIS CO. · CHASE CO. · Lost Springs East · Lost Springs SE · Antelope North · Antelope · Propp · Hillsboro · Lehigh · Cedar Creek · Wenger · Florence · Covert-Sellers · R.1E. · R.2E. · Peabody · Elbing North · Elbing · BUTLER CO. · Hazlett North · Elbing East · Hazlett · Joseph · Potwin · Pierce · El Dorado · Whitewater · Allen-Robison · Butwick NE · Butwick · Towanda · Parsley · Benton · Rombold · Smock-Sluss · Garden · Young · Long · Blankenship · Reese · Stanhope · Teichgraber · Wilkerson · Jackson · Sallyards · Eureka · Tonovay West · "Kimball" · Polhamus · Gilroy · Quincy · Batesville · Hinchman · Blackwell · Virgil · Gaffney · Parks · Wiggins · Hoagland · Winterscheid · Wissman · Evans · Vernon · Welde · "George" · Van Noy · Dunaway · Madison · Lamont · Seeley-Wick · Virgil North · Hamilton · Teeter · Browning · Hollis · Scott · Burkett · Thrall-Aagard · Atyeo · DeMalorie-Soyder · Rock Creek · Fankhouser · Pixlee · Toronto · Big Sandy · Silver City · Perry · Honey Creek · Climax · Brinegar · Willard · Beaumont North · Severy North · Beaumont · Beaumont South · Keighley · Eckel · Lucas · Seward · Dixon · Leon · Reynolds-Schaffer · Bausinger · Augusta North · Augusta · Haverhill · Pettit · Kramer-Stern · Salter · Hickory Creek · Womack · DeMoss · McCullough · Brandt-Sensebaugh · Severy · GREENWOOD CO. · ELK CO. · Ferrell · Fox-Bush · Guyot · Semisch · Snowden-McSweeney · New Albany · Douglass · Muddy Creek · Combs NE · Hartenbower · Steinhoff · Shinn · Fleming · Porter · Bush Denton · Rock North · Fox-Bush · Hannah · Dunkleberger · Ferguson East · Ferguson NW · Ferguson West · "Perkins" · Dory · Bruce · Trees · Rock · Udall · David · Combs · Couch · Eastman · Box · Love · Collyer · Grand Summit · Smith · Clark · Hittle · David South · Deichman · Burden · Brown · Clover · Mansur · Schrader · Walker · Moline · Starr · Logsden · Webb · Longton · Hale-Inge · Elk City · Weatherered · State · Biddle · Frog Hollow East · School Creek · Henderson · Slick-Carson · Winfield · Turner · Frog Hollow · Stayton · Landon-Floyd · Oliver · Malone · McAllister · Kingston · Hale-Inge · Thurlow · Graham · Winfield South · Countryman · McGlasson · Wiggam · Brown-Sturgis · Rainbow Bend West · Rainbow Bend NE · Rainbow Bend · Seacat · Rahn NE · Doane · Hower · Enterprise · Esch · Peru-Sedan · Wayside-Havana · Frazier · Jefferson-Sycamore · Geuda Springs · Rahn · Otto · Wauneta · Niotaze · Baird · Baird East · Gibson · Rahn SW · Elgin · Borroum · Murphy · COWLEY CO · Falls City · CHAUTAUQUA CO. · Coleman · Sorghum Hollow · Brewster · Price · Caney · Tyro · Banzet · Coffeyville-Cherryvale · Mound Valley · Wayside-Havana · Jefferson-Sycamore · Perry · Big Sandy · Silver City · Buffalo · Vinas · Benedict · "Wiggins" · Altoona · Altoona East · Thayer · Neodesha · Fredonia · Neodesha East · Morehead · Humboldt-Chanute · Urbana · Erie · Walnut SE · Fair Oak · St. Paul-Walnut · "Steimel" · Hepler · CRAWFORD CO. · Humboldt-Chanute · Elsmore West · Seibert · Elsmore Shoestring · Moran · Bronson-Xenia · Davis-Bronson · Iola · Piqua · "Keowen-Rapp" · Humboldt-Chanute · Yates Center · Neosho Falls · Colony West · ALLEN CO. · LINN CO. · BOURBON CO. · NEOSHO CO. · LABETTE CO. · MONTGOMERY CO. · Jefferson-Sycamore · Neodesha · Coffeyville-Cherryvale · Mound Valley · Brewster · Sorghum Hollow · Coleman · Price · CHEROKEE CO. · "Billington-Houston" · McCune · Selma · Kincaid · Colony-Welda · Bush City Shoestring · Garnett Shoestring · Goodrich-Parker · Centerville · LaCygne-Cadmus · Block · Louisburg · Paola-Rantoul · Le Loup · Baldwin · DOUGLAS CO. · JOHNSON CO. · OSAGE CO. · COFFEY CO. · FRANKLIN CO. · ANDERSON CO. · MIAMI CO. · WOODSON CO. · WILSON CO.

T. 14 S. · T. 15 S. · T. 16 S. · T. 17 S. · T. 18 S. · T. 19 S. · T. 20 S. · T. 21 S. · T. 22 S. · T. 23 S. · T. 24 S. · T. 25 S. · T. 26 S. · T. 27 S. · T. 28 S. · T. 29 S. · T. 30 S. · T. 31 S. · T. 32 S. · T. 33 S. · T. 3 S.

R.3 E. · R.4 E. · R.5 E. · R.6E. · R.7E. · R.8 E. · R.9 E. · R.10 E. · R.11 E. · R.12 E. · R.13E. · R.14 E. · R.15 E. · R.16 E. · R.17E. · R.18 E. · R.19E. · R.20E. · R.21 E. · R.22 E. · R.23 E. · R.24E. · R.25E.

MAP OF THE HUGOTON GAS FIELD AREA, SOUTHWESTERN KANSAS

showing oil and gas wells and dry holes

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R.43W. R.42W. R.41W. R.40W. R.39W. R.38W. R.37W. R.36W. R.35W. R.34W. R.33W. R.32W. R.31W.

T. 18 S. T. 19 S. T. 20 S. T. 21 S. T. 22 S. T. 23 S. T. 24 S. T. 25 S. T. 26 S. T. 27 S. T. 28 S. T. 29 S. T. 30 S. T. 3 S. T. 32 S. T. 33 S. T. 34 S. T. 35 S.

TRIBUNE
LEOTI
SCOTT CITY
KEYSTONE POOL
SHALLOW WATER POOL
NUNN POOL
PATTERSON POOL
SYRACUSE
LAKIN
GARDEN CITY
JOHNSON
SUBLETTE
LIBERAL
RICHFIELD
RICHFIELD POOL
HUGOTON
KISMET POOL

GREELEY COUNTY
WICHITA COUNTY
SCOTT COUNTY
HAMILTON COUNTY
KEARNY CO
GRANT CO
FINNEY COUNTY
HASKELL COUNTY
STANTON COUNTY
MORTON COUNTY
STEVENS CO
SEWARD COUNTY

EXPLANATION

- Oil wells
- Dry holes drilled previous to 1950 (total depths given)
- Dry holes drilled in 1950
- Gas wells drilled previous to 1950
- Gas wells drilled in 1950

5630 4850 4948 4915 5025 5164 3142 4770 4800 5105 4882 4890 4670 5620 4705 3164 3160 5490 5509 5645 4927 4743 4721 4750 2750 2959 6071 5155 2885 4954 4945 2865 5204 2821 537 2530 800 2565 2790 2692 2551 2543 2600 450 2835 2831 2820 2924 2958 4037 6500 5032 1480 1420 1700 2300 1830 6345 6320 8006 6800

TABLE 1.—*Data on secondary recovery projects in Kansas, 1950, concluded*

No.	Field	Operator	Project	Location	Year started	Total developed acres	Producing formation	Thickness of producing zone, feet	Av. depth to producing zone, feet	Flooding	Pumping	Total	No. producing wells drilled in 1950	No. active injection wells, 1950	No. injection wells drilled in 1950	Medium of injection	Source of water	Average bbls. water-injected per well per day	Cumulative secondary oil recovery per developed acre, bbls.	Production attributable to secondary recovery in 1950, bbls.	No.
73	do	do	York, DeMalorie & O'Neal	29, 32-22-11E	1937	281	do	47	1,950	0	35	35	2	27	5	do	do	180	5,861	*	73
74	do	do	York Wescott	33-22-11E	1943	80	do	30	2,000	0	12	12	0	9	0	do	do	55	2,044	*	74
75	do	Skelly Oil Co.	Don Harlan	34-22-11E	1947	50	do	20	1,975	0	6	6	0	2	0	do	do	223		19,791	75
76	do	do	C. Hess	34-22-11E	1947	46	do	20	1,975	0	5	5	1	1	0	do	do	184		9,212	76
77	do	do	H. B. Wick	27-22-11E	1947	270	do	20	1,975	0	22	22	0	5	0	do	do	185	386	49,158	77
78	Teeter	Cities Service Oil Co.	Teeter unit	10, 11, 14, 15-23-9E	1921	700	do	35	2,500	0	79	79	0	9	0	Gas		75M cu. ft.	1,025	63,777	78
79	do	do	do	16-23-9E	1947	88	do	35	2,500	0	16	16	0	9	0	Salt water	Douglas	150	670	43,868	79
80	do	Ohio Oil Co.	Shambaugh "A" and "B"	2-23-9E	1944	73	do	53	2,400	0	11	11	0	9	0	do	do	308	1,756	24,574	80
81	do	Skelly Oil Co.	W. L. Hartley	2-23-9E	1944	30	do	45	2,350	0	3	3	0	1	0	do	Produced	248			81
82	Thrall-Aagard	Ohio Oil Co.	Martindell	31-23-10E	1948	250	do	50	2,300	1	34	35	1	28	23	do	Arbuckle	163	1,498	266,526	82
83	Thrall-Aagard	do	Olson-Anderson	11-24-9E	1944	98	do	42	2,170	5	9	14	1	8	0	do	Douglas	345	5,851	39,288	83
84	do	Phillips Petro. Co.	Aagard unit	14-24-9E	1937	48	do	40	2,100	0	5	5	0	3	0	do	do	160	7,364	*	84
85	do	do	Brahon unit	14-24-9E	1945	8	do	50	1,900	2	0	2	0	3	0	do	do	80	8,306	*	85
86	do	do	Gard block	14, 22, 23-24-9E	1942	110	do	70	2,150	0	16	16	0	12	0	do	do	125	7,454	*	86
87	do	do	Lewis and Cannon unit	11,12-24-9E	1945	80	do	50	2,300	0	11	11	0	9	0	do	do	135	6,108	*	87
88	do	Sinclair O. & G. Co.	Thrall-McGee unit	28, 29, 30, 32, 33-23-10E	1949	420	do	30	2,300	0	61	61	0	44	18	Fresh & salt water	Douglas and pond	300	1,562	125,000	88
	Totals					7,598				20	1,101	1,121	27	575	72					3,525,151	
									Linn County												
89	Centerville	Texas Company	Centerville	10, 13, 14, 24-21-22E	1936	143	"Squirrell"	15	450	72	0	72	0	62	0	Salt & fresh water	Produced and stream	24.8	1,770	14,021	89
90	Goodrich-Parker	Deep Rock Oil Corp.	Goodrich	19, 20, 29, 30-20-22E	1944	178	do	30	570	83	0	83	4	85	5	Salt water	Arbuckle	13	1,029	25,138	90
91	do	Ohio Oil Co.	Goodrich-Parker	15, 16-20-22E	1950	50	do	30	550	11	2	13	13	10	0	do	do	59	0	0	91
92	LaCygne-Cadmus	Deep Rock Oil Corp.	LaCygne	2, 3-20-23E 34, 35, 36-19-23E	1942	33	"Prue"	20	250	47	0	47	0	18	0	do	Wilcox	7.9	1,792	5,263	92
	Totals					404				213	2	215	17	175	5					44,422	
									Lyon County												
93	Atyeo	Barbara Oil Co.	Jones	30-21-10E	1948	90	"Bartlesville"	41	2,200	0	6	6	0	3	1	Salt water	Big salt (K.C.)	300	536	*	93
94	do	Ohio Oil Co	Atyeo	30, 31-21-10E	1947	210	do	39	2,170	1	31	32	0	17	1	do	Arbuckle	243	3,660	*	94
95	Fankhouser	Phillips Petro. Co.	Lauck unit	32, 33-21-12E	1943	60	do	25	1,950	0	8	8	0	4	0	do	Douglas	150	3,145	*	95
	Totals					360				1	45	46	0	24	2					333,997	
									McPherson County												
96	Graber	Continental Oil Co.	Graber unit	20, 29, 32-21-1W	1948	1,300	Hunton	16	2,300	0	67	67	0	16	10	Salt & fresh water	Shallow water well and Lansing-Kansas City	183	200	148,445	96
									Miami County												
97	Block	S. E. D. Oil Co.	Windler	21, 22-18-24E	1947	22	"Squirrel"	20	480	0	9	9	0	2	0	Fresh water	Pond	20		0	97
98	Paola-Rantoul	Andrus, Pate, Lavens	Fisher-Ayres	18, 19-17-23E	1947	36	"Peru"	14	375	28	11	39	3	22	0	Salt water	Mississippian ls.	42	1,903	22,000	98
99	do	Brundred Oil Corp.	McKoon & Gilbert	25, 26, 35-17-21E	1943	149	do	10	360	52	0	52	0	53	1	Fresh & salt water	Stream and produced	20.9	1,007	10,385	99
100	do	Deep Rock Oil Corp.	N. Y. K. No. 1	25, 36-17-21E	1941	70	do	12	350	16	0	16	0	28	0	Fresh water	River gravel	10.9	2,556	7,656	100
101	do	do	N. Y. K. No. 2	22, 23, 26, 27-18-22E	1944	269	do	20	350	95	0	95	0	109	5	Salt water	Arbuckle	19.7	708	35,726	101
102	do	do	Producers	15, 16, 21, 22, 26, 27-17-22E	1945	680	do	14	350	182	0	182	11	194	9	do	do	35.3	222	94,369	102
103	do	N. Y. K. Oil Co.	Paola flood	33-16-23E 4-17-23E	1941	120	do	10		9	62	71	10	71	10	Fresh water	City	20	191,000	18,000	103
104	do	do	Rantoul	35-16-21E	1950	30	"Squirrel"	8	550	10	0	10	2	0	16	do	Stream	0	0	0	104
105	do	Sack-Brundred	Flood No. 1	31-16-22E 23, 26, 25, 36-16-21E	1947	198	do	32	670	95	19	114	24	92	10	Salt water	Arbuckle and produced	54	1,184	136,167	105
106	do	do	Flood No. 2	5, 6, 8, 9-17-22E	1949	174	do	35	680	36	3	39	7	65	38	do	do	38	136	20,795	106
107	do	do	Flood No. 3	11-16-21E	1950	11.7	do	25	675	0	54	54	0	3	6	do	Arbuckle	24	0	0	107
108	do	Sheller Drlg Co.	Caylor	36-17-21E 31-17-22E	1950	80	"Peru"	12	330	1	15	16	8	20	12	Fresh water	Lake	15		2,000	108
109	do	Sohio Petroleum Co.	Coon	14-16-24E	1944	110	do	15.5	425	35	0	35	0	64	0	Salt & fresh water	Arbuckle and stream	55	2,243	18,652	109
	Totals					1,950				559	173	732	65	723	107					365,750	
									Montgomery County												
110	Bolton	Sohio Petroleum Co.	Bolton	8, 16, 17-33-15E	1946	340	"Bartlesville"	21.5	1,100	23	13	36	0	51	0	Salt water	Arbuckle and produced	160	985	79,919	110
111	do	Stekoll Petro. Co.	Bolton flood	36-32-14E 31, 32, 33-32-15E 1, 2-33-14E 4, 5, 6, 7, 8, 9-33-15E	1944	1,700	do	11	1,200	399	7	406	16	358	33	Fresh & salt water	City of Independence and produced	50		*	111
112	Coffeyville-Cherryvale	E. W. Hayes	Plute-McGuain	7-34-17E	1946	70	"Peru"	20				34	3	28	3	Fresh water	City of Coffeyville	8		25,200	112
113	do	do	Reiter	9, 10-34-17E	1948	70	do	20				25	3	23	1	Salt water	Arbuckle	8		17,400	113
114	do	Layton Oil Co.	Rogers flood	34-32-17E	1948	34	"Bartlesville"	20	700	1	18	19	0	11	0	do	Mississippian ls.	60	600	9,600	114
115	Jefferson-Sycamore	E. W. Hayes	Riggs	24-34-15E	1944	60	"Wayside"					22	0	32	0	Fresh water	Ponds	15		4,000	115
116	do	Layton Oil Co.	Jackson flood	10, 15-33-15E	1945	165	"Bartlesville"	18	1,075	15	22	37	1	29	0	do	City	65	533	41,000	116
117	Jefferson-Sycamore	Layton Oil Co.	Radical flood	3-32-15E	1948	192	"Bartlesville"	20	1,000	15	42	57	4	52	0	Salt water	Arbuckle	42	875	88,000	117
118	Wayside-Havana	Alpine Oil & Gas Corp.	Lawler	34-33-14E	1950	20	"Wayside"	22	890	15	0	15	1	2	0	do	"Big Salt" and produced	38		2,700	118
119	do	Consolidated Gas, Oil and Mfg. Co.	No. 1 Bell No. 2 Bell	10, 11-34-14E	1944	47	do	22	637	6	14	20	0	12	2	Salt & fresh water	Ponds, wells, and produced	16	721	9,573	119
120	do	do	No. 1 Flanagan and No. 2 Flanagan	10, 11-34-14E	1942	105	do	22	637	10	30	40	0	27	0	do	do	22	1,905	26,700	120
121	do	do	Shinn	11-34-14E	1945	40	do	22	636	0	26	26	0	13	0	do	do	14	1,319	16,833	121
122	do	Forest Oil Corp.	Bragg flood	4, 5-34-14E	1939	56	do	30	675	8	21	29	0	31	0	do	"Big Salt," streams and produced	12	3,012	*	122
123	do	W. N. White	White Fee	3, 10-34-15E	1945	30	do	20	630	0	17	17	0	9	0	Salt water	230 sand	20	241,773	16,133	123
	Totals					2,929				492	210	783	28	678	39					576,712	
									Neosho County												
124	Erie	Purviance & Edwards	Richard	19, 20-28-20E	1950	15	"Bartlesville"	28	540	0	6	6	1	1	0	Fresh water		34			124
125	Humboldt-Chanute	Keas Drilling Co.		4, 9, 10-27-18E	1946	247	do	25	745	33	79	112	17	68	15	Salt & fresh water	Produced and gravel wells	40		150,190	125
126	do	M. F. A. Oil Co.	Wilson-Tioga	28, 32, 33-27-19E	1938	125	do	15	700	0	51	51	5	29	6	Salt water	Arbuckle and produced	50	3,000	45,000	126
127	do	Skiles Oil Corp.	Chanute flood	1, 2, 10, 11, 12, 14 15, 22, 23, 27-27-18E	1937	1,089	do	20	750	415	1	416	30	435	43	Salt & fresh water	Produced and streams	50		344,236	127
128	do	Fred Stipp	Converse	21-28-18E	1941	20	do	18	800	0	6	6	0	5	0	Fresh water	Well	20		1,805	128
	Totals					1,496				448	143	591	53	538	64					541,231	
									Pratt County												
129	Pratt, Kingman and Cunningham	Skelly Oil Co.	C. J. Moore	25-27-11W	1947	160	Lansing	10	3,430	0	3	3	0	1	0	Salt water	Produced	300			129
									Pratt and Kingman County												
130	Cunningham	Skelly Oil Co.	Press. main. Cunningham	19, 20, 29, 30, 31-27-10W 25, 35, 36-27-11W	1936	1,400	Lansing	16	3,400	0	58	58	0	6	0	Gas		550M cu. ft.	1,030	28,600	130
									Reno County												
131	Abbeyville	Skelly Oil Co.	L. A. Smith	24-24-8W	1948	160	Kansas City	15	3,540	0	4	4	0	1	0	Salt water	Produced	25	150	180	131
									Russell County												
132	Hall-Gurney	Skelly Oil Co.	T. B. Carter	33-14-13W	1944	160	Lansing	14	2,860	0	2	2	0	1	0	Salt water	Produced	100		0	132
133	do	do	G. C. Ehrlich	32-14-13W	1946	200	do	15	2,880	0	12	12	0	1	0	do	do	30		0	133
134	do	do	C. M. Phinney	30-14-13W	1944	160	do	14	2,900	0	7	7	0	1	0	do	do	30		0	134
	Totals					520				0	21	21	0	3	0					0	
									Sedgwick County												
135	Robbins	Magnolia Petro. Co.	Henry Robbins	20-28-1E	1945	80	Mississippian ls.	?	3,100	0	6	6	0	2	0	Fresh water	Shallow wells	196	600	7,919	135
136	do	Stanolind Oil & Gas Co.	Robbins	20-28-1E	1947	220	"Mississippi Chat"	10	3,080	0	15	15	0	3	0	Salt water	Shallow sand and produced	264	152	18,500	136
	Totals					300				0	21	21	0	5	0					26,419	
									Stafford County												
137	Kipp	Skelly Oil Co.	Kipp repressure system	26, 27-25-14W	1946	160	Kansas City	16	3,660	0	5	5	0	1	0	Salt water	Produced	500		0	137
	Totals for State					26,290				3,039	2,510	5,549	333	4,454	426					6,771,584	

* Production not to be revealed. Included in county total.

TABLE 1.—*Data on secondary recovery projects in Kansas, 1950*

No.	Field	Operator	Project	Location	Year started	Total developed acres	Producing formation	Thickness of producing zone, feet	Av. depth to producing zone, feet	Flooding	Pumping	Total	No. producing wells drilled in 1950	No. active injection wells, 1950	No. injection wells drilled in 1950	Medium of injection	Source of water	Average bbls. water injected per well per day	Cumulative secondary oil recovery per developed acre, bbls.	Production attributable to secondary recovery in 1950, bbls.	No.
									Allen County												
1	Bronson-Xenia	R. D. Donnelly	Jones & Bartlett	34-24-21E	1947	15	"Bartlesville"	15	725	0	9	9	5	2	1	Fresh & salt water	Pennsylvanian	15	912	4,121	1
2	Elsmore	Eureka Oil & Gas Co.		27, 28, 32-25-21E	1950	80	do	20	720	0	19	19	1	6	0	Salt water	Mississippian ls	27	0	*	2
3	do	Fees & Hoyt		34-25-21E	1941	100	do	20	660	0	44	44	6	46	7	Fresh water	streams	35	3,000	44,000	3
4	do	Pavlicek Bros.		3, 10-26-21E ? 26-21E	1944	70	do	28	700	0	12	12	0	5	0	Salt water		10		3,600	4
5	Humboldt-Chanute	Deep Rock Oil Corp.	Matson & Towne	16, 17, 18, 19, 20-26-18E		324	do	20	810	160	0	160	9	133	6	Fresh water	streams	8.9	2,118	50,611	5
6	do	Jake L. Hamon	Humboldt unit	15, 16, 21, 22-26-18E	1950	40	do	17	825	0	9	9	0	0(?)	0	Salt water	Arbuckle	100		*	6
7	do	Carl Weiner	Humboldt flood	14, 23, 24-26-18E	1941	230	do	25	825	18	76	94	17	90	20	do	Mississippian ls.	20	1,200	38,346	7
	Totals					859				178	169	417	38	282	34					140,678	
									Allen and Bourbon Counties												
8	Davis-Bronson	Mack C. Colt	M-T	3, 10, 15-24-21E 14-24-21E	1939	180	"Bartlesville"	35	700	30	50	80	0	59	0	Salt & fresh water	Lake & produced	45			8
									Allen and Neosho Counties												
9	Humboldt-Chanute	M.F.A. Oil Co.	Yount-Davis	36-26-18E 1-27-18E	1947	12	"Bartlesville"	8	800	0	12	12	0	3	0	Salt well	Deep well(?)	40	1,500	5,000	9
	Totals																				
									Anderson County												
10	Bush City	Deep Rock Oil Corp.	Connelly & Loviaux	4, 5, 7, 8-21-21E	1941	323	"Squirrel"	30	620	145	0	145	16	131	18	Salt water	Arbuckle	22.6	1,116	95,607	10
11	do	do	Oko Oil & Gas Co.	15, 16-21-20E	1949	32	do	20	800	0	14	14	8	0	10	do	Arbuckle & Miss. ls.	25	312	10,000	11
12	do	do	Reed	18-21-21E	1939	713	do	30	620	256	0	256	18	236	18	do	Arbuckle	13.6	825	135,981	12
13	do	Kewanee Oil Co.	Dengo	12, 13, 14-21-20E 27, 28, 32, 33-20-21E 5-21-21E	1944	341	do	16	650	112	40	152	8	138	1	do	do	8	1,063	104,844	13
14	Centerville	Schermerhorn Oil Corp.	Centerville	10, 15, 22-21-21E	1948	225	"Bartlesville"	13.4	715	20	3	23	3	28	0	do	Mississippian ls.	95	107	22,453	14
15	Colony	W. S. Fees	Stauffer-North Hyde	22-22-19E	1947	20	"Squirrel"	15	800	0	14	14	0	8	0	do	Arbuckle	25	795	13,865	15
16	do	do	Unit No. 1	28-22-19E	1949	180	do	15	800	0	26	26	8	18	3	do	do	25	16	1,316	16
17	Garnett Shoestring	Brundred Oil Corp.	Garnett flood	31, 32-20-20E 5, 6-21-20E 1, 2, 3-21-19E	1936	277	do	30	730	163	0	163	0	155	0	Salt & fresh water	Arbuckle & city	15.4	5,358	37,649	17
18	Kincaid	Shriver Oil Co.	Kincaid development	4, 5-23-21E 29, 32-22-21E	1946	256	"Bartlesville"	20	750	43	1	44	2	36	1	Salt water	Mississippian ls.	2,200	501	34,200	18
19	Selma	Mack C. Colt	Selma	4, 9-22-21E	1941	90	do	23	720	14	25	39	12	32	1	do	Arbuckle	30			19
	Totals					2,457				753	123	876	75	782	52					455,915	
									Barber County												
20	Sun City	Great Lakes Carbon Corp.	Sun City Massey lime unit	26, 35-30-15W	1950	250	"Massey lime"	6	4,250	0	7	7	0	2	0	Gas		100M cu. ft.	0	0	20
									Barton County												
21	Silica	Stanolind Oil & Gas Co.	Silica Nitrogen Project	35-19-11W 2, 11-20-11W	1947	575	Arbuckle	24	3,280	0	26	26	0	0	0	Gas		230M cu. ft.	70	11,500	21
22	Blankenship	Great Southern Oil Co.	Dickinson	16-26-8E	1949	180	"Bartlesville"	33	2,650	0	18	18	1	12	13	Salt water	Douglas & Arbuckle	1,155	1,425	117,161	22
23	do	Sohio Petroleum Co.	Sallyards	9, 16, 17-26-8E	1949	41	do	36	2,550	0	9	9	2	7	1	Salt & fresh water	Douglas & stream	111	1,340	48,233	23
24	El Dorado	Cities Service Oil Co.	El Dorado Shallow	33-26-5E	1947	70	Permian	9	600	0	26	26	6	11	1	Salt water	Permian & Arbuckle	120	670	28,000	24
25	do	do	Finney	4, 9-26-5E	1950	10	Viola-Simpson	35	2,530	0	2	2	0	1	0	do	Douglas & produced	250	0	*	25
26	do	do	Koogler	17, 20-26-5E	1948	190	"Simpson"	25	2,450	0	19	19	10	24	20	do		230	975	153,486	26
27	Fox-Bush	Cooperative Refg. Assoc.	W. E. Brown No. 129	25-29-5E	1947	10	"Bartlesville"	20	2,670	0	2	2	0	1	0	Salt & fresh water	Wreford, Neva and produced	116	1,288	3,591	27
28	do	do	Warner unit No. 130	25-29-5E	1944	120	do	30	2,800	0	11	11	0	6	0	do	do	40	2,562	21,380	28
29	do	W. C. McBride	Haver	24-29-5E	1949	160	do	30	2,770	0	5	5	0	1	0	Salt water	Produced	515		14,546	29
30	do	Morrison Producing Co.	Fox unit	13, 24-29-5E	1942	790	do	32	2,800	11	13	24	0	34	0	do	Arbuckle	394		*	30
31	do	Sinclair O. & G. Co.	Kingsley-Craig unit	23, 24-28-5E	1939	30	do	30	2,700	0	10	10	0	2	0	do	Produced	50	?	*	31
32	do	Texas Company	Fox-Bush	26-28-5E	1929	200	do	10	2,675	0	11	11	0	2	0	Gas		25,200M cu ft.	2,279	13,738	32
33	do	United Oil & Gas Co.	Haver "C"	25-29-5E	1948	30	do	20	2,850	0	4	4	0	3	0		Shallow water well	600	30,000	45,000	33
	Totals					1,831				11	130	141	19	104	35					506,570	
									Chautauqua County												
34	Peru-Sedan	Sinclair O. & G. Co.	A. Casement	32-33-11E	1935	210	"Peru"	25	1,150	0	30	30	0	21	0	Salt water	Produced	?	?	?	34
									Cowley County												
35	Eastman	Texas Company	Eastman gas repressuring	31-30-6E 6-31-6E	1930	120	"Bartlesville"	10	2,850	0	19	19	0	6	0	Gas		28,930M cu ft.	3,420	14,148	35
36	Hittle	do	Hittle	21-31-4E	1945	40	"Layton"	13.2	2,400	0	3	3	0	2	0	Salt water	Arbuckle & produced	94	780	8,524	36
37	Weathered	Frost & Bennett	Weathered	28-31-3E	1946	40	"Stalnaker"	5	2,100	0	3	3	0	1	0	do	Produced	40			37
38	Winfield	Gulf Oil Corporation	Shannon	24-32-4E	1948	30	"Bartlesville"	38	2,980	0	3	3	0	1	0	do	Layton & produced	287	237	2,621	38
39	Winfield	Sinclair O. & G. Co.	Winfield	24-32-4E	1948	20	do	20	3,000	0	6	6	0	2	0	do	Produced	300	?	?	39
	Totals					250				0	34	34	0	12	0					25,293	
									Crawford ounty												
40	McCune	Max B. Miller & Co.		29, 30-30-22E	1941	100	"Bartlesville"	20	250	79	0	79	0	100	0	Salt water	Arbuckle	30		15,832	40
41	Walnut S. E.	E. M. Marshall	Westhoff, Foster and McDaniels	29, 31-28-22E	1941	95	do	35	350	9	20	29	3	4	0	Fresh & salt water	Stream & Arbuckle	100	1,000	7,000	41
	Totals					195				88	20	108	3	104	0					22,832	
									Elk County												
42	Longton	Union Gas System, Inc.	Gardner	1, 12-31-12E	1947	53	"Longton shallow sd."	12	570	0	14	14	0	5	0	Fresh water	Shallow well	100	288	3,830	42
43	New Albany	A. E. Basinger	New Albany	3, 4-29-13E 33, 34-28-13E	1937		"New Albany"	20	625												43
									Franklin County												
44	Paola-Rantoul	Brundred Oil Corp.	No. 1 Rantoul	10, 15-17-21E	1948	134	"Squirrel" and "Peru"	10		51	23	74	5	53 23	4	Fresh & salt water	Stream & produced	18.4 28.7	465	42,590	44
45	do	do	No. 2 Rantoul	15, 21, 22-17-21E	1943	387	"Squirrel" and "Peru"	12 10	490 350	158	0	158	1	88 115	0	do	do	13.9 32.6	1,397	89,122	45
46	do	Deep Rock Oil Corp.	Johnson	27, 34-16-21E	1948	135	"Squirrel"	12	580	37	12	49	8	45	5	Salt water	Mississippian	14.8	662	37,859	46
47	do	Mall Oil, Inc.	Harley Finch	10-17-21E	1949	25	do	15	600	0	7	7	3	10	0	Fresh water	River	56	165	3,861	47
	Totals					681				246	42	288	17	334	9					173,432	
									Greenwood County												
48	Aagard	Arkansas Fuel Oil Co.	E. Marshall	1-24-9E	1944	84	"Bartlesville"	37	2,300	0	14	14	3	3	0	Salt water	Douglas	230	9,321	37,614	48
49	Browning	Sinclair O. & G. Co.	Browning unit	19, 20, 29, 30-22-10E	1949	70	do	40	2,350	0	72	72	0	14	0	Gas & salt water	do	286	0	*	49
50	Burkett	Phillips Petro. Co.	Burkett unit	13, 23, 24, 26, 27-23-10E 18-23-11E	1942	665	do	38	2,100	0	88	88	0	72	0	Salt water	do	145	6,088	*	50
51	Demalorie-Souder	Mid-Cont. Petro. Corp.	J. D. Clopton	18-22-11E	1946	110	"Bartlesville"	20	2,100	0	9	9	1	3	0	Salt water	Douglas	89	269	14,660	51
52	do	Phillips Petro. Co.	Demalorie-Souder	1, 2, 11, 12-22-10E	1949	85	do	55	2,100	0	54	54	0	5	0	Salt water and gas	do	200	44	*	52
53	do	do	Pix	3, 10-22-10E	1949	25	do	55	2,100	0	3	3	0	2	0	Salt water	do	380	467	*	53
54	Fankhouser	Cities Service Oil Co.	Fankhouser "A"	4-22-12E	1944	70	do	27	1,750	0	5	5	0	3	1	do	Produced	225	2,830	23,442	54
55	do	Sunray Oil Corp.	Fankhouser	4-22-12E	1949	246	do	25	1,850	0	26	26	3	22	4	do	Douglas	210	2,960	533,433	55
56	do	do	Swanson unit	9-22-12E	1950	625	do	25	1,900	0	5	5	1	4	0	do	do	160	60	3,780	56
57	Hamilton	Cities Service Oil Co.	Patterson unit	36-23-11E 1-24-11E 6-24-12E	1946	139	do	45	1,850	0	29	29	0	20	0	do	Produced & Douglas	300	7,300	279,874	57
58	Lamont	do	Lamont unit	23, 24, 25, 26-22-12E 30-22-13E	1949	209	do	30	1,700	0	56	56	3	26	11	do	Douglas	230	952	214,000	58
59	Madison	do	Madison	11, 12, 14-22-11E	1923	490	do	40	1,900	0	62	62	0	9	0	Gas		80M cu. ft.	2,850	46,200	59
60	do	do	do	11, 12, 14-22-11E	1948	190	do	40	1,900	0	36	36	0	18	1	Salt water	Douglas	300	113	21,300	60
61	do	Magnolia Petro. Co.	Kipler-McGilvray unit	11, 12-22-11E	1949	65	do	27	1,800	0	5	5	0	6	0	do	do	102	0	*	61
62	Pixlee	Barbara Oil Co.	Pixlee-Browning	8, 9, 17-22-10E	1947	290	do	20	2,325	6	14	20	0	11	0	do	do	500	206	27,740	62
63	Polhamus	Sohio Petroleum Co.	Polhamus	27, 34-24-9E	1949	108	do	28	2,250	0	18	18	2	19	0	do	do	139	1,500	155,751	63
64	Quincy	Layton Oil Co.	Quincy flood No. 1	15-25-13E	1950	20	do	35	1,500	0	4	4	4	5	5	do	Arbuckle	160	800	16,000	64
65	Sallyards	Ohio Oil Co.	Ladd unit	19, 30-25-9E	1946	205	do	51	2,400	6	34	40	2	29	0	do	Douglas	223	3,680	207,212	65
66	Scott	Phillips Petro. Co.	Scott unit	24, 25, 26-23-8E 19, 30-23-9E	1945	200	do	40	2,600	0	41	41	0	12	0	do	do	280	782	*	66
67	Seeley-Wick	Cities Service Oil Co.	Clopton unit	8-23-11E	1946	187	do	35	1,975	0	25	25	0	21	0	do	do	250	3,000	98,211	67
68	do	do	Cragan unit	32-22-11E	1942	20	do	50	2,000	0	1	1	0	2	0	do	do	160	9,045	2,000	68
69	do	Magnolia Petro. Co.	Seeley unit	4, 5, 6-23-11E	1943	555	do	32	1,950	0	63	63	2	61	0	do	do	202	5,517	366,730	69
70	do	Phillips Petro. Co.	Beal unit	21, 22, 27, 28-23-11E	1950	40	do	55	1,900	0	58	58	0	4	4	do	do	350	0	*	70
71	do	do	McGilvray unit	8, 9, 16, 17-23-11E	1948	95	do	37	1,950	0	30	30	1	5	0	do	do	240	192	*	71
72	do	do	Seeley-Wick unit	28, 33-22-11E 4-23-11E	1943	163	do	37	1,950	0	24	24	0	20	0	do	do	150	2,579	*	72