Oil and Gas Developments in Kansas During 1963

By P. L. Hilpman, M. O. Oros,
D. L. Beene, and E. D. Goebel

STATE
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BULLETIN 172

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CONTENTS

ILLUSTRATIONS

TABLES

Erratum: The map above Figure 5 should be above Figure 9.

The map above Figure 9 should be above Figure 5.

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Oil and Gas Developments in Kansas During 1963

ABSTRACT

Kansas oil production in 1963 totaled 109,063,298 barrels, a 2.6 percent decrease from the previous year. Estimated production from secondary recovery projects accounted for about 19.8 percent of 1963 oil production. Value of the crude oil output decreased from $332,716,358 in 1962 to $323,917,995 in 1963 because of decreased production.

Natural gas production in Kansas totaled almost 773.4 billion cubic feet (14.65 psia), an increase of 6.6 percent; the Hugoton Gas Area produced 556.1 billion cubic feet, about 72 percent of the total.

During the year, 102 new oil fields, 15 new gas fields, and 4 fields that had both oil and gas production were named; 31 previously abandoned fields were revived.

In 1963, 3,649 wells were recorded as drilled in Kansas in connection with the petroleum industry. Estimates of wells not specifically reported, but for which drilling permits were issued, bring the total number of wells drilled in the State during the year to 4,442. Of the recorded completions, 1,503 were oil wells, 169 were gas wells, 32 were both oil and gas, 1,569 were dry holes, and 376 were saltwater disposal wells or wells used as input wells in secondary recovery operations. Of the 1,569 dry holes, 552 were wildcats.

In 1963, Ellis County produced 9,494,856 barrels and was the leading oil-producing county for the third straight year. The Bemis-Shutts field of Ellis and Rooks counties was the top-ranking field in the State.

Natural gas liquids production during 1963 showed an 88.6 percent increase when 567.2 million gallons, valued at more than 27 million dollars, were extracted at Kansas natural gasoline plants. Helium production showed an eighteen-fold increase. A total of 775.1 million cubic feet of helium valued at about 10.1 million dollars was extracted in Kansas during 1963, compared with 41 million cubic feet produced in 1962. Of this total, 275.1 million cubic feet is estimated to have been extracted in Kansas from gas produced outside the State.

Proved reserves of Kansas crude oil at the end of the year were estimated at 841.3 million barrels, or 2.9 percent less than the previous year's estimated reserves. Estimated proved reserves of natural gas are about 18.1 trillion cubic feet, down 3.1 percent from 1962. Proved reserves of natural gas liquids were estimated at 169.2 million barrels, down 5.5 percent from the previous year's estimate. Kansas natural gas fields contain a large percentage of the total helium reserves of the nation.

Concentrated facilities for the transportation, extraction, and storage of natural gas liquids and helium were constructed in areas near Hutchinson in Reno County.

INTRODUCTION

During 1963, production of oil declined from that reported for the previous year. The production of natural gas increased, and the recovery of natural gas liquids almost doubled. Helium production increased about eighteen times over that for the previous year. The total value of the crude oil produced during 1963 was less than that reported in 1962. Prices averaged $2.97 a barrel. The total value of natural gas was greater than in the previous year. An estimated average price of 11 cents per thousand cubic feet was applied to all Kansas gas production. Estimated prices for natural gas liquids averaged $2.00 a barrel during 1963, the same as the previous year.

State-wide data by county of the significant developments in the oil and gas industry are included in a single table (Table 1), which allows quick comparison of areas of interest. During the year 102 new oil fields, 15 new gas fields, and 4 fields that were both oil and gas producers were named. Drilling and exploration activities compared favorably with 1962. Ness County had the most new fields named during the year, 19. Other counties in which several new fields were named are Barton, Ellis, Hodgeman, Rice, Rus-

TABLE 1.—Summary of 1963 operations, by county.

County	No. prod. fields	Oil prod., bbl	Gas prod., M cu ft	Wells drilled in 1963						Reworked wells									Total new wells drilled*	No. intents-to-drill issued†	No. producing oil wells	No. producing gas wells
				Oil	Gas	Oil and gas	Repressure or disposal	Dry wildcats	Total dry	Oil	Gas	Oil and gas	Repressure or disposal	Dry	Fields discovered	Fields revived	Fields combined	Fields abandoned				
Allen	11	857,734	655,934	35	..	..	30	..	..	..	..	..	..	..	..	1	..	..	150	173	1,960	161
Anderson	7	392,766	65,250	15	..	..	18	..	..	..	..	..	..	..	..	..	..	1	52	74	1,219	15
Atchison	..	.....	.....	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1	2	.....	.....
Barber	45	995,469	40,821,124	8	19	5	2	13	36	2	2	..	1	2	4	..	..	..	70	75	573	380
Barton	147	8,646,420	1,288,279	86	1	1	2	13	107	15	..	..	1	4	7	4	11	..	197	215	3,201	18
Bourbon	3	71,762	.....	6	..	..	..	..	..	..	..	..	..	..	..	..	..	1	15	18	111	.....
Brown	..	.....	.....	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	1	.....	.....
Butler	72	6,538,780	121,421	76	..	..	24	16	58	5	..	..	2	7	3	..	..	10	190	217	2,982	17
Chase	5	72,487	77,200	1	..	..	..	1	4	..	..	..	..	..	..	..	..	..	5	6	51	20
Chautauqua	18	835,425	280,285	20	..	..	10	4	9	..	..	..	..	..	..	..	..	11	65	78	1,920	61
Cherokee	....	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Cheyenne	2	1,690	.....	..	..	..	..	4	4	..	..	..	..	..	..	..	..	..	4	4	4	.....
Clark	9	189,289	12,478,916	..	4	2	..	..	7	..	2	..	..	2	..	..	1	..	13	16	93	106
Clay	1	6,186	.....	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1	1	3	.....
Cloud	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Coffey	8	98,936	200	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	14	210	3
Comanche	8	73,344	7,491,271	1	3	..	..	10	12	1	..	..	..	..	2	..	..	..	16	15	25	22
Cowley	88	3,794,917	3,725,060	63	2	1	6	25	64	4	1	..	3	7	2	..	..	15	136	144	1,700	626
Crawford	6	62,505	65,250	12	..	..	7	..	..	..	..	..	..	..	1	..	..	..	63	71	221	15
Decatur	17	516,657	.....	3	..	..	..	8	14	..	..	..	..	..	2	..	..	..	17	18	112	.....
Dickinson	3	47,547	10,000	..	..	..	1	3	3	..	..	..	..	..	..	..	..	..	4	5	55	8
Doniphan	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Douglas	2	28,623	24,100	8	..	..	6	1	1	..	..	..	..	..	..	..	..	..	33	39	95	10
Edwards	24	414,984	3,044,253	5	3	..	1	8	16	4	2	..	3	..	4	1	..	..	25	20	147	132
Elk	28	152,735	463,956	7	..	..	5	4	5	..	..	..	..	..	..	..	..	5	22	25	332	51
Ellis	114	9,494,856	.....	88	..	..	4	10	107	10	..	..	2	2	5	..	2	2	199	201	2,453	.....
Ellsworth	18	1,572,071	64,214	12	..	..	5	7	21	..	..	..	..	1	2	..	..	..	38	40	565	1
Finney	12	2,045,897	52,941,853	10	2	..	2	2	7	2	..	..	..	..	..	..	..	..	21	20	174	650

Ford	5	26,540	160,919	..	1	..	..	11	13	..	..	..	..	..	1	..	..	.	14	13	4	2
Franklin	5	262,101	65,250	14	..	..	8	..	..	..	..	..	..	..	..	..	..	..	52	55	844	15
Geary	1	937	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	1	.....
Gove	2	82,966	.....	2	..	..	..	20	26	..	..	..	..	..	1	1	1	..	28	26	13	.....
Graham	77	5,240,344	.....	25	..	..	5	6	42	5	..	..	1	1	3	..	..	..	72	74	1,223	.....
Grant	5	18,131	155,929,843	1	8	..	..	4	4	..	..	..	..	..	..	..	..	..	13	13	5	606
Gray	..	.....	.....	..	..	..	..	3	3	..	..	..	..	..	..	..	..	..	3	2	.....	.....
Greeley	..	.....	.....	..	1	..	..	5	9	..	..	..	..	..	..	..	..	..	10	6	.....	.....
Greenwood	48	3,282,199	65,250	78	..	..	22	4	41	2	..	..	2	..	1	..	1	..	141	145	2,493	15
Hamilton	5	10,824	2,273,579	..	39	..	..	2	6	..	..	..	..	..	..	..	..	..	45	62	2	86
Harper	18	1,139,374	5,755,571	9	5	2	1	7	12	2	1	..	..	..	1	1	..	..	29	40	243	82
Harvey	20	662,266	1,060,692	15	2	..	13	3	17	1	..	..	..	2	2	..	..	1	57	81	151	46
Haskell	11	1,453,691	43,997,344	11	10	5	1	1	10	..	1	..	2	..	..	..	..	..	37	33	141	473
Hodgeman	24	1,966,731	.....	86	..	..	6	36	79	9	..	..	..	..	9	..	1	..	171	153	198	.....
Jackson	1	2,413	.....	2	..	..	..	1	1	..	..	..	..	..	1	..	..	..	3	5	2	.....
Jefferson	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Jewell	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Johnson	2	29,908	273,002	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	15	27	46	55
Kearny	5	91,651	77,069,683	..	1	..	..	9	11	..	..	..	..	..	..	..	..	1	12	9	7	637
Kingman	31	3,957,826	28,468,031	19	7	1	..	13	45	1	2	3	..	2	3	1	1	..	72	85	632	549
Kiowa	18	475,505	12,850,357	..	1	1	2	6	12	1	2	..	..	..	2	1	1	..	16	24	129	60
Labette	9	85,422	130,500	18	..	..	23	..	..	..	..	..	..	..	..	..	..	3	50	57	165	30
Lane	5	77,286	.....	6	..	..	..	14	18	1	..	..	..	..	..	..	..	..	24	14	11	.....
Leavenworth	2	9,317	293,600	4	..	..	..	..	..	..	..	..	..	..	..	1	..	1	32	38	24	68
Lincoln	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	.....	.....
Linn	3	51,821	130,500	2	..	..	2	..	..	..	..	..	..	..	..	..	..	2	15	19	370	30
Logan	..	.....	.....	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1	2	1	.....
Lyon	5	92,973	.....	3	..	..	..	3	3	..	..	..	1	..	..	..	..	1	6	8	69	.....
McPherson	31	2,663,712	314,971	19	..	..	1	13	25	2	1	..	1	..	..	..	..	..	45	53	1,231	10
Marion	20	1,817,455	7,308,862	32	..	1	..	11	19	1	..	1	1	1	..	..	..	..	52	51	944	204
Marshall	..	.....	.....	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	2	2	.....	.....
Meade	27	712,166	15,964,362	2	5	1	..	4	13	..	3	..	1	2	2	..	..	..	21	22	248	180
Miami	5	240,531	65,250	12	..	..	14	..	..	..	..	..	..	..	..	..	..	..	70	84	1,092	15
Mitchell	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Montgomery	9	414,766	815,600	12	1	..	16	..	..	..	..	..	..	..	..	..	..	..	55	70	1,575	188
Morris	6	403,596	296,118	..	2	..	..	..	2	..	..	..	..	1	..	..	..	..	4	6	74	27

TABLE 1.—Summary of 1963 operations, by county (concluded).

County	No. prod. fields	Oil prod., bbl	Gas prod., M cu ft	Wells drilled in 1963						Reworked wells									Total new wells drilled*	No. intents-to-drill issued†	No. producing oil wells	No. producing gas wells
				Oil	Gas	Oil and gas	Repressure or disposal	Dry wildcats	Total dry	Oil	Gas	Oil and gas	Repressure or disposal	Dry	Fields discovered	Fields revived	Fields combined	Fields abandoned				
Morton	19	2,124,022	82,536,286	15	8	2	..	4	16	2	1	..	..	..	1	..	1	..	41	45	214	710
Nemaha	1	5,872	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	1	.....
Neosho	8	469,175	368,791	26	..	..	42	..	..	..	..	..	..	..	..	..	..	1	240	281	1,782	79
Ness	45	1,056,316	.....	48	..	..	6	41	84	..	..	..	..	..	19	1	..	1	138	128	196	.....
Norton	7	692,138	.....	2	..	..	1	11	15	..	..	..	..	..	..	..	..	..	18	21	177	.....
Osage	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	.....	1	.....	.....
Osborne	2	46,388	.....	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1	2	14	.....
Ottawa	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Pawnee	31	1,032,071	1,998,999	14	..	1	1	9	20	..	..	..	..	..	4	1	1	..	36	38	376	22
Phillips	14	2,149,619	.....	6	..	..	2	..	..	1	..	..	..	..	..	1	1	..	8	7	443	.....
Pottawatomie	..	.....	.....	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	2	2	.....	.....
Pratt	44	1,397,591	2,923,272	4	3	2	..	18	31	2	1	..	..	1	3	..	..	..	40	41	588	51
Rawlins	9	766,299	.....	4	..	..	..	9	14	..	..	..	..	..	..	..	..	..	18	16	76	.....
Reno	26	974,667	3,250,187	18	2	4	3	16	29	1	..	..	1	1	2	..	..	..	80	91	477	44
Republic	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Rice	53	5,387,084	500,162	174	3	..	2	14	77	4	..	..	4	5	5	2	2	..	256	280	1,878	14
Riley	2	211,359	.....	2	..	..	..	2	2	..	..	..	..	..	..	..	..	..	4	4	32	.....
Rooks	88	5,566,097	.....	46	..	..	7	7	51	17	..	..	3	3	3	..	1	..	104	105	1,522	.....
Rush	18	357,542	1,761,363	2	10	..	1	11	21	..	1	..	3	3	..	..	1	..	34	27	101	28
Russell	46	8,469,460	438,854	102	..	..	8	9	64	22	..	..	4	3	5	1	1	..	185	214	3,050	18
Saline	15	745,121	.....	30	..	..	3	6	17	1	..	..	..	..	2	1	..	..	50	55	388	.....
Scott	7	53,320	22,941	2	..	..	..	8	10	..	..	..	..	..	1	..	..	..	12	11	16	1
Sedgwick	39	2,453,586	65,250	23	..	..	1	12	40	..	..	..	1	2	3	..	..	1	64	68	648	15
Seward	25	1,211,698	27,432,546	2	16	1	2	2	11	..	..	..	1	1	2	..	3	1	32	31	110	412
Shawnee	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Sheridan	12	368,365	.....	2	..	..	..	3	4	..	..	..	..	..	1	..	..	1	6	5	77	.....
Sherman	1	44,016	.....	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	.....	8	.....
Smith	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....

Stafford	162	5,329,999	3,016,355	53	4	1	2	13	87	16	3	..	4	9	6	4	1	..	147	159	1,547	63
Stanton	8	17,352	21,995,914	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	2	3	9	246
Stevens	10	431,674	153,669,101	..	4	1	..	1	2	..	3	..	..	..	1	..	..	..	7	14	27	776
Sumner	63	3,002,031	526,628	15	2	..	9	25	39	1	..	..	..	2	4	..	..	..	65	60	859	33
Thomas	..	.....	.....	..	..	..	..	3	3	..	..	..	..	..	..	..	..	..	3	3	1	.....
Trego	29	1,581,932	.....	25	..	..	1	9	32	3	..	..	1	5	1	1	..	..	63	70	331	.....
Wabaunsee	6	249,603	.....	1	..	..	..	1	6	..	..	..	..	..	..	..	..	..	7	8	36	.....
Wallace	..	.....	.....	..	..	..	..	3	3	..	..	..	..	..	..	..	..	..	3	1	.....	.....
Washington	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....
Wichita	1	1,092	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	1	.....
Wilson	11	367,527	496,630	36	..	..	28	..	..	..	..	..	..	..	..	..	..	..	160	195	683	75
Woodson	19	824,034	1,200	17	..	..	20	..	..	..	..	..	..	..	..	..	..	3	94	116	1,139	5
Wyandotte	..	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....	.....	.....

* Includes estimated wells.
† Based on intents-to-drill filed with the Kansas Corporation Commission.

sell, and Stafford. Figure 1 is a generalized map of Kansas showing geographic distribution of areas producing oil and gas.

Ellis County remained ahead of Barton County as the leading oil-producing county in the State during 1963. The **Bemis-Shutts** field (Ellis and Rooks counties) for the second year was the top oil producer.

A condensed petroleum data table (Table 2) compares various phases of the industry in Kansas with those of the entire United States for 1962 and 1963.

Annual oil and gas production in Kansas from about 1890 to the present is shown graphically in Figure 2. Significant discoveries and developments by the petroleum industry in Kansas

TABLE 2.—Oil and gas data and percentage changes for Kansas and the United States, 1962-63.

	Kansas figures		Change from previous year, percent	
	1962	1963	Kansas	United States
Crude oil production (bbl)	112,025,710*	109,063,298*	—2.6	+1.69
Crude oil attributed to secondary recovery (estimated bbl)	20,850,000	21,600,000	+3.6	.....
Value of crude oil produced	$332,716,358	$323,917,995	—2.6	.....
Kansas oil production as percentage of U.S. total	4.4	4.2	—4.5	.....
Average price of oil (bbl)	$2.97	$2.97	None	.....
Rank of Kansas among oil-producing states	6th	6th	None	.....
Proved reserves of liquid hydrocarbons, at year end (thousands of barrels)	1,041,506†	1,010,590†	—3.0	—1.34
Ratio of proved liquid hydrocarbon reserves to current annual production	8.8:1	8.7:1	—1.3	.....
Oil-producing area of "western Kansas" (acres)	937,352‡	952,630	+1.6	.....
Natural gas production (M cu ft)	725,303,140§	773,373,504§	+6.6	+8.25
Value of natural gas produced	$79,783,345¶	$85,071,085¶	+6.6	.....
Helium production (Kansas only) (M cu ft)	40,749	500,000	+1127.0	.....
Value of helium produced (Kansas only)	.....	$6,847,432	.....	.....
Production of natural gasoline and LPG (natural gas liquids) (gallons)	300,684,048*	567,210,000*	+88.6	+9.68
Value of natural gasoline and LPG	$14,318,288#	$27,010,000#	+88.6	.....
Proved reserves of natural gas (millions cu ft)	18,668,561†	18,092,493†	—3.1	+1.06
Ratio of proved natural gas reserves to current annual production	25.2:1	22.9:1	—9.1	.....
Gas-producing area of "western Kansas" (acres)	3,126,895‡,††	3,173,190	+1.5	.....
New oil and gas pools named	108**	121**	+10.7	.....
Recorded well completions in Kansas:				
Oil‡‡	1,532	1,503	—1.9	.....
Gas‡‡	205	169	—17.6	.....
Oil and gas‡‡	61	32	—47.5	.....
Dry	1,641	1,569	—4.4	.....
Salt-water disposal§§	354	376	+6.2	.....
Unrecorded, estimated¶¶	533	793	+48.8	.....
Total recorded and estimated	4,326	4,442	+2.7	.....
Wildcats and discovery wells (included in total above)	529	663	+27.2	.....

* Figures supplied by State Corporation Commission, Conservation Division.

† Figures from American Petroleum Institute and American Gas Association, 1963. Barrels have 42 U.S. gallons and gas is based at 14.65 p s i a at 60°F.

‡ The oil and gas area of "western Kansas" includes all producing counties west of the west line of Cowley, Butler, Marion, and Dickinson counties.

§ Figures supplied by State Corporation Commission, base 14.65 p s i a.

¶ The minimum value of 11 cents per M cu ft of gas at 14.65 p s i a has been applied to all Kansas gas production.

This aggregate figure is based on unit value of the several products that reflect wholesale prices at the plant.

** Omitting revived pools.

†† Adjusted figure.

‡‡ Includes pool wells and new discoveries.

§§ Includes salt-water disposal and recorded secondary recovery input wells.

¶¶ Counties for which number of wells drilled is entirely or in part estimated include Allen, Anderson, Bourbon, Chautauqua, Coffey, Crawford, Elk, Franklin, Greenwood, Labette, Linn, Miami, Montgomery, Neosho, Wilson, and Woodson. Estimates are based on "intent-to-drill" records, and data available from Kansas Corporation Commission secondary recovery questionnaires and assessment records.

FIGURE 1.—Index map of oil- and gas-producing areas in Kansas.

are indicated also. Production, value, and reserves of crude oil, natural gas, and liquified petroleum gases in Kansas from 1946-1963 are given in Table 3. Reserves of crude oil, natural gas, and natural gas liquids declined during the year as compared to 1962. The American Gas Association, as of December 31, 1963, changed the standard conditions of reporting natural gas reserves estimates from 14.65 psia and 60°F. to 14.73 psia and 60°F. In order that the 1963 reserve figures conform with Kansas production statistics, all figures quoted from the A.G.A. have been converted from the 14.73 psia base to one of 14.65 by the Kansas State Geological Survey.

Value

The total value of raw products of the petro-

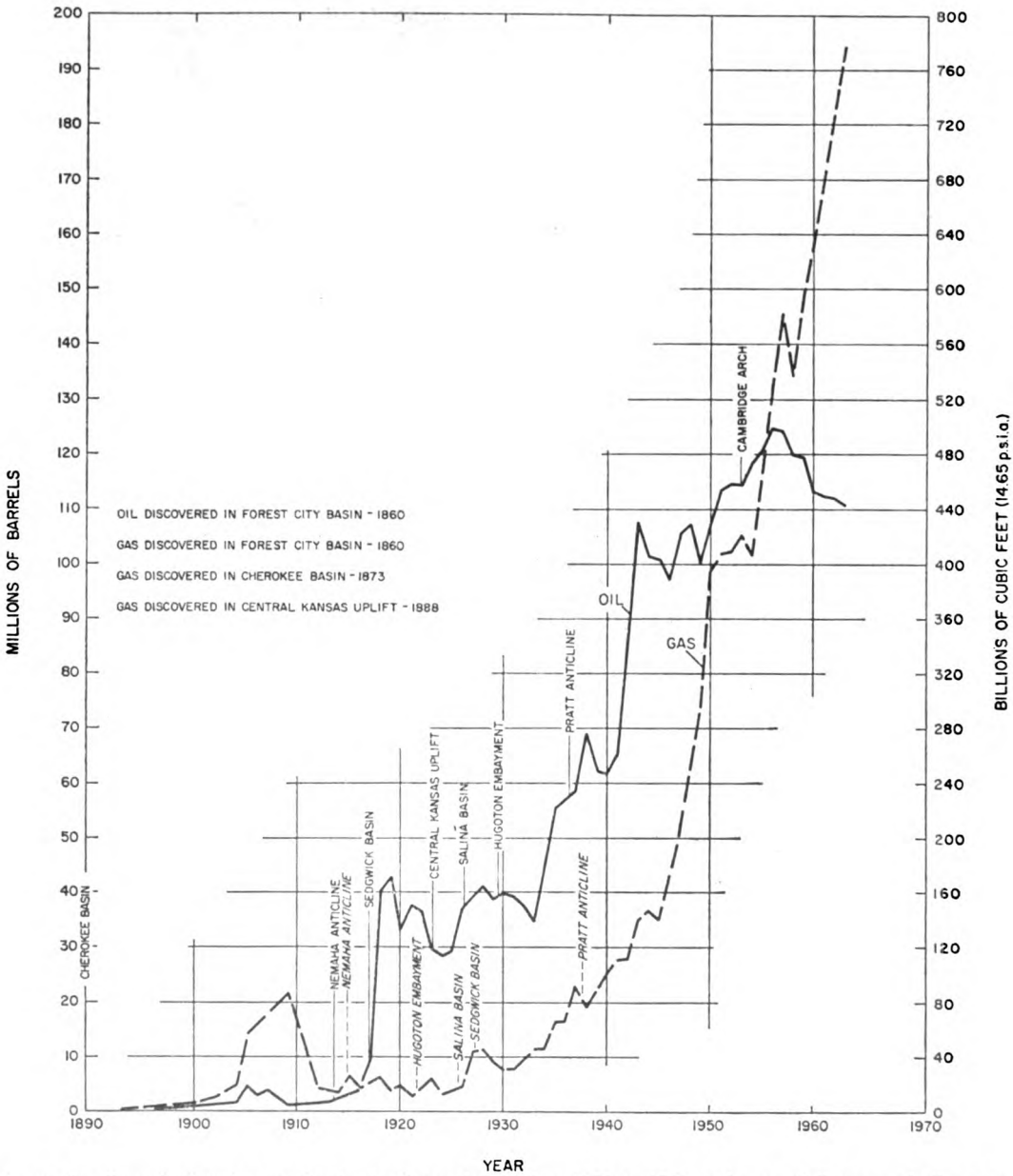

FIGURE 2.—Annual oil and gas production in Kansas from before 1900 to 1963, and year of discovery of oil or gas in different structural provinces.

leum industry (crude oil, natural gas, and natural gas liquids) produced in Kansas in 1963 was more than 436 million dollars. Figure 3 shows the relative values of 1963 oil and gas production by county. Of the 105 counties in Kansas, 82 reported oil and/or gas production during 1963. Because the price of crude oil decreases with decreasing gravity, and because different fields produce oils of differing gravities, value by county is not necessarily proportional to production by county.

Important Developments in Kansas During 1963

Perhaps foremost among the activities of the industry during the year was the continued explorational success in developing Mississippian prospects along the western flank of the Central Kansas Uplift in Ness and Hodgeman counties. Explorational programs in these two counties accounted for 28 new fields during the year and many prospects outlined by seismic surveys still remain untested.

Far to the east, exploratory programs within the Forest City Basin accounted for the discovery of commercial quantities of oil from Viola strata in Jackson County. This development added Jackson County to the family of oil-producing counties in Kansas and stimulated renewed interest and exploration within the province.

Attempts to commercially produce low gravity crude oils underlying portions of the Cherokee and Forest City Basins resulted in intense lease activity in the region during 1963, and before the end of the year Shell Oil Company had initiated a large-scale pilot project in Missouri near the eastern border of Kansas to recover these reserves.

As has been the case in the last few years, more and more acreage in central Kansas was subject to secondary recovery, and production attributable to such methods throughout the State has assumed an increased percentage of the total crude oil output of Kansas. Present knowledge of the geology and petroleum industry in the State suggests that this trend will continue in the future.

Helium has become a vital element in our space-age industry, and 1963 saw the completion of three new helium extraction plants within the State. As a result, the amount of helium recovered during 1963 was approximately eighteen times greater than that of the previous year,

Table 3.—Crude oil, LPG, and natural gas production, value, and estimated reserves in Kansas, 1946-1963.

	Estimated reserves*				Production and Value						
					Crude oil			Natural gas liquids		Natural gas	
Year	Crude oil, M bbls	Natural gas liquids, M bbls	Total liquid hydrocarbons,† M bbls	Natural gas, trillions cu ft	Value, millions $	Est. prod. by sec. recovery methods, bbl	Total crude oil production,‡ bbl	Value, millions $	Production,‡ M bbls	Value, millions $	Production,‡ billions cu ft
1946	545,300	82,492	627,792	13.7	138.8	.....	97,200,000	.....	1,964	.....	206.5
1947	562,700	88,790	651,490	14.6	203.6	4,000,000	103,916,169	4.7	2,362	10.2	205.5
1948	674,400	102,339	776,739	14.4	280.0	.....	108,080,654	9.5	2,560	12.8	240.2
1949	738,400	106,395	844,795	14.5	257.4	7,000,000	100,164,092	6.7	2,471	23.6	294.7
1950	732,200	163,500	895,700	13.8	275.4	.....	107,339,000	9.6	3,698	25.9	361.8
1951	791,900	159,600	951,500	13.5	292.8	8,000,000	113,912,366	11.3	4,357	29.0	407.2
1952	916,000	169,200	1,085,200	14.2	294.0	10,000,000	114,399,556	12.0	4,679	32.7	408.7
1953	913,300	177,800	1,091,100	15.8	307.6	10,900,000	114,390,176	13.0	5,040	37.7	420.6
1954	978,500	175,200	1,153,700	15.8	333.6	11,200,000	118,309,260	11.8	4,612	44.6	405.8
1955	998,068	173,236	1,171,304	16.3	341.7	15,100,000	121,161,234	12.0	4,919	51.3	466.2
1956	992,211	171,615	1,163,826	17.6	351.0	15,100,000	124,467,713	11.7	4,748	57.8	525.9
1957	947,484	189,155	1,136,639	19.3	380.8	16,900,000	124,054,043	13.3	5,324	63.9	580.7
1958	922,434	199,552	1,121,986	20.2	362.2	17,100,000	119,942,094	10.3	5,362	59.0	535.7
1959	917,503	196,912	1,114,415	20.0	354.8	17,900,000	119,473,875	12.3	5,545	65.5	595.2
1960	883,849	198,403	1,082,252	19.6	336.6	19,300,000	113,344,548	13.2	5,971	69.6	632.6
1961	878,027	183,579	1,061,606	19.2	333.3	20,245,000	112,210,936	13.6	6,150	74.4	676.2
1962	862,410	179,096	1,041,506	18.7	332.7	20,850,000	112,025,710	14.3	7,160	79.8	725.3
1963	841,349	169,241	1,010,590	18.1	323.9	21,600,000	109,063,298	27.0	13,505	85.1	773.3

* Estimated reserves are for December 31 for the year given. Figures quoted are American Petroleum Institute and American Gas Association estimates.
† Liquid hydrocarbons include crude oil and natural gas liquids.
‡ Kansas Corporation Commission.

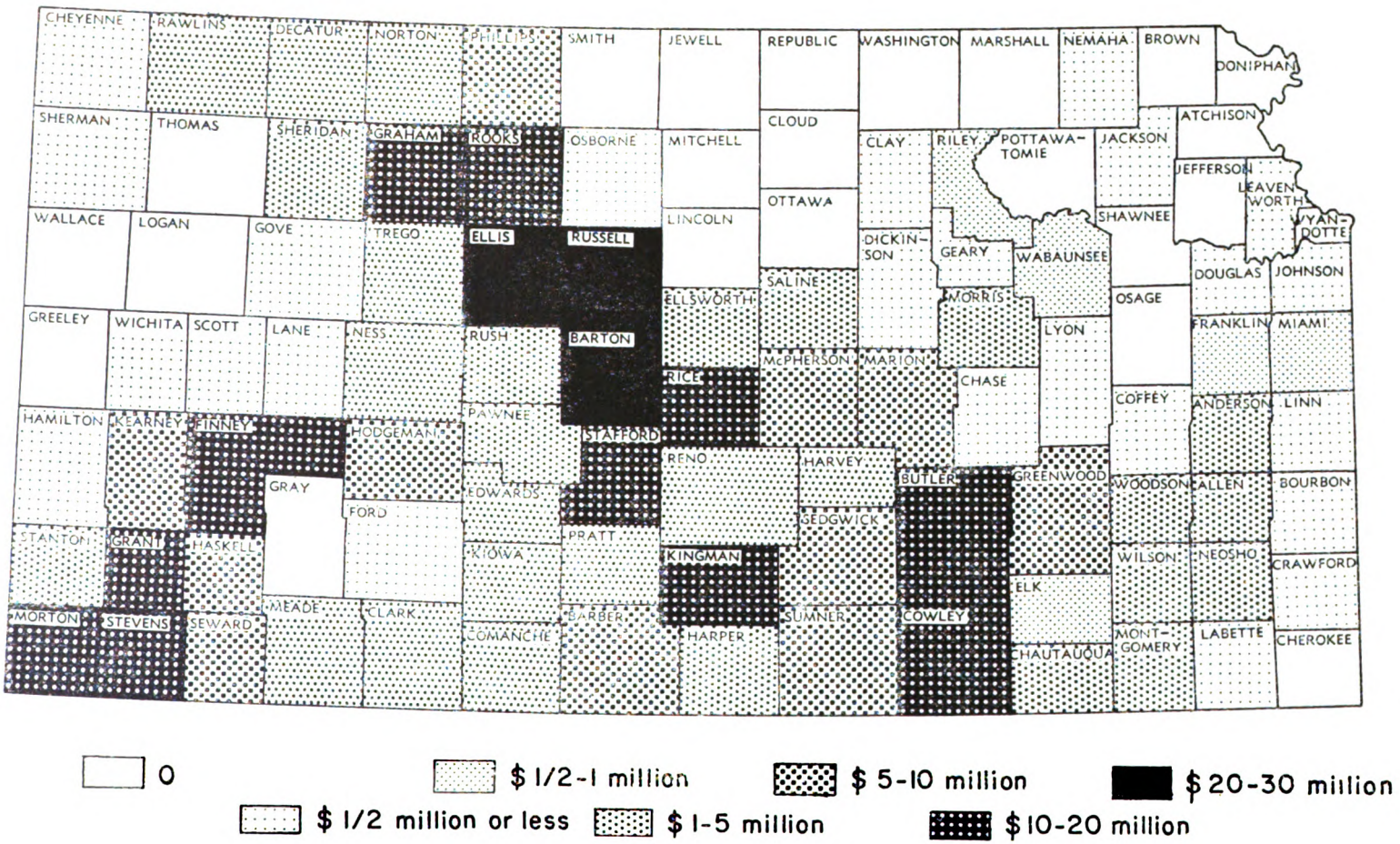

FIGURE 3.—Map of Kansas showing relative value of 1963 oil and gas production, by county.

when only one extraction plant (U.S. Bureau of Mines at Otis) was operating. More than one-third of the helium extracted during 1963 came from gas produced outside Kansas. Conjunctively, an increase in LPG production of more than 80 percent during the year is a direct result of increased gas processing related to the three helium plants and construction of additional extraction capacity at natural gasoline and LPG plants.

Marketing Developments

The determination of a state's fair share of the national oil and gas market is, of course, pertinent to the health of the economy of Kansas. The Kansas oil and gas economy is also related to larger questions of national defense and foreign trade. For example, foreign crude oil can be produced cheaply and is commonly thought to be priced according to political considerations in the "Cold War." And, although the average Kansas well now produces less than 6½ barrels per day, these same low-yield wells would, in times of national emergency, be part of the lifeline of the nation's petroleum supply.

Marketing of Kansas natural gas liquids and natural gas has assumed an increasing proportion of the national fuel market. However, even though the national demand for crude oil has been growing with the national economy each year, Kansas' share of the domestic crude oil market (about 4.2 percent of the nation's total) has decreased in the past few years. Influencing this decline are increased foreign crude oil imports, increased oil production in some oil-producing states, and increased off-shore crude oil production.

The realization of profitable production of crude from oil shales is certain to exert additional influence on the crude oil market in the coming years.

In recent years the emergence of the petrochemical industry and improved refining techniques has led to the introduction of a host of substitute products (exclusive of fuels and lubricants) that have become established in our modern way of life. These petrochemical products are becoming increasingly competitive in the building, packaging, and light manufacturing industries, as well as in various facets of textile manufacturing. Accordingly, it is certain that crude petroleum markets will continue to be enhanced by the outlet created by the petrochemical industry.

Kansas retail outlets for gasoline experienced a year of fluctuating prices due to local "gas wars" brought on by fierce competition by marketeers.

Treatment of Data

Detailed production tables for oil and gas from all producing counties are given in this report in the Statistical Table Section (Tables 23-27). For the oil-producing counties, both current and known cumulative oil production, producing area in acres, name of field (alphabetically arranged), discovery year, producing zone, estimated average thickness of producing zone, estimated average gravity of oil, reported number of producing wells, and number of producing wells plugged during 1963 are given. Similar data are given for gas. Where possible, production from different zones (when prorated) is differentiated, and totals for each county are given. Where oil or gas pools extend across county lines, each county's production has been computed or estimated on the basis of individual leases, if possible.

Tables presenting pertinent data on new fields, revived fields, abandoned fields, combined fields, and new zones discovered in old fields also are included in the Statistical Table Section.

Figure 1 is an index map of Kansas showing generalized areas of oil and gas production. A larger scale map of Kansas (in color) shows all presently producing oil and gas areas in the State (Plate 1).

Areas of oil and gas production are shown as accurately as possible on Plate 1. Where no dry holes limit the field, boundaries have been projected a short distance outside the outermost producing wells. Undoubtedly, many reservoirs extend beyond the limits indicated; however, future field developments have not been anticipated.

The Kansas Nomenclature Committee recognized 45 fields as abandoned in 1963 (Table 25). Also during 1963, 31 oil or gas fields were combined with other fields (Table 26). As has been the custom of the State Geological Survey of Kansas, outlines of non-producing fields, except those discovered and abandoned in 1963, are not shown on Plate 1.

Acknowledgments

Members of the Conservation Division of the State Corporation Commission (especially John Roberts, Director, H. A. Beverlin, Oil Proration Analyst, and Ray Dietz, Gas Proration Analyst) have long cooperated to the fullest extent with

the State Geological Survey. Without their assistance, this report would not be possible.

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Appreciation is expressed to the Nomenclature Committee of the Kansas Geological Society for supplying data on oil and gas pools discovered during the year and for areal descriptions of existing pools.

Special thanks are due to J. E. Davies, of the Kansas Sample Log Service, for permission to use well-sample data on some rank wildcat tests drilled during the year, and to Data, Inc., for assistance in supplying well information.

The Survey is pleased to acknowledge assistance from Vance E. Rowe of Petroleum Statistical Guide, Inc., who supplied a part of the crude oil production figures, and from Dwight's Oil and Gas Reports, which made available some gas production figures.

Many persons engaged in various phases of the petroleum industry in Kansas have been generous in providing data used in this report. Thanks are extended to numerous companies and to individuals who have contributed information on secondary recovery production and associated drilling activities.

The authors wish to give special thanks to Jo Anne Crossfield, Maxine Hill, Cindy Jones, Donna Saile, and Pat Scott, who helped in the preparation of this report by assisting in the assembling and tabulating of data and by the typing of the manuscript. Beth Clark prepared much of the art work in this report and her assistance is gratefully acknowledged.

EXPLORATION

Oil and gas explorational and developmental activity in Kansas during 1963 is summarized in Table 1. As in past years, producing wells drilled within one and one-half miles of producing limits of fields are called "extension wells" and dry wells drilled more than one and one-half miles from producing areas are classified as "wildcats." Because the location of boundaries of producing areas is arbitrary, definition of wildcat wells is also somewhat arbitrary; hence, the total number of wildcat wells reported by different sources is likely to differ. Only wells drilled to completion within the year are counted as 1963 completions. Thus, wells worked over, although completed as producing wells, are not counted as 1963 completions. Unless an unproductive well was drilled expressly for the purpose of injection or for salt water disposal, it is classified as a dry hole.

Wildcat Drilling and New Fields

Of the 663 new wildcat tests reported as drilled in Kansas during 1963, 111 discovered oil and gas pools, and 552 were dry, for a success ratio of approximately 1:6. Ten formerly dry wildcat wells that were worked over or deepened also discovered new pools, making a total of 121 new oil and gas fields named during 1963 (Table 23).

Table 4 lists important dry wildcat tests drilled in 1963. Included in this listing are some deep wells which were completed as producers at shallower depths. They are classified here as dry wildcats on the basis of the deepest stratigraphic unit penetrated, rather than by geographic distance from production.

Successful oil and gas exploration during 1963 was chiefly related to the Central Kansas Uplift and its flanks, as defined by the pinchout of Mississippian strata in the subsurface (Fig. 4). Wildcat exploration was carried on in 71 counties and the operations were successful in 38 (Table 1).

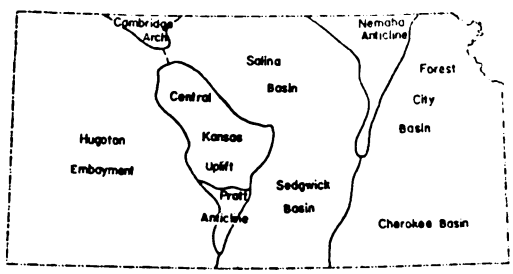

Figure 4.—Index map of Kansas showing major post-Mississippian structural provinces.

TABLE 4.—Important dry wildcat tests drilled during 1963.

County, company, and farm	Location	Surface elevation, feet	Depth to top of formation, feet							Total depth, feet
			Heebner	Lans.-K.C.	Missis-sippian	"Kinder-hook"	Viola	Simp-son	Arbuckle	
Brown County										
C. C. Stevens Drlg. Co. No. 1 Francis Gerdes*	C SE NE 13-1-15E	988	813	978	2,302	2,496	3,410	2,752[7]	3,742	3,752
Cheyenne County										
Cabot Corporation No. 1 A. M. Palmer	C NE SW 30-1-41W	3,598	3,606[1]	4,548	5,426	4,363[10]	5,599[11]	5,660[6]	5,525	5,665
Ellsworth County										
I. W. Siegel No. 1 Wild†	C NE SE 10-14-9W	1,719	2,720	2,853	3,279	3,308	3,362	.....	3,145[8]	3,384
I. W. Siegel, *et al.* No. 1 Soukup†	NE NE SE 14-14-10W	1,694	2,710	2,832	.....	530[1]	3,254	3,317	3,363	3,395
I. W. Siegel, *et al.* No. 1 Hanzlicek†	NE NE NW 15-14-10W	1,782	2,789	2,908	.....	3,182[8]	3,297	3,389	3,435	3,460
I. W. Siegel No. 1 Baptist Church†	C NW SE 11-15-7W	1,713	2,612	2,756	3,243	3,234[9]	.....	.....	3,346[7]	3,355
Finney County										
Pan American Petrol. Corp. No. 1 Garden City Co. "B"	C SW NE 33-23-33W	2,913	3,844	3,928	4,831	.....	2,554[8]	2,910[4]	.....	5,083
Pan American Petrol. Corp. No. 1 Hicks Gas Unit "F"	C SW NE 35-24-32W	2,820	3,850	3,887	4,750	1,870[1]	2,512[3]	2,867[4]	.....	4,900
Ford County										
Fred B. & Phillip Anschutz No. 1 Erickson	C SW SW 24-25-24W	2,473	4,097	4,197	4,925	3,667[13]	4,639[2]	4,872[9]	.....	5,363
Olson Oil No. 1 Fowler	C SW 26-27-22W	2,419	4,216	4,357	5,053	3,770[13]	5,673	5,780	5,830	5,907
Terrel Drilling No. 1 Kreie	C NE NE 21-28-23W	2,429	4,225	4,377	5,087	3,713[13]	4,692[2]	5,058[9]	.....	5,396
Leben Drlg. & Rooney Bros. No. 1 McConnell	C NW NE 34-29-25W	2,582	4,363	4,508	5,274	3,995[13]	4,910[2]	5,255[9]	.....	5,376
Gove County										
Fred B. & Phillip Anschutz No. 1 Campbell	C SE SE 22-11-30W	2,909	3,899	3,942	4,510	2,375[1]	4,216[2]	4,495[9]	.....	4,618
Charles Seaney No. 1 Schiltz	C SW NE 33-12-30W	2,862	3,857	3,913	4,505	2,313[1]	4,205[2]	4,481[9]	.....	4,600
Ferguson Oil Co. No. 1 Kuntz	C NW NW 20-13-26W	2,507	3,720	3,762	4,333	1,995[1]	4,036[2]	4,326[9]	.....	4,436
Rains & Williamson No. 1 Porter	C NE NE 1-13-27W	2,654	3,884	3,920	4,506	2,188[1]	.....	4,495[9]	.....	4,540
Mull Drlg. Co. No. 1 Wakefield†	C NW SE 8-13-27W	2,557	3,725	3,761	4,341	.....	.....	4,327[9]	.....	4,379
Mull Drlg. Co. No. 1 Hockersmith	C NW NW 24-13-28W	2,557	3,698	3,737	4,310	2,027[1]	.....	4,294[9]	.....	4,377
Jones Gebert Oil & Kermit Oil Co. No. 1 Albin	C NE SW 35-14-26W	2,323	3,592	3,633	4,245	1,792[1]	3,928[2]	4,214[9]	.....	4,345
Walters Drlg. & Lario Oil & Gas No. 1 Mitchell-Gregg	C NE NW 11-14-27W	2,546	3,762	3,803	4,387	2,017[1]	4,092[2]	4,380[9]	.....	4,455
Grant County										
LaCima Corporation No. 1 E. T. Hogan	C NW SE 28-29-35W	2,985	3,906	4,062	5,537	2,623[5]	.....	.....	.....	5,661
Hugoton Production Co. No. 2-34 Johnson‡	C NE NE 34-29-37W	3,090	3,860	4,026	5,576	2,578[5]	.....	.....	.....	5,880
LaCima Corporation No. 1 O. F. Jones	C NW SE 13-30-36W	3,003	3,964	4,121	5,652	2,655[5]	.....	.....	.....	5,859
Hugoton Production Co. No. 3-36 Jarvis	C NE SW 36-30-38W	3,139	3,901	4,110	5,688	2,630[6]	.....	.....	.....	5,694

TABLE 4.—Important dry wildcat tests drilled during 1963 (continued).

County, company, and farm	Location	Surface elevation, feet	Depth to top of formation, feet							Total depth, feet
			Heebner	Lans.-K.C.	Mississippian	"Kinderhook"	Viola	Simpson	Arbuckle	
Gray County										
Falcon Seaboard Drlg. Co. No. 1 M. Dayle Gonder Est.	C NW NE 17-27-30W	2,789	4,103	4,197	5,055	2,782[5]	.....	.....	.....	5,505
Gulf Oil Corp. No. 1 Harry J. Bunnell	C NE NE 6-29-30W	2,836	4,159	4,274	5,208	2,820[5]	.....	.....	.....	5,504
Pan American Petrol. Corp. No. 1 Newman Gas Unit	C SW SW 25-29-30W	2,802	4,222	4,321	.....	2,841[5]	5,189[8]	.....	.....	5,750
Greeley County										
Apache Oil Corp. No. 1 Teichmann	C SW SW 33-17-40W	3,626	4,070	4,120	5,200	2,539[1]	.....	.....	.....	5,282
Pelican Producing Corp. No. 1 Weaver	C SE SE 14-18-40W	3,566	4,020	4,073	5,164	2,480[1]	.....	.....	.....	5,226
Helmerich & Payne No. 1 Francis Angell	C SE SE 5-20-39W	3,529	3,993	4,042	5,149	2,348[1]	.....	.....	.....	5,382
Hamilton County										
Duncan Operating Co. No. 1 Klassen	C SE SW 12-26-39W	3,322	3,863	3,915	5,342	2,662[5]	4,511[9]	.....	.....	5,600
Harper County										
Kewanee Oil Co. No. 1 Miller	C SW NE 8-35-6W	1,290	3,284	3,665[12]	4,628	5,065	5,143	5,160	.....	5,204
Hodgeman County										
D. R. Lauck Oil Co., Inc. No. 1 Schlereth	C SE NE 6-22-26W	2,471	3,806	3,853	4,512	.....	4,923	5,105	5,114	5,154
Jackson County										
Phillips Petrol. Co. No. 1 Blair	C NW NE 24-7-16E	978	455	686	1,947	2,171	2,720	2,321[7]	2,940	2,973
Lane County										
Sun Oil Co. No. 1 S. Boomhower	C NE SE 16-17-29W	2,810	3,930	3,972	4,585	2,208[1]	.....	4,558[9]	.....	4,712
Jones Gebert Oil & Kermit Oil No. 1 Stone	C SE SE 4-17-30W	2,868	3,894	3,930	4,545	2,245[1]	.....	4,537[9]	.....	4,647
Davis Brothers No. 1 Alexander "A"	C SW NE 31-18-27W	2,707	3,953	3,994	4,606	2,062[1]	.....	4,591[9]	.....	4,655
Davis Brothers No. 1 Reifschneider "A"	C SW NE 17-18-29W	2,828	3,922	3,967	4,590	2,185[1]	.....	4,560[9]	.....	4,682
Davis Brothers No. 1 Ehmke "A"	C SW SE 30-18-29W	2,842	3,931	3,981	4,615	2,144[1]	4,365[2]	4,605[9]	.....	4,714
Davis Brothers No. 1 Hineman "B"	C SW NE 19-19-28W	2,793	3,972	4,017	4,692	2,130[1]	.....	4,645[9]	.....	4,726
Davis Brothers No. 1 Stremel "A"	C NE SE 26-19-28W	2,731	3,946	3,988	4,612	2,050[1]	4,364[2]	4,602[9]	.....	4,742
Socony Mobil Oil Co. No. 1 Emmett Winans	C SE NW 32-20-27W	2,617	3,856	3,896	4,538	1,888[1]	4,750	4,868	4,886	4,916
Logan County										
Wycoff Brothers Oil Co. No. 1-"A" Molby	SE SE SW 17-13-34W	3,002	3,826	3,875	4,588	2,397[1]	4,225[2]	.....	.....	4,725
Lyon County										
White & Ellis Drlg., Inc. No. 1 Dunn	C NE NE 14-17-11E	1,231	842	1,150	2,193	2,580	2,780	2,716[7]	2,921	2,930
Marshall County										
Walter J. Nelson No. 1 Brown	S/2 SE SE 29-1-10E	1,410	754	846	.....	.....	.....	996[10]	987[6]	1,003
Continental Oil Co. No. 1 W. E. Neal	SW SE NE 5-4-8E	1,443	1,092	1,153	1,396[2]	1,426[9]	1,447	1,500	1,624[6]	1,715

TABLE 4.—Important dry wildcat tests drilled during 1963 (continued).

County, company, and farm	Location	Surface elevation, feet	Depth to top of formation, feet							Total depth, feet
			Heebner	Lans.-K.C.	Missis-sippian	"Kinder-hook"	Viola	Simp-son	Arbuckle	
Meade County										
Helmerich & Payne, Inc. No. 1 Haskins	C SE NW 20-31-27W	2,476	4,249	4,386	5,350	2,720[5]	4,914[2]	.....	.....	5,645
Morton County										
Pan American Petrol. Corp. No. 1 Dunn Gas Unit "B"†	C SE 36-31-41W	3,324	.....	.....	5,386	2,518[4]	.....	.....	.....	5,605
Graham-Michaelis Drlg. Co. No. 1-35 Matzen	C SE 35-31-42W	3,471	.....	.....	5,239	.....	.....	.....	.....	5,250
Thomas, Inc. No. 1 Simmons	C NW SW 6-32-41W	3,468	.....	3,686	.....	.....	3,162[13]	.....	.....	5,391
Cities Service Oil Co. No. 1 Tucker "D"	C SW NE 35-34-41W	3,428	3,816	4,054	6,060	2,696[4]	.....	.....	.....	6,428
Ness County										
Cities Service Oil Co. No. 1 Smith "X"	N/2 SW NE 9-16-23W	2,430	3,782	3,818	4,406	1,764[1]	4,105[2]	4,374[9]	.....	4,448
Imperial Oil Co. No. 1 Robinson	C SW NW 26-16-23W	2,440	3,825	3,860	4,432	1,771[1]	4,138[2]	4,408[9]	.....	4,532
Virginia Drlg. Co. No. 1 Edward Mater	C NW NW 25-17-22W	2,226	3,620	3,663	4,220	1,475[1]	3,944[2]	4,146[9]	.....	4,327
Icer Addis No. 1 Ryan	C NW NW 23-17-23W	2,434	3,839	3,880	4,475	1,740[1]	.....	4,441[9]	.....	4,565
Norton County										
Pentagon Corp., Inc. No. 1 Applegate†	C SE SE 29-1-24W	2,429	3,332	3,371	3,557[2]	1,953[1]	.....	3,654[6]	3,662[10]	3,670
Pentagon Corp., Inc. No. 1 J. F. Miller	C NE SE 30-2-24W	2,471	3,403	3,447	3,637[2]	2,015[1]	3,741[11]	3,750[6]	.....	3,787
H. P. McLish & Petan Co. No. 1 J. F. Miller	C SE NW 31-2-24W	2,472	3,413	.....	3,648[2]	2,015[1]	.....	3,745[6]	3,808[10]	3,809
Sauvage Drlg., Inc. No. 1 Preston†	NW NW NW 23-2-25W	2,507	3,436	3,455	3,646[2]	2,039[1]	3,782[11]	3,786[6]	3,793[10]	3,825
Wm. M. Martin & Cecil M. Keller No. 1 Odessa Sleffel	C NE NE 7-4-22W	2,380	3,520	3,566	3,750[2]	2,017[1]	3,826[11]	.....	3,846[10]	3,851
Osborne County										
Lauck Oil Co. & Whitestone Petrol. No. 1 Finnesy	SE SE NE 2-10-15W	1,907	3,056	3,111	1,112[1]	3,374[2]	3,588	3,616	3,657	3,770
Pawnee County										
Hyde-Isern, *et al.* No. 1 Givens	C SE SW 19-22-19W	2,160	3,709	3,798	4,339	.....	4,444	4,648	4,674	4,733
E. H. Adair Oil Co. No. 1 Ruby†	C NW NW 13-22-20W	2,132	3,729	3,816	4,369	4,345[9]	.....	.....	.....	4,415
Pottawatomie County										
K & E Drlg. Co. No. 1 Fairbanks†	SE SE NW 33-8-12E	1,180	.....	1,295	2,390	2,517	3,239	2,744[7]	1,644[3]	3,281
Silas M. Ransopher* No. 1 Vance Washington Est.†	NEc Lot 13 7-9-8E	1,315	1,077	1,203	1,625[7]	.....	2,107	2,232	2,337[10]	2,339
Rawlins County										
Empire Drlg. Co. No. 1 Green†	SE NE 24-1-31W	2,746	3,706	3,746	.....	2,538[1]	3,980[2]	4,436[11]	4,324	4,485
W. T. Waggoner Est. No. 1 A. Hafner†	C SE SE 29-2-31W	2,959	.....	3,934	.....	3,780[13]	4,163[3]	4,531[11]	4,480	4,543
Empire Drlg. Co. No. 1 Bishop	C SW SW 14-3-35W	3,130	4,005	4,052	4,704	2,880[1]	4,329[2]	3,847[13]	.....	4,745
Empire Drlg. Co. No. 1 Williams Ranch	C SE NW 11-4-36W	3,206	4,080	4,127	.....	2,972[1]	4,385[2]	.....	.....	4,861

TABLE 4.—Important dry wildcat tests drilled during 1963 (concluded).

County, company, and farm	Location	Surface elevation, feet	Depth to top of formation, feet							Total depth, feet
			Heebner	Lans.-K.C.	Mississippian	"Kinderhook"	Viola	Simpson	Arbuckle	
Seward County										
Rip C. Underwood No. 1 Richardson	C NE SW 25-32-31W	2,785	4,280	4,424	5,606	.....	.....	.....	.....	6,090
Whitestone Petrol. Corp. No. 1 M. L. Barnham	C NW 30-32-31W	2,785	4,210	4,372	5,593	.....	.....	.....	.....	6,046
Falcon-Seaboard Drlg. Co. No. 1 Harvey	C NE SW 32-32-32W	2,826	4,202	4,365	5,738	.....	.....	.....	.....	6,149
Stanton County										
The Hefner Producing Co. No. 1 Walker Unit†	C NE SW 36-30-41W	3,382	.....	3,710	5,455	2,198[8]	2,539[4]	3,207[18]	.....	5,600
Stevens County										
Rip C. Underwood No. 1 Hanlin†	C NE SW 10-35-35W	2,987	4,312	4,488	6,320	.....	.....	.....	.....	6,833
Thomas County										
Placid Oil Co. No. 1 Bertran	C NE NE 7-8-34W	3,247	4,094	4,138	4,780	2,802[1]	3,958[18]	.....	.....	4,956
Murfin-Doloco Expl. Trust No. 1 Leak†	C NW NW 1-9-33W	3,128	4,082	4,118	4,722	2,725[1]	3,874[18]	.....	.....	4,769
John O. Farmer No. 1 Hodges "B"	C NW NW 2-10-33W	3,125	4,028	4,072	4,655	2,641[1]	3,880[18]	.....	.....	4,819
Trego County										
James Zeman No. 1 Jagger	C NE NE 25-12-25W	2,451	3,780	3,819	4,379	2,030[1]	.....	.....	4,538	4,651
Ferguson Oil Co. No. 1 Bealer†	C SW NW 28-13-24W	2,382	3,646	3,686	4,265	.....	3,961[2]	3,401[18]	.....	4,330
Fred B. & Phillip Anschutz No. 1 Schneider	C SW NW 35-13-24W	2,355	3,661	3,702	4,294	1,806[1]	3,944[2]	.....	4,265[9]	4,400
Rains & Williamson Oil Co. No. 1 O'Toole	C SW SW 21-14-25W	2,398	3,662	3,700	4,310	1,880[1]	.....	.....	4,288[9]	4,391
Wallace County										
Arvel C. Smith & Toto Gas Co. No. 1 Whirledge	C SW NW 21-14-40W	3,723	4,140	4,190	5,112	2,807[1]	.....	.....	.....	5,634
Arvel C. Smith & Toto Gas Co. No. 1 Russell	C SE SW 21-15-42W	3,941	4,200	4,234	5,258	2,850[1]	.....	.....	.....	5,360
Arvel C. Smith & Toto Gas Co. No. 1 Meyers	C SE SW 24-15-42W	3,848	4,160	4,183	5,198	2,784[1]	.....	.....	.....	5,291

* Old well worked over.
† No electric or radioactivity logs available.
‡ Completed as gas well, producing from Council Grove.

[1] Anhydrite.
[2] Base of the Kansas City.
[3] Chase.
[4] Council Grove.
[5] Fort Riley.
[6] Granite wash.
[7] "Hunton."
[8] Morrow.
[9] Penn. basal congl.
[10] Precambrian.
[11] Reagan.
[12] Stalnaker.
[13] Topeka.

Ness County, with 19 oil fields named, led in the number of new fields by county during 1963. This west-central county nearly doubled the number of its producing fields. Sixty wildcat tests were drilled in Ness County, so that the percentage of successful exploratory wells was a phenomenal 32 percent. Many of these pools were located as a result of seismic surveys along the northeast-southwest trending Bazine and Beeler anticlines, expressed in Cretaceous rocks of Ness and Hodgeman counties. These structures, along with a map showing their location, are discussed by J. M. Jewett (1951). Of the fields named in Ness County, four are classified as producing from the Fort Scott and Cherokee (Pennsylvanian), 14 are classified as producing from the Mississippian (including two Osagean), and one is a dual-pay field with reported production from both Cherokee and Mississippian strata. The **Kansada** field was revived during 1963 when a Mississippian pay zone was discovered.

Hodgeman County was second in total number of discoveries for the year and had nine Mississippian oil fields named. Of the 171 wells drilled in the County during the year, 86 were completed as commercial oil wells.

Jackson County, in the Forest City Basin, be-

came the 86th Kansas county ever to have produced oil or gas. Its emergence as an oil-producing county came with the naming of the **Leach** oil field eleven miles west of Holton. The discovery well of the field was the Fred B. Anschutz, No. 1 Leach, C SE SW sec. 15, T 7, R 13 E, completed in August, with an initial potential of 20 barrels of 36.6° API gravity oil and 60 percent water per day. Production is from the Viola (Ordovician) strata through perforations between 3,229 and 3,246 feet. The well "bottomed" in Arbuckle rocks (Cambro-Ordovician) at a depth of 3,427 feet. The only other producing well completed in the **Leach** field during the year was the Phillips Petroleum, No. 1 Leach "A," located in the C NE SW sec. 15, T 7, R 13 E. Initial production was 84 barrels of 25.9° API gravity oil plus 79 percent water. The producing strata in this well are recorded as "Hunton" (Silurian-Devonian) between 2,711 and 2,725 feet. This Forest City Basin development has stimulated renewed interest in northeastern Kansas as an oil-producing province.

A new producing depth record in Kansas was reportedly set by the discovery well of the **Gooch** oil field, in Stevens County. The Texaco, Inc., No. 2 T. R. Gooch Unit, C SE NW sec. 8, T 35, R 35 W, drilled to 6,978 feet, was completed as a dual producer with gas production from Morrowan rocks (Pennsylvanian) at 6,257-6,283 feet, and crude oil from Chesteran rocks (Mississippian) at 6,570-6,575 feet.

At least one other Stevens County oil well may be able to challenge the producing depth record of the Gooch well. The Anadarko Production Company, No. 2 Brubaker "A," sec. 34, T 33, R 37 W, completed in 1962, was reported to be producing from the St. Louis limestone (Mississippian) at 6,562-6,575 feet, after being drilled to a total depth of 6,600 feet.

To date, the deepest hole in Kansas is believed to be the Pan American Petroleum Corporation (formerly Stanolind Oil Company) No. 1 Feathers, sec. 15, T 35, R 33 W, Seward County. This 8,243-foot deep hole, drilled in 1947, was "bottomed" in Arbuckle rocks (Cambro-Ordovician).

During the year, 23 abandoned fields were revived (Table 24), and 64 oil and gas fields were abandoned (Table 25). As a result of drilling programs in producing areas, 31 fields were combined with other fields (Table 26).

Wells Drilled During 1963

A statute requiring drillers to file an intent-to-drill application with the State Corporation Commission has facilitated tabulation of new wells, especially in non-scouted eastern Kansas areas. Figure 5 shows, by county, the geographic distribution of wells tabulated on the basis of applications filed. Table 1 lists, by county, the number of permits issued during 1963.

There were 3,649 wells recorded as drillled in the State during 1963 (Table 2). It is certain that numerous shallow wells in several eastern Kansas counties were not recorded and thus are not included in the above total. It is estimated from Kansas Corporation Commission drilling permits and plugging records, and from other reliable sources including a survey of secondary recovery projects, that at least 793 such unrecorded wells were drilled in 1963. This compares with 533 estimated wells for the previous year and brings the total wells drilled during the year to 4,442. Of the reported tests, 1,503 were appraised as oil, 169 as gas, and 32 as oil and gas wells; 1,569 tests were dry and 376 were salt-water disposal wells or input wells drilled in connection with secondary recovery operations. New fields and revived fields accounted for 144 of the oil and gas wells; 552 of the dry holes were wildcat tests (exploratory holes drilled farther than one and one-half miles from production).

In both Neosho and Rice counties more than 200 wells were recorded or estimated as drilled in 1963 (Table 1); in 1962 no Kansas county had over 200 holes drilled. In 1963, Rice County led with 256 new wells, followed by Neosho with 240, Ellis with 209, Barton with 197, Butler with 190, and Russell with 185. These 6 counties accounted for 29 percent of the total number of wells drilled in the State during 1963. Eight additional Kansas counties had more than 100 new wells drilled during 1963, accounting for an additional 26 percent of the state total.

Drilling Rigs

An average of 209 active rigs (both rotary and cable tool) was reported during 1963, which represents an increase of one from the previous year (*World Oil*, February 15, 1964). Rotary rig activity reached a peak of 135 during one month and averaged 96 per month during the year (*Oil and Gas Journal* January 27, 1964). It is estimated that cable-tool drilling accounted for more than 900 wells during 1963.

Geophysics

Although geophysical work has been conducted for many years in Kansas, few results

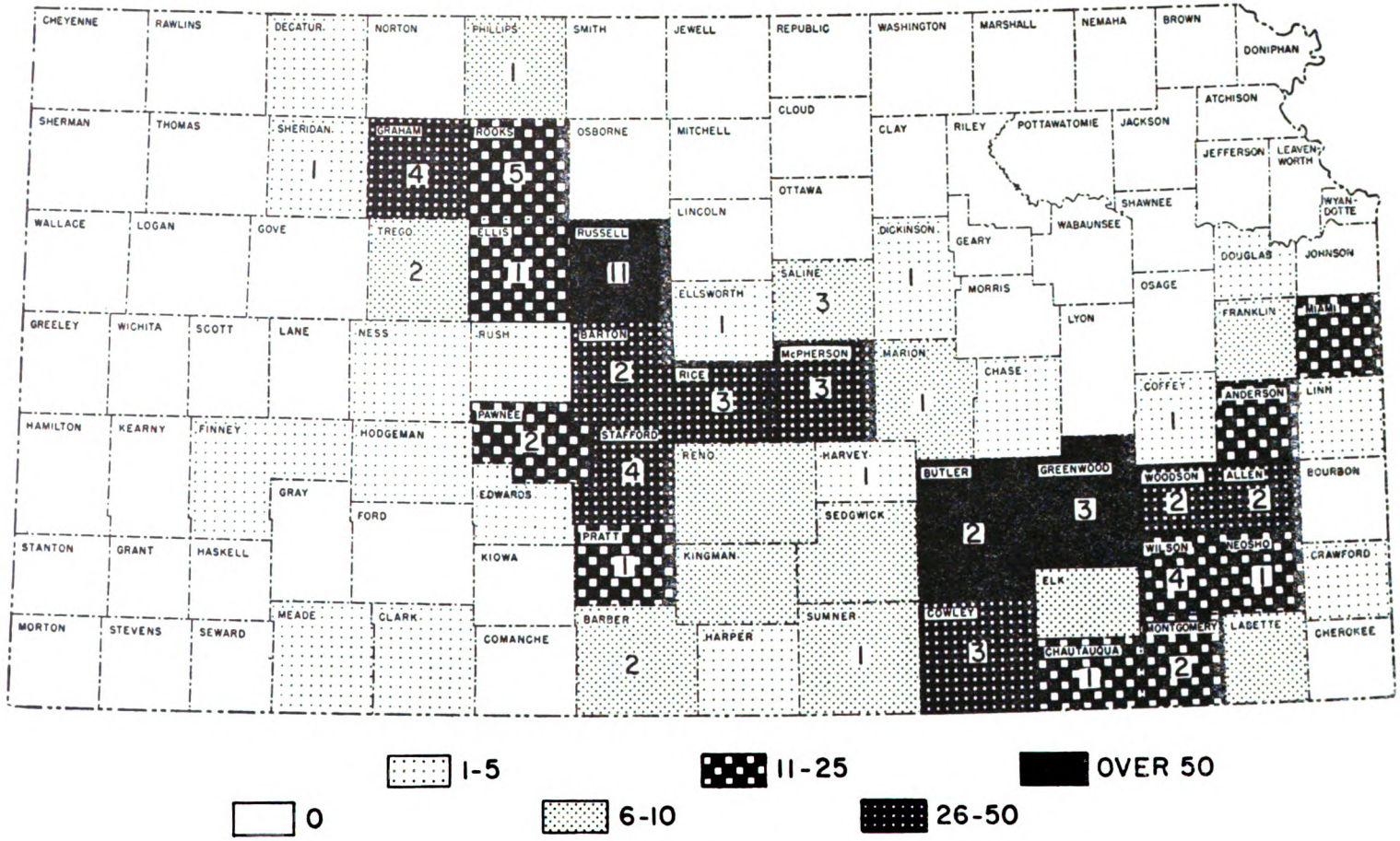

FIGURE 5.—Distribution of intent-to-drill permits issued by State Corporation Commission in 1963.

have been released because the information has potential value to its owner. At present most geophysical exploration programs in Kansas are directed toward finding new oil and gas reserves. Because expenditures in connection with the exploration programs are an essential part of the petroleum industry economy, data concerning these programs in Kansas are pertinent here.

The total number of exploration crew-months in Kansas has generally increased in the past 10 years because of the increased number of seismic parties; however, the number of gravimeter and core-drill crews has decreased. During 1963, it is estimated that there were more than 100 seismic crew-months of activity in Kansas.

OIL

Production and Value

The 109,063,298 barrels of oil produced in Kansas during 1963 is 2,962,412 barrels less than the amount produced in 1962, a 2.6 percent decrease. The 2.6 percent decrease in total value of crude oil, from $332,716,358 to $323,917,995 is due entirely to decreased production.

It can be observed that in Kansas each year more wells are producing less oil. During 1963 an estimated 47,000 wells produced about 109 million barrels of oil. Average oil production per well has declined from 10 barrels per day in 1951 to about 6.4 barrels per day in 1963. An estimated 41,000 of the total number of active oil wells in Kansas may properly be called "stripper wells," producing less than 10 barrels of oil per day. About 75 million barrels of oil were produced by these "stripper wells" in 1963.

The number of counties from which oil production was reported during 1963 is 82, the same as in 1962. The 10 leading oil-producing counties (Table 5) recorded changes during 1963. Rooks and Rice, 7th and 8th respectively in 1962, moved up to 5th and 6th, respectively, during 1963, displacing Stafford and Graham to 7th and 8th in ranking during 1963. Of these ten leading oil-producing counties, Rice, Rooks, and Russell counties showed an increase in crude oil production during 1963 as compared with 1962.

Table 5.—Ten leading oil-producing counties in Kansas, 1962 and 1963.

County	Production, bbl		Rank	
	1962	1963	1962	1963
Ellis	9,937,194	9,494,856	1	1
Barton	9,393,726	8,646,420	2	2
Russell	8,019,627	8,469,460	3	3
Butler	7,148,319	6,538,780	4	4
Rooks	5,191,270	5,566,097	7	5
Rice	4,486,245	5,387,084	8	6
Stafford	5,906,575	5,329,999	5	7
Graham	5,471,446	5,240,344	6	8
Kingman	4,383,235	3,957,826	9	9
Cowley	4,354,668	3,794,917	10	10

Kansas has 18 counties, each of which has produced a cumulative quantity of more than 50,000,000 barrels of oil (Table 6). Butler County, in eastern Kansas, ranks first, having produced an estimated 466,576,013 barrels, considerably more than the 370,197,564 barrels of second-place Barton County. In 1963, Graham County displaced Sedgwick County in rank with respect to total cumulative oil production.

Table 6.—Leading oil-producing counties in Kansas, based on reported, estimated, and recorded cumulative production (50 million barrels or more) to end of 1963.

County	Cumulative production, bbl		Rank	
	1962	1963	1962	1963
Butler	460,037,233	466,576,013	1	1
Barton	361,551,144*	370,197,564	2	2
Russell	330,920,048	339,389,508	3	3
Ellis	258,299,142*	267,793,998	4	4
Greenwood	241,409,044	244,691,243	5	5
Rice	239,132,712*	244,453,237	6	6
Stafford	156,094,192	161,424,191	8	7
McPherson	158,084,219*	160,747,931	7	8
Cowley	112,396,894	116,191,811	9	9
Rooks	102,702,747	108,268,844	10	10
Ellsworth	98,938,519*	100,510,590	11	11
Sumner	82,186,201	85,184,970	12	12
Graham	74,884,521	80,124,865	14	13
Sedgwick	77,255,611	79,709,197	13	14
Reno	66,518,752	67,485,931	15	15
Marion	52,762,680	54,580,135	16	16
Chautauqua	52,251,292	53,086,717	17	17
Pratt	51,142,788	52,468,600	18	18

* Adjusted figure.

Distribution of cumulative oil production by producing zones is significant in exploration for additional reserves. About 40 percent of the cumulative oil production has come from Arbuckle-Reagan (Cambro-Ordovician) rocks and about 30 percent from Pennsylvanian rocks; other Paleozoic rocks (mainly Mississippian) contributed the remaining 30 percent of cumulative oil production.

At the end of 1963 cumulative oil production in Kansas exceeded the 3.6 billion barrel mark. Annual production has exceeded 100 million barrels every year since 1947 (Fig. 2). Kansas has produced more crude oil since the end of World War II than in all the preceding years. Statistics on oil production are given by county in Tables 1 and 28.

The **El Dorado** field in Butler County, the State's third largest producer, is the only one of

seven major oil fields listed in Table 7 that lies east of the Sixth Principal Meridian, which runs through Wichita. The Bemis-Shutts field in Ellis and Rooks counties for the second year remained the largest oil field in annual production during 1963. The Spivey-Grabs-Basil field in Harper and Kingman counties moved ahead of the El Dorado field into 2nd rank in annual oil production in 1963. With the exceptions of the Hall-Gurney field and the Trapp field, both in Barton and Russell counties, all of the State's leading oil fields showed a decrease in annual production as compared with 1962.

Refining

The names and locations of 14 refineries in Kansas during 1963 are listed in Table 8, as well as crude capacity, throughput, and products per stream-day (*Oil and Gas Journal*, April 6, 1964). Petroleum refining in Kansas during 1963 was at about 85 percent of capacity.

Figure 6 shows monthly allocations of crude oil as compared with crude oil reportedly received by Kansas refineries and pipeline runs in Kansas during 1963. A total of 113,027,818 barrels of crude was run to refineries during 1963, about 4 million barrels more than was produced in Kansas during the previous year. The lower pipeline runs to refineries in April reflects refinery shutdown. Monthly runs to pipelines and runs to refineries generally exceeded the amount allocated by the State during 1963. Figure 7 compares the 1963 monthly crude oil demand forecast by the U.S. Bureau of Mines, amount nominated by purchasers, amount allocated by the State Corporation Commission, and amount actually run by pipeline companies. Purchasers' nominations were below daily average runs during most of the year.

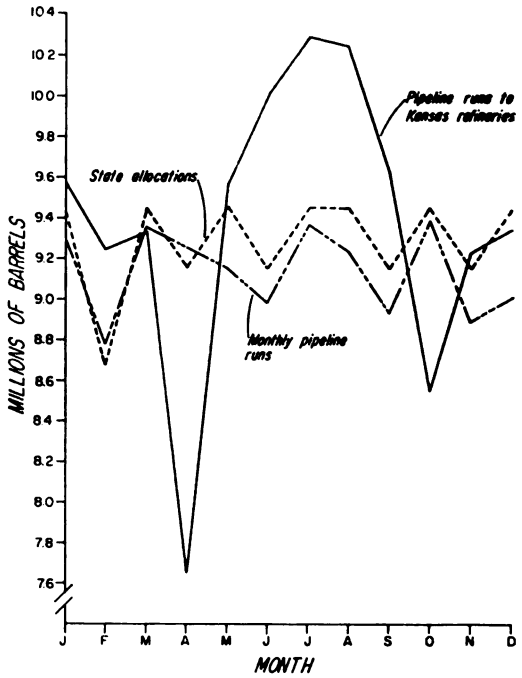

Figure 6.—Monthly comparison of crude oil allocated, pipeline runs to Kansas refineries, and pipeline runs in Kansas during 1963.

The U.S. Bureau of Mines reported the 1963 nationwide average value of crude oil at the wellhead to be $2.89 a barrel, the same as in 1962. The Kansas Geological Survey's estimated value of crude oil per barrel (36.0° to 36.9° gravity) in Kansas during 1963 was $2.97. Table 9 shows crude oil price changes in the Midconti-

Table 7.—Leading oil fields (annual production) in Kansas, 1962 and 1963.

Field	Year discovered	County	Annual production, bbl		Rank	
			1962	1963	1962	1963
Bemis-Shutts	1935	Ellis Rooks	3,988,082	3,750,485	1	1
Spivey-Grabs-Basil	1949	Harper Kingman	3,948,813	3,648,105	3	2
El Dorado	1915	Butler	3,986,234	3,555,758	2	3
Hall-Gurney	1931	Barton Russell	3,198,640	3,204,476	4	4
Trapp	1936	Barton Russell	2,439,392	2,874,552	6	5
Chase-Silica	1931	Barton Rice Stafford	2,902,270	2,813,629	5	6
Kraft-Prusa	1937	Barton Ellsworth	2,321,738	2,085,083	7	7

TABLE 8.—Capacities of Kansas refineries, 1963.

Company and location	County	Nearest town	Crude capacity bbl/cd	Crude capacity bbl/sd	Charge, bbl per stream day: Vacuum distillation	Thermal operations	Catalytic cracking: Fresh feed	Catalytic cracking: Recycle	Catalytic reforming	Hydrogen treating: unit	Hydrogen treating: feed	Production, bbl per stream day: Alkylization	Polymerization	Lubes	Coke, tons	Asphalt
American Oil Co.																
19-30-16E	Wilson	Neodesha	30,600	32,000	.....	.....	10,000	1,000	7,200	7,200	SR naph.	1,600	.....	.....	.....	.....
American Petrofina Co. of Texas																
27-25- 5E	Butler	El Dorado	21,400	22,500	9,000	.....	8,000	4,000	2,800	.....	.....	.....	450	.....	.....	2,800
Apco Oil Corp.																
34-34- 4E	Cowley	Arkansas City	25,000	26,000	5,000	3,500	7,500	4,800	5,000	.....	.....	2,200	.....	.....	.....	1,300
Century Refining Co.																
13-20-33W	Scott	Shallow Water	5,700	6,000	2,000	.....	3,000	3,000	.....	.....	.....	800	.....	.....	.....	900
The Chanute Refining Co.																
32-27-18E	Neosho	Chanute	(This plant is now manufacturing waxes.)													
Cooperative Refinery Assoc.																
22- 3-18W	Phillips	Phillipsburg	13,000	14,000	4,500	.....	5,000	4,500	2,500	3,500	SR naph.	.....	750	.....	.....	1,600
25-34-16E	Montgomery	Coffeyville	24,500	25,500	6,000	8,000	10,000	10,000	4,200	3,000	Mid. dist.	1,300	500	1,500	250	1,200
Derby Refining Co.																
4-27- 1E	Sedgwick	Wichita	21,500	23,000	7,600	3,500	8,700	3,800	2,800	4,000	SR naph.	2,000	600	.....	150	.....
Mid-America Refining Co.																
17-27-18E	Neosho	Chanute	2,850	3,000	1,600	1,250	.....	.....	.....	.....	.....	.....	.....	.....	.....	500
Mobil Oil Co.																
27-27- 4E	Butler	Augusta	45,000	47,000	16,000	4,100	18,500	4,500	10,500	.....	.....	2,400	.....	.....	.....	7,000
National Coop. Refinery Assoc.																
5-20- 3W	McPherson	McPherson	31,000	33,000	.....	2,000 12,000	12,000	6,000	5,000	8,000 ..	SR naph.	2,300	1,000	.....	400	.....
Phillips Petroleum Co.																
34-10-25E	Wyandotte	Kansas City	70,000	NR	15,000	.....	29,000	19,000	16,000	.....	.....	6,600	.....	2,500	.....	2,400
Skelly Oil Co.																
10-26- 5E	Butler	El Dorado	45,500	48,000	24,000	8,500 8,500	20,500	14,350	15,000	10,000	SR naph.	6,600	.....	.....	500	3,000
Vickers Refining Co.																
29-24- 4E	Butler	Potwin	15,000	NR	5,000	2,800	6,000	1,000	3,000	3,000	SR naph.	.....	1,200	.....	.....	.....
		Totals*	351,050	369,475	95,700	45,650	138,200	75,950	74,000	43,500		25,800	4,500	4,000	1,300	20,700

Data from *Oil and Gas Journal*, April 6, 1964, with modifications.
* State crude-capacity totals include calendar-day figures converted to stream-day basis.

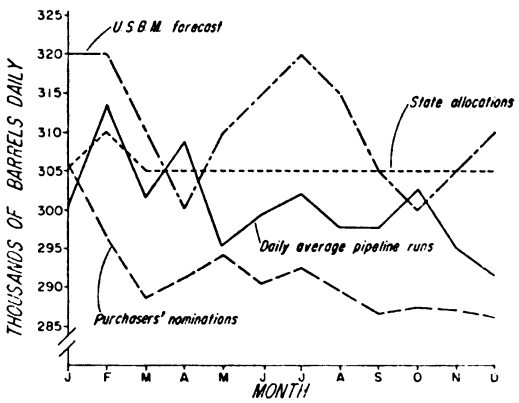

FIGURE 7.—Comparison of daily average crude oil forecast, nominated, allotted, and actual pipeline runs in Kansas during 1963, by months.

nent since 1947 (*World Oil*, February 15, 1964). The market price for Kansas oil has been stable since 1959.

During 1963, oil processed in Kansas refineries amounted to 113,027,818 barrels (Table 10). The total production was 109,063,298 barrels. Imports of oil in 1963 decreased to 42,038,698 barrels from 43,834,148 barrels the previous year. Exports of oil during 1963 decreased by 4,202,707 barrels. Total quantity of oil accounted for in 1963 was 151,101,987 barrels as compared with 155,859,858 barrels in 1962.

Oil and Gas Conservation Division

The Oil and Gas Conservation Division is the regulatory arm of the Kansas Corporation Commission charged with the responsibility of preventing waste of all mineral fuels (liquid and gaseous hydrocarbons) and for protecting the correlative rights of individuals. Until proration was inaugurated, ownership of mineral wealth in Kansas depended upon "law of capture." Today, the Commission determines the monthly market demand for fossil fuels and allocates that demand among pools and wells. Within individual pools a fair share of the fuel market is allocated among owners. Kansas does not have compulsory unitization. Approval of the Commission is necessary for spacing programs and voluntary unitization of royalty interests. The Conservation Division also issues monthly oil proration reports for many of the State's oil fields, makes productivity tests of new wells, supervises dual completions and installation of packers in wells, establishes rules for the prohibition of the commingling of water or oil from different zones, and supervises the plugging of wells and the subsurface disposal of produced saltwater. The cost of regulating the petroleum industry in Kansas is assessed to the industry itself. A fee of one cent per foot, or a minimum of $10.00 per hole, is charged for supervision of plugging. Oil production is assessed at the rate of 0.001 cent per barrel.

TABLE 9.—Crude oil price changes in the Midcontinent, by year.

Date		Oklahoma-Kansas 36-36.9° gravity, $ per bbl
1947	March 10	$1.87
	October 15	2.07
	December 6	2.57
1951	Frozen at Jan. 25 level	2.57
1953	June 15	2.82
1957	January 3	3.07
1958	October 3	2.93
	October 3	3.00
1959	February 20	2.97
1960	No changes	.....
1961	No changes	.....
1962	No changes	.....
1963	No changes	.....

From *World Oil*, February 15, 1964.

TABLE 10.—Barrels of oil produced, imported, refined, and exported in Kansas, 1962-63.

		1962	1963
Produced		112,025,710	109,063,298
Imported		43,834,148	42,038,689
	Total	155,859,858	151,101,987
Exported		42,276,876	38,074,169
Crude oil refined		113,582,982	113,027,818
	Total	155,859,858	151,101,987

Data from State Corporation Commission, Conservation Division.

SECONDARY RECOVERY

Oil occurs in the minute pore spaces of discontinuous rock reservoirs, much like water held in a sponge. Where gas is present under pressure the recovery of hydrocarbons from the reservoir is somewhat like opening an agitated or warm bottle of soda pop. Unfortunately, most of the oil occurring in the Kansas reservoirs is not gas-capped, nor do the reservoirs generally have sufficient gas in solution to cause sustained flowage from wells. Because oil has little self-expulsion energy, either gravity or some induced pressure must be relied upon for moving the oil into the bore hole. As the natural energy of the oil or gas reservoir declines, a process called secondary recovery is used to replenish the energy of the system by injection of additional fluids or gases under induced pressure.

Repressuring of oil-bearing rocks by injection of water, air, gas, or a combination of these agents, has become a principal method of oil production in Kansas since this practice was sanctioned by state law in 1935. Grandone (1944) reported that the first legal repressuring was done by the York State Oil Company in the **Seeley** pool (now **Seeley-Wick**) of northern Greenwood County in May, 1935. The significance of secondary recovery activities in the State is shown by the fact that such production has risen from an estimated 7 million barrels in 1949 to 21.6 million barrels in 1963, or about 19.8 percent of the total production (Table 3).

Nearly one-third of the total United States domestic oil production for 1960 (the most recent national survey) is from secondary recovery projects (*Oil and Gas Journal*, June 18, 1962). During that year, 17.1 percent of the Kansas production was accredited to such projects. In Oklahoma, 40.7 percent, in Texas, 25.0 percent, and in Colorado 71.2 percent of the total 1960 oil production was so accredited. Differences in the definition of secondary recovery projects among the states partially explained the large differences in percentage as compared with Kansas. In Kansas "stripper" operations lacking repressuring programs are not included.

The American Petroleum Institute's proved reserves figures (Kansas, 1963, had an estimated 841 million barrels of oil in reserves) do not include a field's secondary reserves unless an injection program is underway. As of January, 1962, the Interstate Oil Compact Commission reported 16,150 million barrels of oil originally in place, of which 110 million were appraised as economically recoverable by gas and water injection projects, and 1,500 million barrels as reserves physically recoverable by newer methods (*Oil and Gas Journal*, June 18, 1962).

Figure 8 shows graphically the amount of oil produced by secondary recovery methods in Kansas from 1949 to 1963 relative to total oil production. In recent years, a number of new applications for repressuring and for extensions of secondary recovery projects have been filed, and each succeeding year finds a larger share of the annual crude oil production credited to secondary recovery projects. This trend will continue, no doubt.

Early in 1963, a new Kansas Secondary Recovery Committee was organized. A questionnaire prepared by this Committee was sent by the Oil and Gas Conservation Division of the Kansas Corporation Commission to all operators of Kansas secondary recovery projects. Answers were received on 810 projects. The data were assembled as Secondary Recovery Operations in Kansas During 1962 (Kansas Secondary Recovery Committee, 1964).

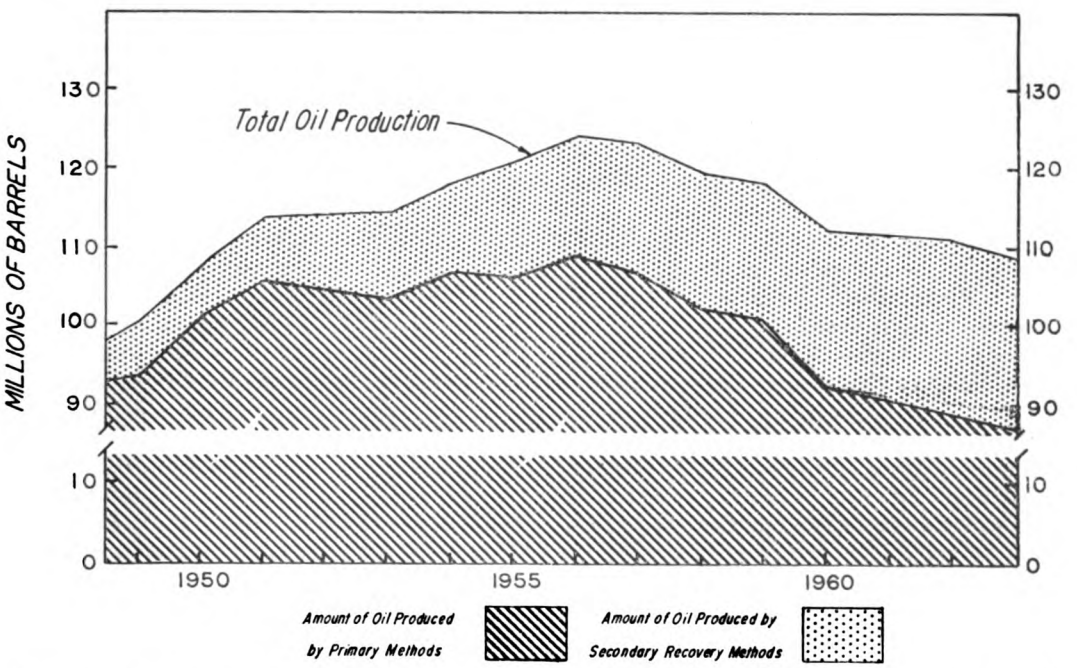

FIGURE 8.—Comparison of oil produced by secondary recovery methods in Kansas to total oil production, 1949-1963.

Again, in 1964, questionnaires have been sent to all operators holding secondary recovery permits in Kansas. It is anticipated that this information for 1963 will again be published by the State Geological Survey for the Kansas Secondary Recovery Committee.

During 1963, the Conservation Division of the State Corporation Commission issued 72 permits for secondary recovery operations, exactly one-half the number issued in 1962. The areal distribution of these operations in relation to those reporting the previous year is shown in Figure 9. The names of the operators and locations of the projects are given in Table 11. The fact that many of the secondary recovery projects started in 1963 were in western Kansas emphasized the significance of the use of secondary recovery in the larger and older fields located on the Central Kansas Uplift.

The following zones (listed in order of their importance) provided most of the oil produced by secondary recovery methods: "Bartlesville sand," Lansing Group, and Mississippian.

Salt water is used for repressuring in most of the Kansas projects. Of the many zones from which salt water is obtained for repressuring, the three main ones are sandstones of the Douglas Group, the Arbuckle Dolomite, and the "Bartlesville sand." Principal sources of fresh water for repressuring are shallow ground-water reservoirs, lakes, streams, and municipal water supplies. Where combined fresh and salt water is used, the brine is usually obtained from the local oil-producing formation. Treatment of salt water includes aeration, addition of chemicals, settling, and filtration; these methods are used either singly or in various combinations. Fresh water requires more treatment than brines do. Such treatment, likewise, includes addition of chemical materials (lime, chlorine, or alum) settling, filtering, or some combination of these methods. Most of the combined fresh and salt water used for repressuring is treated.

For water-flooding, ground water is generally preferable to river water. As the quality of river water varies greatly with the seasons, the necessary treatment also varies. Ground water, on the other hand, remains uniform in chemical composition for long periods; therefore, any treatment required before injection remains relatively constant.

The fire-flood method (in situ combustion) is particularly applicable to low-gravity oil, and early estimates indicate that 50 to 80 percent of the oil originally in place may be recovered. Some key factors in the operation of a combustion project are the amount of air required, the rate of air injection, and the air injection pressure. The combustion method was used in a Kansas pilot project (now completed) started by Sinclair Oil and Gas Company in 1956 and located in the **Humboldt-Chanute** field in Allen County.

The Layton Oil Company started a fire-flood project in Allen County, in the **Iola** field, during 1963. It is believed that several other combustion projects are planned by operators in the eastern Kansas area of low-gravity crude oils. Other types of secondary recovery methods, such as injection of carbon dioxide, "electro-fracing," and steam flooding, have been attempted in the past. Some of these methods are presently being used and more are in the planning stage. These projects have not been successful in the past due to insufficient technology, under-financing, poor reservoir characteristics, and other factors. As technology advances, this area in eastern Kansas is certain to become subject to new methods in an attempt to extract these reserves.

NATURAL GAS

The shipping of natural gas through extensive pipeline systems across state lines and the authorization of new cross-country lines are under the jurisdiction of the Interstate Commerce Commission and the Federal Power Commission, respectively. Under the Natural Gas Act of 1938 interstate gas transportation takes on the aspect of a public utility. The apportionment of new lines and approval of transmission of gas are based on national considerations of the greatest good to the greatest number of people, as well as on economic investment values. Natural gas is generally considered to be "end-use" controlled. Thus Kansas, ranking fourth among the gas-producing states and third in reserves, yet having a relatively small population, has only a minor voice in the eventual use of the gas. Gas entering interstate systems is dedicated by contract and agreement between the producer, the pipeline company, and the Federal Power Commission; little non-dedicated gas is available for intrastate use. The producers want to export excess gas for income, which returns to the State; the Kansas consumer, both domestic and industrial, desires retention of the natural resources within the State's borders, arguing that exportation of natural gas depletes reserves. A significant portion of Kansas' annual gas production is being exported, but it is estimated that an amount equal to about 60 percent of the quanti-

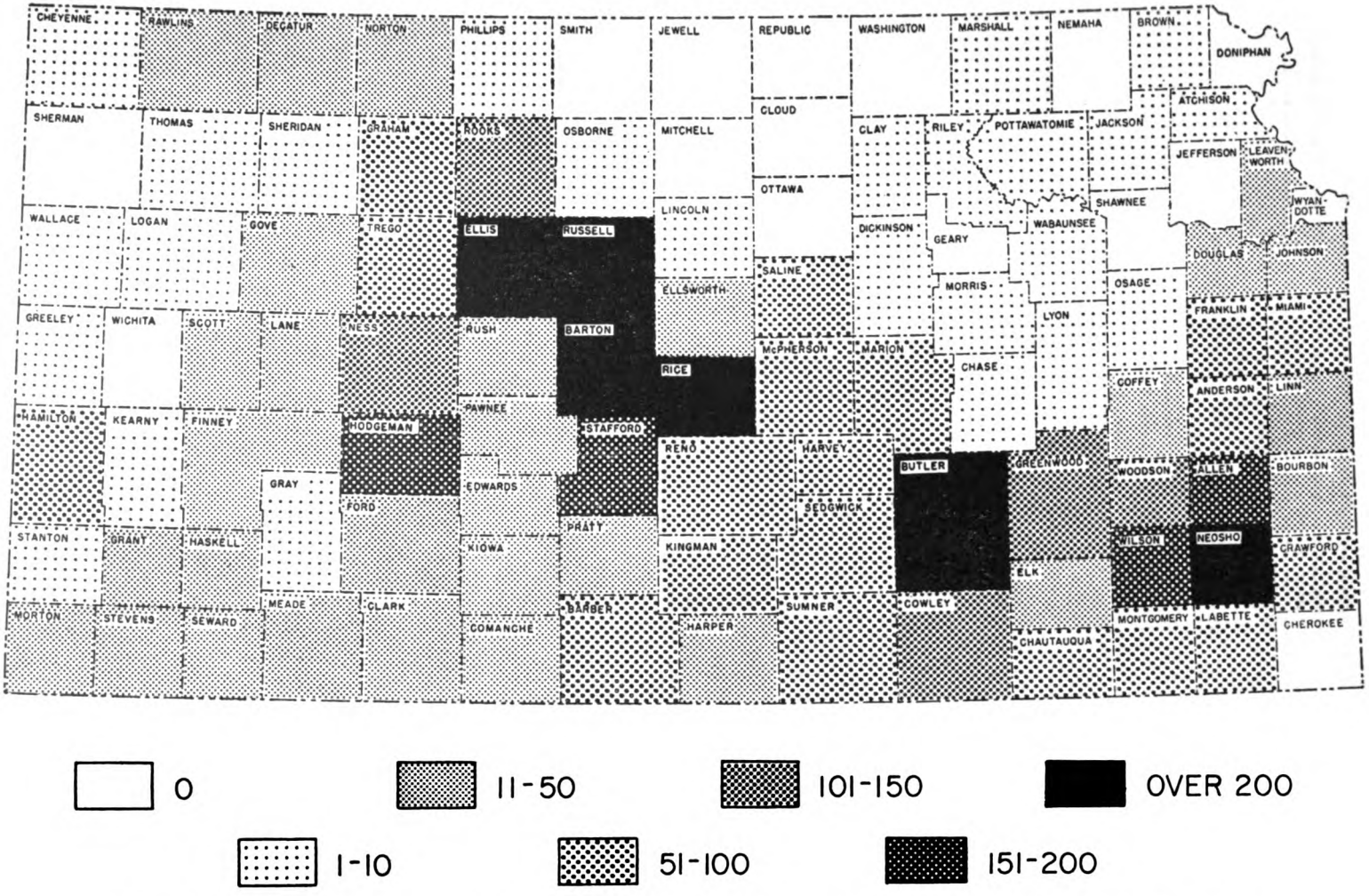

FIGURE 9.—Secondary recovery permits issued during 1963 (numbers) compared to total active projects reported, 1962 (shown by patterns).

TABLE 11.—Repressuring applications approved in Kansas during 1963.

County	Location	Name of company
Allen	35-24-20E	Colt Oil, Inc.
do	32-26-21E	N & B Enterprises
Barber	16-33-11W	Sinclair Oil & Gas Company
do	17-33-11W	Gulf Oil Corp.
Barton	33-18-11W	Texaco, Inc.
do	19-19-12W	Simon Lebow Corp.
Butler	12-26- 4E	Cities Service Oil Company
do	19-29- 8E	K. T. Wiedemann Est.
Chautauqua	21-33-10E	Day-Melcher-Rosenthal
Coffey	1-23-16E	White & Ellis & Ralph R. Hamilton Opr. Company
Cowley	25-30- 4E	Tok Oil Company, Inc.
do	26-32- 4E	Earl F. Wakefield
do	5-34- 3E	McNeish Oil Operations
Dickinson	27-16- 4E	Frank Jones, & Slusser Drlg. Company
Ellis	21-11-18W	Tenneco Oil Company
Ellsworth	33-15-10W	Henderson Oil Company
Finney	19-26-34W	E. T. Lindsay
Graham	33- 8-24W	Imperial Oil of Kansas, Inc.
do	36- 8-25W	Prime Drilling Company
do	36- 9-23W	Petroleum, Inc.
do	2-10-22W	John O. Farmer, Inc.
Greenwood	2-23- 9E	Shallow Water Refining Company
do	22-23-13E	Sunray DX Oil Company
do	36-27- 8E	K. T. Wiedemann Est.
Harvey	19-23- 3W	Home-Stake Production Company
McPherson	8-19- 1W	Tom C. Brown
do	22-20- 3W	Donald T. Ingling
do	27-20- 3W	Alfred D. Koehn
Marion	27-19- 3E	George R. Hess
Montgomery	7-32-17E	Radco Oil Company
do	13-33-14E	Horton Oil Company
Neosho	27-28-18E	Wilshire Oil Company
Pawnee	16-23-17W	Peel-Hardman Oil Operators
do	17-23-17W	Shallow Water Refining Company
Phillips	7- 2-18W	Phillips Petroleum Company
Pratt	33-26-13W	General American Oil Company of Texas
Rice	11-18- 9W	Shallow Water Refining Company
do	3-19- 6W	Koch Oil Corp., Inc.
do	36-20- 6W	Sterling Drilling Company
Rooks	12- 8-17W	Cities Service Oil Company
do	12- 9-17W	Atlantic Refining Company
do	12- 9-17W	Cooperative Refinery Assn.
do	26- 9-19W	Tenneco Oil Company
do	2-10-16W	Cities Service Oil Company
Russell	28-12-15W	Harold Krueger & Assoc.
do	15-14-13W	Cooperative Refinery Assn.
do	16-14-13W	Carl W. Boxberger, *et al.*
do	20-14-13W	Shields Oil Producers, Inc.
do	21-14-13W	Carl W. Boxberger, *et al.*
do	25-14-13W	Texaco, Inc.
do	36-14-13W	Colorado Oil and Gas Corp.
do	36-14-13W	Theodore Gore
do	3-14-14W	Cooperative Refinery Assn.
do	30-15-13W	Parsons Production Company

TABLE 11.—Repressuring applications approved in Kansas during 1963 (concluded).

County	Location	Name of company
Russell	5-15-14W	R. P. Nixon
Saline	25-15- 4W	Mobil Oil Company
do	35-15- 4W	Mobil Oil Company
do	2-16- 4W	Colorado Oil & Gas Corp.
Sheridan	20- 6-26W	Nat'l. Coop. Refinery Assn.
Stafford	5-21-14W	Nat'l. Coop. Refinery Assn.
do	5-21-14W	Nat'l. Coop. Refinery Assn.
do	2-22-12W	Pan American Petrol. Corp.
do	18-23-13W	Sterling Drilling Company
Sumner	12-35- 2E	Albert Brauer
Trego	12-12-23W	Imperial Oil of Kansas, Inc.
do	35-14-21W	John O. Farmer, Inc.
Wilson	34-28-14E	C. F. M. Oil Operations
do	19-30-16E	Fred E. Wood & Assoc.
do	21-30-16E	Fred E. Wood & Assoc.
do	29-30-16E	Fred E. Wood & Assoc.
Woodson	32-23-14E	Pure Oil Company
do	18-24-16E	Joe Phillips

ty produced is used within the State by over a million customers.

PRODUCTION AND VALUE

Natural gas production during 1963 totaled 773,373,504 thousand cubic feet, calculated at the base of 14.65 psia, an increase of 6.6 percent over the preceding year. Since 1956, annual gas production has exceeded 500 billion cubic feet, and since 1943 it has been more than 100 billion cubic feet. The estimated value of natural gas increased to 85,071,085 compared with $79,783,345 in 1962, a 6.6 percent increase in value due entirely to an increase in gas production. A minimum price of 11 cents per thousand cubic feet, measured at 14.65 psia, has been applied to all Kansas gas production including minor amounts of nonprorated production, much of which probably brought a higher price. In June of 1962, the Kansas Corporation Commission amended the price order for the **Hugoton Gas Area**, providing for the scaling of prices according to the heating value. The minimum price of gas rated less than 750 British Thermal Units is now adjustable downward in direct proportion to its BTU rating. Upward adjustments in price for gas above 950 BTU are also provided.

Natural gas was produced in 56 counties in 1963 (Table 1), with 16 counties producing 5 billion cubic feet or more (Table 12). Among the 16 counties, Grant County was the leader, producing 155,929,843 thousand cubic feet.

Twenty-two counties in Kansas now have a cumulative production of 20 billion cubic feet or more of natural gas, as of the end of 1963 (Table 13). Although complete production records for most eastern counties are either not available or nonexistent, it is certain that Allen, Cowley, Montgomery, and Wilson counties have each produced 10 billion cubic feet or more of gas.

Cumulative gas production for the State exceeds 10.7 trillion cubic feet. The Permian gas production (mostly from the **Hugoton Gas Area**) represents about 61 percent of the total. Other important gas zones are the Pennsylvanian, which accounts for 32 percent, and the Mississippian and Cambro-Ordovician, which

TABLE 12.—Kansas counties producing 5 billion cubic feet or more of natural gas during 1963.

County	Production, M cu ft (14.65 p s i a)	Rank
Grant	155,929,843	1
Stevens	153,669,101	2
Morton	82,536,286	3
Kearny	77,069,683	4
Finney	52,941,853	5
Haskell	43,997,344	6
Barber	40,821,124	7
Kingman	28,468,031	8
Seward	27,432,546	9
Stanton	21,995,914	10
Meade	15,964,362	11
Kiowa	12,850,357	12
Clark	12,478,916	13
Comanche	7,491,271	14
Marion	7,308,862	15
Harper	5,755,571	16

TABLE 13.—Counties in Kansas having cumulative production of 20 billion cubic feet or more of gas to end of 1963. (Based on recorded and estimated production.)

County	Cumulative production, M cu ft (14.65 p s i a)		Rank	
	1962	1963	1962	1963
Stevens	2,183,878,326*	2,337,547,427	1	1
Grant	1,328,428,499*	1,484,358,342	2	2
Kearny	942,191,302*	1,019,260,985	3	3
Morton	851,042,714*	933,579,000	4	4
Barber	592,884,472	633,705,596	5	5
Finney	544,311,352*	597,253,205	6	6
Haskell	475,042,770*	519,040,114	7	7
Seward	386,095,060*	413,527,606	8	8
Stanton	240,935,472*	262,931,386	9	9
Kingman	118,426,380	146,894,411	10	10
Meade	98,773,976*	114,738,338	11	11
Clark	44,813,748	57,292,664	14	12
Hamilton	55,227,130*	56,500,709	12*	13
Pawnee	48,168,359	50,164,358	13*	14
Kiowa	34,086,824	46,937,181	16	15
Rice	36,648,396	37,148,558	15	16
Harper	26,073,015*	31,828,586	19*	17
Pratt	27,927,105	30,850,377	17*	18
Barton	26,915,735	28,204,014	18*	19
Reno	21,665,213	24,915,400	20	20
Edwards	21,220,296	24,264,549	21	21
Stafford	20,816,236	23,832,591	22	22

* Adjusted figure.

together account for about 7 percent of the cumulative gas production.

In the gas production table (Table 29), 1963 production by field and cumulative figures by counties for the entire State are calculated at the same pressure base, 14.65 psia. Production in the eastern Kansas fields, which reached their peak nearly 60 years ago, was less than 1 percent, whereas production from the **Hugoton Gas Area** in southwestern Kansas was about 72 percent of the State's total for 1963.

The 1963 consumption of marketed natural gas in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota is reported as a unit quarterly by the U.S. Bureau of Mines. A detailed breakdown of use within Kansas during 1963 revealed that 82,039,000 thousand cubic feet, valued at an average of 56.2 cents per thousand, were consumed in residential use by 527,000 customers. A total of 26,600,000 thousand cubic feet, valued at an average of 45.5 cents per thousand, was consumed commercially by 51,000 customers. Industrial consumption was 279,241,000 thousand cubic feet, valued at an average of 21.6 cents per thousand cubic feet. Because the demand for natural gas is seasonal, storage of gas during the slack season has been developed. Table 14 gives the locations and capacities of various Kansas underground natural gas storage projects. No appreciable increase in storage capacities was noted during the year.

Monthly gas proration schedules were issued by the Kansas Corporation Commission for 38 fields during 1963. These are the **Aetna Gas Area, Medicine Lodge-Boggs** ("Bartholow," "Boggs"), **Boggs Southwest** ("Driftwood"), **Brooks, Crystal Springs, Elsea, Elwood, Glick, Greenwood Gas Area, Hardtner, Snake Creek** ("Harper Ranch"), **Harper Ranch** ("Harper Ranch North," "Sitka Northeast"), **Hopewell** ("Hopewell South"), **Hugoton Gas Area, ILS** ("ILS Southwest"), **Iuka-Carmi, Kinsler** ("Kinsler Marmaton," "Kinsler Mississippian"), **Kinsler East, Kinsler West, Lost Springs** ("Antelope East"), **McGuire-Goemann, McKinney, Mohler Northeast, Nich, Nichols, Palmer, Panoma Gas Area, Rhodes** ("Rhodes North," "Rhodes Northwest"), **Rhodes Northeast, Rhodes South, Richfield** ("Richfield North"), **Sharon Northwest, Sitka, Sperling South** ("Sperling"), **Spivey-Grabs-Basil, Taloga** ("Keyes," Taloga "C," and Taloga "G") and **Wil.** Unprorated gas fields in Kansas are limited by statute to 25 percent of the open-flow capacity. Those fields having a common source of supply in which the average open-flow capacity of all the producing wells does not exceed 750,000 cubic feet per day are exempt from proration. Purchasing companies are required to file each month a record of the amount of gas purchased from wells in Kansas. Gas deliverability tests are made annually. In order to provide income for regulatory purposes during 1963, companies were assessed 0.00025 cents per thousand cubic feet of gas.

NEW DEVELOPMENTS

During 1963, 19 gas fields (15 gas and 4 oil and gas) were named in Kansas (Table 23). Of the new fields, five produce from Mississippian rocks and four from Morrowan (Pennsylvanian) rocks.

Twenty-one new gas zones were discovered in old fields during 1963. Complete data on the discovery wells of these zones are given in Table 27.

TABLE 14.—Underground natural gas storage areas in Kansas in 1963.

Company and field or area	Township and range	County	Capacity, M cu ft (14.65 p s i a)			Zone
			Working gas	Cushion gas	Total reservoir	
Arkansas Louisiana Gas Corp.						
Collinson	34S-3E	Cowley	674,300	425,700	1,100,000	.....
Cities Service Gas Co.						
Alden	21S-9W	Rice	5,000,000	9,773,600	14,773,600	"Misener"
Bover	26S-5E	Butler	392,300	627,600	1,019,900	Wabaunsee
Colony	22, 23S-19E	Anderson	4,148,100	5,055,600	9,203,700	"Colony"
Craig	13S-23E	Johnson	1,557,900	4,517,900	6,075,800	"Bush City"
Elk City	31, 32S-13, 14E	Montgomery and Elk	10,000,000	10,000,000	20,000,000	"Burgess"
McLouth	9, 10S-19, 20, 21E	Jefferson and Leavenworth	5,212,300	7,701,400	12,913,700	"Bartlesville"
Piqua	24, 25S-17E	Allen and Woodson	1,551,100	1,679,400	3,230,500	"Colony"
Welda North	21S-19E	Anderson	4,521,600	5,500,000	10,021,600	"Colony"
Welda South	22S-19E	Anderson	5,313,600	6,475,600	11,789,200	"Colony"
Union Gas System, Inc.						
Buffalo	27S-16E	Wilson				Iola
Fredonia	29S-19E	Wilson				"Layton"
Liberty North	33S-17E	Montgomery	2,842,000	3,781,000	8,250,000	"Squirrel"
Liberty South	34S-17E	Montgomery				"Squirrel"
Longton	32S-12E	Chautauqua				"Layton"
Total			41,212,000	55,539,000	98,378,000	

From Bizal, R. B., *Oil and Gas Journal*, May 4, 1964, with modifications.

HUGOTON GAS AREA

The **Hugoton Gas Area**, including its extension across the Oklahoma "strip" and into the Texas Panhandle, is regarded as one of the world's largest known gas reserves. As of the beginning of 1963 the estimated reserves in the entire field were 35.5 trillion cubic feet. Production by year since 1954 from the Kansas portion of the field is shown in Table 15. Production during 1963, more than 566 billion cubic feet, amounted to 72 percent of the total Kansas gas production, an increase of one percent compared to the previous year.

TABLE 15.—Production from Kansas part of Hugoton Gas Area, 1954-1963.

Year	M cu ft gas, (14.65 p s i a)
1954	346,732,192
1955	394,257,153
1956	381,874,779
1957	396,889,199
1958	349,263,723
1959	404,764,021
1960	451,820,153
1961	467,842,078
1962	518,069,603
1963	556,067,168

The Defenders and Traders Gas Company gas well in sec. 3, T 35 S, R 34 W, Seward County, drilled in 1922, is recognized as the discovery well of the **Hugoton Gas Area.** Rapid development of this huge gas reservoir in southwestern Kansas came in the early 1940's. By the end of 1949, the number of producing wells passed the 2,000 mark, and the area encompassed two million acres. By the end of 1963, there were 3,960 producing gas wells, and the Kansas part of the **Hugoton** field included about 2,603,000 acres. It is about 60 miles wide and 85 miles long (north-south), taking in two entire counties (Stevens and Grant) and parts of seven others (Finney, Hamilton, Haskell, Kearny, Morton, Seward, and Stanton). Twenty-four wells were completed during 1963, compared with 17 in the previous year.

With the assistance of Ray Dietz, Gas Proration Analyst, of the Conservation Division of the State Corporation Commission, and Dwight's Oil and Gas Reports, county gas production figures and county cumulative totals for the **Hugoton Gas Area** have been prepared for this report. These data are given in Table 16. Stevens and Grant counties each produced more than 150 billion cubic feet of gas during 1963. Cumulative production from these two counties accounts for more than half of all the gas produced from the field in Kansas.

The **Hugoton Gas Area**, as defined by the Nomenclature Committee of the Kansas Geological Society, is limited to wells producing gas from the Chase Group of the Permian System. Pay zones are in the Fort Riley, Towanda, Win-

TABLE 16.—County annual and cumulative production, Hugoton Gas Area.*

County	Cumulative production to end of 1962,† M cu ft	1963 production, M cu ft	Cumulative production to end of 1963, M cu ft
Grant	1,328,428,499	154,326,547	1,482,755,046
Stevens	2,175,469,689	151,438,039	2,326,907,728
Kearny	942,191,302	77,069,683	1,019,260,985
Finney	544,165,277	52,941,853	597,107,130
Haskell	467,196,576	41,285,140	508,481,716
Morton	408,146,583	33,894,813	442,041,396
Seward	318,475,306	23,053,541	341,528,847
Stanton	213,912,374	20,026,839	233,939,213
Hamilton	54,227,130	2,030,713	56,257,843
Total	6,452,212,736	556,067,168	7,008,279,904

* Base 14.65 p s i a.
† Revised 1963.

field, Krider, and Herington Limestones. Distribution of porosity seems to control productivity, and porosity in these zones ranges from 13 to 18 percent; the permeability is low and irregular. Plate 1 shows the approximate boundary of the area as outlined at the end of 1963.

Wells having an initial potential of less than one million cubic feet per day after acidization and treatment are regarded as small, and those producing more than 30 million cubic feet of gas per day are large. The average depth to the top of the producing formations is about 2,500 feet. The field has a water drive, and shut-in pressure from selected wells averages 350 pounds per square inch.

Because the **Hugoton Gas Area** is prorated, only one well may ordinarily 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. Because of wide well spacing, there is little surface evidence of this huge gas reservoir.

Gas from the **Hugoton Gas Area** is of fairly good quality (Table 17), having a heating value ranging from less than 750 to more than 1,000 BTU per cubic foot, and it yields about 0.5 gallon of natural gasoline condensate per thousand cubic feet. There are several natural gasoline plants in the area, as well as one carbon black plant.

TABLE 17.—Average natural gas analysis from Hugoton Gas Area.

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

From Keplinger, Wanenmacher, and Burns, 1948.

HELIUM

Although the element helium had been identified previously as a component in air, its first discovery as a component of natural gas was by H. P. Cady and D. F. McFarland, of the University of Kansas (Cady and McFarland, 1908). The completely inert gas was described from analyses of natural gas from the discovery well of the **Dexter Gas Field** in Cowley County. Helium was extracted for use in lighter-than-air craft during World War I from a now-abandoned plant near the town of Dexter.

The most widely supported theory for the origin of helium is that it is radiogenic, *i.e.*, produced by radioactive disintegration of certain heavy elements. Helium is a colorless, odorless, tasteless, non-flammable gas, which liquefies at –452°F., an extremely low temperature. Helium is one of the inert gases, and it is not known to combine naturally with any other element. It is the only substance known that remains in a gaseous state below –423°F. When liquid helium is cooled to within 4°F. of absolute zero, it assumes a unique physical state. Under these conditions it is a super-fluid, almost devoid of viscosity and capable of flowing through the tiniest opening; in this state, it is also a superconductor of heat and electricity.

Helium is important to our defense program. Its usefulness is due to its unique properties. It is used in our space (missile), atomic energy, aerology, and aeronautical research programs. Helium-shielded arc welding is the best method of welding aluminum. Silicon crystals for use in transistors are grown in a helium atmosphere. Helium is used as a medical aid in respiratory cases. It is used to detect minute leaks in pressure systems, such as vessels used in nuclear-energy investigations. About 90 percent of the production is used in connection with federal government research contracts.

Helium occurs in minute quantities in many Kansas gas fields, but the greatest recoverable quantity of helium thus far known in the world is contained in the natural gas in the **Hugoton Gas Area**, which extends from Kansas across the Oklahoma Panhandle into Texas. The helium content of the field averages only about 0.46 percent, but because of the high withdrawal rate

(25 years calculated depletion time), and the transport of the fuel to markets, much helium has been wasted. In the past, only about 15 percent of the extractable helium was recovered. This fact, coupled with a tenfold increase in consumption compared with consumption a decade ago, led to the development (in 1961) of an intense, government-supported helium conservation program. Recoverable helium from our nation's areas of primary resources amounts to more than 130 billion cubic feet (*Oil and Gas Journal*, February 5, 1962).

Natural gas containing helium in concentrations of 1.0 percent or more is found in parts of Kansas other than the **Hugoton Gas Area**, but the fields are generally not large, are scattered, and the helium content varies greatly from well to well. Helium-bearing gases are reported in several U.S. Bureau of Mines natural gas surveys. Natural gas from the **Greenwood Gas Area** in southwestern Kansas averages about 0.6 percent helium.

The federally-operated helium extraction plant at Otis in central Kansas has recovered helium for many years from gas gathered from fields with relatively small reserves in Barton, Rush, and Pawnee counties. These fields include the **Otis-Albert** in Rush and Barton counties, and **Ryan** in Rush and Pawnee counties, **Pawnee Rock** in Pawnee County, **Reichel** in Rush County, and **Behrens** and **Unruh** in Barton County. The limited supply of helium for the Otis plant results in operation at less than 50 percent of capacity. Prospects for additional sources of helium to supply this plant are not promising.

The price and production of helium are controlled by the federal government. Helium extraction in Kansas, reported by the U.S. Bureau of Mines, increased from 40,749,000 cubic feet in 1962 to 775,071,000 cubic feet in 1963, an 18-fold increase. Of this total, it is estimated that 275.1 million cubic feet was extracted from gas produced outside Kansas and shipped into the State for processing. Revenue from helium extracted during 1963 amounts to $10,088,110, reflecting a considerable increase in quantity. Helium production and value from Kansas gas are given in Table 2, and production and value of helium extracted in Kansas from all sources (including Texas and Oklahoma) are given in Table 18.

NATURAL GAS LIQUIDS

Production and Value

Kansas production of natural gas liquids during 1963 from 20 natural gasoline plants was 567.2 million gallons, 266.5 million gallons more than during 1962. The value of natural gas liquids (natural gasoline, propane, butane, and other liquefied petroleum gases) produced during 1963 was $27,010,000. The 88.6 percent increase in production is due mainly to the completion and placing on-stream of the three new helium plants and the natural gasoline plants developed in conjunction with them. These developments are discussed in the pipeline and

Table 18.—Helium and carbon black production and value in Kansas, 1937-1963.

Year	Helium			Carbon Black	
	Production, cu ft	Shipments, cu ft	Value of shipments, dollars	Production, lbs	Value, dollars
1937-1948	.....	.....	.....	415,000,000	17,620,000
1949	.....	.....	.....	78,833,470	3,515,827
1950	.....	.....	.....	82,508,506	3,992,268
1951	26,280,000	26,280,000	327,000	112,205,669	5,334,126
1952	38,509,000	38,509,000	491,000	82,000,000	3,900,000
1953	42,782,800	42,782,800	563,923	69,985,475	3,207,600
1954	37,530,000	37,530,000	593,162	54,328,515	3,014,316
1955	42,749,600	42,749,600	662,619	97,496,155	5,553,883
1956	45,035,200	45,035,200	698,000	105,680,834	6,590,663
1957	37,249,000	36,743,000	569,517	76,419,500	5,131,569
1958	25,858,000	27,888,000	432,264	75,443,750	5,261,142
1959	24,004,300	21,642,500	342,619	91,644,160	6,387,598
1960	21,930,600	21,696,300	349,750	87,302,185	5,621,236
1961	23,049,600	23,250,900	433,682	89,936,075	6,243,192
1962	40,749,100	42,305,600	1,478,467	102,282,466	7,118,849
1963	775,071,000	774,813,000	10,088,110	61,916,880	3,983,554
Total	1,180,798,200	1,181,225,900	17,030,113	1,682,983,640	92,475,823

fractionating plant construction section. Because some pipelines carry natural gas from other states into Kansas, and these gases are stripped of helium and natural gas liquids in Kansas, not all production of LPG or helium is directly related to production of gas from Kansas wells. Conversely, some minor amounts of Kansas-produced gas is probably run through plants in other states for the extraction of natural gas liquids.

The need for low-cost temporary storage is one of the major problems facing the expanding LPG industry. This problem, created by the seasonal nature of the demand for the product, has been partly solved in the last few years by injecting natural gas liquids into wholly or partly depleted reservoirs, which may have contained salt water, gas, or distillate. Recently, and especially in Kansas, natural gas liquids have been stored in artificially-formed underground cavities in salt beds. Capacities of these storage reservoirs are given in Table 19, and locations are shown on Figure 10.

The average daily production of natural gasoline and LPG in 1963 from all Kansas plants was 37,000 barrels, compared to 19,614 for the previous year (Table 20). The estimated value averaged $2.00 per barrel. Production from Kansas plants for the last 18 years is shown in Table 3; plant capacity is given in Table 19; and plant locations are given in Figure 10.

CARBON BLACK

Kansas lost a carbon black plant during 1963 with the dismantling of the Columbian Fuel Corporation (Peerless) plant, near Hickok, in Grant County. The only remaining plant changed ownership with the purchase of the Columbia Fuel Corporation plant, also near Hickok, by the Cities Service Oil Company. The plant name has been changed to Columbian Carbon Company, Hickok No. 300 Plant.

Production of carbon black during 1963 was reported by the State Corporation Commission to be 61,916,880 pounds, valued at $3,983,554. This represents a decrease of 40,365,586 pounds and of $3,135,295 in value from that of the previous year (Table 21). Natural gas used in the manufacture of carbon black in Kansas was 2,545,182 thousand cubic feet, a decrease of 1,018,875 thousand cubic feet from 1962. A total of 263,808 barrels of natural gas liquids was also used during 1963 in the production of carbon black, a decrease of 158,593 barrels compared to the amount used in 1962.

PIPELINE AND FRACTIONATING PLANT CONSTRUCTION

The refining of crude oil in Kansas refineries, the production of natural gas liquids in Kansas natural gasoline plants, and the interstate and

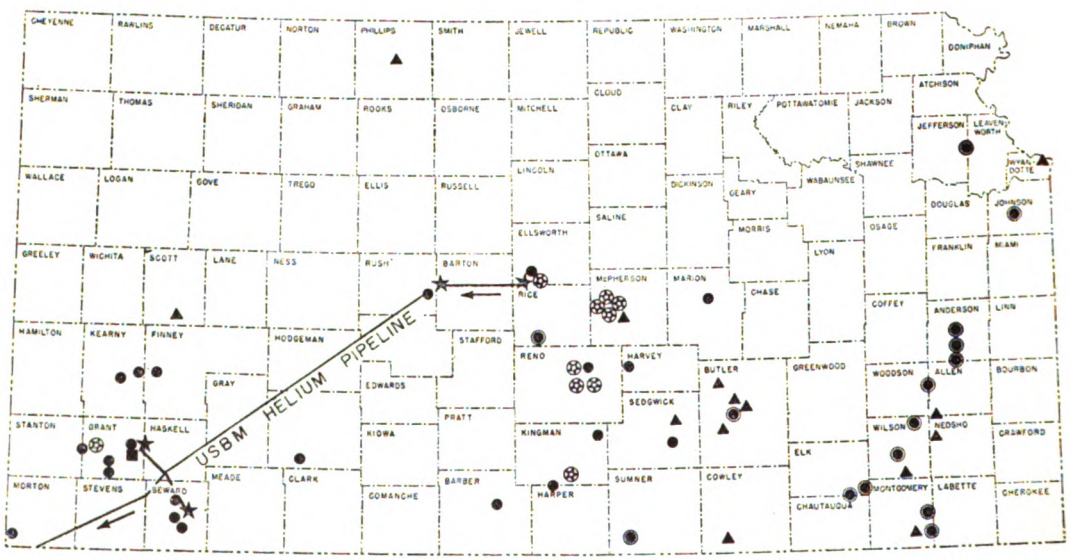

FIGURE 10.—Kansas fractionation plants, helium pipelines, and underground storage sites.

TABLE 19.—Underground LPG storage areas and capacities, 1963.

Company	Sec.-T.-R.	County	Nearest town	Capacity, bbl	Product
Cities Services Oil Co.	22-23- 6W	Reno	Hutchinson		
Salt layer (5 caverns)				400,000	Butane
Salt layer (10 caverns, including 1 new one)				745,000	Propane
Salt layer (new)				130,000	Crude NGL
Salt layer (new)				65,000	Isobutane
Salt layer (nearing completion)				65,000	Isobutane
Salt layer (nearing completion)				325,000	Propane
Salt layer (underway)				390,000	Propane
Mid-America Pipeline Co.	24-19- 5W	McPherson	Conway		
Salt layer (8 caverns)				460,000	Propane
Salt layer (new)				500,000	Propane
Salt layer (under way)				500,000	Propane
Salt layer				50,000	Isobutane
Salt layer				50,000	Butane
National Coop. Refinery Assoc.	29-19- 4W	McPherson	Conway		
Salt layer (7 caverns)				350,000	Butane
Salt layer (23 caverns)				1,150,000	Propane
Salt layer (7 caverns under way)				350,000	Propane
Northern Gas Products Co.	31-17- 9W	Ellsworth	Bushton		
Salt formation				2,000,000	Butane and Propane
Pan American Petroleum Co.	5-29-38W	Grant	Ulysses		
Salt layer (6 caverns)				181,000	LP-gas
Salt layer (under way)				50,000	LP-gas
Phillips Petroleum Co.	15-30- 7W	Kingman	Rago		
Salt layer (6 caverns)				417,000	Butane and Propane
Security Underground Storage Co.	28-19- 4W	McPherson	Conway		
Salt bed				1,350,000	Propane
Salt bed				300,000	Propane
Salt bed (new)				500,000	Propane
Sinclair Oil & Gas Co.	14-24- 6W	Reno	Hutchinson		
Salt layer (7 caverns)				313,000	Propane
Skelly Oil Co.	30-19- 4W	McPherson	Conway		
Salt layer				1,143,000	Propane
Tuloma Gas Products Co.	14-24- 6W	Reno	Hutchinson		
Salt bed (10 caverns)				550,000	Butane and Propane
Total				12,334,000	

From Bizal, R. B., *Oil and Gas Journal*, October 21, 1963, with modifications.

intrastate movement of crude oil products and natural gas through transmission lines are an integral part of the petroleum industry in Kansas. Pipeline construction activities of all types are reported monthly by the *Oil and Gas Journal*. Some information on such activities and on plant construction is available from the companies themselves and from the Kansas Corporation Commission.

The completion of large construction projects in several areas highlighted the petroleum industry in Kansas during 1963. Included were three privately-built helium plants, several natural gasoline plants, additional dissolved caverns in salt for LPG storage, and thousands of miles of pipelines. These developments are discussed in this section under the separate topics of crude oil, natural gas, helium, and LPG. It must be emphasized, though, that such phases of the industry are closely interrelated and that proper appreciation of pipeline and refinery construction necessitates evaluation of these facilities in terms of the complexes they comprise.

OIL

International Oil and Gas Corporation, of Denver, Colorado, purchased crude oil pipelines and some oil producing properties (all in eastern Kansas) from Deerfield Oil Corporation, of Chanute, during 1963. Derby Refining Company, at its Wichita plant, placed on-stream a coking unit capable of processing about 10,000 barrels of crude oil per day. Products of the new plant include coke, fuel gas, liquid petroleum products, gasoline, and distillate. National Cooperative Refinery Association added an Isomax-hydrogen unit to their McPherson refinery.

TABLE 20.—Natural gasoline and helium plant survey: plant capacities,* natural gasoline, and LPG processed in 1963.

Company and plant	Sec.-T.-R.	County	Nearest town	Capacity, million cu ft/day	Throughput, million cu ft/day	Process method	Production, gal/day						Production natural gasoline and allied products, bbls
							Propane	Isobutane	Normal butane	LPG mix	Natural gasoline	Debutanized natural gasoline	
Anadarko Production Co.													
Cimarron River plant†	26-33-32W	Seward	Liberal	10.0	10.5	Refr.-abs.	.....	.....	.....	.....	6,400	.....	.....
Interstate plant	29-34-43W	Morton	Elkhart	6.0	5.4	Refr.-abs.	.....	.....	.....	.....	5,380	.....	.....
Brunson & Spines (Independent Lease Management Co.)	23-18-16W	Rush	Otis	.....	.....	.....	(not reported)		.....	.....	.....	.....	.....
Cities Service Helex, Inc.													
Jayhawk plant	2-29-35W	Grant	Ulysses	507.0	450.0	Refr.-abs.	(helium production 2 MMcfd; liquids sent to Hutchinson fractionator)						
Cities Service Oil Co.													
Hutchinson fractionator‡	22-23- 6W	Reno	Hutchinson	.....	.....	.....	(design capacity 650,000 gal/day; to separate de-ethanized feed)						
Wichita plant	17-28- 1E	Sedgwick	Wichita	125.0	119.6	Abs.	38,400	15,600	40,700	.....	.....	31,600	.....
Wilburton plant	.....	Morton	Wilburton	.....	.....	.....	(plant under construction, end of 1963)						
Colorado Interstate Gas Co.	29-24-36W	Kearny	Lakin	215.0	96.0	Abs.	.....	.....	.....	.....	13,415	.....	.....
Hugoton Production Co.	3-30-37W	Grant	Ulysses	90.0	76.0	Abs.	20,660	21,695	.....	.....	17,750	.....	.....
Kansas Hydrocarbons Co.													
Burrton plant	16-23- 3W	Harvey	Burrton	3.0	2.0	Refr.	.....	.....	.....	.....	.....	1,500	.....
Cheney plant	33-27- 5W	Kingman	Cheney	28.0	23.0	Refr.-abs.	7,000	.....	4,000	.....	9,500	.....	.....
Kansas-Nebraska Natural Gas Co., Inc.	4-24-35W	Kearny	Deerfield	125.0	91.0	Abs.	2,190	.....	.....	2,025	.....	5,255	.....
Mobil Oil Co.													
Hickok plant	31-28-35W	Grant	Hickok	134.0	130.0	Abs.	24,000	.....	6,000	.....	.....	38,000	.....
Spivey plant	5-31- 8W	Harper	Spivey	70.0	60.0	Abs.	24,000	.....	15,000	.....	.....	33,000	.....
National Helium Corp.§	23-33-32W	Seward	Liberal	850.0	NR	Refr.	60,000¶	.....	120,000¶	.....	.....	130,000¶	.....
(Helium plant, in conjunction with above)	23-33-32W	Seward	Liberal	.....	.....	Refr.	(helium capacity is 1 billion cu ft/yr)						
Northern Gas Products Co.#	31-17- 9W	Ellsworth	Bushton	896.0	896.0	Refr.-abs.	603.000	78,000	183,000	.....	22,000	.....	.....
Northern Helex Co.	31-17- 9W	Ellsworth	Bushton	476.0	476.0	Refr.	(helium production 1,900 M cu ft/d)						
Northern Natural Gas Co.													
Holcomb plant	3-24-34W	Finney	Holcomb	185.0	184.0	Refr.	.....	.....	.....	.....	15,600	.....	.....
Sublette plant	1-32-33W	Seward	Sublette	325.0	280.0	Abs.	.....	.....	.....	.....	47,000	.....	.....

Pan American Petroleum Corp.													
Ulysses plant	5-29-38W	Grant	Ulysses	325.0**	240.0	Abs.	58,000	20,500	62,500	.....	.....	68,500	.....
Kinsler plant	10-30-37W	Grant	Ulysses	20.0	8.3	Refr.-abs.	.....	.....	.....	.....	11,000	.....	.....
Panhandle Eastern Pipeline Co.				(see Anadarko Production Co. and National Helium Corp.)									
Rounds & Stewart Natural Gasoline Co., Inc.	2-19- 3E	Marion	Marion	30.0	20.5	Refr.-abs.	32.700	6.030	13,405	.....	18,995	.....	.....
Skelly Oil Co.													
Minneola plant	13-29-25W	Ford	Dodge City	25.0	NR	Refr.-abs.	6,000	.....	.....	.....	9,000	.....	.....
Medicine Lodge plant	13-32-12W	Barber	Medicine Lodge	60.0	NR	Abs.	8,000	.....	.....	.....	9,000	.....	.....
U.S. Bureau of Mines													
Otis plant	1-18-16W	Rush	Otis	15.0	NR	Refr.	(helium production 130 M cu ft/d)						
Total††				4,520.0	3,928.3		871,950	141,825	420,605	2,025	185,040	281,855	13,363,000‡‡

Daily average production for year 1963 ..... 37,000 barrels.
Daily average production for year 1962 ..... 19,614 barrels.

• Data on capacities by Robert B. Bizal, Editorial Research Director, *Oil and Gas Journal*, March 16, 1964; modified for this bulletin.
† Began operation October 15, 1963.
‡ Hutchinson plant not yet in operation, late 1963.
§ Panhandle Eastern Pipe Line Company and National Distillers and Chemical Corporation.
¶ Capacity. Plant was completed mid-1963.
# Subsidiary of Northern Natural Gas Company.
** Summer capacity is 225 MM.
†† To arrive at more accurate totals, throughput and production were estimated at 80% of capacity when figures were not available.
‡‡ Production information obtained from U.S. Bureau of Mines, Bartlesville, Oklahoma. Figure represents 42-gallon barrels.

TABLE 21.—Quantity and value of carbon black produced in Kansas in 1962 and 1963 (including fuel used in production).

Year	Carbon black produced		Estimated fuel consumed	
	Quantity, lb	Value	Gas, billion cu ft	Natural gasoline, million bbl
1962	102,282,466	$7,118,849	3.56	0.42
1963	61,916,880	$3,983,554	2.55	0.26

Courtesy State Corporation Commission.

Skelly Oil Company installed 92 miles of 2-inch to 6-inch crude oil lines in Pawnee, Hodgeman, and Rush counties during 1963. Late in 1963 they installed a 6-inch products pipeline, paralleling their existing 12-inch crude oil line, running between the Skelly Oil Company refinery near El Dorado and their Burrton Junction Station, in Harvey County, a distance of about 50 miles. Skelly Oil Company now has over 2,000 miles of pipelines in Kansas. The company also constructed a new petrochemical complex at the El Dorado refinery, which was placed on-stream in November. The Udex unit manufactures petroleum aromatics such as benzene, cumene, toluene, and zylene. Cumene is the principal material used in making plastics. Vickers Petroleum Company, at Potwin, is the only other refinery in Kansas with a Udex unit.

NATURAL GAS

Cities Service Gas Company constructed about 120 miles of gas pipeline during 1963. Twenty miles of 26-inch replacement line was laid between Ottawa and Lawrence, including replacement of six 10-inch lines by 6.9 miles of 26-inch pipe across the Kansas River just east of Lawrence. Other Cities Service Gas Company projects during 1963 were 4.5 miles of 3-inch line at Perry; 1.9 miles of 10-inch line at Leavenworth; 8 miles of 12-inch pipeline from Lyons to Ellsworth; 11.4 miles of 6-inch line at Tecumseh; 5 miles of 20-inch loop at Paola; 15.5 miles of 20-inch loop paralleling the main line east of Ottawa; 10 miles of 30-inch pipeline from Welda to Ottawa; and 38.5 miles of 6-inch, 8-inch and 12-inch pipeline at various places in Kansas and Oklahoma.

Cities Service Gas Company installed two 2,000-horsepower engines at a compressor station near Ulysses, Grant County. This station now has seven engines, with a total of 11,850 horsepower, making it the company's 4th largest compressor station in its 7,000-mile pipeline system. Their Sublette station, in Haskell County, also installed a 2,000-horsepower engine.

Kansas-Nebraska Natural Gas Company replaced 7.5 miles of 8-inch line with 12-inch diameter line near Oakley. Seventy miles of natural gas gathering lines ranging in size from 4 to 12 inches were placed in Hamilton County. About 15 miles of 8-inch line, running from Herndon to the Nebraska border was replaced with 12-inch line. Another project was a 48-mile, 10-inch line from Scott City, in Scott County, to Syracuse, in Hamilton County.

As a water-conservation measure, Natural Gas Pipeline Company of America, during 1962-63, converted cooling towers at all nine compressor stations on its Texas Panhandle-Chicago area system to closed water systems. Their compressor stations in Kansas are near Minneola, Great Bend, and Glasco. A typical Natural Gas Pipeline Company compressor station has ten 1,750-horsepower horizontal engines.

Late in 1963 Northern Natural Gas Company had underway the laying of 50 miles of 4- to 12-inch gathering lines in the Liberal and Great Bend areas. Another project was the installation of 67 miles of 30-inch and 11 miles of 26-inch loops along their main transmission lines in Kansas, Nebraska, and Iowa. In southwestern Kansas the company had 79 miles of 4-inch, 31 miles of 6-inch, and 3 miles of 12-inch carrying lines under construction in 1963. Pan American Petroleum Corporation, during 1963, constructed a low-pressure casing-head gas collection system in Haskell County, which was connected to their high-pressure gas collection system. The gas from the two systems is piped through a centralized battery for removal of condensate, and then enters a Kansas Power and Light Company pipeline. Triple A Pipeline, Inc., Wichita, constructed 7 miles of 3-inch gas pipeline to connect their wells in the Huffine field in Greenwood and Wilson counties, with Cities Service Gas Company's 12-inch carrier 2 miles northwest of Fredonia.

Western Light & Telephone Company built a power plant adjacent to the National Helium Corporation plant, near Liberal, during 1963. Anadarko Production Company's Cimarron River gas transmission pipeline system, serving their new natural gasoline plant and Western Light & Telephone Company's power plant, was also installed during the year.

HELIUM

The year 1963 saw the completion of three privately-financed helium extraction plants in Kansas (Table 19) which were the result of an intensified helium conservation program, author-

ized by Congress in 1961. The plants already constructed (Figure 10) have government helium production contracts extending for 22 years and the Kansas companies will receive from $11.24 to $11.78 per thousand cubic feet for the extracted helium. A total of 12 plants are scheduled for the nation and the ultimate storage of 50 billion cubic feet of helium is anticipated by 1984. Most of the helium produced in the four Kansas plants (including one operated by the U.S. Bureau of Mines at Otis) is transported by pipeline to the Cliffside underground storage area near Amarillo, Texas.

The U.S. Department of the Interior completed its helium pipeline from Bushton, Kansas, to the Cliffside storage reservoir at Amarillo, Texas. The line is 4 inches in diameter from Bushton to the Satanta Station in Haskell County, and 8 inches in diameter from there to the Oklahoma border. Helium from Northern Helex Company's plant at Bushton (in Ellsworth County) is commingled at the Satanta station. Two lines feed helium to this line from the Cities Service Helex plant, near Ulysses, and the National Helium Corporation plant, near Liberal. Total length of the line is 430 miles, and it is designed to take pressures up to 1,800 psi. The location of the line is shown in Figure 10.

Cities Service Helex Corporation's helium plant in sec. 2, T 29, R 35 W, about 13 miles east of Ulysses in Grant County, started operating about midyear. Built at a cost of about 9 million dollars, the plant has a throughput capacity of 507 million cubic feet of natural gas per day. It will yield an estimated 600 million cubic feet of helium per year. The de-ethanized liquids removed from the natural gas are sent through the Cities Service Oil Company's products pipeline to the fractionator located southwest of Hutchinson in central Kansas.

National Helium Corporation's plant in sec. 23, T 33, R 32 W, about 12 miles northeast of Liberal, in Seward County, went on-stream during the summer of 1963. This $30,000,000 installation, the world's largest, has a refrigeration plant with a capacity of 850,000 million cubic feet of gas per day. It will yield helium at the rate of 1 billion cubic feet per year. National Helium Corporation is a subsidiary of Panhandle Eastern Pipeline Corporation and National Distiller's Corporation. Propane, butane, and natural gasoline are also being recovered at this plant.

The Northern Helex Company's helium plant, located east of Bushton, in sec. 31, T 17, R 9 W, has a natural gas "throughput" of about 500 million cubic feet per day, with helium extraction capacity of 700 million cubic feet per year. The residue-gas stream from the hydrocarbon extraction plant, owned by Northern Gas Products Company, is run through the refrigeration extraction system of the helium plant.

Natural Gas Liquids

During 1963, Anadarko Production Company (a subsidiary of Panhandle Eastern Pipeline Company) constructed and placed in operation their Cimarron River natural gasoline plant, in sec. 26, T 33, R 32 W, Seward County. This plant, located near the National Helium Corporation's helium plant, is designed to process 10 million cubic feet of gas per day and is completely automated. The newly installed Cimarron River gas transmission pipeline system brings natural gas to the extraction plant and to the new Western Light & Telephone Company's power plant, located nearby.

Panhandle Eastern Pipeline Company's natural gasoline plant, in sec. 19, T 33, R 31 W, Seward County, was shut down upon completion of the National Helium Corporation plant. The inactive plant had been yielding about 100,000 gallons per day of natural gas liquids. The helium plant, built by a subsidiary of Panhandle Eastern Pipeline Company and National Distillers and Chemical Corporation, includes facilities for the removal of natural gas liquids.

Jayhawk Pipeline Corporation constructed a products line from the National Helium Corporation constructed a products line from the National Helium Corporation plant, near Liberal, to connect with its pipeline at the Meade Compressor Station, in Meade County.

Six miles southwest of Hutchinson in Reno County, Cities Service Oil Company has a new fractionator and a large, totally automated underground liquid petroleum gas storage area (Table 20). These facilities, located in sec. 22, T 23, R 6 W, are part of the core area of a three-state system of processing, supplying, transporting, and storing for the company.

De-ethanized feed, brought in by a recently completed Cities Service Oil Company products pipeline from the Cities Service Helex plant near Ulysses, is run through the fractionator near Hutchinson. The line from the helium plant to the Hutchinson fractionator is a 180-mile 6-inch pipeline that runs north of a Cities Service Gas Company pipeline, paralleling it much of the way.

Products of the Hutchinson fractionator are natural gasoline, normal butane, isobutane, and propane. The plant has a capacity of 650,000 gallons per day and is highly automated. Products from this core area can be delivered by pipeline, truck, or rail. The company is able to ship via the Mid-America Pipe Line Company system, which moves LP-Gas north into Iowa, Minnesota, and Wisconsin and in the Texaco-Cities Service pipeline from Wichita to the Chicago market.

Cities Service Oil Company doubled its underground LPG storage capacity at Hutchinson to 2 million barrels during 1963 (Table 20). It now has 30 storage caverns which have been dissolved in the approximately 250-foot-thick Hutchinson salt bed. The storage caverns hold propane, butane, and isobutane, delivered by pipeline and tank car (from west Texas and Oklahoma) as well as directly from the fractionator. A two-way, 105-mile line moves products between two of Cities Service Oil Company's gas-processing plants near Blackwell, Oklahoma, and Wichita, Kansas, and the underground storage site. Natural gasoline is stored aboveground.

Mid-America Pipe Line Company increased the capacity in its 10-inch products line between Hutchinson and Conway from 60,000 to 74,000 barrels per days. On its eastern leg out of Conway, which goes to Janesville, Wisconsin, the products capacity was increased from 47,000 to 52,000 barrels per day. The company also provided for more underground LPG storage (an 800,000 barrel salt cavern) in sec. 24, T 19, R 5 W, near Conway, in McPherson County making a total of 1,560,000 barrels storage capacity at this site.

Another natural gas processing center is located near Bushton. Here the Northern Gas Products Company's hydrocarbon extraction plant (built in 1961) and the nearby helium plant owned by Northern Helex Company (completed in 1963), went on-stream early in 1963. The Northern Gas Products plant is designed to extract about 900,000 gallons of liquids per day from 900 million cubic feet of gas. The company has aboveground storage tanks with a total capacity of about 28,550 barrels, and underground LPG storage in salt caverns totaling 2,500,000 barrels. The control center for the operation of Northern Gas Products Company's pipelines was constructed at Des Moines, Iowa, during 1963. The company also constructed 350 miles of 8-inch products line from Bushton, Kansas, to Des Moines, Iowa. A compressor station was installed on this line near Clifton, in Clay County. LP-Gas from their lines is routed to the Great Lakes Pipe Line Company's system in Des Moines.

Northern Gas Products Company also has a new 82-mile, 6-inch products line running from Bushton to Wichita. It connects with the Mid-America Pipeline Company's line at Conway, for propane movement to Plattsmouth, Nebraska. At Wichita, propane transfers directly to the Phillips Pipe Line Company line, but other products may enter an intermediate storage area, which has five tanks with a total capacity of about 60,000 barrels.

Northern Natural Gas Company (the parent company of Northern Gas Products Company and Northern Helex Company) operates a 39,200-horsepower natural gas compressor station near these plants, in Rice County. Northern Natural Gas Company pipelines bring natural gas from the **Hugoton Gas Area** to the Bushton Compressor Station. After the extraction of liquid hydrocarbons and helium at the two new plants, the natural gas continues on in company lines to marketing areas.

Additional LPG storage facilities were created by dissolving cavities in the Hutchinson salt at the National Cooperative Refinery Association's underground storage area (Table 20) in sec. 29, T 19, R 4 W, near Conway, in McPherson County during 1963. Total storage capacity is now 1,850,000 barrels at this site.

Pan American Petroleum Corporation in 1963 installed a products line which runs from their Kinsler Natural Gasoline plant in sec. 10, T 30, R 37 W, to their underground LPG storage area in sec. 5, T 29, R 38 W, both in Grant County. Plans are underway for the addition of refrigeration facilities and related processing equipment and utilities in their Ulysses Natural Gasoline plant, located at the LPG storage area.

Okan Pipeline Company began operating an automatic switching control center in Liberal late in 1962. Its 383 miles of products lines (LPG, regular and premium-grade gasolines, and heating oil and kerosene) run from southwestern Kansas to Tulsa, Oklahoma. They serve five gas-processing plants in the **Hugoton Gas Area**: Pan American, Hugoton Production Company, Mobil Oil Company, Northern Natural Gas Company, and Anadarko Production Company.

Phillips Pipe Line Company laid 53 miles of 10-inch products line from Paola (Miami County) to Kansas City, Kansas, during 1963.

RESERVES AND PRODUCING CAPACITY

The reserves concept within the petroleum industry is a highly involved one fraught with conflicting views about its defining factors and the statistical ways in which these factors are used. Professional groups, industrial organizations, and federal agencies all have conflicting ideas in this regard. As used by the Kansas Geological Survey, reserves are those quantities of crude oil, both liquid and gaseous, which are known to exist and which could be produced by presently available recovery methods.

The American Gas Association and the American Petroleum Institute have published for many years annual reserve estimates of crude oil and natural gas and natural gas liquids for each of the producing states in the United States. Their figures serve as a basis for a reasonably accurate history of past development and production in the United States. They involve no speculation with respect to future discoveries or technology. The estimates refer solely to blocked-out reserves which could be recovered under existing economic operating conditions.

Extensions of existing fields by developmental drilling each year has led to revision of the previous estimates for older fields. Because the full potential or ultimate production from fields is not known until they are fully developed, earlier estimates are generally revised upward on a field basis. From a knowledge of the history of individual oil wells, it may be concluded that, if there were no further drilling in Kansas, and if all the oil wells were operated at the producing capacity (the maximum rate of production possible under existing production practices), the total rate of production, after sharp initial increase to capacity rate, would begin to decline. It is evident that additional oil may be recovered from existing fields in future years. This additional oil will come not only from extensions of existing fields by future drilling, but also by revision of recovery estimates as more reservoir information is obtained, and by increased recovery by application of new techniques. The rate of discovery of new fields and the rate of increase in estimated additions to reserves of existing fields are not simple functions of time but are related to the intensity of the effort expended in both exploratory and developmental drilling and technological developments resulting in improved recovery methods. The intensity of these activities depends in turn on the need as reflected in market demand and on financial incentives. In spite of a trend toward a reduced rate of exploratory and developmental drilling in Kansas, it is estimated that there has been a net gain of productive capacity of crude oil relative to production.

It must be pointed out that productive capacity is not the same as availability. Presently available facilities limit the use of natural gas which could be produced. In present practice, storage of gas has been restricted to limited quantities in natural underground reservoirs near the market in order to compensate for annual fluctuations in the market. The total amount of production of natural gas possible is linked with the maximum rate of oil production because gas often occurs with oil.

Natural gas liquids are not produced as such from underground reservoirs, but become available slowly by separation from natural gas; therefore, availability depends directly upon the rate of production of natural gas and oil and requires existence of adequate handling facilities.

A factor which must be considered when evaluating reserve statistics is the reliability of reported production capacity. In Kansas, monthly proration orders by the State Corporation Commission give the "producing capacity" (determined by the most recent field test on an individual well basis); however, a total of the proration-order production capacity by wells in Kansas would not give a true picture of the production capacity of the wells. Because of the presently depressed market, there is little incentive for the operators to achieve a maximum test at annual testing time when most of the wells in Kansas are on the minimum daily allowable production. The productive capacity of Kansas wells as estimated on January 1, 1963, was 360,000 barrels of crude oil per day. The input capacity of Kansas refineries is estimated to be about 351,000 barrels per day.

More than 130,000 exploratory and developmental wells have been drilled in Kansas. However, the density distribution of these wells is such that there are entire counties in Kansas which have had fewer than a dozen exploratory wells drilled in them. Additional supplies of liquid and gaseous hydrocarbons must come from future exploration. In Kansas there are many geologically favorable areas still unexplored.

Undeveloped reserves includes the oil which is left in the reservoir before secondary recovery techniques are applied. Presently, even with the application of the best-known primary methods, about two-thirds of the original oil in the reservoir is not recovered. Secondary recovery meth-

ods will usually recover an additional one-third, leaving one-third remaining in the reservoir rock.

There exists, in a large area in eastern Kansas, considerable quantities of low gravity oil, which have been undeveloped because an extraction method has not yet been developed for this oil. Also, there is little or no natural expulsion energy in these reservoirs. Such undeveloped reserves of fossil fuels are generally referred to as "tar sands." During 1963, several thousand acres of these "potential reserves" were leased. Shell Oil Company has started a pilot project in Vernon County, Missouri, which is adjacent to the eastern border of Kansas. No information is available on their methods or results, but if it and other planned projects are successful, the annual oil production and reserves of some eastern Kansas counties will be increased considerably.

Conservative estimates of proved reserves of crude oil and gas, providing no more wells are drilled and presently known reservoirs are depleted, would give Kansas about a 9 to 1 reserve life index ratio for oil and about a 25 to 1 ratio for gas. Reserves are not the same as availability, however, because rate of production in large part determines ultimate recoverability. In an emergency, Kansas' producing capacity could be increased by 10 to 15 percent for a short time. Oil reserves in a 9 to 1 ratio suggest a probable 35-year recovery period, because in depleting a reservoir the producing rate declines rapidly with time.

Although the value of reserves of natural gas liquids of Kansas is commonly overshadowed by the value of crude oil and natural gas, natural gas liquids (natural gasoline, condensate, and LPG, mainly propane and butane) supplement supplies of gasoline for motor vehicles and fuel for industrial and domestic use. Natural gas liquids also are used in the manufacture of plastics.

The proved reserves and production of oil and gas in Kansas from 1946-63, are shown graphically in Figures 11 and 12. The contrast between production and reserves is demonstrated in these two graphs, as is the trend of production and reserves.

Kansas' estimated proved reserves of liquid hydrocarbons (crude oil and natural gas liquids) as of December 31, 1963, were 1,010,590,000 barrels, a decrease of 2.9 percent from the previous year (Table 2). Coincidentally, national re-

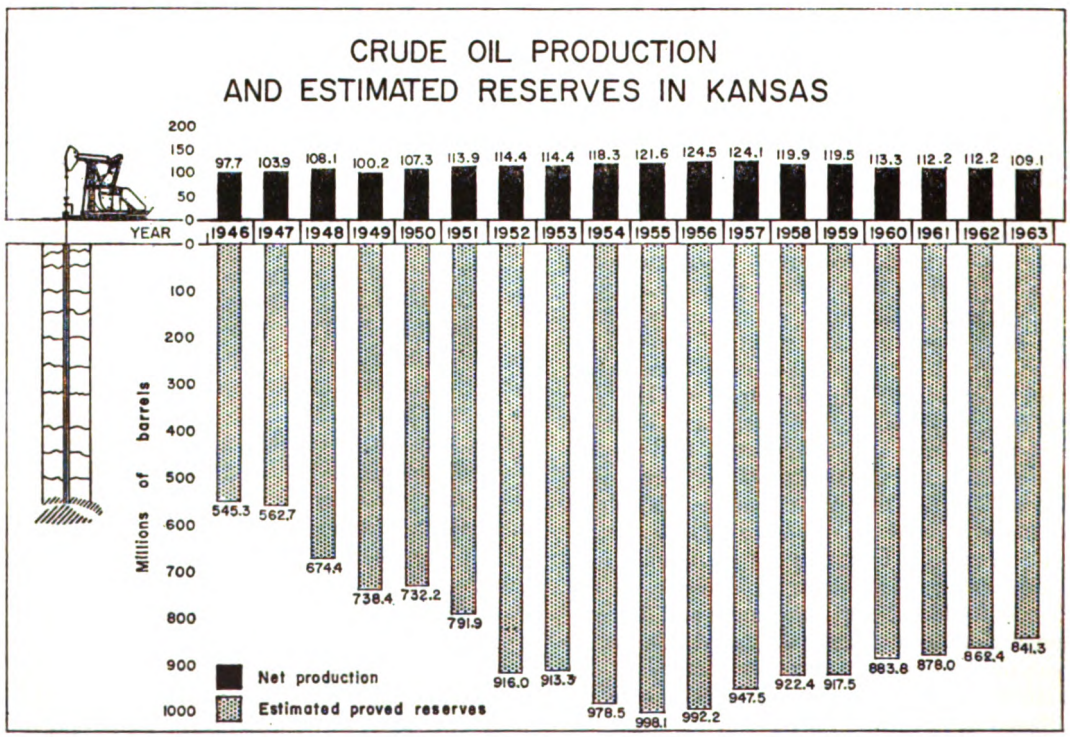

FIGURE 11.—Comparison of crude oil production to estimated reserves in Kansas, 1946-1963.

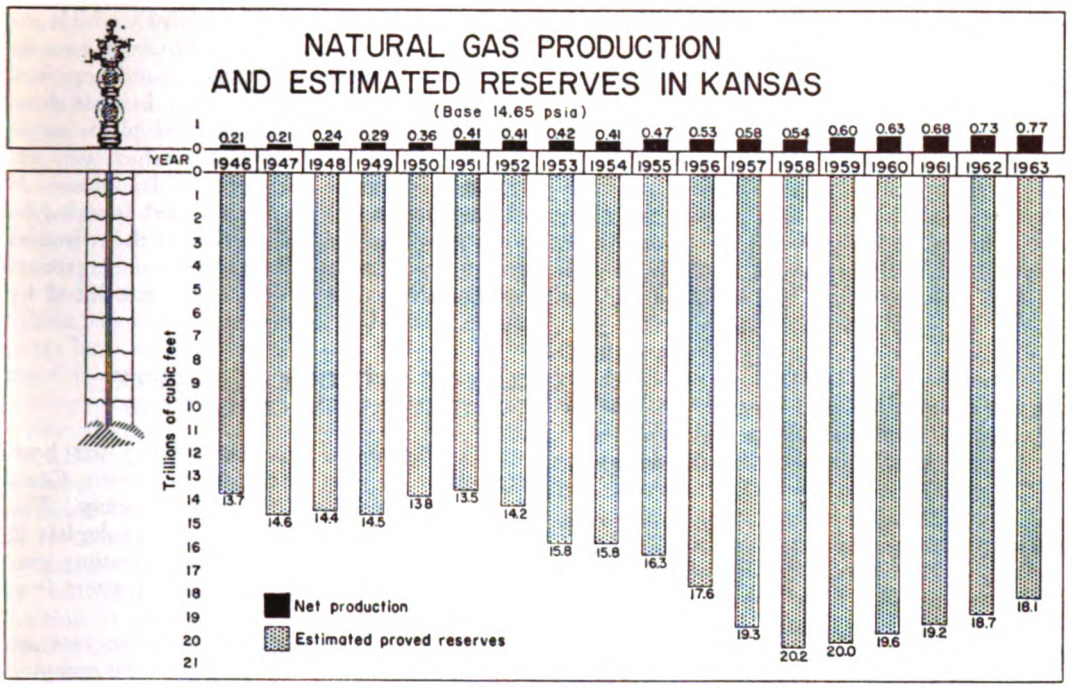

FIGURE 12.—Comparison of natural gas production to estimated reserves in Kansas, 1946-1963.

serves decreased 0.15 percent. The State's proved reserves of crude oil (841,349,000 barrels at the end of 1963) decreased 21,061,000 barrels or 2.4 percent, while national reserves decreased 1.3 percent. Proved reserves of natural gas liquids (169,241,000 barrels in 1963) were 5.5 percent less than in the previous year (Table 22). Proved reserves of natural gas in Kansas at the end of 1963 were estimated to be 18,092,493 million cubic feet, a decrease of about 3.1 percent.

All estimates of reserves are taken from the American Petroleum Institute and American Gas Association's annual report on reserves. The estimates for gas reserves are reported at a base of 14.73 psia at 60°F. These estimates (Table 22) have been converted to 14.65 psia at 60°F. to conform to Kansas gas statistics. It should be emphasized that the figures in this report represent proved reserves of crude oil, natural gas liquids, and natural gas. The reserve figures used in this report do not include: (1) oil under the unproved portions of partly developed fields; (2) oil in untested prospects; (3) undiscovered oil that may be present in favorable regions; (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; and (6) oil that can be processed from oil shale, coal, or other substitute sources.

MAP OF OIL AND GAS PIPELINES AND INDUSTRIES IN KANSAS

The oil and gas industry in Kansas, which is defined herein as including drilling of wells, production, refineries and other extraction plants, transportation, and underground storage of natural gas and liquid petroleum gas, has become a very significant factor in the overall

TABLE 22.—Kansas proved reserves of natural gas and natural gas liquids, December 31, 1963.

	Reserves* as of 12-31-62	Extensions and revisions, 1963	Discoveries, 1963	Production during 1963	Proved reserves, 12-31-63	Net change in underground storage	Difference in reserves, 1962-63	Percentage change, 1962-63
Natural gas liquids	179,096	—3,183	1,047	7,719	169,241	.....	—9,855	5.5
Natural gas	18,567,174	125,653	85,904	789,488	18,092,493	1,265	—678,661	3.1

From the American Petroleum Institute and American Gas Association, 1963.

* Reserves of natural gas liquids are thousands of barrels of 42 U.S. gallons; reserves of natural gas are millions of cubic feet reported at 14.73 p s i a and converted, by the Kansas Geological Survey, to 14.65 p s i a at 60°F.

economy of the State because the industry is not confined to any one area within the State.

Thousands of miles of inter- and intrastate pipelines carry natural gas, helium, crude oil, and refined products. Producing areas are "spider-webbed" with pipelines, gathering the harvest from the wells for transport to the refineries or natural gasoline plants, or, as in the case of many of the gas wells, for direct transport to market. Urban areas, similarly, contain miles of utility pipelines delivering natural gas to both industrial plants and to homes.

Crude oil and products extracted from it are also transported by surface carriers such as trucklines and railroads. About 15,000 workers are employed in the petroleum industry in Kansas. Petrochemical plants use much natural gas in the production of fertilizers, alcohols, and other products. Most of the electricity-generating plants in Kansas are powered by gas.

Each year the Kansas Geological Survey's annual report on the oil and gas industry in Kansas includes a map (Plate 1) showing actual producing areas in the State, with all fields named. Because of the ubiquitous nature of oil and gas fields the names cover most of the State, making it impractical to show all the individual pipelines, plants, and underground storage areas on Plate 1.

About every five years an additional map of the State showing other facets of the oil and gas industry is brought up-to-date and published. A completely revised edition of such a map, showing pipelines and allied industries, has been published (Map M-2, "Map of Oil and Gas Pipelines and Industries in Kansas, 1963"). This map replaces Oil and Gas Investigations Number 18, "The Petroleum Industry in Kansas," issued in 1958. The 1963 base map of Kansas (USGS) serves as a background for the map, which is printed at a scale of 1 to 500,000 (approximately 8 miles to the inch). Plate 1, "Oil and Gas Fields of Kansas," in this report, is also printed at this scale, using the same base map.

Crude oil, natural gas, helium, and products pipelines are shown on the map (M-2) in distinguishable colors (green, red, and black). The one helium pipeline in Kansas is shown. Oil- and gas-producing areas appear as they did on Plate 1 (Bulletin 166, 1963), but field names are omitted. References should be made to Plate 1 of Bulletin 166 for these names.

Map M-2 shows locations of crude oil refineries and extraction plans for natural gasoline, helium, and carbon black. Underground storage areas of both natural gas (in porous beds) and liquefied petroleum gas (in caverns), which are becoming more important yearly, are shown on the map. Compressor, booster, and terminal stations are also shown. The map does not show the locations of the petrochemical plants or of the electricity-generating plants which use natural gas. Lists of the names and addresses of the pipeline companies are included, grouped by category. Geographical locations of the refineries and other extraction plants and the underground storage areas shown on the map are listed by section, township, and range.

KANSAS GEOLOGICAL SOCIETY NOMENCLATURE COMMITTEE

The Kansas oil and gas industry has been served for 31 years by the Nomenclature Committee of the Kansas Geological Society. The Society is composed of professional geologists in Kansas. They cooperate in disseminating geological information, and their headquarters is at 508 East Murdock, Wichita, Kansas.

The first Nomenclature Committee was appointed in January, 1932, and has been accepted as an advisory committee by the Mid-Continent Oil and Gas Association since the latter part of 1932.

Today the members of the Nomenclature Committee of the Kansas Geological Society also act as members of a subcommittee of the Nomenclature Committee of the Mid-Continent Oil and Gas Association, Kansas-Oklahoma Division, 300 Tulsa Building, Tulsa, Oklahoma. They act in an advisory capacity to the Kansas State Corporation Commission, as provided under Rule 82-2-104 in the Rules and Regulations for the Conservation of Crude Oil and Natural Gas.

The basic purpose of the Committee is to study, name, and describe new fields and producing areas. Each wildcat discovery well from which production (oil and/or gas) is sold is declared a field opener, and the new field is named and the areal extent described. The Committee also redescribes and combines old fields and abandons fields that have become depleted. Decisions made by this Committee are the basis for field names and boundaries used in this report.

STATISTICAL TABLES

The following Tables (23 through 29) give statistical data on oil and gas developments in Kansas during 1963. In sequence they include data on the discovery wells of new oil and gas

fields, revived fields, abandoned fields, combined oil and gas fields, oil and gas zones discovered during 1963 in producing fields, oil production by fields, and gas production by fields. Identification in all of these tables is first by county, then by field name, alphabetically arranged. Tables 23, 24, 25, 26, and 27 collectively, represent the official action of the Kansas Geological Society Nomenclature Committee during the year.

In eastern Kansas the Nomenclature Committee has designated oil and gas fields which cover large areas. Within these designated fields there is considerable discontinuity between producing leases. Because the producing areas within these fields are less continuous than those elsewhere in the State, they have been subdivided into lesser producing areas which are connected by dashed lines on Plate 1. In Table 28 no attempt has been made to list production by producing areas within these subdivisions, but elsewhere in Kansas prorated oil field production is indicated and differentiated by producing zone wherever possible.

Many eastern Kansas counties have no cumulative production figures listed by field, but "recorded" cumulative production by county is indicated (Table 28). "Recorded" means all known production has been included but generally this total is a conservative figure. On the other hand, cumulative oil production is reported for a few counties, such as Brown County, which had no producing oil or gas fields during the year and all fields within the county were officially abandoned. Such cumulative figures represent conservative estimates of past production when the counties had active fields.

Cumulative oil production by field is reported as the sum of the producing zones. Nonprorated fields, consisting of multiple producing zones, have been listed stratigraphically. In these cases, the production reported during the year may be from one, or more than one, producing zone. Field names by county listed in the production tables which are followed by a single asterisk extend across county lines. In those cases, the 1963 production, cumulatives, and number of active wells reported are only for that county. In order to arrive at the total production from these fields it is necessary to add the figures listed under the separate counties.

In general, only fields classed as active by the Nomenclature Committee are listed in Tables 28 and 29. However, because of the necessary delay between field activities and corresponding Committee action, as well as production irregularities, some abandoned fields show reported production, and some active fields report no production (shown as "no runs" in the tables).

TABLE 23.—Oil and gas fields named in Kansas during 1963.

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, ft	Month named	Initial production, bbl/day
Barber County					
DeGeer Southwest C NE SW 8-33-15W	Sunray DX Oil Co. No. 1 Hazel Lendon	Simpson	4821-4880	Jan.	18,400,000 cu ft gas
Groendycke SW SW SE 27-33-12W	Bowers Drlg. Co., Inc. No. 1 Groendycke*	Mississippian	4700-4732	April	6,225,000 cu ft gas
Ketner NE NE SE 9-31-13W	Petroleum Management, Inc. No. 1 Ketner "A"*	Marmaton	4229-4233	Aug.	110
Mulberry C NE SW 31-30-14W	Petroleum Management, Inc. No. 1 Mills	Douglas	3872-3876	Nov.	45
Barton County					
Ahrens NW SE NW 16-19-11W	Lloyd Phillips & Don Vaughn No. 1 Ahrens	Penn. congl.	3331-3338	Jan.	72
Chaffee NE NW SW 31-19-13W	Western Petroleum Co., Inc. No. 1 Russell	Lans.-K.C.	3247-3252	May	229
Finger NW SW SE 12-17-13W	Duke Drlg. Co. No. 1 Finger	Lans.-K.C.	3198-3201	Dec.	86
Homestead Northeast N/2 NE NW 23-18-13W	Birmingham-Bartlett Drlg. Co. No. 1 Wirth "A"	Lans.-K.C. Arbuckle	3114-3160 3312-3323	May	oil, prod. unknown 19
Tonkin NE NE NW 9-20-12W	Alpine Oil & Royalty Co., Inc. No. 1 Tonkin	Arbuckle	3402-3432	Sept.	36
Two-Eighty One (281) NE NW SE 27-16-14W	Imperial Oil of Kansas, Inc. No. 1 Eveleigh	Lans.-K.C.	3345-3350	July	244
Two-Eighty One Southeast NE SE SW 26-16-14W	Helmerich & Payne, Inc. No. 1 Eveleigh	Lans.-K.C.	3300-3318	July	81

TABLE 23.—Oil and gas fields named in Kansas during 1963 (continued).

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, ft	Month named	Initial production, bbl/day
Butler County					
Benfer SE NW SW 9-26-3E	Lee H. Cornell No. 1 Benfer	Mississippian	2798-2810	March	45
Harlan C S/2 SW 26-23-4E	E. H. Adair Oil Co. No. 1 Harvey	Lans.-K.C.	2108-2114	Feb.	57
Wehrman C SE/4 Lot 17 30-29-8E	Petroleum, Inc. No. 1 Wehrman	Mississippian	2741-2743	Feb.	64
Comanche County					
Nescatunga South C E/2 NE SW 35-32-18W	Continental Oil Co. No. 1 Pepperd-Carthrae G.U.	Viola	5605-5612	March	22
Tuttle East S/2 NE NW 4-35-20W	Sinclair Oil & Gas Co. No. 1 Alexander	Morrowan	5457-5461	May	2,630,000 cu ft gas
Cowley County					
Cooley NW NW SE 5-30-4E	Cowboy & Indian Drlg. & R. A. Whorton No. 1 Cooley	Arbuckle	2960-2968	Jan.	30
Sheneman SW SE NW 8-33-6E	Wrico Drlg. Co. No. 1 Sheneman	Mississippian	3103-3125	Dec.	21
Crawford County					
Farlington† SW SW NE 4-28-23E	E. J. Dunigan, Jr. No. 1 Baker	Marmaton	180-196	Sept.	oil, prod. unknown
Decatur County					
Decatur Center C NE SW 21-3-28W	Halliburton Oil Prod. Co. No. 1 Harmon	Lans.-K.C.	3726-3878	July	82
Huff C SW NW 16-1-26W	Gulf Oil Corp. No. 1 Huff	Lans.-K.C.	3236	Sept.	30
Edwards County					
Bordewick C SW SW 18-26-18W	Aylward Drlg. Co. & K. Rupp No. 1 Bordewick	Tarkio	3342-3346	Aug.	1,600,000 cu ft gas
Britton SW SW NW 9-25-17W	Leben Drlg., Inc. No. 1 Britton*	"Kinderhook"	4477-4482	March	5,087,000 cu ft gas
McClanahan East C SE NE 12-26-18W	Pentagon Corp. No. 1 Newsom*	Mississippian	4520-4536	March	2,478,000 cu ft gas
Rairden C SW SW 16-25-16W	Leben Drlg., Inc. No. 1 Rairden*	Mississippian	4360-4396	Sept.	5
Ellis County					
Catharine East NE NW SE 11-13-17W	Alpine Oil & Royalty Co., Inc. No. 1 Karlin	Lans.-K.C.	3316-3317 3514-3515	May	52
Gross NW SW SE 25-13-18W	Raymond Oil Co., Inc. (Clinton Oil Co.) No. 1 Gross	Lans.-K.C.	3373-3403 3488-3493	Aug.	104
Sessin North SE SE SW 4-11-19W	Whitestone Petrol., Inc. & Murfin Drlg. Co. No. 1 Pulec	Lans.-K.C.	3429-3435	Nov.	64
Staab C SE SE 23-12-20W	Phillips Petrol. Co. No. 1 Staab "A"	Lansing Marmaton Penn. congl.	3525-3527 3817-3823 3879-3881	Dec.	2½
Younker Southwest SE NE NE 17-12-19W	Crescent Oil & Gas Corp. No. 1 Spreen	Lans.-K.C.	3557-3576	Aug.	206
Ellsworth County					
Gregory SE SE NE 26-16-9W	Mayfield-Smith Drlg., Inc. No. 1 Gregory	Arbuckle	3243-3247	April	57
Oxhide NE NE SE 24-16-9W	Mayfield-Smith Drlg., Inc. No. 1 Muncie	Arbuckle	3292-3293	July	89
Ford County					
Bucklin C NW NE 7-29-21W	Time Petroleum Co. No. 1 Jay	Cherokee	5037-5092	Sept.	2,000,000 cu ft gas

TABLE 23.—Oil and gas fields named in Kansas during 1963 (continued).

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, ft	Month named	Initial production, bbl/day
Gove County					
Garvey Ranch C NW SW 18-15-26W	Petroleum, Inc. No. 1 Garvey "L"	Lans.-K.C. Mississippian	3880-3944 4298-4306	April	60 95
Graham County					
Kohart SE SE NE 28-9-24W	Chief Drlg. Co., Inc. No. 1 Kohart	Lans-K.C.	4026-4030	Feb.	93
Mount Vernon North C NW NE 24-6-23W	Glickman Oil Co. No. 1 Pratt	Lans.-K.C.	3781-3789	April	135
Shiloh South NW NW NE 12-9-25W	Time Petrol. Co. & Empire Drlg. Co. No. 1 Clark "C"	Lans.-K.C.	3912-3918	Aug.	199
Greenwood County					
Sauerwein SE SE NE 5-27-10E	National Assoc. Petrol. Co. No. 1 Sauerwein	Kansas City	1424-1425	May	20
Harper County					
Freeport NE SW NW 5-33-5W	Dorset Co. No. 1 Mason	Mississippian	4364-4390	May	19
Harvey County					
Appling SW SW NE 32-24-2E	Mid-Co. Minerals, Inc. No. 1 Appling	"Burgess"	2890-2900	Aug.	30
Braddock NE SE NW 9-22-2E	A. Ainsworth No. 2 Guthrie	"Hunton"	3162-3164	Feb.	32 (dry & abd., 4-63)
Hodgeman County					
Armstrong C SW SE 15-22-23W	Mull Drlg. & Rains & Williamson No. 1 Armstrong	Mississippian	4524-4585	Sept.	61
Eakin Northwest C SE NE 16-21-21W	Colorado Oil & Gas Corp. No. 1 Mooney	Mississippian	4311-4323	June	30
Goebel East C NW SE 13-21-24W	Pickrell Drlg. Co. No. 1 Hollenbeck "A"	Mississippian	4496-4505	Aug.	109
Hann SW NW NE 26-22-22W	Imperial Drlg. Co. No. 1 Hann "A"	Mississippian	4396-4404	March	112
Kingry C SE SE 3-23-21W	J. M. Huber Corp. No. 1 Kingry	Mississippian	4576-4595	Dec.	54
Lippoldt C SE SW 14-23-23W	Texaco, Inc. No. 1 Lippoldt	Mississippian	4524-4534	April	79
Mellecker C NE SE 17-24-22W	Sunray DX Oil Co. & Jones-Gebert No. 1 Mellecker	Mississippian	4695-4714	April	111
Salmans C SE SE 3-22-22W	Mobil Oil Co. No. 1 Everett Salmans	Mississippian	4464-4465	Feb.	116
Saw Log Creek Southeast C SE NW 9-24-21W	J. W. Hershberger No. 1 Strecker "A"	Mississippian	4672-4676	Sept.	325
Jackson County					
Leach C SE SW 15-7-13E	Fred B. Anschutz No. 1 Leach	Viola	3229-3246	Aug.	20
Kingman County					
Beshore C NW SE 30-28-5W	Petroleum, Inc. No. 1 Beshore	Mississippian	3894-3906	June	24
Nashville C SW SW 1-30-10W	Bachus Oil Co. No. 1 Bertholf	Indian Cave	2523-2538	Dec.	1,050,000 cu ft gas
Rosedale East C NW SW 34-29-6W	Pickrell Drlg. Co. No. 1 Pruitt	Lans.-K.C.	3732-3736	Sept.	80
Kiowa County					
Conklin Estate SW SW SW 11-29-17W	James F. Smith No. 1 Conklin*	Mississippian	4694-4737	Dec.	55
Ursula Northeast C NW SW 1-29-18W	Apache Corp. No. 1 Wedel	Mississippian	4874-4899	Dec.	2,422,000 cu ft gas 20

TABLE 23.—Oil and gas fields named in Kansas during 1963 (continued).

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, ft	Month named	Initial production, bbl/day
Meade County					
Crooked Creek C NE SW 8-35-26W	Pioneer Prod. Corp. No. 1 Sutherland	Morrowan	6026-6036	Aug.	1,100,000 cu ft gas
Meyers C SW NE 8-35-27W	Jack Grace Prod. Co. No. 1 Meyers•	Council Grove	3049-3072	Feb.	1,356,000 cu ft gas
Morton County					
Cimarron Valley N/2 NE SE 8-33-40W	Anadarko Prod. Co. No. 2 Low "A"	Morrowan	5586-5590	Dec.	528
Ness County					
Aldrich Northwest C SW NE 36-17-26W	Kimbark Exploration Co. No. 1 Norton	Mississippian	4400-4410	Sept.	23
Bazine C NW NW 33-18-21W	Colorado Oil & Gas Corp. No. 1 Miner	Mississippian	4205-4214	Oct.	52
Buda C SE NE 35-20-26W	Mull Drlg. Co. No. 1 Goodman	Mississippian	4401-4410	March	104
Dumler West C SW SE 9-17-26W	Kimbark Exploration Co. No. 1 McCombs	Fort Scott	4425-4442	May	25
Guzzlers Gulch North C SW SW 12-20-25W	Kern-Landes Expl. Co., Inc. No. 1 Stick	Mississippian	4432-4459	May	oil, prod. unknown
Hair Northwest C SW NE 32-19-24W	Kern-Landes Expl. Co., Inc. No. 1 Shramek	Mississippian	4402-4410	May	288
Kleweno C SE NW 13-17-22W	Pickrell Drlg. Co. No. 1 Kleweno	Mississippian	4284-4290	March	108
Laird C NW SW 36-18-25W	Sunray DX Oil Co. No. 1 Humburg	Mississippian	4407-4416	May	24
McDonald C NE SW 4-19-24W	Mull Drlg. Co. No. 1 McDonald	Cherokee	4356-4366	March	102
McDonald Northeast C NW NW 34-18-24W	Mull Drlg. Co. No. 1 Crowell	Mississippian	4350-4360	Nov.	53
McNair C NE NE 32-20-24W	Mull Drlg. Co. No. 1 McNair	Fort Scott	4322-4328	Sept.	15
Ness City North C SW NW 24-18-24W	Sun Oil Co. No. 2 Pfannenstiel	Mississippian	4277-4284	Aug.	37
Oppliger C NW SE 17-17-23W	Mull Drlg. Co. No. 1 Oppliger	Osagian	4452-4456	May	29
Ransom C SW SW 27-16-24W	Pickrell Drlg. Co. No. 1 Baer	Cherokee	4501	Sept.	99
Schaben C SE SE 30-19-21W	City Service Oil Co. No. 1 Moore	Mississippian	4416-4421	Sept.	122
Schaben South C NE NW 7-20-21W	Pickrell Drlg. Co. No. 1 Moore	Mississippian	4371-4375	Dec.	149
Stutz C SE NW 18-17-25W	Pickrell Drlg. Co. No. 1 Stutz "A"	Mississippian	4550-4557	April	69
Sunshine C NE SW 12-19-25W	Sunray DX Oil Co. No. 1 Clark	Cherokee Mississippian	4271-4290 4374-4380	Sept.	70 88
Wunder C SE SW 18-18-21W	Beardmore Drlg. Co. No. 1 Wunder	Osagian	4236-4244	June	94
Pawnee County					
Eddy‡ NW NE NW 13-22-18W	Bell Brothers No. 1 Eddy	Penn. congl.	4084-4089	Sept.	2,310,000 cu ft gas
Oro Northwest SE NE SW 5-20-19W	Thunderbird Drlg., Inc. No. 1 Van Rensselaer	Penn. congl.	4175-4176	May	104
Steffen C NE SW 29-20-20W	Lario Oil & Gas Co. No. 1 Steffen "B"	Mississippian	4298-4314	May	29
Steffen South C SE SW 8-21-20W	Jones-Gebert Oil Co. No. 1 Steffen	Mississippian	4250-4253	July	15
Pratt County					
Gereke West SE SW NW 11-26-15W	Time Petroleum Co. No. 1 Curtis	Lans.-K.C. Mississippian	4109 4244-4310	Nov.	108 2,310,000 cu ft gas

TABLE 23.—Oil and gas fields named in Kansas during 1963 (continued).

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, ft	Month named	Initial production, bbl/day
Howell C NW SE 31-29-14W	Graybol Oil Corp. No. 1 Howell	Cherokee	4549-4550	Nov.	61
Pratt Airport SW SW SW 8-27-13W	Kimbark Explor. Co. No. 1 Pratt Airport	Simpson	4411-4418	Aug.	3,000,000 cu ft gas
Reno County					
Hilger Southeast NE SE NE 21-26-4W	Wiggins Oil Co. No. 1 Seidl	Lans.-K.C.	3224-3225	Aug.	26
Wisby Northwest SE SE NW 12-22-10W	E. H. Riggs & Rex Morris No. 1 Brown	Lans.-K.C.	3122-3142	July	26
Rice County					
Buffalo Bill SW SW SW 1-20-9W	Raymond Oil Co. No. 1 Carlgren	Lans.-K.C.	2957-2961	Feb.	79
CAR C SW NE 28-20-9W	Sterling Drlg. Co. No. 1 Richards	Arbuckle	3254-3256	Oct.	72
Kepley C SW NW 5-19-7W	Imperial Oil Co. of Kansas, Inc. No. 1 Kepley	"Kinderhook"	3340½	Dec.	43
LeClerc S/2 NW NE 12-19-8W	Rex & Morris Drlg. Co. & E. F. Rupp No. 1 LeClerc	Arbuckle	3300-3305	Nov.	101
Lyons West NE NW NE 32-19-8W	O. A. Sutton No. 1 Vera Truesdell	"Kinderhook"	3286-3296	March	91
Rooks County					
Lone Star West NW NW NW 7-8-17W	Murfin Drlg. Co. & Whitestone Petrol. Co. No. 1 M. V. Smith	Lans.-K.C.	3140-3239	Aug.	30
Mt. Pleasant SW NE NW 26-8-19W	Glickman No. 1 Ververka	Lans.-K.C.	3356-3360	April	80
Westhusin East S/2 SE SW 6-9-16W	Ryan Consol. Petrol. Corp. No. 1 Kern*	Lans.-K.C.	3107-3110 3269-3273	April	42
Russell County					
Amerest C N/2 SE NE 33-11-13W	Terrel Drlg. Co. & Waldo Valley Oil Co. No. 1 Amerest	Lans.-K.C.	3091-3093	Oct.	25
Haise C SW NW 29-12-14W	Fred B. & Phillip Anschutz No. 1 Krug	Lans.-K.C.	2934-2968	Dec.	60
Mellard C NW SE 18-12-14W	Fred B. & Phillip Anschutz No. 1 Mellard	Lans.-K.C.	2817-2837	Dec.	40
Strick NE NW SW 16-15-14W	J. W. Hershberger & Donald C. Slawson No. 1 Stricker*	Lans.-K.C.	3124-3134	June	105
Weilert C SW SE 6-12-14W	Eggleston & Vance No. 1 Weilert	Lans.-K.C.	2965-2983	Dec.	Temp. abd.
Saline County					
Gypsum NW NW SE 27-15-1W	Cal Jones No. 1 Schwarz	Mississippian	2578-2583	Dec.	32
Pihl C NE NE 26-15-2W	Melland Drlg. Co., Inc. No. 1 Pihl	Mississippian	2741-2745	June	33
Scott County					
Brookover C SW SE 18-17-31W	D. R. Lauck Oil Co. No. 1 Brookover	Lans.-K.C.	4030-4035	Aug.	215
Sedgwick County					
Cannonball S/2 S/2 SW 24-27-2W	Shawver-Armour, Inc. No. 2 Betzen	Mississippian	3421-3428	July	100
Gillian North C NE NE 28-29-1W	E. H. Adair Oil Co. No. 1 Schmeissner	Simpson	3744-3760	Oct.	82
Golden NE SE NE 34-25-2E	Canaday Drlg. Co. No. 1 Golden	"Burgess" Mississippian	2882-2887	Nov.	33

TABLE 23.—Oil and gas fields named in Kansas during 1963 (concluded).

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, ft	Month named	Initial production, bbl/day
Seward County					
Arkalon West C NE SW 29-33-32W	Cities Service Oil Co. No. 1 Salley "D"	Morrowan	5694-5748	Oct.	50,000,000 cu ft gas
March C NE NE 7-33-33W	Falcon-Seaboard Drlg. Co. No. 1 March	Chesteran	6054-6071	Nov.	1,100,000 cu ft gas
		St. Louis	6235-6247		125
Sheridan County					
Corke C NW NW 24-9-26W	C-G Drilling Co. No. 1 Corke	Lans.-K.C.	4074-4077	Feb.	5, Abd. in 1963
Stafford County					
Emerson West C NE SW 30-25-14W	Glickman Oil Co. No. 1 Childs	Mississippian	4222-4265	June	8,060,000 cu ft gas
Leiss Southwest NE SW SE 26-25-13W	Rock Island Oil & Ref. Co., Inc. No. 1 Fisher	Simpson	4208-4220	Aug.	226
Lutz NE SW NE 27-23-13W	Hinkle Oil Co. No. 1 Lutz	Simpson	3907-3910	March	40
Mershon NW NE SE 16-24-12W	Stickle Drlg. Co. No. 1 Mershon	Viola	3900-3912	May	9
Radium Townsite West SE SE NW 6-22-14W	Mayfield-Smith Drlg. Co. No. 1 Russell*	Lans.-K.C.	3630-3636	Dec.	50
Rychlec NW NE SW 14-21-14W	Western Petrol. Co., Inc. No. 1 Rychlec	Arbuckle	3736-3739	Jan.	98
Stevens County					
Gooch C SE NW 8-35-35W	Texaco, Inc. No. 2 T. R. Gooch	Morrowan	6257-6283	Sept.	2,060,000 cu ft gas
		Chesteran	6570-6575		92
Sumner County					
Corastone SW SE NE 22-31-3W	Beardmore Drlg. Co. No. 1 Stone	Wabaunsee	2070-2072	Dec.	2,800,000 cu ft gas
Duncan C SW NW 18-30-2W	Shawver-Armour, Inc. No. 1 Duncan	Kansas City	3263-3265	March	35
Holman West C NW NE 27-33-2E	Donald C. Slawson No. 1 Totten "A"	Mississippian	3299-3300	Aug.	15
Rutter Northwest C NW SE 18-33-2E	Donald C. Slawson No. 1 Knowlton	Mississippian	3382-3388	July	26
Trego County					
Muhlheim SW SE SE 15-13-21W	Birmingham-Bartlett Drlg. Co. No. 1 Muhlheim "B"	Arbuckle	3904-3905	Jan.	131

* Old well worked over.
† The discovery well of Farlington field was drilled in 1961 and was carried under Crawford County miscellaneous production in 1962.
‡ The discovery well of Eddy field, a shut-in gas well, was drilled in 1962.

TABLE 24.—Fields revived during 1963.

County, pool, and location of revival well	Revival well	Producing zone	Production depth, ft	Month revived	Initial production, bbl/day
Allen County					
Savonburg* NW NE 32-26-21E	N & B Enterprises No. 1 Baker	.....	.....	Jan.	....
Barton County					
Bergtal South NW NW SE 27-20-15W	Victor Drlg. No. 2 Bowman†	Arbuckle	3667-3671	Sept.	33
Mue-Tam NW NE NE 35-20-11W	Hi-Plains Prod. Co. No. 1 Miller "B"	Arbuckle	3309-3315	Jan.	25
Underwood NE SE NE 15-17-13W	Darby & Bothwell, Inc. No. 1 Underwood "A"	Arbuckle	.....	June	....
Wondra NW NW SW 14-17-12W	Chief Drlg. No. 1 Reif	Arbuckle	3344½-3345½ 3385-3432	Feb.	11
Edwards County					
Salser C NW SW 12-26-16W	Leben Drlg. & Okmar Oil No. 1 Wallace	Lans.-K.C.	3924-3927	April	24
Gove County					
Lundgren	(Revived for purpose of combination)	.....	.....	Sept.	....
Harper County					
Goheen SW SW SW 18-31-6W	Phillips No. 1 Schultz "B"	Mississippian	4285-4308	Sept.	115
Kingman County					
Reida West	(Revived for purpose of combination)	.....	.....	Dec.	....
Kiowa County					
Alford East	(Revived for purpose of combination)	.....	.....	Dec.	....
Leavenworth County					
Linwood C NW SW 15-12-21E	A-Mar No. 1 Pardee	"Squirrel"	670-680	March	25
Ness County					
Kansada C NE SW 14-17-26W	Twin Drlg. No. 1 Daniels	Mississippian	4496-4500	June	35
Pawnee County					
Sweeney Southwest NE NE NW 36-21-16W	Dunne-Gardner No. 1 Harms	Penn. congl.	3789-3793	Oct.	40
Phillips County					
Kent C SE SE 22-1-18W	Wickizer No. 1 Kent	Lans.-K.C.	3407-3546	March	25
Rice County					
Bredfeldt West SW SW NW 13-18-10W	American Oil & Gas No. 2 Schultz	Arbuckle	3265-3275	Sept.	50
Glen Sharrald E/2 SW SE 20-18-10W	Raymond Oil No. 1 Schultz	Arbuckle	3249-3261	Nov.	25
Russell County					
Meckel SW SW SE 27-12-15W	Nixon No. 1 Davis	Arbuckle	3223-3228	Dec.	25
Saline County					
Pliny C N/2 SW SE 9-16-1W	Hess No. 1 Meyers	Lans.-K.C.	1996-2001	Nov.	28

TABLE 24.—Fields revived during 1963 (concluded).

County, pool, and location of revival well	Revival well	Producing zone	Production depth, ft	Month revived	Initial production, bbl/day
Stafford County					
Hahn SE SE NW 21-22-13W	Edmiston No. 1 Dudrey	Lans.-K.C.	3611-3615	Sept.	36
Hahn East NE SE NW 27-22-13W	Inger No. 1 Harrouff	Arbuckle	3835-3836	June	45
McGinty NW SE NW 13-21-14W	Western Petroleum No. 1 Wright	Lans.-K.C.	3423-3426	March	52
North Star North NE NE SE 21-24-12W	Shawver-Armour No. 1 Grieve	Viola	3902-3904	Sept.	181
Trego County					
Page Creek C SE SE 28-15-22W	Dreiling No. 1 Freeman	Cherokee	4242-4246	Sept.	35

* Field extends into Bourbon County.
† Old well worked over.

TABLE 25.—Fields abandoned in Kansas during 1963.

County, field, and location of discovery well		Discovery well	Producing zone: Name	Depth, ft	Thickness, ft	Aver. grav.	Cumulative production, bbl	Year discovered	Month abandoned
Anderson County									
Greeley*	?-19-21E	.....	**Cherokee**	**336**	**12**	**36**	.....	**1916**	**July**
Bourbon County									
Lost Creek	?-23-24E	.....	.....	.....	....	....	.....	.....	July
Brown County									
Livingood	3- 1-15E	No. 1 Livingood	"Hunton"	2,580	....	....	90,394	1944	July
Butler County									
Butwick†	7-26- 3E	No. 1 DeMoss	Mississippian	.....	....	....	556	1949	.....
"	13-26- 2E	No. 1 Wheeler	"Hunton"	3,192	2	....	.....	1960	July
DeGraff	8-24- 5E	No. 1 Walters	"Burgess"	2,440	....	....	1,376	1955	July
Douglass Townsite	20-29- 4E	No. 2 Bannon	Lansing	1,880	10	....	594	1958	July
Elbing South	32-23- 4E	No. 1 Classen	Kansas City	2,041	14	....	None	1958	July
McCann	7-25- 3E	No. 2 Chaney‡	"Burgess"	2,765	....	....	2,890	1933	July
Mann	29-26- 4E	No. 1 Mann	Lans.-K.C.	2,114	5	....	None	1960	July
Mellor Northeast	6-24- 4E	No. 1 Claassen	Mississippian	2,441	10	....	None	1958	July
Phares	5-26- 3E	No. 1 Phares Est.	Mississippian	2,756	2	....	3,545	1957	July
Pontiac Southwest	23-26- 6E	No. 1 Jones	Mississippian	.....	....	....	1,886	1956	July
Powell	12-24- 3E	No. 1 Classen‡	Mississippian	.....	....	....	2,680	1925	July
Chautauqua County									
Hewins	31-34-10E	.....	Lansing	1,100	....	....	.....	.....	July
Knowles	22-32- 9E	No. 1 Knowles	"Bartlesville"	2,130	6	....	None	1960	July
Leonard	1-34- 9E	No. 1 Leonard	"Peru"	.....	....	....	.....	.....	July
Lowe	?-34-10E	.....	"Peru"	.....	....	....	.....	.....	July
McGlasson	11-33- 9E	.....	Mississippian	.....	....	....	.....	1947	July
McGlasson West	10-33- 9E	No. 2 Bever "A"	Mississippian	2,284	3	....	83	1959	July
Malone	18-32-10E	No. 1 Stewart‡	Arbuckle	.....	....	....	.....	1928	November
Ogle	29-34-11E	No. 1 Ogle "A"	"Peru"	1,270	10	....	539	1957	November
Ramsey	18-33- 9E	No. 1 Ramsey	Mississippian	.....	....	....	817	1955	November
Rich	16-33- 9E	No. 1 Rich	Mississippian	2,285	30	....	2,118	1956	November
Wauneta	?-34- 9E	No. 1 Fisher	"Peru"	1,670	....	....	.....	1924	November
			Mississippian	2,100	....	....	.....	.....	.....
Cowley County									
Burden Townsite	34-31- 6E	No. 1 Henderson	"Layton"	2,205	10	....	2,898	1954	November
Countryman North	27-32- 7E	No. 1 Parson	"Layton"	2,058	....	....	.....	1962	February
Denton	4-35- 4E	No. 1 Denton	Permian	.....	....	....	.....	1921	November
Dunbar	29-30- 5E	No. 1 Asmusson	"Bartlesville"	.....	....	....	.....	1929	.....
"	29-30- 5E	No. 1 Dunbar "A"	Kansas City	.....	....	....	.....	1938	.....
"	29-30- 5E	No. 1 Asmusson	Mississippian	.....	....	....	.....	1955	November
Elrod East	3-32- 5E	No. 1 Lowe	"Layton"	2,340	3	....	1,170	1959	November
Enterprise Northeast	35-33- 3E	No. 1 Wright "F"	"Bartlesville"	3,335	12	....	45,072	1952	.....
"	35-33- 3E	No. 1 Holman	Mississippian	3,321	12	....	.....	1957	November

TABLE 25.—Fields abandoned in Kansas during 1963 (concluded).

County, field, and location of discovery well		Discovery well	Producing zone: Name	Depth, ft	Thickness, ft	Aver. grav.	Cumulative production, bbl	Year discovered	Month abandoned
Ferguson Northwest	16-30- 8E	No. 1 Ferguson "A"	Kansas City	2,200	....	....	41,710	1950	November
Ferguson West	21-30- 8E	No. 1 Ferguson	Kansas City	2,180	....	....	.....	1935	November
Hackney North	18-33- 4E	No. 1 Knepper	Mississippian	3,236	6	....	None	1959	November
Kanok	15-35- 5E	No. 1 Warren	Mississippian	.....	....	....	.....	1956	November
Lauppe	6-32- 6E	No. 1 Lauppe	"Burgess"	3,079	8	....	396	1959	November
Lovell	9-35- 3E	No. 1 Lovell	"Bartlesville"	3,458	4	....	3,009	1959	November
Mansur Southwest	26-31- 6E	No. 1 Underwood	"Layton"	2,206	3	....	None	1959	November
Pudden	16-35- 4E	No. 1 Owens	Stalnaker	2,332	....	....	2,390	1955	November
Rainbow Bend Southwest	31-33- 3E	No. 1 Hanson	Mississippian	3,356	18	....	7,881	1954	November
Elk County									
Adams	29-29-13E	No. 1 Stotts Ranch‡	Arbuckle	.....	....	....	.....	1954	December
Ferguson East	23-30- 8E	No. 1 Ferguson	Arbuckle	2,900	....	....	.....	.....	December
Moline	16-31-10E	No. 1 McKee	Mississippian	2,000	....	....	.....	1928	December
Perkins	1-30- 9E	No. 1 Perkins	"Bartlesville"	.....	....	....	5,427	1954	December
Starr	12-31- 9E	No. 1 Way	Mississippian	2,330	....	....	.....	1937	December
Ellis County									
Glathart	16-12-19W	No. 1 Glathart	Lans.-K.C.	.....	....	....	.....	1943	Abd. prior to 11-63
Ruder Southwest	18-15-18W	No. 1 Linenberger	Arbuckle	.....	....	....	.....	1959	December
Harvey County									
Braddock	9-22- 2E	No. 2 Guthrie	"Hunton"	3,162	2	....	.....	1963	May
Johnson County									
Prairie Center	4-14-22E	No. 1 Gardner	Marmaton	.....	....	....	.....	1939	December
Kearny County									
Campbell	9-21-35W	No. 1 Campbell	Marmaton	.....	....	....	.....	1962	June
Labette County									
Banzet	?-35-19E	.....	"Bartlesville"	.....	....	....	.....	.....	December
Idenbro	?-31-19E	.....	.....	.....	....	....	.....	.....	December
Valeda	.....	.....	.....	.....	....	....	.....	.....	December
Leavenworth County									
Bankers Life	3-10-20E	No. 1 Bankers Life	"McLouth"	1,450	....	....	.....	1941	December
Linn County									
Blue Mound§	19-22-22E	No. 1 Brooks	Mississippian	800	....	....	.....	1930	December
Critzer	?-22-22E	.....	Cherokee	.....	....	....	.....	.....	December
Lyon County									
Welch-Mohr	30-20-10E	No. 1 Welch	Mississippian	.....	....	....	.....	1929	December
Neosho County									
Kimball	32-27-21E	No. 1 Long	.....	.....	....	....	.....	1928	December
Ness County									
Brecklein	30-17-25W	No. 1 Brecklein	Mississippian	.....	5	....	.....	1962	February

Osage County									
Vassar	23-16-16E	No. 1 Woodward	Mississippian	1,524	7	....	None	1961	December
Sedgwick County									
Sum-Wick	32-29- 1E	No. 1 Gardiner	Kansas City	.....	....	....	.....	1962	January
Seward County									
Blue Bell	33-34-31W	No. 1 Long	Mississippian	.....	....	....	.....	1953	January
Sheridan County									
Corke	24- 9-26W	No. 1 Corke	Lans.-K.C.	3,925	3	....	.....	1963	June
Woodson County									
Annabelle	32-25-15E	No. 1 Corkery	"Squirrel"	1,773	5	....	572	1956	December
Stange	20-24-16E	No. 1 Stange	Cherokee	.....	....	....	.....	1938	December
Stephenson	9-25-14E	No. 1 Stephenson & Hale	"Bartlesville"	1,425	....	....	.....	1926	December

• Greeley Field extends into Franklin County.
† Butwick Field extends into Sedgwick County.
‡ Revival well.
§ Blue Mound Field extends into Anderson County.

TABLE 26.—Fields combined in Kansas during 1963.

County and name of field combined	Discovery well location	Prod. area, acres	Producing zone: Name	Depth, ft	Thickness, ft	Year of discovery	Cumulative production, bbl	Month of combination	Combined as part of
Barton County									
Ainsworth South	10-17-13W	3,260	Arbuckle	3,390	....	1937	5,776,544	October	Trapp
"	.....	.....	Lans.-K.C.	3,170	....	.....	.....	.....	.....
"	.....	.....	Shawnee	.....	....	.....	.....	.....	.....
Haberman	32-18-13W	380	Arbuckle	3,400	2	1959	96,842	February	Lake Barton
Hawkins Northwest	33-18-13W	.....	Arbuckle	.....	....	1953	.....	February	Lake Barton
Herres	33-17-13W	260	Arbuckle	3,343	10	1955	244,117	June	Ainsworth South
"	.....	.....	Lans.-K.C.	3,128	4	.....	.....	.....	.....
Hoisington	21-17-13W	640	Lans.-K.C.	3,222	4	1938	1,924,414	June	Ainsworth South
"	.....	.....	Arbuckle	3,440	....	.....	.....	.....	.....
Klug	28-17-13W	40	Arbuckle	3,414	7	1946	64,052	June	Ainsworth South
Klug North	27-17-13W	120	Arbuckle	3,377	10	1948	205,521	June	Ainsworth South
Klug Northwest	28-17-13W	80	Arbuckle	3,423	4	1957	68,897	June	Ainsworth South
"	.....	.....	Lans.-K.C.	.....	....	.....	.....	.....	.....
Klug West	33-17-13W	80	Lans.-K.C.	3,149	28	1956	95,390	June	Ainsworth South
"	.....	.....	Arbuckle	3,394	5	.....	.....	.....	.....
Lake Barton West	29-18-13W	160	Arbuckle	3,402	14	1960	90,041	February	Lake Barton
"	.....	.....	Lans.-K.C.	3,152	57	.....	.....	.....	.....
Underwood	15-17-13W	.....	Arbuckle	.....	....	1950	.....	June	Ainsworth South
Clark County									
Sitka Northeast	5-33-21W	2,000	Morrowan	5,243	....	1960	209,489 M cu ft	June	Harper Ranch
Ellis County									
Ruder*	17-15-18W	640	Lans.-K.C.	3,422	....	1935	1,555,778	October	Schoenchen
"	.....	.....	Arbuckle	3,572	10	.....	.....	.....	.....
Younger South	8-14-17W	80	Arbuckle	3,546	7	1954	82,273	December	Younger
Gove County									
Lundgren South	31-14-29W	400	Mississippian	4,277	6	1952	197,827	September	Lundgren
"	.....	.....	Cherokee	4,164	14	.....	.....	.....	.....
"	.....	.....	Fort Scott	4,139	1	.....	.....	.....	.....
"	.....	.....	Pawnee	4,076	18	.....	.....	.....	.....
Greenwood County									
Jackson Southwest	34-25- 8E	100	"Bartlesville"	2,608	16	1957	100,251	March	Sallyards
Hodgeman County									
Hann	26-22-22W	.....	Mississippian	4,388	8	1963	.....	June	Hanston-Oppy
Kingman County									
Reida West	23-30- 7W	.....	Mississippian	4,143	3	1955	.....	December	Spivey-Grabs-Basil
Kiowa County									
Alford East	18-30-18W	.....	Mississippian	.....	....	1957	.....	December	Alford
Morton County									
Wilburton South	17-35-41W	.....	Topeka	3,184	....	1962	596,444 M cu ft	December	Greenwood Gas Area

TABLE 26.—Fields combined in Kansas during 1963 (concluded).

County and name of field combined	Discovery well location	Prod. area, acres	Producing zone					Month of combination	Combined as part of
			Name	Depth, ft	Thickness, ft	Year of discovery	Cumulative production, bbl		
Pawnee County									
Ash Creek Southwest	11-21-16W	.....	Arbuckle	.....	....	1947	.....	January	Ash Creek
Phillips County									
Kent	22- 1-18W	.....	Lans.-K.C.	.....	....	1951	.....	April	Huffstutter
Rice County									
Faler	2-21- 9W	400	Simpson	3,327	15	1961	70,900	April	Tobias
"	.....	.....	Lansing	2,945	....	.....	.....	.....	
Faler West	3-21- 9W	.....	Lansing	2,928	4	1962	none	April	Tobias
Rooks County									
Hrabe West	35- 8-17W	480	Lans.-K.C.	3,105	7	1962	51,832	February	Westhusin
Rush County									
Basgall West	6-16-17W	.....	Lansing	3,205	....	1962	none	July	Basgall
Russell County									
Reich	28-12-15W	340	Toronto	2,939	4	1958	374,161	March	Fairport
"	.....	.....	Lans.-K.C.	3,018	3	.....	.....	.....	.....
"	.....	.....	Arbuckle	.....	....	.....	.....	.....	.....
Seward County									
Arkalon East	20-33-31W	1,000	Mississippian	5,750	....	1960	112,207 M cu ft	January	Arkalon
Evalyn Southeast	22-33-33W	120	Morrowan	5,685	4	1962	21,586	March	Evalyn
Liberal East	3-35-33W	.....	Mississippian	6,146	....	1962	none	May	Liberal Southeast
Stafford County									
Foley	18-25-14W	360	Lans.-K.C.	3,727	59	1961	109,291	November	Moody
"	.....	.....	Viola	4,214	12	.....	.....	.....	.....
"	.....	.....	Mississippian	4,162	4	.....	.....	.....	.....

* Deletion (On October 2, 1963, the SE SW, sec. 9, T 15 S, R 18 W was deleted from Ruder Field and added to Schoenchen Field).

TABLE 27.—New oil and gas pools in producing fields, 1963.

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, ft	Month of discovery	Initial production, bbl/day
Barber County					
Aetna Northwest NE SE NW 2-34-15W	Consolidated Petrol., Inc. No. 1 Davis Ranch "M"*	Cherokee	4849-4860	Nov.	3
DeGeer Southwest C NE SW 8-33-15W	Sunray DX Oil Co. No. 1 Hazel Lendon	Viola	4728-4739	June	2,600,000 cu ft gas
Little Bear Creek C SE NE 11-32-14W	R. James Gear No. 1 Lake	Lans.-K.C.	3891	June	54
Medicine Lodge-Boggs NE NE NW 35-33-13W	Continental Oil Co. No. 1 Holmes	Marmaton	4514-4570	Nov.	2,530,000 cu ft gas
Medicine Lodge-Boggs SW NE 27-32-13W	Bowers Drlg. Co., Inc. No. 1 Kelly*	Douglas	3898-3900	Dec.	4,500,000 cu ft gas
Palmer C SE NW 13-32-14W	Colorado Oil & Gas Corp. No. 1 Lake	Lans.-K.C.	4218-4221	April	3,000,000 cu ft gas
Barton County					
Chaffee SE NE SW 31-19-13W	Harms Drilling Co. No. 1 Theis	Arbuckle	?	June	....
Homestead Northeast N/2 NE NW 23-18-13W	Birmingham-Bartlett Drlg. Co. No. 1 Wirth "A"*	Lans.-K.C.	3144-3150	Sept.	168
Jettie NE SW SW 27-20-14W	Addis Oil Operations No. 1 Russell	Arbuckle	3569-3571	Oct.	40
Redwing Southeast SW SW NE 7-18-12W	Nadel & Gussman No. 1 Eveleigh	Lans.-K.C.	3227-3247	July	197
Two-Eighty One Southeast SE NE SW 26-16-14W	Helmerich & Payne No. 3 Eveleigh	Shawnee	3105	Nov.	90
Clark County					
Harper Ranch SW NE SW 16-33-21W	Ashland Oil & Ref. Co. No. 1 Folks Unit	Mississippian	5408-5430	Nov.	37,000 cu ft gas
Sitka C SE/4 25-33-22W	Graham-Michaelis Drlg. Co. No. 1-25 Pfiefer*	Mississippian	5360-5406	Sept., 1962	Gas
Sitka C SE/4 36-33-22W	Graham-Michaelis Drlg. Co. No. 1-36 Smith	Mississippian	5476-5484	Sept., 1962	196
Snake Creek C NW/4 22-34-21W	Thomas & Brewer No. 1 Shupe	Lans.-K.C.	4456	May	100
Comanche County					
Beals SW NW SW 33-33-17W	Continental Oil Co. No. 1 Huck & Hall GU	Mississippian Viola	5063-5090 5622-5654	June	3,400,000 3,900,000 cu ft gas
Cowley County					
Cooley NE NE SE 6-30-4E	Cowboy & Indian Drlg. Co. No. 2 Cooley	Lans.-K.C.	2365-2370	Feb.	61
Whitacre N/2 SW NW 4-34-4E	Kansas Petroleum, Inc. No. 1 Dunbar	Mississippian	3239-3241	Sept.	34
Edwards County					
Belpre Southwest C SW NE 18-25-16W	Leben Drlg., Inc. No. 1 Trousdale	Cherokee	4374-4417	June	15
Ellis County					
Heyl Southeast SE SE SE 16-14-17W	Okmar Oil Co. No. 1 Herl	Lans.-K.C.	3260-3268	Sept.	39
Kaiser NE SE SW 30-13-20W	Imperial Oil of Kansas, Inc. No. 1 Kaiser*	Lans.-K.C.	3565-3576	Nov.	....
Reed Northwest SW NW SE 13-12-17W	Messman-Rinehart No. 2 Karlin	Lansing	3513-3523	Feb.	110
Finney County					
Amazon Ditch 150' S. C NW NE 19-22-34W	Gulf Oil Corp. No. 1 A. C. Maddux	Toronto	3764-3770	July	41
Nunn East C NW NW 31-21-33W	R. W. Lange No. 1 Crist*	Cherokee	4528-4550	Dec.	5

TABLE 27.—New oil and gas pools in producing fields, 1963 (continued).

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, ft	Month of discovery	Initial production, bbl/day
Harper County					
Stohrville C NW SE 26-33-6W	Sunray D-X Oil Co. No. 1 Meineke	Mississippian	4384-4390	June	12 & 1,860,000 cu ft gas
Haskell County					
Eubank C SE NE 5-29-34W	Cities Service Petrol. Co. No. 1 Collingwood "C"	Lans.-K.C.	4080-4088	April	6,000,000 cu ft gas
Lemon C NW SE 28-30-33W	Cities Service Petrol. Co. No. 1 Rooney	Morrow.-Chester. commingled	5385-5400	May	1,635,000 cu ft gas
Hodgeman County					
Hanston-Oppy C SE NW 12-22-23W	Sunray D-X Oil Co. No. 1 Dan Ewy "A"	Marmaton	4320-4340	Feb.	129
Kingman County					
Alameda C SW NW 27-28-7W	Texaco, Inc. No. 3 Richardson*	Mississippian	3992-3996	April	5 & 1,150,000 cu ft gas
Dresden C SW SE 12-27-10W	Time Petroleum Co. No. 1 Bradshaw	Chase Group (Winfield)	1624-1628	July	943,000 cu ft gas
Reida SW NE SE 18-30-6W	Texaco, Inc. No. 1 Reida*	Mississippian	.....	Sept.	....
Kiowa County					
Nichols C NW SE 32-29-18W	Pure Oil Co. No. 2 Brown "A"*	Lans.-K.C.	4269-4274 4876-4887	Nov.	380,000 cu ft gas
Lane County					
Demand C SW SE 19-16-27W	G-R-O No. 1 Gates	Lans.-K.C.	4194-4197	July	88
Morris County					
Veal NW NW SE 20-17-7E	Lance C. Hill No. 1 Hancock	"Ireland sand"	.....	Nov.	10,000,000 cu ft gas
Morton County					
Richfield C NW 11-32-41W	Amarillo Oil Co. No. 1 M. R. Johns	Morrowan	5039-5063 5091-5127	Feb.	8,000,000 cu ft gas
Rolla C SE NW 22-34-40W	Hamilton Bros. No. 1-22 Mingenback*	Mississippian	6372-6374 6377-6378	June	131
Rolla C NW SE 22-34-40W	Hamilton Bros. No. 2-22 Mingenback	Morrowan	5543-5546	Sept.	2,900,000 cu ft gas
Ness County					
Arnold North C NE SE 10-16-25W	Kern-Landes Expl. Co., Inc. No. 1 Geiss	Cherokee	4498-4506	Oct.	30
Laird C SW SW 36-18-25W	Sunray DX Oil Co. No. 2 Humburg	Cherokee	4292-4310	Dec.	126
Pawnee County					
Benson C NE SW 29-23-15W	Thomas H. Allan No. 1 Becker	Wabaunsee	3011-3025	Dec.	Shut-in gas
Pratt County					
Carver-Robbins SE SW SE 3-27-15W	J. E. Newman No. 1 Lemon	Mississippian	4393-4398	Jan.	40 & 2,000,000 cu ft gas
Gereke North App. W/2 W/2 SW 6-26-14W	J. E. Newman No. 1 Gereke	Mississippian	4252-4256	April	1,000,000 cu ft gas
Gereke North SW SE NE 1-26-15W	C. H. Spoor, Jr. No. 1 Thompson	Lans.-K.C.	3830-3968	July	25 & 1,400,000 cu ft gas
Rolingson C SW NE 36-27-13W	Skelly Oil Co. No. 2 Humphrey	Lans.-K.C.	3788-3796	April	159
Reno County					
Friendship C SE NW 19-25-4W	Texstar Securities, Inc. No. 1 Valdois	"Hunton" Mississippian	3928-3933 3619-3625	Jan.	10 & 625,000 cu ft gas

TABLE 27.—New oil and gas pools in producing fields, 1963 (concluded).

County, pool, and location of discovery well	Discovery well	Producing zone	Production depth, ft	Month of discovery	Initial production, bbl/day
Rice County					
Lyons West C SE NE 31-19-8W	Ben C. W. Hyde, Jr. No. 1 Wilkins	"Kinderhook"	3207-3213	Dec.	5,200,000 cu ft gas
Rooks County					
Barry NE NE NW 10-9-19W	Sohio Petrol. Co. No. 7 Rostocil "C"	Shawnee	3102-3108	April	88
Medicine Creek SW NE SE 18-8-16W	Herndon Drlg. Co. No. 1 Chesney "B"*	Shawnee	.....	Jan.	....
Westhusin E/2 SE NW 13-9-17W	Glickman Oil Co. No. 1 Smith*	Shawnee	3094-3096 3146-3150	May	15
Rush County					
Basgall SW SE NE 18-16-17W	Frontier Oil Co. No. 1 Schlitter*	Shawnee Lansing	2990-2998 3293-3323	July	500,000 1,500,000 cu ft gas
Russell County					
Strecker S/2 NW SW 21-15-14W	Hershberger & Slawson No. 1 Bender	Lans.-K.C.	3191-3205	May	288
Stafford County					
Dell East S/2 SE NE 8-21-13W	Petroleum, Inc. No. 3 Fischer "A"	Penn. congl.	3549-3557	June	190
Dillwin SE SE SE 17-24-14W	Natural Gas & Oil Corp. No. 1 Denker*	Lansing	3795-3801 3868-3874 3907-3913	Feb.	26
Farmington West NE NE SW 6-25-15W	Sierra Petrol. Co., Inc. No. 1 Knudson*	Mississippian	4259-4264	Sept.	1,074,000 cu ft gas
Flora SW NE SE 26-21-11W	Alpine Oil & Royalty Co., Inc. No. 1-B U.S. Government	Arbuckle	3469-3476	Nov.	30
German Valley NW NE SW 4-22-12W	Western Petrol. Co., Inc. No. 1 Sittner	Lans.-K.C.	3442-3483	March	20
Heyen NW SW NE 19-22-11W	Western Petrol. Co., Inc. No. 1 Alpers*	Viola	3535-3541	Feb.	35
Pundsack SE NW NW 29-21-13W	Cities Service Petrol. Co. No. 5 Essmiller "B"	Lans.-K.C.	3365-3547	Feb.	323,000 cu ft gas
Waters NE NE NW 33-24-14W	John C. Graves & Petrol., Inc. No. 1 Waters "F"	Lans.-K.C.	3836-3870	Oct.	47
Trego County					
Muhlheim SE SW SW 14-13-21W	Birmingham-Bartlett Drlg. Co. No. 1 Muhlheim "A"	Lans.-K.C.	3693-3697	Feb.	101

* Old well worked over.

TABLE 28

OIL PRODUCTION IN KANSAS DURING 1963

Compiled with assistance of H. A. BEVERLIN, Oil Proration Analyst, State Corporation Commission, Conservation Division

FOOTNOTES

*Field extends into adjacent county or counties.
**Corrected cumulative.
†Estimate.

TABLE 28—*Oil production in Kansas during 1963.*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone: Name	Depth ft	Thickness, ft	Aver. grav.
ALLEN COUNTY										
Bronson-Xenia*	17-25-21E	2,420	104,259		235	12	"Bartlesville"	700	18	29
Colony West* ('22)	15-23-18E	370	603		25	2	"Squirrel"	820	30	32
Davis-Bronson*	24-21E	1,080	21,872		108		"Bartlesville"	720	25	28
Elsmore Shoestring ('08)	5-26-21E	1,340	35,833		28	2	"Bartlesville"	650	24	32
Elsmore West ('11)	12-26-20E	300	4,112		16		"Bartlesville"	775	20	31
Humboldt-Chanute*	26-18E	10,630	301,499		1,023	50	"Bartlesville"	850	20	30
Iola ('37)	24-18E	3,080	212,918		377	1	"Squirrel"	850	25	32
							"Bartlesville"	975	20	20
Moran ('03)	25-20E	2,480	107,399		107		"Bartlesville"	820		22
Neosho Falls-Leroy* ('05)	35-22-16E	120	2,962		8	2	"Squirrel"	965		
							Mississippian	1,200		
Savonburg* (revived)	26-21E	420	60,353		22					
Seibert	5-26-20E	180	5,564		9	1	"Bartlesville"	680		
Miscellaneous		60	360		2					
Total Allen County		22,480	857,734	25,204,181 recorded	1,960	70				
ANDERSON COUNTY										
Bush City Shoestring ('21)	28-20-21E	2,800	184,819		727	1	"Squirrel"	700	20	35
							"Bartlesville"	740	11	36
Centerville* ('20)	10-21-22E	280	27,238		57		"Bartlesville"	480	15	27
Colony-Welda ('16)	4-23-19E	1,980	70,064		189	8	"Weiser"	600	15	
							"Squirrel"	850	20	35
Colony West* ('22)	15-23-18E	820	75,927		99		"Squirrel"	825	35	32
Garnett Shoestring ('04)	32-30-20E	500	25,752		37		"Squirrel"	725	20	32
Kincaid ('21)	10-23-21E	440	6,883		75		"Bartlesville"	750	12	26
Selma ('29)	9-22-21E	300	570		33		"Bartlesville"	850	25	26
Miscellaneous		70	1,513		2	1				
Total Anderson County		7,190	392,766	20,903,592 recorded	1,219	10				
BARBER COUNTY										
Aetna Gas Area ('35)	13-34-15W	16,000	11,436	163,248	43	1	Mississippian	4,850	7	
							Viola	5,215		
Amber Creek ('52)	36-30-12W		no report	19,178			Mississippian	4,296		30
Bloom ('55)	23-32-12W	40	5,526	45,705	2		Mississippian	4,310	30	
							Simpson	4,672	3	37
Bloom North ('59)	14-32-12W	80	22,141	93,477	4		Mississippian	4,230	20	

Boggs Southwest ('55)	30-33-12W	1,700	1,576	65,915	18		Mississippian	4,456		
Brooks-Younger ('55)	23-32-13W	80	no runs	33,633	2		Mississippian	4,423	5	29
Clara* ('48)	36-29-14W	80	1,488	106,652	2	1	Simpson	4,472		40
Deerhead ('43)	22-32-15W	640	44,305	1,234,645	10		Viola	4,950	9	26
DeGeer ('48)	2-33-15W		no report	755,590			Viola	5,176	10	40
							Simpson	5,356	2	
DeGeer Southwest ('63)	8-33-15W		no report	none			Simpson	4,845	54	40
DeGeer West ('62)	4-33-15W	40	818	1,867	1	1	Mississippian	4,753	25	38
Donald ('46)	33-31-15W	800	102,068	746,362	15		Mississippian	4,697		
Eads* ('58)	4-30-14W	60	1,511	58,148	2	2	Simpson	4,561	9	
Elsea ('56)	27-32-14W	160	240	10,816	4		Marmaton	4,625	20	
							Mississippian	4,662	18	31
Elwood ('56)	34-34-13W	1,040	238	12,463	9		"Elgin"	3,662	10	
Glick East ('61)	18-31-15W	40	no runs	427	1		"Penn. sand"	4,703		41
Gudeman ('54)	10-35-10W	40	no runs	12,949	1		Viola	5,152	10	47
Hardtner ('54)	31-34-12W	2,380	58,126	677,575	55		Mississippian	4,782	6	15
Highway ('56)	14-32-11W	200	10,234	156,248	5		Douglas	3,587	16	26
ILS ('56)	9-31-11W	80	1,636	2,631	4		Douglas	3,766		
Ketner ('63)	9-31-13W	80	6,226	6,226	2		Marmaton	3,789	4	
Lake ('59)	26-31-14W	40	no runs	6,664	1		Arbuckle	4,747	5	30
Lake City ('37)	7-31-13W		no report	307,865			Viola	4,435		43
							Simpson	4,530		
							Arbuckle	4,607		
Landis ('55)	21-34-11W	40	no runs	5,252	1		Mississippian	4,630	10	25
Little Bear Creek ('54)	12-32-14W	40	1,231	3,032	1	1	Douglas	3,808	16	25
							Lans.-K.C.	3,891		
							Viola	4,670	10	
McGuire-Goemann ('55)	29-32-10W	450	1,884	35,736	9		Mississippian	4,433	20	
McReynolds ('59)	19-31-10W	20	1,045	2,870	1		Mississippian	4,520	2	35
Medicine Lodge-Boggs ('37)	13-33-13W	4,200	190,129	5,191,949	56		Lans.-K.C.	3,930		27
							Marmaton	4,664	18	37
							Mississippian	4,495	6	
							"Misener"	4,845		
							Simpson	4,806		26
Medicine Lodge North ('54)	25-32-13W	1,240	51,375	816,895	30		Mississippian	4,480	13	37
Mingona ('62)	21-31-13W	40	13,380	20,163	1		Simpson	4,545	2	
Mulberry ('63)	31-30-14W	40	1,834	1,834	1		"Douglas sand"	3,870	4	
Nippawalla ('51)	13-33-12W	60	140	2,096	2		Douglas	3,659		
Nurse ('53)	13-31-13W	40	124	664	1	1	Mississippian	4,190	6	28
Palmer ('58)	30-32-13W	1,260	21,816	413,044	5		Marmaton	4,477	11	26
			63,291		25		Mississippian	4,524	22	
			2,991		1		Viola	4,923	7	44
Perry Ranch* ('58)	12-32-16W	160	396	2,033	5	1	Mississippian	4,785		
Rhodes ('49)	15-33-11W	5,000	174,499	6,420,592	139		Mississippian	4,480	20	26
							Viola	4,803		
Rhodes Northeast ('56)	2-33-11W	500	1,563	24,330	13		Mississippian	4,400	10	
Rhodes South ('57)	6-34-11W	240	20,441	191,078	5		Mississippian	4,564	30	
Roundup South ('53)	33-33-11W	40	155	1,832	1		Mississippian	4,457		
Salt Fork ('58)	12-35-15W	700	34,731	38,383	5		Mississippian	4,955		28

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
BARBER COUNTY (cont.)										
Sharon* ('55)	13-32-10W	800	15,752	252,031	8		Mississippian	4,355	10	21
Sharon Northwest ('56)	11-32-10W	840	3,174	33,127	16	1	Mississippian	4,347	10	
Skinner ('43)	29-31-14W	640	30,755	2,227,023	7		Viola	4,582		
							Simpson	4,626	38	30
Stumph ('52)	7-32-14W	560	23,431	311,675	14		Mississippian	4,801	4	
							Simpson	4,963	7	
Sun City ('41)	35-30-15W	600	4,121	1,643,366	6	2	Lans.-K.C.	4,344	20	31
Traffas ('55)	6-33-10W	40	1,292	2,817	1		Mississippian	4,590	28	
Turkey Creek East ('57)	21-30-15W	640	41,148	667,425	17		Viola	4,557	5	36
Wells ('57)	18-34-15W	80	93	2,787	2		Cherokee	4,768	10	
							Mississippian	4,785	24	
Whelan ('34)	32-31-11W	1,000	25,514	3,564,206	15	3	"Chat"	4,355	27	30
Whelan East ('54)	21-31-11W	40	no runs	61			Douglas	3,746		
Whelan Southwest ('54)	11-32-12W	40	1,166	20,062	1		Mississippian	4,229	11	
Whelan West ('55)	25-31-12W		no report	12,887			Mississippian	4,284	8	
Wolgamott ('57)	16-35-14W	40	429	2,989	1		Cherokee	4,865	4	
Pools or fields abandoned				76,824						
Total Barber County		42,970	995,469	26,507,347	573	14				
BARTON COUNTY										
Ahrens ('63)	16-19-11W	40	1,972	1,972	1		Penn. congl.	3,330	7	
Ainsworth South ('37)	10-17-13W		Combined into Trapp				Lans.-K.C.	3,170		
							Arbuckle	3,390		
Ameh ('51)	19-18-11W	80	13,902	99,694	2		Lans.-K.C.	3,103		50
Ames ('43)	22-18-11W	2,000	107,167	2,343,975	41		Lans.-K.C.	3,042	10	35
							Arbuckle	3,348		
Ames Northwest ('47)	9-18-11W	40	1,739	63,339	1		Lans.-K.C.	3,106	6	40
							Arbuckle	3,312		
Ash Creek* ('47)	31-20-15W		no report	471,716			Arbuckle	3,790	20	
Axman ('49)	19-17-14W	40	2,627	192,181	1		Lans.-K.C.	3,136	11	43
							Arbuckle	3,400		
Bailey ('56)	30-18-11W	180	42,281	286,128	6		Lans.-K.C.	3,270	5	
							Arbuckle	3,396	21	
Barrett ('43)	36-16-14W	580	10,652	338,987	7		Lans.-K.C.	3,355	5	40
							Arbuckle	3,463		
Bart-Staff* ('51)	4-21-14W	600	43,919	1,064,345	13		Lans.-K.C.	3,396	5	40
							Arbuckle	3,572		
Batchman ('50)	19-20-12W	640	39,005	208,437	9	2	Lans.-K.C.	3,201	6	29
							Arbuckle	3,459	21	35

Beaver ('34)	16-16-12W	2,480	98,230	4,792,609	44		Oread	2,885	6	35
							Toronto	2,938		
							"Gorham"	3,340	12	41
							Arbuckle	3,348	5	
							Reagan	3,335		
Beaver North* ('37)	4-16-12W	300	13,117	793,052**	4		Topeka	2,702	10	
							Arbuckle	3,316	10	39
Beaver South ('45)	27-16-12W	2,000	110,645	2,061,817	41	2	Lans.-K.C.	3,154		42
							"Sooy"			
							Arbuckle	3,359		
Behrens ('44)	6-20-15W	580	5,199	670,142	5		Arbuckle	3,719	4	38
Bend ('61)	11-20-13W	200	17,368	52,246	5		Lans.-K.C.	3,201	6	37
							Arbuckle	3,447	12	37
Beran ('62)	24-17-12W	80	16,074	21,630	2		Arbuckle	3,319	8	37
Bergtal South (revived) ('58)	27-20-15W	40	3,275	3,383	1		Arbuckle	3,672	4	37
Bernard ('50)	10-19-11W	320	14,582	471,337	11		Shawnee	2,866	6	38
							Lans.-K.C.	3,224	6	
							Arbuckle		10	
Blood Creek ('50)	9-18-13W	40	1,692	6,372**	1		Lans.-K.C.	3,162	7	
Bloomer* ('36)	36-17-11W	1,180	117,147	12,576,329**	51	1	Lans.-K.C.	3,044	8	43
							Arbuckle	3,257		43
Bottoms ('58)	36-18-12W	160	19,867	131,814	4		Lansing	3,144	10	36
Boyd ('42)	4-18-14W	3,700	233,138	10,293,196	112	6	Lans.-K.C.	3,177		37
							Arbuckle	3,438	12	
							Precambrian	3,311		
Capitol View ('50)	9-17-14W	500	7,920	222,277	6		Lans.-K.C.	3,230		37
							Arbuckle	3,450		
Carroll ('44)	21-17-14W	2,200	137,174	4,520,536	60		Lans.-K.C.	3,109	4	39
							Arbuckle	3,356	16	
Carroll Southwest ('47)	32-17-14W	100	1,391	77,096	3		Lans.-K.C.	3,193	8	36
Chaffee ('63)	31-19-13W	200	20,978	20,978	5		Lans.-K.C.	3,180	5	
							Arbuckle			
Chase-Silica* ('31)	32-19- 9W	22,000	1,277,958	99,334,982	533	11	Douglas	2,950		
							Lans.-K.C.	2,955		
							Arbuckle	3,328		48
Cheyenne ('59)	4-19-12W	700	128,771	508,713	19		Lansing	3,097	7	
			5,395		1		Penn. congl.	3,381	6	40
Cheyenne View ('49)	12-19-12W	2,700	262,047	5,285,952	117	1	Lans.-K.C.	3,100	6	40
							Penn. congl.	3,393		
							Arbuckle	3,408	17	
Cheyenne View East ('57)	13-19-12W	40	2,622	47,554	1		Lans.-K.C.	3,120	4	
Claflin ('54)	3-18-11W		no report	7,614			Lans.-K.C.	3,044	4	
							Arbuckle	3,320	4	
Claflin Northeast ('55)	3-18-11W		no report	27,596			Lans.-K.C.	3,040	21	
Claflin Northwest ('62)	33-17-11W	200	29,218	30,745	5		Lans.-K.C.	3,063	3	43
Clarence ('53)	35-19-15W	120	9,589	43,845	3		Lans.-K.C.	3,291	6	23
							Reagan	3,534		
Clarence Northwest ('54)	35-19-15W	160	25,553	164,192	4		Lansing	3,394	8	
							Precambrian	3,531	12	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
BARTON COUNTY (cont.)										
Davidson* ('30)	4-16-11W	80	3,452	276,857	2		Lans.-K.C.	3,016		38
							"Sooy"	3,300	9	
							Arbuckle	3,314		
Deines ('59)	16-16-14W		no report	1,512			Lansing	3,190	4	34
Demel ('57)	6-17-11W	160	23,371	125,827	4		Lansing	3,053	10	
							Arbuckle	3,306	16	
Dist. 65 ('60)	24-18-14W	40	no runs	4,173	1	1	Lans.-K.C.	3,162	5	38
Eberhardt ('35)	14-19-11W	320	6,959	527,161	5		Lans.-K.C.	3,194	3	38
Ellinwood North ('37)	33-19-11W	840	66,300	1,367,726	27		Lans.-K.C.	3,090	12	43
							Arbuckle	3,328	8	40
Erna ('61)	30-18-14W	40	7,682	26,031	1		Lans.-K.C.	3,253	10	43
							Arbuckle	3,512	8	37
Erna Southeast ('61)	29-18-14W	100	18,477	74,955	2		Lans.-K.C.	3,240	4	38
			9,061		1		Penn. congl.	3,495	4	37
Esfeld ('47)	15-16-11W		no report	14,584			Arbuckle	3,343		43
Ess ('53)	13-19-14W	40	2,227	51,161	1		Lans.-K.C.	3,326	9	38
Feist ('58)	29-18-11W	200	8,360	193,590	5		Lans.-K.C.			
							Penn. congl.			
Feist North ('59)	20-18-11W	60	4,009	29,448	2		Lansing	3,104	8	
							Arbuckle	3,410	4	30
Finger ('63)	12-17-13W		no report	none			Lans.-K.C.	3,137	3	
Finn ('59)	31-17-13W		no report	4,556			Lans.-K.C.	3,109	2	
							Arbuckle	3,332	4	35
Fort Zarah ('50)	30-19-12W	3,200	139,836	5,730,571	92	1	Lans.-K.C.	3,157	6	37
							Arbuckle	3,384		
Fort Zarah North ('51)	19-19-12W	100	3,350	138,243	2		Lans.-K.C.	3,208	6	37
							Arbuckle	3,436		
Fort Zarah West ('61)	25-19-13W	300	75,768	129,183	7	1	Arbuckle	3,395	2	37
Frees ('60)	23-16-11W		no report	1,311			Arbuckle	3,366	9	41
Galatia ('58)	11-16-15W	80	2,325	36,711	2	1	Lansing	3,193	3	40
Galatia East ('59)	12-16-15W		no report	9,534			Lansing	3,152	8	42
Galatia North ('61)	2-16-15W	40	9,542	20,289	1		Lans.-K.C.	3,180	5	39
Great Bend Airport ('52)	26-19-14W	320	23,298	689,642	8		Lans.-K.C.	3,320	4	40
							Arbuckle	3,473		
"Great Bend Southeast" ('60)	1-20-13W	40	97	726	1		Lans.-K.C.	3,192	7	39
Great Bend Southwest ('52)	25-19-14W	100	3,079	112,242	2		Lans.-K.C.	3,322	4	
Great Bend Townsite ('53)	21-19-13W	1,200	66,196	1,106,976	31		Lans.-K.C.	3,196	30	32
							Arbuckle	3,441	4	
Great Bend West ('51)	23-19-14W	40	1,033	78,480	1		Lans.-K.C.	3,332	5	36
Haberman ('59)	32-18-13W		Combined into Lake Barton				Arbuckle	3,400	2	43

Hall-Gurney* ('31)	30-14-13W	600	92,726	2,783,510	33	1	Shawnee	3,066			
							Lans.-K.C.				
							"Sooy"				
							Arbuckle				
Hammeke ('50)	17-19-11W	160	4,128	145,534	4		Lans.-K.C.	3,065	32	40	
Hammeke Southeast ('50)	17-19-11W	80	4,186	115,256	2		Lans.-K.C.	3,089	7	40	
Hammeke West ('59)	18-19-11W	180	9,577	93,088	5		Lansing	3,078	3	41	
							Arbuckle	3,345	6		
Hammer ('40)	35-19-12W	1,100	150,679	3,085,496	42	1	Lans.-K.C.	3,088	27	41	
							Arbuckle	3,348	8		
Harrison ('42)	18-20-13W	180	1,163	45,636	3		Lans.-K.C.	3,403	6		
							Arbuckle	3,520		37	
Hawkins ('52)	3-19-13W	320	10,173	146,409	6		Lans.-K.C.	3,158	16	40	
							Arbuckle	3,393			
Heizer ('35)	16-19-14W	40	1,628	64,840	1		Lans.-K.C.	3,228	2		
Heizer Southwest ('52)	21-19-14W	300	3,830	107,883	3		Lans.-K.C.	3,379		39	
							Arbuckle	3,552			
Heizer West ('55)	17-19-14W	80	155	96,689	2	2	Lans.-K.C.	3,237	11		
							Arbuckle	3,546		38	
Herres ('55)	33-17-13W	Combined into Ainsworth South					Lans.-K.C.	3,128	4		
							Arbuckle	3,343	10	39	
Hiss ('36)	31-20-13W	900	23,297	1,099,751	13		Lans.-K.C.	3,270	5	40	
Hiss East ('52)	33-20-13W	40	8,861	73,027	1		Lans.-K.C.	3,383	18		
							Arbuckle	3,549			
Hiss South ('50)	31-20-13W	80	5,351	141,231	3		Lans.-K.C.	3,292		37	
							Arbuckle	3,542		31	
Hiss Southeast ('48)	32-20-13W	160	13,133	251,154	6		Lans.-K.C.	3,414	16	36	
							Arbuckle	3,545			
Hlavaty ('59)	31-17-14W	40	5,030	29,330	2	1	Lans.-K.C.	3,172	3	41	
Hoisington ('38)	21-17-13W	Combined into Ainsworth South					Lans.-K.C.	3,222	4	37	
							Arbuckle	3,440			
Hoisington East ('54)	23-17-13W	80	4,639	139,539	2	1	Lans.-K.C.	3,140	5	37	
							Arbuckle	3,338			
Hoisington Southwest ('54)	20-17-13W	80	3,065	51,608	2		Lans.-K.C.	3,282			
							Arbuckle	3,363	21	38	
Homestead Northeast ('63)	23-18-13W	80	7,363	7,363	2		Lans.-K.C.	3,144	6		
							Arbuckle	3,311	11		
Hood ('59)	3-20-12W	80	2,098	12,743	2		Lansing	3,108	2	38	
James ('54)	20-19-12W	40	19,330	35,643	1		Lans.-K.C.	3,174	16		
Jettie ('54)	27-20-14W	120	6,820	100,311	3		Simpson	3,534	6		
							Arbuckle	3,569	2		
Kimpler ('55)	31-18-11W	160	12,421	169,042	4		Lans.-K.C.	3,184	3	40	
							Arbuckle	3,413	6	40	
Klepper ('51)	2-19-11W	300	7,577	237,436	6		Lans.-K.C.	3,220		38	
Klepper North ('59)	2-19-11W	no report		6,223			Lans.-K.C.	3,019	3		
Klug ('46)	28-17-13W	Combined into Ainsworth South					Arbuckle	3,414	7	28	
Klug North ('48)	27-17-13W	Combined into Ainsworth South					Arbuckle	3,377	10	37	
Klug Northwest ('57)	28-17-13W	Combined into Ainsworth South					Arbuckle	3,423	4		
Klug West ('56)	33-17-13W	Combined into Ainsworth South					Lans.-K.C.	3,149	28	37	
							Arbuckle	3,394	5		

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
BARTON COUNTY (cont.)										
Knop ('61)	9-19-12W	360	66,055	129,042	7		Lans.-K.C.	3,131	5	37
Koopman ('53)	23-19-13W	80	10,770	50,530	2	1	Lans.-K.C.	3,220	3	37
							Arbuckle	3,398	11	
Kowalsky* ('41)	32-20-11W	1,400	62,081	2,601,502	41	1	Lans.-K.C.	3,185	4	49
							Arbuckle	3,378		
Kraft-Prusa* ('37)	10-17-11W	18,000	2,045,245	101,647,604	690	24	Shawnee	2,885		42
							Douglas	2,997	10	42
							Lans.-K.C.	3,160	11	34
							"Gorham"	3,335	10	41
							Arbuckle	3,281		
							Reagan	3,310	12	43
							Precambrian			
Kraft-Prusa Northeast ('41)	36-16-11W	240	10,299	490,451	6		Lans.-K.C.	3,250	8	38
							Arbuckle	3,351		
Kruckenberg ('58)	13-19-15W	40	829	29,120	1	1	Arbuckle	3,562	6	
Lake Barton ('48)	21-18-13W	700	101,235	328,454	25	1	Lans.-K.C.	3,143	12	39
							Arbuckle	3,372		30
Lake Barton West ('60)	29-18-13W	Combined into Lake Barton					Lans.-K.C.	3,152	57	36
							Arbuckle	3,402	14	34
Lanterman ('34)	15-19-11W	900	45,409	1,157,805	10		Lans.-K.C.	3,109	3	35
							Arbuckle	3,235		
Larkin ('51)	10-17-14W	40	2,600	136,807	1		Lans.-K.C.	3,280	6	37
Leoville ('50)	7-17-14W	700	83,013	1,713,975	22		Lans.-K.C.	3,267		38
							Penn. congl.	3,439	2	
							Arbuckle	3,464		
Liberty ('52)	23-20-14W	40	2,468	28,087	1		Lans.-K.C.	3,341	5	
McCauley ('49)	34-17-13W	40	987	26,163	1		Lans.-K.C.	3,276	4	35
							Arbuckle	3,366		
Marquis ('60)	4-17-14W	40	1,048	10,742	1	1	Lans.-K.C.	3,198	4	41
Mary Ida* ('50)	31-18-10W	Included with Rice County		634,535	9		Lans.-K.C.	3,033	20	40
							Arbuckle	3,272	5	36
Mary Ida North ('52)	25-18-11W	160	17,454	95,194	4	1	Arbuckle	3,304	7	
Maybach ('62)	24-20-14W	40	2,251	2,640	1		Lans.-K.C.	3,401	7	31
Meadowside ('49)	24-18-11W	280	27,712	628,660	7		Lans.-K.C.	3,079	12	38
							Arbuckle	3,284		
Meadowside Northwest ('59)	23-18-11W	20	no runs	12,564	1	1	Arbuckle	3,299	4	31
Merten Northeast ('46)	36-18-15W	300	17,056	319,003	8		Lansing	3,214	4	
							Arbuckle	3,494		35
Millard ('44)	29-16-14W	120	8,168	14,818	5		Lans.-K.C.			
Moses ('53)	14-20-14W	20	no runs	7,065	1		Arbuckle	3,540	14	

Mue-Tam (revived) ('42)	35-20-11W	40	3,526	21,257	1		Arbuckle	3,306	6	
Ney South ('58)	1-16-13W	140	10,466	194,213	7		Topeka	2,940	10	
							Lansing	3,120	3	41
Ney Southwest ('59)	2-16-13W	40	1,799	35,455	1		Lansing	3,093	10	41
Nuss* ('55)	5-16-14W	480	22,767	204,329	9		Lans.-K.C.	3,183	4	36
							Arbuckle	3,387	8	
Nuss South ('62)	9-16-14W	800	132,973	174,567	15		Kansas City	3,367	2	43
			12,890		2		Arbuckle	3,392		
Odin ('48)	3-17-12W	320	8,690	367,171	3	2	Arbuckle	3,321	2	31
Olmitz ('58)	1-18-15W		no report	9,348			Lans.-K.C.	3,295		
							Arbuckle	3,540	4	36
Otis-Albert* ('35)	30-18-15W	6,900	94,877	6,913,446	79	3	Lans.-K.C.	3,236	4	34
							Reagan	3,601	15	34
Pawnee Rock* ('36)	13-20-16W	40	615	248,842	1		Arbuckle	3,832	16	
Phillips ('57)	12-16-13W	240	10,652	188,712	7		Arbuckle	3,366	4	38
Popp ('58)	3-16-14W		no report	1,453			Arbuckle	3,352	5	
Prairie View ('50)	20-19-11W	360	25,608	461,163	8		Lans.-K.C.	3,080	36	40
Pritchard* ('44)	34-20-14W	1,500	105,021	3,701,117	36		Lans.-K.C.	3,253	8	35
							Marmaton	3,625		
							Simpson			
							Arbuckle	3,544	3	
Putnam ('51)	7-17-13W	40	2,071	81,460	1		Lans.-K.C.	3,286	7	39
Putnam East ('60)	7-17-13W	40	1,987	8,607	1		Lans.-K.C.	3,203	22	42
Putnam West ('51)	1-17-14W	200	10,477	108,278	4		Lans.-K.C.	3,225	8	38
Red Brick ('53)	23-19-13W	220	3,024	64,894	4		Lans.-K.C.	3,240	7	
							Penn. congl.	3,414	2	
							Arbuckle	3,448		33
Redwing ('50)	31-17-12W	320	7,084	292,871	5	1	Lans.-K.C.	3,083	7	40
							Arbuckle	3,335		
Redwing East ('55)	33-17-12W	380	30,382	530,259	13		Lans.-K.C.	3,120	5	
							Arbuckle	3,352	2	
Redwing Southeast ('60)	8-18-12W	400	2,481	121,036	2		Lans.-K.C.	3,090	20	
			45,604		6		Arbuckle	3,350	4	40
Redwing Southwest ('59)	1-18-13W	180	1,922	85,865	1		Lans.-K.C.	3,080	12	39
			10,866		3		Arbuckle	3,327	3	39
Reif South ('50)	31-16-12W	100	1,575	59,516	3		Lans.-K.C.	3,172	5	38
Reimer ('56)	25-17-15W	40	323	16,072	1	1	Lans.-K.C.	3,357	4	36
Rick* ('36)	1-19-11W	600	30,697	1,387,336	15	3	Lans.-K.C.	3,106		41
							Arbuckle	3,355		
Roesler* ('43)	14-18-11W	1,300	70,439	2,009,386	25		Lans.-K.C.	3,208		
							Arbuckle	3,291	7	
Rolling Green* ('60)	36-20-13W	80	18,605	54,286	2	1	Lansing	3,238	8	39
Rolling Green East* ('49)	30-20-12W	1,400	180,832	696,489	40		Arbuckle	3,491	6	35
"Rowland" ('49)	32-17-13W	40	1,191	11,751	1		Arbuckle	3,321		39
Rusco ('50)	8-19-12W	40	4,187	15,990	1		Arbuckle	3,400		
St. Peter ('44)	5-19-11W	1,280	163,398	2,880,087	46		Shawnee	2,910	7	
							Lans.-K.C.	3,121	3	39
							Penn. congl.	3,391	4	
							Arbuckle	3,387		

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
			BARTON COUNTY (cont.)							
St. Peter East ('56)	34-18-11W	600	2,225	1,025,732	2		Topeka	2,870	3	
			56,064		23		Lans.-K.C.	3,116	14	
			7,174		2		Arbuckle	3,374	3	
Sandford ('51)	25-17-14W	40	2,070	64,129	1		Arbuckle	3,375	19	26
Sandrock ('51)	21-20-13W	700	25,559	549,463	13	1	Lans.-K.C.	3,412	8	35
Sandrock North ('59)	21-20-13W	40	no runs	12,095	1		Lansing	3,262	11	30
Shaeffer Northeast* ('60)	35-20-13W	320	100,093	264,197	8	1	Lans.-K.C.	3,259	5	28
							Arbuckle	3,525	18	40
South Bend ('54)	9-20-13W	40	1,852	122,739	1		Lans.-K.C.	3,317	8	48
Stiles ('58)	7-16-12W	60	1,859	22,818	2		Arbuckle	3,353	4	
Stoltenberg* ('31)	22-16-10W	40	1,232	1,232	1		Lans.-K.C.	3,260		42
							Simpson	3,379	2	38
							Arbuckle	3,333	14	39
Sunny Valley ('49)	7-20-12W	160	6,357	376,813	5		Lans.-K.C.	3,230	9	34
Sunny Valley Northeast ('54)	6-20-12W	280	20,397	255,228	7		Arbuckle	3,422	12	35
Swader ('62)	29-20-13W	120	15,234	19,183	3		Lans.-K.C.	3,410	4	31
Templing ('55)	23-16-14W	200	15,771	181,797	5		Lans.-K.C.	3,332	8	39
							Arbuckle	3,402		
Tonkin ('63)	9-20-12W	40	485	485	1		Arbuckle	3,402		30
Trapp* ('36)	23-15-14W	15,000	852,202	65,526,659	392	38	Shawnee	2,889		
							Douglas	2,966		
							Lans.-K.C.	3,062	15	37
							Arbuckle	3,252		39
Two-Eighty One ('63)	27-16-14W	40	4,063	4,063	1		Lans.-K.C.	3,172	5	40
Two-Eighty One Southeast ('63)	16-14W	80	4,015	9,378	1		Shawnee			
			5,363		1		Lans.-K.C.	3,154	32	
Underwood (revived) ('50)	15-17-13W		Combined into Ainsworth South				Arbuckle			
Unruh ('45)	24-20-15W	320	5,344	247,565	3		Arbuckle	3,641	3	
Unruh South ('59)	25-20-15W	20	4,015	27,888	1		Arbuckle	3,628	1	37
Webber ('62)	1-19-14W		no report	806			Lansing	3,224	88	26
Weikert ('53)	36-18-12W	120	6,045	92,650	3		Lans.-K.C.	3,169	7	42
Werner-Robl ('51)	30-19-11W	920	38,661	497,261	8	2	Lans.-K.C.	3,106	16	37
							Arbuckle	3,364		
Wondra (revived) ('40)	14-17-12W	40	388	738	1		Arbuckle	3,339	48	37
Wondra North ('59)	10-17-12W	100	12,117	76,207	3		Arbuckle	3,305	13	39
Workman Northwest ('56)	21-20-12W	1,840	243,070	2,494,408	63		Lans.-K.C.	3,167	6	44
							Arbuckle	3,438	10	
Pools or fields abandoned				287,001						
Total Barton County		118,860	8,646,420	370,197,564**	3,201	117				

BOURBON COUNTY

Bronson-Xenia*	17-25-21E	1,010	7,303		31		"Bartlesville"	665		
Davis-Bronson*	23-21E	540	6,920		35		"Bartlesville"	560		
Hepler* ('17)	27-22E	420	57,298		42		"Bartlesville"			
Savonburg* (revived)	26-21E		no report							
Miscellaneous		40	241		3					
Total Bourbon County		2,010	71,762	1,213,571 recorded	111					

BROWN COUNTY

Total Brown County				90,394 recorded						

BUTLER COUNTY

Allen-Robison ('43)	1-26- 3E	420	9,591		16	1	Mississippian	2,700		
Asmusson ('57)	16-29- 4E	620	7,869	1,319,804	9		Lansing	1,840	6	
							"Misener"	2,856	3	
			118,626		19		Arbuckle	2,695	5	
Augusta ('14)	21-28- 4E	5,000	280,626	40,755,175	154	5	Lansing	1,700		34
							Kansas City	2,000		
							Marmaton	2,200		
							Ordovician	2,445		34
							Arbuckle	2,600		33
Augusta North ('14)	28-27- 4E	940	50,817	15,536,458	56	3	Lansing	1,650		
							Kansas City	1,950		
							Ordovician	2,380		
							Arbuckle	2,410		
Ballard ('60)	6-25- 3E	100	7,527	35,228	4		Mississippian	2,726	1	40
Bausinger ('29)	24-27- 3E	40	1,533		2		Simpson	3,050		
Benfer ('63)	9-26- 3E	80	15,069		4		Mississippian	2,796	24	43
Benton ('25)	26- 3E	40	1,545		3		"Chat"	2,965		
Berndsen ('58)	15-26- 4E	200	119,950	820,390	19		Simpson	2,423	17	
Blankenship ('21)	26- 8E	1,000	30,187	4,151,852	34	5	"Bartlesville"	2,650	50	
Blood ('58)	29-29- 4E	100	11,286	158,045	4		Mississippian	2,716		
Brandt-Sensenbaugh ('25)	22-28- 7E	1,070	25,321	2,183,895	27	3	"Chat"	2,692		
Brickley ('51)	2-27- 7E	90	3,181	116,323	7		"Chat"	2,692	19	40
Brickley East ('60)	1-27- 7E	40	289	2,198	1	1	Mississippian	2,748	5	38
Brickley Southwest ('52)	3-27- 7E	60	693	13,709	1		"Bartlesville"	2,699	33	39
Butwick* ('49)	7-26- 3E	Abandoned during 1963					Mississippian	2,860	6	48
							"Hunton"	3,192	2	
Butwick Northeast ('49)	7-26- 3E	80	4,196	10,806	2		Mississippian			
Clay ('60)	32-29- 6E	180	8,584	44,639	7	1	Mississippian	2,825	14	38
Combs* ('47)	5-30- 5E	100	3,750		6		"Bartlesville"	2,820		
							Mississippian	2,850		
Combs Northeast ('48)	27-29- 5E	80	5,222	61,575	4		"Bartlesville"	2,810		42
Dixon ('46)	12-27- 6E	40	942	21,640	1		Kansas City	2,160		
							Mississippian			

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
BUTLER COUNTY (cont.)										
Douglass ('16)	21-29- 4E	60	2,207		3	1	Lans.-K.C.	1,790		36
							Ordovician	3,000		
Eckel ('40)	7-27- 7E	30	820	4,925	1		Kansas City			
Edgecomb ('51)	9-25- 3E	50	978	33,235	1		Mississippian	2,759		
Edmonds* ('53)	31-22- 4E	60	825	12,570	1		Mississippian	2,471		
Edmonds Southwest ('60)	1-23- 3E	30	3,626	26,042	1		Mississippian	2,498	25	40
Elbing* ('18)	18-23- 4E	1,500	190,678		74		Kansas City	2,120		37
							Mississippian	2,400		35
							"Hunton"			
							Viola	2,530		
Elbing East ('50)	27-23- 4E	20	935	43,158	1		Lans.-K.C.	1,799		34
El Dorado ('15)	29-25- 5E	25,670	3,555,758	257,255,330	1,396	92	Admire	630		37
							Lansing	1,700		34
							Kansas City	2,000		36
							Viola	2,500		37
							Simpson	2,510		
							"Wilcox"	2,600		37
							Arbuckle	2,550		38
Entz ('59)	23-26- 4E	120	29,307	180,586	5		Simpson	2,515	4	37
Ferrell ('39)	28-28- 8E	610	38,154	1,770,640	38		Mississippian	2,647		40
Ferrell South ('61)	33-28- 8E	420	59,986	183,752	16		Mississippian	2,750	24	38
Flint ('57)	6-24- 6E		no report	10,027			Mississippian	2,443	17	
Four Mile Creek ('51)	5-28- 3E	100	5,479	287,582	3		Simpson	3,069	3	
Fox-Bush ('17)	24-29- 5E	5,350	210,511	7,394,889	94	33	"Bartlesville"	2,730	25	40
Fox-Bush West ('53)	15-29- 5E		no report	29,260			"Bartlesville"	2,837	11	
Garden ('25)	32-26- 6E	240	4,111		4	1	"Bartlesville"	2,760		
Gelwick ('29)	27- 4E	60	4,141		1		Viola	2,924		
Hannah ('36)	29- 8E	120	5,619	86,230	6		Kansas City	2,120		
Harlan ('63)	26-23- 4E	80	12,063		4		Lans.-K.C.	2,607	5	34
Haverhill ('27)	34-27- 5E	1,080	40,564	5,059,226	33	3	"Bartlesville"	2,700		
Hazlett ('49)	24- 5E	1,600	61,933	2,233,325	67	7	Mississippian	2,480		
Hickory Creek ('46)	11-28- 5E	600	42,336	1,310,555	14		Kansas City	2,107		
							"Bartlesville"	2,685		
							Mississippian	2,700		
Keighley ('25)	22-27- 7E	1,440	65,144		57	6	"Bartlesville"	2,650		
							Simpson	3,148		
Kramer-Stern ('26)	3-28- 6E	1,540	168,184		64		Lans.-K.C.			
							Simpson	3,000		
							Arbuckle	3,040		
Latham ('59)	14-29- 7E	40	9,946	78,572	4		Mississippian	2,788	14	37

Leon ('22)	19-27- 6E	620	20,228	3,762,097	27		"Bartlesville"				
							"Chat"	2,660			
							Viola	3,050			
Lietzke ('62)	3-28- 5E		no report	169			Simpson	3,117	8		
Long ('49)	15-26- 7E	30	1,084	30,939	1		Mississippian	2,780		33	
Long Northeast ('53)	11-26- 7E	30	868	17,882	1		Mississippian	2,753	5	35	
McCaig ('59)	13-28- 6E	40	2,209	18,589	2		"Bartlesville"	2,700	2	40	
							Mississippian	2,780	29		
Mellor ('57)	1-24- 3E	60	7,939	147,240	6		Mississippian	2,442	6		
Mellor East ('58)	7-24- 4E	80	1,010	61,431	2	1	Mississippian	2,492			
Mt. Tabor ('53)	36-29- 4E	340	8,311	184,600	10		"Bartlesville"	2,757	8		
Muddy Creek ('50)	13-29- 4E	580	54,160	773,325	33		"Bartlesville"	2,813		40	
Murdock ('52)	23-25- 3E	40	658	12,955	1		Mississippian	2,709	10	43	
Overstreet ('62)	19-26- 8E	60	732	1,547	2		Kansas City	2,052	9		
Parsley ('49)	3-26- 3E	100	3,297	135,438	6		Mississippian	2,700		48	
Paul ('59)	26-25- 3E	120	2,658	8,293	3		Mississippian	2,730	3	31	
Paulson ('58)	35-23- 3E	1,420	142,357	1,503,972	94	2	Mississippian	2,519	10		
Pierce ('26)	28-25- 4E	1,540	142,829		68	2	"Chat"	2,550		43	
Plum Grove ('58)	24-24- 4E		no report	111			Mississippian				
Potwin ('17)	31-24- 4E	3,500	76,372	9,027,632	88	2	Kansas City	2,550			
							Mississippian	2,660			
Reynolds-Schaffer ('22)	9-27- 6E	2,800	107,286		71	1	Kansas City	2,375			
							Mississippian	2,780			
							Viola	3,141			
Rombold ('49)	4-26- 3E		no report	57,865			Mississippian	2,770		39	
Salter ('46)	23-28- 3E	360	47,494	1,721,805	20		Simpson	3,000			
Shinn ('46)	19-29- 8E	210	42,149	1,210,720	25		Mississippian	2,766			
Shinn Northeast ('56)	17-29- 8E	160	16,355	149,448	7						
Skaer ('61)	21-27- 3E	80	4,676	34,805	1		Kansas City	2,339			
			5,886		1		Simpson	3,036	5	32	
Smock-Sluss ('17)	2-27- 5E	320	97,618		58	1	"Bartlesville"	2,700	35		
							Viola	3,000			
Snowden-McSweeney ('30)	34-28- 6E	1,410	173,048		61	4	Lans.-K.C.	2,060	35		
							"Peru"	2,404			
							"Bartlesville"	2,810			
							Mississippian	2,833			
Steinhoff ('26)	28-29- 6E	220	13,232		6		Mississippian	2,803			
Steinhoff East ('60)	26-29- 6E		no report	2,177			Kansas City	2,118	8	35	
Towanda ('48)	5-26- 4E	300	173,221	3,432,294	43	1	Mississippian	2,400			
							Viola	2,460			
Wehrman ('63)	30-29- 8E	80	14,922	14,922	2		Mississippian	2,741	2	38	
Whitewater ('49)	32-25- 4E	220	48,186	565,983	16		Viola	2,625		37	
Whitewater East ('61)	33-25- 4E	80	26,322	44,426	5		Mississippian	2,461	33	40	
Wiebe ('59)	30-23- 6E	30	371	3,626	1		Lansing	1,592	6	34	
Young ('20)	27-26- 7E	1,000	74,420		46		Mississippian	2,650			
Miscellaneous		220	8,773		7	7					
Total Butler County		67,150	6,538,780	466,576,013 recorded	2,982	183					

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
CHASE COUNTY										
Atyeo-Pixlee* ('23)	7-22-10E	500	25,100		13		"Bartlesville"	2,250		
Koegeboehn ('59)	19-19- 6E	80	3,076	20,211	3		Viola	2,052	21	29
Koegeboehn North ('61)	8-19- 6E	40	2,391	5,195	1		Viola	1,960	9	29
Teeter* ('20)	16-23- 9E	720	41,920		34		"Bartlesville"	2,500	20	40
Total Chase County		1,340	72,487	917,920 recorded	51					
CHAUTAUQUA COUNTY										
Berlin ('30)	32-11E	40	1,905		2					
Borroum ('26)	20-34- 9E	220	3,295		6		Marmaton	1,780		
Cedarvale* ('53)	9-34- 8E	280	13,737	43,864	6		Marmaton	1,924	4	40
							Mississippian	2,365	10	
Elgin ('17)	34-10E	3,340	38,300		135	8	"Peru"	1,520		
Elk City*	32-13E	40	130		1	1	"Burgess"	1,360		
Frazier ('27)	33-13E	80	559		3		"Peru"	1,520		
Hale-Inge* ('07)	32-12E	1,900	14,317		48	3	"Peru"	1,160		
Hylton ('28)	13-32- 9E	40	1,389		1		Arbuckle	2,443		
Kingston ('26)	18-32-11E	40	266		1		"Chat"	1,850		
							Arbuckle	2,176		
Landon-Floyd ('36)	23-32-10E	800	68,952		28		Mississippian	2,000		
Leniton	33-10E	5,920	50,516		58	8	"Peru"			
McAllister ('25)	28-32-10E	60	3,640		2		Arbuckle	2,280		
McNown ('26)	31-32-10E	40	698		1		Mississippian			
Niotaze	34-13E	1,130	6,052		41		"Redd"	690		
							"Peru"	825		
Oliver ('35)	32-11E	680	6,628		11		Marmaton			
							Arbuckle			
Peru-Sedan ('00)	34-11E	23,840	617,960		1,543	30	"Peru"	1,200	25	
							Mississippian	2,000		
Wayside-Havana* ('04)	34-13E	300	2,197		27		"Wayside"	575		
							"Weiser"	700		
							"Bartlesville"	1,200		
Wiggam	34-32-10E	120	592		3		"Weiser"	1,600		
Miscellaneous		60	4,292		3	1				
Total Chautauqua County		38,930	835,425	53,086,717 recorded	1,920	51				
CHEYENNE COUNTY										
Alexander ('59)	13- 4-38W	40	no runs	2,347	1		Marmaton	4,669	5	38

Ken ('59)	16- 2-37W	20	no runs	4,668	1		Cherokee	4,762	28	25
Little Beaver Creek ('62)	36- 4-37W	40	62	3,247	1	1	Lans.-K.C.	4,445	11	37
Rueb ('58)	13- 3-42W	40	1,628	31,113	1	1	Lansing	4,537	5	
Rueb South ('59)	36- 3-42W		no report	5,031			Lansing	4,445	7	23
Total Cheyenne County		140	1,690	46,406	4	2				
			CLARK COUNTY							
Ashland ('51)	35-32-23W	180	10,443	136,372	6		Lans.-K.C.	4,673		42
							Viola	6,526		
Cavalry Creek ('55)	3-31-21W		no report	5,656			Mississippian	5,195		34
Clark Creek ('59)	8-35-22W	40	155	869	1		Morrowan	5,630		
Harper Ranch ('53)	9-34-21W	2,500	121,836	2,186,225	29		Morrowan	5,437	15	39
McKinney* ('50)	2-34-26W	640	8,384	51,011	17		Mississippian	5,762		
Morrison Northeast ('54)	10-32-21W	80	1,932	10,953	3		Morrowan	5,193	14	
Sitka ('59)	36-33-22W	1,200	9,608	13,548	12		Mississippian	5,476	8	40
Snake Creek ('52)	21-34-21W	2,400	35,343	134,729	23		Lans.-K.C.	4,456	5	
							Morrowan	5,452		38
Snake Creek East ('56)	24-34-21W		no report	5,883			Morrowan	5,480	4	39
Tuttle West ('57)	10-35-21W	80	1,588	7,500	2	1	Morrowan	5,625		
Total Clark County		8,320	189,289	2,552,746	93	1				
			CLAY COUNTY							
Griffith ('57)	3- 9- 4E	60	6,186	82,325	2	1	Mississippian	1,908	30	
			COFFEY COUNTY							
Crandall ('53)	6-23-16E	20	178		1		Mississippian	1,022	5	
Dunaway* ('22)	23-22-13E	580	5,434		11	10	"Burgess"	1,850		
Evans* ('38)	23-15E		no report				Mississippian	1,878		
							Arbuckle	2,200		
Finnerty ('53)	12-21-13E	320	5,679		6		"Peru"	1,382	10	
							"Burgess"	1,728	11	
Hatch ('35)		40	805		1		"Burgess"	1,825		
Leroy North	22-16E	340	3,989		11		"Squirrel"			
Neosho Falls-Leroy* ('05)	35-22-16E	2,180	28,245		88	1	"Squirrel"	965		
"Parmely"	29-22-17E		no report				"Squirrel"			
Virgil North* ('20)	22-23-13E	1,440	41,996		59		"Bartlesville"	1,585		
							Mississippian	1,838		
Winterschied*	23-14E	1,640	12,610		33	4	"Peru"	1,170		
							"Bartlesville"	1,630		
							Mississippian	1,750		
Miscellaneous						1				
Total Coffey County		6,560	98,936	2,712,712 recorded	210	16				
			COMANCHE COUNTY							
Beals ('55)	34-17W	120	9,614	17,281	3					

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
COMANCHE COUNTY (cont.)										
Glick* ('57)	31-30-16W	320	10,916	25,262	9		Mississippian	4,880		
McMoran ('61)	25-34-16W	40	no runs	155	1		Lans.-K.C.	4,399	12	36
Mule Creek ('55)	5-31-18W	100	8,265	105,899	3		Mississippian	5,066	5	
Nescatunga ('60)	22-32-18W	160	33,739	46,485	4		Mississippian	5,106	36	42
							Viola	5,600	17	
Nescatunga South ('63)	35-32-18W	40	419	419	1		Viola	5,590	7	
Perry Ranch* ('58)	12-32-16W	80	274	9,161	2		Mississippian	4,785		
Protection ('62)	24-32-20W	80	10,117	11,884	2		Mississippian	5,097	35	
Robbins Ranch ('53)	23-31-16W		no report	5,723			Mississippian	4,915		41
Total Comanche County		940	73,344	222,269	25					
COWLEY COUNTY										
Albright ('56)	3-34- 5E	1,740	83,773	735,120	46	1	Mississippian	3,126	10	
Albright North ('62)	22-33- 5E		no report	none			"Hoover"	1,656	30	
Atlanta ('58)	11-30- 6E	400	37,871	339,926	20		Shawnee	1,631	7	
							"Stalnaker"	1,816	4	
							Kansas City	2,174	6	
							Mississippian	2,869	28	
							Arbuckle	3,274		
Bernstorf ('58)	33-31- 4E	160	15,460	152,759	8	1	"Bartlesville"	3,043	18	
Biddle ('22)	7-32- 5E	1,380	67,575		53	1	Kansas City	2,000	20	
							"Layton"	2,300		
							"Bartlesville"	2,878	14	
Bolack ('61)	21-32- 6E	120	69,241	141,444	5		"Cattleman"	2,828	6	40
Box ('48)	28-30- 7E	600	10,118	307,874	13		Mississippian	2,840	15	
Brandenburg ('55)	3-35- 3E	40	6,216	45,082	1		Simpson	3,664	7	
Brown ('44)	13-31- 7E	80	1,717		6		Kansas City	2,100		
Bruce ('50)	9-30- 4E	120	7,460	111,603	3		Arbuckle	3,306		25
Burden ('26)	31-31- 6E	1,580	47,341		48	2	"Layton"			
							"Peru"			40
							"Bartlesville"	2,900	35	39
Cabin Valley ('52)	31-33- 6E	660	54,728	1,576,736	32	1	"Layton"	2,188	9	40
Canfield ('52)	13-34- 3E	180	15,935	331,907	5		"Layton"	2,651	4	42
							Lans.-K.C.	2,839		
							"Bartlesville"	3,375		
Cedarvale* ('53)	9-34- 8E	140	9,887	42,854	6		Marmaton	1,924	4	40
							Mississippian	2,365	10	
Cedarvale West ('62)	17-34- 8E	40	1,773	3,777	1		"Cattleman"	2,243	6	35
Church ('54)	13-31- 6E	40	938	23,135	1		Mississippian	2,935	12	34

Churchill Northeast ('55)	18-31- 3E	40	1,519	18,823	2		Kansas City	2,420		
Combs* ('47)	5-30- 5E	480	33,976	795,236	19		"Bartlesville"	2,823	20	40
							Mississippian	2,850		
Cooley ('63)	5-30- 4E	120	12,346	30,456	2		Lans.-K.C.	2,214	5	
			18,110		2		Arbuckle	2,958	8	
Couch ('37)	13-30- 5E	1,320	30,772	2,800,323	58		"Bartlesville"	2,800	15	41
Countryman ('25)	4-33- 7E	800	36,823		17	3	"Layton"	1,950	12	34
							Mississippian	2,870		
Countryman North ('62)	27-32- 7E		no report				"Layton"	2,058		
David ('35)	35-30- 4E	2,640	502,812	5,939,184	137	10	"Bartlesville"	2,900	40	
							Arbuckle	3,463		
Deichman ('41)	24-31- 4E	580	33,266	620,765	23	4	"Bartlesville"	2,900	35	
							Mississippian	3,000		
Dexter ('14)	33- 6E	120	6,720		3	1	Mississippian	2,750		
Donelson ('55)	21-34- 7E	40	885	4,908	1		Kansas City			
Eastman ('24)	5-31- 6E	1,100	21,304		26		"Bartlesville"	2,890	20	36
Elrod ('26)	4-32- 5E	160	6,938		3		"Layton"	2,411		
Enterprise Southwest ('53)	3-34- 3E	40	65	10,159	1		"Bartlesville"	3,360	10	39
Estep ('58)	21-34- 6E	40	9,392	47,762	1		"Stalnaker"	1,803	4	
Estep West ('59)	29-34- 6E	40	818	3,985	1		Mississippian	3,130	8	38
Estes ('54)	12-32- 6E	1,380	30,512	726,844	36	6	"Layton"	2,190	13	36
Falls City ('19)	17-35- 7E	260	3,659	32,794	4		"Bartlesville"	2,694	19	
Frog Hollow ('37)	20-32- 5E	800	87,389	5,398,567	44		"Bartlesville"	3,000	20	
Frog Hollow East ('41)	15-32- 5E	420	37,843	531,200	17		"Bartlesville"	3,000	8	
							Mississippian	3,077	20	
Geuda Springs ('25)	5-34- 3E	2,020	70,137	2,078,507	51		"Cleveland"	2,984	2	
							"Bartlesville"	3,300	14	
							"Chat"	3,345	25	
Gibson ('41)	29-34- 3E	1,280	130,173	3,548,756	88		"Bartlesville"	3,350		35
							Mississippian	3,400	12	
							Simpson	3,774	6	
							Arbuckle	3,780	11	
Graham ('24)	3-33- 3E	2,220	144,302	4,304,315	74	12	"Layton"	2,550	15	39
							"Bartlesville"	3,213	50	
							Mississippian	3,284	16	
							Arbuckle	3,518	5	
Grand Summit* ('26)	4-31- 8E	40	492		1		Kansas City	2,000	19	
Grouse Creek ('51)	16-30- 7E	160	2,450	49,911	5	1	Mississippian	2,890		37
Harvey ('52)	23-34- 3E	800	35,501	1,474,263	30	9	"Layton"	2,574	18	33
							"Bartlesville"	3,278		
Henderson ('42)	26-32- 3E	40	552	138,386	2		Kansas City	2,690	9	
							Arbuckle	3,419		
Higby ('57)	31-34- 6E	100	9,044	36,426	3		Mississippian	3,180	10	
Hittle ('26)	28-31- 4E	600	53,574	9,934,295	23	2	Kansas City	2,400	20	
							Arbuckle	3,280		
Kanok ('56)	15-35- 5E	60	4,585	81,076	3		Mississippian	3,172	4	
Lady ('60)	35-34- 6E		no report				"Hoover"	1,421	4	
Larcom ('61)	9-34- 4E	40	8,413	17,502	3		"Layton"	2,418	4	39
McKay ('51)	17-35- 4E	880	58,083	752,860	41		"Bartlesville"	3,314		

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
COWLEY COUNTY (cont.)										
Maddix North ('57)	12-33- 5E	460	95,889	415,742	23		Mississippian	3,014	13	
Mahannah ('59)	6-30- 8E	120	12,687	70,500	5		Mississippian			
Mansur ('49)	25-31- 6E	40	3,445	124,173	5		"Layton"	2,170	16	
Murphy* ('33)	7-35- 3E	1,180	21,090		34		"Bartlesville"	3,450	10	
							"Chat"	3,500		
Nigger Creek ('51)	22-34- 3E	40	705	15,085	1		"Bartlesville"	3,281		
Olsen ('21)	1-35- 7E	140	11,566	137,626	7		"Layton"			
							"Bartlesville"			
Otto ('27)	25-34- 6E	80	1,089		2	3	"Stalnaker"	1,845	6	
							"Chat"	3,017	50	
Peck ('58)	9-35- 4E		no report	935			"Bartlesville"			
Posey ('56)	21-33- 4E	360	80,945	377,995	21		"Layton"	2,464	6	
							"Cleveland"	2,751	10	
							"Prue"	2,953	4	
							Mississippian	3,164	14	
Quarry (revived) ('54)	28-34- 5E	80	8,332		4		"Cleveland"			
Rahn ('39)	13-34- 5E	1,400	74,396	3,101,922	42		"Bartlesville"	2,900	30	
Rahn Northeast ('49)	27-33- 6E		no report	71,193			"Bartlesville"	2,902		
Rainbow Bend* ('23)	20-33- 3E	2,000	134,728	18,356,895	92	1	"Burgess"	3,200	50	
							Arbuckle	3,550		
Rauckman ('56)	18-34- 3E	60	2,773	53,730	3		"Bartlesville"	3,358	6	
Rock ('23)	15-30- 4E	3,960	409,270	8,256,045	134	1	"Bartlesville"	2,800	30	
Rock Southwest ('60)	26-31- 3E	80	28,563	105,682	5		"Layton"	2,480	7	
Salem ('57)	2-31- 5E	40	2,699	22,877	1		Mississippian	3,050	2	
School Creek North ('53)	10-32- 7E	740	49,901	1,557,441	51		"Layton"	2,114	6	34
							"Bartlesville"	2,826	9	
Seacat ('44)	26-33- 4E	480	7,036	161,395	9	1	"Layton"	2,385		
							Mississippian	3,100		43
Shannon ('59)	26-31- 5E	920	520,454	1,735,161	52	2	"Layton"	2,314	3	
Sheneman ('63)	8-33- 6E	40	705	705	1		Mississippian	3,090	22	
Slick-Carson* ('24)	19-32- 3E	420	22,349	7,820,255	7		"Layton"	2,600		
							"Bartlesville"	3,150		
							Arbuckle	3,450		
Smith ('17)	31- 3E	160	3,501		2	1	"Bartlesville"	3,050		
State ('26)	15-32- 4E	280	13,481		8	1	"Layton"	2,400	12	
							Arbuckle	3,300		
Stayton ('49)	32-32- 4E	160	1,196	152,982	4		"Bartlesville"	3,100	8	33
Stayton South ('53)	5-33- 4E	200	17,318	91,536	5		"Bartlesville"	3,165	23	40
Thurlow ('27)	8-33- 3E		no report				Simpson	3,500	5	
Trees ('35)	19-30- 4E	480	10,595		19		"Bartlesville"	2,875	25	
Turner ('37)	30-32- 6E	120	2,506	313,567	3		"Layton"	2,232	15	

Turner North ('61)	7-32- 6E	600	43,778	340,835	8		Lans.-K.C.	2,282	6	
			79,772		9		"Bartlesville"	2,988	11	39
			97,418		11		Mississippian	3,032	10	
Turner West ('52)	25-32- 5E	40	848	14,412	1		Mississippian	3,054		38
Udall ('26)	28-30- 3E	70	4,013		3	1	Shawnee			38
							Arbuckle	2,850		
Vestal ('27)	19-34- 3E	40	1,337		1		Mississippian	3,429	3	
Waldschmidt ('57)	8-34- 6E	400	21,903	208,235	9		"Stalnaker"	1,821	2	
							Mississippian	3,080	12	
Walnut Bend ('40)	11-34- 4E	500	14,225		7		Mississippian			
Walnut Bend North ('56)	36-33- 4E		no report	187			Mississippian	3,188	8	
Weathered ('35)	28-31- 3E	320	20,588	3,089,900	15	1	"Stalnaker"	2,080	15	
							Lans.-K.C.	2,480	12	
							"Bartlesville"	3,018	6	
							Mississippian	3,020	8	
							Arbuckle	3,250	5	
Werner ('56)	31-32- 6E	320	22,797	194,635	9		"Layton"	2,460	13	
							Mississippian	3,074	8	
Whitacre ('62)	5-34- 4E	40	1,625		1		"Stalnaker"			
							Mississippian	3,239	2	
Wilmot-Floral ('25)	31- 5E	260	5,976		7	3	"Cattleman"	2,880		
							"Bartlesville"	2,910		
Windsor ('57)	6-32- 8E	320	15,336	168,643	13		"Layton"	1,935	10	
Windsor Southeast ('58)	7-32- 8E	40	325	13,072	1		"Layton"	1,858	18	
Windsor Southwest ('58)	7-32- 8E	200	6,734	124,033	8		"Layton"	1,894	10	
Winfield ('14)	32- 5E	1,320	76,100		80	1	Admire	600		38
							"Peacock"	1,400	15	
							"Layton"	2,300	20	
							"Bartlesville"	3,050	12	
							Arbuckle	3,300	5	
Winfield South ('45)	1-33- 4E	300	19,062	180,055	14		"Hoover"	1,400		38
Miscellaneous		40	3,373			1				
Total Cowley County		44,750	3,794,917	116,191,811 recorded	1,700	71				

CRAWFORD COUNTY

Farlington ('63)	4-28-23E	400	14,500		10		Marmaton	643	16	
Hepler* ('17)	27-22E	80	3,316		7		"Bartlesville"			
"Houston" ('47)	3-31-22E	220	1,522		15		Cherokee			
McCune ('29)	30-22E	2,120	15,238		86		"Bartlesville"			
St. Paul-Walnut*	28-21E	480	1,818		27		"Bartlesville"	425		
Walnut Southeast	28-22E	1,320	23,761		73		"Bartlesville"	400	15	
Miscellaneous		220	2,350		3	4				
Total Crawford County		4,840	62,505	1,067,611 recorded	221	4				

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
DECATUR COUNTY										
Adell Northwest ('52)	34- 5-27W	640	110,465	1,326,901	14		Lans.-K.C.	3,664	54	39
Decatur Center ('63)	21- 3-28W	80	9,105	9,105	2		Lans.-K.C.	3,726	152	36
Feely ('52)	2- 5-27W	180	35,873	287,967	7	1	Lans.-K.C.	3,590	14	39
Hardesty ('52)	22- 5-27W	640	18,607	475,421	7		Lans.-K.C.	3,642	15	39
Huff ('63)	16- 1-26W	40	2,317	2,317	1		Lans.-K.C.	3,196		
Jennings ('51)	25- 4-27W	860	71,387	739,789	18		Wabaunsee	3,156	7	38
							Lans.-K.C.	3,478	4	35
Jennings Northwest ('61)	10- 4-27W		no report	570			Lansing	3,576	4	40
Jennings Southeast ('57)	6- 5-26W	40	1,346	12,110	1		Lans.-K.C.	3,581	4	34
Jording ('57)	23- 2-30W	40	5,134	7,840	1		Lansing	3,848	14	
Jorn ('55)	29- 2-28W	200	7,044	104,703	6	1	Lans.-K.C.	3,562	8	40
Lawson ('61)	11- 1-26W	40	5,873	21,579	1		"Penn. sand"	3,558	3	32
Monaghan ('52)	15- 2-27W	80	8,467	100,322	2		Lans.-K.C.	3,514	55	32
Olive ('61)	12- 2-28W	200	28,515	55,203	5		Lansing	3,379	4	37
Pollnow ('53)	4- 3-29W	700	56,820	629,659	16		Lans.-K.C.	3,734	7	37
Prairie Dog ('59)	29- 5-29W	40	2,694	22,416	1		Lansing	3,863	5	35
Ung ('62)	25- 2-30W	80	10,545	16,477	2		Lans.-K.C.	3,805	1	35
Vavroch ('59)	4- 4-28W	640	111,068	338,423	8		Lans.-K.C.	3,699	8	36
Warner ('56)	11- 1-27W	640	31,397	438,138	20		Lans.-K.C.	3,324	17	35
							"Penn. sand"	3,483		
Pools or fields abandoned				3,644						
Total Decatur County		5,140	516,657	4,592,584	112	2				
DICKINSON COUNTY										
Ash Grove ('54)	5-15- 1E	160	14,394	201,741	5		Mississippian	2,569	3	
Bonaccord ('43)	30-14- 1E		no report	44,108			"Burgess"	2,483	2	
Bonaccord Northeast ('56)	29-14- 1E	30	2,522	41,067	2		"Burgess"	2,502	3	
Lost Springs* ('27)	16- 4E	2,060	30,631		48		"Chat"	2,300		
Total Dickinson County		2,250	47,547	1,666,545 recorded	55					
DOUGLAS COUNTY										
Baldwin* ('19)	12-15-20E	1,470	27,909		89	3	"Squirrel"	800		
Eudora South ('29)	13-21E	10	48		1	1	"Squirrel"	700		
Miscellaneous		10	666		5	1				
Total Douglas County		1,490	28,623	301,966 recorded	95	5				

EDWARDS COUNTY

Belpre ('42)	8-25-16W	40	62	338	1		Lans.-K.C.	3,800		
							Mississippian	4,278		
Belpre Southwest ('62)	18-25-16W	80	6,250	7,884	2		Cherokee	4,346	43	
							Mississippian	4,382	20	37
Bradbridge ('48)	2-24-16W	40	1,227	133,328	1	2	Arbuckle	4,020		
Carpenter Southeast ('59)	31-23-16W	40	186	5,915	1	1	Mississippian	4,247	6	37
Edstaff ('55)	12-25-16W	320	1,868	5,166	8		Penn. congl.	4,230		
Embry ('53)	23-24-16W	240	3,901	40,893	9		Lans.-K.C.	3,789	4	32
							"Kinderhook"	4,292	38	
English ('59)	31-25-16W	40	3,467	21,821	1		Mississippian	4,479	7	35
Enlow ('53)	9-24-16W	240	9,297	284,759	7		Lans.-K.C.	3,736	7	29
Fatzer ('59)	14-26-17W		no report	1,337			Mississippian	4,504	15	38
Hawley ('59)	7-24-16W	40	90	917	1	1	Mississippian	4,241	18	36
Kirk ('55)	26-26-16W	120	4,330	40,987	3		"Kinderhook"	4,481	20	
McClanahan ('58)	2-26-18W	80	3,363	59,311	2		Penn. congl.	4,612	4	
Quaker* ('58)	35-26-19W	40	318	1,084	1	1	Lans.-K.C.		6	40
Rairden ('63)	16-25-16W	40	460	460	1		Mississippian	4,350	22	
Salser (revived) ('56)	12-26-16W		no report	2,408			Lans.-K.C.	3,919	3	
Sturgeon ('54)	33-26-18W	80	5,180	62,813	2		Lans.-K.C.	4,223		38
							Viola	4,721	5	38
Trousdale ('56)	21-26-16W	160	8,725	156,524	6	1	Cherokee	4,186	4	
							Mississippian	4,492	5	
Trousdale North ('58)	8-26-16W	120	3,096	16,430	4		Mississippian	4,458	10	
Trousdale Northeast ('58)	15-26-16W	80	2,122	7,497	3		"Kinderhook"	4,392		
Wil* ('57)	26-25-16W	1,600	361,042	2,883,768	94	6	Kansas City	4,032		
							"Kinderhook"	4,324		
Wil West ('60)	29-25-16W	40	no runs	879	1		Mississippian	4,365	10	38
Pools or fields abandoned				113,803						
Total Edwards County		3,440	414,984	3,848,322	147	12				

ELK COUNTY

Adams	29-29-13E	60	39		1		"Burgess"			
Arbuckle	31- 9E	360	6,202		8		"Burgess"	2,250		
Bunyard	29-28-12E		no report							
Bush-Denton ('20)	4-30- 9E	860	3,158		67		"Stalnaker"	1,060	10	
							"Peru"	2,135		
							"Burgess"	2,300	5	
Clubine	30-10E	40	774		1		"Layton"			
Collyer ('24)	30-30-11E	180	6,414		10		Kansas City	1,286	10	
							Fort Scott	1,518		
Cummings ('60)	26-31- 9E		no report	944			Mississippian	2,226		27
Dory ('29)	18-30- 9E	120	384		4		Mississippian	2,570		
Dunkleberger ('20)	34-29-10E	520	18,602		34		Kansas City	1,300	10	
							Mississippian	1,970		
Elk City*	31-13E	80	284		3	6	"Burgess"	1,360		
Fleming ('50)	8-29- 9E		no report	11,279		2	Arbuckle	2,656		

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
			ELK COUNTY (cont.)							
Grand Summit* ('26)	3-31- 8E	400	9,980		12		Kansas City	2,000		
Hale-Inge* ('07)	31-12E	780	6,559		48	3	"Peru"	1,160		
Key ('30)	31-10E	40	545		2		Arbuckle	2,270		
Kipfer	29-13E	60	375		2	4	"New Albany"			
Liscoe ('26)	31-10E	40	2,477		1		"Burgess"			
Logsden ('25)	16-31- 9E	200	7,850	71,721	6		"Burgess"			
Longton	31-12E	540	4,066		27		Mississippian		12	
Longton North ('27)	29-12E	100	468		5					
Love ('21)	30- 9E	60	252		2		Mississippian	2,370		
Mills ('27)	14-30-10E		no report	685						
Moline	16-31-10E	160	12,385		4		Mississippian			
New Albany	29-13E	200	2,438		3		"Wayside"	560	20	
Porter	29- 8E		no report				Kansas City	2,050	10	
							Arbuckle	3,000	4	
Preston	12-30- 9E	40	1,708		1					
Rettig	31-10E	80	5,269		3		Lans.-K.C.	1,550		
Roby ('56)	20-28- 9E	40	7,742	102,204	4		Arbuckle	2,873	3	
Schrader ('28)	12-31- 8E	400	15,269		12		Kansas City	1,520	22	
Severy* ('22)	8-28-11E	60	71		1		Kansas City	1,200	13	
Walker ('27)	5-31-10E	400	14,422		10		Kansas City	1,550		
							Mississippian	2,225		
Ware ('55)	5-31- 9E	40	904	14,023	1		Kansas City	1,671		
Webb ('25)	23-31-10E	860	16,034		48		Kansas City	1,300		
							Fort Scott	1,650		
							Mississippian	1,975		
							Arbuckle	2,300		
Youngmeyer ('41)	25-28- 8E	240	2,281	24,317	6		Arbuckle			
Miscellaneous		60	6,035		6	1				
Total Elk County		7,020	152,735	16,500,482 recorded	332	16				
			ELLIS COUNTY							
Air Base ('57)	27-13-16W	1,400	206,514	873,065	31		Lans.-K.C.	3,216	5	37
							"Gorham"	3,453	4	
Air Base East ('59)	25-13-16W	440	57,670	257,735	8	1	Lansing	3,088	8	
			13,019		3		Arbuckle	3,348	13	
Air Base West ('60)	28-13-16W		no report	1,251			Lans.-K.C.	3,216	2	38
Air-Braun ('58)	27-13-16W		no report	3,687			Lans.-K.C.	3,502	2	

Antonino ('47)	27-14-19W	120	29,508	217,646	3		Lans.-K.C.	3,404	4	38
							Arbuckle	3,712	5	35
							Reagan	3,726		34
Antonino South ('62)	35-14-19W	280	8,821	49,173	2		Lans.-K.C.	3,554		30
			23,734		5		Arbuckle	3,718	8	
Beeching ('43)	34-15-16W	500	11,172	337,668	6		Lans.-K.C.	3,156	4	35
Bemis-Shutts* ('35)	16-11-17W	25,000	3,679,182	185,074,563	1,022	14	Shawnee	2,967		
							Lans.-K.C.	3,408	11	34
							Penn. congl.	3,416		
							Simpson	3,603	10	
							Arbuckle	3,680		36
Bielman ('52)	24-15-18W	120	9,572	169,166	3	1	Arbuckle	3,496	4	32
Blue Hill ('37)	14-12-16W	1,520	113,689	3,236,841	45		Topeka	3,030	5	33
							Lans.-K.C.	3,072	33	
							"Gorham"	3,348		
							Arbuckle	3,360	6	
Blue Hill Northeast ('59)	36-11-16W	40	610	4,945	1		Lansing	2,962	99	30
Blue Hill Northwest ('58)	3-12-16W	860	29,109	850,252	7		Lans.-K.C.	3,022	8	
			3,689		1		Penn. congl.	3,277	4	
			134,745		21		Arbuckle	3,300	6	
Blue Hill Southeast ('59)	24-12-16W	160	9,161	40,917	5		Arbuckle	3,338	7	28
Boos ('56)	20-15-17W	80	12,235	78,037	3	1	Arbuckle	3,532	5	37
Braun ('53)	34-13-16W	120	3,540	108,224	3		Penn. congl.	3,459	7	31
Brungardt* ('52)	35-10-17W	200	See Rooks Co.	86,638	7		Lans.-K.C.	3,194		
Burnham ('59)	11-14-18W		no report	1,001			Arbuckle	3,542	12	
Catharine ('36)	3-13-17W	680	102,792	1,910,323	30	1	Lans.-K.C.	3,262	24	48
							Arbuckle	3,516	13	
Catherine East ('63)	11-13-17W		no report	none			Lans.-K.C.	3,292	198	
Catharine Northwest ('44)	4-13-17W	480	67,244	1,149,401	15		Lans.-K.C.	3,330		35
							Arbuckle	3,590	21	21
Catharine South ('46)	15-13-17W	1,400	208,083	3,997,300	55	2	Lans.-K.C.	3,292	12	32
							Penn. congl.	3,538	6	
							Arbuckle	3,555	8	
Catharine Townsite ('49)	9-13-17W	140	9,658	174,857	4		Lansing	3,418	13	
							Arbuckle	3,585	18	25
Chris ('58)	34-11-16W	80	26,338	117,053	3		Lans.-K.C.	3,042	3	19
							Arbuckle	3,395	3	
Chrisler ('49)	22-11-16W	120	14,705	90,231	3		Shawnee	3,038	4	
							Lans.-K.C.	3,100	35	39
Chrisler South ('58)	27-11-16W	120	18,823	137,711	4		Lans.-K.C.	3,158	3	37
Cochran ('53)	8-11-18W	100	5,390	117,683	3		Lans.-K.C.	3,328	10	18
							Arbuckle	3,565	3	
Cromb ('45)	15-11-20W	200	11,349	227,018	5		Lans.-K.C.	3,446	8	30
Dechant ('56)	7-15-18W	160	38,108	126,562	6	3	Lansing	3,468	6	
							Arbuckle	3,627	6	38
Degenhart ('53)	15-15-17W	300	7,756	242,551	5		Lans.-K.C.	3,417	8	38
							Arbuckle	3,521	10	
Degenhart Southeast ('57)	23-15-17W	140	2,798	49,148	4		Lans.-K.C.	3,445	5	
							Arbuckle	3,520	5	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
ELLIS COUNTY (cont.)										
Dinges ('54)	9-15-18W	80	10,895	123,964	2		Arbuckle	3,624	12	34
Dreiling ('49)	21-14-16W	580	43,512	1,188,800	22		Lans.-K.C.	3,120	16	31
							Arbuckle	3,367		32
Dreiling East ('62)	23-14-16W		no report	1,268			Arbuckle	3,414	13	
Dreiling Southeast ('53)	27-14-16W	540	28,053	485,748	13		Lans.-K.C.	3,072	6	32
							Arbuckle	3,327	10	37
Eagle Creek ('54)	11-11-20W	640	29,283	632,733	13		Lans.-K.C.	3,368	12	33
Eagle Creek East ('58)	2-11-20W	40	4,055	33,526	1		Lansing	3,348	5	
Ellis* ('42)	31-12-20W	1,640	72,835	1,884,092	26	1	Arb.-Reagan	3,832	8	40
Emmeram ('37)	4-13-16W	520	60,148	510,507	17		Lans.-K.C.	3,262	7	39
Emmeram Northeast ('49)	27-12-16W	1,100	60,713	1,304,278	24		Shawnee	3,124	8	
							Lans.-K.C.	3,272	4	35
							Arbuckle	3,541	3	39
Emmeram Townsite ('52)	6-13-16W		no report	35,410			Lans.-K.C.	3,291		32
							Arbuckle	3,520	10	
Engel ('56)	34-14-18W	140	38,716	247,799	5	1	Lans.-K.C.	3,350	6	
							"Penn. sand"	3,621	5	
							Arbuckle	3,612	4	34
Engel West ('56)	33-14-18W		no report	1,980			Lans.-K.C.	3,368	4	40
Erbert ('53)	20-12-20W	40	1,825	37,766	1		Lans.-K.C.	3,527		34
							Arbuckle	3,906		
Experiment ('52)	17-14-18W	40	1,815	10,693	1		Arbuckle		13	
Fairport* ('23)	8-12-15W	1,880	148,745	4,647,833	48	1	Lans.-K.C.	2,950	12	32
							"Gorham"	3,211		
							Arbuckle	3,312	5	
							Reagan	3,350		
Fort Hays State College ('50)	1-14-19W	180	10,775	133,005	3		Lans.-K.C.	3,458	19	
							Arbuckle	3,806	20	28
Gasaway ('58)	2-11-19W		no report	2,327			Topeka	3,079	8	
Ger ('60)	15-13-20W	40	3,180	9,873	1		Arbuckle	3,807	6	32
Giinther ('52)	17-11-19W	80	6,970	101,007	2		Lans.-K.C.	3,439	9	
							Arbuckle	3,554	4	
Gottschalk ('57)	36-15-18W		no report	4,204			Lans.-K.C.	3,251	7	
Gross ('63)	25-13-18W	80	7,916	7,916	2		Lans.-K.C.	3,354	22	
Herbert ('58)	18-13-20W	180	49,950	232,189	6		Lansing	3,521	4	
							Marmaton	3,870	96	
							Arbuckle	3,907	19	40
Herbert North ('60)	18-13-20W		no report	1,651			Lans.-K.C.	3,470	7	36
Herl ('51)	28-14-17W	80	5,669	192,262	2		Lans.-K.C.	3,382		28
							Penn. congl.	3,453	8	
							Arbuckle	3,476		28

Hertel Southwest ('52)	17-14-16W		no report	16,501			Lans.-K.C.	3,215	4	38
Herzog ('40)	30-13-16W	1,500	144,516	2,361,558	31		Lans.-K.C.	3,232	6	39
							Arbuckle	3,450	8	
Herzog South ('59)	5-14-16W	20	1,365	11,119	1		Lansing	3,207	6	27
Heyl ('56)	20-14-17W	120	13,999	37,046	3		Toronto			
							Arbuckle	3,513	7	29
Heyl Southeast ('59)	21-14-17W	220	2,748	114,766	1		Toronto	3,222		
			10,636		1		Lans.-K.C.	3,260	8	
			31,279		5		Arbuckle	3,509	9	
Holy Cross ('53)	26-12-18W	40	3,616	92,532	1		Lans.-K.C.	3,423	4	34
Holz ('59)	18-13-16W	20	1,728	10,639	1		Lansing	3,276	5	35
Irvin ('46)	6-14-19W	3,500	481,387	5,562,954	88	1	Lans.-K.C.	3,553		
							Arbuckle	3,860		39
Irvin East ('55)	4-14-19W		no report	29,105		1	Lans.-K.C.	3,628	18	35
							Arbuckle	3,835	30	
Jacob ('51)	6-11-19W		no report	16,946			Lans.-K.C.	3,542	4	23
Kaiser ('59)	30-13-20W	160	31,723	149,425	5		Lans.-K.C.	3,565	5	41
							Arbuckle	3,926		
Koblitz West ('59)	21-12-18W		no report	7,151			Lansing	3,406	7	32
Kraus ('36)	22-14-19W	2,400	239,363	1,835,093	56	3	Lans.-K.C.	3,660	5	
							Marmaton	3,834	4	
							"Sooy"	3,735	5	
							Arbuckle	3,732		39
Krueger* ('48)	35-10-16W	960	94,467	2,215,992	29		Toronto	3,235	25	
							Lans.-K.C.	3,552	25	37
Leiker ('43)	14-15-18W	1,000	178,912	1,822,052	26		Lans.-K.C.	3,292		40
							Penn. congl.	3,582		
							Arbuckle	3,591	5	
Leiker East ('53)	12-15-18W	1,280	244,976	3,355,861	49		Lans.-K.C.	3,321	8	38
							Arbuckle	3,576	13	45
Leiker North ('56)	2-15-18W	160	19,714	232,445	4		Arbuckle	3,601	5	34
Leiker Southeast ('54)	14-15-18W	320	35,432	388,828	11		Lans.-K.C.	3,292	19	
							Arbuckle	3,547	4	36
Leinmiller ('59)	2-12-19W	120	10,173	51,658	3	1	Lans.-K.C.	3,401	6	22
							Arbuckle	3,695	13	
Leonhardt ('62)	20-14-18W		no report	423			Lansing	3,376	35	38
Lieb ('56)	17-11-16W	160	11,448	217,720	7		Arbuckle	3,356	7	28
Lieb East ('57)	16-11-16W	180	22,961	198,349	6		Lansing	2,982	8	
			7,354		1		Arbuckle	3,346		26
Meistrell Southwest ('59)	9-11-18W	120	23,003	92,987	4		Toronto	3,262		
							Lansing	3,289	4	32
Mendota ('51)	5-11-20W	80	4,789	125,835	2	1	Lans.-K.C.	3,530	10	35
							Arbuckle	3,668		
Neddam ('57)	16-11-18W	60	5,275	44,322	2		Lans.-K.C.	3,162	8	
Nellie Belle ('55)	15-13-17W	80	6,892	98,598	3		Arbuckle	3,521	1	27
Nicholson* ('45)	30-11-20W	1,300	126,686	1,711,395	28	3	Arbuckle	3,842	12	34
North ('56)	20-15-20W		no report	65,670		1	Lans.-K.C.	3,562	8	
							Penn. congl.	3,862	5	38
Penny-Wann ('36)	13-15-20W	80	6,301	242,133	2		"Sooy"	3,653	3	30

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
			ELLIS COUNTY (cont.)							
Pleasant ('44)	2-14-20W	1,800	178,790	3,561,476	45	7	Shawnee			
							Lans.-K.C.	3,569		
							Marmaton	3,805		
							Penn. congl.			
							Arb.-Reagan	3,833		38
Pleasant Southeast ('60)	12-14-20W		no report	none			Arbuckle	3,771	6	
Pleasant West ('61)	4-14-20W		no report	933			Arbuckle	3,937	8	37
Polifka ('48)	7-13-17W	480	45,297	614,549	14		Arbuckle	3,640	33	31
Potter ('56)	20-11-16W	800	143,388	841,214	23		Pleasanton			
							Arbuckle	3,309	7	32
Raynesford ('52)	17-13-20W	80	2,324	92,321	2		Lans.-K.C.	3,535	5	30
							Penn. congl.	3,870		
Raynesford East ('52)	16-13-20W	340	21,034	324,942	6		Arbuckle	3,861	9	39
Reed ('49)	5-13-17W	40	2,000	51,745	1		Lans.-K.C.	3,424	12	
							Arbuckle	3,596		
Reed Northwest ('62)	31-12-17W	40	7,198	20,605	1		Lans.-K.C.	3,373	10	
			7,198		1		Arbuckle	3,636	7	27
Reichert ('53)	4-15-19W		no report	2,531			Lans.-K.C.	3,360	10	32
Richards	5-11-18W	40	4,163	140,889	1		Toronto	3,295	2	
							Lans.-K.C.	3,466		37
Riverview ('43)	19-11-18W	1,020	60,294	2,745,514	19		Arbuckle	3,610	18	
Riverview South ('56)	32-11-18W	120	4,858	97,900	3		Lans.-K.C.	3,367	5	33
Ruder ('35)	17-15-18W	1,200	98,064	1,653,842	23		Lans.-K.C.	3,422		35
							Arbuckle	3,572	10	
Ruder North ('57)	4-15-18W	80	2,365	48,666	2		Arbuckle	3,619	9	30
Ruder Southwest ('59)	18-15-18W		Abandoned during 1963				Arbuckle	3,634	4	
Schmeidler ('44)	28-12-17W	1,420	146,832	1,640,338	37		Lans.-K.C.	3,389	6	
							Arbuckle	3,625	10	26
Schoenchen ('46)	21-15-18W	1,060	97,361	1,697,506	29		Lans.-K.C.	3,324	6	
							Arbuckle	3,569	9	31
Schoenchen Townsite ('56)	28-15-18W	40	2,757	44,055	1		Lans.-K.C.	3,255	4	39
Scurlock ('57)	20-15-16W		no report	6,418			Penn. congl.	3,431	5	33
Sessin ('52)	5-11-19W	920	101,521	1,572,108	25		Shawnee	2,969		
							Lans.-K.C.	3,291	7	23
							Arbuckle	3,499	3	
Sessin North ('63)	4-11-19W	40	2,265	2,265	1		Lans.-K.C.	3,353	4	
Solomon ('36)	28-11-19W	3,500	203,950	5,454,264	86		Wabaunsee	3,013	4	
							Topeka	2,990		19
							Lans.-K.C.	3,229		
							Arbuckle	3,629	3	19

Solomon South ('57)	33-11-19W	80	12,337	100,756	2		Arbuckle	3,652	3		
Solomon Southeast ('57)	35-11-19W	160	11,150	161,753	4		Arbuckle	3,682	4	18	
Spring Hill ('61)	23-14-20W		no report	1,139			Lans.-K.C.	3,414	4	32	
Staab ('63)	23-12-20W		no report	none			Lansing	3,523	2		
							Marmaton	3,803	6		
							Penn. congl.	3,843	2		
Stockrange ('57)	21-15-20W		no report	23,514		1	Penn. congl.	3,864	6	38	
Sugarloaf ('41)	17-13-17W	640	29,107	1,064,891	9		Lans.-K.C.	3,391		30	
							Arbuckle	3,645	9		
Sugarloaf Southeast ('41)	28-13-17W	2,400	339,449	4,479,146	62		Lans.-K.C.	3,312	8	30	
							Arbuckle	3,520			
Sunnydale ('52)	1-14-20W		no report	5,570			Arbuckle	3,850			
Sweet William ('50)	10-12-20W	80	1,753	31,237	2	1	Lans.-K.C.	3,700		35	
							Arbuckle	3,908			
Sweet William Northwest ('56)	4-12-20W	40	966	19,711	1		Lans.-K.C.	3,739	8	36	
							Marmaton	3,910	8		
Toulon ('35)	3-14-17W	1,080	86,226	1,617,438	28		Lans.-K.C.	3,298	5	34	
							Arbuckle	3,512	45		
Toulon South ('58)	14-14-17W	300	15,945	286,497	5		Lans.-K.C.	3,302	10	35	
			10,195		3		Arbuckle	3,523	10	32	
Toulon Southeast ('58)	11-14-17W		no report	43			Lansing	3,348	4	36	
Toulon Southwest ('55)	16-14-17W	320	57,470	269,264	12		Lansing	3,272	8	33	
							Arbuckle	3,504	4		
Trico* ('51)	30-10-20W	300	37,585	348,080	6		Arbuckle	3,610	10		
Turkville ('53)	11-11-17W	120	5,921	119,223	3	1	Lans.-K.C.	3,165	24	24	
							Arbuckle	3,359		34	
Turkville West ('59)	10-11-17W	60	2,590	29,343	2		Arbuckle	3,378	6	27	
Ubert ('36)	12-13-18W	180	24,799	483,758	7		Lans.-K.C.				
							Arbuckle	3,707		32	
Ubert North ('51)	31-12-17W	320	60,512	544,055	8		Arbuckle	3,600		31	
Ubert Northwest ('52)	1-13-18W	500	68,963	1,222,744	20		Lans.-K.C.	3,339		33	
							Arbuckle	3,592		33	
Upper Turkville ('48)	9-11-17W	80	9,295	59,550	2		Arbuckle	3,356	5	25	
Victoria North ('53)	6-14-16W	480	99,082	250,527	16	1	Toronto	3,182	1		
							Lans.-K.C.	3,208	6		
							Arbuckle	3,471		35	
Victoria South ('61)	19-14-16W		no report	2,658			Lans.-K.C.	3,215	52	39	
Wagner ('56)	36-14-16W		no report	17,709			Arbuckle	3,420	7	33	
Warren ('49)	12-11-20W	40	2,708	75,308	1		Lans.-K.C.	3,458		31	
Werth ('58)	2-13-20W	40	5,538	58,588	1		Arbuckle	3,833	6	33	
Werth North ('62)	35-12-20W	80	17,970	21,550	2		Arbuckle	3,880	6	35	
Wheatland ('49)	18-15-17W	400	16,741	524,584	10		Lans.-K.C.	3,307	14		
							Arbuckle	3,571		32	
Wheatland Northwest ('53)	12-15-18W	180	10,244	98,051	5		Arbuckle	3,566	6	37	
Wheatland Southeast ('55)	28-15-17W	80	6,348	134,876	2		Lans.-K.C.	3,335	14		
							Penn. congl.	3,526			
							Arbuckle	3,516	5	39	
Wheatland Southwest ('53)	19-15-17W	580	113,996	1,338,771	21	3	Lans.-K.C.	3,252		32	
							Arbuckle	3,554	9		

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
ELLIS COUNTY (cont.)										
Windholz ('57)	32-12-16W		no report	3,835			Lans.-K.C.	3,348	5	37
"Yocemento" ('29)	9-13-19W	40	3,929	64,820	1		Lans.-K.C.	3,508	24	35
Younger ('44)	6-14-17W	640	51,904	879,817	17		Lans.-K.C.	3,331	8	
							Arbuckle	3,574	18	33
Younger Northwest ('62)	30-13-17W	200	40,145	40,145	5		Lansing	3,375	20	
Younger South ('54)	8-14-17W		Combined into Younger				Arbuckle	3,546	7	37
Younger Southeast ('62)	4-14-17W	80	4,252	5,690	2		Kansas City	3,347	6	
Younger Southwest ('59)	7-14-17W		no report	2,136			Arbuckle	3,550	12	26
Younker ('59)	9-12-19W	40	6,498	26,899	1		Lansing	3,493	10	34
Younker Southwest ('63)	17-12-19W	40	4,767	4,767	1		Lans.-K.C.	3,522	19	33
Zimm ('59)	23-13-20W		no report	7,048			Lansing	3,477	4	38
Pools or fields abandoned				83,845						
Total Ellis County		79,120	9,494,856	267,793,998**	2,453	52				
ELLSWORTH COUNTY										
Andrews ('52)	4-17- 8W	160	3,069	156,821	4		Arbuckle	3,302	3	
Bloomer* ('36)	36-17-11W	2,480	203,405	16,189,731**	77	1	Lans.-K.C.	3,044		43
							Arbuckle	3,257	8	43
Geneseo-Edwards* ('34)	25-18- 8W	3,200	460,461	22,377,260	110	13	Simpson	3,157	11	39
							Arbuckle	3,278		41
Green Garden ('54)	1-17- 9W	260	20,007	153,187	4		Lans.-K.C.	3,046	4	40
			34,743		4		Arbuckle	3,243		
Gregory ('63)	26-16- 9W	160	23,710	23,710	4		Arbuckle	3,241	4	43
Heiken ('30)	25-17-20W	540	39,932	924,510	14	1	Lans.-K.C.	2,974		
							Penn. congl.	3,226		
							Arbuckle	3,269		
Heiken North ('42)	24-17-10W	240	20,176	269,168	6		Arbuckle	3,212	2	40
Kraft-Prusa* ('37)	10-17-11W	840	39,838	1,466,768	14		Shawnee	2,885		
							Lans.-K.C.	3,160	6	41
							"Gorham"	3,335		
							Arbuckle	3,381		
							Reagan	3,310		
Lorraine ('34)	13-17- 9W	1,700	41,470	11,228,532	26		Lans.-K.C.	3,060	5	34
							Arbuckle	3,200	120	
Lorraine North ('53)	12-17- 9W	120	11,450	199,868	4		Lans.-K.C.	3,066	5	
Maes ('52)	26-17- 8W	440	21,643	1,357,394	11		Arbuckle	3,341	16	36
Oxhide ('63)	24-16- 9W	120	12,544	12,544	4		Arbuckle	3,291	1	42
Progress ('55)	10-16-10W	140	17,398	390,456	4	1	Arbuckle	3,402	8	
Progress Northwest ('55)	4-16-10W	280	37,454	817,679	13		Arbuckle	3,303	8	40

Stoltenberg* ('31)	22-16-10W	8,500	580,257	44,336,868	263	6	Lans.-K.C.	3,260		42
							Simpson	3,379	2	38
							Arbuckle	3,333	14	39
West ('51)	20-17-10W	40	3,138	57,320	1		Arbuckle	3,287		
Wilkens Southeast ('42)	32-17- 9W	80	1,376	513,177	2	1	Arbuckle	3,220	9	42
Pools or fields abandoned				35,597						
Total Ellsworth County		19,300	1,572,071	100,510,590**	565	23				
				FINNEY COUNTY						
Amazon Ditch ('61)	20-22-34W	480	4,803	152,345	1		Toronto	3,764	6	
			22,200		2		Marmaton	4,286		
			53,048		4		Mississippian	4,674	6	31
Beyer ('52)	24-26-33W		no report	23,340			Lans.-K.C.	4,398	8	36
Cowgill ('61)	27-24-33W	200	59,220	104,597	5		Morrowan	4,809	11	27
Damme ('51)	21-22-33W	3,000	56,221	2,541,275	8		Marmaton	4,417	5	
			20,684		2		Morrowan	4,700		
			310,943		47		Mississippian	4,626	10	32
Finnup East ('53)	25-22-33W	40	368	14,546	1		Marmaton	4,442	16	30
Ivanhoe ('59)	17-26-33W	60	7,354	41,911	2		Morrowan	4,922	5	27
Kisner ('61)	36-26-33W	40	no runs	665	1		Morrowan	4,972	2	26
Nunn ('38)	27-21-34W	1,340	82,974	2,911,956	26	2	Kansas City		13	31
							Marmaton			34
							Cherokee	4,550		
							Mississippian	4,654	10	27
Nunn East ('61)	31-21-33W	120	22,591	55,034	3		Cherokee	4,412	22	
							Mississippian	4,651	19	26
Nunn North ('57)	22-21-34W		Included with Nunn				Marmaton	4,382	12	
Pleasant Prairie* ('54)	4-27-34W	2,200	1,372,274	5,986,330**	65		Marmaton	4,460	10	
							Morrowan	4,959	9	
							Mississippian	5,041		34
Sequoyah ('56)	17-23-34W	120	11,512	118,029	3		Morrowan	4,694	10	34
Sonderegger ('52)	21-22-31W		no report	6,543			Mississippian	4,737		29
Stewart ('52)	6-23-30W		no report	39,191			Mississippian	4,710		28
Wampler ('59)	17-21-33W	160	21,705	140,063	4	1	Marmaton	4,252	12	34
							Morrowan	4,573	4	31
Total Finney County		7,760	2,045,897	12,135,825**	174	3				
				FORD COUNTY						
Konda ('56)	11-27-22W		no report	6,010			Mississippian	5,010	32	36
Little Coon Creek ('61)	33-25-21W	80	1,088	37,749	1	2	Cherokee	4,683	21	36
			8,800		1		Mississippian	4,779	4	37
Pleasant Valley ('50)	34-27-21W		no report	18,341			Mississippian	4,954	145	
Rushville ('62)	9-27-21W	40	3,337	5,491	1		Mississippian	4,928	19	31
Willroads ('60)	26-27-24W	40	13,315	46,133	1		Marmaton	4,663	9	38
Total Ford County		160	26,540	113,724	4	2				

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
FRANKLIN COUNTY										
Baldwin* ('19)	15-20E	580	16,223		34		"Squirrel"	800		
LeLoup	15-20E	160	372		8		"Squirrel"	750		
Norwood	15-20E	120	3,360		13					
Ottawa ('27)	17-19E	40	269		2					
Paola-Rantoul* (1860)	17-21E	32,100	241,380		783	34	"Knobtown"	300		
							"Hepler"	400		
							"Prue"	500		
							"Squirrel"	600		
							"Bartlesville"	700		
Miscellaneous		300	497		4					
Total Franklin County		33,300	262,101	12,428,994 recorded	844	34				
GEARY COUNTY										
Ge-See* ('59)	27-11- 8E	20	937	5,905	1		Cherokee	1,749	12	
GOVE COUNTY										
Garvey Ranch ('63)	18-15-26W	40	17,554	17,554	1		Lans.-K.C.	3,714	8	
							Mississippian	4,295	8	
Grinnell ('59)	16-12-30W		no report	1,439			Mississippian	4,489	6	35
Lundgren (revived) ('52)	30-14-29W	480	65,412	267,994	12		Pawnee	4,076	18	
							Fort Scott	4,139	1	
							Cherokee	4,164	14	
							Mississippian	4,277	6	40
Lundgren South ('52)	31-14-29W	Combined into Lundgren					Pawnee	4,076	18	
							Fort Scott	4,139	1	
							Cherokee	4,164	14	
							Mississippian	4,277	6	40
Pools or fields abandoned				109,706						
Total Gove County		520	82,966	396,693	13					
GRAHAM COUNTY										
Allodium ('55)	19- 6-25W	40	1,792	56,076	1	1	Lans.-K.C.	3,740	5	36
Blazier ('55)	21- 7-25W	440	70,557	734,872	11		Lans.-K.C.	3,785	8	
Blazier Northwest ('57)	20- 7-25W	40	1,745	60,226	2	1	Lans.-K.C.	3,844	6	40
Bollig ('62)	28- 9-25W		no report	none			Lans.-K.C.	3,986	4	
Brassfield ('56)	2-10-22W	600	36,299	355,358	12		Lans.-K.C.	3,688	45	39

Brassfield South ('58)	2-10-22W		no report	880			Lans.-K.C.	3,764	5	39
Brush Creek ('55)	4- 9-23W	720	45,596	770,856	19		Lans.-K.C.	3,768	4	40
Brush Creek Northwest ('57)	32- 8-23W	160	14,036	136,357	4		Lans.-K.C.	3,818	3	38
Bryan ('59)	9-10-24W		no report	7,783			Lansing	3,838	6	36
Bryan Northeast ('61)	4-10-24W	160	48,758	96,190	4		Lans.-K.C.	3,780	24	33
Conness ('58)	23-10-23W	180	13,383	111,066	5		Lans.-K.C.	3,712	4	37
Cooper* ('43)	5-10-20W	9,000	569,906	13,776,627	173	5	Lans.-K.C.	3,619	6	36
							Arbuckle	3,778	2	31
Culp ('61)	21-10-24W	120	13,165	39,000	3		Lans.-K.C.	3,796	6	41
Diebolt* ('53)	33-10-23W	1,460	150,415	3,214,652	83		Lans.-K.C.	3,779	6	35
Dorman ('52)	30-10-23W		no report	21,325			Lans.-K.C.		22	
Elrick ('55)	15-10-25W	2,600	3,552	2,801,880	1		Toronto	3,770	8	
			512,005		71		Lans.-K.C.	3,931	5	
			806		1		Cherokee	4,212	10	
Elrick Southeast ('59)	23-10-25W	180	18,071	83,956	3	1	Lansing	3,751	6	41
Emor ('57)	34- 9-25W	700	194,665	893,380	21		Lansing	4,016	12	40
Emor North ('60)	27- 9-25W	160	14,821	36,617	4		Lans.-K.C.	3,867	5	39
Evergreen ('56)	22- 9-23W		no report	12,903			Lans.-K.C.	3,711	2	29
Evergreen Northwest ('57)	17- 9-23W	600	23,276	466,351	16	1	Lans.-K.C.	3,826	4	38
Fabricius ('58)	25- 7-23W	720	112,072	933,094	23		Lansing	3,637	3	40
Fargo West ('51)	34- 9-22W		no report	4,540			Lans.-K.C.	3,755		
Faul ('58)	22-10-22W	100	6,126	68,684	3		Lansing	3,760	4	36
Faulkner ('45)	27-10-22W	40	4,141	251,346	1		Lans.-K.C.	3,629	2	37
							Marmaton	3,844		
Gettysburg ('41)	7- 8-23W	80	2,745	109,704	2		Lans.-K.C.	3,725	30	39
Glen Dale Southeast ('58)	24- 9-24W	140	35,804	144,051	5		Lansing	3,932	3	38
Glen Dale Southwest ('57)	28- 9-24W	80	10,402	83,903	2		Lans.-K.C.	4,026	8	40
Gra-Sher ('59)	6-10-25W	280	82,359	380,137	8		Lansing	3,815	4	33
Gurk ('58)	18-10-25W	120	16,981	127,792	4		Lansing	3,824		34
Gurk North ('62)	7-10-25W	40	4,590	11,054	1		Lans.-K.C.	3,927	68	40
Harmony ('51)	32- 7-22W	360	14,341	369,739	6		Lans.-K.C.	3,597	5	37
							Arbuckle	3,776		
Harmony South ('58)	7- 8-22W	180	54,470	281,619	5		Lansing	3,578	8	37
Harrold ('57)	29- 9-21W		no report	34,525		1	Arbuckle	3,885	5	
Hatcher ('56)	6- 9-21W	80	1,688	35,393	2		Arbuckle	3,722	8	
Higer ('57)	20- 8-23W	160	9,556	111,560	4		Lans.-K.C.	3,710	4	40
Higer Northeast ('57)	17- 8-23W	500	47,589	368,494	11	2	Lans.-K.C.	3,644	5	39
Highland ('51)	20- 8-22W	40	1,232	24,433	1	1	Lans.-K.C.	3,616		37
Highland Southwest ('58)	29- 8-22W	80	6,049	84,583	2		Lansing	3,584	3	
Holley ('54)	3- 9-24W	4,600	140,512	3,220,204	114	1	Lans.-K.C.	3,900	6	47
Holley North ('55)	29- 8-24W	180	12,760	315,219	6		Lans.-K.C.	3,897	9	45
Holley Northwest ('57)	25- 8-25W	80	5,758	55,022	2		Lans.-K.C.	3,831	5	
Holley Southeast ('57)	10- 9-24W	180	32,094	317,943	6	2	Lans.-K.C.	3,960	5	41
Hoof ('54)	9-10-23W	640	232,111	2,020,964	29		Lans.-K.C.	3,865	4	32
Hoof East ('59)	14-10-23W	140	21,252	161,118	5		Lansing	3,674	10	34
Hoof Northwest ('57)	6-10-23W	640	187,589	585,343	25		Lans.-K.C.	3,934	11	43
Hoof West ('55)	8-10-23W	240	24,469	218,768	8		Lans.-K.C.	3,903	5	
Huntington ('55)	7- 7-25W	200	30,875	313,675	4		Lans.-K.C.	3,832	8	40
Hutton ('58)	1- 8-24W	40	2,208	25,017	1		Lans.-K.C.	3,764	3	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
GRAHAM COUNTY (cont.)										
Ironclad ('50)	23- 9-22W	780	48,717	864,523	16	2	Lans.-K.C.	3,756	6	37
J.A.B. ('62)	17- 7-23W	40	1,336	5,229	1		Lans.-K.C.	3,692	160	33
Knoll ('57)	4- 9-25W	40	4,427	11,151	1		Lans.-K.C.	3,875	4	
Knoll Northwest ('58)	5- 9-25W	80	no runs	15,225		2	Lansing	3,981	5	33
Kobler ('58)	27- 8-24W	120	22,708	134,743	4		Lans.-K.C.	3,841	15	36
Kohart ('63)	28- 9-24W	120	21,564	21,564	3		Lans.-K.C.	3,859	5	40
Lacerte ('56)	32-10-22W	40	1,883	33,519	1		Lans.-K.C.	3,602	4	36
Law ('51)	34- 9-23W	900	62,672	1,275,484	14		Lans.-K.C.	3,922	10	38
							Penn. congl.	4,126		
Law Northwest ('57)	28- 9-23W	300	39,705	457,117	12		Lans.-K.C.	3,826	6	38
Law Southeast ('55)	12-10-23W	440	65,659	547,831	13		Lans.-K.C.	3,869		30
							Penn. congl.	4,088	11	40
Lindenman ('59)	31- 6-25W	80	12,041	60,751	2		Lansing	3,672	36	38
Martha Washington ('62)	24-10-25W	80	15,880	15,880	3		Lans.-K.C.	3,891	4	41
Mickleson ('52)	27- 8-22W	140	7,692	145,839	4		Lans.-K.C.	3,502		34
							Arbuckle	3,759	16	24
Mildrexter ('55)	12- 9-23W		no report	75,259			Lans.-K.C.	3,814	2	38
Mitchell ('58)	20- 9-24W		no report	1,212			Lansing	4,053	3	
Montgomery ('53)	8- 8-23W	100	9,573	92,809	3	1	Lans.-K.C.	3,511	33	
Montgomery East ('58)	4- 8-23W		no report	13,709			Lans.-K.C.	3,706	4	
Morel ('38)	15- 9-21W	8,700	1,144,718	30,950,205	225	2	Lans.-K.C.	3,676	3	
							"Sooy"	3,712		26
							Arbuckle	3,718	12	27
Morel North ('55)	3- 9-21W		no report	15,152			Penn. congl.	3,667	5	38
Mount Vernon ('58)	6- 7-22W	140	41,308	252,386	4		Lansing	3,759	5	38
Mount Vernon North ('63)	24- 6-23W	40	2,692	2,692	1		Lans.-K.C.	3,631	5	
Nana ('53)	4- 8-24W	500	56,685	1,174,391	20		Lans.-K.C.	3,738	8	41
Nana Northwest ('58)	33- 7-24W	200	22,758	227,824	7		Lansing	3,873	4	41
Penokee ('40)	11- 8-24W	130	23,664	358,030	5		Lans.-K.C.	3,750	16	43
Prairie Glen ('54)	25-10-23W	100	4,835	81,025	3		Lans.-K.C.	3,596	4	33
Prairie Glen Southeast ('55)	31-10-22W	100	2,649	95,080	3		Lans.-K.C.	3,594	8	
Prairie Glen Southwest ('58)	35-10-23W	40	2,264	17,823	1		Lansing	3,734	5	
Ray* ('49)	32- 5-20W		no report	1,240			Lans.-K.C.	3,297		
							Arbuckle	3,575		
							Reagan	3,540		32
Red Line ('55)	32- 9-22W	380	17,449	245,645	6		Lans.-K.C.	3,776	3	40
Red Line North ('55)	20- 9-22W	40	1,206	31,774	1	1	Lans.-K.C.	3,676	4	35
Red Line Northwest ('61)	19- 9-22W	100	18,137	39,857	3	1	Lans.-K.C.	3,675	4	35
Richmeier ('61)	30- 9-25W		no report	580			Lans.-K.C.	3,876	8	38
Riedel ('62)	6-10-24W	100	13,572	29,668	3		Lans.-K.C.	3,864	6	40

Schmied ('52)	21- 8-25W	1,280	114,677	1,972,610	26		Lans.-K.C.	3,740	4	30
Schmied Northeast ('54)	10- 8-25W	160	5,569	102,211	4		Lans.-K.C.	3,867	25	46
Schmied Northwest ('57)	5- 8-25W	80	1,383	58,366	2		Lans.-K.C.	3,952	5	41
Schmied South ('57)	28- 8-25W		no report	none			Lansing	3,931	5	
Shiloh ('51)	1- 9-25W	320	89,046	339,799	10		Lans.-K.C.	4,013	6	42
Shiloh South ('63)	12- 9-25W	40	5,055	5,055	1		Lans.-K.C.	3,835	6	
Trico* ('51)	30-10-20W	1,800	340,405	3,588,372	57		Lans.-K.C.	3,651	7	
							Arbuckle	3,786		
Van ('54)	14- 9-22W	480	73,954	829,390	16		Lans.-K.C.	3,580	5	22
							Arbuckle	3,871	8	24
Vance ('62)	5-10-25W	40	3,524	12,062	1		Lans.-K.C.	4,035	17	
Vesper ('57)	36- 9-23W	1,500	100,245	1,174,117	37		Lans.-K.C.	3,849	2	41
Wheeler ('57)	8-10-21W	200	8,071	90,104	6		Lans.-K.C.	3,702	8	28
							Marmaton	3,783	9	
Pools or fields abandoned				323,283						
Total Graham County		46,830	5,240,344	80,124,865	1,223	25				
			GRANT COUNTY							
DaVatz ('61)	13-28-36W	40	7,954	27,144	1		Morrowan	5,220	1	38
Hick ('59)	23-30-35W	80	9,867	16,846	2		Mississippian	5,392	20	41
Pollyana ('59)	36-27-35W	40	no runs	13,675	1		Lansing	4,090	13	32
Ryus ('61)	3-30-35W	40	310	4,952	1		Marmaton	4,700	2	36
							Morrowan	5,234	5	38
Total Grant County		200	18,131	62,617	5					
			GREENWOOD COUNTY							
Atyeo-Pixlee* ('23)	7-22-10E	1,680	80,884		46	6	"Bartlesville"	2,350	20	
							Mississippian	2,400		
Beaumont ('20)	27- 8E	740	19,329		28		"Peru"	1,830		
							Mississippian	2,445		
							Arbuckle	2,740		
Beaumont South ('35)	2-28- 8E	120	4,764		5		Mississippian	2,500		
Blackwell ('25)	16-24-13E	480	5,137		14		Mississippian	1,650		
Blankenship* ('21)	26- 8E	120	953		7	1	"Bartlesville"	2,650		
Brinegar	26-13E	240	4,664		5		"New Albany"	427	11	
Browning ('24)	22-10E	1,400	51,014		98	7	"Bartlesville"	2,314	51	41
Burkett ('23)	24-23-10E	2,120	123,361		88	3	"Bartlesville"	2,000	38	38
Burt ('49)	8-26-11E	40	1,410		2		Mississippian	1,945		
Climax ('25)	27-11E	40	220		1		Mississippian	1,900	15	
DeMalorie-Souder ('24)	22-10E	2,200	222,185		134	1	"Bartlesville"	2,150	55	41
Dunaway* ('22)	34-22-13E	1,400	74,179		57	4	Mississippian	1,800	12	38
Eureka ('27)	31-25-11E	1,140	29,281		41	7	Fort Scott	1,750	10	35
							Mississippian	2,000		
Fancy ('56)	25-26-12E	120	3,493	70,185	4		Mississippian	1,643	5	
Fankhouser* ('26)	4-22-12E	1,100	47,254		24	2	"Bartlesville"	1,850	24	41
Gaffney ('26)	18-24-11E	420	18,831		12		"Bartlesville"	1,850		
Hinchman ('27)	17-24-13E	240	4,338		7		Mississippian	1,615		

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
GREENWOOD COUNTY (cont.)										
Hollis ('27)	16-23-10E	80	3,370		3		"Bartlesville"	2,150		
Hubbard	22-13E	40	704		2		Cherokee	1,500		
Huffine ('62)	10-28-13E	40	227	1,712	1					
Jackson	25- 8E	160	2,618		4		"Bartlesville"			
Jackson Southwest* ('57)	34-25- 8E	Combined into Sallyards					"Bartlesville"	2,608	16	
Lamont ('26)	29-22-13E	1,600	57,422		57		"Bartlesville"	1,700	42	40
Lane ('58)	5-26-12E	60	233	4,983	4		Mississippian	1,853	7	
Ly-Green* ('54)	5-22-11E	40	1,036	13,414	1		"Bartlesville"	1,858	13	
Mignot ('51)	9-22-11E		no report			2	"Bartlesville"	1,921	10	
Ott	7-22-13E	40	690		1		Simpson	2,236		
Polhamus ('22)	25- 9E	980	44,853		36	18	"Bartlesville"	2,180	34	38
Quincy* ('26)	11-25-13E	1,060	26,625		41	4	"Bartlesville"	1,500	20	
							Mississippian	1,720		
Reece ('25)	24-26- 9E	1,380	14,760		19	1	Kansas City	1,380	12	
							Mississippian	2,100		
Ritchey-Moore* ('25)	34-21-10E		no report	568			Mississippian	2,170		36
Sallyards*	25- 8E	2,860	219,479		174		"Bartlesville"	2,350	40	
Sauerwein ('63)	5-27-10E	40	1,856	1,856	1		Kansas City	1,372	1	29
Scott ('25)	24-23- 8E	980	30,247		35	2	"Bartlesville"	2,525	40	
Seeley-Wick ('22)	28-23-11E	8,040	705,461		421	31	"Cattleman"	1,631		
							"Bartlesville"	1,930	45	
Severy* ('22)	28-11E	300	8,382		15		Kansas City	1,200		
Severy North	27-11E	60	212		2		Kansas City	830		
Stanhope	15-26- 8E	200	16,861		14	1	Mississippian	2,450	11	
Teeter* ('20)	16-23- 9E	3,020	373,683		164	4	"Bartlesville"	2,400	10	
Teichgraber ('39)	25- 8E	440	53,778		40	1	"Bartlesville"	2,750	50	
Thrall-Aagard ('21)	14-24- 9E	5,400	540,822		348	4	"Bartlesville"	2,170	45	
Tonovay ('17)	25-11E	140	1,633		4		Mississippian	1,830	29	34
Toronto* ('13)	16-26-13E	160	793		6		"Peru"	1,000		
							"Bartlesville"	1,700		
Virgil ('16)	14-24- 2E	4,280	202,194		170	2	"Bartlesville"	1,550	40	38
							Mississippian	1,700	12	
Virgil North* ('20)	22-23-13E	6,240	201,810		296	1	"Bartlesville"	1,585	52	38
							Mississippian	1,840	12	
Wiggins ('25)	30-24-11E	1,220	45,492		29	17	"Bartlesville"	1,860	15	
Wilkerson ('26)	6-25- 9E	500	9,206		11		"Bartlesville"	2,200	48	
Willard ('27)	7-27-11E	160	8,877		12		Mississippian	1,900	10	
Winterschied*	23-14E	20	1,447		1		Mississippian	1,750		
Zebold ('57)	27-23- 9E	140	5,373	59,313	3		Mississippian	2,424	8	
Zimmerman ('53)	19-23-10E	60	3,007	22,783	4		"Bartlesville"	2,296		

Miscellaneous		80	7,701		1	1				
Total Greenwood County		53,420	3,282,199	244,691,243 recorded	2,493	118				
HAMILTON COUNTY										
Gould ('59)	30-25-41W	40	8,570	41,984	1		Morrowan	5,119	8	40
Helfrich ('55)	6-25-42W	40	2,254	45,184	1		Morrowan	5,040	10	39
Total Hamilton County		80	10,824	87,168	2					
HARPER COUNTY										
Alfalfa ('61)	12-34- 6W	80	2,839	9,726	2		Kansas City	3,751	8	44
Banner ('54)	27-32- 7W	80	1,057	143,302	2	2	Viola-Simpson	4,833	6	43
Crystal Springs ('59)	18-32- 7W	40	462	1,165	2		Mississippian	4,420		
Freeport ('63)	5-33- 5W	80	9,893	9,893	2		Mississippian	4,364	26	44
Gerber ('57)	28-31- 5W	80	4,316	80,140	2		Lans.-K.C.	3,570	6	
							Simpson	4,642	2	45
Gish ('57)	17-31- 6W	640	43,611	694,657	17		Mississippian	4,349	7	
							Simpson	4,700	6	46
Goheen (revived)('58)	12-31- 7W	80	3,982	7,553	2		Mississippian	4,283	23	36
Grant ('57)	20-31- 7W	260	159,658	788,485	12	2	Simpson	4,696	13	46
Harper ('58)	11-32- 7W	80	757	28,861	2		"Elgin"	3,058	4	35
							Viola	4,711		
							Simpson	4,714		40
Hibbord ('57)	23-34- 9W	120	3,218	20,541	4		Mississippian	4,586	14	
Miller ('55)	11-33- 8W	40	no runs	19,210	1		"Misener"	4,895	5	45
Muir ('60)	4-32- 7W	80	8,675	31,780	2		Mississippian	4,367	2	38
							Simpson	4,734	1	43
Rex ('61)	1-32- 5W	80	28,458	65,283	2		Simpson	4,628	6	44
Runnymede ('53)	23-31- 6W	160	20,794	211,598	4		Simpson	4,648		47
Sharon* ('55)	13-32-10W	1,200	68,846	672,483	23	1	Mississippian	4,355	10	
Spivey-Grabs-Basil* ('49)	13-31- 9W	6,000	704,963	5,827,767**	150	3	Lans.-K.C.	3,727		
							Mississippian	4,400	14	29
							Viola	4,511	3	
Stohrville ('57)	36-33- 6W	280	15,332	142,707	7		Mississippian	4,461	7	36
Sullivan ('61)	31-32- 8W	40	no runs	7,664	1		Viola	4,670	6	38
Zuercher ('59)	9-32- 7W	220	62,513	270,890	6		Simpson	4,723	13	36
Pools or fields abandoned				46,426						
Total Harper County		9,640	1,139,374	9,080,131**	243	8				
HARVEY COUNTY										
Alta Mills ('58)	29-22- 2W	160	7,318	73,638	5	1	Simpson	3,677	5	
Annelly ('62)	2-24- 2E	160	25,872	44,582	4		"Burgess"	2,760	7	43
Appling ('63)	32-24- 2E	100	3,587	3,587	3	7	"Burgess"	2,895	10	
Braddock ('63)	9-22- 2E	Abandoned during 1963					"Hunton"	3,162	2	
Burrton* ('31)	1-23- 4W	Included with Reno County					Mississippian	3,266		
							"Hunton"	3,583		

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
			HARVEY COUNTY (cont.)							
Burrton East ('60)	28-23- 3W	40	589	3,409	1		Mississippian	3,288	51	
Burrton Northeast ('42)	3-23- 3W	80	6,938	34,155	2		"Chat"	3,224		
DuBois* ('57)	3-25- 2E	880	184,928	829,563	23	1	"Burgess"	2,830	8	
Gingrass ('57)	17-24- 2E	220	12,265	144,273	9		"Burgess"	2,831	2	
							"Hunton"	3,226	2	
Graber* ('34)	32-21- 1W	40	1,619	170,856	1		"Hunton"	3,274	24	
							"Misener"	3,323		41
Halstead ('29)	36-22- 2W	840	36,170	2,306,681	19	2	Lans.-K.C.	2,665	3	
							"Chat"	3,005	30	
Halstead West ('60)	10-23- 2W	480	12,424	425,054	3		"Hunton"	3,160	6	26
			2,707		1		Viola	3,292	20	29
			89,923		8		Simpson	3,299	10	
Harmac*	35-21- 3W		Included with McPherson County	106,482			"Hunton"	3,521	8	41
Hollow-Nikkel* ('31)	30-22- 3W	2,000	248,356	22,398,504**	60		"Chat"	3,195	13	40
							"Hunton"	3,507	14	
							Simpson	3,536		
Sperling ('35)	23-22- 2W	300	23,049	946,759	8		"Hunton"	3,279	16	
Sperling South ('57)	23-22- 2W		no report	341			Mississippian	2,954	13	
							Viola	3,386	6	
West Branch ('58)	23-23- 2E	160	6,521	42,614	4		"Burgess"	2,773	2	
Pools or fields abandoned				124,440						
Total Harvey County		5,460	662,266	27,654,938**	151	11				
			HASKELL COUNTY							
Eubank ('58)	28-28-34W	1,600	109,401	2,978,635	9	2	Lansing	4,112		34
			68,349		11		Marmaton	4,692	17	46
							Cherokee	4,843		36
			77,074		15		Morrowan	5,171	22	37
			336,949		25		Mississippian	5,439	6	37
Eubank North ('59)	4-28-34W	60	21,192	91,790	2		Morrowan	5,195	7	37
Hopkins* ('60)	34-30-33W	40	1,992	22,064	1		Mississippian	5,378	7	30
Koenig ('58)	12-29-34W	80	7,338	42,127	2		Morrowan	5,294	8	29
Koenig East ('61)	9-29-33W	40	4,822	25,758	1		Morrowan	5,272		28
Lemon ('62)	33-30-33W		no report	589		1	Lansing			37
Lemon Northwest ('61)	17-30-33W	900	288,975	491,206	21	1	Lans.-K.C.	4,084	2	
			38,613		3		Marmaton	4,885	2	
			5,117		2		Morrowan	5,245	79	
Pleasant Prairie* ('54)	4-27-34W	3,200	53,101	2,624,631**	26	1	Morrowan	4,959	9	
							Mississippian	5,041		34

Satanta ('57)	21-30-34W	80	5,543	108,952	2		Morrowan	5,370	10	38
Victory ('60)	32-30-33W	500	422,189	759,285	20		Lansing	4,126	10	
			13,036		1		Marmaton	4,750		
Total Haskell County		6,500	1,453,691	7,145,037**	141	5				
				HODGEMAN COUNTY						
Armstrong ('63)	15-22-23W	40	1,450	1,450	1		Mississippian	4,568	61	
Eakin ('62)	23-21-21W	40	2,504	3,419	1		Mississippian	4,281	8	
Eakin Northwest ('63)	16-21-21W	200	20,589	20,589	5		Mississippian	4,310	12	
Goebel ('59)	14-21-24W		no report	5,591			Mississippian	4,420	5	37
Goebel East ('63)	13-21-24W	160	11,246	11,246	4		Mississippian	4,428	9	
Hallet ('56)	15-22-25W	680	134,662	1,072,864	20		Mississippian	4,598	40	38
Hann ('63)	26-22-22W		Combined into Hanston-Oppy				Mississippian	4,388	8	33
Hanston-Oppy ('61)	22-22W	6,400	1,235,406	1,556,293	97	4	Marmaton	4,296	20	
							Mississippian	4,486	27	35
Jarnagin ('62)	11-23-23W	40	9,039	11,507	1		Mississippian	4,485	8	37
Jetmore ('50)	24-22-24W	200	42,559	174,507	5		Mississippian	4,580	12	37
Jetmore East ('59)	30-22-23W	120	37,293	150,008	5		Cherokee	4,534	3	
							Mississippian			
Kingry ('63)	3-23-21W	40	110	110	1		Cherokee	4,415	40	
							Mississippian	4,573	10	
Lappin ('62)	33-23-23W	40	5,372	10,211	1		Mississippian	4,665	20	38
Lippoldt ('63)	14-23-23W	300	46,674	46,674	6		Mississippian	4,488	17	
Mellecker ('63)	17-24-22W	100	27,495	27,495	4		Mississippian	4,683	25	
Nova ('59)	17-22-23W	80	8,332	65,295	2		Mississippian	4,622	20	32
Nova North ('60)	8-22-23W	80	10,079	67,038	2		Mississippian	4,625	7	37
Oppy South ('62)	36-22-23W	160	38,799	44,544	4		Mississippian	4,476	9	35
Purdyville ('51)	3-24-24W	160	33,785	926,212	4		Penn. congl.	4,651		36
							Mississippian	4,663	18	
Salmans ('63)	3-22-22W	40	7,363	7,363	1		Mississippian	4,453	1	
Saw Log Creek ('53)	36-23-22W	200	13,735	210,707	5		Marmaton	4,284	11	21
							Cherokee	4,356	8	
Saw Log Creek Southeast ('63)	9-24-21W	160	15,987	15,987	4		Mississippian	4,656	38	
Stairett ('62)	24-21-25W	300	21,151	23,557	7		Mississippian	4,497	7	38
Valley ('58)	7-21-24W	40	no runs	7,059	1		Mississippian	4,391	3	
Wieland ('56)	16-21-22W	120	7,944	42,447	3		Mississippian	4,380	16	38
Wieland North ('59)	9-21-22W	680	153,712	515,882	10		Cherokee	4,275		38
							Mississippian	4,346	10	38
Wieland West ('60)	18-21-22W	160	81,445	273,500	4		Mississippian	4,364	16	36
Pools or fields abandoned				545						
Total Hodgeman County		10,540	1,966,731	5,292,100	198	4				
				JACKSON COUNTY						
Leach ('63)	15- 7-13E	80	2,413	2,413	2		Viola	3,230	17	32

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
JEFFERSON COUNTY										
				875,360 recorded						
JOHNSON COUNTY										
Dallas ('38)	8-13-25E	60	262		4					
Gardner ('39)	14-22E	920	29,506		41		Marmaton			
Miscellaneous		20	140		1					
Total Johnson County		1,000	29,908		46					
KEARNY COUNTY										
Campbell ('62)	9-21-35W	Abandoned during 1963					Marmaton	4,408	15	
Lakin ('57)	34-25-36W	80	43,524	211,756	2		Mississippian	4,984	16	28
Patterson ('41)	23-22-38W	120	33,168	762,435	3		"Patterson"	4,748		34
Pleasant Prairie* ('54)	4-27-34W	80	14,959	123,367	2		Morrowan	4,959	9	
							Mississippian	5,041		
Total Kearny County		280	91,651	1,097,558	7					
KINGMAN COUNTY										
Alameda ('58)	23-28- 7W	1,500	68,835	1,091,775	5		Lansing	3,599	8	38
							Mississippian	3,988	4	
			498,952		33		Viola	4,356	5	43
							Simpson	4,353	5	44
Bartholomew* ('48)	30-27- 4W	Included with Sedgwick County		65,175			Mississippian	3,732	25	35
Beshore ('63)	30-28- 5W	40	5,002	5,002	1		Mississippian	3,876	12	
Bickel ('62)	15-28- 6W		no report	664		1	Mississippian	3,881		
Bolinger ('57)	29-28- 5W	240	40,442	263,581	7		Mississippian	3,897	2	40
Broadway ('50)	21-28- 5W	980	82,088	1,735,054	33	2	Mississippian	3,833	6	32
Broadway West ('54)	19-28- 5W	400	39,155	196,151	9	1	Mississippian	3,884	6	36
Casley ('52)	11-28- 5W	320	19,424	343,026	8		Mississippian	3,794	7	38
Cunningham* ('31)	7-28-11W	800	44,181	3,575,076	20		Lans.-K.C.	3,600	33	41
Dale ('59)	35-28- 6W		no report	365			Mississippian	3,928		
Dewey ('50)	9-28- 5W	340	19,034	579,224	6		Mississippian	3,801		37
Dresden ('51)	13-27-10W	40	3,348	1,057,819	1		Lans.-K.C.	3,806		37
							Mississippian	4,002	8	
							Viola	4,270	2	41
Goetz ('56)	29-29- 9W	440	4,529	579,727	11	7	Mississippian			
							Viola	4,408	6	

Hurn ('60)	28-27- 5W	40	992	9,563	1		Mississippian	3,777	12	
Klaver ('60)	9-29- 6W	80	6,876	19,826	2		Mississippian	4,074	7	37
Kostner ('60)	1-29- 6W	80	895	3,926	2		Mississippian	3,894	6	40
Lansdowne North ('51)	4-28- 5W	40	736	29,680	1		Mississippian	3,814	3	40
Lock ('59)	13-30- 7W	40	1,075	9,640	1		Mississippian	4,110	9	33
Orsemus ('53)	30-29- 5W	160	44,504	415,307	4		Viola	4,455	12	43
							Simpson	4,468		
Pat Creek ('46)	20-28- 9W	120	5,016	317,275	3		Mississippian	4,129	5	
							Viola	4,406	6	41
							Simpson	4,475	18	
Reida ('55)	18-30- 6W	80	5,108	34,840	2		Lans.-K.C.	3,254	5	42
							Simpson	4,502	4	43
Reida South ('57)	19-30- 6W	160	11,793	109,464	4		Mississippian	4,170	8	33
Reida West (revived) ('55)	23-30- 7W	Combined into Spivey-Grabs-Basil					Mississippian	4,143	3	37
Rosedale ('54)	32-29- 6W	480	39,478	546,343	13		Lans.-K.C.	3,691	5	43
Rosedale East ('63)	34-29- 6W	80	4,967	4,967	2		Lans.-K.C.	3,274	4	
Rosedale Northeast ('60)	28-29- 6W	180	20,264	123,162	3		Lans.-K.C.	3,555	5	
							Mississippian	4,149		40
			16,000		1		"Misener"	4,495	3	
Settle ('56)	18-29- 7W	80	620	3,501	2		Mississippian	4,110		
							Viola	4,509	3	47
Smoots Creek ('59)	1-27- 8W	40	4,310	37,711	1		Kansas City	3,350	3	40
Spivey-Grabs-Basil* ('49)	13-31- 9W	16,000	2,943,142	20,068,574**	447	6	Lans.-K.C.	3,727		
							Mississippian	4,400	14	29
							Viola	4,511	3	
Willowdale ('54)	11-29- 9W	480	27,060	1,163,498	9	1	Viola	4,502	4	41
Pools or fields abandoned				63,639						
Total Kingman County		23,240	3,957,826	32,453,555**	632	18				
			KIOWA COUNTY							
Alford ('44)	14-30-19W	40	2,547	27,772	1		Mississippian	5,040		
Belvidere ('62)	17-30-16W	40	9,034	11,741	1		Viola	4,880	6	38
Conklin Estate ('63)	11-29-17W	40	873	873	1		Mississippian	4,700	10	
Eaton ('61)	35-27-17W	40	2,252	8,146	1		"Kinderhook"	4,712	7	32
Fralick ('60)	14-27-20W	80	18,621	64,209	2		Mississippian	4,790	5	32
Fralick South ('62)	35-27-20W	40	6,756	8,967	1		Mississippian	4,862	14	36
Fralick West ('61)	16-27-20W		no report	none			Mississippian	4,831	10	37
Fruit ('60)	28-27-16W	160	17,446	29,350	4		Cherokee	4,649	7	37
							Mississippian	4,652	6	33
Glick* ('57)	31-30-16W	11,300	23,984	61,642	26		Mississippian	4,880		
Greensburg ('56)	35-27-18W		no report	4,985			"Kinderhook"	4,742		
Haviland ('55)	17-28-16W	160	2,875	41,604	3		"Kinderhook"	4,761	9	36
Johannsen ('54)	24-28-19W	40	372	30,564	1		Lans.-K.C.	4,284	4	
Mullinville ('55)	11-28-20W		no report	32,040			Mississippian	4,890	8	38
Nichols ('55)	20-29-18W	2,200	333,671	4,691,516	79		Mississippian	4,997		
Pyle ('55)	16-29-16W	40	3,285	83,975	1		Mississippian	4,666	14	38
Pyle Southwest ('62)	19-29-16W	80	35,140	46,304	2		Mississippian	4,706	2	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
			KIOWA COUNTY (cont.)							
Quaker ('61)	10-27-19W	80	12,193	34,383	1		Lans.-K.C.	4,204	7	38
			565		1		Mississippian	4,800	2	36
Soldier Creek ('55)	24-29-16W		no report	42,954			Cherokee	4,596	4	
							Mississippian	4,598	10	42
Trousdale South ('56)	4-27-16W	40	no runs	10,107	1		"Kinderhook"	4,525	33	
Ursula Northeast ('63)	1-29-18W	40	305	305	1		Mississippian	4,874	25	
Wellsford ('55)	15-28-16W	80	5,586	97,968	2		Marmaton	4,680		
							Cherokee	4,723	10	36
Pools or fields abandoned				55,727						
Total Kiowa County		14,500	475,505	5,385,132	129					
			LABETTE COUNTY							
Altamont	33-19E		no report				"Bartlesville"	540		
Chetopa	36-34-20E	80	2,031		3		Arbuckle	850		23
Coffeyville-Cherryvale*	32-17E	2,420	58,719		79	1	"Wayside"	400		
							Fort Scott	600		
							"Bartlesville"	1,000		
Dartnell	31-17E	120	735		4		"Bartlesville"			
Edna ('25)	34-18E	200	927		5		"Bartlesville"	580		
							Arbuckle	1,191		24
Lake Creek	1-35-19E	40	1,548		2		Arbuckle			
Mound Valley	32-18E	340	9,712		27	1	"U. Bartlesville"	630		
							"L. Bartlesville"	700		
							Mississippian	900		
Mound Valley South		20	125		1					
Price ('17)	33-18E	720	11,412		39		"Bartlesville"	600	30	
"Tackett"		20	52		1					
Miscellaneous		20	161		4					
Total Labette County		3,980	85,422	1,440,381 recorded	165	2				
			LANE COUNTY							
Broughton ('62)	10-16-27W	40	2,803	6,006	1		Lans.-K.C.	4,062	1	38
Demand ('62)	25-16-28W	200	20,926	27,086	5		Lans.-K.C.	3,999	3	
							Fort Scott	4,512	6	
Pendennis ('61)	28-16-27W	120	15,677	47,443	3		Lans.-K.C.	3,969	4	39
Pendennis South ('62)	33-16-27W	60	10,162	20,168	1		Lans.-K.C.	3,975	11	40
Selfridge ('62)	9-17-27W	40	27,718	32,795	1		Cherokee	4,498	11	

Pools or fields abandoned				10,974						
Total Lane County		460	77,286	144,472	11					
LEAVENWORTH COUNTY										
Linwood (revived) ('44)	15-12-21E	600	9,317		24		"Squirrel"	672	8	28
Total Leavenworth County		600	9,317	107,817 recorded	24					
LINN COUNTY										
Beagle*	19-22E		no report							
Centerville* ('20)	10-21-22E	760	13,550		124		"Squirrel"	480		
							"Bartlesville"	720		
Goodrich-Parker ('22)	25-20-21E	1,440	21,196		142		"Squirrel"	600	20	
							"Bartlesville"	700		
LaCygne-Cadmus	20-24E	660	16,694		100	3	Bandera	150	20	
							Labette	200		
Miscellaneous		60	381		4					
Total Linn County		2,920	51,821	1,482,570 recorded	370	3				
LOGAN COUNTY										
Monument ('59)	18-11-33W	40	no runs	7,255	1		Lansing	4,154	4	
LYON COUNTY										
Atyeo-Pixlee* ('23)	7-22-10E	900	14,953		11	8	"Bartlesville"	2,200	32	
Bradfield ('21)	24-21-10E	540	46,440		25		Viola	2,500		
Fankhouser* ('26)	4-22-12E	500	14,540		25		"Bartlesville"	1,850		41
Ly-Green* ('54)	5-22-11E		no report	27,432			"Bartlesville"	1,858		
Ritchey-Moore* ('25)	34-21-10E	20	1,216		1		Mississippian	2,170		36
Rock Creek ('47)	32-21-11E	220	15,824		7		"Bartlesville"	1,900	12	38
Total Lyon County		2,180	92,973	8,694,236 recorded	69	8				
McPHERSON COUNTY										
Battle Hill ('45)	24-18- 1W		no report	52,854			"Chat"	2,825	10	36
Battle Hill North ('48)	13-18- 1W	40	3,884	139,219	1		Mississippian	2,811	17	36
Burch ('59)	32-17- 1W	40	13,719	59,655	1		Mississippian	2,655	10	
Canton North ('36)	26-18- 1W	580	23,625	885,015	13	2	"Chat"	2,803	29	34
Chindberg ('29)	18-19- 2W	1,280	53,882	2,046,663	31		Lans.-K.C.	2,363	19	37
							"Chat"	3,007	30	35
Coons ('40)	13-19- 1W	80	2,831	28,576	2		"Chat"			
Crowther ('42)	26-17- 1W	1,180	57,640	3,808,544	29		"Chat"	2,778		34
Elyria ('58)	22-20- 3W	480	14,288	188,562	10	3	Mississippian	3,068		
Fanska South* ('60)	18-17- 1W		no report	none		2	Mississippian	2,819	80	36

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
McPHERSON COUNTY (cont.)										
Georob ('47)	31-17- 1W	1,680	135,020	3,854,400	52	1	"Chat"	2,665	3	34
Goessel ('58)	12-21- 1W	600	54,817	279,937	23	1	"Hunton"	3,407	3	33
Gottland ('59)	3-18- 3W		no report	463			Simpson	3,634	10	29
Graber* ('34)	32-21- 1W	3,820	194,148	14,848,452	96	5	"Hunton"	3,274	24	40
							"Misener"	3,323		41
Graber East ('61)	15-21- 1W		no report	none			"Hunton"	3,403	6	38
Graber North ('51)	4-21- 1W	40	217	6,350	1		Mississippian	2,955		
Groveland ('53)	10-20- 4W		no report	17,473			Viola	3,728	8	38
Groveland Northeast ('58)	2-20- 4W	80	6,540	56,930	3	1	"Misener"	3,715	6	
Groveland South ('53)	14-20- 4W	400	18,547	719,477**	17	5	Viola	3,719	6	
Gypsum Creek* ('44)	4-17- 1W	380	10,271	550,209**	9		"Chat"	2,619	14	36
Harmac* ('55)	35-21- 3W	600	26,226	661,847	15	2	"Hunton"	3,521	4	40
Henne ('40)	21-17- 1W	680	33,346	1,792,990	17	1	"Chat"	2,658	5	36
Hollow-Nikkel* ('31)	30-22- 3W		Included with Harvey County				"Chat"	3,195	13	40
Jenday ('44)	1-19- 2W	800	24,823	1,131,909	20	1	Tarkio	1,438	9	
							"Chat"	2,984	15	37
Johnson ('32)	35-19- 3W	1,200	72,993	3,860,394**	22		"Chat"	3,032	14	36
Johnson South ('50)	11-20- 3W		no report	27,845			Mississippian	3,043		36
							Simpson	3,514	6	
Larson North ('60)	27-18- 2W	40	no runs	3,328	2		Mississippian	2,919	12	35
Lindsborg* ('38)	8-17- 3W	5,000	218,088	9,851,892	90	3	Viola	3,352	21	35
							Simpson	3,360	10	
Lindsborg South ('55)	6-18- 3W	200	14,011	150,840	5		Simpson	3,523	4	
McMurtry ('60)	13-18- 4W	80	5,061	26,866	2		Maquoketa	3,476	6	35
McPherson ('26)	29-18- 2W	1,840	95,108	2,492,513	65	1	Lans.-K.C.	2,340	10	38
							"Chat"	2,967	11	
							Viola	3,140	6	
Maxwell ('48)	17-18- 1W	80	no runs	60,834	4		Mississippian	2,846	11	36
Paden ('43)	10-18- 1W	1,800	222,222	5,762,626	86	1	"Chat"	2,752	18	42
							Viola	3,153		
Ritz-Canton ('29)	1-20- 2W	17,000	1,049,075	57,405,700	429	6	Lans.-K.C.	2,324		41
							"Chat"	2,935	31	35
							Maquoketa	3,395	3	
							Viola	3,412	4	34
Round Hill ('56)	28-18- 1W	140	7,027	121,384	4	1	Cherokee	2,832	9	38
							Mississippian	2,853	10	
Roxbury ('38)	18-17- 1W	840	42,216	3,619,049	21	1	"Chat"	2,684	5	35
							Simpson	3,278		
Roxbury South ('42)	30-17- 1W	380	21,058	590,040	6		"Chat"	2,658	7	35
Voshell ('29)	9-21- 3W	3,000	137,419	30,560,105	58	1	"Chat"	3,095	15	41
							Viola	3,301	3	

Welch-Bornholdt* ('24)	35-20- 6W	3,200	105,610	14,805,613	97	5	"Chat"	3,370		34
Pools or fields abandoned				279,377						
Total McPherson County		47,560	2,663,712	160,747,931**	1,231	43				
			MARION COUNTY							
Covert-Sellers ('20)	28-21- 4E	1,040	35,120		29		Kansas City	1,674	4	38
							Viola	2,400		
Doyle Creek ('56)	6-22- 3E		no report				"Hunton"	2,891	8	
Durham ('53)	34-18- 2E	260	9,696	261,140	6		Viola	2,899	2	
Edmonds* ('53)	31-22- 4E	560	23,266	670,808	23		Mississippian	2,471	3	
Elbing* ('18)	18-23- 4E	160	5,922		6		Kansas City	2,120		
							Mississippian	2,400		35
							Viola	2,530		
Elbing North ('47)	27-22- 4E	540	18,207	161,478	11	2	"Chat"	2,439		
Fairplay ('57)	25-21- 4E	240	38,919	491,085	10	1	"Hunton"	2,458		
							Viola	2,429	2	
Fanska ('43)	6-17- 1E	60	2,731		3		"Chat"	2,680		
Fanska South* ('60)	18-17- 1E	100	8,637	42,106	3	1	Mississippian	2,819	80	36
Florence ('20)	18-21- 5E	70	5,884		2	1	Viola	2,300		32
French Creek ('55)	22-19- 2E		no report	10,194			Simpson	3,020		
Hillsboro ('28)	7-19- 3E	80	3,190		5		Mississippian	2,470		33
							Viola	2,820		
Lalouette ('57)	10-21- 5E	40	2,193	30,630	1		"Hunton"	2,231	6	
Lehigh ('46)	27-19- 1E	120	1,808	136,387	1		Mississippian	2,800		
Lehigh North ('53)	23-19- 1E		no report	9,668			Viola	3,225	4	30
Lost Springs* ('26)	22-17- 4E	34,420	1,201,886		703	72	Mississippian	2,365		
							Viola	2,757	20	
Nonken ('59)	28-22- 4E	20	2,841	4,705	1		Mississippian	2,439	13	31
Peabody ('20)	9-22- 4E	1,240	90,024		33	2	Viola	2,500		
Ratzlaff ('56)	7-19- 2E		no report	52,840			Viola	3,135	5	
Shank South ('59)	13-22- 3E	20	3,740	21,794	1		Mississippian	2,510	6	39
Unger ('55)	8-21- 3E	3,000	357,506	5,729,214	99	1	"Hunton"	2,809		
Wenger ('47)	11-21- 3E	240	1,405	993,845	3		"Hunton"	2,770		37
Youk ('54)	20-18- 2E	80	3,976	61,338	2		Viola	3,017	3	21
Miscellaneous		80	504		2	1				
Total Marion County		42,370	1,817,455	54,580,135 recorded	944	79				
			MEADE COUNTY							
Adams Ranch ('48)	8-35-30W	5,000	26,989	290,456	17	1	Marmaton	5,346	40	40
			14,314		8		Morrowan	5,708		
							Chesteran	5,930	2	39
Angell ('56)	30-32-29W	160	805	7,862	4		Morrowan	5,608	56	
Bond ('54)	32-33-30W	80	no runs	12,464	3		Atokan	5,619	12	38
							Mississippian	5,860	26	
Borchers North ('59)	5-33-28W	500	19,462	79,666	13		Morrowan	5,521	56	
Borchers Northwest ('59)	1-33-29W	120	4,102	32,515	3		Morrowan	5,607	8	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl: during 1963	Oil production, bbl: to end of 1963	Producing wells	Wells abd., 1963	Producing zone: Name	Producing zone: Depth ft	Producing zone: Thickness, ft	Producing zone: Aver. grav.
MEADE COUNTY (cont.)										
Bruno ('53)	20-33-30W	40	6,718	115,470	1	1	Morrowan	5,656	18	37
Bruno Northeast ('53)	16-33-30W	40	4,540	82,432	1		Morrowan	5,721	10	39
Cimarron Bend ('59)	12-35-29W	120	6,827	58,880	4		Morrowan	5,810	17	
Fincham ('56)	14-35-27W	80	1,798	12,493	2		Mississippian	6,275		
Hockett ('57)	8-31-29W	160	925	8,935	5		Morrowan	5,390	4	23
							Mississippian			29
Horace ('56)	9-34-29W		no report	1,163		1	Morrowan	5,815		
Kismet* ('48)	23-33-31W	80	472	8,301	2		Marmaton	5,095		
McKinney* ('50)	2-34-26W	1,800	27,954	336,055	64		Morrowan	5,690		
							Mississippian	5,762	66	65
Mohler ('57)	35-33-29W	140	15,573	135,931	7		Marmaton	5,259	8	42
							Morrowan	5,769	15	
Mohler Northeast ('58)	36-33-29W	320	2,124	35,630	10	1	Morrowan	5,690	8	
Novinger ('51)	26-33-30W	2,200	323,403	3,919,470	34		Marmaton	5,270	20	41
							Morrowan	5,765	21	
							Mississippian	5,803		
Novinger East ('57)	36-33-30W	120	21,921	40,612	3		Morrowan	5,780	86	
Novinger Northwest ('55)	15-33-30W	80	7,683	117,750	2		Lans.-K.C.	4,553	5	37
Plains ('56)	17-32-30W	40	364	3,408	1		Morrowan	5,611	33	
							Mississippian	5,692	15	
Sanders ('56)	13-32-29W	40	no runs	689	2		Mississippian	5,550		
Singley ('55)	20-33-29W	700	66,506	755,213	27		Morrowan	5,803	16	40
							Mississippian	5,889	5	
Stevens ('52)	32-32-30W	1,400	159,686	2,388,159	34		Morrowan	5,560		38
							Mississippian	5,713		
Pools or fields abandoned				3,958						
Total Meade County		13,220	712,166	8,447,512	248	4				
MIAMI COUNTY										
Beagle*	19-22E	20	780		2					
Black	19-24E	120	956		4					
Block	18-24E	280	820		12		"Squirrel"	500	16	
Louisburg ('27)	17-25E	960	60,173		93		"Knobtown"	270		
							"Peru"	430		
							"Squirrel"	600		
Paola-Rantoul* (1860)	17-23E	10,380	175,707		964	42	"Knobtown"	300	25	
							Hepler	400	15	
							"Peru"	500	35	
							"Squirrel"	600		
							"Bartlesville"	700		

Miscellaneous		160	2,095		17	1					
Total Miami County		11,920	240,531	19,452,794 recorded	1,092	43					
MONTGOMERY COUNTY											
Brewster	32-16E	660	12,589		24		"Bartlesville" Arbuckle	900			
Caney	35-14E	1,000	11,683		42	1	"Bartlesville"	1,320	21		
Coffeyville-Cherryvale* ('02)	33-17E	7,780	87,576		290	11	"Wayside"	400			
							Fort Scott	600			
							"Bartlesville"	1,000			
							Arbuckle	1,300			
Coleman ('21)	28-32-14E	100	527		4		Arbuckle	1,700			
Elk City*	31-13E		no report				Marmaton				
Jefferson-Sycamore ('03)	18-33-15E	4,980	115,127		234	6	"Weiser"	800	15		
							"Bartlesville"	1,200			
Neodesha*	31-16E	1,540	13,901		68	1	"Bartlesville"	950			
Sorghum Hollow	32-14E	2,520	31,798		127	1	"Weiser"	800			
Tyro ('04)	13-35-14E	1,800	19,045		61		"Bartlesville"	1,250			
Wayside-Havana* ('04)	34-14E	10,800	122,520		725	60	Marmaton				
							"Bartlesville"				
Total Montgomery County		31,180	414,766	48,046,414 recorded	1,575	80					
MORRIS COUNTY											
Burdick ('49)	15-17- 5E	40	1,181	41,789	4		Mississippian	2,220	45		
Comiskey Northeast ('56)	24-16- 9E	160	11,246	171,540	6		Viola	2,929	3		
John Creek ('53)	26-15- 9E	1,940	388,447	2,876,328	54	1	Viola	3,090	6		
Three Mile Creek ('50)	25-16- 5E	60	1,384	106,450	2		Mississippian	2,208	50	36	
Three Mile Creek South ('50)	35-16- 5E	60	1,338	174,693	8	8	Mississippian	2,183	24	35	
Total Morris County		2,260	403,596	3,372,209 recorded	74	9					
MORTON COUNTY											
Berryman ('62)	15-33-41W	600	187,075	223,370	12	2	Chase Group	2,222			
							"Purdy"	5,001			
Boehm ('51)	14-33-42W	220	28,439	176,347	9		Morrowan				
Cimarron Valley ('63)	8-33-40W	40	2,065	2,065	1		Morrowan	5,084	4		
Elkhart ('55)	11-35-43W	80	5,516	6,359	3		Morrowan	4,469	4	38	
Elkhart West ('57)	17-35-43W	300	24,652	53,541	6		Morrowan				
Interstate ('54)	29-34-43W	3,200	954,413	6,483,804	81		"Red Cave"	1,184			
							Morrowan	4,210		38	
Kinsler ('59)	33-31-40W	40	31,237	60,470	1		Desmoinesian	4,336			
							Morrowan	5,176			
							St. Louis	5,464			
Kinsler Southeast ('60)	12-32-40W	120	1,810	3,403	3		Morrowan	5,504			

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
MORTON COUNTY (cont.)										
Richfield ('48)	17-32-40W	600	36,690	202,400	16		Atokan	4,990		
Richfield West ('61)	2-32-42W	40	866	990	1		Morrowan	4,624		
Rolla ('63)	22-34-40W	40	4,388	4,388	1		Mississippian	6,037	3	
Shrauner ('60)	18-35-42W		Combined into Elkhart				Morrowan	4,312	4	38
Sparks* ('54)	34-30-42W	120	3,347	39,568**	6		Morrowan	5,245		
Taloga ('55)	34-34-42W	2,500	345,447	1,820,431	46		Morrowan	4,428		42
Taloga Northeast ('57)	19-34-41W	120	6,342	131,601	3		Cherokee	4,397	11	
							Morrowan	4,674	10	38
Wilburton ('59)	32-34-41W	100	19,823	1,062,664	4		Shawnee			
			471,912		21		Morrowan	4,808		
Total Morton County		8,160	2,124,022	10,271,401**	214					
NEMAHA COUNTY										
Strahm ('48)	27- 2-14E	60	5,872	238,295	1		"Hunton"	2,879	2	
							Viola	3,559		
Total Nemaha County		60	5,872	307,152 recorded	1					
NEOSHO COUNTY										
Erie ('03)	28-20E	5,840	93,629		290	1	"Bartlesville"	650	25	
Humboldt-Chanute*	27-18E	17,170	179,379		1,085	43	"Bartlesville"	700	23	
Morehead ('38)	30-30-18E	900	30,812		45		"Bartlesville"	850		
St. Paul-Walnut*	29-21E	2,520	66,180		194		"Bartlesville"	550		
Thayer	29-17E	140	6,689		5		"Bartlesville"			
Trent	28-21E	2,040	74,082		123	2	"Bartlesville"	530		
Urbana	28-18E	600	14,267		35	3	"Bartlesville"	750		
Miscellaneous		30	4,137		5	1				
Total Neosho County		29,240	469,175	27,848,799 recorded	1,782	50				
NESS COUNTY										
Aldrich ('29)	7-18-25W	4,500	131,158	4,896,627	49	5	Warsaw	4,428	2	34
Aldrich Northeast ('54)	23-17-25W	800	147,649	1,316,059	19		Marmaton	4,325	4	
							Penn. congl.	4,334	10	
							Mississippian	4,398	7	34
Aldrich Northwest ('63)	36-17-26W	40	1,196	1,196	1		Mississippian	4,400	10	38
Arnold ('43)	22-16-25W	300	26,119	595,340	6		Fort Scott	4,436	21	36
							Warsaw	4,528		

Arnold North ('61)	10-16-25W	100	2,540	16,392	3		Cherokee	4,498	8	
							Mississippian	4,502	6	38
Arnold Southwest ('61)	29-16-25W	880	44,912	464,253	5		Marmaton	4,380	4	43
			234,534		17		Mississippian	4,463	8	38
Bazine ('63)	33-18-21W	40	981	981	1		Mississippian	4,203	9	
Brecklein ('62)	30-17-25W		Abandoned during 1963				Mississippian	4,428	5	
Buda ('63)	35-20-26W	40	13,385	13,385	1		Mississippian	4,400	9	
Cruce ('56)	4-19-26W	40	1,883	38,769	1	1	Mississippian	4,556	5	38
Davenport ('55)	36-16-21W	300	26,155	516,109	7		Cherokee	4,045	2	41
Delos ('62)	5-18-26W	160	27,396	28,306	3		Marmaton	4,245	3	40
Dickman ('62)	17-17-24W	240	75,754	98,074	6		Mississippian	4,424	7	37
Dumler ('62)	11-17-26W	200	28,901	46,056	5		Mississippian	4,485	5	
Dumler West ('63)	9-17-26W	40	1,376	1,376	1		Marmaton	4,271	10	
Elmore* ('58)	12-18-21W	80	2,093	38,428	2		Cherokee	4,116	12	42
Franklin ('59)	25-19-24W	40	2,218	15,757	1		Fort Scott	4,269	12	40
Guzzlers Gulch ('59)	24-20-25W	140	23,502	146,653	4	1	Mississippian	4,410	10	39
Guzzlers Gulch North ('63)	12-20-25W	40	9,243	9,243	1		Mississippian	4,424	27	
Hair ('60)	4-20-24W	80	13,555	44,743	3		Fort Scott	4,301	5	42
							Mississippian	4,374	1	35
Hair Northwest ('63)	32-19-24W	40	1,656	1,656	1		Mississippian	4,390	8	
Happy Hollow ('62)	29-17-22W	40	11,942	12,203	1		Penn. congl.	4,243	14	41
Kansada (revived) ('44)	14-17-26W	40	1,773	9,354	1		Mississippian	4,496	4	38
Kleweno ('63)	13-17-22W	40	4,768	4,768	1		Mississippian	4,283	48	
Laird ('63)	36-18-25W	80	6,201	6,201	2		Cherokee	4,272	18	
							Mississippian	4,376	7	
L.T.P. ('62)	21-18-24W	300	25,561	28,405	4		Cherokee	4,318	6	
			2,512		2		Mississippian			
McDonald ('63)	4-19-24W	80	12,935	12,935	2		Cherokee	4,335	10	
McDonald Northeast ('63)	34-18-24W	40	2,480	2,480	1		Mississippian	4,326		
McNair ('63)	32-20-24W	40	713	713	1		Fort Scott	4,305	1	
Margheim ('58)	17-19-21W	300	35,393	52,149	5		Mississippian	4,339	8	40
Ness City ('62)	36-18-24W	160	17,889	22,918	3		Mississippian	4,258	9	35
Ness City North ('63)	24-18-24W		no report	none			Mississippian	4,266	7	
Nirvana ('62)	14-18-24W	40	1,827	3,377	1		Mississippian	4,338	4	36
Oppliger ('63)	17-17-23W	80	5,610	5,610	2		Mississippian	4,445		
Pabst ('58)	24-18-21W	180	8,285	132,290	6		Cherokee	4,054	5	42
Petersilie ('57)	14-20-24W	280	39,757	281,752	9	1	Mississippian	4,386		38
Ransom ('63)	27-16-24W	80	5,453	5,453	2		Fort Scott	4,408		
Ryersee ('56)	35-18-21W	80	3,670	94,794	3		Cherokee	4,100	22	41
							Mississippian	4,209	6	
Ryersee Southwest ('57) (revived)	10-19-21W	40	4,108	7,887	1		Cherokee	4,180	1	36
Schaben ('63)	30-19-21W	200	9,680	9,680	4		Mississippian	4,401	44	
Schaben South ('63)	7-20-21W	40	766	766	1		Mississippian	4,360	11	
Schoharie ('56)	22-19-23W	40	626	11,433	1		Marmaton	4,272	58	39
Stutz ('63)	18-17-25W	40	6,401	6,401	1		Mississippian	4,442	7	38
Sunshine ('63)	12-19-25W	80	4,901	16,468	1		Cherokee	4,262	9	
			11,567		1		Mississippian	4,363	6	
Vermillion ('55)	6-17-24W	40	1,794	29,309	1		Marmaton	4,385	11	36
Wunder ('63)	18-18-21W	80	13,498	13,498	2		Mississippian	4,228	8	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
NESS COUNTY (cont.)										
Pools or fields abandoned				58,105						
Total Ness County		10,520	1,056,316	9,118,352	196	8				
NORTON COUNTY										
Densmore ('57)	12- 5-22W	120	10,036	76,202	3	1	Lansing	3,314	8	
							Reagan	3,543	5	24
Hen ('62)	4- 3-23W	80	5,982	7,654	2		Reagan	3,528	6	24
Norton ('53)	36- 3-24W	2,140	424,540	6,533,421	116	1	Arbuckle	3,778	12	31
							Reagan			
Ray* ('40)	35- 5-20W	520	94,071	1,050,037	15		Lans.-K.C.	3,297		
							Arbuckle	3,575		
							Reagan	3,540	13	32
Ray West ('45)	26- 5-21W	1,200	154,251	1,363,393	39		Arbuckle	3,650	9	31
Spiess ('58)	35- 5-25W	40	1,668	17,418	1		Lansing	3,645	3	35
West Union ('62)	21- 5-21W	40	1,590	5,904	1	1	Reagan	3,678	3	17
Pools or fields abandoned				32,505						
Total Norton County		4,120	692,138	9,086,534	177	3				
OSBORNE COUNTY										
Ruggles ('52)	23-10-15W	640	44,805	848,640	13		Shawnee	2,986		30
							Lans.-K.C.	3,024		
							Penn. congl.	3,394	16	
Ruggles South ('57)	27-10-15W	40	1,583	19,163	1		Lans.-K.C.	3,038	4	28
Worley ('59)	33-10-15W		no report	1,643			Penn. congl.	3,408	5	36
Total Osborne County		680	46,388	869,446	14					
PAWNEE COUNTY										
Ash Creek* ('47)	31-20-15W	420	84,967	458,268	13		Arbuckle	3,790	20	
Ash Creek Southwest ('47)	11-21-16W		Combined into Ash Creek				Arbuckle	3,776	7	39
Benson ('45)	30-23-15W	1,600	82,018	1,385,591	22		Wabaunsee	3,011	14	
							Lans.-K.C.	3,853	68	27
Bow ('58)	31-22-15W	40	5,028	57,685	1		Lansing	3,625	7	
							Arbuckle	3,966	2	
Browns Grove ('57)	17-20-20W		no report	45,837			Mississippian	4,325	3	
Carpenter ('55)	25-23-17W	40	1,818	37,290	1		Marmaton	4,123		
							Penn.-Miss.	4,158	10	
							"Kinderhook"	4,270	6	

Dunes ('53)	22-22-15W	540	23,375	595,917	8		Arbuckle	3,956	24	36
Eddy ('63)	13-22-18W		no report	none			Penn. congl.	4,110		39
Evers ('51)	1-22-16W	320	7,295	410,029	4		Lans.-K.C.	3,525	6	34
							Penn. congl.	3,814		
							Simpson	3,861	4	
							Arbuckle	3,908	11	
Garfield ('47)	17-23-17W	7,000	253,305	7,861,511	197	7	Penn.-Miss.	4,279		36
							"Kinderhook"	4,276	5	37
Jay ('54)	3-23-15W	320	14,591	345,397	8	1	Lans.-K.C.	3,668		
							Simpson	4,025	14	37
Jay South ('56)	9-23-15W	40	3,210	46,906	1		Simpson	4,101	6	40
Jessie ('58)	36-21-15W	40	2,026	20,663	1		Lans.-K.C.	3,601	7	31
Larned ('49)	28-21-16W	1,700	285,103	5,074,481	43	3	Arbuckle	3,877	5	38
Lovett ('54)	35-22-15W	80	2,850	66,379	2		Lans.-K.C.	3,682	8	37
Oro ('53)	9-20-19W	520	47,980	1,052,444	12		Penn. congl.	4,204	5	39
Oro Northwest ('63)	5-20-19W	40	8,772	8,772	1		Penn. congl.	4,173	1	
Oro Southeast ('61)	23-20-19W	280	90,942	213,681	8		Cherokee	4,179	5	40
Pawnee Rock* ('36)	13-20-16W	1,800	53,811	4,887,918	31	6	Arbuckle	3,832	16	39
Rutherford ('46)	8-20-16W	300	7,410	383,839	4		Arbuckle	3,815	9	42
Ryan* ('45)	35-19-16W	80	4,478	592,353	2		Arbuckle	3,656	5	32
Ryan Southeast ('45)	12-20-16W		no report	342,644			Arbuckle	3,688	3	37
Shady ('48)	35-22-16W		no report	6,038			Arbuckle	4,067		50
Shady Southwest ('53)	3-23-16W		no report	80,167			Lans.-K.C.	3,705	5	
							Arbuckle	4,094	6	
Shiley ('54)	14-20-20W	200	17,627	249,599	5	1	Penn. congl.	4,173	7	38
Shiley East ('54)	18-20-19W	120	16,085	313,972	4		Cherokee	4,223	2	37
Steffen ('63)	29-20-20W	40	8,549	8,549	1		Mississippian	4,292	10	
Steffen South ('63)	8-21-20W		no report	none			Mississippian	4,227	2	
Sweeney ('53)	8-21-15W	80	1,007	66,574	2		Arbuckle	3,831		
Sweeney Southwest ('55) (revived)	36-21-16W	40	1,433	8,266	1		Penn. congl.		4	
Sweeney West ('57)	14-21-16W	100	8,391	67,324	4		Simpson	3,781	13	
							Arbuckle	3,833	3	
Zook ('42)	16-23-16W		no report	7,016			Arbuckle	4,066		
Pools or fields abandoned				101,691						
Total Pawnee County		15,740	1,032,071	24,796,801	376	18				
			PHILLIPS COUNTY							
Beckman ('51)	3- 4-19W	80	7,687	33,261	2		Lans.-K.C.	3,201	4	
Bow Creek ('39)	25- 5-18W		no report	85,736			Lans.-K.C.	3,111	53	40
Dayton ('41)	36- 2-19W	1,640	67,717	1,510,676	25		Lans.-K.C.	3,430	8	36
Fredericksburg ('52)	4- 1-18W	600	22,943	130,102	7	5	Lans.-K.C.	3,457	3	
Glenwood ('51)	21- 1-17W		no report	31,705			Lans.-K.C.	3,597	21	37
Hansen ('43)	14- 5-20W	1,300	135,710	3,915,458	38		Lans.-K.C.	3,363		40
							Arbuckle	3,530	6	
Hansen West ('52)	15- 5-20W	40	1,964	49,584	1		Arbuckle	3,543	11	
Huffstutter ('49)	6- 2-18W	6,400	581,666	6,306,545	168		Lans.-K.C.	3,444	36	35
Huffstutter Southwest ('51)	23- 2-19W	200	13,241	243,521	5		Lans.-K.C.	3,458	4	36

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
PHILLIPS COUNTY (cont.)										
Kent (revived) ('51)	22- 1-18W	Combined into Huffstutter					Lans.-K.C.	3,372	139	
Logan ('45)	3- 5-20W	520	43,437	748,150	14		Lans.-K.C.	3,149	20	37
							Arbuckle	3,381		
Mont-Sol ('54)	1- 4-19W	200	16,321	200,319	6		Lans.-K.C.	3,255	10	37
Mont-Sol South ('61)	18- 4-18W	80	5,347	10,879	2		Lansing	3,132	17	
Ray* ('40)	32- 5-20W	4,400	1,165,017	27,928,144	150		Lans.-K.C.	3,297		30
							Arbuckle	3,575		
							Reagan	3,540	13	32
Slinker ('51)	25- 4-20W	520	70,922	547,714	13		Lans.-K.C.	3,215	8	36
Stony Point ('59)	18- 5-20W		no report	5,045			Lansing	3,265	9	33
Stuttgart ('50)	14- 3-19W	400	14,341	502,517	10		Lans.-K.C.	3,146	3	37
Stuttgart South ('51)	23- 3-19W	80	3,306	46,708	2		Lans.-K.C.	3,291	3	
Van Dyke ('59)	1- 2-19W		no report	3,006			Lansing	3,428	3	36
Pools or fields abandoned				9,104						
Total Phillips County		16,460	2,149,619	42,308,174	443	5				
PRATT COUNTY										
Blowout ('52)	8-27-14W	40	1,232	21,732	1		Lans.-K.C.	3,929	7	34
Brachear ('62)	30-28-13W	40	11,196	18,406	1		Simpson	4,451	6	36
Brehm ('61)	23-28-13W	360	96,249	172,644	9		Lans.-K.C.	3,848		
							Simpson	4,390	8	
							Arbuckle	4,422	11	35
Cairo North ('54)	6-28-11W	40	2,311	71,351	1		Viola	4,314	4	38
Carver-Robbins ('55)	21-27-15W	1,200	13,133	70,268	17	1	Lans.-K.C.	3,980	4	34
			4,810		2		Penn. congl.	4,472		38
			1,447		1		Mississippian	4,393	5	
							Viola	4,534	4	
Chance ('46)	4-27-13W	1,100	64,005	4,005,950	52	3	Marmaton	4,137		34
							Mississippian	4,254		34
							Viola	4,250	10	
							Simpson	4,380		
							Arbuckle	4,432	25	
Chance Northwest ('54)	29-26-13W	80	964	92,058	2		Simpson	4,422	8	35
Chitwood ('43)	23-28-12W	2,000	102,512	11,609,613	67		Lans.-K.C.			40
							Viola			
							Simpson	4,396	14	38
							Arbuckle			
Clara* ('48)	36-29-14W	140	2,080	221,305	4		Simpson	4,472	4	40
Coats ('44)	24-29-14W	120	1,271	460,875	3		Simpson	4,402	12	
							Arbuckle			

Coats North ('54)	12-29-14W		no report	108,314			Marmaton	4,342	10	28
							Simpson	4,584	16	
Coats West ('55)	23-29-14W	120	20,438	37,131	3		Simpson		3	
Cullison ('56)	25-28-15W	80	2,535	13,812	2	1	Cherokee	4,521	13	43
							Mississippian	4,543	13	39
Cunningham* ('31)	7-28-11W	3,400	80,596	5,465,494	67	10	Lans.-K.C.	3,390	7	41
							Viola	4,330		
Eads* ('59)	33-29-14W	120	8,213	79,991	3	2	Viola	4,501	10	35
Earl ('54)	36-28-14W		no report	111,859			Lans.-K.C.	4,223		
							Simpson	4,520	14	
Earl North ('55)	36-28-14W	40	9,648	77,886	1		Simpson	4,493	17	38
Fitzsimmons ('53)	30-27-13W	120	6,322	167,301	3		Lans.-K.C.	4,056	3	36
Fitzsimmons South ('54)	31-27-13W	320	6,307	269,963	8		Lans.-K.C.	4,124	18	38
							Simpson	4,435	10	38
Frisbie ('43)	5-26-13W	400	21,138	636,327	8		Lans.-K.C.	3,947	8	33
Frisbie Northeast ('48)	4-26-13W	400	10,901	456,891	10		Lans.-K.C.	3,788	19	27
							Viola	4,170	17	
							Simpson	4,274		
Gereke North ('61)	1-26-15W	160	2,042	23,032	3		Lans.-K.C.	3,798		
							Mississippian	4,251	4	
			9,637		1		Simpson	4,390	11	38
Gereke Northwest ('62)	1-26-15W	80	12,985	26,786	2		Viola	4,350	14	28
Gereke West ('63)	11-26-15W	40	2,150	2,150	1		Lans.-K.C.	4,109	28	42
Haskins ('56)	5-27-14W	40	3,187	47,288	1		Lans.-K.C.	4,118	8	31
							Viola	4,418	8	
Hopewell ('58)	17-26-15W	40	1,440	4,245	1		Lans.-K.C.	3,887		
Howell ('63)	31-29-14W	40	1,954	1,954	1		Cherokee	4,543	25	
Iuka-Carmi ('37)	11-27-13W	8,000	605,689	23,980,590	241	1	Lans.-K.C.	4,104	31	37
							Marmaton	4,012		
							Mississippian	4,112	12	
							Viola	4,195		
							Simpson	4,292		
							Arbuckle	4,354		
Iuka-Carmi Northwest ('53)	26-26-13W	160	7,678	205,052	5		Viola	4,217	16	37
							Simpson	4,276	21	38
							Arbuckle	4,358	18	37
Jem ('57)	28-29-13W	160	19,223	61,999	3		Viola	4,466	14	35
			2,675		1		Simpson			
Lion Northeast ('54)	21-27-11W	40	2,609	72,135	1	1	Lans.-K.C.	3,796	3	38
Ludwick ('44)	4-29-13W		no report	39,310			Simpson	4,490	27	39
Ludwick Northeast ('60)	28-28-13W	40	2,219	14,132	1		Simpson	4,418	5	36
Moore ('49)	1-26-14W	200	14,510	409,604	6		Lans.-K.C.	3,906		
							Viola	4,234		37
							Simpson	4,348		
Moore Southwest ('53)	11-26-14W	540	20,470	301,832	7		Lans.-K.C.	3,846		38
							"Kinderhook"	4,246	6	36
							Simpson	4,364	2	
Moore West ('59)	4-26-14W	80	20,578	72,438	2		Lansing	3,810	2	32
Park ('59)	14-27-11W	120	10,795	57,080	3		Lansing	3,620	4	34

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
PRATT COUNTY (cont.)										
Randle ('55)	5-26-14W	80	8,184	100,273	2		Lans.-K.C.	3,946	8	35
Rell ('57)	10-29-14W	40	775	10,747	1		Marmaton	4,439	5	
Rollingson ('58)	30-27-12W	400	2,701	491,548	1		Lans.-K.C.	3,757	8	
			90,787		11		Simpson	4,306	6	38
Sawyer ('57)	26-29-13W	540	78,284	392,140	13		Lans.-K.C.	4,096	4	
							Simpson	4,607	4	
							Arbuckle	4,678	5	
Sawyer North ('60)	24-29-13W		no report	7,392			Lans.-K.C.	3,926	13	
School Teacher ('57)	27-28-11W	40	no runs	7,092	1	1	Viola	4,331	16	40
Shriver ('44)	33-29-14W	360	8,274	866,310**	6	1	Simpson	4,557	7	39
Slade South ('62)	35-25-12W	40	689	1,024	1		Lans.-K.C.			
							Viola			
Tatlock ('54)	28-26-15W	40	775	86,669	2		Lans.-K.C.	3,925	4	39
Tatlock Southwest ('58)	30-26-15W	80	155	1,935	3		Penn. congl. "Kinderhook"	4,376		
Pools or fields abandoned				1,014,672						
Total Pratt County		21,480	1,397,591	52,468,600**	588	21				
RAWLINS COUNTY										
Arbor ('59)	17- 4-33W	40	3,541	22,982	1		Lansing	4,023	21	31
Beeson ('62)	18- 3-35W	40	4,431	6,451	1		Lans.-K.C.	4,209	6	35
Brumm ('56)	7- 2-36W	80	no runs	23,143	2		Topeka	4,168	31	
							Lans.-K.C.	4,312	17	
Cahoj ('59)	17- 1-34W	1,360	580,611	2,306,707	47	2	Lansing	4,030	9	32
Cahoj West ('62)	14- 1-35W	200	58,580	78,112	5		Lansing	4,071	6	30
Kompus ('59)	33- 1-32W	40	no runs	493	1		Lansing	3,890	3	30
Sappa Creek ('58)	24- 4-34W	80	13,004	72,607	2		Lans.-K.C.	4,030	8	33
							Marmaton	4,430	6	
Schmahl ('61)	9- 5-31W	20	3,376	15,408	1		Lans.-K.C.	3,966	6	36
Waterman ('58)	15- 4-33W	80	2,931	21,457	2		Lansing	3,913	14	
							Marmaton	4,280	8	
Wilhelm ('59)	20- 1-32W	540	95,002	359,290	13		Lansing	3,880	9	33
Wilhelm East ('60)	15- 1-32W	40	4,823	19,537	1		Lansing	3,896	3	34
Total Rawlins County		2,520	766,299	2,926,187	76	2				
RENO COUNTY										
Abbyville ('27)	24-24- 8W	440	13,870	1,146,514	9		Lans.-K.C.	3,540	9	38
Abbyville East ('61)	21-24- 7W	40	no runs	687	1		Lansing	3,125	4	38

Abbyville Southwest ('60)	26-24- 8W	40	120	2,316	1		Mississippian	3,758	4	36
Albion ('48)	14-26- 6W	120	1,646	75,879	3	1	Lans.-K.C.	3,342		31
							"Chat"	3,654		
Albion North ('50)	12-26- 6W	240	28,807	28,807	6		Mississippian	3,598	7	39
							Viola	3,997	5	
Bacon ('53)	36-23- 5W	80	11,214	89,145	2		Mississippian	3,382	28	38
Beck ('55)	24-23- 9W	120	3,235	105,195	3	1	Penn. congl.	3,711	4	34
Buhler ('38)	25-22- 5W	580	21,329	1,552,216	12		Viola	3,890	5	
							Simpson	3,897	42	
Burrton* ('31)	1-23- 4W	11,200	557,286	54,515,201**	329	1	Mississippian	3,266		33
							"Hunton"	3,583		42
Castleton ('55)	29-25- 6W	80	1,932	41,275	2		"Misener"	3,992	6	36
Castleton South ('62)	32-25- 6W	40	1,793	2,300	1		Kansas City	2,970	4	37
Friendship ('41)	19-25- 4W	140	3,447	25,797	1		Lans.-K.C.		3	
							Mississippian	3,541	6	
			8,265		1		"Hunton"	3,928	5	
			3,717		2		Viola	3,981		
Hilger ('34)	16-26- 4W	80	10,358	4,923,708	2	1	Viola	4,062	5	38
Hilger Southeast ('63)	21-26- 4W	40	1,158	1,158	1		Lans.-K.C.	2,841	1	
Hilger Southwest ('55)	29-26- 4W	240	26,168	380,823	8		"Misener"	3,955		
							Viola	4,012	4	40
Huntsville Townsite ('62)	8-23- 9W		no report	none			Mississippian	3,573	18	
Lerado ('37)	10-26- 9W	880	3,736	201,069	30		Mississippian	3,857		
Morton ('42)	17-24- 8W	40	1,548	60,992	1		Lans.-K.C.	3,180	12	38
Morton Southeast ('51)	16-24- 8W	40	1,520	23,746	1		Lans.-K.C.	3,423	12	38
Nicklaus ('52)	3-26- 4W	120	14,015	249,537	3		Lans.-K.C.	3,249	3	38
Prettyman ('57)	11-23- 9W	40	no runs	7,987	1		Lansing	3,244	6	
Rino* ('60)	33-21- 9W	140	9,678	72,198	1		Simpson	3,517	12	41
			18,594		2		Arbuckle	3,524	7	
Sterling* ('51)	4-22- 8W	280	14,604	274,013	7	1	Mississippian	3,385	12	34
Sterling Southwest ('61)	17-22- 8W	600	144,864	302,077	16		Penn. congl.	3,535	10	37
							Mississippian	3,545		
Stroud ('58)	34-23- 5W	40	1,819	23,633	1		Simpson	3,850	3	38
Stroud South ('59)	33-23- 5W		no report	6,583			"Hunton"	3,724	4	20
Wisby ('57)	18-22- 9W	620	23,502	367,958	21		Simpson	3,614	4	32
Wisby North ('57)	6-22- 9W	160	7,493	58,889	4	3	Simpson	3,610	10	40
Wisby Northwest ('63)	12-22-10W	40	1,044	1,044	1		Lans.-K.C.	3,088	8	
Wisby South ('59)	19-22- 9W	140	37,905	186,290	4		Simpson	3,630	13	43
Yoder ('35)	34-24- 5W		no report	93,285			"Chat"	3,450	51	35
Zenith-Peace Creek* ('41)	21-23-10W		Included with Stafford County			10	Viola	3,773		39
Pools or fields abandoned				2,664,842						
Total Reno County		16,620	974,667	67,485,164**	477	18				

RICE COUNTY

Alden Northwest ('62)	5-21- 9W	40	1,911	2,833	1		Kansas City	2,955	3	38
Bell ('53)	9-21-10W	120	7,440	213,138	3		Arbuckle	3,391	4	39
Bloomer* ('36)	36-17-11W	1,300	241,818	17,495,575	65		Lans.-K.C.	3,044	8	43
							Arbuckle	3,257	8	43

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone: Name	Depth ft	Thickness, ft	Aver. grav.
			RICE COUNTY (cont.)							
Bredfeldt ('48)	7-18- 9W	120	3,763	140,748	3		Arbuckle	3,226	8	31
Bredfledt Northwest ('56)	12-18-10W		no report	11,107			Arbuckle	3,250	5	43
Bredfledt West (revived)('39)	13-18-10W	160	11,423	71,614	3		Arbuckle		10	
Buffalo Bill ('63)	1-20- 9W	40	5,082	5,082	1		Lans.-K.C.	2,883	4	
Bull Creek ('60)	26-21- 8W	1,020	145,694	422,684	28	2	Mississippian	3,354	5	34
Calf Creek ('50)	28-18-10W	380	17,327	387,300	13		Lans.-K.C.	3,006	12	
							Penn. congl.	3,270	10	
							Precambrian	3,143	10	40
Calf Creek North ('52)	28-18-10W	40	2,848	26,201	1	1	Arbuckle	3,248	13	
CAR ('63)	28-20- 9W	40	1,169	1,169	1		Arbuckle	3,254		
Chase-Silica* ('31)	32-19- 9W	31,500	1,518,676	127,548,581**	715	30	Wabaunsee	2,285		
							Lans.-K.C.	2,942	10	40
							"Penn. sand"	3,355	8	
							Simpson	3,242		
							Arbuckle	3,252	10	48
Click Southeast ('47)	11-18- 7W	120	6,695	113,253	3		Lans.-K.C.	3,065	5	26
							Penn. congl.	3,154	4	
"Cow Creek" ('46)	28-18- 9W	40	5,204	32,605	1		Lans.-K.C.	2.950	5	
Crawford ('53)	12-18- 7W	240	9,818	319,958	6		Penn. congl.	3,194	7	40
Crawford Southeast ('54)	20-18- 6W	40	no runs	26,579	1		Penn. congl.	3,276	6	40
Dymond ('55)	18-21- 7W	160	26,078	54,178	4		Mississippian	3,402		
Faler ('61)	2-21- 9W		Combined into Tobias				Lansing	2,945		
							Simpson	3,327	15	42
Faler West ('62)	3-21- 9W		Combined into Tobias				Lansing	2,928	4	
Farmer ('52)	24-18-10W	400	13,474	522,392	10		Arbuckle	3,222	6	40
Farmer North ('57)	18-18- 9W	80	1,693	30,550	2		Arbuckle	3,326	6	32
Frederick ('51)	10-18- 9W	700	28,007	1,276,537	3		Penn. congl.	3,213	26	37
			99,416		17		Simpson	3,280	10	
Frederick East ('61)	12-18- 9W	80	434	6,668	2	1	Simpson	3,286	7	47
Galt ('52)	8-18- 7W	40	170	92,984	1		Arbuckle	3,193	4	
Geneseo-Edwards* ('34)	25-18- 8W	5,500	824,177	47,845,903	221	15	Lans.-K.C.	2,787		39
							Penn. congl.	3,222		
							Simpson	3,180	12	39
							Arbuckle	3,132		41
Glen Sharrald (revived) ('50)	20-18-10W	40	no runs	39,158	1		Arbuckle		12	
Heinz ('38)	8-18-10W	200	2,938	376,839	5		Lans.-K.C.	3,000		41
							Arbuckle	3,254	14	
Ixl ('50)	4-19-10W	980	74,904	722,229	24		Lans.-K.C.	3,068		44
							Arbuckle	3,308	22	
Kepley ('63)	5-19- 7W		no report	none			"Kinderhook"		24	

Le Clerc ('63)	12-19- 8W	80	2,883	2,883	2		Arbuckle	3,298		
Lyons West ('63)	32-19- 8W	2,000	207,515	207,515	49		"Kinderhook"		22	
Mary Ida* ('50)	31-18-10W	800	48,263	951,637	16		Lans.-K.C.	3,033	20	36
							Arbuckle	3,272	5	36
Mary Ida South ('57)	6-19-10W	420	125,997	626,294	20		Lansing	3,038	4	
							Arbuckle	3,342	5	40
McClintock ('62)	18-21- 8W	40	153	153	1		"Misener"	3,281	6	
Munyon ('50)	34-18-10W	80	3,888	131,942	3		"Sooy"	3,270		43
							Arbuckle	3,275		
Munyon South ('51)	3-19-10W	80	no runs	154,247	2		Arbuckle	3,300	13	43
Odessa ('49)	32-18- 6W	640	122,472	981,444	18	1	Lans.-K.C.	3,092	6	29
Odessa South ('49)	9-19- 6W	Included with Odessa		72,836			Lans.-K.C.	3,069	6	38
Orth ('32)	27-18-10W	1,180	53,386	3,673,111	28	2	Shawnee	2,684	15	40
							Lans.-K.C.	2,915	10	
							"Sooy"	3,187	21	
							Precambrian	3,240	27	40
Orth West ('44)	21-18-10W	540	20,239	856,968	17		Shawnee	2,688	37	41
							Arbuckle	3,235		
Ponce ('36)	28-21- 7W	160	6,908	160,435	4		"Sooy"	3,388	40	34
Ponce Southeast ('59)	27-21- 7W		no report	1,365			Mississippian	3,414	18	37
Prosper East ('50)	5-18- 9W	160	3,917	236,416	4		Arbuckle	3,222	16	46
Rellim ('57)	3-19- 6W	600	23,886	400,378	18		Penn.-Miss.	3,295	18	35
Rick* ('36)	1-19-11W	80	2,886	77,660	2		Lans.-K.C.	3,106		41
							Arbuckle	3,355		
Rickard ('35)	22-18- 9W	40	2,175	216,790	1		Arbuckle	3,324	7	
Ringwald ('49)	32-18-10W	560	70,033	1,095,475	12		Lans.-K.C.	2,947	5	37
							Precambrian	3,072		
Rino* ('60)	33-21- 9W	240	6,360	146,084	1		Simpson	3,517	12	41
			44,288		5		Arbuckle	3,524	7	
Roesler* ('43)	14-18-11W	160	10,842	355,386	4		Arbuckle	3,291	7	
Schoepflin ('62)	17-21- 9W	40	713	6,278	1	2	Simpson	3,383	10	43
Smyres North ('57)	23-19- 6W	40	no runs	1,219	1		Mississippian	3,360	8	38
Sterling* ('51)	4-22- 8W	120	744	59,495	3		Mississippian	3,385	12	
Tobias ('61)	25-20- 9W	2,400	9,431	773,048	4		Lans.-K.C.			
			1,294		1		Penn. congl.	3,284		
			216,331		31		Simpson			
			374,820		56		Arbuckle	3,218	10	43
Tobias Northwest ('62)	23-20- 9W	1,200	31,948	451,820	5		Simpson	3,310	36	44
			311,929		26		Arbuckle			
Union East ('50)	27-20- 8W	80	1,786	83,172	2		"Sooy"	3,305	9	36
Volkland ('43)	27-18- 9W	160	8,253	825,168	4		Arbuckle	3,221	30	38
Welch-Bornholdt* ('24)	35-20- 6W	9,000	499,748	19,731,001	304	22	"Chat"	3,370		34
Wherry ('33)	11-21- 7W	7,000	113,352	14,103,298	93	3	"Sooy"	3,358	22	31
Wisby Northeast ('58)	32-21- 9W	140	13,435	79,967	5		Simpson	3,553	6	
Pools or fields abandoned				395,183						
Total Rice County		71,420	5,390,034	244,571,697**	1,878	79				

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
RILEY COUNTY										
Ge-See* ('59)	27-11- 8E	20	371	4,601	1		Cherokee	1,749	12	
Yaege ('59)	25-11- 8E	600	18,998	942,499	2		Penn. congl	1,578	10	
			191,990		29		"Hunton"	1,682	8	33
Total Riley County		620	211,359	947,100	32					
ROOKS COUNTY										
Andreson ('62)	31-10-18W	80	15,076	22,446	2		Lans.-K.C.	3,254	47	
Arpin ('57)	5- 9-20W	40	1,480	16,138	1		Arbuckle	3,655	5	24
Arpin East ('58)	4- 9-20W	80	4,982	18,493	2		Arbuckle	3,751	21	29
Arpin South ('57)	8- 9-20W	60	5,118	47,868	2		Arbuckle	3,714	12	49
Barry ('42)	11- 9-19W	2,500	504,299	11,756,712	69	1	Shawnee		6	
							Lans.-K.C.		35	32
							Arbuckle	3,435	5	
Barry East ('47)	6- 9-18W	500	16,621	913,901	7	2	Lans.-K.C.	3,280	9	22
							Arbuckle	3,489	6	
Barry Southeast ('46)	13- 9-19W	640	63,657	2,455,968	22		Lans.-K.C.	3,228		26
							Arbuckle	3,479	7	
Baum ('42)	10-10-16W	40	1,602	36,129	1		Lans.-K.C.	3,057	15	30
Baumgarten ('50)	25- 9-19W	1,000	101,462	1,399,572	25		Toronto	3,325		
							Lans.-K.C.	3,401		24
							Arbuckle	3,621	7	
Bemis-Shutts* ('35)	16-11-17W	700	71,303	2,760,306	28	1	Lans.-K.C.	3,093	4	38
							Arbuckle	3,570	8	32
Berland Southeast ('53)	29-10-19W		no report	87,367			Arbuckle	3,755	5	26
Bray ('60)	20- 8-19W	40	3,425	13,784	1	1	Arbuckle	3,460	4	27
Brungardt* ('52)	35-10-17W	480	22,745	543,438	13		Lans.-K.C.	3,194	16	37
							Penn. congl.	3,449	7	31
							Arbuckle	3,644		
Brungardt Northwest ('53)	34-10-17W		no report	15,693			Penn. congl.	3,441	2	
							Arbuckle	3,477	7	30
Carmichael ('55)	33- 8-18W	120	3,883	132,705	4		Lans.-K.C.	3,210	8	37
Chesney ('59)	12- 8-17W	160	12,007	119,648	6		Lansing	3,066	195	34
Collins ('60)	34- 9-18W	40	2,010	9,787	1		Simpson	3,640	3	24
Cooper* ('43)	5-10-20W	1,360	83,256	2,601,494	35		Lans.-K.C.	3,619	6	
							Arbuckle	3,824	19	
Cresson ('56)	11- 9-20W	80	2,699	45,629	2		Arbuckle	3,618	8	
Dancer ('52)	4- 8-17W		no report	9,671			Lans.-K.C.	3,140	12	26
Dopita ('34)	31- 8-17W	4,000	293,739	4,432,544	87		Lans.-K.C.	3,212	5	33
							Arbuckle	3,409	10	

Dopita East ('52)	29- 8-17W	340	29,505	465,864	7		Lans.-K.C.	3,304	6	25
							Arbuckle	3,421		
Dorr ('42)	20- 9-16W	1,000	161,743	2,115,026	51		Toronto	3,178	10	35
							Lans.-K.C.	3,230	21	36
Eilers ('59)	22-10-18W	320	52,127	346,400	12		Lansing	3,322	56	30
							Simpson	3,647		
							Arbuckle	3,667		
Faubion ('36)	12- 6-18W	40	1,784	75,438	1		Lans.-K.C.	3,162	3	35
Fehnel ('52)	16-10-19W	80	4,716	92,712	2		Lans.-K.C.	3,480	14	36
Finnesy ('47)	14-10-18W	80	5,294	76,427	3		Lans.-K.C.	3,419		35
Finnesy South ('58)	24-10-18W	440	58,402	200,662	12		Lansing	3,447	48	33
Flagler ('55)	15-10-18W	40	3,796	47,476	1		Lans.-K.C.	3,445	6	
Ganoung ('53)	31- 9-17W	40	1,341	45,903	1		Lans.-K.C.	3,281		
							Penn. congl.	3,524	7	
Gick ('47)	30- 9-19W	260	15,912	434,766	7		Arbuckle	3,578	12	34
Gra-Rook ('48)	30- 9-20W	760	133,344	2,400,411	18		Penn. congl.	3,810		
							Arbuckle	3,869	4	
Gra-Rook North ('56)	18- 9-20W	160	7,581	92,092	4		Arbuckle	3,746	14	32
Gra-Rook Northeast ('59)	17- 9-20W	40	2,504	19,339	1		Arbuckle	3,767	5	30
Grover ('50)	22- 7-19W	440	20,789	284,886	11		Lans.-K.C.	3,272	40	32
							Arbuckle	3,408	13	
Hance ('62)	14- 8-19W	40	2,830	3,652	1		Arbuckle	3,441	4	28
Hayden ('49)	31- 8-19W	480	21,547	828,670	14		Lans.-K.C.	3,289		32
							Arbuckle	3,513	4	
Hrabe ('61)	36- 8-17W	320	22,567	46,007	9		Lans.-K.C.	3,089	239	35
Hrabe West ('61)	35- 8-17W	Combined into Westhusin					Lans.-K.C.	3,105	7	34
Jelinek ('47)	23- 9-19W	2,300	306,364	7,262,268	78	1	Lans.-K.C.	3,220	9	23
							Arbuckle	3,537	15	
Kern ('50)	28- 9-20W	200	13,861	531,426	6		Arbuckle	3,855	5	
Kern West ('58)	29- 9-20W	40	2,916	18,593	1		Arbuckle	3,859	7	28
Krueger* ('48)	35-10-16W	Included with Ellis County		624,975			Lans.-K.C.	3,552	59	36
							Arbuckle			
Kruse ('51)	3-10-16W	440	19,271	416,690	11		Lans.-K.C.	3,094	26	38
Kruse Northwest ('53)	34- 9-16W	120	3,653	68,001	3		Lans.-K.C.	3,200	6	
Laton ('27)	11- 9-16W	4,800	409,299	6,750,443	119		Lans.-K.C.	3,228	33	30
LeSage ('60)	18- 7-20W	160	15,138	78,119	4		Lans.-K.C.	3,308	44	37
Locust Grove ('49)	8- 7-19W	400	54,114	490,539	12	2	Shawnee	3,130	4	
							Lans.-K.C.	3,188	25	36
							Arbuckle	3,450	14	25
Lone Star ('48)	4- 8-17W	800	36,311	787,518	17	3	Lans.-K.C.	3,259		
							Arbuckle	3,382	17	25
Lone Star West ('63)	7- 8-17W	40	1,380	1,380	1		Lans.-K.C.	3,138	7	
Lynd ('51)	32- 9-19W	880	22,231	636,777	16		Arbuckle	3,750	7	27
Lynd Southwest ('52)	5-10-19W	40	1,243	30,501	1		Arbuckle	3,759	4	29
Lynd West ('60)	32- 9-19W	400	5,058	172,266	2		Lans.-K.C.	3,430	59	37
			62,490		6		Arbuckle	3,754	6	27
McClellan ('45)	9- 9-19W		no report	73,742			Lans.-K.C.	3,343	5	34
McHale ('48)	8- 9-18W	380	11,773	562,642	5		Lans.-K.C.	3,436		26
							Arbuckle	3,494	2	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl		Producing wells	Wells abd., 1963	Producing zone			
			during 1963	to end of 1963			Name	Depth ft	Thickness, ft	Aver. grav.
ROOKS COUNTY (cont.)										
McMullen ('52)	33- 8-17W	40	2,245	12,761	1		Lansing	3,166		
Marc ('48)	18- 9-19W		no report	22,339			Lans.-K.C.	3,370	8	37
Marcotte ('43)	15-10-20W	12,000	1,033,843	25,594,198	335	3	Lans.-K.C.	3,596	6	
							Arbuckle	3,752		27
Mayhew ('51)	24- 9-19W	400	25,182	267,722	9		Arbuckle	3,613		25
Medicine Creek ('52)	18- 8-16W	320	18,433	87,467	8		Shawnee			
							Lans.-K.C.	3,054	17	36
Minnie "O" ('62)	10- 9-17W	80	6,458	7,678	2		Arbuckle	3,445	10	22
Mt. Ayr ('52)	13-10-18W	80	9,179	57,622	2		Lans.-K.C.	3,554	12	
							Penn. congl.	3,648		
Mt. Pleasant ('63)	26- 8-19W	40	4,477	4,477	1		Lans.-K.C.	3,189	4	36
Natoma ('61)	14-10-16W	500	44,617	133,612	2		Lans.-K.C.	3,216	92	40
			32,014		6		Penn. congl.	3,239		
Nettie ('48)	34- 9-17W	740	68,907	1,659,927	35		Topeka	3,024	8	36
							Lans.-K.C.	3,243		36
							Simpson	3,499		
							Arbuckle	3,513	32	
Nettie Northwest ('62)	28- 9-17W	40	10,146	17,121	1		Lans.-K.C.	3,279	21	32
Nettie Southeast ('55)	2-10-17W	80	4,155	28,999	2		Lans.-K.C.	3,268	3	38
Newlin ('58)	29- 9-16W	40	1,798	29,207	1		Lansing	3,305	4	41
Northampton ('48)	26- 9-20W	1,200	267,022	6,057,799	52		Lans.-K.C.	3,596	4	27
							Arbuckle	3,803	11	
Nyra ('46)	16- 9-17W	520	33,871	451,517	16		Lans.-K.C.	3,429		34
							Arbuckle	3,501	2	24
O'Brien ('60)	14- 9-18W		no report	327			Arbuckle	3,499	5	
Ordway ('58)	20-10-18W	40	1,044	11,077	1		Lansing	3,604	2	31
Ordway East ('59)	21-10-18W	80	9,282	27,408	2		Toronto	3,328	5	32
							Lansing	3,354	27	
Palco Townsite ('45)	20- 9-20W		no report	47,826			Arbuckle	3,847	15	29
Paradise Creek ('47)	21- 9-18W	1,100	77,411	2,995,627	34		Lans.-K.C.	3,400		26
							Arbuckle	3,576	13	
Paradise Creek West ('53)	20- 9-18W	200	17,008	331,653	5		Arbuckle	3,594	13	23
Plainville ('48)	31- 9-17W	120	12,653	70,415	3		Lans.-K.C.	3,477	38	38
							Arbuckle	3,613	2	
Pywell ('58)	31- 9-18W	40	2,278	19,171	1	1	Penn. congl.	3,708	3	
Ray Southeast ('42)	9- 6-20W		no report	87,180			Reagan	3,600	6	38
Schindler ('59)	17- 8-17W		no report	8,847			Arbuckle	3,325	11	26
Simons ('60)	11- 7-17W	60	6,199	24,533	2		Lans.-K.C.	2,922	29	41
Slate ('51)	31- 6-19W	200	11,737	82,719	5		Lans.-K.C.	3,291		26
							Arbuckle	3,545	15	

Stockton ('37)	35- 7-17W	400	14,921	313,243	9		Shawnee	2,692		
							Lans.-K.C.	3,180	62	39
Trico* ('51)	30-10-20W	3,800	544,987	3,435,837	57	1	Lans.-K.C.	3,543		
							Arbuckle	3,749	18	30
Vohs ('45)	14-10-19W	1,000	94,696	3,195,996	30		Lans.-K.C.	3,365	7	29
Vohs Northeast ('62)	12-10-19W	40	9,289	17,911	1		Lans.-K.C.	3,408	111	
Vohs Northwest ('47)	9-10-19W		no report	145,332			Lans.-K.C.	3,446	8	34
							Arbuckle	3,738		
Vohs Southeast ('59)	24-10-19W		no report	1,703			Lansing	3,200		
Webster ('46)	27- 8-19W	1,800	63,627	3,362,723	36		Shawnee	3,180	12	
							Arbuckle	3,403	5	23
Westhusin ('36)	11- 9-17W	2,560	251,493	3,183,175	67	1	Shawnee		6	
							Lans.-K.C.	3,231	11	37
							Arbuckle	3,408		
Westhusin East ('63)	6- 9-16W	80	7,108	7,108	2		Lans.-K.C.	3,111	8	
Whisman ('50)	9- 9-20W	40	1,210	26,717	1		Lans.-K.C.	3,427		29
							Arbuckle	3,650	21	
Williams ('53)	9-10-18W	320	22,404	548,201	8		Toronto	3,386		19
							Lans.-K.C.	3,459		
							Simpson	3,717		
							Arbuckle	3,733	6	19
Williams North ('56)	32- 9-18W	200	30,556	165,648	4	4	Penn. congl.	3,713	3	
							Simpson	3,714	3	29
							Arbuckle	3,725	3	
Williams Northwest ('53)	6-10-18W	40	6,848	81,571	1	1	Lans.-K.C.	3,409	46	26
							Simpson	3,725	5	
Williams Southeast ('53)	16-10-18W	560	44,504	509,713	13	1	Lans.-K.C.	3,444	3	36
							Simpson	3,660		
							Arbuckle			
Windy Ridge ('58)	25-10-18W	40	4,198	13,927	1		Lans.-K.C.	3,426	19	
"Yohe" ('49)	4- 9-18W	40	1,977	67,464	1		Lans.-K.C.	3,266	24	37
Zurich ('35)	26-10-19W	420	12,487	561,016	9		Shawnee	3,087		37
							Lans.-K.C.	3,340	9	33
Zurich Southwest ('52)	34-10-19W	40	1,465	35,246	1		Lans.-K.C.	3,385	9	28
Zurich Townsite ('44)	27- 9-19W	400	34,120	780,597	10		Lans.-K.C.	3,462		
							Arbuckle	3,647	6	28
Pools or fields abandoned				155,583						
Total Rooks County		57,500	5,566,097	108,268,844	1,522	23				

RUSH COUNTY

Basgall ('60)	5-16-17W		no report	887			Arbuckle	3,520	10	29
Big Timber ('61)	5-16-18W	80	6,171	18,933	2		Lans.-K.C.	3,326	6	
							Marmaton	3,606		
Elmore* ('58)	12-18-21W	80	6,967	48,549	2		Cherokee	4,116	12	
Herr North ('58)	12-16-18W	80	2,964	28,328	2		Lans.-K.C.	3,267	2	36
							Arbuckle	3,527	2	
Kober ('59)	18-19-20W	80	22,936	71,152	2		Cherokee	4,323	14	37
Loretto Northeast ('57)	14-16-17W	80	1,413	27,435	2		Lans.-K.C.	3,452	7	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone: Name	Depth ft	Thickness, ft	Aver. grav.
RUSH COUNTY (cont.)										
McCracken ('57)	19-17-20W	40	9,265	37,707	1		Cherokee	4,090	3	
McCracken North ('62)	18-17-20W	40	6,105	12,189	1		Cherokee	4,056	8	41
Old Maids Fork ('60)	20-19-20W	80	22,596	53,415	2		Cherokee	4,300	4	41
Otis-Albert* ('34)	10-18-16W	2,800	74,555	6,649,322	56	2	Lans.-K.C.	3,236	4	34
							Reagan	3,527	9	34
Pechanec ('56)	2-19-17W		no report	6,495			Arbuckle	3,842	11	44
Reichel Gas Area ('53)	23-17-17W	40	2,387	10,982	1	1	Lans.-K.C.	3,330		
							Penn. congl.	3,563		
							Granite Wash	3,578		
Rush Center ('47)	16-18-18W	500	32,788	693,968	8	1	Arbuckle	3,836	15	37
Rush Center Northeast ('54)	10-18-18W		no report	59,057			Arbuckle	3,783	5	
Rush Center Southeast ('62)	25-18-18W	40	801	2,439	1		Arbuckle	3,734		
Ryan* ('45)	35-19-16W	40	1,548	2,133,594	1		Arbuckle	3,656	5	32
Schwindt ('61)	11-17-19W	120	23,919	57,743	3		Reagan	3,846	7	41
Shiley North ('61)	31-19-19W	200	75,639	136,068	5		Marmaton	4,176	25	
							Cherokee	4,200	19	
							Penn. congl.	4,190	21	37
Webs ('54)	16-19-20W	200	57,363	613,306	8		Penn. congl.	4,202	10	31
Webs Northwest ('55)	8-19-20W	40	1,254	46,699	1	1	Penn. congl.	4,240		
Webs Southwest ('56)	16-19-20W	120	8,871	192,604	3		Cherokee	4,302	2	35
							"Penn. sand"			
							Mississippian	4,400	4	
Pools or fields abandoned				111,089						
Total Rush County		4,660	357,542	11,011,961	101	5				
RUSSELL COUNTY										
Amerest ('63)	33-11-13W	40	2,587	2,587	1		Lans.-K.C.	3,044	2	
Beaver North* ('37)	4-16-12W	40	1,722	92,185	1		Arbuckle	3,316	10	39
Beisel ('44)	15-14-12W	40	21,449	82,241	1		Penn. congl.	3,249	4	
							Arbuckle	3,272	7	29
Boxberger ('35)	36-15-15W	40	750	254,373	1	1	Lans.-K.C.	3,147	4	41
Boxberger West ('57)	34-15-15W	240	46,843	170,709	6		Lans.-K.C.	3,195	5	40
Brundage ('57)	9-12-15W	1,000	117,442	694,692	27		Lans.-K.C.	2,852	4	39
							Arbuckle	3,136	4	
Brundage South ('58)	16-12-15W	120	21,735	115,391	5	1	Lansing	2,971	5	
							Arbuckle	3,240	6	30
Claussen ('44)	27-12-14W	200	4,626	138,858	5		Lans.-K.C.	2,855	31	39
"Claussen West" ('49)	29-12-14W	40	792	2,009	1		Lans.-K.C.			
Coal Creek ('51)	22-15-11W	80	2,476	28,432	2		Penn. congl.	3,178		38

Davidson* ('30)	4-16-11W	500	89,757	414,399	13		Lans.-K.C.	3,016		
							"Sooy"	3,317	9	
							Arbuckle	3,314		
Donovan ('35)	10-15-15W	120	2,596	285,273	3	3	Lans.-K.C.	3,193	7	39
Dreher ('59)	23-11-15W	80	6,640	23,628	2	2	Arbuckle	3,313	10	
Driscoll ('56)	30-15-11W	600	48,349	568,905	18	1	Lans.-K.C.	2,969	25	36
							Penn. congl.	3,303	2	37
Driscoll West ('60)	25-15-12W		no report	7,176		1	Arbuckle	3,306	10	36
Dubuque ('35)	34-15-12W	720	82,678	1,524,867	16		Lans.-K.C.	3,275	3	41
							Arbuckle	3,330	5	
Elsasser ('61)	23-12-15W	80	4,955	18,011	2		Lans.-K.C.	2,853	130	39
Elsasser Southwest ('61)	22-12-15W	60	9,930	17,866	2	1	Arbuckle	3,250	4	27
Eulert ('49)	35-11-15W	540	75,461	1,523,734	18		Topeka	2,712	4	
							Lans.-K.C.	3,009	81	
							Arbuckle	3,316	13	22
Eulert West ('54)	34-11-15W	40	4,557	52,275	1		Lans.-K.C.	2,984	6	42
Fairport* ('23)	8-12-15W	6,420	894,820	30,504,732	252	2	Lans.-K.C.	2,950	12	32
							"Sooy"	3,137	5	
							"Gorham"	3,211		
							Simpson	3,316		
							Arbuckle	3,312		
							Reagan	3,350		
Fay ('52)	2-12-15W	40	3,915	27,502	1		Lans.-K.C.	2,953	180	40
Gorham ('26)	32-13-15W	17,000	1,385,752	73,187,353	514	18	Shawnee	2,765		
							Lans.-K.C.	2,908	48	37
							"Gorham"	3,152	5	
							Arbuckle	3,289		32
							Reagan	3,299	5	
Hagerman ('59)	28-11-15W	40	8,520	42,003	1		Arbuckle	3,273	6	28
Haise ('63)	29-12-14W		no report	none			Lans.-K.C.	2,781	6	
Hall-Gurney* ('31)	30-14-13W	30,000	3,111,750	92,966,422	1,243	8	Tarkio	1,985	8	39
							Wabaunsee	2,400		
							Topeka	2,675		
							Oread	2,813		
							Lans.-K.C.	2,985	28	37
							"Gorham"	3,165		
							Arbuckle	3,192		
							Precambrian	3,156		
Heim ('53)	21-14-12W	480	55,495	414,920	12		Lans.-K.C.	2,897		37
							Penn. congl.	3,189	11	37
							Arbuckle	3,238		
Jerry ('42)	4-15-14W	40	2,527	85,064	1		Wabaunsee			38
							Lans.-K.C.	2,985		
							Arbuckle			
Kune ('56)	17-13-15W	160	13,835	122,487	6		Lans.-K.C.	3,004	15	28
Lang ('57)	30-15-12W	140	47,165	262,004	4		Arbuckle	3,334	16	
Machin ('58)	4-13-14W	40	1,838	19,035	1		Lansing	2,994	5	37
Meckel (revived) ('62)	27-12-15W		no report	none			Arbuckle	3,213	5	26
Meier ('48)	30-15-12W	80	4,345	257,492	2		Arbuckle	3,325	6	37

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone: Name	Depth ft	Thickness, ft	Aver. grav.
RUSSELL COUNTY (cont.)										
Mellard ('63)	18-12-14W	40	820	820	1		Lans.-K.C.	2,788		
Ney ('48)	31-15-12W	160	29,272	516,205	4		Lans.-K.C.	3,240		37
							Arbuckle	3,350	6	
Nuss* ('55)	5-16-14W	240	31,679	242,118	6		Lans.-K.C.	3,183		34
Parker ('48)	18-15-12W	360	26,146	522,022	9	1	Shawnee	2,957	7	
							Lans.-K.C.	3,086	16	
							Arbuckle	3,259		36
Reich ('58)	28-12-15W	Combined into Fairport					Toronto	2,939	4	
							Lans.-K.C.	3,018	3	37
							Arbuckle			
Reich South ('59)	32-12-15W	40	884	9,481	1		Lansing	3,031	6	42
Russell ('34)	22-13-14W	4,200	202,617	15,296,812	108	4	Lans.-K.C.	3,195	9	33
							Arbuckle	3,280	6	
Russell East ('49)	25-13-14W	120	8,727	79,972	3		Arbuckle	3,273	11	33
Russell North ('42)	15-13-14W	40	1,939	25,960	1		Lans.-K.C.		6	
S & S ('57)	36-12-15W	320	42,597	468,870	15		Lans.-K.C.			
							Arbuckle	3,139	9	32
Salt Creek ('61)	6-13-14W	80	7,007	26,050	2	1	Lans.-K.C.	2,954	185	38
Strecker ('43)	21-15-14W	120	14,674	79,989	3		Lans.-K.C.	3,031	14	
							Arbuckle	3,342	3	48
Strick ('63)	16-15-14W	40	5,441	5,441	1		Lans.-K.C.	3,035	4	
Trapp* ('36)	23-15-14W	20,000	2,022,350	117,931,679	734	18	Tarkio	2,359	8	39
							Shawnee	2,889	32	
							"Dodge"	2,966		
							Lans.-K.C.	3,062	12	40
							Arbuckle	3,252	3	39
Weilert ('63)	6-12-14W		no report	none			Lans.-K.C.	2,888	18	40
Pools or fields abandoned				277,464						
Total Russell County		84,780	8,469,460	339,389,508	3,050	62				
SALINE COUNTY										
Ash Grove West ('59)	12-15- 1W		no report	none			"Burgess"	2,618	8	
Bachofer ('51)	15-15- 2W	200	11,756	142,161	5		Mississippian	2,799	6	
Bachofer Southeast ('62)	14-15- 2W	40	1,106	1,871	1		Mississippian	2,760	5	33
Gillberg ('59)	28-14- 2W	300	17,052	72,165**	7		Maquoketa	3,223	8	33
Gypsum ('63)	27-15- 1W		no report	none			Mississippian	2,566	5	36
Gypsum Creek* ('44)	4-17- 1W	1,000	67,160	1,014,888	25		Lans.-K.C.	2,072	8	
							Mississippian	2,619	14	36
Hunter ('43)	20-16- 1W	940	33,807	1,528,103	24		Douglas	1,841		
							"Chat"	2,681	2	

Hunter North ('48)	8-16- 1W	320	19,548	399,910	8		Mississippian	2,674	21	36
Jackman ('60)	10-15- 1W		no report	2,370			Mississippian	2,547	4	
Lindsborg* ('38)	8-17- 3W	2,600	142,047	1,935,480	82		Viola	3,381	54	35
Mortimer ('58)	5-16- 1W	120	6,563	21,269	3		Mississippian	2,639	14	
Olsson ('29)	10-16- 3W	940	67,927	1,101,061	41	1	Viola	3,303	12	35
Pihl ('63)	26-15- 2W	120	12,685	12,685	3		Mississippian	2,740	4	
Pliny (revived) ('43)	9-16- 1W	80	3,617	15,026	2		Lans.-K.C.	1,990	8	
Salina ('43)	30-14- 2W	3,600	259,410	2,384,724	90	4	Viola	3,223	8	34
Shultz ('62)	16-15- 3W		no report	none			Viola	3,348	15	
Smolan ('50)	19-15- 3W	3,000	99,865	4,756,775	91	7	Maquoketa	3,420	6	36
							Viola	3,386	6	27
Swenson ('50)	34-15- 3W	180	2,578	76,023	6	1	Viola	3,353		35
Total Saline County		13,440	745,121	13,464,511**	388	13				
			SCOTT COUNTY							
Brookover ('63)	18-17-31W	40	6,607	6,607	1		Lans.-K.C.	3,929	20	
Keystone ('50)	25-18-32W	120	9,422	320,414	3		Lans.-K.C.	4,001	6	25
Newby ('60)	23-18-32W	80	3,850	54,940	1		Lans.-K.C.	3,923	2	
							Marmaton	4,335	2	23
			7,571		1		Mississippian	4,576	6	31
Rothfelder ('57)	7-20-33W	120	10,058	58,186	3		Morrowan	4,672	23	
Shallow Water ('35)	15-20-33W	680	15,455	2,002,143	6		Marmaton	4,286		25
							Mississippian	4,660		
							Ste. Genevieve	4,670	16	
Shallow Water Northeast ('59)	12-20-33W	40	357	14,345	1	1	Cherokee	4,432	5	
Pools or fields abandoned				33,234						
Total Scott County		1,080	53,320	2,489,869	16	1				
			SEDGWICK COUNTY							
Bartholomew* ('48)	30-27- 4W	1,800	79,072	3,139,817	30		Kansas City	3,270	10	35
			Includes Kingman County				Mississippian	3,732	25	
Bentley ('29)	24-25- 2W		no report	22,250			Kansas City	2,866	24	
Brumley ('55)	19-29- 1E	80	8,024	118,177	2		Lans.-K.C.	2,863	2	
							Mississippian	3,352	8	
							Simpson	3,754	1	
Butwick* ('49)	7-26- 3E		Abandoned during 1963				Mississippian	2,860	6	48
							"Hunton"	3,192	2	
Buzzi ('58)	32-25- 1E	320	61,601	227,541	8		"Hunton"	3,436	5	42
Cannonball ('63)	24-27- 2W	80	6,046	6,046	2		Mississippian	3,418	12	
Chambers ('48)	10-29- 2W	80	5,135	133,242	2		Kansas City	2,916	5	
							Mississippian	3,540	4	44
Chambers Northeast ('56)	2-29- 2W	200	10,999	159,921	5		Mississippian	3,570	5	
Clearwater ('44)	22-29- 2W	200	9,152	231,263	5		Lans.-K.C.	2,913	11	
Cross ('29)	27-25- 1W	40	5,386	134,592	1		Lans.-K.C.	2,690	40	36
							"Hunton"	3,574	5	
Curry ('47)	11-27- 1W	500	31,918	859,531	18		Lans.-K.C.	2,715		
							Viola	3,400		

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone: Name	Depth ft	Thickness, ft	Aver. grav.
SEDGWICK COUNTY (cont.)										
DuBois* ('57)	3-25- 2E	1,400	255,392	1,457,669	53	1	"Burgess"	3,830	8	
Eastborough ('29)	19-27- 2E	900	25,246	9,306,939	13		"Chat"	2,956		
							Viola	3,238		
Eastborough North ('52)	8-27- 2E	40	1,303	44,858	1		Arbuckle	3,376	25	
Erdwein ('62)	26-25- 2E	300	23,429	34,389	6		"Burgess"	2,820	9	
Fairview ('48)	8-26- 2E	200	44,335	487,136	5		Lans.-K.C.	2,500		44
							"Burgess"	2,960	2	
							Mississippian	2,991	4	
Fairview North ('48)	5-26- 2E	60	3,444	168,828	2		"Burgess"	2,971		
Fairview Northeast ('59)	4-26- 2E	700	52,858	196,098	20	2	"Burgess"	2,904	7	42
			19,971				Mississippian	2,860	3	
Furley ('58)	10-25- 2E	300	9,782	164,455	15		"Burgess"	2,857	13	40
Gehring-Rick ('52)	16-28- 2E	80	1,764	30,581	2		Mississippian	2,950		40
Gillian ('61)	33-29- 1W	300	73,438	118,315	10		Simpson	3,724	7	43
Gillian North ('63)	28-29- 1W	40	2,536	2,536	1		Simpson	3,744	16	45
Gladys ('54)	30-28- 1E	37,200	1,103,061	11,011,348	231	2	Lans.-K.C.	2,773	9	40
							Mississippian	3,176		44
Gladys South ('55)	5-29- 1E		no report	10,131			Mississippian	3,194	16	
Gladys Southeast ('55)	4-29- 1E	40	778	20,507	1	1	Mississippian	3,150	15	
Golden ('63)	34-25- 2E	40	300	300	1		"Burgess"	2,834		44
							Mississippian	2,881	5	44
Goodrich ('28)	16-25- 1E	900	62,762	5,529,470	29		Lans.-K.C.	2,614	2	
							"Chat"	3,010	16	
							"Kinderhook"	3,334		
							Arbuckle	3,339	3	
Greenwich ('29)	14-26- 2E	1,400	95,685	13,285,216	36	1	"Chat"	2,885	3	
							Viola	3,321	5	
Hohn ('45)	22-27- 1W	40	2,487	157,403	1		Lans.-K.C.	2,779	5	
Kechi ('29)	13-26- 1E		no report	34,321			"Burgess"	3,009	2	
Kuske ('29)	24-25- 1E	600	16,698	1,068,070	14	1	"Burgess"	3,016	1	41
Latta North ('56)	33-29- 2W	40	2,659	28,217	1		Lans.-K.C.	3,117	5	
Luening ('51)	33-26- 2E	40	2,012	32,036	1		Simpson	3,338	8	37
Minneha ('51)	11-27- 2E	40	no runs	80,866	1		Arbuckle	3,247	4	34
Minneha North ('60)	2-27- 2E	120	10,522	32,530	2		Simpson	3,258	25	
							Arbuckle	3,285	7	40
Neuman ('57)	11-25- 2E	200	9,007	98,402	7		"Burgess"	2,785	5	
							Mississippian	2,784	2	
O.S.A. ('62)	10-29- 1W	120	24,073	24,892	3		Simpson	3,734	17	
Petrie ('45)	36-26- 1W	40	9,398	194,479	1		Viola	3,387	1	
Petrie Northwest ('51)	25-26- 1W		no report	42,135			Viola	3,445	2	

Robbins ('29)	20-28- 1E	800	105,094	5,495,607	44		Mississippian	3,090	12	39
Schulte ('47)	7-28- 1W		no report	199,626			Mississippian	3,349		45
							Simpson	3,658		
Schulte South ('55)	18-28- 1W	40	2,312	32,161	1		Mississippian	3,390	11	
Sum-Wick ('62)	32-29- 1E		Abandoned during 1963				Kansas City	2,766	1	
Ulmer ('59)	28-25- 2E		no report	none			"Burgess"	2,908	10	
Ulmer South ('59)	33-25- 2E	240	27,688	159,813	7		"Burgess"	2,917	4	38
Valley Center ('28)	1-26- 1W	740	51,424	22,530,901	18		Lans.-K.C.	2,860		
							"Kinderhook"	3,280		
							Viola	3,366	2	
White Cotton ('48)	30-26- 2E	400	14,172	673,391	9	1	"Burgess"	2,957	2	
Wichita ('57)	4-27- 1E	1,000	182,623	1,862,373	39	2	Viola	3,325	4	
							Simpson			
Pools or fields abandoned				60,818						
Total Sedgwick County		51,660	2,453,586	79,709,197	648	11				

SEWARD COUNTY

Adamson ('58)	11-34-34W	120	1,079	5,543	3		Chesteran	6,064		
Ang ('61)	3-32-33W	80	2,838	27,464	2	1	Mississippian	5,650	2	35
Ang North ('62)	34-31-33W	80	22,629	42,664	2		Desmoinesian	4,924	2	38
Arkalon ('60)	36-33-32W	200	1,905	3,373	6		Chesteran	5,710		
Blue Bell Northwest ('54)	20-34-31W	40	no runs	124	1		Mississippian	5,947		
Evalyn ('60)	15-33-33W	900	68,806	198,995	12		Mississippian	5,822	10	37
Evalyn Southeast ('62)	22-33-33W		Combined into Evalyn				Morrowan	5,685	4	39
Hawks ('52)	18-35-31W		no report	2,467			Morrowan	5,927		
Holt ('54)	28-32-34W	40	180	1,146	1		Shawnee	4,180		
Hopkins* ('60)	34-30-33W		no report	none			Mississippian	5,378	7	30
Kismet ('48)	23-33-31W	1,440	148,691	2,616,865	7		Toronto			
			219,312		11		Lans.-K.C.	4,864		34
			2,061		1		Marmaton	5,095		38
			17,037		2		Morrowan	5,576	5	
			710,207		25		Mississippian	5,771		
Kneeland ('51)	23-34-31W	40	no runs	12,726	1		Marmaton	5,332	14	41
							Mississippian	5,691	6	
Liberal-Light ('51)	11-35-32W	1,800	2,482	245,095	14		Lans.-K.C.	5,103		40
							Morrowan	6,005		
Liberal Southeast ('47)	15-35-33W	200	2,518	112,600	5		Morrowan	6,202		
March ('63)	7-33-33W	40	5,971	5,971	1		Chesteran	6,054	17	
							St. Louis	6,228	12	36
Massoni ('55)	5-33-31W	160	481	9,453	5		Marmaton	5,031	10	38
Plains West ('56)	16-32-31W	40	429	2,139	1		Morrowan	5,600	14	
Shuck ('55)	20-33-34W	60	429	5,086	2		Morrowan	5,987		
							Mississippian	6,038	13	
Thirty-One ('53)	18-31-31W	40	no runs	3,895	1		Morrowan	5,448		
Thirty-Three ('60)	33-33-33W	40	3,664	52,228	1		Chesteran	5,898	13	40
Thirty-Two ('60)	1-32-32W	40	488	2,450	1		Morrowan	5,499		
Three Star ('58)	17-35-32W	120	491	7,223	3		Lans.-K.C.	4,546		
							Morrowan	5,866		
							Chesteran	6,089		

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
			SEWARD COUNTY (cont.)							
Wide Awake ('54)	4-35-34W	80	no runs	11,957	2		Toronto	4,356		
							Mississippian	6,168		
Total Seward County		5,560	1,211,698	3,369,464	110	1				
			SHERIDAN COUNTY							
Adell ('44)	11- 6-27W	1,900	274,817	5,681,724	49		Lans.-K.C.	3,755	4	42
Advance ('56)	26- 8-27W	40	4,518	73,562	1		Lans.-K.C.	3,883	9	41
Corke ('63)	24- 9-26W	40	396	396	1		Lans.-K.C.	3,925	3	
Custer ('55)	12-10-26W	120	9,269	95,097	3		Lans.-K.C.	4,024	5	39
Custer Northwest ('59)	2-10-26W	40	1,312	22,775	1	1	Lansing	3,849	3	42
George ('52)	17- 9-26W	120	5,999	115,800	3		Lans.-K.C.	4,023	11	31
George Southwest ('58)	18- 9-26W	80	5,181	34,590	2		Lansing	3,860	10	
Hortonville ('53)	20- 6-26W	80	5,371	94,423	2		Lans.-K.C.	3,789	23	29
Hoxie ('56)	6- 9-28W	140	31,164	244,284	4		Toronto	3,810	6	
			7,720		1		Lans.-K.C.	3,901	3	
Parnell ('59)	30- 7-29W	40	no runs	1,060	1		Lansing	3,972	6	28
Studley ('43)	23- 8-26W	300	16,100	646,924	6		Lans.-K.C.	3,810	9	47
Studley South ('59)	27- 8-26W		no report	2,087			Lansing	3,746	2	27
Studley Southeast ('55)	26- 8-26W	40	1,914	35,378	1		Lans.-K.C.	3,872	8	37
Studley Southwest ('45)	32- 8-26W		no report	120,491			Lans.-K.C.	3,758	26	37
Wessel ('53)	27- 6-29W		no report	115,562			Lans.-K.C.	3,985	4	38
Wessel North ('53)	16- 6-29W	100	4,604	67,556	2		Lans.-K.C.	4,081	4	
Pools or fields abandoned				954						
Total Sheridan County		3,040	368,365	7,352,663	77	1				
			SHERMAN COUNTY							
Llanos ('58)	10- 6-37W	160	44,016	464,133	8	1	Kansas City	4,439	12	36
							Marmaton	4,504	5	37
							Cherokee	4,804	8	22
			STAFFORD COUNTY							
Albano ('57)	12-25-14W	80	5,777	97,026	2	1	Lans.-K.C.	3,812	6	
							Mississippian			
							Viola	4,099	16	
							Arbuckle	4,270	10	
Bart-Staff* ('51)	4-21-14W	180	16,080	336,238	5		Lans.-K.C.			
							Arbuckle	3,572		40

							Lans.-K.C.	3,545	4	31
Bayer ('51)	16-21-14W	580	3,365	694,373	13		Viola	3,702	10	
			2,267				Simpson	3,736	13	
			57,914				Arbuckle	3,778		
Bedford ('40)	21-23-12W	360	12,327	1,869,630	9		Simpson	3,832	16	
							Arbuckle	3,859	9	36
Besthorn ('56)	9-22-13W		no report	none			Lansing	3,574	8	
Brenn ('54)	19-23-13W	600	19,818	391,383	9		Lans.-K.C.	3,651	6	33
Brock ('44)	12-23-12W		no report	437,146			Lans.-K.C.	3,366	14	
							Arbuckle	3,680	4	20
Centerview ('54)	28-24-13W	360	21,094	380,656	11		Lans.-K.C.	3,834	6	
							Arbuckle	4,188	5	
Cephas ('53)	10-25-14W	360	38,567	461,868	10		Lans.-K.C.	3,701	5	
							Viola	4,114	8	38
Cephas North ('54)	35-24-14W	120	485	40,027	3		Lans.-K.C.	3,794	9	35
Chase-Silica* ('31)	32-19- 9W	580	16,995	617,160	14	1	Arbuckle	3,383	10	40
Cleveland ('53)	21-23-14W		no report	41,013		2	Lans.-K.C.	3,690	7	
Cline ('58)	25-24-13W	40	4,544	44,236	1		Lans.-K.C.	3,594	3	
Cline South ('61)	36-24-13W		no report	none			"Kinderhook"	3,913	9	
Crissman ('52)	16-23-14W	380	18,561	358,078	10		Lans.-K.C.	3,664	8	34
							Simpson	3,984	16	
							Arbuckle	4,006	6	
Curtis ('42)	6-22-13W	700	42,704	1,651,423	21	2	Lans.-K.C.	3,514	7	30
							Arbuckle	3,693		
Dell ('50)	7-21-13W	80	2,407	129,296	2		Lans.-K.C.	3,446	13	30
Dell East ('51)	5-21-13W	360	35,059	734,006	15	2	Lans.-K.C.	3,471	8	36
							Penn. congl.	3,545	8	
							Arbuckle			
Dell Northeast ('51)	5-21-13W	80	2,794	42,651	2		Lans.-K.C.	3,438		36
							Arbuckle	3,612	3	
Dillwin ('56)	16-24-14W	700	6,179	1,085,011	20	1	Lans.-K.C.	3,668	18	
			55,924				Arbuckle	4,295	6	31
Drach ('37)	12-22-13W	1,300	170,328	7,600,526	39	1	Simpson	3,642	5	
							Arbuckle	3,690	12	35
Emerson ('57)	29-25-14W	80	2,163	32,138	2		Lans.-K.C.	3,905	10	32
Emerson South ('62)	32-25-14W	80	2,007	2,415	2		Lans.-K.C.	3,791	4	36
Farmington ('43)	34-24-15W	280	6,977	1,272,543	7	1	Lans.-K.C.	3,769		
							"Kinderhook"			39
							Simpson	4,378	6	
							Arbuckle	4,417	16	
Farmington North ('56)	23-24-15W		no report	none			Viola	4,227	12	21
Farmington Northeast ('55)	26-24-15W	260	15,782	163,729	6		Arbuckle	4,416	12	34
Farmington Northwest ('56)	29-24-15W	40	2,903	43,409	1		Lans.-K.C.	3,904	8	25
							"Kinderhook"	4,272	10	
Flora ('62)	36-21-11W	120	8,267	24,310	3		Lans.-K.C.	3,309		
			4,024				Penn. congl.	3,393	2	49
			1,559				Arbuckle	3,499	7	27

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl: during 1963	Oil production, bbl: to end of 1963	Producing wells	Wells abd., 1963	Producing zone: Name	Producing zone: Depth ft	Producing zone: Thickness, ft	Producing zone: Aver. grav.
STAFFORD COUNTY (cont.)										
Foley ('61)	18-25-14W	Combined into Moody					Lans.-K.C.	3,727	59	32
							Mississippian	4,162	4	33
							Viola	4,214	12	21
Frey ('50)	7-21-14W	340	24,007	1,023,562	9		Arbuckle	3,717	7	40
Gates ('33)	27-21-13W	6,000	471,726	13,590,990	154	4	Lans.-K.C.	3,530		38
							Penn. congl.	3,643		
							Viola	3,635		
							Arbuckle	3,679	37	39
German Valley ('51)	4-22-12W	120	1,813	87,785	3		Lans.-K.C.	3,294	41	
							Viola	3,541	2	38
			10,999				Arbuckle	3,635	2	40
Glasscock ('58)	32-24-13W	320	49,725	236,077	7		Lans.-K.C.	3,642	10	
			15,991				Arbuckle	4,233	3	
Glen ('54)	14-23-14W	80	13,826	103,452	2		Lans.-K.C.	3,651	6	
Gray ('46)	11-24-13W	80	2,038	68,428	2		Lans.-K.C.	3,672		30
Green Ridge ('53)	30-23-14W	280	41,403	76,264	7		Lans.-K.C.	3,788	22	31
Grow ('49)	16-21-13W	400	18,860	647,404	9	1	Lans.-K.C.	3,463	7	35
							Arbuckle	3,705		
Grunder ('58)	11-25-15W	440	37,867	264,027	12	1	Lans.-K.C.	3,945	15	
							Mississippian	4,173		
							Arbuckle	4,424	4	32
H A H ('58)	17-24-13W	40	248	23,995	1		Lans.-K.C.	3,658	8	
Hahn (revived) ('53)	21-22-13W	80	6,668	21,319	2		Lans.-K.C.		4	
Hahn East (revived) ('57)	22-22-13W	80	3,649	10,207	2		Arbuckle	3,828	5	24
Hammond ('57)	9-25-14W	160	5,961	110,243	4		Lans.-K.C.	3,924	15	36
Happy Valley ('52)	15-23-13W	80	6,951	67,714	2		Lans.-K.C.	3,430	60	
							Arbuckle	3,810	9	35
Harter ('50)	30-24-13W	120	1,010	152,664	1		Lans.-K.C.	3,767		39
			13,000		1		Simpson	4,167		
							Arbuckle	4,181		34
Harter North ('56)	19-24-13W	80	3,887	61,071	2		Lans.-K.C.	3,785	5	32
Haynes ('59)	22-25-15W	600	28,263	207,369	15	1	Lansing	3,784	3	
			21,748				Mississippian	4,232	9	35
Haynes East ('60)	23-25-15W	40	no runs	4,463	1		Mississippian	4,254	16	38
Haynes Southwest ('59)	27-25-15W	20	no runs	186	1		Cherokee	4,254		
Hazel ('42)	21-21-13W	640	14,576	1,090,617	20		Lans.-K.C.	3,380		30
							Arbuckle	3,692	9	37
Hazel West ('50)	20-21-13W	720	104,752	1,599,332	26		Lans.-K.C.	3,488	6	
							Arbuckle	3,673	5	35

Heyen ('43)	24-22-12W	400	41,191	1,029,469	13	1	Lans.-K.C.	3,321	12	
							Viola	3,532	6	
							Arbuckle	3,652	2	39
Hickman ('51)	27-21-14W	640	26,993	1,154,268	20		Lans.-K.C.	3,522	10	24
							Simpson		6	
Hickman South ('52)	34-21-14W	40	8,397	59,761	1		Lans.-K.C.	3,567	8	37
Hickman West ('59)	33-21-14W	160	31,715	174,670	5		Lansing	3,419	5	34
Hudson South ('61)	4-23-12W	40	455	3,112	1		Viola	3,602	23	40
Hufford ('48)	33-21-13W	480	59,925	1,344,877	18		Lans.-K.C.	3,499		30
							Arbuckle	3,755	7	
Jordan ('36)	15-25-14W	420	43,298	1,231,276	12		Lans.-K.C.	3,722	5	34
Kachelman ('50)	7-25-13W	200	5,207	127,015	4		Lans.-K.C.	3,946		
			349				Viola	4,075		33
			2,518				Arbuckle	4,294		
Keeley ('59)	5-21-14W	60	1,678	23,867	2		Lansing	3,322	5	26
Keenan ('57)	20-22-13W	100	5,603	41,833	2		Lans.-K.C.	3,572	6	30
Kelly West ('59)	34-23-12W	40	2,236	17,833	1		Lansing	3,396	6	34
Kenilworth ('47)	15-22-13W	500	44,246	690,058	15		Lans.-K.C.	3,505		34
							Arbuckle	3,808		
Kipp ('37)	27-25-14W	200	8,693	743,195	4		Lans.-K.C.	3,827	79	32
							Simpson	4,243	6	
Kipp North ('54)	23-25-14W	80	2,852	90,997	2		Lans.-K.C.	3,748	10	32
Kipp Northeast ('46)	23-25-14W	120	6,122	309,352	3		Lans.-K.C.	3,844		32
Kipp Southwest ('57)	28-25-14W	140	5,187	93,169	5		Lans.-K.C.	3,850	8	34
Knoche South ('56)	17-24-12W	320	38,620	195,752	8		Viola	3,872	5	
Koelsch ('52)	24-24-14W	400	18,708	391,892	10		Lans.-K.C.	3,750	8	35
Koelsch Southeast ('52)	25-24-14W	120	4,171	528,950	3	1	Simpson	4,181	4	41
							Arbuckle	4,187		
Koelsch West ('59)	23-24-14W	80	15,677	39,601	2		Lansing	3,612	4	34
Kowalsky* ('41)	32-20-11W	240	81,946	526,201	6	1	Lans.-K.C.	3,279		50
Kowalsky Southwest ('50)	6-21-11W	460	26,744	407,795	12		Penn. congl.	3,404	6	
							Simpson	3,398	23	
							Arbuckle	3,424		46
K-W ('62)	7-23-13W	40	359	1,455	1	1	Kansas City	3,491	6	28
Leesburgh ('38)	12-25-13W	640	67,873	3,267,709	16		Lans.-K.C.	3,837	30	
							Simpson	4,060	24	38
			9,166				Arbuckle	4,153	10	
Leiss ('56)	23-24-13W	80	3,135	60,914	2		Simpson	4,215	7	40
Leiss Southeast ('61)	25-25-13W	80	18,793	37,598	2		Lans.-K.C.	3,646	6	32
Leiss Southwest ('63)	26-25-13W	60	6,322	6,322	2		Simpson	4,200	12	
Leo ('50)	7-21-13W	160	11,546	131,711	4		Lans.-K.C.	3,475		26
							Arbuckle	3,636	4	
Lincoln ('51)	29-21-14W	200	24,093	307,879	5		Lans.-K.C.	3,543	8	33
							Simpson	3,739	4	31
Lutz ('63)	27-23-13W	40	5,649	5,649	1		Simpson	3,872	3	37
McCandless ('44)	30-25-13W	880	89,852	1,977,389	23		Lans.-K.C.	3,863		
			53,178				Simpson	4,251	16	37
McCandless Northeast ('60)	20-25-13W	200	7,098	84,550	3		Simpson	4,250	10	35
			8,800				Arbuckle	4,322	5	35

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl: during 1963	Oil production, bbl: to end of 1963	Producing wells	Wells abd., 1963	Producing zone: Name	Producing zone: Depth ft	Producing zone: Thickness, ft	Producing zone: Aver. grav.
			STAFFORD COUNTY (cont.)							
McGinty (revived) ('51)	13-21-14W	40	3,433	15,450	1		Lans.-K.C.	3,354	3	
							Arbuckle			
Macksville (41)	3-24-15W	440	28,022	202,585	11		Lans.-K.C.	3,735	6	
			711				Arbuckle	4,110		
Macksville East ('54)	14-24-15W	140	2,585	108,998	5		Viola	4,126	20	37
			9,241				Arbuckle	4,091	4	
Macksville Townsite ('61)	15-24-15W		no report	none			Simpson	4,153	10	35
Max ('38)	35-21-12W	4,200	228,467	9,215,854	89		Lans.-K.C.	3,356	16	35
							Simpson	3,515	2	
							Arbuckle	3,570	7	
Max East ('61)	6-22-11W	40	no runs	944	1		Arbuckle	3,551	17	30
Max North ('55)	26-21-12W	80	7,603	73,195	2		Arbuckle	3,590		
Merle ('49)	32-23-13W	440	4,248	351,467	11	1	Lans.-K.C.	3,669	10	34
Mershon ('63)	16-24-12W	40	1,828	1,828	1		Viola	3,895	29	38
Moody ('56)	7-25-14W	940	31,931	905,251	26	3	Lans.-K.C.	3,727	59	32
			113,628				Mississippian	4,168	14	
			5,755				Viola	4,214	12	21
Mopac ('54)	30-24-11W	200	15,864	237,630	5		Viola	3,908	5	
Mt. View ('52)	29-22-13W	120	20,515	206,017	3		Lans.-K.C.	3,641	8	36
							Arbuckle	3,858		
Mueller ('38)	29-21-12W	4,000	233,437	8,972,436	82	2	Lans.-K.C.	3,356		
							Arbuckle	3,594	8	36
Nellie East ('60)	27-22-14W	80	15,987	41,657	2		Lans.-K.C.	3,503	7	30
Neola ('48)	15-25-11W	80	2,309	50,616	2		Viola	3,921	4	40
Newell ('53)	7-25-11W	160	5,964	115,706	3		Lans.-K.C.	3,537	3	36
							Viola	3,913	3	
North Star ('52)	27-24-12W	40	2,005	364,076	1		Viola	3,915	16	40
							Simpson	4,063	9	
North Star North ('53) (revived)	21-24-12W	40	3,054	4,363	1		Lans.-K.C.		83	
							Viola		2	
O'Connor ('48)	8-24-15W	40	465	34,699	1		Lans.-K.C.	3,768	11	29
							Simpson	4,022	23	31
Omlor ('57)	10-22-14W	120	12,675	108,525	3		Lans.-K.C.	3,550	9	35
Oscar ('49)	24-22-14W	120	5,501	217,555	3		Lans.-K.C.	3,503		35
							Viola	3,777	7	
							Arbuckle	3,798	9	
Oscar North ('51)	14-22-14W	440	70,320	987,188	11		Arbuckle	3,780	3	35
Oscar South ('53)	26-22-14W	400	9,447	220,902	5		Lans.-K.C.	3,580		
							Arbuckle	3,817	2	
Oscar West ('52)	22-22-14W	940	136,612	1,324,436	23		Lans.-K.C.	3,593	8	35

Pleasant Grove ('52)	26-22-12W	280	3,928	214,972	7		Lans.-K.C.	3,462	8	37
Praeger ('59)	1-25-15W	400	16,563	185,655	10		Mississippian	4,209	5	
							Arbuckle	4,392	6	35
Prairie Home South ('53)	11-21-13W		no report	25,713		2	Lans.-K.C.	3,395	3	35
Pritchard* ('44)	34-20-14W	260	15,197	425,467	6		Lans.-K.C.	3,483		
							Arbuckle	3,579	4	
Pundsack ('47)	19-21-13W	1,400	84,245	2,197,391	31		Lans.-K.C.	3,575	8	27
							Arbuckle	3,735	8	
Pundsack North ('50)	18-21-13W	80	4,699	174,737	2		Lans.-K.C.	3,494	8	
							Arbuckle	3,674	7	26
Radium Townsite ('53)	5-22-14W	640	102,978	958,921	17		Lans.-K.C.	3,584	6	28
							Viola	3,754	12	
							Simpson	3,820	6	
							Arbuckle	3,852	20	28
Radium Townsite West ('63)	6-22-14W		no report	none			Lans.-K.C.	3,476	6	
Radke East ('54)	24-23-14W	40	1,187	21,103	1		Lans.-K.C.	3,676	4	28
Rattlesnake ('38)	13-24-14W	120	2,502	235,359	3		Lans.-K.C.	3,608	48	32
Rattlesnake East ('56)	7-24-13W	120	11,329	170,732	3		Lans.-K.C.	3,694	6	35
							Mississippian	3,880	4	
Rattlesnake North ('59)	2-24-14W	40	no runs	8,563	1		Penn. congl.	3,964	18	35
Rattlesnake Southeast ('54)	13-24-14W	500	6,879	336,610	12	1	Lans.-K.C.	3,758	6	35
			46,508				Mississippian	3,936	6	
Rattlesnake Southwest ('50)	14-24-14W	40	3,758	144,650	1		Lans.-K.C.	3,760		35
Rattlesnake West ('44)	11-24-14W	120	6,612	216,512	3		Lans.-K.C.	3,759	7	37
							Mississippian	4,025		
Richardson ('30)	36-22-12W	1,900	273,841	15,618,913	60		Lans.-K.C.	3,264		42
							Arbuckle	3,537	62	
Rolling Green* ('48)	36-20-13W		no report	none			Lans.-K.C.	3,238	55	
Rolling Green East* ('49)	30-20-12W	40	2,458	11,384	1		Arbuckle	3,491	6	35
Rose Valley ('52)	36-25-13W	40	1,824	52,660	1		Lans.-K.C.	3,824	6	
							Viola	4,137	13	
Rothgarn ('43)	10-21-13W	700	27,657	538,258	12	1	Lans.-K.C.	3,369		37
							Arbuckle	3,569	5	
Rothgarn Southeast ('50)	14-21-13W	160	9,474	299,208	4		Lans.-K.C.	3,378		37
							Arbuckle	3,544	7	
Rugan ('61)	2-21-11W	40	6,100	15,659	1		Arbuckle	3,374	4	47
Rychlec ('63)	14-21-14W	80	16,577	16,577	2		Arbuckle	3,734	3	36
St. John ('35)	23-24-13W	720	45,344	3,097,586	15		Lans.-K.C.	3,588	32	38
							Arbuckle	4,075	12	
St. John East ('59)	24-24-13W		no report	3,625			Lansing	3,543	6	
St. John Northwest ('52)	20-23-13W	400	18,232	214,878	12	1	Lans.-K.C.	3,644	6	
							Arbuckle	3,956		
St. John Townsite ('44)	33-23-13W	120	5,391	495,936	3		Lans.-K.C.		5	
							Arbuckle	3,919	5	
Salt Marsh ('61)	32-21-11W	40	2,148	7,817	1		Lans.-K.C.	3,132	220	26
Sandago ('47)	12-21-12W	120	10,242	232,853	3	1	Arbuckle	3,480	9	32
Sand Hills ('44)	19-21-11W	700	69,217	564,871	14		Lans.-K.C.	3,189	6	
							Viola	3,434	8	50
							Simpson	3,481	5	
							Arbuckle	3,548	10	36

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone: Name	Depth ft	Thickness, ft	Aver. grav.
STAFFORD COUNTY (cont.)										
Saterlee ('54)	31-24-14W	180	21,966	144,298	4		Penn. congl.	4,166	13	36
							Mississippian	4,172	6	35
							Arbuckle	4,385	4	
Saundra ('46)	14-21-12W	700	49,840	509,153	16		Lans.-K.C.	3,282		37
							Arbuckle	3,546	18	
Seevers ('54)	6-25-13W	160	15,209	168,047	4		Lans.-K.C.	3,893	49	30
Seevers Northwest ('56)	6-25-13W	980	225,317	1,573,637	43	2	Lans.-K.C.	3,826	3	
							Mississippian	4,042	8	
							Arbuckle	4,192	4	30
Shaeffer ('41)	3-21-13W	680	64,312	1,193,231	19		Lans.-K.C.	3,404		40
							Penn. congl.	3,519		
							Simpson	3,536		
							Arbuckle	3,546	4	
Shaeffer Northeast* ('60)	35-20-13W	160	14,273	59,595	4		Lans.-K.C.	3,259	5	28
							Arbuckle	3,525	18	40
Shepherd ('51)	16-22-11W	240	4,785	379,580	6		Arbuckle	3,548	35	40
Shepherd North ('54)	9-22-11W	80	9,355	110,410	2		Lans.-K.C.	3,297	5	40
							Penn. congl.	3,446	8	
Shepherd Northwest ('56)	8-22-11W	40	1,166	43,472	1	1	Simpson	3,528	8	40
							Arbuckle	3,516	12	
Silver Bell ('49)	10-22-13W	120	13,283	261,747	3		Lans.-K.C.	3,498		30
							Arbuckle	3,774	11	
Sittner ('37)	33-21-12W	200	9,280	880,762	5		Lans.-K.C.	3,278	36	38
							Arbuckle	3,600	9	
Slade South* ('61)	35-25-12W	160	31,408	67,730	4		Lans.-K.C.	3,608		
							Viola	4,048	27	39
Sleeper South ('62)	34-22-11W	80	22,887	31,584	2		Arbuckle	3,618	4	39
Smallwood ('51)	2-22-14W	900	52,254	1,154,191	20		Lans.-K.C.	3,474	29	32
							Arbuckle	3,576	11	
Snider ('36)	3-21-11W	900	48,301	1,002,281	22	2	Penn. congl.			
			70,896				Simpson	3,362	26	
							Arbuckle			43
Snider South ('38)	16-21-11W	1,200	16,116	2,292,865	28		Penn. congl.	3,338		
			132,254				Simpson	3,402	6	34
			60,006				Arbuckle			
Spangenberg ('43)	21-22-12W		no report	84,508			Arbuckle	3,691	6	37
Spangenberg South ('62)	27-22-12W	40	6,703	12,957	1		Arbuckle	3,685	3	35
Stafford ('40)	15-24-12W	380	7,466	3,739,173	4	1	Viola	3,836	14	41
							Arbuckle	3,945	10	
Steve ('60)	24-21-12W	40	155	1,856	1		Arbuckle	3,556	23	35

Strobel ('52)	9-22-14W	320	52,757	215,760	8		Lans.-K.C.	3,659	4	37
							Simpson			
							Arbuckle	3,864	8	
Strobel Northwest ('52)	8-22-14W	40	1,900	57,005	1		Simpson	3,852	2	
							Arbuckle	3,874		
Suiter ('62)	24-24-15W	40	6,426	6,931	1		Viola	4,154	6	28
Sutton ('54)	21-22-14W	120	5,832	82,838	3		Lans.-K.C.	3,638	3	34
Syms Southeast ('52)	27-21-12W	120	8,976	137,750	3		Arbuckle	3,565	5	
Taylor ('52)	15-21-14W	140	18,408	166,889	4		Lans.-K.C.	3,482	5	
							Viola	3,690	10	
							Simpson	3,688	4	36
Taylor Northeast ('57)	11-21-14W	380	90,313	492,869	13		Lans.-K.C.	3,462	6	
Taylorville ('53)	29-25-12W		no report	28,763			Viola	4,006	15	37
Taylor West ('59)	16-21-14W		no report	4,400			Simpson	3,704	4	32
Van Lieu East ('60)	21-24-13W	80	8,159	17,807	2		Arbuckle	4,072	2	37
Van Winkle Southeast ('50)	26-21-14W	80	4,859	116,228	2		Lans.-K.C.	3,569	8	31
Vogel ('57)	10-25-11W	120	26,799	59,956	3		Lans.-K.C.	3,442	7	35
Waters ('58)	33-24-14W	40	1,957	4,253	1		Lans.-K.C.		34	
							"Kinderhook"	4,153	4	37
Waters East ('59)	33-24-14W		no report	952			Lansing	3,683	4	36
White Cloud ('56)	28-22-11W		no report	34,268			Simpson	3,575	5	
							Arbuckle	3,636	2	39
Widener ('54)	26-21-12W	400	35,424	275,646	11	1	Arbuckle	3,574	7	41
Wil* ('57)	26-25-16W	180	13,217	112,055	3		"Kinderhook"	4,324		
Wood ('53)	33-22-14W	120	3,628	86,621	3		Lans.-K.C.	3,693	12	28
							Simpson	3,932	50	28
							Arbuckle	3,965		
Zenith-Peace Creek* ('37)	23-24-11W	4,200	173,381	41,314,923	81		Lans.-K.C.	3,481		
							Viola	3,860		41
Pools or fields abandoned				1,145,633						
Total Stafford County		62,040	5,329,999	161,424,191	1,547	41				
			STANTON COUNTY							
Beauchamp ('59)	23-30-41W	40	2,170	15,270	1		Mississippian	5,337	6	39
Shore ('59)	22-30-40W	40	12,481	58,587	1		Penn. congl.	2,963		
							Mississippian	5,316	49	45
Sparks* ('54)	34-30-42W	220	2,701	45,553	7		Morrowan	5,254		
Total Stanton County		300	17,352	119,410	9					
			STEVENS COUNTY							
Center ('62)	33-37W	80	23,561	32,722	2		St. Louis	6,562		
Cutter ('61)	1-31-35W	800	1,152	646,786	1		Marmaton	4,778	27	37
			212,307		6		Morrowan	5,200	2	41
			101,734		7		Mississippian	5,454	16	
Cutter South ('61)	27-31-35W	400	83,831	192,889	5		Mississippian	5,780	31	41
Gooch ('63)	8-35-35W	40	4,972	4,972	1		Morrowan	5,926	26	
							Mississippian	6,355	23	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
			STEVENS COUNTY (cont.)							
Perrill ('59)	7-31-37W	120	1,763	23,119	3		Morrowan	5,326		
Walkemeyer ('59)	35-33-36W	80	2,354	4,174	2		Morrowan	6,145		
Total Stevens County		1,520	431,674	904,662	27					
			SUMNER COUNTY							
Anson ('48)	35-30- 2W	740	66,310	998,595	26		Lans.-K.C.	3,264		
							Mississippian	3,742	13	
Anson Southeast ('58)	12-31- 2W	1,080	1,606	852,259	1		Lans.-K.C.			
			150,467		25		Mississippian	3,738	14	
Ashton ('54)	19-34- 2E	80	1,184	56,112	2	2	"Cleveland"	3,210	22	34
Ashton Northwest ('59)	13-34- 1E	120	16,688	85,162	3		Mississippian	3,584	12	
Attebery ('59)	20-33- 1W	120	4,416	56,395	3	1	Simpson	4,282	4	45
Badger Creek ('58)	1-34- 1E	80	7,278	60,261	2		Simpson	3,966	6	
Beatie ('56)	21-31- 2W		no report	18,381			Simpson	4,189	3	
Bellman ('45)	15-30- 1E	80	19,039	408,024	2		Simpson	3,798	5	49
Bellman West ('57)	16-30- 1E		no runs	19,874			Simpson	3,801	9	
Bitter Creek ('53)	1-35- 1E	340	22,551	454,953	10		"Stalnaker"	2,353	13	
							Mississippian	3,500	15	37
Caldwell ('29)	17-35- 3W	80	6,008	1,703,777	2		Mississippian	4,408	8	
							Simpson	4,765	19	
Caldwell Northwest ('52)	8-35- 3W		no report	61,790			Simpson	4,835	20	39
Churchill ('26)	25-31- 2E	920	34,826	20,091,186	20		"Stalnaker"	1,820	25	
							"Layton"	1,874	1	
							Arbuckle	2,632	24	
Cole ('60)	24-31- 4W	240	19,987	144,131	6		Simpson	4,403	4	47
Conway Springs ('59)	5-31- 3W	440	166,889	642,166	11		Simpson	4,370	6	42
Crowe ('58)	10-35- 1W		no report	3,302		1	"Layton"	3,245	5	
Duncan ('63)	18-30- 2W	40	7,092	7,092	1		Kansas City	3,102	2	39
Fall Creek ('50)	3-35- 3W	640	10,574	2,798,237	2		Lans.-K.C.	3,608	13	39
			2,255		1		Mississippian	4,282	10	
			54,435		22		Simpson	4,746	50	46
Gerberding ('54)	6-34- 4W	80	8,369	132,137	3		Simpson	4,710	5	35
Guelph ('51)	6-35- 1E	600	65,070	2,411,843	10		Lans.-K.C.	3,028	45	45
			104,006		14		Simpson	3,854	10	
			4,547		1		Arbuckle	3,969		
Holman ('60)	26-33- 2E	200	27,371	72,788	5		Mississippian	3,304	6	
Holman West ('63)	27-33- 2E	40	3,091	3,091	1		Mississippian	3,284	1	
Horsch ('58)	4-31- 1W	40	3,588	23,973	1		Mississippian	3,664	8	
Interchange ('59)	19-32- 1E	100	45,769	147,847	3		Simpson	4,053	7	42

Kerley ('59)	1-30- 1W		no report	6,387			Simpson	3,828	6	
Kerschen ('55)	17-31- 3W	580	42,851	799,110	17		Lans.-K.C.	3,267		
							Mississippian	3,912	10	
Latta ('27)	9-30- 2W	840	63,930	1,818,024	20	1	Lans.-K.C.	3,042	14	
							Mississippian	3,656	12	
Latta Northwest ('56)	5-30- 2W	380	66,618	398,697	12		Kansas City	3,172	4	
Lee ('51)	33-32- 2E	240	8,101	170,393	6		Mississippian	3,349	8	
McIlhenny ('58)	1-31- 4W	40	2,529	18,310	1		Kansas City	3,575	3	
Margaret ('46)	36-32- 2E	40	2,270	129,284	1		Arbuckle	3,474		
Markley ('58)	22-30- 1E	360	68,403	390,423	10		Simpson	3,809	5	
Mayfield ('57)	19-32- 2W		no report	31,998			Simpson	4,278	5	
Meils ('60)	5-34- 2E	100	3,659	30,038	3		"Bartlesville"	3,435	8	
							Mississippian	3,459	9	
Metz ('51)	7-32- 2E		no report	56,080			Simpson	3,735	6	37
							Arbuckle	3,773	4	
Moyer ('58)	12-31- 3W	150	14,737	124,841	5		Kansas City	3,344	2	
Moyer Northwest ('59)	2-31- 3W	140	14,325	84,127	5		Kansas City	3,173	2	38
Murphy* ('33)	7-35- 3E	4,000	511,943	6,014,578	214	5	"Layton"	2,808		
							"Bartlesville"	3,472	10	
O'Hara ('55)	18-32- 1W	500	51,908	364,168	14		Lans.-K.C.	3,256	8	
Olive Branch ('60)	11-33- 3W	140	36,435	171,831	4		Simpson	4,444	4	45
Oxford ('27)	14-32- 2E	800	46,232	16,842,166	20		"Hoover"	1,930		
							"Stalnaker"	2,020	16	
							"Layton"	2,510	20	
							Arbuckle	2,890	5	
Oxford West ('26)	17-32- 2E	300	14,318	938,187	8		Simpson	3,681		
							Arbuckle		31	
Padgett ('25)	12-34- 2E	5,000	98,785	3,732,859	69	1	"Cleveland"	3,095		
							Marmaton	3,187	8	
							"Bartlesville"	3,424		
							Mississippian	3,474	16	40
							Simpson	3,744		
Padgett West ('54)	21-34- 2E		no report	9,584			"Layton"	2,829	8	34
							Mississippian	3,519		
Perth ('45)	12-33- 2W	400	29,140	1,324,617	8		Simpson	4,264	14	41
Portland ('50)	16-34- 1E	360	30,186	799,423	9	1	"Layton"	3,030		
							Simpson	4,002	4	
Portland South ('56)	28-34- 1E	80	10,219	87,288	3		"Layton"	3,040		
Priddy ('57)	35-33- 1W	180	3,034	101,007	5		Simpson	4,332	3	
Rainbow Bend* ('25)	24-33- 2E	40	120	454,170	1		Arbuckle			
Reynolds ('61)	9-30- 2E	40	2,324	6,047	1		Mississippian	3,160	9	
Rusk ('59)	8-32- 1E	120	31,787	129,075	3		Simpson	4,007	10	42
Rutter ('26)	21-33- 2E	320	5,747	257,906	6		"Bartlesville"	3,268	10	
							Mississippian	3,283		
							Arbuckle	3,413	10	
Rutter Northwest ('63)	18-33- 2E	40	2,373	2,373	1		Mississippian	3,379	18	
Rutter Southwest ('57)	29-33- 2E	200	27,677	131,112	3		Simpson	3,551	5	
							Arbuckle	3,546	7	
Seydell ('58)	17-30- 1E	680	14,569	998,510	4		Kansas City	2,747	6	
			131,791		24		Simpson	3,826	10	

TABLE 28—*Oil production in Kansas during 1963 (continued).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
			SUMNER COUNTY (cont.)							
Slate Creek ('52)	9-33- 2E	40	2,881	60,471	1		Lans.-K.C.	2,804	12	
Slick-Carson* ('24)	19-32- 3E	80	3,262		2		"Bartlesville"	3,124		
South Haven ('54)	2-35- 1W	200	34,484	492,393	5		Simpson	4,189	5	37
Sparr ('61)	14-30- 2W	40	2,622	11,917	1		Mississippian	3,773	13	44
Subera ('57)	22-34- 3W	300	11,073	319,763	8	4	Simpson	4,740	4	
Tate ('38)	31-32- 2E	40	1,382	6,097	1		Simpson		6	
Trekell ('59)	19-31- 1W	280	14,401	101,887	4		Mississippian	3,715	9	42
Val Verde ('45)	23-33- 2E		no report	10,105		1	"Bartlesville"	3,280	15	40
Voils ('58)	17-30- 1W	80	4,542	30,244	2		Mississippian	3,499	13	
Walta ('59)	25-33- 4W	280	12,000	159,789	4		Mississippian			
			22,214		3		Simpson	4,502	5	48
Wellington ('29)	33-31- 1W	3,600	615,336	12,986,173	140		"Chat"	3,655	11	46
Wellington Northeast ('55)	27-31- 1W	340	37,002	584,108	17	2	Mississippian	3,659	5	42
Zyba ('37)	7-30- 1E	440	20,960	672,322	8		Simpson	3,866	3	30
Zyba Southwest ('44)	22-30- 1W	360	30,445	1,728,463	9		Simpson	3,918	12	
Pools or fields abandoned				345,249						
Total Sumner County		28,210	3,002,031	85,188,232 recorded	859	20				
			THOMAS COUNTY							
Mingo ('52)	19- 9-32W	40	no runs	22,892	1		Marmaton	4,414		
							Mississippian	4,680		
Pools or fields abandoned				12,257						
Total Thomas County		40		35,149	1					
			TREGO COUNTY							
Adair ('53)	21-12-21W		no report	23,162			Marmaton	3,879	5	37
Adair Southwest ('56)	28-12-21W		no report	11,161			Marmaton	3,856	10	
Bin ('58)	31-11-22W	40	1,122	4,237	1		Lansing	3,776	6	
Cotton ('45)	15-12-21W	40	2,286	59,875	1		Arbuckle	3,958	34	30
Cotton East ('47)	14-12-21W	40	2,410	76,772	1		Arbuckle	3,942	6	40
Diebolt* ('53)	33-10-23W	560	33,927	761,787	14		Lans.-K.C.	3,779	6	35
Egger ('58)	12-13-21W	120	12,986	130,472	1		Lans.-K.C.	3,450	6	
			16,293		2		Arbuckle	3,825	3	
Ellis* ('42)	31-12-20W	880	117,990	1,018,836	21	3	Lans.-K.C.	3,632	4	
							Arb.-Reagan	3,832	8	
Ellis Northwest ('44)	26-12-21W	180	6,168	273,266	4		Arbuckle	3,925	2	35
Ellis Southwest ('59)	2-13-21W	40	2,590	16,803	1		Arbuckle	3,797	8	40

Groff ('52)	26-14-21W	900	71,340	1,032,016	21		Lans.-K.C.	3,493	10	36
							Marmaton	3,755	17	
							Penn. congl.	3,822	10	
Homburg ('55)	11-13-21W	80	2,711	21,921	2		Marmaton	3,800	10	32
Kohl ('62)	11-12-21W	260	13,195	37,656	2		Lansing	3,694	2	34
			15,077		4		Arbuckle			
Kutina ('53)	29-15-21W	280	50,525	315,937	7		Cherokee	4,151		40
Mong ('62)	25-11-23W	120	14,341	27,089	3		Lansing	3,620	5	41
Muhlheim ('63)	15-13-21W	240	11,167	40,215	2		Lans.-K.C.	3,524	4	
			29,048		4		Arbuckle	3,904	1	
Newcomer ('56)	12-12-23W	1,280	137,382	1,415,719	38		Lans.-K.C.	3,733	3	37
Nicholson* ('45)	30-11-20W	160	47,408	193,943	5		Arbuckle	3,842	12	34
Ogallah ('51)	26-12-22W	3,000	505,331	7,292,902	74	1	Arbuckle	3,961	24	38
Ogallah Northwest ('57)	21-12-22W		no report	15,893			Lans.-K.C.	3,724	3	38
Page Creek (revived) ('56)	38-15-22W	40	2,935	8,662	1		Cherokee		4	
Rhoden ('56)	24-12-23W	240	6,368	132,808	6		Lans.-K.C.	3,764	6	32
Ridgeway ('52)	26-12-21W	400	14,476	360,810	9	1	Lans.-K.C.	3,693	13	36
							Arbuckle	3,896		
Riga Northeast ('57)	9-13-21W	100	3,965	48,067	3		Lansing	3,503	28	
							Arbuckle	3,915	2	39
Scanlon ('62)	18-11-24W	60	14,554	24,592	2		Lans.-K.C.	3,868	6	34
Sunny Slope ('52)	21-14-21W	640	37,314	581,949	11	1	Marmaton	3,848	14	39
Sunny Slope Northwest ('58)	21-14-21W		no report	2,052			Penn. congl.	3,944	5	
Trico* ('51)	30-10-20W	1,000	191,726	2,392,001	47		Lans.-K.C.	3,573	7	
							Arbuckle	3,688	7	
Voda ('57)	28-11-24W	400	59,047	264,526	9		Lans.-K.C.	4,008	4	36
Wakeeney ('34)	14-11-23W	120	9,103	970,135	3		Lans.-K.C.	3,619	8	38
Wakeeney East ('49)	24-11-23W	40	4,982	50,327	1		Lans.-K.C.	3,624	4	38
Walz ('50)	12-11-21W	1,400	133,370	1,116,037	26		Lans.-K.C.	3,428	9	35
							Arbuckle	3,666	11	
Walz Northwest ('57)	12-11-21W	160	10,795	144,161	4		Arbuckle	3,693	2	
Pools or fields abandoned				92,964						
Total Trego County		12,860	1,581,932	18,958,753**	331	6				
				WABAUNSEE COUNTY						
Ashburn ('58)	29-14-10E	120	22,799	130,281	4		Viola	3,255	7	
Davis Ranch ('49)	33-13-10E	840	8,796	3,183,867	3	1	Lans.-K.C.	1,850	4	
							"Hunton"	2,929	15	29
			173,171		19		Viola	3,201		
Mill Creek ('50)	2-13-10E	100	11,619	326,364	3		Viola	2,923	4	27
Newbury ('50)	11-11-11E	240	10,429	341,000	6		Viola	2,901	4	27
Wilmington ('59)	29-14-12E	40	14,693	68,927	1		Viola	2,996	6	
							Simpson	3,099	3	23
Woodbury ('51)	11-15-10E	80	8,096	141,006	2		Viola	3,328	5	
Total Wabaunsee County		1,420	249,603	4,216,714 recorded	36	1				

TABLE 28—*Oil production in Kansas during 1963 (concluded).*

Field name and year of discovery	Location of discovery well	Area, acres	Oil production, bbl during 1963	Oil production, bbl to end of 1963	Producing wells	Wells abd., 1963	Producing zone Name	Depth ft	Thickness, ft	Aver. grav.
WICHITA COUNTY										
Carwood ('57)	16-17-37W		no report	1,369			Marmaton	4,528	4	
White Women ('62)	34-20-35W	40	1,092	2,496	1		Marmaton	4,512	8	32
Total Wichita County		40	1,092	3,865	1					
WILSON COUNTY										
Altoona ('03)	10-29-16E	2,520	149,776		129	2	"Squirrel"	650		
							"Bartlesville"	900		
Altoona East ('35)	29-17E	420	16,969		23	1	"Bartlesville"	900		
Benedict	28-15E	580	29,059		56		"Bartlesville"	1,000		
Buffalo* ('24)	27-16E	1,540	37,278		135	6	"Bartlesville"	1,025		
							Cherokee	1,150		
Coyville West ('54)	27-13E	120	396	7,673	3		Cherokee			
"Fall River"	28-13E	80	359		2					
Fredonia (1890)	29-15E	480	12,932		32		"Burgess"	1,050		
Humboldt-Chanute*	28-17E	20	387		4		"Bartlesville"	850		
Neodesha*	30-16E	4,600	111,142		275	4	"Bartlesville"	950		
Neodesha East	30-17E	240	3,455		4		Cherokee			
Vilas ('05)	27-17E	280	5,029		10		"Bartlesville"	1,000		
Miscellaneous		40	745		10	4				
Total Wilson County		10,920	367,527	7,782,277 recorded	683	17				
WOODSON COUNTY										
Annabelle	32-25-15E	40	79		1		"Squirrel"			
Big Sandy ('23)	23-26-14E	1,240	44,237		63		"Bartlesville"	1,230	50	
Buffalo* ('24)	26-16E	560	6,551		83		"Bartlesville"	950		
							Cherokee	1,150		
Evans* ('38)	21-23-15E	80	2,212		4		Mississippian	1,540		
"Gordon" ('54)	13-24-15E	660	28,280	193,266	32		"Squirrel"	1,080	16	
Humboldt-Chanute*	25-17E	1,160	28,860		53		"Bartlesville"	900		
McWherter ('55)	35-26-13E	20	656	7,809	1		Mississippian	1,417		
Neosho Falls-Leroy* ('05)	35-22-16E	2,240	55,356		89	1	"Squirrel"	965		
							Mississippian	1,200		
Perry-Halligan	26-17E	1,440	32,737		132	1				
Piqua ('38)	22-24-17E	240	1,905		6		Mississippian	1,190		
Quincy* ('32)	14-25-13E	1,460	97,953		93	1	"Bartlesville"	1,500		
Rose East ('54)	16-26-16E	840	17,628	355,964	36		"Bartlesville"	1,109	15	
Silver City ('46)	19-26-15E	480	5,957		18	1	"Bartlesville"			

Stange	20-24-16E	80	235		1				
Steele ('52)	20-23-15E		no report	8,220			Mississippian	1,525	17
Toronto*	16-26-13E		no report				"Peru"	1,000	
							"Bartlesville"	1,700	
Vernon	23-16E	4,220	110,939		115		"Squirrel"	1,068	6
							Mississippian	1,420	
Virgil North* ('20)	22-23-13E	1,340	38,044		36		"Bartlesville"	1,585	
							Mississippian	1,840	
Winterschied*	23-14E	13,000	323,894		331	5	"Bartlesville"	1,630	15
							Mississippian	1,750	
Wissman ('36)	3-24-15E	240	3,015		7		Mississippian	1,520	
Yates Center	28-25-15E	1,420	24,846		34		Mississippian	1,480	
Miscellaneous		160	650		4				
Total Woodson County		30,920	824,034	14,332,717 recorded	1,139	9			

+ Estimate
* Field extends into adjacent county or counties
** Corrected cumulative

TABLE 29

GAS PRODUCTION IN KANSAS DURING 1963

Compiled with Assistance of RAY DIETZ, Gas Proration Analyst, State Corporation Commission, Conservation Division

FOOTNOTES

*Field extends into adjacent county or counties.
**Corrected cumulative.
†Estimated.
[a]Prorated and or spaced by Conservation Division, Kansas Corporation Commission.
[a] All figures at base of 14.65 psia.

TABLE 29—*Gas production in Kansas during 1963.*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft(a) During 1963	Gas production, M cu ft(a) To end of 1963	No. wells	Producing zone Name	Producing zone Depth ft
			ALLEN COUNTY				
Elsmore West			Included with Miscellaneous				
Humboldt-Chanute*	26-18E		Included with Miscellaneous			"Squirrel"	740
						"Bartlesville"	850
Iola ('37)	13-24-18E	1,040	68,684		26	"Bartlesville"	
Moran ('03)	25-20E		Included with Iola			"Bartlesville"	
Miscellaneous		5,400	587,250+		135+		
Total Allen County		6,440	655,934+		161+		
			ANDERSON COUNTY				
Miscellaneous		600	65,250+		15+		
			BARBER COUNTY				
Aetna Gas Area ('35)[a]	13-34-15W	2,800	5,617,884	34,564,029	73	Mississippian	4,850
						Viola	5,215
Aetna Northwest ('61)	4-34-15W		no report	none		Cherokee	4,761
Boggs Southwest ('55)	30-33-12W	3,500	1,922,498	44,967,290	29	Mississippian	4,456
			"Driftwood"[a]				
Brooks ('62)[a]	32-31-13W	100	29,192	56,942	1	Douglas	3,731
Cedar ('57)	25-33-10W		no report	none		Mississippian	4,543
Clara* ('44)	2-30-14W		no report	803,532		Marmaton	4,381
						Viola	4,409
						Simpson	4,435
						Arbuckle	4,540
Deerhead ('42)	26-32-15W		no report	1,896,083		Viola	4,931
DeGeer ('48)	2-33-15W		no report	140,442		Mississippian	4,902
						Viola	5,176
DeGeer Southwest ('63)	8-33-15W		no report	none		Viola	4,693
						Simpson	4,845
Donald ('46)	33-31-15W	500	2,768,540		10	"Miss. lime"	4,697
Elsea ('56)[a]	27-32-14W	200	386,002	3,280,760	3	Mississippian	4,662
Elwood ('56)[a]	34-34-13W	100	110,802	6,404,720	1	"Elgin"	3,662
Groendycke ('63)	27-33-12W		no report	none		Mississippian	4,687
Hardtner ('54)[a]	31-34-12W	5,000	5,361,354	75,218,337	46	Cherokee	4,791
						Mississippian	4,838
ILS ('56)	9-31-11W	440	735,731	2,058,464	6	Douglas	3,766
			"ILS Southwest"[a]				
Lake City ('45)	7-31-13W		Included with Skinner			Viola	4,435
Little Bear Creek ('54)	12-32-14W	40	19,827	1,429,775	1	"Douglas sand"	3,808
						Viola	4,670

TABLE 29—*Gas production in Kansas during 1963 (continued).*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft[a] During 1963	Gas production, M cu ft[a] To end of 1963	No. wells	Producing zone Name	Producing zone Depth ft
			BARBER COUNTY (cont.)				
McGuire-Goemann ('56)[a]	24-32-11W	800	517,112	8,401,005	9	Mississippian	4,403
McReynolds ('59)	19-31-10W	100	121,222	212,410	2	Mississippian	4,530
Medicine Lodge-Boggs ('27)	13-33-13W	12,500	3,274,450	273,569,184	61		
			2,798,172	"Boggs"[a]	7	"Douglas sand"	3,812
			67,512	"Bartholow"[a]	2	Mississippian	4,480
						Marmaton	4,458
						Penn. congl.	4,460
						Simpson	4,860
Medicine Lodge North ('54)	25-32-13W			1,927,478		Mississippian	4,480
			Included with Medicine Lodge-Boggs				
Nippawalla ('51)	13-33-12W	80	22,443		2	"Douglas sand"	3,659
						Mississippian	4,541
Nurse ('53)	23-31-13W	120	99,409	611,931	2	"Douglas sand"	3,599
						Mississippian	4,194
Palmer ('58)[a]	30-32-13W	1,500	2,097,893	6,703,273	28	Lans.-K.C.	
						Mississippian	4,530
Perry Ranch* ('59)	12-32-16W	400	789,767	2,540,086	10	Mississippian	4,785
			Includes Comanche County				
Rhodes ('54)	4-33-11W	9,000	2,446,694	77,327,596	15		
			1,122,136	"Rhodes Northwest"[a]	2	"Douglas sand"	3,548
			2,702,144	"Rhodes North"[a]	15	Mississippian	4,551
Rhodes Northeast ('56)[a]	2-33-11W	1,500	2,093,303	13,441,636	15	Mississippian	4,500
Rhodes South ('57)[a]	6-34-11W	600	509,188	4,974,556	10	Mississippian	4,564
Roundup South ('53)	33-33-11W	200	436,014		4	Mississippian	4,457
Salt Fork ('62)	3-35-15W		no report	none		Mississippian	4,856
Sharon* ('55)	13-32-10W		no report	none		Mississippian	4,355
Sharon Northwest ('56)[a]	11-32-10W	1,900	2,490,925	16,823,567	16	Mississippian	4,347
Skinner ('43)	29-31-14W	450	146,118	29,257,138	7	"Douglas sand"	4,023
						Lans.-K.C.	4,109
						Marmaton	4,294
						Viola	4,578
						Simpson	4,622
Stumph ('52)	7-32-14W	1,000	1,395,811	6,848,334	12	Stalnaker	4,054
						Marmaton	4,718
Traffas ('55)	6-33-10W	100	107,448	255,866	2	Mississippian	4,590
Turkey Creek East ('57)	21-30-15W	40	400		1	Viola	4,557
Wells ('58)	18-34-15W	40	94,031	201,212	1	Marmaton	4,694
Whelan ('34)	32-31-11W	120	469,564		3	Douglas	3,598
						"Chat"	4,355
Whelan East ('54)	21-31-11W		Included with HLS			"Douglas sand"	3,746

Wolgamott ('57)	16-35-14W	40	67,538	277,154	1	Cherokee	4,865
Total Barber County		43,170	40,821,124	633,705,596	380		
BARTON COUNTY							
Adolph ('47)	16-20-15W		no report			Arbuckle	3,734
Ash Creek* ('47)	31-20-15W	40	100,365		1	Simpson	3,750
						Arbuckle	3,784
Behrens ('44)	6-20-15W	140	117,546		3	Arbuckle	
Chaffee ('63)	31-19-13W	120	150,630		3	Arbuckle	
Chase-Silica* ('36)	6-19- 9W	Included with Rice County				Arbuckle	
"Clarence South" ('54)	2-20-15W	Included with Miscellaneous				Penn. congl.	
Converse ('53)	20-20-15W	200	812,376		5	Arbuckle	3,783
Eberhardt ('35)	14-19-11W		no report	398,567		Arbuckle	
Fort Zarah ('51)	28-19-12W	40	7,556		1	Lansing	3,191
Heizer Southwest ('52)	21-19-14W	40	34,291	1,228,317	1	Penn. congl.	3,496
"Krier" ('44)	30-16-11W	60	14,888	943,825	1		
		Within Kraft-Prusa field					
Merten Southwest ('58)	7-19-15W		no report	none		Reagan	3,597
Otis-Albert* ('30)	11-18-16W	Included with Rush County				Neva	
						Reagan	3,507
Pawnee Rock* ('36)	13-20-16W		no report			Arbuckle	
Pritchard	20-14W	40	3,823	7,554	1		
Rick* ('41)	11-19-11W		no report	403,810		Arbuckle	3,355
Unruh ('45)	24-20-15W		no report	14,730,606		Arbuckle	3,641
Miscellaneous		80	46,804		2		
Total Barton County		760	1,288,279	28,204,014	18		
BUTLER COUNTY							
Miscellaneous		600	65,250+		15+		
			13,057	"Irland"	1		
			43,114	"Winfield"	1		
Total Butler County		600	121,421+		17+		
CHASE COUNTY							
Elmdale ('21)	19- 7E	400	32,600+		10+	L. Permian	500
						Wabaunsee	800
Lipps ('25)	32-18- 7E	Included with Elmdale					
Miscellaneous			44,600+		10+		
Total Chase County		400	77,200+		20+		
CHAUTAUQUA COUNTY							
Hale-Inge*	32-12E	Included with Elk County				"Peru"	1,160
Peru-Sedan		40	19,285		1		
Miscellaneous		2,400	261,000+		60+		
Total Chautauqua County		2,440	280,285+		61+		

TABLE 29—*Gas production in Kansas during 1963 (continued).*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft(a) During 1963	Gas production, M cu ft(a) To end of 1963	No. wells	Producing zone Name	Producing zone Depth ft
CLARK COUNTY							
Ashland ('51)	35-32-23W		no report	1,795,172			
Cavalry Creek ('55)	3-31-21W	100	7,080	339,192	1	Mississippian	5,195
Clark Creek ('59)	8-35-22W	150	62,714	348,114	1	Morrowan	5,630
Harper Ranch ('53)	9-34-21W	16,000	3,520,175	22,882,360	43		
				"Harper Ranch North"[a]		Morrowan	5,437
			566,262	"Sitka Northeast"[a]	4	Mississippian	
McKinney* ('50)[a]	2-34-26W	7,500	2,564,617	13,893,574	21	Mississippian	5,762
Morrison Northeast ('54)	10-32-21W	500	143,889	2,563,355	3	Morrowan	5,193
Sitka ('59)[a]	13-33-22W	6,000	1,993,060	2,848,655	13	Morrowan	5,266
						Mississippian	
Sitka Northeast ('60)	5-33-21W		Combined into Harper Ranch			Morrowan	5,243
Snake Creek ('52)	21-34-21W	7,000	3,069,396	"Harper Ranch"[a]	18	Morrowan	5,452
Snake Creek Northeast ('59)	13-24-21W		no report	none		Morrowan	5,444
Tuttle West ('57)	10-35-21W	300	551,723	1,084,634	2	Morrowan	5,625
			"Tuttle"				
Total Clark County		37,550	12,478,916	57,292,664	106		
COFFEY COUNTY							
Miscellaneous		60+	200+		3+		
COMANCHE COUNTY							
Beals ('55)	5-34-17W	320	836,747	1,454,032	4	Lans.-K.C.	4,393
						Mississippian	5,002
						Viola	5,502
						Simpson	5,670
Glick* ('57)[a]	31-30-16W	6,000	4,712,400	11,624,717	13	Mississippian	4,880
Nescatunga ('60)	22-32-18W	220	1,942,124	3,649,110	5	Mississippian	5,106
						Viola	5,600
Perry Ranch* ('58)	12-32-16W		Included with Barber County			Mississippian	4,785
Robbins Ranch ('53)	23-31-16W		no report	538,864		Mississippian	4,915
Shimer ('61)	13-33-17W		no report	none		Mississippian	5,014
Tuttle ('57)	6-35-20W		no report	none		Morrowan	5,538
Tuttle East ('63)	4-35-20W		no report	none		Morrowan	5,457
Total Comanche County		6,540	7,491,271	17,266,723	22		
COWLEY COUNTY							
Arkansas City Gas Area	34- 4E		Included with Miscellaneous				

Estes ('28)	32- 6E	180	53,769		3	Douglas	1,568
Geuda Springs ('25)	17-34- 3E	80	32,715		1	"Bartlesville"	
Gibson ('41)	34- 3E	300	362,851		4	"Severy sand"	
						"Bartlesville"	3,300
Graham ('24)	9-33- 3E	520	254,402		13	"Bartlesville"	
McKay ('51)	17-35- 4E	Included with Miscellaneous					
Mansur ('49)	31- 7E	Included with Miscellaneous				"Layton"	2,170
Murphy* ('45)	35- 3E	Included with Sumner County					
Rainbow Bend ('23)	17-33- 3E	Included with Miscellaneous					
School Creek North ('53)	10-32- 7E	120	377,002		3	"Layton"	2,114
						"Cleveland"	2,443
Stayton ('49)	32-32- 4E	Included with Graham					
Thurlow ('27)	6-33- 4E	Included with Graham					
Tisdale Gas Area	32- 5E	no report					
Walnut Bend ('40)	11-34- 4E	80	334,321		2	Mississippian	
Whitacre ('62)	5-34- 4E	no report		none		Ireland	1,740
Miscellaneous		24,000	2,310,000+		593+		
Total Cowley County		25,280	3,725,060+		619+		
		CRAWFORD COUNTY					
St. Paul-Walnut (Misc.)	29-21E	600	65,250+		15+	"Bartlesville"	
		DICKINSON COUNTY					
Miscellaneous		320	10,000+		8+		
		DOUGLAS COUNTY					
Miscellaneous		400	24,100+		10+		
		EDWARDS COUNTY					
Belpre ('42)	8-25-16W	600	954,699	9,293,410	15	Lans.-K.C.	3,800
						Mississippian	4,278
Bordewick ('63)	18-26-18W	no report		none		Tarkio	3,342
Bradbridge* ('48)	6-24-15W	no report				Lans.-K.C.	3,686
						Arbuckle	4,020
Britton ('63)	9-25-17W	no report		none		"Kinderhook"	4,476
Edstaff ('55)	12-25-16W	Included with Belpre				Penn. congl.	4,202
Embry ('55)	23-24-16W	800	712,813	9,585,044	9	Mississippian	4,231
						"Kinderhook"	4,292
Fatzer ('59)	14-26-17W	80	94,728	365,547	2	Mississippian	4,530
Fellsburg ('60)	35-25-17W	40	51,267	134,948	1	Cherokee	4,490
Kirk ('55)	26-26-16W	no report		105,542 (part of Wil)[a]		Cherokee	4,392
						"Kinderhook"	4,462
McCarty ('54)	31-25-17W	no report		312,798		Penn. congl.	4,528
McCarty Northeast ('30)	22-25-17W	no report				Penn. congl.	4,452
McClanahan ('58)	2-26-18W	100	93,551	261,816	2	Penn. congl.	4,612

TABLE 29—*Gas production in Kansas during 1963 (continued).*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft[a] During 1963	Gas production, M cu ft[a] To end of 1963	No. wells	Producing zone Name	Producing zone Depth ft
ELK COUNTY (cont.)							
McClanahan East ('63)	12-26-18W		Included with McClanahan			Mississippian	4,518
Trousdale North ('58)	8-26-16W		no report	118,401 (part of Wil)[a]		Mississippian	4,458
Trousdale Northeast ('58)	15-26-16W		no report	none (part of Wil)[a]		"Kinderhook"	4,392
Trousdale South ('56)	33-26-16W		no report	47,864		Cherokee	4,472
						"Kinderhook"	4,525
Wil* ('57)[a]	26-25-16W	10,000	383,510	2,903,897	10		
			753,685		93	"Kinderhook"	4,324
Wokaty	25-25-17W		no report	79,504		Penn. congl.	4,390
Total Edwards County		11,620	3,044,253	24,264,549	132		
ELK COUNTY							
Cummings ('60)	26-31- 9E	200	260,846	276,854	4	Mississippian	2,226
Hale-Inge*	32-12E	80	7,360		2	"Peru"	1,160
			Includes Chautauqua County				
Longton ('02)	31-12E		Included with Miscellaneous			Kansas City	660
Schrader ('28)	31- 8E		Included with Miscellaneous			Kansas City	
Miscellaneous		1,800	195,750+		45+		
Total Elk County		2,080	463,956+		51+		
ELLIS COUNTY							
Younger Northwest ('62)	30-13-17W		no report	none		Lansing	3,375
ELLSWORTH COUNTY							
Satran ('60)	5-14- 9W		no report	none		Herrington	1,276
Stoltenberg ('47)	18-17- 9W	80	64,214	671,308	1	Shawnee	2,728
FINNEY COUNTY							
Hugoton Gas Area* ('32)[a]	16-25-34W	421,000	52,941,853	597,107,130**	650	Chase Group	2,200
Nunn ('38)	27-21-34W		no report	146,075			
Total Finney County		421,000	52,941,853	597,253,205**	650		
FORD COUNTY							
Bucklin ('63)	7-29-21W		no report	none		Cherokee	
Pleasant Valley ('38)	34-27-21W	800	160,919		2	Mississippian	1,954

FRANKLIN COUNTY							
Miscellaneous		600	65,250+		15+		
GRAHAM COUNTY							
Law ('51)	34- 9-23W		no report	12,656			
GRANT COUNTY							
Hugoton Gas Area* ('30)[a]	12-29-38W	375,000	154,326,547	1,482,755,046**	579	Chase Group	2,200
Panoma Gas Area* ('56)[a]	35-31-34W	16,000	1,603,296		27	Council Grove	2,710
		Includes Stanton County					
Ryus Townsite ('62)	25-29-35W		no report	none		Council Grove	2,845
Total Grant County		391,000	155,929,843	1,484,358,342**	606		
GREENWOOD COUNTY							
Lane ('58)	5-26-12E		no report	35,750		Mississippian	
Miscellaneous		600	65,250+		15+		
HAMILTON COUNTY							
Bradshaw Gas Area ('57)	36-22-41W	24,000	242,866	242,866	42	Chase Group	2,546
Hugoton Gas Area* ('46)[a]	12-26-39W	30,000	2,030,713	56,257,843**	44	Chase Group	2,200
Panoma Gas Area* ('56)[a]	35-31-34W		Included with Kearny County			Council Grove	2,710
Total Hamilton County		54,000	2,273,579	56,500,709**	86		
HARPER COUNTY							
Crystal Springs ('59)[a]	18-32- 7W	100	202,141	327,923	1	Mississippian	4,420
Grant ('57)	21-31- 7W	400	134,748	352,703	4	Mississippian	4,343
Harper ('58)	11-32- 7W	100	56,806	1,262,655	1	Viola-Simpson	4,714
Hibbord ('57)	23-34- 9W	100	12,949	235,470	1	Mississippian	4,586
Runnymede ('53)	23-31- 6W		no report	none		Simpson	4,648
Sharon* ('55)	13-32-10W	1,300	1,138,220	4,182,747	14	Mississippian	4,355
Spivey-Grabs-Basil* ('49)	13-31- 9W	4,000	888,347+	25,467,088	22+		
			3,322,360[a]		39	Mississippian	4,400
Stohrville ('57)	26-33- 6W		no report	none		Mississippian	4,386
Total Harper County		6,000	5,755,571+	31,828,586	82+		
HARVEY COUNTY							
Alta Mills	22- 2W		Included with Miscellaneous				
Burrton* ('30)	23-23- 4W	1,520	807,118		28	Mississippian	3,298
			Includes Reno County				
Burrton North ('56)	32-22- 3W		Included with Burrton			Mississippian	3,280
Burrton Northeast ('42)	3-23- 3W		Included with Burrton			Mississippian	3,226
Graber* ('55)	22- 1W		no report	141,997		Mississippian	2,958

TABLE 29—*Gas production in Kansas during 1963 (continued).*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft[a] During 1963	Gas production, M cu ft[a] To end of 1963	No. wells	Producing zone Name	Producing zone Depth ft
HARVEY COUNTY (cont.)							
Sperling ('35)	23-22- 2W			7,513,363		"Chat"	2,955
			Included with Sperling South				
Sperling South ('57)	22- 2W	300	188,324	353,455	3	Mississippian	2,954
			"Sperling"[a]				
Miscellaneous		600	65,250+		15+		
Total Harvey County		2,420	1,060,692+	12,826,733	46+		
HASKELL COUNTY							
Eubank ('58)[a]	28-28-34W	16,000	2,286,060	9,163,080	36	Toronto	
						Lans.-K.C.	4,084
						Marmaton	4,699
						Cherokee	
						Morrowan	
						Mississippian	
Hugoton Gas Area* ('31)[a]	29-30-34W	287,000	41,285,140	508,481,716**	414	Chase Group	2,200
Koenig ('58)	12-29-34W			594,936		Morrowan	5,094
			Included with Eubank				
Lemon ('61)	22-30-33W	4,000	357,694	731,932	17	Morrowan	5,349
						Chesteran	
Lemon Northwest ('61)	17-30-33W		Included with Lemon			Cherokee	4,990
						Morrowan	5,270
Pleasant Prairie ('54)	16-27-34W		no report	none		Council Grove	2,814
Victory[a]	30-33W	2,000	68,450	68,450	6		
Total Haskell County		309,000	43,997,344	519,040,114**	473		
JOHNSON COUNTY							
Gardner ('39)	15-14-22E	80	44,652		2		
Miscellaneous		2,120	228,350+		53+		
Total Johnson County		2,200	273,002+		55+		
KEARNY COUNTY							
Campbell ('62)	9-21-35W		no report	none		Marmaton	4,408
Hugoton Gas Area* ('37)[a]	32-25-35W	407,000	77,069,683	1,019,260,985**	637	Chase Group	2,200
Panoma Gas Area* ('56)[a]	12-31-38W		no report			Council Grove	2,843
			Includes Hamilton County				
Total Kearny County		407,000	77,069,683	1,019,260,985**	637		

KINGMAN COUNTY

Alameda ('58)	27-28- 7W	400	282,104	282,104	4	Mississippian	3,988
Bartholomew* ('46)	1-28- 5W	Included with Miscellaneous					
Broadway ('48)	21-28- 5W	1,300	564,849	4,548,169	18	Mississippian	3,833
Broadway West ('54)	19-28- 5W			1,109,381		Mississippian	3,884
		Included with Broadway					
Casley ('52)	2-28- 5W	Included with Miscellaneous					
Cunningham* ('31)	7-28-11W	no report				Permian	1,993
						Wabaunsee	2,969
						Viola	4,278
						Arbuckle	4,094
Dale ('59)	35-28- 6W	100	12,251	141,003	1	Mississippian	3,928
Dewey ('50)	9-28- 5W			3,871,978		Mississippian	3,801
		Included with Broadway					
Dresden ('51)	13-27-10W	no report		3,870		Winfield	1,622
Freemyer ('60)	20-27- 6W	no report		none		Mississippian	3,822
Goetz ('56)	29-29- 9W	no report		981,236		Mississippian	4,156
						Viola	4,408
Hurn ('60)	28-27- 5W	80	22,256	198,329	1	Mississippian	3,777
Klaver ('60)	9-29- 6W	80	42,389	172,650	1	Mississippian	4,074
Lansdowne North ('50)	28- 5W	Included with Miscellaneous					
Nashville ('63)	1-30-10W	no report		none		Indian Cave	2,510
Negro Creek ('61)	13-28- 7W	80	162,194	333,573	1	Toronto	2,908
Prather ('62)	18-28- 7W	80	72,203	72,203	1	Mississippian	3,990
Reida ('55)	18-30- 6W	no report		none		Mississippian	
						Simpson	
Settle ('56)	18-29- 7W	600	428,627	1,149,305	6	Mississippian	4,110
Spivey-Grabs-Basil* ('49)	13-31- 9W	16,500	4,500,000+		290+		
			16,448,054[a]	127,892,151	155	Lans.-K.C.	3,876
			5,733,104	"Basil"	64	Mississippian	4,205
Miscellaneous		280	200,000+		7+		
Total Kingman County		19,500	28,468,031+	146,894,411	549+		

KIOWA COUNTY

Alford ('44)	14-30-19W	no report				Spergen	5,040
Alford East (revived) ('57)	18-30-18W	Combined into Alford				Mississippian	5,014
Einsel ('62)	36-27-19W	no report		none		Mississippian	4,796
Fralick West ('61)	16-27-20W	no report		none		Mississippian	4,868
Fruit ('60)	28-27-16W	400	447,653	474,817	3	Mississippian	4,621
Glick* ('57)[a]	31-30-16W	10,000	9,447,562	23,964,549	21	Mississippian	4,880
Greensburg ('56)	35-27-18W	no report		3,384		"Kinderhook"	4,742
Greensburg Northeast ('56)	17-27-17W	no report		104,239		Mississippian	4,675
Hardy ('56)	23-28-18W	160	79,234	472,230	2	Mississippian	4,804
Haviland ('55)	17-28-16W	160	50,349	378,839	2	"Kinderhook"	4,761
Johannsen ('54)	13-28-19W	no report		46,214		Mississippian	4,864
Joy Station ('57)	20-28-19W	no report		77,077		Mississippian	4,920
Kane ('56)	12-30-18W	no report		none		Mississippian	4,908

TABLE 29—*Gas production in Kansas during 1963 (continued).*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft[a] During 1963	Gas production, M cu ft[a] To end of 1963	No. wells	Producing zone Name	Producing zone Depth ft
KIOWA COUNTY (cont.)							
Nichols ('55)[a]	20-29-18W	5,300	990,583	17,682,700	21		
			1,484,313[a]		8	Mississippian	4,997
						Lans.-K.C.	
Nichols South ('59)	8-30-18W		no report	none		Mississippian	4,994
Quaker ('61)	10-27-19W	100	281,701	291,701	2	Mississippian	4,804
Ursula ('61)	9-29-18W		no report	none		Mississippian	4,922
Ursula Northeast ('63)	1-29-18W		no report	none		Mississippian	4,874
Wellsford ('55)	15-28-16W	150	68,962	1,531,567	1	Marmaton	4,680
						Mississippian	4,729
Total Kiowa County		16,270	12,850,357	46,937,181	60		
LABETTE COUNTY							
Coffeyville-Cherryvale* ('02)	32-17E		Included with Miscellaneous				
Miscellaneous		1,200	130,500+		30+		
LEAVENWORTH COUNTY							
Roberts-Maywood* ('30)	11-22E		Included with Miscellaneous			"Knobtown"	400
Miscellaneous		2,720	293,600+		68+		
LINN COUNTY							
LaCygne-Cadmus	20-24E		Included with Miscellaneous				
Miscellaneous		1,200	130,500+		30+		
McPHERSON COUNTY							
Bitikofer	20- 1W		Included with Ritz-Canton				
Coons ('40)	13-19- 1W		no report			"Chat"	2,897
Elyria ('58)	22-20- 3W	50	10,714	150,501	1	Mississippian	3,068
Graber North ('51)	4-21- 1W		no report	none		Mississippian	2,955
Jenday ('44)	1-19- 2W		Included with Ritz-Canton				
McPherson ('26)	29-18- 2W	180	49,411		1	Lans.-K.C.	2,340
						"Chat"	2,967
						Viola	3,140
Ritz-Canton ('29)	12-20- 2W	900	254,846		8	"Chat"	2,935
Voshell ('29)	33-20- 3W		no report				
Total McPherson County		1,130	314,971		10		

MARION COUNTY

French Creek ('55)	22-19- 2E	40	81,060	260,494	1	Simpson	
Hillsboro ('58)	7-19- 3E			3,461		Mississippian	
		Included with Lost Springs					
Lehigh ('46)	27-19- 1E		no report	none**		Mississippian	2,770
Lehigh North ('53)	23-19- 1E	80	31,991		2	Mississippian	2,770
Lost Springs ('26)	22-17- 4E	5,480	3,495,543		137		
			3,085,962	"Antelope East"[a]	30	Mississippian	2,350
			548,880	"Dobbs"	18		
Ratzlaff ('60)	8-19- 2E	40	176	15,643	1	Mississippian	2,691
Stenzel ('61)	12-20- 3E	Included with Lost Springs				Mississippian	2,340
Miscellaneous		600	65,250+		15+		
Total Marion County		6,240	7,308,862+		204+		

MEADE COUNTY

Adams Ranch ('45)	8-35-30W	4,440	1,174,402	8,817,073	18	Toronto	4,402
						Morrowan	5,708
						Mississippian	5,850
Angell ('56)	30-32-29W	200	118,716	1,009,683	5	Morrowan	5,608
Barragree ('59)[a]	25-34-28W	100	173,072	429,175	1	Council Grove	3,066
Bond ('54)	32-33-30W	250	10,960	716,499	2	Mississippian	5,860
Borchers ('59)	21-33-28W	2,500	4,008,082	7,315,241	16	Morrowan	5,719
Borchers North ('59)	5-33-28W			5,380,490		Marmaton	5,082
		Included with Borchers				Morrowan	5,544
						Mississippian	5,484
Borchers Northwest ('59)[a]	1-33-29W	200	205,800	634,461	2	Morrowan	5,612
Bruno Northeast ('53)	16-33-30W		no report	none		Morrowan	5,721
Cimarron Bend ('59)	1-35-29W	550	584,898	1,866,772	3	Mississippian	6,076
Crooked Creek ('63)	8-35-26W		no report	none		Morrowan	5,938
Fincham ('56)[a]	14-35-27W	500	417,147	2,263,766	2	Mississippian	6,275
Hockett ('57)	8-31-29W	800	134,954	998,487	4	Morrowan	5,390
						Mississippian	5,430
Horace ('56)	9-34-29W	800	240,382	595,439	4	Morrowan	5,815
Horace South ('59)	26-34-29W			262,211		Council Grove	3,228
		Included with Horace				Toronto	4,390
Kismet* ('48)	23-33-31W	9,000	1,887,675	5,682,426	25	Morrowan	5,645
		Includes Seward County					
McKinney* ('50)[a]	2-34-26W	13,000	4,791,034	46,471,063	52	Mississippian	5,762
Meyers ('63)	8-35-27W		no report	none		Council Grove	3,045
Mohler ('57)	35-33-29W			2,776,194		Morrowan	5,769
		Included with Singley					
Mohler Northeast ('58)[a]	36-33-29W	800	381,410	2,463,505	3	Morrowan	5,690
Novinger ('51)	26-33-30W	Included with Novinger Northwest					
Novinger East ('59)	36-33-30W	Included with Novinger Northwest				Morrowan	5,793
Novinger Northwest ('53)	15-33-30W	300	26,210	847,162	3	Morrowan	5,718
			"Novinger"				

TABLE 29—*Gas production in Kansas during 1963 (continued).*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft[a] During 1963	Gas production, M cu ft[a] To end of 1963	No. wells	Producing zone Name	Producing zone Depth ft
MEADE COUNTY (cont.)							
Plains* ('56)	17-32-30W		no report	492,826		Marmaton	5,150
						Morrowan	5,611
						Mississippian	5,692
Sanders ('56)	13-32-29W	200	27,447	557,613	2	Morrowan	5,533
						Mississippian	5,550
Singley ('55)	20-33-29W	3,500	698,800	9,186,210	21	Morrowan	5,803
Stevens ('52)	32-32-30W	3,000	984,625	15,972,042	12		
			98,748	"Collingwood"[a]	5	Morrowan	5,560
						Mississippian	5,713
Stevens West ('57)	6-33-30W		no report	none		Morrowan	5,596
Total Meade County		40,140	15,964,362	114,738,338**	180		
MIAMI COUNTY							
Louisburg ('27)	17-25E		no report				
Miscellaneous		600	65,250+		15+		
MONTGOMERY COUNTY							
Coffeyville-Cherryvale* ('02)	33-17E		Included with Miscellaneous			"Bartlesville"	
Miscellaneous		6,000	815,600+		188+		
MORRIS COUNTY							
Veal ('55)	30-17- 7E	480	230,868		12	Ireland	1,234
Miscellaneous		600	65,250+		15+		
Total Morris County		1,080	296,118+		27+		
MORTON COUNTY							
Berryman ('59)	21-33-41W	900	23,619	128,216	3	Chase	2,222
						Wabaunsee	2,892
						"Purdy"	5,001
						Morrowan	5,280
Boehm ('51)	14-33-42W	1,800	556,474	10,409,978	4	Morrowan	4,872
Elkhart ('55)	11-35-43W	2,000	773,894	2,139,952	4	Morrowan	4,558
Elkhart West ('57)	17-35-43W			1,461,997		Morrowan	4,299
			Included with Elkhart				
Greenwood Gas Area ('51)[a]	14-33-42W	214,000	33,394,450	379,775,210	275	Wabaunsee	2,777
						Shawnee	3,069
						Lans.-K.C.	3,534

Hugoton Gas Area* ('30)[a]	24-34-40W	203,000	33,894,813	442,041,396**	310	Chase Group	2,200
Interstate ('54)	29-34-43W	12,000	2,253,288	6,116,072	19	"Red Cave"	1,184
						Morrowan	4,210
Kinsler ('59)[a]	33-31-40W	2,000	136,583[a]	5,076,032	4	Marmaton	4,336
						Morrowan	5,176
			127,114[a]		2	St. Louis	5,464
"Kinsler East" ('62)[a]		4,000	1,916,083	4,155,590	14	Morrowan	
Kinsler Southeast ('60)	12-32-40W	Included with "Kinsler West" and "East"				Morrowan	5,504
"Kinsler West" ('62)[a]		2,000	1,077,998	2,586,947	5	Morrowan	
Panoma Gas Area* ('56)[a]	12-31-38W	Included with Stevens County				Council Grove	2,843
Patsy ('57)	16-31-41W	2,000	519,035	1,390,308	9	Morrowan	5,362
Reyer ('57)	17-32-43W		no report	45,553		Marmaton	3,993
Richfield ('48)	17-32-40W	7,000	1,575,410	30,153,304	12	Atokan	4,990
			"Richfield North"[a]			Morrowan	5,040
Richfield West ('61)	2-32-42W	3,000	900,587	1,725,720	10	Morrowan "G"	4,974
						"Keyes"	5,051
Rolla ('59)	22-34-40W	640	33,898	106,571	1	Lansing	4,249
						Morrowan	
Sparks* ('54)[a]	34-30-42W	6,000	2,780,341	12,908,923	9	Wabaunsee	2,853
						"Keyes"	5,254
Taloga ('55)	34-34-42W	3,000	637,286	30,223,240	13	Cherokee	3,894
"C"[a]			411,355		2	Morrowan	4,428
"G"[a]			98,248		1		
"Keyes"[a]			583,949		5		
Taloga Northeast ('57)	19-34-41W		no report	341,651		Cherokee	4,397
						Morrowan	4,694
Wilburton ('59)	32-34-41W	4,000	841,861	2,792,340	8	Topeka	3,080
						Morrowan	4,808
Wilburton South ('61)	17-35-41W	Combined into Greenwood Gas Area				Topeka	3,184
Total Morton County		467,340	82,536,286	933,579,000**	710		
			NEOSHO COUNTY				
Humboldt-Chanute*		Included with Miscellaneous					
"Leanna"		Included with Miscellaneous					
Miscellaneous		2,400	368,791+		79+		
			PAWNEE COUNTY				
Benson ('45)	30-23-15W	700	1,161,955		7	Wabaunsee	
						Arbuckle	4,048
Bow ('58)	32-22-15W	100	1,480	33,472	1	Arbuckle	
Carpenter Southeast* ('59)	31-23-16W	100	56,597	122,902	1	Mississippian	4,210
			"Carpenter"				
Eddy ('63)	13-22-18W		no report	none		Penn. congl.	
Evers ('51)	32-21-16W		no report	850,468		Arbuckle	3,908
Evers South ('56)	12-22-16W		no report	15,446		Arbuckle	3,920
Garfield ('54)	35-22-17W	200	257,827	2,835,058	2	Penn. congl.	4,152

TABLE 29—*Gas production in Kansas during 1963 (continued).*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft[a] During 1963	Gas production, M cu ft[a] To end of 1963	No. wells	Producing zone Name	Producing zone Depth ft
			PAWNEE COUNTY (cont.)				
"Hearn" ('53)	35-23-15W	100	46,095		1	Lans.-K.C.	3,628
						Simpson	4,067
Larned ('49)	28-21-16W		no report			Arbuckle	3,877
Pawnee Rock* ('36)	13-20-16W		no report			Arbuckle	3,832
Ryan* ('45)	35-19-16W		no report			Reagan	3,507
Ryan Southeast ('45)	12-20-16W		no report			Arbuckle	
Shady ('45)	34-22-16W	300	254,080	5,509,184	3	Viola	3,920
						Arbuckle	4,063
Shady North ('55)	14-22-16W		Included with Shady			Arbuckle	4,043
Shady Southwest ('53)	3-23-16W		Included with Shady			Arbuckle	4,094
Snowberger ('57)	29-22-16W		no report			Penn. congl.	4,112
Sweeney ('53)	8-21-15W	900	220,965		7	Penn. congl.	3,727
						Arbuckle	3,792
Zook ('42)	16-23-16W		no report			Simpson	4,028
						Arbuckle	4,066
Total Pawnee County		2,400	1,998,999	50,164,358	22		
			PRATT COUNTY				
Brehm ('61)	28-13W	400	170,952	170,952	5	Lans.-K.C.	3,848
Carver-Robbins ('55)	21-27-15W	2,000	1,054,436		25	Penn. congl.	4,472
						Mississippian	4,509
Chance ('46)	4-27-13W		no report			Mississippian	
						Viola	
Chitwood ('43)	23-28-12W		no report	10,089,598		Viola	4,340
Clara* ('44)	2-30-14W		Included with Barber County			Marmaton	4,381
						Simpson	4,435
						Viola	4,509
						Arbuckle	4,540
Cullison ('56)	25-28-15W		no report	none		Mississippian	4,543
Cullison West ('61)	12-28-15W		no report	none		Cherokee	
Cunningham* ('31)	7-28-11W		no report			Permian	1,993
						Wabaunsee	2,969
						Lans.-K.C.	
						Viola	4,278
						Arbuckle	4,094
Frisbie Northeast ('54)	4-26-13W		no report			Mississippian	
Gereke North ('61)	1-26-15W	200	604,775	643,825	2	Lans.-K.C.	3,798
						Mississippian	4,251
Gereke West ('63)	11-26-15W		no report	none		Mississippian	4,244

Hopewell ('58)	17-26-15W	100	109,737	528,905	1	Lans.-K.C.	3,887
			"Hopewell South"[a]				
Iuka-Carmi ('42)[a]	29-26-12W	2,000	229,698	5,532,779	6		
			389,010[a]		6	Council Grove	2,388
						Viola	4,122
Jem ('61)	28-29-13W		no report	none		Viola	4,478
Pratt Airport ('63)	8-27-13W		Included with Iuka-Carmi			Simpson	4,410
Sawyer ('57)	26-29-13W	300	206,682	1,855,971	3	Viola	4,376
						Simpson	4,608
Shriver ('49)	27-29-14W		no report	104,191			
Tatlock Southwest ('58)	30-26-15W	300	157,982	927,542	3	"Kinderhook"	4,377
Ward ('41)	11-26-12W		no report	none		Viola	4,129
Total Pratt County		5,300	2,923,272	30,850,377	51		
			RENO COUNTY				
Burrton* ('30)	23-23- 4W		Included with Harvey County			Mississippian	3,298
Friendship ('41)[a]	30-25- 4W	100	730,021	878,496	3	Mississippian	
Hilger	22-25- 4W		no report				
Huntsville ('62)	20-23- 9W		no report	none		Mississippian	3,658
Huntsville Townsite ('62)	8-23- 9W		no report	none		Mississippian	3,573
Lerado ('37)	10-26- 9W	2,700	2,520,166	23,763,769	41	Mississippian	3,925
						Viola	4,128
Plevna ('59)	15-24- 9W		no report	none		Mississippian	3,765
Yoder ('35)	34-24- 5W		no report			"Chat"	3,402
Zenith-Peace Creek* ('37)	23-24-11W		no report			Viola	3,860
Total Reno County		2,800	3,250,187	24,915,400	44		
			RICE COUNTY				
Bredfeldt ('48)	7-18- 9W		no report	165,890		Arbuckle	3,226
Calf Creek ('57)	33-18-10W		no report	84,826		Lans.-K.C.	3,006
Chase-Silica* ('36)	6-19- 9W	180	98,113	2,253,435	3	Arbuckle	3,192
			Includes Barton County				
Dymond ('61)	13-21- 8W	100	5,565	5,565	1	Mississippian	3,362
			"Bull Creek North"[a]				
Humphreys ('56)	3-21- 8W	160	30,252	748,735	3	Penn. congl.	3,272
						Mississippian	3,278
Lyons Southwest ('55)	22-20- 8W	200	237,819		5	Penn. congl.	3,251
						Simpson	3,280
						Arbuckle	3,300
Lyons West ('63)	31-19- 8W		no report	none		"Kinderhook"	3,286
McClintock ('62)	18-21- 8W	80	122,955	122,955	1	"Misener"	3,280
Munyon ('50)	34-18-10W	50	5,458		1	Arbuckle	
Orth ('33)	27-18-10W		no report			Lans.-K.C.	2,906
Sterling ('51)	4-22- 8W		no report	175,890		Mississippian	3,385
Union ('50)	28-20- 8W		Included with Lyons Southwest			Penn. congl.	3,275
Union East	27-20- 8W		Included with Lyons Southwest				
Total Rice County		770	500,162	37,148,558	14		

TABLE 29—*Gas production in Kansas during 1963 (continued).*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft/d			Producing zone	
			During 1963	To end of 1963	No. wells	Name	Depth ft
RUSH COUNTY							
Basgall ('60)	5-16-17W		no report	none		Shawnee	
						Arbuckle	3,520
Basgall West ('62)	6-16-17W		Combined into Basgall			Lans.-K.C.	3,205
Otis-Albert* ('30)	11-18-16W	700	348,613		6	Neva	
			Includes Barton County				
Reichel Gas Area ('53)	23-17-17W	1,200	1,412,750	10,673,977	22	Topeka	3,006
						Lans.-K.C.	3,480
						Granite Wash	3,578
Ryan* ('45)	35-19-16W		no report			Reagan	3,507
Ryan East ('54)	36-19-16W		no report			Arbuckle	3,648
Total Rush County		1,900	1,761,363		28		
RUSSELL COUNTY							
Beisel ('58)	15-14-12W		no report				
Driscoll ('56)	19-15-11W	80	62,721	83,958	2	Lans.-K.C.	3,059
Dubuque ('35)	34-15-12W		Included with Hall-Gurney				
Gorham ('36)	20-14-14W	60	22,072		1		
Hall-Gurney ('31)	30-14-13W	500	216,919		9		
Heim Northeast ('57)	14-14-12W	60	10,726	40,591	1	Fort Riley	1,530
Mahoney ('60)	8-14-12W	60	23,889		1	Tarkio	2,368
Russell ('46)	34-13-14W	80	89,925		2	Wabaunsee	
Trapp ('36)	9-15-13W	80	12,602		2		
Total Russell County		920	438,854		18		
SCOTT COUNTY							
Hugoton North ('61)	25-19-33W	80	22,941	22,941	1	Chase Group	2,600
Keystone ('50)	25-18-32W		no report	45,122		Chase Group	
Total Scott County		80	22,941	68,063	1		
SEDGWICK COUNTY							
Bartholomew* ('46)	30-27- 4W		Included with Kingman County			Kansas City	3,270
						"Miss. lime"	3,732
Gladys South ('56)	5-29- 1E		no report	74,499		Mississippian	3,194
Schulte ('49)	7-28- 1W		no report	1,287,655		Mississippian	3,349
Miscellaneous		600	65,250+		15+		
Total Sedgwick County		600	65,250+	1,427,404	15+		

SEWARD COUNTY

Adamson ('58)	11-34-34W	1,500	136,242	784,668	3	Chesteran	6,064
Arkalon ('60)[a]	36-33-32W	1,800	159,070	516,933	3	Chesteran	5,710
Arkalon East ('60)	20-33-31W	Combined into Arkalon				Chesteran	5,750
Arkalon West ('63)	29-33-32W	2,000	225,343	225,343	4	Morrowan	5,546
Blue Bell ('53)	33-34-31W	Abandoned during 1963				Mississippian	5,959
Blue Bell Northwest ('54)	20-34-31W		no report	none		Morrowan	5,858
						Mississippian	5,947
Condit ('62)[a]	8-34-32W	2,200	219,773	219,773	4	Morrowan	5,772
Evalyn ('60)[a]	15-33-33W	2,800	1,008,297	2,161,337	5	Morrowan	5,636
						Mississippian	6,038
Hawks ('52)	18-35-31W	Included with Liberal-Light				Morrowan	5,927
Holt ('54)	28-32-34W	800	104,429	3,280,127	3	Topeka	3,820
Hugoton Gas Area* ('22)[a]	3-35-34W	234,000	23,053,541	341,528,847**	345	Chase Group	2,200
Iris ('62)	11-34-31W		no report	none		Council Grove	2,976
Kismet* ('48)	23-33-31W			37,019		Council Grove	3,063
		Included with Meade County				Toronto	4,294
						Lans.-K.C.	4,864
						Morrowan	5,645
Kneeland ('51)	14-34-31W		no report	none		Mississippian	5,722
Liberal East	3-35-33W	Combined into Liberal Southeast				Morrowan	5,870
						Chesteran	6,146
Liberal-Light ('51)	11-35-32W	2,800	522,777	29,703,750	12	Morrowan	5,906
Liberal Southeast ('47)	15-35-33W	1,200	1,121,900	25,836,667	8	"Penn. sand"	6,202
March ('63)	7-33-33W		no report	none		Chesteran	5,784
Massoni ('55)	5-33-31W	1,000	255,979	2,447,243	6	Council Grove	3,156
						Toronto	4,270
						Morrowan	5,590
Plains* ('56)	17-32-30W	Included with Plains West					
Plains West ('56)	16-32-31W	300	53,883	205,084	2	Morrowan	5,600
Salley ('58)	16-34-33W	1,200	135,799	276,214	3	Toronto	4,311
			"Hugoton Deep"				
Shuck ('55)	20-33-34W	400	18,873	900,175	1	Morrowan	5,987
Thirty-One ('53)	18-31-31W	400	97,374	1,512,983	1	Morrowan	5,448
Thirty-Three ('60)	33-33-33W	Included with Evalyn				Chesteran	5,898
Thirty-Two ('60)	1-32-32W	400	30,474	88,962	1	Morrowan	5,499
Three Star ('58)	17-35-32W	2,600	231,215	1,476,590	9	Lans.-K.C.	4,546
						Morrowan	5,866
						Chesteran	6,089
Wide Awake ('54)	4-35-34W	300	57,577	2,325,891	2	Toronto	4,410
						Mississippian	6,168
Total Seward County		255,700	27,432,546	413,527,606**	412		

STAFFORD COUNTY

Bradbridge* ('48)	6-24-15W		no report	none		Arbuckle	4,020
Childs ('59)	17-25-15W			84,892		Mississippian	4,231
		Included with Haynes					

TABLE 29—*Gas production in Kansas during 1963 (continued).*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft@			Producing zone	
			During 1963	To end of 1963	No. wells	Name	Depth ft
STAFFORD COUNTY (cont.)							
Dillwin West ('60)	18-24-14W	300	144,118	784,114	3	Penn. congl.	4,118
						Mississippian	4,097
Emerson South ('62)	32-25-14W		Included with Emerson West				
Emerson West ('63)	30-25-14W	80	10,503	10,503	2	Mississippian	4,221
Farmington ('48)	27-24-15W	600	390,988		7	Mississippian	4,207
Farmington North ('56)	23-24-15W			439,031		"Kinderhook"	4,120
			Included with Farmington				
Farmington Northwest ('56)	30-24-15W			15,366		"Kinderhook"	4,272
			Included with Farmington				
Farmington West ('52)	6-25-15W		Included with Farmington			"Penn. sand"	4,164
						Mississippian	
Gates ('50)	26-21-13W	200	63,358	870,073	2	Lans.-K.C.	3,473
Grunder ('58)	11-25-15W			106,030		Mississippian	4,173
			Included with Haynes				
Haynes ('59)	22-25-15W	700	619,982	1,960,004	12	Lansing	3,915
						Cherokee	4,254
Haynes Southwest ('59)	27-25-15W		Included with Haynes			Cherokee	
Macksville ('60)	3-24-15W	600	941,145	2,038,525	11	Viola	4,020
						Arbuckle	4,110
O'Connor ('47)	16-24-15W			19,020		Arbuckle	4,061
			Included with Macksville				
Oscar North ('51)	14-22-14W	80	9,223		1		
Pundsack ('47)	19-21-13W		no report	none		Lans.-K.C.	3,356
Rattlesnake ('38)	13-24-14W	300	227,230		5	Lans.-K.C.	
Rattlesnake East ('56)	7-24-13W		Included with Rattlesnake			Mississippian	3,880
Rattlesnake North ('59)	2-24-14W		Included with Seevers				
Rattlesnake Southeast ('54)	28-24-13W			426,835		Mississippian	3,908
			Included with Rattlesnake				
St. John Northwest ('52)	20-23-13W	60	48,926	74,801	1		
Saterlee ('54)	31-24-14W	40	4,328		1		
Seevers ('54)	6-25-13W	600	343,527	520,751	13		
Seevers Northwest ('56)	6-25-13W		Included with Seevers			Mississippian	
Van Lieu ('43)	20-24-13W	40	2,677	805,545	1	Arbuckle	4,069
Wil* ('57)[a]	26-25-16W	400	210,350	678,569	4	"Kinderhook"	4,324
Zenith-Peace Creek* ('37)	23-24-11W		no report			Viola	3,860
Total Stafford County		4,000	3,016,355	23,832,591	63		
STANTON COUNTY							
Beauchamp East ('59)	24-30-41W		no report	none		Morrowan	5,018

Hugoton Gas Area* ('44)[a]	32-30-39W	151,000	20,026,839	233,939,213**	232	Chase Group	2,200
Nich ('61)[a]	15-30-39W	360	144,221	364,432	3	Morrowan	5,630
Panoma Gas Area* ('56)[a]	12-31-38W	Included with Grant County				Council Grove	2,843
Sand Arroya ('61)	17-29-39W	no report		none		Morrowan	5,476
Sparks* ('54)[a]	34-30-42W	2,500	1,824,854	28,309,319	11	Morrowan	5,254
Sparks East ('57)	29-30-41W			318,422		Morrowan	5,152
		Included with Sparks					
Sparks West ('58)	26-30-43W	Included with Sparks				Morrowan	5,260
Total Stanton County		153,860	21,995,914	262,931,386**	246		
STEVENS COUNTY							
Center ('60)	26-33-37W	no report		none		Morrowan	5,800
Cutter ('61)	1-31-35W	380	330,871	652,408	3	Marmaton	4,779
						Morrowan	5,313
Gooch ('63)	8-35-35W	Included with Salley				Morrowan	5,926
Grigsby ('62)	4-31-36W	100	1,074	68,629	1	Morrowan	5,360
Hanke ('56)	6-35-36W	no report		none		Morrowan	6,267
Hugoton Gas Area* ('27)[a]	31-33-37W	495,000	151,438,039	2,326,907,728**	749	Chase Group	2,200
Kel ('62)	15-34-38W	no report		none		Council Grove	2,965
Panoma Gas Area* ('56)	12-31-38W	9,000	1,179,811	6,296,151	17	Council Grove	2,843
		Includes Morton County					
Perrill ('59)	7-31-37W	1,800	283,698	2,830,595	3	Morrowan	5,326
		"Panoma Gas Area - Morrowan"[a]					
Perrill West ('61)	6-31-38W	no report		none		Morrowan	5,655
Ski ('61)	16-34-35W	200	32,810	59,262	1	Mississippian	6,180
Walkemeyer ('59)	35-33-36W	1,000	402,798	732,654	2	Morrowan	6,145
Total Stevens County		507,480	153,669,101	2,337,547,427**	776		
SUMNER COUNTY							
Corastone ('63)	22-31- 3W	no report		none		Wabaunsee	2,070
Fall Creek ('50)	3-35- 3W	no report				Simpson	4,746
Gerberding ('54)	6-34- 4W	80	107,096		1		
Margaret ('46)	36-32- 2E	Included with Graham					
Murphy* ('45)	35- 3E	880	227,635		11		
		Includes Cowley County					
Padgett ('24)	23-34- 2E	300	126,647		6	Marmaton	3,187
						"Miss. lime"	3,474
Pride ('58)	34-31- 2E	no report				Elmont	1,738
Wellington ('29)	33-31- 1W	no report				"Chat"	3,655
Miscellaneous		800	65,250+		15+		
Total Sumner County		2,060	526,628+		33+		
WALLACE COUNTY							
Sexson ('56)	19-13-42W	no report		none		Morrowan	5,008

TABLE 29—*Gas production in Kansas during 1963 (concluded)*

Pool or field name and year of discovery	Location of discovery well	Area, acres	Gas production, M cu ft@ During 1963	Gas production, M cu ft@ To end of 1963	No. wells	Producing zone Name	Producing zone Depth ft
			WILSON COUNTY				
Altoona ('03)	29-16E		Included with Miscellaneous				
Benedict	28-15E		Included with Fredonia				
Buffalo ('24)	27-16E	100	4,231		1	Cherokee "Bartlesville"	
Fredonia (1890)	29-15E	240	198,799		6		
Neodesha*	30-16E		Included with Miscellaneous			"Bartlesville"	
Miscellaneous		2,720	293,600+		68+		
Total Wilson County		3,060	496,630+		75+		
			WOODSON COUNTY				
Winterschied*	3-24-15E		Included with Miscellaneous				
Miscellaneous		200	1,200+		5+		
			WYANDOTTE COUNTY				
Roberts-Maywood* ('30)	11-23E		Included with Leavenworth County			"Peru" "Squirrel"	

* Field extends into adjacent county or counties
** Corrected cumulative
\+ Estimated
a Prorated and or spaced by Conservation Division, Kansas Corporation Commission
@ All figures at base of 14.65 psia

SELECTED BIBLIOGRAPHY

The following is a selected list of reports on oil and gas developments published by the State Geological Survey and others, including reports to which reference has been made in the text.

ABERNATHY, G. E., 1948, Ground waters available for water-flooding oil projects in southeastern Kansas: Kansas Acad. Sci., Trans., v. 51, p. 125-130.

ADKISON, W. L., 1963, Subsurface geologic cross section of Paleozoic rocks from Butler County to Stafford County, Kansas: Kansas Geol. Survey, Oil and Gas Invest. 28, p. 1-90, cross sec.

AMERICAN PETROLEUM INSTITUTE-AMERICAN GAS ASSOCIATION, 1963, Proved reserves of crude oil, natural gas liquids, and natural gas: v. 18, December 31, 31 p.

BIZAL, R. B., 1963, New caverns boost liquified-gas storage capacity 10½%: Oil and Gas Journal, v. 61, no. 42, October 21, p. 104-110.

----------, 1964, 1964 survey of U. S. and Canadian gas-processing plants: Oil and Gas Journal, v. 62, no. 11, March 16, p. 113-135.

----------, 1964, Refinery capacities and construction in the U. S. and Canada: Oil and Gas Journal, v. 62, no. 14, April 6, p. 115-138.

----------, 1964, Gas-storage capacity up 2.8%: Oil and Gas Journal, v. 64, no. 18, May 4, p. 93-99.

BROOKS, KENNETH, 1963, New fractionator is gas-liquids-complex hub: Oil and Gas Journal, v. 61, no. 50, December 16, p. 80-83.

CADY, H. P., and McFARLAND, D. F., 1908, The composition of natural gas with special study of the constituents of Kansas gases: The Univ. Geol. Survey of Kansas, v. 9, p. 228-302.

COLE, V. B., MERRIAM, D. F., FRANKS, P. C., HAMBLETON, W. W., and HILPMAN, P. L., 1961, Wells drilled into Precambrian rock in Kansas: Kansas Geol. Survey, Bull. 150, p. 1-169.

COLE, V. B., MERRIAM, D. F., and HAMBLETON, W. W., 1963, Kansas Basement Rocks Committee Report for 1962 and additional Precambrian wells: Kansas Geol. Survey, Bull. 165, pt. 4, 10 p.

EDWARDS, M. B., 1963, What's ahead in petrochemicals?: Oil and Gas Journal, v. 61, no. 46, November 18, p. 146-148.

FARQUHAR, O. C., 1957, The Precambrian rocks of Kansas: Kansas Geol. Survey, Bull. 127, pt. 3, p. 48-122.

GOEBEL, E. D., HILPMAN, P. L., BEENE, D. L., and NOEVER, R. J., 1962, Oil and gas developments in Kansas during 1961: Kansas Geol. Survey, Bull. 160, p. 1-231.

GOEBEL, E. D., HELPMAN, P. L., OROS, M. O., and BEENE, D. L., 1963, Oil and gas developments in Kansas during 1962: Kansas Geol. Survey, Bull. 166, 165 p. 1 map.

GOEBEL, E. D., and MERRIAM, D. F., 1959, Mississippian rocks in eastern Kansas: Proc. 6th Subsurface Symposium, Univ. of Oklahoma, Norman, p. 99-121.

GRANDONE, PETER, 1944, History of water flooding of oil sands in Kansas: U. S. Bur. Mines, Rept. Invest. 3761, p. 1-146.

HAMBLETON, W. W., Editor, 1959, Exploration geophysics in Kansas, Symposium on Geophysics in Kansas: Kansas Geol. Survey, Bull. 137, p. 53-62.

HAMBLETON, W. W., GOEBEL, E. D., MUILENBURG, GRACE, HORNBAKER, A. L., and SMITH, R. L., 1962, Economic development for Kansas, A sector report on its mineral and water resources: The Governor's Economic Development Committee, p. 1-148, Univ. of Kansas.

HARBAUGH, J. W., 1964, A computor method for four-variable trend analysis illustrated by a study of oil-gravity variations in southeastern Kansas: Kansas Geol. Survey, Bull. 171, in press.

HELLER, F. J., 1963, Compressed-gas industry on the move: Oil and Gas Journal, v. 61, no. 7, February 18, p. 105-108.

HILPMAN, P. L. 1958, Producing zones of Kansas oil and gas fields: Kansas Geol. Survey, Oil and Gas Invest. 16, p. 1-10, maps.

JEWETT, J. M., 1951, Geologic structures in Kansas; Kansas Geol. Survey, Bull. 90, pt. 6, p. 105-172.

----------, 1954, Oil and gas in eastern Kansas: Kansas Geol. Survey, Bull. 104, p. 1-397.

JEWETT, J. M., and GOEBEL, E. D., 1960, Underground storage of natural gas in Kansas: Kansas Geol. Survey, Oil and Gas Invest. 21, p. 1-18.

KANSAS-OKLAHOMA OIL REPORTER, 1962, Pan Am starts up Ulysses gas plant: v. 5, no. 5, August, p. 45.

----------, 1963, Coking plant "on stream": v. 5, no. 12, March, p. 14.

----------, 1963, Industry helps government put helium to aerospace use: v. 6, no. 1, April, p. 44-45.

----------, 1963, Five extraction plants delivering helium: v. 6, no. 6, September, p. 37.

----------, 1963, National helium plant dedication scheduled Sept. 24: v. 6, no. 6, September, p. 39-40.

----------, 1963, Cities Service Helex plant now on stream: v. 6, no. 6, September, p. 41.

----------, 1963, First private helium plant past "shakedown": v. 6, no. 6, September, p. 43.

----------, 1963, Kansas-Nebraska extends facilities: v. 6, no. 6, September, p. 52.

----------, 1963, Operators study central Kansas "floods": v. 6, no. 8, November, p. 36-37.

----------, 1963, Land owners ask helium payments: v. 6, no. 8, November, p. 39.

----------, 1963, Refrigeration units planned for Ulysses gasoline plant: v. 6, no. 8, November, p. 39.

----------, 1963, "Little Hugoton" play moves fast: v. 6, no. 8, November, p. 48.

KANSAS SECONDARY RECOVERY COMMITTEE, 1964, Secondary recovery operations in Kansas during 1962: Kansas Geol. Survey, Spec. Distr. Pub. 6, 8 p., 1 table.

KEPLINGER, C. H., WANENMACHER, J. M., and BURNS, K. R., 1948, Hugoton gas field of Kansas, Oklahoma, and Texas: Interstate Oil Compact Comm., Quart. Bull., v. 7, no. 3 and 4, December, p. 75-80.

KINNEY, G. T., 1963, World's biggest helium plant opens: Oil and Gas Journal, v. 61, no. 39, p. 54-66.

LEE, WALLACE, 1943, Stratigraphy and structural development of the Forest City Basin in Kansas: Kansas Geol. Survey, Bull. 51, p. 1-142.

----------, 1946, Structural development of the Forest City Basin of Missouri, Kansas, Iowa, and Nebraska: U. S. Geol. Survey, Oil and Gas Invest., Prelim. Map 48, sheets 1-7.

----------, 1956, Stratigraphy and structural development of the Salina Basin area: Kansas Geol. Survey, Bull. 121, p. 1-167.

----------, and MERRIAM, D. F., 1954, Preliminary study of the structure of western Kansas: Kansas Geol. Survey, Oil and Gas Invest. 11, maps, cross sec., p. 1-23.

----------, 1954a, Cross sections in eastern Kansas: Kansas Geol. Survey, Oil and Gas Invest. 12, cross sec., p. 1-8.

MERRIAM, D. F., 1955, Stone Corral structure as an indicator of Pennsylvanian structure in central and western Kansas: Kansas Geol. Survey, Bull. 114, pt. 4, p. 129-152.

----------, 1964, Annotated bibliography of the Kansas Precambrian: Kansas Geol. Survey, Spec. Distrib. Pub. 8, 18 p.

----------, 1964, The geologic history of Kansas: Kansas Geol. Survey, Bull. 162, in press.

----------, and ATKINSON, W. R., 1955, Tectonic history of the Cambridge Arch in Kansas: Kansas Geol. Survey, Oil and Gas Invest. 13, maps, cross sec., p. 1-28.

----------, and GOEBEL, E. D., 1954, The geology of the Norton oil field, Norton County, Kansas: Kansas Geol. Survey, Bull. 109, pt. 9, p. 125-152.

----------, 1956, Kansas structural provinces offer varied types of traps: Oil and Gas Journal, v. 54, no. 52, April 30, p. 141-154.

----------, 1959, Alert explorers find Kansas oil: Oil and Gas Journal, v. 57, no. 10, March 2, p. 166-175.

----------, 1959a, Where's the oil in Kansas?: Oil and Gas Journal, v. 57, no. 11, March 9, p. 212-218.

MILLER, R. D., and NORRELL, G. P., 1964, Analyses of natural gases of the United States, 1961: U. S. Bur. Mines, Info. Circ. 8221, 148p.

MOORE, R. C., FRYE, J. C., JEWETT, J. M., LEE, WALLACE, and O'CONNOR, H. G., 1951, The Kansas rock column: Kansas Geol. Survey, Bull. 89, p. 1-132.

MUILENBURG, GRACE, HARDY, R. G., and HORNBAKER, A. L., 1963, The Kansas mineral industry...1962: Kansas Geol. Survey, Spec. Distrib. Pub. 1, 55p.

OCKERMAN, J. W., 1935, Subsurface studies in northeastern Kansas: Kansas Geol. Survey, Bull. 20, p. 1-78.

OIL AND GAS JOURNAL, 1962, Secondary recovery is still growing: v. 60, no. 25, June 18, p. 65-66.

----------, 1963, FPC approves connection for Bushton plant: v. 61, no. 1, January 7, p. 73.

----------, 1963, Where oil is headed in next 40 years: v. 61, no. 13, April 1, p. 95-100.

----------, 1963, Crude-price cuts take heavy toll: v. 61, no. 42, October 21, p. 55-57.

----------, 1964, Completions drop 5.4%; footage falls: v. 62, no. 4, January 27, p. 141-169.

PYLAND, H. S., 1962, Helium...its status today...and its promise for tomorrow: Oil and Gas Journal, v. 60, no. 6, February 5, p. 98-106.

SCHENKEL, C. W., Jr., 1955, Geology of the Lost Springs pools area, Marion and Dickinson Counties, Kansas: Kansas Geol. Survey, Bull. 114, pt. 6, p. 168-193.

SLADE, E. A., 1963, Okan products line is model of flexibility: Oil and Gas Journal, v. 61, no. 44, November 4, p. 134-149.

SMITH, R. K., and ANDERS, E. L., 1951, The geology of the Davis Ranch oil pool, Wabaunsee County, Kansas: Kansas Geol. Survey, Bull. 90, pt. 2, p. 13-52.

STEPHENSON, E. A., and MOORE, J. I., 1941, The Otis gas and oil pool, Rush and Barton Counties, Kansas: Kansas Geol. Survey, Bull. 38, pt. 12, p. 345-388.

STORMONT, D. H., 1963, How hydrogen is faring: Oil and Gas Journal, v. 61, no. 6, February 11, p. 105-113.

VER WIEBE, W. A., 1938, Oil and gas resources of western Kansas: Kansas Geol. Survey, Mineral Resources Circ. 10, p. 1-179.

WINCHELL, R. L., 1957, Relationship of the Lansing Group and the Tonganoxie ("Stalnaker") Sandstone in south-central Kansas: Kansas Geol. Survey, Bull. 127, pt. 4, p. 123-152.

WORLD OIL, 1964, Crude oil prices firm at long established levels: v. 158, no. 3, February 15, p. 62.

----------, 1964, U. S. expected to drill 43,918 wells in 1964: v. 158, no. 3, February 15, p. 80-84.

INDEX

OIL AND GAS FIELDS OF KANSAS

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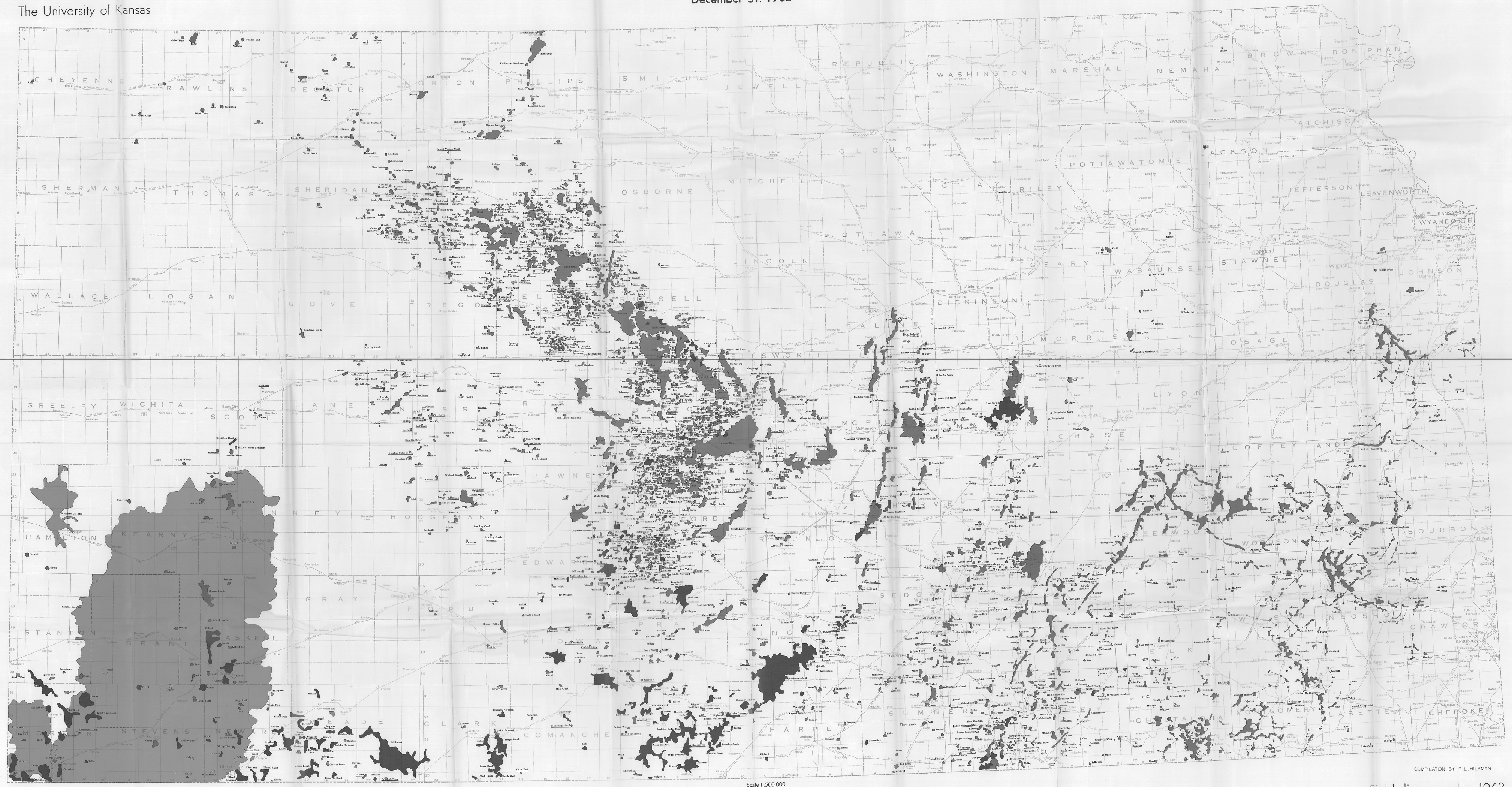

Oil

Gas

Oil and Gas

Field name

Field discovered in 1963